1989

Madaba Plains Project 1: The 1984 Season at Tell el-Umeiri and Vicinity and Subsequent Studies

Lawrence T. Geraty editor
Larry G. Herr editor
Oystein Sakara LaBianca editor
Randall W. Younker editor

Follow this and additional works at: https://digitalcommons.andrews.edu/books
Part of the Near Eastern Languages and Societies Commons
Madaba Plains Project

The 1984 Season at
Tell el-Umeiri and Vicinity
and Subsequent Studies
Madaba Plains Project

The 1984 Season at
Tell el-ʿUmeiri and Vicinity

and Subsequent Studies

Andrews University Press
Berrien Springs, MI

in cooperation with the Institute of Archaeology
Contributors

Raouf Sa'd Abujaber  Amman, Jordan
C. Michael Alcorn  Harvard University
Robert L. Artman  Carmel, Indiana
James R. Battenfield  Grace Theological Seminary, Los Angeles
Robert G. Boling  McCormick Theological Seminary
James K. Brower  Berrien Springs, Michigan
Douglas R. Clark  Walla Walla College
Bryce E. Cole  University of Notre Dame
Jon A. Cole  Walla Walla College
Henk J. Franken  Instituut voor Aardewerktechnologie, Leiden
Lawrence T. Geraty  Atlantic Union College
A. H. Goodman  Amherst, Massachusetts
Yvonne Hackwell  Moruya, New South Wales, Australia
Lori A. Haynes  Andrews University
Larry G. Herr  Canadian Union College
Lorita E. Hubbard  Andrews University
Øystein S. LaBianca  Andrews University
John I. Lawlor  Baptist Theological Seminary, Clark Summit, Pennsylvania
David Merling  Andrews University
Larry Mitchel  Sacramento, California
Elizabeth E. Platt  Dubuque Theological Seminary
Edith Porada  Columbia University
Randall W. Younker  Andrews University
Table of Contents

Dedication xi

PART ONE: OVERVIEW

Chapter 1 An Overview of Goals, Methods and Findings 3
Lawrence T. Geraty, Larry G. Herr, Øystein S. Labianca, Randall W. Younker

PART TWO: THE HINTERLANDS

Chapter 2 Introduction to the el-Umeiri Hinterland Survey 23
Øystein S. Labianca

Chapter 3 Charles Warren’s Explorations Between Na‘ur and Khirbet as-Suq 26
David Merling

Chapter 4 Yadoudeh: The Modern History of its People 30
Raouf Srd Abujaber

Chapter 5 Present and Past Plant Communities of the Tell el-Umeiri Region 32
Randall W. Younker

Chapter 6 Available Water Resources and Use in the el-Umeiri Region 41
Jon A. Cole
PART FIVE: THE INSCRIPTIONS

Chapter 21 The Inscribed Seal Impression 369
   Larry G. Herr

Chapter 22 Historical Background and Motifs of a Royal Seal Impression 375
   Randall W. Younker

Chapter 23 Two Cylinder Seals from 'Umeiri, Nos. 49 and 363 381
   Edith Porada

APPENDICES

A Archaeological Excavation Data Management System 387
   James K. Brower

B Use of Video 402
   Robert L. Artman

C Yadoudeh: The History of a Land 407
   Henk J. Franken and Raouf Sard Abujaber

D Introduction to the Locus Summaries 437
   James K. Brower and Lorita E. Hubbard

E Field Reading Summaries: Fauna and Flint 584

F Carbonized Seeds 597
   Yvonne Hackwell and Lori A. Haynes
Dedication to Adnan Hadidi

It is a privilege to dedicate this initial report in the Madaba Plains Project series to the man without whose support the project would not have materialized. Adnan Abdul-Karim Hadidi, as Director-General of the Department of Antiquities of the Government of Jordan, has the unusual distinction of being the even-handed but enthusiastic facilitator of scores of projects each year that come under his purview. The Madaba Plains Project with its regional survey and excavation of Tell el-Umeiri has been no exception. Dr. Hadidi has done everything possible under the law to encourage, counsel, and cooperate.

A native of Salt, Jordan, Dr. Hadidi completed his high school in Jordan, his college degree in Lebanon (B.A. in Ancient History from the American University of Beirut), his Master's degree in England (M.A. in Archaeology from the Institute of Archaeology at the University of London), and his Doctor's degree in the United States (Ph.D. in Art History and Archaeology at the University of Missouri at Columbia). His own specialty is the classical period, especially the Roman Period in Jordan. His doctoral thesis was entitled, "The Roman Forum at Amman." But he never let that bias show in his dealings with the various projects that sought the permission of the Department of Antiquities. Before serving the Department with distinction as Director-General from 1977 to 1988, Dr. Hadidi was Curator of the Jordan Archaeological Museum (1959-1962), Custodian of the Dead Sea Scrolls Travelling Exhibition in the United States, Canada, and Britain (Summer, 1965), Director of the Excavations of the Roman Forum at Amman (1965-1967), and Assistant Professor of Art History and Archaeology at the University of Jordan (1970-1977).

The wide influence Dr. Hadidi has had in the discipline of archaeology can be seen in the memberships he holds in professional and academic institutions: Board of Trustees of the American Center of Oriental Research in Amman, Board of Trustees of the Institute of Archaeology and Anthropology at Yarmouk University, the German Archaeological Institute (West Berlin), the International Committee for the Study of Ancient History (Brussels), the International Council of Museums sponsored by UNESCO (Paris), and the International Council of Monuments and Sites sponsored the first three international conferences on the archaeology of Jordan which have resulted in the three volumes, which he edited, Studies in the History and Archaeology of Jordan (Amman and London, 1982, 1985, 1987). Dr. Hadidi has some twenty important publications to his name and many honors, the latest being the Al-Kawkab Gold Medal conferred by His Majesty King Hussein on October 28, 1988.

It is evident that Dr. Hadidi has compiled an enviable record in a few short years. He certainly does not need any further honors. Yet out of a sense of deep appreciation for his understanding, support, and kindness to the members of the Madaba Plains Project, the editors take pleasure in dedicating this volume to Adnan Abdul-Karim Hadidi as a small token of their esteem and gratitude.

Lawrence T. Geraty
Senior Project Director
and Series Editor

On Adnan Hadidi's birthday
July 27, 1989
Part One

OVERVIEW
Introduction

The Madaba Plains region in Jordan is located in the highlands to the east of the Dead Sea's northern end and to the south and west of Amman (fig. 1.1). It is a broad plain on the central Transjordanian plateau centered around the modern city of Madaba.

Between 1968 and 1981, field research focused on Tell Hesban, approximately 9 km south of Na'ur along the road to Madaba. Five seasons of excavation, sponsored by Andrews University and the Department of Antiquities, took place between 1968 and 1976. The first three seasons (1968, 1971, and 1973) were directed by Siegfried H. Horn with Roger S. Boraas as Chief Archaeologist (Boraas and Horn 1969; 1973; 1975). After Horn's retirement, the final two seasons (1974 and 1976) were directed by Lawrence T. Geraty, again with Boraas as Chief Archaeologist (Boraas and Geraty 1976; 1978). In 1978, John I. Lawlor, a member of the Hesban team since 1974, conducted excavations at the Hesban north church with Geraty serving as advisor and Larry G. Herr as Chief Archaeologist (Lawlor 1980). In 1979-80, Øystein LaBianca conducted ethnographic studies in the region of Hesban (LaBianca 1984).

The earliest remains found at Hesban included a deep bedrock trench and a small plastered cistern, both from early Iron I (12th century B.C.). The site then seems to have been abandoned until perhaps the late 9th century B.C., when a large open reservoir near the top of the hill was built, possibly by the Moabite king, Mesha (perhaps the "pool of Heshbon" mentioned in Song of Songs 7:4). Although primarily carved out of bedrock, in places it was supported by ashlar masonry similar to that found at Samaria from this period. The Iron II settlement was apparently otherwise completely destroyed in later periods. The reservoir was filled with debris from the last Iron Age settlement (late Iron II/early Persian). This debris contained several ostraca, published by F. M. Cross (e.g. 1975), whose economic content would suggest trade and perhaps a border location between Ammon to the north and Moab to the south.

After a hiatus the site was again occupied in the late
Hellenistic period when a large fort was constructed on the acropolis, possibly in connection with the wars of the Hasmoneans. In the early Roman period this fort gradually grew into a small city with an outdoor market place on the south side of the acropolis, above the Iron Age reservoir. By late Roman times, the city was minting its own coins and a large temple was constructed on the acropolis. This growth continued into the Byzantine period, when a church replaced the temple on the acropolis and a second, larger church was constructed off the tell to the north. The city, now at its largest extent, seems to have been the seat of a bishop. During these periods, the acropolis continued to have its own fortification wall, but no evidence for city fortifications was uncovered, suggesting relative security in the region.

The Umayyad period saw the continuation of the Byzantine structures with Christianity continuing to flourish for at least the first part of the period. However, toward the end of the period, the churches were turned into other structures with rather ephemeral architecture replacing the ecclesiastical features.

With the move of the caliphate to Baghdad in the Abbasid period, the site once again lay unoccupied until the Ayyubid/Mamluk period, when a large, walled settlement again covered the hill. It was characterized by domestic structures surrounding a walled caravanserei on the acropolis, again following the lines of the Hellenistic fort. The caravanserei included a well preserved bath and vaulted chambers surrounding a courtyard. The site was again abandoned until late Turkish times when the modern village began, south and west of the site. The village probably started as a large, fortified farmstead.

In the 1973, 1974, and 1976 seasons, a hinterland survey was conducted in association with the excavations. The survey tended to underline the cyclic nature of settlement for this frontier region that was found in the excavations. Heavy periods of settlement occurred in Early Bronze, late Iron II, late Roman/Byzantine, and Ayyubid/Mamluk, with corresponding periods of abatement between them (Ibach 1978a).

The Hesban excavations also developed the broad multi-disciplinary approach to excavation and analysis, now such an integral part of the Madaba Plains Project. Various lines of inquiry were experimented with and adopted there, including zooarchaeology, palaeoethnobotany, taphonomy, ethnoarchaeology, statistically controlled survey sampling, and hinterland environmental surveys.

Work on the publication of the Hesban data suggested areas in which the recording and documentation of our finds could be refined, thereby enabling the design and development of our computer-oriented documentation system currently used by the Madaba Plains Project.

As a result of all these factors, we acquired a baseline understanding of the project area's natural environment and of the historical drama that has been played out there since the beginning of the Bronze Age.

We planned to pursue this baseline understanding in excavations at Tell Jalul, south of Hesban in the center of the Madaba Plain. It is the largest site south of Amman. A random surface survey conducted in 1976 (Ibach 1978b) suggested that the top of the tell had not been occupied significantly after the end of Iron II and that remains could be found from the periods prior to the settlement of Hesban, including EB as well as MB and LB, when the region was largely in abatement. The site would thus furnish us with an opportunity to investigate a wider range of temporal and spatial remains than had been available at Hesban. However, when political affairs in the Madaba region prevented the work at Jalul in 1982, it was decided to look elsewhere until such a time as Tell Jalul would become available.

Beginning in 1984 attention shifted to Tell el-Umeiri, 12 km northeast of Tell Hesban along the new Queen Alia International Airport Highway. Situated near the southern extent of the hilly region surrounding Amman, the site is located on the northern boundary of the Madaba Plain. The plain itself stretches from Wadi Wala in the south to Tell el-Umeiri and Hesban in the north, and from the lip of the plateau, where it descends to the Jordan Valley, in the west to the desert in the east. It is a broad, relatively flat region with no major wadi systems to disturb it. Today, it is heavily sown with grain and, where irrigated, fruits and vegetables.

**Previous Work in the Tell el-Umeiri Region**

A few explorers in the 19th century visited the region of Tell el-Umeiri. Warren (1869: 291) was among the first, in 1867, noting that "Amãry" was the name of the district as well as three ruins in it. Conder (1889: 19), while unable to locate the spring, did visit the region, and also referred to three tells in connection with "el Amereh." Most explorers, however, missed the region, probably because it was not (until recently) near a main thoroughfare and because the other hills surrounding Tell el-Umeiri obscured its importance.

Motivated by a desire to discover the ancient borders of Ammon, four German scholars explored the region to the west (Gesse 1958), southwest (Hentschke 1960; Fohrer 1961), and south (Reventlow 1963) of Amman in the late 1950s and early 1960s. Among their discoveries was a series of Grenzfestungen or boundary forts, which they believed represented the ancient western border of Ammon. Typically these forts consisted of a rectangular building with an adjacent watchtower. The present report holds that many of these watchtower sites were not, however, defense installa-
tions, but farmsteads.

The first substantive description of the site resulted from the Tell Hesban hinterland survey of 1976 (Ibach 1978a: 209). Tell el-Umeiri (West), Site 149, was noted as a major site of 16 acres with a spring, considerable evidence of architecture, and huge quantities of sherds. The sherds ranged from the Chalcolithic through Iron II with most intervening periods represented (Ibach 1978a: 209). Tell el-Umeiri (East), Site 150, was described as a medium size with even more visible architecture, caves, and cisterns; its pottery ranged from the Iron Age through Umayyad and included Roman and Byzantine. A third site was noted to the north and contained primarily Mamluk ruins.

Von Rabenau (1978) appears only to have been concerned with Site 150. During a two-month survey in 1979, Franken, with four others, completed the most thorough investigation to that date. Franken concluded that "from the archaeological remains and objects found, tell Emairi and its immediate surroundings seem to reflect nearly the entire cultural history of the country" (Franken and Abujaber 1979: 1). Dividing his findings into four "cycles" (Neolithic through Early Bronze, Middle Bronze through Iron Age, Roman through Islamic periods, and 1850 to the present), he advocated urgent investigation not only of the promising tell but also of the rural landscape with its agricultural installations, cemeteries, and water sources (Franken and Abujaber 1979: 61).

In 1981, D. Redford visited the Umeiri region during a three-week survey in which he sought to identify Nos. 89-101 of Thutmose III's list of Asiatic toponyms with a series of sites in Transjordan. After sherd­ing Tell el-Umeiri (West) and studying its topography, Redford concluded that it

fulfills all the criteria posed by Nos. 95-96 in Thutmose III's list. It has the largest perennial spring anywhere in the vicinity; it was occupied during MB/LB, and is in a strategic location on a transit corridor of easy passage. . . . The evidence thus seems strong that ʿyn/krmn, or the Abel Keramim of the Bible, is indeed to be sought at the site of Umeiri west (Redford 1982: 69-70).

Finally, Abujaber (1984), one of Umeiri's landowners, completed his own research on the development of agriculture in the region during the 19th century, a development to which his own forebears contributed substantially.

Objectives

The Food System Perspective

The "food system" concept played an important role in the conceptualization of our objectives for 1984, as it had earlier at Tell Hesban. This concept has helped us see the way in which many seemingly unrelated lines of evidence fit together (Geraty and LaBianca 1985; LaBianca 1985). It has furnished a basis for assuming that changes that turn up archaeologically in settlement and land use patterns, operational facilities (such as tools and farm equipment, storage installations, wine presses, terraces, ovens, and even defenses), and diet—whether in the data from the tell or in the surrounding Hinterland Survey—have been determined largely by changing strategies for obtaining food. A food system, thus, consists of all of the purposive, institutionalized, and interconnected activities people carry out in their quest for food (Dyson-Hudson and Dyson-Hudson 1970).

Such an assumption seems justified because traditionally, at least, activities related to the quest for food have taken up the largest share of most people's time and energy. Our conception of the food system is a broad one, of course, for we regard the construction of water works, villages, and terraces; the introduction of markets and roads in rural areas; and arrangements for storing, preserving, preparing, and serving food as ultimately interconnected, and hence, analytically integrable. Furthermore, the concept recognizes that the food production strategies of camel nomads and transhumant sheep and goat pastoralists are as important analytically as the more sedentary food production strategies of villagers and townspeople. Thus the concept helps dispel the bias in favor of sedentary agriculture, which has until recently dominated much of the literature about the rural landscape of Palestine.

Sedentarization and Nomadization

When food systems change, they either intensify or abate as a result of increased or decreased input of human management and energy. In our region, intensification and abatement appear to be reflected in the tension between the processes of sedentarization and nomadization, which seems to have existed in this region since antiquity. Sedentarization deals with the gradual establishment of farmsteads, villages, and towns whose inhabitants engage in the production of crops. Nomadization, on the other hand, accompanies the abatement of sedentary food production with resultant changes in food production strategies in the direction of pastoralism.

Based on the findings of the Tell Hesban Expedition, it seems that sedentarization and nomadization have occurred side by side in the Madaba Plains since antiquity; hence the constant tension between the desert and the sown in this region. The repeated cycles of intensification and abatement reflected in the longterm patterns of the Madaba Plains are accounted for by the varying rates at which sedentarization and nomadization
have occurred. An important task, therefore, is to ascertain the factors contributing to changes in the rate of sedentarization and nomadization over the time range in which this region was occupied.

Five cycles of intensification and abatement in settlement and landuse appear to have occurred since prehistoric times (Geraty and Labianca 1985). These cycles are evidenced not only in the on-again off-again occupation of Tell Hesban and its region (above), but also in the cyclic filling up and emptying out of the region surrounding Tell el-Umeiri. While this cyclic pattern is not unique to this region or to Jordan or the Middle East as a whole (Sauer 1980; Johnson 1973; Adams 1978), these cycles embody theoretically significant problems to which this project can contribute insights, given its geographical location and a promising data base. A brief summary of these cycles follows:

Cycle 1: Prior to the Early Bronze Age a coherent picture of general regional intensification and abatement in settlement patterns is not available. From time to time specific sites were settled intensively, such as Neolithic 'Ain Ghazzal (Rollefson and Simmons 1985) and Chalcolithic Ghassul (North 1960), but broad regional settlement patterns have not yet been documented. Beginning with the Early Bronze Age, however, surveys have shown large increases in inhabited sites (see especially the Hesban survey, Ibach 1978a; also Geraty, et al. 1986: 125; and, among others, Miller 1979; and MacDonald 1982). We have thus suggested that, with the beginning of the EBA, a period of settlement intensification began. The EB III Period seems to have been the period when Tell el-Umeiri (West—the Bronze and Iron Age site) was most extensively settled. Late in EB III or early EB IV, however, the cycle seems to have begun the abatement process with inhabited sites decreasing in quantity and quality, until, by the Middle Bronze Age, very few sites have been located. Tell el-Umeiri (West) was, however, a glaring exception with its significant occupation.

Cycle 2: The period of abatement continued through the Late Bronze Age, although Tell el-Umeiri (West) was still occupied, until the Iron I Period when settlements began to increase again. Intensification continued through the Iron II Period when a climax seems to have been reached during the 7th and 6th centuries B.C. when many major and minor sites have been located.

Cycle 3: Little is known of the late Persian and early Hellenistic periods, but, beginning with late Hellenistic settlements, the process of intensification began again, building slowly through the Roman centuries and reaching its greatest extent in the Byzantine era when, next to the Modern Period, the region seems to have been most heavily populated. Tell el-Umeiri (East) was occupied during these periods. The evidence is very strong that there was only a slight abatement during the initial years of Islamic rule, but, when the caliphate moved to Baghdad with the Abbasids, the region seems to have been only lightly inhabited.

Cycle 4: Perhaps due to the importance of the region to the Islamic reconquest of the Holy Land from the Crusaders, settlement again increased during the Ayyubid and Mamluk periods when large numbers of sites, including Tell el-Umeiri (North), have been located. With Turkish control, intensification ceased and a period of abatement began.

Cycle 5: Few settlements seem to have existed in the region until late Ottoman times when cave villages, such as Tell el-Umeiri (North) and fortified farm villages, such as Yadoudeh, began the fifth cycle of intensification, which has carried on unabated until the present.

Because Tell el-Umeiri (West) was occupied during the period of abatement between cycles 1 and 2, our excavations provide an opportunity to investigate the adaptive strategies of a settled population during a period of abatement in the surrounding region.

This situation provides a broader vantage point from which to view questions of traditional concern to Syro-Palestinian and biblical archaeologists. For example, the historical identity and way of life of the peoples who occupied the Madaba Plains region during the Late Bronze and Iron Ages can be investigated more productively when those investigations are informed by theory about how human activity intensified and abated.

Because of the regional emphasis of our work, papers reporting the results of the Hinterland Survey appear first in this volume. These are followed by reports of the excavations on the central tell, Field by Field. Discussions of the small finds complete the volume. The remainder of this chapter is dedicated to a brief overview of the results.

The Umeiri Hinterland Survey

The Hinterland Survey had the specific objective of recovering data pertinent to understanding the food production activities of the ancient inhabitants within a 5-km radius of Tell el-Umeiri. As explained in Chapter 2, random sample surveying, judgment sample surveying, environmental surveying, and ethnographic surveying comprised the research strategies pursued by the survey team.

The Project Area Today

Climate

The geological features of Cisjordan and the Jordan Valley play a significant role in controlling the microclimate of the 'Umeiri region. Because of the relatively high north-south ranging mountains of Cisjordan, as well
as the presence of the Jordan Valley itself, Transjordan experiences the "rainshadow effect"; it receives less precipitation than Cisjordan, the clouds having already dropped most of their moisture over the mountains to the west. Nevertheless, the elevation of the Jordan Plateau is sufficient to draw cloud cover enough to yield an annual precipitation that varies between 300 mm and 500 mm in the Tell el-Umeiri region. The monthly temperature means range from 20° C in July to 12° C in January (Abu Howayej 1973).

These conditions are adequate to support a richer (though certainly not exuberant) variety of floral and faunal communities than exists at present. This conclusion is supported by the success of the forests introduced into the area by the Jordanian Department of Forestry since 1948 (Aresvik 1976: 182), as well as by the survival of remnants of indigenous forests still visible throughout Jordan (Aresvik 1976: 176-81). Data collected by the expedition's environmental survey indicate that in antiquity such forests were much more widespread. The present lack of more abundant biotic communities can best be attributed to the impact of humans on the natural environment.

**Plant Communities**

The present plant communities of the Tell el-Umeiri region reflect the uniqueness of the location of Palestine at the convergence point of four phytogeographical regions: the Mediterranean, the Irano-Turanian, the Saharo-Sindian, and the Sudano-Deccanian (Zohary 1962: 52). The Tell el-Umeiri environment falls within the East Mediterranean subregion of the Mediterranean, although it is bordered not far to the east, by the Irano-Turanian. It is not surprising, therefore, to find a few elements of the latter region encroaching on the area around the tell.

Four basic plant communities exist in the immediate vicinity of Tell el-Umeiri: (1) a batha community led by thorny burnett (Sarcopoterium spinosa); (2) a semisteppe batha community led by common ballota (Ballota undulata); (3) a semisteppe maquis community led by hawthorn (Crataegus azarolus ?); and (4) a forest community led by aleppo pine (Pinus halepensis) and including cypress (Cupressus sempervirons), juniper (Juniperus phoenicia), common oak (Quercus calliprinos) and hypericum. With the important exception of common oak, however, most of the members of the latter community have been introduced recently by man, leaving the dwarf shrubs led by thorny burnett as the most widespread and dominant natural community.

**Topography**

The topography of the Tell el-Umeiri region consists of gently sloping hills bordered on the south by the Madaba Plain. This is in contrast to the hill country of Cisjordan where the angle of the slopes is generally greater. Thus, terracing, a common feature west of the Jordan River, does not appear as frequently on the hills in the immediate vicinity of Tell el-Umeiri.

The tell occurs on an eastern projecting spur of a generally north-south trending rise. While the elevation of the tell proper is 913 m, ridges to the northeast, northwest, west, and south have peaks with respective elevations of 923 m, 931 m, 937 m, and 929 m. This provided the inhabitants of ancient Tell el-Umeiri a clear distant field of vision only to the east. This situation obviously presented the city with a peculiar strategic defense problem, particularly on its southern approach. An observation tower discovered on the southern ridge therefore came as no surprise to the team. Although the tower was tentatively dated to the Early Bronze period, such an installation probably existed somewhere on this ridge throughout most of the existence of Tell el-Umeiri.

**Present Settlement and Landuse**

The process of sedentarization, which has occurred within the project area over the past 150 years, generally followed the pattern that has been documented in the vicinity of Tell Hesban (Geraty and LaBlanca 1985). For example, the team visited numerous caves which, during the earlier part of this century and throughout the previous Ottoman period, had been utilized as seasonal dwellings by transhumant members of the Ajarmeh tribe. There also were several caves in the vicinity of the ruins at Umm el-Kundum; one of them measured 9 m wide and 8 m deep and had a hearth in the center near the entrance. The ceilings of all these caves were typically black from soot, even though makeshift chimneys had been built over the hearths of many. As the tribesmen settled into villages they built the characteristic fortified farmhouses seen throughout many villages in Jordan dating to the early part of this century (fig. 1.2). Such dwellings can be found, for example, at the Ajarmeh village of el-Buneiyat, immediately north of Tell el-Umeiri. Today most of these dwellings have been replaced by modern Jordanian cement houses.

In addition to the Ajarmeh, the Beni Sakhr Bedouin also utilized the pastures and ruins of this region in previous decades, and their descendants were found in several of the villages of the project area. Of particular importance, however, was the village of Yadoudeh, for its establishment in the last century by members of the Abujaber family played a crucial role in the transformation of the landscape of this region from pasture to sown. The massive perimeter walls of this village reflect the hostilities these pioneer settlers had to overcome in leading the way toward more intensive land utilization in this region (fig. 1.3).
AN OVERVIEW OF GOALS, METHODS AND FINDINGS

Fig. 1.2. Fortified farmhouse, typical structure from the late Ottoman period.

Fig. 1.3. Yadoudeh. The Abujaber family fortified village from the late Ottoman period.
AN OVERVIEW OF GOALS, METHODS AND FINDINGS

In 1977-78 an estimated population of at least 3,200 people inhabited at least seven villages within the project area. (It has probably doubled at least once since then.) While the older tribes and families are still well-represented in some of the villages, the hostilities of the past are largely forgotten. Together, and with the added cooperation of newcomers, especially Palestinians, the rural landscape of the project area is rapidly undergoing intensification. The large tracts of land which in previous decades were planted to fieldcrops are today being planted to fruit trees and vegetables. Rapid urbanization of the northern territory is totally removing the northern portion of the project area from farm use.

In an effort to uncover epidemiological correlates of sedentarization, the team initiated an investigation of the dental health of children encountered during the survey. More than 300 photographs were taken of the teeth of as many children. Although the final results are still pending, this may prove a fruitful line of inquiry, given the systematic patterning established in the data. Since teeth are usually well-preserved archaeologically, they may furnish an independent line of evidence of food system change in antiquity as well.

The Ancient Environment

It was noted above that although the present dominant plant community consists of dwarf shrubs, endemic factors such as rainfall, temperature and soil conditions are sufficient to support a richer biota. That such a biota existed in the past is supported by several lines of evidence. Previous studies of plant successional patterns (vegetation dynamics) in this general region indicated that the dwarf shrubbery dominating the landscape are not the natural floristic climax community, but rather a subclimax community. The original climax community consisted of an oak woodland or maquis (Zohary 1962: 10, 74, 75). The environmental survey team confirmed this fact, observing that common oak (Quercus calliprinos) was making a natural comeback in the shady areas of the pine forest artificially introduced on the ridge immediately south-south-west of the tell (Zohary 1962: 90; Weier 1970: 373).

Faunal remains on the tell also testify to the existence of such a plant community. Preliminary identification includes remains of animals such as wild pig and fallow deer, which require a more lush habitat than currently exists (cf. Boessneck and von den Driesch 1978: 269). The occurrence of these animal bones in the archaeological record pre-supposes a contemporary existence of a forest or maquis, and means that these bones can serve as an indicator as to when, through the lifetime of Tell el-Umeiri, this biotic community existed. Based on such evidence, our preliminary examination of the bone material indicates the presence of such a community from the Iron II back through the Early Bronze periods.

Ancient Farmsteads

Consistent with the food system perspective has been the search for evidence of ancient food production activity areas. The environmental team constructed a map, based on the environmental data, which attempted to differentiate between areas that in antiquity were most likely covered by natural vegetation and those that were probably utilized for agriculture. Several factors were considered, including present land-use, soil types, natural water availability, and the present distribution of subclimax floral communities.

At the same time, the random survey team noted the presence of some cisterns, wine presses, grinding stones, dams, and terraces in their random squares; they also began observing a number of round or rectangular structures, often surrounded by a perimeter wall. The dimensions of the rectangular structures varied from 5 x 7 m to 15 x 16 m, most of them tending toward the smaller end of this spectrum.

The foundation stones of these structures were large boulders, often averaging .90 x .75 x .50 m. This size initially gave the impression that the structures were defensive towers of some sort, similar to others in the Amman hinterlands. The surface sherds also indicated the same periods of occupation as certain of the Amman structures. Defense was later ruled out as the primary function of our "towers" because, although they generally surrounded the tell, they were not placed strategically for either defense or communication. Indeed, most of them were located on the sides of hills and an approaching enemy could easily sneak up the other side, or even up the main tell, without being seen.

On the other hand, all the structures have excellent vantage points for overlooking the prime agricultural farmland. Usually these structures were placed in a centralized location at the junction of two or more arable wadis, on the edge of prime agricultural ground but never upon it. This land was too precious to be used for anything but agriculture.

At least 32 of the 55 sites examined by the survey team may turn out to be farmsteads, judging by their location and content. The ceramic dates from these 32 sites reflected both sedentarization and nomadization processes. The Iron Age cycle, for example, emerged out of the Late Bronze, with only 3 sites, to a buildup of 10 sites during Iron I and 23 sites during Iron II. This buildup was followed by a period of nomadization that reached its peak during early Hellenistic times. Another buildup began during the Early Roman period with 9 sites and reached its peak of intensification during Byzantine times, with 23 sites. A process of abatement then
followed during Umayyad times, with 9 sites, which led to a nearly complete return to nomadism during the Abbasid, Fatimid, and Seljuq-Zengid periods. A brief return to sedentary farming occurred again during Mamluk times, represented at two farmstead sites, only to be followed again by an extended period of nomadic occupation throughout the early Ottoman period.

In addition to the remains of stone towers and rectangular buildings, many farmstead sites also contained the remains of perimeter walls (15 of the 32 sites), cisterns (14 sites), connecting roads (8 sites), and millstones (3 sites). Given their characteristic location on hills and spurs overlooking fertile valleys and their towers, perimeter walls, cisterns and presses, some of these farmsteads must have resembled those of the vineyard described in Isa 5:1-7.

Roads and Milestones

Fifteen of the 55 sites examined during the 1984 season contained the remains of ancient roadways. Seven of these sites were located within 2 km to the north of Tell el-Umeiri (Sites 1, 9, 23, 27, 30, 32, 51). Another four were in the vicinity of the village of Yadoudeh (Sites 17, 18, 31, 43). Sites 20 and 55 were ca. 3.5 km north of Tell el-Umeiri; Site 47, ca. 3 km southwest; and Site 41, ca. 2 km northeast.

At Site 18 an ancient road marked by parallel curbstones was traceable for nearly 0.5 km. Measuring ca. 4.5 m wide, it ran northwest-southeast along the flank of Wadi el-Hinu. Alongside this road are the remains of several buildings, including a small circular structure, ca. 3.1 m in diameter; the foundation of a large rectangular building ca. 5 x 6 m and built of very large cut blocks; and a smaller square building ca. 4.1 x 4.1 m built of unfinished boulders. These features, along with the discovery of three milestones—one along the road and two in secondary use in the village of Yadoudeh—established again the existence of a portion of the route of the Via Nova as well as the possible existence of a Via Nova waystation south of Amman.

Funerary Sites

Of the 17 locations where funerary sites were noted, 11 were located within a radius of 2 km of Tell el-Umeiri (Sites 2, 3, 6, 9, 11, 16, 27, 32, 33, 44, 51). Other funerary sites included Sites 20, 26, 29, 39, 40, and 50. Sites 3 and 16, which were located ca. 1 km north of Tell el-Umeiri, belong to a cemetery with numerous tombs, many of them recently plundered. At least five distinct tomb types were represented, including the rolling stone type as indicated by the discovery of a large, completely quarried rolling stone that needed only to be undercut.

Site 11, ca. 1 km south of Tell el-Umeiri, contained the remains of another cemetery. Here scores of open tombs were found along a line that ran for ca. 0.5 km east-west. Most consisted of round chambers. Some contained as many as 15 loculi. Some had stepped entrances cut into bedrock and many appeared to have been recently excavated illicitly. About 4 km north of Tell el-Umeiri another cemetery, Site 25, contained at least 35 opened tombs representing a variety of types, some with as many as 12 loculi. Whereas the pottery from Sites 3, 16, and 25 consisted mostly of Byzantine and Roman pieces, the dominant pottery at Site 11 was Mamluk.

An artificial hillside cave was found at Site 39 facing southeast; it appeared to contain the remains of a columbarium. Inside were two vaults, each lined with recesses for cinerary urns. Many of the recesses were blackened from soot. No pottery was found.

Prehistoric Site

In a cultivated field along the Na'ur highway, east of the intersection with the new airport highway, was Site 53, an extensive prehistoric site in a corner of Random Square 37. From among the hundreds of lithic artifacts recovered in one day's survey, Acheulian handaxes (Lower Palaeolithic), Levalloiso-Mousterian tools (Middle Palaeolithic), and a variety of Neolithic and Chalcolithic remains were identified. A seasonal lake might have existed southeast of the site; this possibility, along with the site itself, will require further investigation.

Stratigraphic Excavations at Tell el-Umeiri (fig. 1.4)

Random Surface Survey

To derive hypotheses concerning the spatial and chronological extent of the tell settlements through time, 64 Squares, each 6 x 6 m, were randomly located over the site. Using methods outlined by Portugali (1982), collections of pottery from the surface and the upper .10 m of topsoil were used to project spatial limits for respective settlements. Portugali's methods, however, needed revising: on steeply sloping sites with shelves or terraces, as Tell el-Umeiri, the pottery may reflect erosional debris deposited following abandonment(s) of the site.

The pottery lying on the surface was carefully separated from that found in the topsoil to test the validity of surface pottery alone to suggest an hypothesis. Generally, the surface and topsoil samples from
AN OVERVIEW OF GOALS, METHODS AND FINDINGS

a single Square were similar, not only in periods represented, but also in the percentage of sherds from each period, when both samples contained more than 15 or 20 diagnostic sherds.

The results of the survey, qualified by one season of excavation in four Fields, suggested that the site was settled near the beginning of the Early Bronze Age and, at least by early EB IV, had covered the entire site including all shelves and terraces. The Middle Bronze Age settlement was slightly smaller, covering an identical area, except for the southern shelves. During the Late Bronze, Iron I, and Iron II periods the site was smaller yet, abandoning the western shelf and using the northern slope for ephemeral, probably extra-urban activities. These later periods thus seem to have been restricted to the acropolis and eastern shelf.

Field A: The Ammonite Citadel

Excavation was conducted on the western edge of the acropolis, because topographic surface features suggested a possible gateway. However, in general it was discovered that the present topography of the site represents more the last, agricultural use of the site than ancient urban features. The "gateway" thus was most likely an access path to fields at the top of the site.

Below ca. .50 m of topsoil two major phases of a large structure were discovered. In the earliest, large stone walls (up to 1.70 m thick), formed several rooms in a building that extended beyond Field A in all four directions. Excavation proceeded to a clear surface in most of the rooms, which may have functioned as the basement for a government administrative complex.

Fig. 1.4. Topographical map. Permanent excavation fields begun in 1984 are in black; random surface survey squares are light.
Following an ephemeral phase of minor changes to the complex, a new structure was constructed, changing the plan and size of some of the rooms. The walls were not constructed as solidly as those of the earlier phase, though their dimensions were similar. The surfaces were much less clearly definable and no objects were found on them. At some point after the construction of this building, a few walls were added in an apparently new, but minor, subphase. The date seems to have been late 7th to early 6th centuries B.C. It is possible that the second phase represented the beginnings of abatement at the end of the Iron Age.

Field B: The Western Defensive System

Field B was laid out on the western slope of the site to examine the fortifications. It was at this point that a ridge joined the mound from the west, making it the most susceptible part of the city to attack. In the earliest phase a large mudbrick structure was uncovered but not excavated at the top of the slope. Its overall dimensions were undeterminable due to the limits of excavation. It may have been a massive city wall dating prior to the late Iron I period, the likely date of the subsequent phase. Above the bricks a casemate defensive system was discovered. Running up to the outer casematé wall was a thick beaten-earth rampart made of various layers of nari, clay, and stones. Underlying this rampart, the smooth face of yet another rampart emerged at the end of the season, perhaps to be related to the mudbrick structure. The pottery seemed to date to the late Iron I period, perhaps the 10th century B.C. This wall should be seen as part of the intensification of the site at the beginning of Cycle 2. This phase was followed by several phases representing domestic activities, such as a storeroom with jars in situ, several pits, a shallow stone-lined silo reused as a hearth, and several fragmentary walls with connecting surfaces, all dating to Iron II and early Persian. The outer casematé wall and the rampart seem to have been reused throughout.

Field C: The Northern Suburb

The northern slope of the city was made up of two broad sloping terraces surrounded by an apparent wall line angling down toward the spring at the foot of the tell. Five Squares were laid out on the upper terrace. Cupmarks and a large oval milling installation were carved out of bedrock. Grain and possibly acorn processing may thus have been prominent in the area during the EB period before the earliest permanent occupational remains reached this area of the site. A stone-paved street flanked by a curbing and a small shop were built above bedrock. No objects were found on the surfaces, but pottery above and below them dated late in EB III or early in EB IV. This seems to be the only period in which the northern suburb was part of the urban settlement, although so much MB pottery was found in later deposits that it could have been urban, as well. However, no structures or debris layers were uncovered which could be dated exclusively to MB.

Outdoor surfaces from the Iron I period were found running up to the lip of a cobble-stone wall, which may have retained an extra-urban terrace. The settlement thus seems to have diminished in size from that of the Early Bronze and Middle Bronze Ages, leaving the northern slope unsettled. During the late Iron II period the area seems to have been cleared and possibly quarried. Later, ephemeral structures with narrow walls may have been animal pens in an extra-urban setting.

Field D: The Lower Southern Shelf

Four Squares were opened on the lower of two shelves on the southern slope of the site. Although the random survey had produced quantities of MB pottery in topsoil, EB remains were encountered immediately below topsoil. The earliest remains included the upper courses of three walls which have not yet been excavated. Above them, but also needing further excavation, were wall fragments of what may turn out to be a complex of houses, possibly with benches. However, no surfaces have as yet been cleared, but plaster-and-reed wall and ceiling lining, probably lying on the floors, has been exposed. Loess deposits above these remains suggested abandonment at the end of the phase. The pottery from the debris layers so far excavated dated to late EB III. Into the loess of the previous phase two foundation pits, ca. 4.5 m on a side, were dug in order to contain narrow foundation walls of stone for two houses. Only the northern portions of the houses were preserved. Both houses contained a stone pillar base in the center and the western house had a mortar embedded into one of its two surfaces. No other objects were found, but the potsherds were consistently early EB IV. The EB IV settlement was considerably less prosperous than that of EB III, probably representing the abatement process at the end of Cycle 1. Above the houses were stone foundations built of cobble-sized stones loosely packed in mud mortar. The remains were too close to the surface of the mound to preserve surfaces, but the structures seem to have been rectangular in plan. The latest pottery in the debris layers immediately below topsoil, which may represent...
this phase, was late EB IV.

Pottery from the Roman, Byzantine, and Umayyad periods probably represented agricultural activities in this area, which seem to have included construction of a terrace retaining wall and the filling of small erosional gullies.

Summary and Synthesis of Excavation

After one season of excavation, the various settlements through time at Tell el-Umeiri may be characterized in general terms. Probably attracted to the site by the spring at the northern base of the hill, the earliest settlers seem to have belonged to EB III (or EB II?). (A Chalcolithic settlement has been located east of the site beneath the present airport highway [Franken and Abujaber 1979]). They probably occupied the top of the hill and subsequent growth occurred through EB III down all the slopes of the site, including the ridge to the west of the main hill. The late EB III settlement was the largest and most prosperous, reflecting the height of the intensification portion of Cycle 1. Houses adapted to the slopes and natural bedrock contours descended the sides of the site. During EB IV, living standards seem to have deteriorated to houses that were smaller and flimsier, finally disappearing before the advent of the Middle Bronze Age (MB II A). The EB settlement seems to have concentrated on agricultural concerns, including crop production (finds were heavy in agricultural tools and mortars for grain processing) and foraging (the cupmarks in bedrock may have been used to grind acorns into flour).

Based on the random surface survey, the Middle Bronze Age settlement covered the extent of the EB town, except for the southern shelf. The MB city was not a continuation of the EB IV settlement, but seems to have completely ignored the earlier remains. The earliest MB settlement may have been unfortified, because considerable amounts of MB pottery were found on the southern slopes, as far down as the valley floor. However, the fact that little LB and Iron I material has been found on the slopes suggests that at some period the settlement was enclosed with a significant fortification system that lasted until the Iron I period, preventing debris from these later periods from eroding down slope. One may speculate that the large mudbrick structure and early beaten-earth rampart in Field B were built at this time. Because no MB stratum was excavated, however, the settlement can be characterized only in the most general terms. Middle Bronze pottery was very frequent in mixed deposits from later periods and presented a consistent picture of fine white-slipped, brown band-painted wares. One would thus expect some degree of prosperity, but the economic base for the settlement cannot as yet be determined. Most of the pottery seems to represent a transitional phase from late MB to early LB. A major question about this settlement is how it was able to prosper without an apparent rural support system. One possibility is that all agriculturalists lived within the city.

The Late Bronze Age settlement abandoned the western ridge and the northern slope, but seems otherwise to have occupied the remainder of the MB town, especially on the acropolis and the eastern shelf where it was covered by Iron Age deposits. Excavation has not yet been able to illuminate this chapter in the history of the site.

Although Iron I pottery was more frequently attested than that of the previous period, it was more scarce than either EB or MB sherds. While extra-urban activities may have been reflected by the remains in Field C on the northern slope, major occupation must have occurred on top of the mound during at least the 10th century, when a casemate fortification system surrounded the acropolis and possibly the eastern shelf. Twelfth-century pottery was attested in both the random survey and excavations over much of the site. The presence of collared-rim storejars in this corpus would suggest a similar economy to other Iron I settlements in Palestine.

No early Iron II remains have been found outside the acropolis and eastern shelf. Pottery found elsewhere during the random survey must have originated in erosional deposits. At least the outer casemate wall in Field B seems to have been reused and a small domestic storeroom in the same Field would suggest food-procuring and storage strategies involving specialization and market trading.

Except extra-urban activities reflected in the remains of Field C, the late Iron II settlement was limited to the acropolis and eastern shelf. However, the massive architecture of Field A would suggest government activities, perhaps in relation to the seal impression of a royal official found nearby. The existence of the large citadel would suggest that the late Iron II period was the high point of the intensification portion of Cycle 2. In Field B, 15 m to the north, however, pits, a silo, a hearth, and wall fragments of domestic size would suggest that domestic activities occurred on the acropolis as well. The city gate for this period probably lay at the southeastern corner of the eastern shelf, where a depression cuts the eastern and southern defensive walls visible on the surface. Based on the Ammonite seal impression of a government official and the massive architecture in the citadel, it is possible to suggest that this town was part of the Ammonite governmental infrastructure, perhaps guarding its southern border. Tell el-Umeiri probably was not the largest town in the region, however. That honor seems to go to Tell Jawa, looming on the horizon ca. 5 km to the east.
AN OVERVIEW OF GOALS, METHODS AND FINDINGS

Artifacts

Pottery and lithic finds dated primarily to the EB, MB, LB, Iron I, and Iron II periods and included types common to domestic activities in small urban centers: the production and processing of food crops; the storage and distribution of goods, especially food; and the consumption of food.

Of some 500 other objects found, approximately 25% may be considered household objects reflecting several different activity patterns: tools for food preparation, consumption, and storage included millstones, grinders, mortars, pestles, knives, a stone hoe, whetstones, spoons, stoppers, and stone bowls. Another 25% suggested industrial activities, including spindle whorls, spindles, loom weights, weaving spatulas, burnishers, chains, etc. Yet another 25% suggested military activities. The dominant item here were scores of sling bolts, but a few arrowheads were also present. Several chains, etc. Yet another 25% may be considered household objects reflecting household activities in small urban centers: the production and processing of food crops; the storage and distribution of goods, especially food; and the consumption of food.

Animal and Plant Remains

A total of 15,464 bone fragments were processed by the project's ecology laboratory. The animals represented included sheep, goat, cattle, horse, donkey, pig, camel, chicken, fish, weasel, rodent, dog, gazelle, deer, wild bird, and turtle. Although final identification and measurements are still to be completed, a few patterns have emerged.

As noted, the three archaeological periods exposed during the excavations were Early Bronze, Iron I, and Iron II; there was also plentiful Middle Bronze pottery. Because the 1984 excavation concentrated in Fields with Iron Age remains, the greatest number of animal bones and the greatest variety of species came from the Iron Age, particularly Iron II. Donkey, horse, and cattle were especially plentiful in Iron II contexts, reflecting periods of urbanization and intensification of the food system. Pigs became more numerous in the Iron Age at Tell el-‘Umeiri, although not in large enough quantity to indicate any specialized role in the diet.

Artifacts

The object that caused the greatest stir was a small, fired ceramic cone, with a seal impression containing the name of a royal official and the king he served, written in the Ammonite script of ca. 600 B.C.: *mlkm’wr *bd blyš* (belonging to Milkom’ur, minister of Ba’alyasha*).

Animal and Plant Remains

The zooarchaeological findings correlate nicely with the results obtained by our palaeobotanical laboratory. Through flotation, a number of carbonized seeds were recovered from soil samples taken from the tell. So far, barley, wheat, lentil, pea, bitter vetch, chick pea, grape, wild pistachio, olive, and pomegranate have been identified from among the 280 seeds collected. Again, the number and variety of seeds is greatest for Iron II.

When bone and seed data are considered together with the evidence for numerous farmsteads in the surrounding region, a picture begins to emerge of a sophisticated food system for the late Iron Age in the region of Tell el-‘Umeiri.

Integration of Findings

Reflecting on the findings of the hinterland survey, we find it noteworthy that the vast majority of the remains of human handiwork encountered in the rural landscape can be seen as related in one way or another to the quest for food. First, at least 32 of the 55 sites examined appear to have been farmsteads or sites whose primary purpose was related to food production.

Second, another 15 sites, 8 of which overlapped with the farmstead sites, contained the remains of ancient roadways. These represent public works constructed primarily during Roman-Byzantine times to facilitate transportation of farm produce to markets and to permit easy movement of soldiers and merchants throughout the farming community. Significantly, all but one of the eight farmsteads that overlap with the roadway sites contained Roman-Byzantine pottery, thus attesting to the dependence of farmers during this period on paved roadways.

Third, information about the nutritional and health status of the individuals whose bones and teeth have been preserved in the funerary sites becomes significant in the light of our food system perspective. Furthermore, the fact that the three major cemeteries identified...
in this region were in active use during the populous Roman and Byzantine periods points to a co-occurrence undoubtedly reflecting an association of some sort between population densities and the maintenance of large and elaborate tombs and cemeteries. The fact also that many of the tombs and burial places examined served during less prosperous times as shelters for animals, as storage depots for farm equipment or food, or as dwellings for people, suggests that, even in their secondary uses, such sites are not exempt from analysis focused on food systems functioning in antiquity.

The widespread presence of Early Bronze pottery found by the random surface survey at Tell el-Umeiri itself points to the existence of an Early Bronze Age urban settlement. Indeed, the Early Bronze occupation on the tell appears to have been the most widespread of any period. Early Bronze ruins possibly included broad-room houses and other domestic installations. In the vicinity of Tell el-Umeiri only three farmsteads had ceramic indicators dating from the Early Bronze period. Taken together the evidence thus far suggests that the intensity of food production during this period was perhaps medium, but not high (cf. LaBianca 1985). Thus, a mixed economy consisting of cereal cultivation and cattle, sheep, and goat husbandry was probably the order of the day.

The scant remains so far from the Middle and Late Bronze periods on the tell and in the surrounding region point to abatement of the local food system in the direction of transhumant pastoralism. Sedentary occupation, nonetheless, seems to have persisted at Tell el-Umeiri, though on a slightly smaller scale than during the Early Bronze Age.

The hinterland survey indicates especially, however, that by the arrival of Iron I the food system began to intensify. This buildup reached its peak during late Iron II, when Tell el-Umeiri itself may have been the regional center of gravity for the surrounding farming community, judging from the data to this period of both the citadel complex and the western defensive system on the tell. Crops such as grapes were being produced not merely for local consumption, but also probably for export. Thus a considerable emphasis on fruit production is suggested by the plant and animal remains and by the occurrence of perimeter walls and agricultural towers in the hinterland. In the outlying fields, cereals were produced in large quantities as well, and pasture animals existed in relatively reduced numbers so as not to compete. Tell el-Umeiri's rise to prominence in this region is further reflected by the discovery of the Ba'alis seal impression, which established convincingly that political power and prestige had gravitated to the Ammonite ruler by the early 6th century B.C. This success can be seen in Jeremiah 49 where the prophet rebuked the Ammonites for taking advantage of Judah's misfortunes by moving into the territory of Gad. In verse 4 Jeremiah asks, "Why do you boast of your valleys, boast of your valleys so fruitful? O unfaithful daughter, you trust in your riches and say, "Who will attack me?" Perhaps Ammon's agricultural success had provided a firm economic base which may, in turn have led to political confidence.

It was this confidence that undoubtedly led to the events described in Jeremiah 27 and 40, where the prophet first depicts an Ammonite king as one of those who led the rebellion against Babylon; and then specifically mentions that Ba'alis was responsible for instigating the assassination of the Babylonian-appointed governor Gedaliah. Again, such brazen acts against the Babylonians reflect Ammon's increasing political self-confidence, which was based upon her successful economic growth.

The almost complete absence thus far of signs of sedentary occupation during the Hellenistic period either on the tell or in the surrounding region suggests another period of abatement in the direction of transhumant pastoralism from the 5th through 2nd centuries B.C. The process of sedentarization that took hold during the Early Roman period continued until it peaked during the Byzantine period. Although this process does not appear to have affected our particular tell significantly (although it is clearly in evidence at the other two Tell el-Umeiri sites), it is well-documented by our hinterland survey. Again the project area was filled with farmsteads, many of which were serviced by paved roads. Fruit trees and cereals again took over lands that in the earlier Hellenistic period had been grazing areas.

The cycle that reached its peak during the Byzantine period began to abate again during Umayyad times, as seen from the reduced number of farmsteads during this period. This abatement phase reached a point of nearly complete return to pastoral nomadism during the subsequent early Islamic centuries and was only briefly interrupted during Mamluk times, when a reuse of certain of the farmsteads is attested. Throughout the Ottoman period pastoral nomadism continued as the dominant strategy of food production throughout the project area, until the most recent process of sedentarization took hold in the latter part of the last century.

The pattern of the filling up and emptying out of settlements encountered in the Umeiri region is not identical to the pattern observed in the vicinity of Tell Hesban. For example, the Iron II period reached a high peak around Tell el-Umeiri while the Byzantine peak seems to have been a bit weaker here than in the vicinity of Tell Hesban. Furthermore, the Mamluk period is not as strongly represented in our region. While these impressions may change after additional seasons, they are offered here to initiate discussion of possible
AN OVERVIEW OF GOALS, METHODS AND FINDINGS

reasons for the differences.
Concerning the existence of transhumant pastoralists in our project area, it is our thesis that this mode of livelihood has always played a role in this region. Even during the intensive Iron II and Roman-Byzantine periods, transhumants moved their flocks seasonally into this region and traded their products with the local villagers and farmers. We regard the task of illuminating the role played by transhumants in all periods in this region as a crucial one to continue to investigate in future seasons.

Plans for Future Research

Future fieldwork will continue the lines of inquiry carried out during the 1984 season. The following goals will be pursued during the next season: first, more precise reconstruction of the ancient agricultural and natural landscape, particularly regarding extent and location of ancient forests and the location of farmsteads, cereal fields, and orchards; second, more precise study and documentation of individual farmsteads enabling us to distinguish sites according to layout and component structures, such as towers, houses, perimeter walls, cisterns, and presses; third, more precise study and documentation of the infrastructure of food production at different times, including investigations of the extent of investment in the construction and maintenance of roads, water management works, markets, and other communal undertakings; fourth, intensified investigation of the material remains of transhumant and nomadic pastoralists; and fifth, continued investigations of recent changes in the food system of the project area to further refine our understanding of site formation processes.

In addition to continuing and expanding our stratigraphic excavations on Tell el-'Umeiri, our plans for the next season, pending authorization from the Department of Antiquities of Jordan and local landowners, call for soundings at several farmstead sites, at selected funerary sites, and at the newly-discovered prehistoric site. On the tell itself, specific goals include: first, horizontal expansion of Field A, to assess the nature and associated activity patterns of the Ammonite citadel; second, deeper probing into the western fortification in Field B, to date more precisely the exposed defensive systems and to ascertain their relation to earlier, emerging systems; third, the possible opening of a new field near the perimeter wall of the northern suburb surrounding Field C, as this is a likely location for encountering remains from Early Bronze through Middle Bronze; fourth, further excavation in Field D, to uncover wider and better preserved Early Bronze remains; fifth, the opening of a new field on the untouched eastern slope where Late Bronze and earlier remains are most likely to be uncovered; and sixth, excavation of the spring.

NOTES

*The authors of this report are indebted to each of the 75-member staff who helped to make possible these results. Furthermore, the expedition took place only because of the financial assistance of Andrews University and the California Society for Archaeological Research (Ed Distler, president; John Caswell, secretary; Bernadi Brandstater, treasurer; and Charles Anderson, Harold Bailey, Barry Crabtree, trustees), along with numerous private donors. Among the latter, the substantial gifts of Vern and Barbara Jean Carner, Gary and Ruth Stantliser, Thomas and Hazel Geraty, Ron and Sheila Geraty, and Gary and Anila Frykman must be singled out. Worthington Foods, through Allen Buller, its president, provided the staff with complimentary textured protein products for the season. Ali Ghandour, Chairman of Alia-Royal Jordanian Airlines, arranged for substantial staff savings on airfare. And the Baptist School in Amman, provided invaluable assistance; the latter’s direction and overall execution of the project were Lawrence T. Gentry, Director of the Madaba Plains Project; Larry G. Herr, Chief Archaeologist, head of the stratigraphic excavations and pottery processing; and Oystein S. LaBianca, Chief Anthropologist, head of the hinterland survey and the ecology laboratory.

Headquarters during the 1984 season were at the Baptist School near Shmeisani, Amman, a 15-minute drive from Tell el-Umeiri. Most of the school’s facilities were generously made available to the expedition and offered adequate space for sleeping, eating, working, meeting, and recreation.

At headquarters the daily needs of the staff were provided for by David Merling, who headed the camp staff. Rachel Hallock presided over the kitchen with the help of Myrtle Miller, Elvira Ferreira, and the Hackwells, Natalie, Bronwyn, and Andrew; and many volunteers. Nursing services were provided throughout by Jean Gard. Physicians were Erwin Syphers and Gary Frykman (Annette Frykman and sons Gregory, Philip, and Eric volunteered on the tell). Lloyd Willis acted as chaplain, Jo Ann Davidson as secretary. Camp handyman/engineer was Robert Artman, who also produced a video program about the dig.

To facilitate in-field identification, documentation, and conservation of pottery, objects, flints, human skeletal remains, animal and plant remains, ethnobotanical samples, geological samples, and other artifacts, separate processing stations and procedures were set up at the beginning of the season in the large gymnasium at headquarters.

16
AN OVERVIEW OF GOALS, METHODS AND FINDINGS

These included the pottery processing stations where sherds were washed, identified, counted, registered, sawn, described, mended, drawn, photographed, and further analyzed as needed; the object-processing station, where artifacts such as coins, cosmetic implements, jewelry, figurines, ostraca, and textile tools were cleaned, identified, registered, drawn, photographed, and prepared for preservation; the ecology laboratory, which included separate processing stations, each with its own equipment, including scales and microscopes, for processing flotation samples, human remains, ethnobotanical samples, animal bone remains, soil and rock samples, flint chips and artifacts, and a work station for the members of the hinterland survey where maps and aerial photographs could be examined in preparation for the next day’s fieldwork.

Pottery processing at headquarters was carried out by Mary Ellen Lawlor and Hester Thomsen, who were assisted by numerous volunteers, including Karris, Nancy, and Renee Lawlor. Processing of small finds was the responsibility of the Object Registrars Elizabeth Platt and Siegfried Horn, assisted by Lotta Gaster. Drawings of the objects were made by artist Peter Erhard.

Supervisors for the ecology laboratory this season were Patsy Tyner and Randall W. Younker. Yvonne Hackwell conducted the flotation procedure, Larry Rich cleaned the animal bones, and Claire Peachey processed the geological samples. Our physical anthropologist, Michael Alcorn, was also a member of the hinterland survey. He processed the flints and human remains. Modern plant specimens collected by the survey and animal bone remains from the tell were identified by Younker, also a member of the hinterland survey team.

Field identifications resulting from each of these processing operations were compiled and integrated into the stratigraphic locus sheets recorded by a computer system assembled and programmed by James Brower. He also entered the field data and provided supervisors with integrated locus printouts. No sherds or bones were discarded; what was not turned over to the Department of Antiquities at the end of the season or shipped to the U.S. for further analysis was stored in stackable crates first in Yadudah, Jordan, courtesy of the Abujaber family, and then at ACOR in Amman.

Also located at headquarters were makeshift quarters for processing and developing film, drafting and artifact drawing. The photography team was headed by Don May, assisted by Larry Coyle and Jonathan Heiron. Glenn Johnson supervised the preparation of a topographical map of the tell, the laying out of the grid, and the recording of architectural finds. He was assisted by Merling Alomia, Raschel Barton, and Robert Loos.

The ancient name of Tell el-Umeiri is not known, although Abel-Keramim of Judg 11:33 (Rexford 1962: 69-70) and Ammonite Heshbon of Num 21:26-30 have been proposed. Lying in the foothills ringing the Madaba Plains on the north, it was probably dominated by the Amorites during the Bronze Age and by the Ammonites during the Iron Age. Several studies have been done of the history of the region (for example, Gheer 1957, 1939; Landes 1961; Vyhmeister 1967; Oded 1979; Gentry and LaBianca 1985).

Organized during the first two weeks of the season by Oystein LaBianca, the staff consisted of Robert Boling, Field Supervisor for the Survey; Jon Cole, Survey Engineer in charge of aerial photography orientation and hydrological studies; Michael Alcorn, Biological Anthropologist and Lithicist; Randall W. Younker, Botanist and Ecologist; Allison McQuitty, Ethnoarchaeologist; Bruce Cole, Photographer; and Mohammad Mihyar and Hanan Azar, Translators. This arrangement of using the variously constituted teams and permitting periods of independent research by individual survey members was encouraged as the best strategy for reaching the wide-ranging goals that the team had set for itself.

Stratigraphic excavations were carried out using the now familiar "Wheeler-Kenyon" method as refined at Tell Hesban. Improved procedures used for describing and recording the findings encountered in the excavations were according to Herr (1984). In addition to detailing the basic day-to-day activities of work at the camp and in the field, Herr's manual also provided definitions and explanations of terms encountered on the computerized recording forms, thus greatly enhancing standardization of descriptions and consistency in our team's execution of the many procedures involved in archaeological fieldwork.

A major feature of this system included specially designed forms for recording soil loci, architectural loci, installation loci, burials, and top plans. Coordinated forms were also available for recording Field phase summaries, weekly Square summaries, small finds, pottery readings, photographs, and plant and animal remains. Sifting of all debris unearthed and on-site separate bagging of all samples and loose finds such as pottery, bones, fruit pits, and other objects was standard procedure in every square.

Excavation personnel consisted of four Field supervisors, each assisted by at least four Square supervisors. The Square supervisors were assisted by one or more associates. Participants were:

Field Supervisor for Field A, the Ammonite Citadel, was John Lawlor (Baptist Bible College, Pennsylvania) assisted by Square supervisors and associates Anabel Lazaro and Caryn Bratman, Square 7K40; John Hackwell and Anne Crawford, Square 7K41; James Fisher and Elsie Peterson, Square 7K39; Mary Steratore and Glenn Montgomery, Square 7K31.

Field Supervisor for Field B, the Western Defensive System, was Douglas Clark (Southwestern Adventist College, Texas) with Lloyd Willis and Vilmar Gonzalez, Square 7387; Kenneth Carlson and My Louc Erhard, Square 7388; Richard LaCom and Gillian Gentry, Square 7389; David Merling and Steven Hawkins, Square 7398; Helen Dates and Jean Gard, Square 7K90.

Field Supervisor for Field C, the Northern Suburb, was James Battenfield (Grace Graduate School, California) assisted by Richard Davidson and Rose Miller, Squares 8L62 and 8L82; Robert Merrill and Bryce Cole, Squares 8L63 and 8L64; Claire Peachey, Hanan Azar, and Stephanie Merling, Square 8L72; Zdravko Stefanovic and René Stables, Square 8L63.

Field Supervisor for Field D, the Lower Southern Shelf, was Larry Mitchell (Pacific Union College, California) assisted by Marilyn Murray and Robert Collins, Square 5K76; Steven Bonner and Howard Krug, Square 5K77; Colin House and Jason Mitchell, Square 5K36; Hans Curvers and Cheryl Jacob, Square 5K37.

REFERENCES


AN OVERVIEW OF GOALS, METHODS AND FINDINGS


Franken, H. J., and Abujaber, R. S. 1979 Yadoudet. University of Leiden, Departmental manuscript.


AN OVERVIEW OF GOALS, METHODS AND FINDINGS

Redford, D. B.

Reventlow, H. G.

Rollefson, G. O. and Simmons, A. H.

Sauer, J. A.

Vyhmeister, W.

Warren, R. E.

Weier, T. E.

Zohary, M.
Part Two

THE HINTERLANDS
CHAPTER 2

Introduction to the el-‘Umeiri Hinterland Survey

Qystein S. LaBianca  Andrews University, Berrien Springs, MI

The purpose of this chapter is to make explicit the considerations which went into planning and organizing the ‘Umeiri Hinterland Survey. Specifically, attention will be focused on the survey’s theoretical and methodological underpinnings and on how the survey was operationalized given the constraints of the field situation.

It is important to state at the outset that even as plans were being laid for the first season of fieldwork at Tell el-‘Umeiri, work was simultaneously underway on the Hesban final publication series. A major task of this final publication project involved fitting together, in a systematic manner, all of the diverse finds produced over five seasons of excavations and survey by the Hesban project. To this end, the food system perspective was employed, for it helped bring into focus the complex interconnections which tie the diverse finds produced by this project together (cf. LaBianca 1989).

The food system framework is based on the assumption that, of all of the daily activities carried out by rural peoples of antiquity, none shaped their daily routines and material culture more than the quest for food. Thought of in the broadest sense, this quest includes all of the political, social and economic relationships involved in producing or procuring, processing, distributing, preparing and consuming food. When analyzed in the light of this perspective, insights quickly emerge as to how pottery finds, bone finds, architectural remains, water management works, and many other types of finds from a given archaeological deposit fit together.

While the food system perspective had proven itself extremely useful in the post-factum analysis of the survey and other finds from Tell Hesban, it must be remembered that these finds had not been collected with this perspective in mind. Thus, when plans were being laid for the first season at Tell el-‘Umeiri and vicinity, one of the enticements of this new project was the opportunity to design and carry out a survey which reckoned from the start with this perspective. It was this prospect, more than any other, that inspired and guided the efforts of the ‘Umeiri Hinterland Survey during its first field season.

One of the most important consequences of starting the survey with the food system perspective in mind was that it gave a new significance to the study of the “hinterlands” of tells. Rather than abiding by the traditional view that tells can somehow be studied apart from intense scrutiny of their surrounding region, this new perspective heightens awareness of the intimate connection which exists between tells and their adjacent agricultural landscapes. Thus, rather than each being studied for their own sake, regions and tells are studied as a single phenomena, i.e. the tell is studied in the context of its hinterland and vice versa. Thus tells are clearly recognized for what they once were, namely smaller and larger centers (i.e. villages and towns) where farmers, craftsmen and tradesmen cooperated on a daily basis for the purposes of processing, storing, protecting, distributing and consuming the plant and animal products produced on the hinterlands surrounding them.

The primary objective of hinterland surveys, then, is to gather data pertinent to reconstructing changes over
time in patterns of food production in the hinterlands of particular tells. To see the full picture, we need to know what the hinterland looked like not only when a given tell prospered, but also when it declined and went out of use. We also need to know what the activities in the hinterland were which led, on the one hand, to intensification of what the hinterland looked like not only when a given tell particular tells. To see the full picture, we need to know time in patterns of food production in the hinterlands of of questions which the ‘Umeki Hinterland Survey sought to answer.

Four different field strategies were implemented in order to operationalize the ‘Umeki Hinterland Survey. These included random sample, judgment sample, environmental and ethnographic surveying.

The random sampling survey consisted of intense scrutiny for a period equivalent to two hours (depending on how many participated on a given day) at each of 38 randomly selected squares each measuring 200 x 200 m. These squares were selected by means of a quasi-random number generator from among 1,962 sequentially numbered squares contained within a 5-km radius of the site. These squares, in turn, were located on the ground with the aid of maps and aerial photographs. All pottery, animal remains, and loose artifacts were gathered from within each square, a map was drawn showing the location of all ruins and present-day facilities; and current land use and plant communities within each square were noted.

The judgment sampling survey (the statisticians’ name for traditional surveying where the territory surveyed is selected on the basis of personal decisions made by the surveyor) was influenced largely by leads provided by aerial photographs. Ruins located on the aerial photographs or encountered in the process of locating a particular random square were inspected, sherded, and recorded. As a result of these leads, territories were inspected and many unrecorded sites found that would otherwise probably have gone unnoticed.

The environmental survey involved visits to biological communities within the survey territory to study present plant and animal life and to establish a baseline for reconstruction of the ancient environment. Of particular concern to this aspect of the survey operation (following the discovery of numerous farmsteads within the survey territory) was on-site analysis of the relationship between the location of ancient agricultural lands, farmsteads and forests, and those of today.

Whereas ethnographic information pertinent to understanding the present-day food system within the project area was collected in connection with all the surveys, focused ethnographic inquiries centered on three topics: shelters utilized by the local population and their animals during the Late Ottoman period; conflicts between animal husbandry and agriculture; and the impact of sedentarization and urbanization on the health status of children. Information on these topics was gathered through on-site observations and interviews with local informants.

These surveys were not carried out independent of each other or by separate teams, but by the same staff of eight working both individually and in different teams on various occasions throughout the eight-week season.

The most extensively-used surveys were the random and judgment sampling surveys. The former resulted in the examination and recording of 38 "Random Squares;" the latter resulted in the identification of 55 "sites." To these can be added studies of a number of agricultural installations and environmental habitats found in the aerial and environmental surveys and the information provided by local informants in response to ethnographic inquiries.

Leads provided by the random sampling survey influenced the other surveys. For example, Random Square (RS) 2 led to the discovery of a pair of hilltop farmsteads (Sites 10 and 40) and a columbarium (Site 39). Traces of an ancient road intersection (Via Nova?) and the remains of two Roman milestones were found, thanks to the random square survey (RS 30, 17, and 19, respectively). Site 53, a rich Palaeolithic site was found because of its proximity to RS 37. Random Square 39 led to the discovery of Sites 46, 50, and 54.

Two additional factors influenced the site-finding process. The first was the decision to concentrate the judgment sample survey in the northern portion of the project area. This area was chosen over the southern portion because the latter had already been surveyed by the Hesban Regional Survey (Ibach 1978), and because the northern portion is currently undergoing the most rapid urbanization. The second influencing factor—especially toward the end of the season when the telltale signs of ancient farmsteads were better understood—was the deliberate attempt to locate many such farmstead sites for comparison and documentation.

As noted above, the survey was conducted within a radius of 5-km of Tell el-Umeki. Basically, there were two reasons for thus delimiting the survey. First, the 5-km radius could be defended on theoretical grounds. For example, Vita-Finzi (1978) has argued that 5-km is the furthest that villagers will travel, on a daily basis, for the purposes of growing food. Since it was in order to shed light on the food production strategies of the inhabitants of Tell el-Umeki that the survey was implemented, the region within 5-km of this site was deemed to be a sound point of departure.

The other reason for thus delimiting the survey territory was that this seemed to be just the right size, given the intensive scrutiny of the landscape involved in this type of survey. In other words, the 5-km radius region was thought to be "doable." Experience has reinforced our judgment in this regard.
REFERENCES


LaBianca, O. 1989 Sedentarization and Nomadization: Food System


Archaeological Sites and their Setting. London: Thames and Hudson.
Before the initial excavation at Tell el-'Umeiri in the summer of 1984, I prepared a paper entitled, "A Brief Orientation to Tell el-'Umeiri." The purpose of that paper was to discover what, if any, were the historical references relating to 'Umeiri. I discovered that at least two 19th century explorers mentioned 'Umeiri by name, but both of them recorded the presence of three sites called "'Umeiri" (Conder 1889: 19; Warren 1869-70: 291).

The Tell Hesban regional survey had located two tells named "'Umeiri" which lay approximately 9 km SSW of Amman and 250 m apart (Ibach 1987: 31). In 1981 they were separated by a four-lane highway that extends between Amman and Queen Alia International Airport. For some time, a small homestead has been located on Tell el-'Umeiri (East) and, presumably for that reason, maps and other references to 'Umeiri refer to this eastern 'Umeiri. However, the western tell is the dominant of the two sites, standing 60 m above its wadi and, until recently, possessing a perennial spring at its base.

The two 19th century explorers that refer to Tell el-'Umeiri are Major C. R. Conder and Captain Charles Warren. Major Conder did not actually visit 'Umeiri because it was in the control of an enemy of his guide, but he does mention "three tells" in connection with "el 'Ameireh." Judging from his report, Conder was probably within sight of the three tells he describes (1889: 19). Conder was retracing a portion of Captain Warren's exploration of Transjordan in 1867.

From Warren we learn that "Amary" is really the name for a district that has three tells (1869-70: 291). Because Warren was the earlier explorer and gives the most complete account of his trip through the "Amary district," I have used his report as published in PEF, 1869-1870, to help determine the location of the third Tell el-'Umeiri (see fig. 3.1 and close-up fig. 3.2).

Captain Warren's two-month excursion into Transjordan was undertaken in the year he arrived in Palestine, 1867. The few weeks taken for a reconnaissance of Transjordan occurred because he was trying to outmaneuver the orders of the Pasha of Jerusalem (see Wilson and Warren 1871: 33). Warren had been prohibited from digging nearer than 40 ft to Jerusalem's city wall. He by-passed this regulation by first digging 40 ft from the wall straight down, then tunneling toward the wall. After the completion of the first stage of his project, Warren mailed his report and, while waiting for its publication, traveled to Transjordan.

Warren's two-month delay and subsequent Transjordan exploration was to allow time for his Jerusalem work to be published and reveal how closely he had worked near the city walls. In this way he hoped to force the local officials to permit him to excavate nearer the city walls. He would argue, after publication of his work, that the officials in Constantinople...
CHARLES WARREN'S EXPLORATIONS

Fig. 3.1. Location of the three 'Umeiris.

Fig. 3.2. Close-up of the locations of the three 'Umeiris.
knew he had been digging up to the wall; therefore, since the custom was established, his future work near the walls should not be stopped. As soon as his report was on its way to London, Warren headed for Transjordan.

Warren and his fellow travelers left Jerusalem on July 17, 1867 and in the next few weeks visited sites seldom seen by Westerners (Warren 1869-70: 284-305). After rising from the heat of the Jordan valley, Warren visited a number of villages and ruins along the plateau, including Tell Hesban. Soon after passing el-Al, the Warren party headed inland from the "King's Highway," making camp in the wadi by the ruins of Na'ur.

After camping one night at Na'ur, Warren headed northeast to Um es-Summaq. His description of the general area around Um es-Summaq is intriguingly accurate: no large hills or mountains, rather, what he calls, "a succession of nearly horizontal plains intersected and cut up by deep wadis and ravines" (Warren 1869: 290).

In the intervening years since Warren's brief visit much has changed. Warren's century-old description of the Um es-Summaq area would lead one to expect archaeological ruins readily in evidence. Warren wrote, "We had now arrived in a very remarkable piece of country. Over a tract four miles square there is a never-ending succession of ruins. On each spur there appears to have been a village, on each hill-top a temple or public building" (Warren 1869: 29). He continues by stating that the ruins were so numerous in the Um es-Summaq area that they appeared to be from one large city. There are few, if any, remains visible on the countryside surrounding Um es-Summaq. Perhaps the relatively recent breakup of the tribal system, and with it the sedimentarization of the local population, has resulted in the removal of the archaeological evidence. If Warren's observation is accurate, an interesting sociological project could be initiated cataloging the reuse of archaeological remains in domestic structures in this area.

Evidently, Captain Warren left Um es-Summaq toward the north following roughly a present-day trail to el-Buneiyat (North), since he describes the series of caves which are found northeast of the village (for an interesting note about these caves, see Boling unpublished: 4). Warren traveled east until he reached Buneiyat (North) and then turned south.3

The purpose of Warren's exploration: simple observation. The time of travel after leaving Um es-Summaq to the arrival at 'Umeiri, about 7-km in distance, was reported as one hour and thirteen minutes.

The information about the visit to the el-Buneiyats is minimal, less than two paragraphs.3 What is stated about specifics, such as the exploration of an on-route cave, is too general to be helpful in reconstructing Warren's route. It should be noted, however, that one should expect that travelers from the 19th century would follow the still-existing trails which connect the villages. These trails follow the natural contours of the topography.

Until the construction of the Queen Alia Airport and the new four-lane highway which connects it to Amman, the area of Um es-Summaq—Buneiyat—'Umeiri was a seldom-traveled region. Only small, unpaved roads and trails connected these settlements. It appears that even Nelson Glueck, dean of Transjordan exploration, did not enter this area, although he traveled the usual routes east through Yaduda and west through Na'ur.

We can expect, then, that Warren and his party followed closely the trails still found on current maps, even though, because of the new highway, many are now no longer usable. Warren traveled south from Buneiyat (North) passing Buneiyat (South), finally arriving in the 'Umeiri region. The first of the 'Umeiri sites was located "about 1 mile" north of their camping spot. Because this 'Umeiri site is the most difficult to locate, we will consider the other two first.

Warren does not specifically state that his camping spot was at the foot of one of the 'Umeiri sites, but he does leave supporting evidence. First, he mentions the availability of water. Since the water at his camping spot was unsavory, Warren concluded that the source was only a cistern. This probably was the spring at the foot of Tell el-'Umeiri (West).

The perennial spring at Tell el-'Umeiri (West) was well-known during the 19th century. Conder lists 'Umeiri as one of the seventy perennial springs, or wells, on the Moab plateau (Conder 1889: 3). Warren himself, in a report in PEF, calls his camping spot the "Camp at Bir of 'Umeiri." (Warren 1869: 308). Without a doubt, this camping site was at the northern base of Tell el-'Umeiri (West).

The well of 'Umeiri (West) is now dry. According to the landowner Raouf Abujaber, the spring dried up thirty or forty years ago because of, presumably, the lowering of the water table in the area and the filling in of the spring house with debris. During the 19th century and the early decades of the 20th century, the well of 'Umeiri was most often the neutral border between the Adwan and Beni Sakhar tribes. This same water source made the site important to its earliest inhabitants.4

Warren passed another Tell el-'Umeiri after camping at the foot of 'Umeiri (West) when he continued his journey east toward Khirbet es-Suq. This tell is 'Umeiri (East) which lies only 250 m east of
CHARLES WARREN'S EXPLORATIONS

TJmeiri (West). Writes Warren, "We now passed another ruin, also called Amary (it is the name of a district, and there are three ruins in it), at 1:53 p.m., and passing down a small wadi to east found K. es-Suk to our east" (1869: 291).

We still need to consider the third location of TJmeiri. The first hill seen to the north of TJmeiri (East) is Site 3 on the Madaba Plains Project Regional Survey (see Boling, Chapter 8). This is a comparatively small hill with no architectural remains, except a cemetery with numerous plundered tombs.

Because it is located too close to the spring at TJmeiri (West) (Warren estimated a distance of one mile between the northern TJmeiri and the spring), there is a lack of architectural remains, and it is very small in size, Site 3 should not be considered the third TJmeiri.

Looking again at the area map and considering the information provided by Captain Warren, we can provide a fairly certain identification for Warren's third site of Tell el-TJmeiri. We know that it was about one mile north of the well. It had ruins, and it was in close proximity to the Buneiyat region. With this information as a background, I suggest that the third TJmeiri is Site 16 of the Madaba Plains Project 1984 Regional Survey.

The description provided by Robert Boling for Site 16 is of a large ruin about 200 x 150 m in size.

There are many caves and cisterns present and, occasionally, it is used by Bedouins for camping (Boling 1988: 9). My introduction to this site began early one morning during the 1984 excavations of TJmeiri. In a discussion with our site watchman and resident Bedouin, I asked through a translator whether he knew of another site named TJmeiri besides the well-known western and eastern ones. He pointed to Site 16, and said that it was also called 'Umeiri. Sometime later, while visiting Site 16, I asked, again through a translator, a group of children who gathered about me, the name of the hill on which we were standing. They had a local name but also said that it was in the region of TJmeiri.

Evidently some local residents consider Site 16 as part of the TJmeiri region. Added to the evidence provided by Warren of a location 750 m northeast of the spring and visible remains of significant ruins—Site 16 certainly appears to be the third TJmeiri—Tell el-TJmeiri (North)—mentioned by Charles Warren.

NOTES

1Warren consistently spells 'Umeiri: "Amary." For the sake of consistency and clarity, "TJmeiri" will be used in the text.

2The probable trail of Warren is difficult to trace largely due to the new highway.

3Warren writes, "There are three (Buneiyats) of the same name" (Warren 1869-70: 291).

4Redford has posed an identification of Tell el-'Umeiri with two ancient cities largely due to the presence of this perennial spring (pp. 66-70).

5Help with translation was provided by Gillian Geraty and Hanan Azar.

6Contrary to this conclusion, Robert Boling notes that a passerby claimed that Site 16 was part of the Buneiyat district, p. 9.

REFERENCES


1869 Heights of Points to the East of Jordan. Palestine Exploration Fund.

Towards the middle of the 19th century, the Ottoman government in Istanbul needed to put its house in order, especially in the Syrian provinces. This followed the upheaval brought about by the conquest and occupation of the whole of Syria by Ibrahim Pasha (AL MASRI), starting in 1831. This able commander general and administrator was, at the orders of his father Mohammad Ali Pasha of Egypt, giving Syria, for the first time during many centuries, a taste of modern rule and relative stability. Although Transjordan was only slightly affected by these developments because of a very small population, the other parts of Syria, Palestine, Lebanon, and the areas north of the Hauran to the boundaries of Turkey benefited a great deal from the progress made in agriculture and commerce. Farmers needed more land to improve their quality of life and they started pushing the boundary of the sown areas further eastward into the Badiyah—the fringe of the Syrian Desert, especially in the areas east of Aleppo, Hamma, and Homs.

This same trend was taking place in Transjordan, but it needed relative stability to manifest itself. This happened in 1851 when the Ottoman government appointed a governor in Ajlun and placed at his command a small military force detached from their forces in the Hauran. Farmers were encouraged to challenge the Bedouin claim to the Khawa Tribute, which had been exacted from them for centuries, and were instead ordered to pay their A'Shar Taxes, amounting to one tenth of the crop, to the government tax collectors. A shade of discipline was at last creeping in.

The Belqa District, between the Mojib River (the Arnon of ancient history) and the Zerka River (the Jabbok), was completely controlled by Bedouin tribes who made use of its fertile fields only as pastures for their camel herds and sheep flocks. Some of them, like the Adwan, Ajarmeh, Ida’aja, and Ghnaimat, were already farming millet and wheat, but on a small scale. Salt, at the start of the 19th century, was the only settled area with about 500 families and three small villages around it. The settled population was depleted as many had left the countryside earlier for safer abodes in the north and west.

The first agricultural operation of an important size was carried out towards mid-century by a daring man. His name was Saleh Nasir Abujaber, and was probably born in Nablus around 1820. His family was, a few years earlier, in Nazareth and probably at some remote period were people of the southern part of Transjordan around Tafieh. He was Catholic and probably came to Salt as a child. Starting as a merchant dealing with Bedouin tribes, especially the Wandien around Ma'in, he seems to have found the trade too small for his ambitions and therefore struck an agreement with a Bedouin Sheikh of the Beni Sakhr to till and farm Yadoudeh in partnership. The exact date of this agreement is not known, but it is of interest to note that this Khirbet (ruin), as Yadoudeh was called until recently, appears on a map of Southern Syria published by Prof. D. Hughes, lecturer of geography at the Civil Engineers College, April 15, 1843.

The partnership with Sheikh Rumaith Abu Jenieh, holder of Yadoudeh and Tuneib, stipulated that Saleh would till the land for one year, then Rumaith would
receive one-half of the crop and own one-half of the land. Saleh, on the other hand, would pay all costs, including labor from the other half of the crop, and become owner of the second half of the land. It is necessary to mention that no taxes were due at this stage as there was no governmental administration in the area. The first central authority was established at Salt only in the year 1867.

To run his new large farm properly, Saleh resorted to an original idea. He imported labor from the Nabulus District, where young men were trying to avoid military conscription for wars in Yemen. These men were accommodated at first in the household, and were given, as a group, one-fifth of the crop for their hard work. The labor force numbered ninety-six ploughmen by 1880, and they were divided into four groups, each headed by a foreman. In addition, there were four or five stewards, eight or ten horsemen, thirty stable boys, six water and food carriers, five women cooks and bakers, and four guest-house attendants, among whom there was an expert butcher. During harvest time these numbers were nearly doubled as it was important to have the crops in with the shortest possible delay.

The farm was a self-sufficient unit that produced most of the things that were needed by its inhabitants. For many years they had a large number of animals, and to give an idea about this establishment, the following list given to me by Uncle Said Pasha Abujaber in 1964, one year before his death at the age of 85, may be of interest:

- 152 ploughing oxen
- 600 cows and calves
- 24 ploughing mules
- 50 mares and horses
- 60 burden camels
- 200 donkeys
- 500 goats
- 1200 sheep
- 400 hens

Saleh, years before his death in 1897, realized the need to have olives and fruits so he planted an orchard that had olives, kharub, pomegranates, figs, vines, and almonds. Although it was a continuous problem to guard against pilferage by residents and visitors alike, it was still possible to have some fruit in addition to the green vegetables produced during the summer, such as marrows, squash, cucumbers, melons, okra, and saffron.

The geographical location of Yadoudeh is worthy of special mention since it lies on the border between the two large tribal confederations of al-Balqa (Ibn-Adwan) and Bani Sakhr. It became under Saleh, who is a Salti himself (a native of as-Salt) and therefore of the first confederation, neutral grounds and for many years continued to be the meeting place of the Shaikhs of two alliances. Yadoudeh’s owners believed in the good neighbor policy and their Madhafa (Guesthouse) had its doors open to every guest. In 1964 the elders of the family decided, after not receiving one single guest for three months, to allow the last guesthouse attendant to go back to his family in northern Hijaz. New means of transport and the proximity of the estate to Amman, the distance between the capital of Jordan and Yadoudeh being only ten km, has deprived the Abujabers, at long last, of the pleasure of receiving guests.

The area of the estate at Yadoudeh is nearly 22000 dunums or 2200 hectares. Most of it is excellent farming land that is very well suited for the production of golden hard wheat and other cereals such as barley, lentils, chickpeas, sorghum and sesame. In addition to the ruins at Yadoudeh on which the Abujaber walled farm house and residences stand, there are four more khirab (ruined sites) nearby. Largest among them is Rufaisah in the east. Jawa is in the north while Jazou’ and ‘Umeiri lie to the west. Tell el-‘Umeiri was originally bought by Saleh and his sons from the al-Mar’i clan of the ‘Ajarmeh tribe just before the turn of the century.

Saleh had three sons, Farhan, Frayh and Farah. Farhan always stayed at the estate, Frayh was a member of the Court in as-Salt and Farah was mayor until his death in 1916. However all of them were interested in farming and the farm lands were therefore divided into three lots, although Farhan as the senior brother was given an extra share called kabrah in Arabic. It has an area of 1000 dunums (100 hectares). This area in Yadoudeh was generally productive and the Abujabers, on the average, produce between 1500-2000 tons annually.

Although the old farming system was completely replaced by modern agricultural methods during the sixties, the fourth and fifth generations of the Abujabers are still farming the fields. Some have succeeded in digging deep-bore wells and the water being pumped from them is now used for the production of vegetables. However many members of the clan (presently about 75 men) are finding it more and more difficult to resist the temptation to sell land. Prices have risen one hundred to two hundred fold in twenty years and the demands of modern living expenses exert pressures as well. Nevertheless the tradition that was started nearly a century and a half ago is still very well remembered in the countryside in spite of the many social, economic and demographic changes that have become the pattern in Jordan’s life during the last forty years.
CHAPTER 5

Present and Past Plant Communities of the Tell el-\textsuperscript{c}Umeiri Region

Randall W. Younker  
Andrews University, Berrien Springs, MI

Introduction

Because of the success of the environmental lab at Tell Hesban, it was decided to continue it at Tell el-\textsuperscript{c}Umeiri in order to compliment the findings of the excavation team. Included among the several tasks that the lab performed was a general survey of the modern flora within a 5-km radius of the tell (compare Crawford and LaBianca 1976). These include obtaining information about (1) the prevailing soil and climatic conditions; (2) the composition of local and regional plant communities, as well as their successional patterns; and (3) the kinds of stress that the local human and animal population place on the natural environment such as that produced by overgrazing, soil depletion and deforestation. When this information is combined with findings from the excavated bone and seed material, it should be possible to recreate environmental conditions of various periods in antiquity (Boessneck and von den Driesch 1972: 269). An understanding of the ancient environment can in turn shed light on various social and historical processes that occurred in this region in the past.

Methods and Procedures

The plants, upon which this report is based, were collected by the ecology team, which included Yvonne Hackwell, Patsy Tyner, Larry Rich, and Randall Younker, during the eight week period that the excavations were being conducted. As time and space permitted, this team travelled with the survey team, taking note of various aspects of the environment such as the soil types and plant communities that were encountered within a 10-km radius of the tell. When a new plant community was observed, the ecology team would collect samples of all the members of that community, press them in the field, record collection data, and return them to the ecology lab, where the specimens were dried and identified. Identification of the plants was greatly facilitated by the expertise of Dr. Dawud Al-Eisawi of the Department of Botany at the University of Jordan. Sources used in assisting with identification and conclusions are included in the References section of this report.

Climate

Because of the north-south ranging mountains on the west bank of the Jordan River, as well as the presence of the Great Rift Valley, Transjordan does not receive quite as much rainfall as the western side, experiencing what is known as a rainshadow. Nevertheless, the elevation of the Jordan plateau is of sufficient height to draw enough cloud cover to yield an annual rainfall that varies between 300-500 mm. The monthly temperature means range from 20° C in July to 12° C in January (Howayej 1973). The elevation at the tell is 913 m.
Phytogeography, Topography and Soils

Palestine is unique in that it is the convergence point of four phytogeographical regions: (1) the Mediterranean; (2) the Irano-Turanian; (3) the Sahara-Sindian; and (4) the Sudano-Deccanian (Zohary 1962: 52). Tell el-'Umeiri falls within the East Mediterranean subregion of the Mediterranean region, although it is bordered, not far to the east, by the Irano-Turanian. Therefore it is not surprising to find a few elements of the latter region encroaching in the area around 'Umeiri.

The topography of the 'Umeiri region consists of gently sloping hills, bordered to the south by the Madaba Plain. This is in contrast to the hill country of the west bank where the angle of slope is generally greater. Thus, terracing, which is a common feature on the west bank, is not so common around 'Umeiri.

The soils are of two basic types, the terra rossa and the rendzina. The terra rossa is presently found mostly in the wadis and the cultivated fields between the hills. It lacks soil horizons and is best classified within the aluvial-colluvial soil series, having been eroded from the slopes after the primary vegetation of the area had been removed (Zohary 1962: 10). Originally the terra rossa was derived from the hard limestones and dolomites of which most of the hills around Tell el-'Umeiri are composed. When a forest or maquis can get established on this rock it will create a soil with two horizons, A-C, the A, consisting of organic debris, and the C, of weathering rock (Zohary 1962: ibid). Therefore on the hill to the south of the tell, where the Jordanian Forestry Department has planted a pine forest, it was not surprising to see the A-C soil horizons being re-established. Generally, however, most hills are deforested and denuded, leaving only the exposed parent rock in many places.

Occurring on several scattered hills around the tell, are the rendzinas, which generally appear lighter in color and are derived from softer calcareous limestones and chalk (Zohary 1962: 11). Because the rendzinas are so easily worked and the slopes of the hills around 'Umeiri are so gradual, most of these soils are presently found under cultivation.

Present Plant Communities of 'Umeiri

The plant communities that occupy the East Mediterranean region include: (1) forests—generally pine and oak (only remnants remain); (2) maquis—consisting of sclerophyllous evergreen low trees, usually oaks; (3) garigue—technically consisting of sclerophyllous scrubs about 1 m in height; (4) batha—mediterranean dwarf shrubs, not exceeding a height of 50 cm (Zohary 1962: 83-127). Each of these major communities can of course be divided into subcommunities which are, in turn, defined by the presence of characteristic numbers.

As can be seen from fig. 5.1, members of many of the typical plant communities of the East Mediterranean region, as well as a few from the Irano-Turanian, are represented in the 'Umeiri flora. Basically, however, there are four communities (see fig. 5.2). These include (1) a batha community led by Sarcopoterium spinosum (thorny burnett); (2) a semisteppe batha community led by Ballota undulata (common ballota); (3) a semisteppe maquis community led by Crataegus azarolus (hawthorn); (4) a forest community led by Pinus halepensis (aleppo pine) and including Cupressus sempervirens (cypress), Juniperus phoenícia (juniper), Quercus calliprinos (common oak) and Hypericum sp? With the important exception of Quercus calliprinos, however, most of the members of this last community have been introduced recently by man, leaving dwarf shrubs led by Sarcopoterium spinosum as the most widespread and dominate communities.

FOREST SPECIES
Pinus halepensis
Hypericum sp.
Cupressus sempervirens
Juniperus phoenícia (Zohary 1962: 83).

MAQUIS SPECIES
Quercus calliprinos*
Rhamnus palaestina
Crataegus azarolus?*

STEPPE MAQUIS SPECIES
Amygdalus communis (almond)
Crataegus azarolus?*

BATHA SPECIES
Sarcopoterium spinosum
Euphorbia sp.*
Anchusa strigosa
Alkanna sp.*
Trifolium campestre

STEPPE BATHA SPECIES
Ballota undulata
Echinops sp.*
Carлина sp.

*Species or genera that can occur in more than one community (Zohary 1962).

Fig. 5.2 Plant Communities of the 'Umeiri Region

Reconstructing the Ancient Plant Communities

Zohary (1962: 71) points out that while any attempt at reconstructing ancient plant communities can only be an approximation, there are nevertheless at least three sources of information that can be used to give
<table>
<thead>
<tr>
<th>LATIN NAME</th>
<th>COMMON NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anacardiaceae</td>
<td>Rhus cotaria</td>
</tr>
<tr>
<td>Boraginaceae</td>
<td>Alkanna sp.</td>
</tr>
<tr>
<td>Capparidaceae</td>
<td>Anchusa strigosa</td>
</tr>
<tr>
<td>Caryophyllaceae</td>
<td>Capparis spinosa</td>
</tr>
<tr>
<td>Compositae</td>
<td>Paronychia argentea</td>
</tr>
<tr>
<td></td>
<td>Carlina sp.</td>
</tr>
<tr>
<td></td>
<td>Centaurea sp.</td>
</tr>
<tr>
<td></td>
<td>Echinops sp.</td>
</tr>
<tr>
<td></td>
<td>Onopordum sp.</td>
</tr>
<tr>
<td></td>
<td>Picnononon acarna L. Cass</td>
</tr>
<tr>
<td>Convulvulaceae</td>
<td>Convolvulus althaeoides</td>
</tr>
<tr>
<td>Cruciferae</td>
<td>Hirschfeldia incana</td>
</tr>
<tr>
<td>Cupressaceae</td>
<td>Cupressus sempervirens</td>
</tr>
<tr>
<td></td>
<td>Juniperus phoenicia</td>
</tr>
<tr>
<td>Dipsacaceae</td>
<td>Pterocephalus puerulentus Boiss</td>
</tr>
<tr>
<td></td>
<td>Scabiosa sp.</td>
</tr>
<tr>
<td>Euphorbiaceae</td>
<td>Andrachne telephioides</td>
</tr>
<tr>
<td></td>
<td>Euphorbia aelepica</td>
</tr>
<tr>
<td></td>
<td>Euphorbia sp.</td>
</tr>
<tr>
<td>Fagaceae</td>
<td>Quercus callipirinos</td>
</tr>
<tr>
<td>Gramineae</td>
<td>Aegilops sp.</td>
</tr>
<tr>
<td></td>
<td>Cynodon dactylon</td>
</tr>
<tr>
<td></td>
<td>Hordeum sp.</td>
</tr>
<tr>
<td></td>
<td>Phalaris sp.</td>
</tr>
<tr>
<td></td>
<td>Triticum vulgare</td>
</tr>
<tr>
<td>Hypericaceae</td>
<td>Hypericum sp.</td>
</tr>
<tr>
<td>Labiatae</td>
<td>Ballota undulata</td>
</tr>
<tr>
<td></td>
<td>Mulucella laevis L.</td>
</tr>
<tr>
<td></td>
<td>Teucrium fruticosum Boiss</td>
</tr>
<tr>
<td>Leguminosae</td>
<td>Astragalus spinosa</td>
</tr>
<tr>
<td></td>
<td>Trifolium campestre</td>
</tr>
<tr>
<td>Liliaceae</td>
<td>Urgina meritima</td>
</tr>
<tr>
<td>Papaveraceae</td>
<td>Papaver rhoeas ?</td>
</tr>
<tr>
<td>Papilionaceae</td>
<td>Ononis natrix</td>
</tr>
<tr>
<td></td>
<td>Ononis spinosa</td>
</tr>
<tr>
<td></td>
<td>Ononis spinosa antiquorum</td>
</tr>
<tr>
<td>Pinaceae</td>
<td>Pinus halepensis</td>
</tr>
<tr>
<td>Resedaceae</td>
<td>Reseda lutea</td>
</tr>
<tr>
<td>Rhamnaceae</td>
<td>Rhamnus palaestina</td>
</tr>
<tr>
<td>Rosaceae</td>
<td>Amygdalus communis</td>
</tr>
<tr>
<td></td>
<td>Crataegus sp.</td>
</tr>
<tr>
<td></td>
<td>Sarcopoterium spinosum</td>
</tr>
<tr>
<td>Scrophulariaceae</td>
<td>Verbascum sp.</td>
</tr>
<tr>
<td>Umbelliferae</td>
<td>Eryngium creticum ?</td>
</tr>
</tbody>
</table>

Fig. 5.1 Partial modern floral list, 'Umeiri region (24 families, 44 species).
an idea of what the past vegetation was like. These include: (1) present vegetation; (2) literary references; and (3) climatic and edaphic features of localities in which the natural vegetation is still preserved with those prevailing in deforested areas. Since literary references were not included within the scope of this present study, we will focus on the data obtained from observations of the present vegetation, climatic and edaphic features of Umir and analogous regions.

As noted above, the present dominant plant communities around Umir (excluding the artificially introduced pine forest), consist of dwarf shrubbery led by Sarcocoterium spinosa (thorny burnet). Studies in plant successional patterns (also known as vegetation dynamics) have shown that the dwarf shrubbery can serve as either climax or seral plant communities. A climax community is an association of plants that is able to take such full advantage of local environmental factors that as long as these factors remain constant it will indefinitely maintain itself, inhibiting other plant communities from becoming established in the region. A seral plant community, on the other hand, is only a temporary community of plants that are occupying a habitat until a stable, climax community is able to move in and take over.

As to whether or not the present dominating dwarf shrubbery represents a true climax community in the Umir region, there are several lines of evidence to suggest that it does not. First of all it should be noted that although the dwarf shrubbery that dominate our region seem to reflect more arid, desert-like conditions, temperature and rainfall are actually sufficient to support a denser vegetation.

This is substantiated by both the success of the forests that have been introduced in the area by the Jordanian Department of Forestry since 1948 (Aresvik 1976: 182), as well as by the survival of small remnants of indigenous forests that can be seen in various places throughout Jordan (ibid.: 176-181). Since other studies have suggested that the climate of this region has remained unchanged throughout historical times (Reifenberg 1955: 22; Mountfort 1964: 229-232; Gilliland 1979: 20-30), it seems reasonable to suggest that given adequate soil conditions, more of the area could have been forested in antiquity.

Secondly, direct observations of abandoned fields in the Judean mountains have shown that dwarf shrub communities of Sarcocoterium spinosa have been succeeded by garigue communities, thus establishing the seral role of the dwarf shrubbery (Zohary 1962: 74). Although further evidence indicates that these
garigue communities will in turn be eventually subdued by tree and higher shrub communities (ibid. p. 75), a different accelerated route to a natural arboreal climax has been observed in the ‘Umeiri region due to the activity of man. On the hill immediately to the south of the tell, the Jordanian Department of Forestry, not willing (understandably) to wait for nature, skipped a step in the successional pattern, and planted an aleppo pine forest in an area previously dominated by dwarf shrubs.

**Fig. 5.6.** Young oak trees reestablishing themselves in pine forest.

After forty years the A-C soil horizons are being re-established and the new vegetation is doing well. Apparently, however, the pine forest is not the true climax community, for *Quercus calliprinos* (common oak) was observed making a natural comeback in the shadows of the tall pines while young pines were missing. This observation provides strong evidence that a forest or maquis association led by *Quercus calliprinos* was indeed the original climax community in this area. It would also lend support to Zohary’s claim that the pine forest sometimes serves as only a secondary or subclimax community (Zohary 1962: 90), a successional pattern that is analogous to forests of the southeastern United States (and elsewhere) where pine forests will be eventually replaced by oak and hickory (Weier 1970: 373).

Additional support for the existence of a climax community of forest or maquis in this region in the past can be derived from the faunal remains that were excavated on the tell (LaBianca and Younker, forthcoming). Among the animals represented are the wild pig and fallow deer. As Boessneck and von den Driesch observe (1973: 269), these animals require a more lush habitat than exists at present. Therefore, in ancient times, when these animals lived, there must have been shrubs and trees that would provide a suitable habitat. A plant community led by a forest or maquis of oak would provide just such a habitat.

What happened to the original climax community of oak around ‘Umeiri can best be explained by summarizing the successional cycles, as observed in the Judean mountains. There, when a forest or maquis community is destroyed, the humiferous A subhorizons will be lost and the remaining soil layer will be occupied by dwarf shrub communities. As the soil is built back up, the woody climax will eventually return. If, however, the soil becomes completely eroded with only exposed parent rock remaining, the only vegetation to survive will be sparse shrubs and lithophytes (Zohary 1962: 10, 74, 75).

The latter is exactly the situation that seems to have occurred around ‘Umeiri. As was pointed out above, most of the *terra rossa* soils of the ‘Umeiri region are found in the wadis and cultivated fields. Their lack of soil horizons would indeed suggest that they were originally eroded off the adjacent slopes where their parent rock material is found. The original formation of this soil would most likely have occurred under a fairly dense vegetation cover. After this original vegetation was removed, the soil, lacking roots to hold it in place, was washed off the slopes into the lower areas, leaving the hills bare. The only plant communities that could then become established on these exposed hills were the dwarf shrubberies. Theoretically, the dwarf shrubs will be able to eventually break the parent rock down again, creating new soil that will enable the original climax communities to return (if they haven’t been totally eradicated). This is usually a very long process.

**Extent of Wooded Area in Antiquity**

Realizing that animals such as wild pig and fallow deer require the presence of a forest or maquis can in turn be used as an indicator of when through the lifetime of ‘Umeiri these plant communities existed. For example, in our preliminary examination of the bone material, we detected the presence of wild pig and/or fallow deer in Iron Age II, Iron Age I, Middle Bronze, and Early Bronze contexts. Thus it would be only logical to conclude that the habitat these animals required existed throughout these same periods.

Determining the actual amount of surface area in the region around ‘Umeiri that was occupied by a woodland community in any given period is problematic. Most certainly, various sections of forest would be cut down from time to time to make room for houses, cultivation, or grazing. Then again, there would undoubtedly be occasions when fields would be
abandoned, to eventually be reclaimed by the forest (Zohary 1962: 209). Thus, the actual size of the forest would have varied from period to period but, nevertheless, at no time did it drop below the critical amount that would support the faunal community represented by the bone remains.

In spite of the uncertainties and variables, a reconstruction of the possible maximum extent of the wooded area was attempted based on the assumption that while local endemic factors suggest that a community of Quercus calliprinos could have inhabited virtually all of the surface area immediately around 'Umeiri, the optimum arable land would have been mostly devoid of forest. This would include all relatively flat areas, with good soil, adjacent to slopes which would provide adequate runoff water. The results of the reconstruction can be seen in fig. 5.7.

While much of the reconstruction of the ancient agricultural areas was based on present land use, it received dramatic confirmation for the Iron Age, when the survey team discovered approximately 30 ancient "farmsteads" scattered among the hills around the tell (see Boling, forthcoming). These "farmsteads" are generally located adjacent to, but seldom actually on, soil that was mapped as optimum for agricultural use (see fig. 5.8). Thus, in effect, these farmsteads "outline" the area around 'Umeiri that was utilized for agriculture during this period. Since the survey has found little else of an archaeological nature on the hills around and above these farmsteads, and since the animals represented by the collection of bones had to have a suitable habitat in which to live during this period, it seems reasonable to suggest that these hills supported a woodland community of some sort, led by Quercus calliprinos.

Impact of Wooded Land on Ancient Agricultural Practices

The presence of woodland in the region of 'Umeiri would certainly have a direct affect on both agricultural practices and production. The leaf litter would have built up the soil, making it ideal for agricultural purposes and the root systems would have prevented soil erosion. Improved soil conditions would of course result in improved crop production in cleared adjacent areas. Conditions for grazing in these same areas would also be better, since better soils would allow the grasses to dominate over weeds, the latter being able to move in only when conditions deteriorate (Boserub 1965: 20; Gilliland 1979: 28-30). (The occurrence of this latter situation is nicely documented by two Hesban studies. The first study showed that there has been an increase of unfavorable flora [weeds] over flora more suitable for grazing since ancient times [Gilliland 1979: 28-30], while the second study has shown that during this same time there has been an increase in the ratio of goats, which are able to survive well on a pasturage of weeds, to sheep, which prefer a pasturage of grass [Boessneck and von den Driesch 1973]).

As to actual agricultural practice, early settlers undoubtedly utilized flat areas with good soil conditions first, probably near the wadis. In those areas, the soil would hold more water and the trees would be more easily removed. As more area was needed, trees on the nearby slopes could then be removed, although, contrary to the impression given in Joshua 17:17, it is unlikely that very much of the woodland would be cleared. First of all, this would be very difficult work, since the trees are not only cut down or burned but they must be uprooted.

Second, to remove all the trees in an area would lead to soil erosion, which would ultimately destroy the very land that the people depended upon for their existence. While this did indeed happen eventually, there is no reason to believe that it was the result of these earlier inhabitants. Indeed it seems that men of antiquity were aware at least of conservation practices (i.e. Lev 25:3). Rather, it seems that the ancient inhabitants would clear only the area needed for cultivation, leaving the trees standing on adjacent areas. In this context, it is interesting to note that several biblical passages talk of forests and fields, together (i.e. Isa 10:18, 19; Ps 132:6). After an area was abandoned, the forest would reclaim it. Evidence can be found in the presence of ancient buildings, oil and wine presses, and olive groves located in the middle of thick woods, obviously overgrown (Zohary 1962: 209). While clearing fields adjacent to or within wooded areas was probably the most common practice, it seems possible that at times the ancient farmers did not always bother to go to all that work, choosing instead to simply plant their fruit trees or graze their flocks among the wild trees of the extant forest.

Both of these practices received support from observations made by the ecology team this summer. While studying the introduced forest to the south of Tell el-'Umeiri, it was noticed that several almond trees, and possibly some other fruit trees as well, had been planted in and among the pines, junipers, and cypress, apparently since these latter had been planted. It appeared that some of the local farmers had decided to take advantage of the improved soil conditions that the pines and other species had created, and had planted some of their fruit trees within the woods. Also, the Forestry Department is
Fig. 5.7. Results of the reconstruction.
Fig. 5.8. Farmstead locations.
constantly challenged to resist the encroachment into the forests of local shepherds, desiring to graze their flocks on the better grasses growing among the trees. In addition to these observations, there are two biblical texts that may allude to these practices in antiquity. The first is the Song of Solomon23, where the beloved is described as an apple tree among the woods (and Zohary emphasizes that this refers to a "cultivated" apple tree, 1982: 103), and the second is Micah 7:14, which tells of a flock being pastured within the forest.

Taken together, these texts, along with the field observations, as well as the data that suggest the presence of both agricultural lands and wooded areas around 'Umeiri, would indicate that the ancient inhabitants of this region had learned, to integrate their needs with those of their surrounding, natural environment.

REFERENCES


CHAPTER 6
Available Water Resources and Use in the el-'Umeiri Region

Jon A. Cole  Walla Walla College, College Place, WA

Introduction

Water is a scarce resource for eight months of the year in the 5-km radius region around Tell el-'Umeiri. This area, sampled randomly by the archaeological survey team (see Random Square Survey in the el-’Umeiri Region), annually receives precipitation amounts from approximately 350 mm in the southeast and east to 500 mm in the north and northwest. The precipitation occurs mostly during the months from December to March (Hashemite Kingdom 1977; Ferguson and Hudson 1986).

Surface runoff water leaves deep scars in many of the region’s wadis as a result of turbulent, eroding flows during the precipitation season. These surface flows can be collected and used later in the year. However, during the remainder of the annual cycle, surface streams do not flow in sufficient quantities to provide a usable water resource.

Although the groundwater table is dropping, water is currently available in the region from wells ranging in depths up to 248 meters (George 1984). Some shallow, dug wells are known to have gone dry probably as a result of excessive withdrawal. Deep, bored wells (fig. 6.1 and 6.2) are also clearly experiencing decreasing static water levels.

Even though rainfall is essentially non-existent, between April and October, large quantities of dew collect almost nightly during the summer season. Typically, vines of garden vegetables are badly wilted by late afternoon of a summer’s day but by the following morning they have revived under the influence of a cool night and deposited dew.

Water Use

Highest priority water use is for personal consumption. Water carriage of wastes is used to a limited extent. While some water is used for irrigation purposes, major amounts are used for stock watering and crop production. A limited number of non-agricultural industries and commercial establishments require water in the area.

Representative Local Water Resources

A summary of local water resources for the 200 x 200 meter random squares visited in the regional survey is given in the Random Square Survey in the el-’Umeiri Region. Techniques for making water available for agricultural use have changed since ancient times, the most dramatic change resulting from the increased ability to transport water by pumping, piping, and hauling.

A review of the 38 random squares shows no agriculture practiced in two squares (5.3%). Three squares
(7.9%) receive irrigation water through pumping or piping from private sources (fig. 6.3 and 6.4). Water piped to villages and urban areas (fig. 6.5) appears to be used to supplement natural precipitation for agriculture in five squares (13.2%).

Of the techniques of storage used in the region in antiquity, subsurface storage reservoirs or cisterns are the most effective and common today. While cisterns are not always easily detectable they were found in four squares (10.5%). A common type of cistern with an inlet collection structure to intercept surface runoff water during rainstorms is shown in fig. 6.6.

With limited air circulation through the cistern to cause evaporation, water may be kept over a period of several months when no rain occurs. As the rainless 1984 summer wore on, tank trucks hauled supplemental water from deep wells (fig. 6.7) to the cisterns for storage and subsequent domestic and agricultural use.

Surface storage collectors and reservoirs are also found in the region. A large surface water catchment and storage reservoir close to Random Square 17 is shown in fig. 6.8. A simply constructed, plastic lined, surface reservoir was located in Random Square 35 (fig. 6.9). Incidentally, Square 35 also contained another typical mobile storage reservoir (fig. 6.10) at the time of the survey team visit. While they can hold large volumes of water, the effectiveness of surface reservoirs is limited by high evaporation rates due to higher temperatures, solar radiation and increased air circulation velocities. Correspondingly, their usefulness is limited annually to a much shorter period of time than subsurface reservoirs. Nine (23.7%) of the random squares visited had wadis pass through their areas from which diversion of water was practiced or could have been possible.

Precipitation or sheet runoff appeared to be the major source of water in 15 of the squares (39.5%). It is possible, however, that water was hauled to the sites to supplement natural precipitation and runoff.

**Early Methods of Water/Soil Conservation**

In very dry regions ancient structures have been built and procedures developed to store rainwater from rare storms for later use in agriculture (Evenari, Shanan and Tadmore 1982; Bennett 1974). Deeply eroded wadis (fig. 6.11) in the region attest to valuable soil resources lost during periods of high runoff. While evidence was found of structural modifications to the land to control and divert runoff water in order to build up soil moisture and minimize erosion damage, these modifications appear to have been limited in distribution or perhaps destroyed in conjunction with adoption of more energy intensive farming methods.

An earthen dam apparently constructed to slow runoff water, increase infiltration and build soil moisture was observed adjacent to Random Square 39 (fig. 6.12). An uncommonly fertile field for the immediate area lies just below the dam. A similar structure has been even more effective in controlling erosion in the wadi south of Tell el-Umeiri (fig. 6.13 and 6.14, also see the chapter in this volume entitled Examination of the Valley South and West of Tell el-Umeiri). Evidence found to date is much more limited but it appears that water has also been diverted from wadis for the purpose of building soil moisture (Bennett 1974). Furthermore, it appears that the practice continues in a limited fashion today.

**Conclusions**

Agriculture in the region within five kilometers of el-Umeiri is a significant contributor to overall food production in the Hashemite Kingdom of Jordan. Water availability and fertile soil make this contribution possible. Long term plans to more wisely use these limited resources could conceivably sustain crop yields at a level in excess of those currently obtained. To achieve and sustain higher production, the continuing depletion of soil resources and the large annual losses of water must be stemmed. Reinstitution of some of these ancient water-use practices can improve water management for effective agricultural utilization.

**REFERENCES**

Bennett, J.

Evanari, M., Shanan, L., and Tadmore, N.

Ferguson, K. and Hudson, T.

George, Anwar

Hashemite Kingdom of Jordan
Fig. 6.1. A deep well being bored in wadi.

Fig. 6.2. The generator and pump for the Bishorat well along side the airport highway.
Fig. 6.3. A large holding tank used in crop irrigation.
Fig. 6.4. A surface channel used in crop irrigation.

Fig. 6.5 Water is piped to urban areas and villages.
Fig. 6.6. A common type of cistern with an inlet collection structure.

Fig. 6.7. Deep wells supply water throughout the area with the use of tank trucks.
Fig. 6.8. Flocks often drink at this large surface reservoir.

Fig. 6.9. Simply constructed plastic-lined surface reservoir.
Fig. 6.10. Typical mobile storage reservoir for flock watering.

Fig. 6.11. A deeply eroded wadi.
Fig. 6.12. An earthen dam constructed to slow runoff water and increase infiltration.

Fig. 6.13. An earthen dam at the south base of Tell el-Umeiri.
Fig. 6.14. Water diversion walls effectively used in control of erosion and building soil moisture.
The objectives of the regional survey suggested the need for development of general overviews of the Tell el-UMEIRI region. Broad views can be developed with reasonable certainty by in-depth examination of a number of representative small areas. By adopting a survey design which uses randomly selected land parcels, it would be possible to make statistical statements concerning the extent to which various characteristics of the region exist. Such a design would also allow the investigators to be led to sites which might otherwise be overlooked, supporting the more traditionally oriented objectives related to sedentary occupation.

Representative characteristics of the region surrounding ‘UMEIRI were obtained in a thorough examination of randomly chosen parcels within a 5 km radius of the tell. A 200 x 200 m basic sampling area was used in acquiring the needed data. The survey design specified that a minimum of 30 and a maximum of 40 such randomly selected areas were to be visited by the regional survey team during the 1984 season.

In establishing the size of the parcels to be studied, the likelihood that representative features would be contained in the plot was considered. In addition a trade-off was anticipated between the length of time it would take to collect data and the length of time, including travel, required to prepare for data collection. The precision with which the parcel could be located and the boundaries laid out was another factor in establishing a 200 x 200 m size for the random squares. The number and background of the team members also influenced parcel size. When a team of specialists attempts to develop an in-depth picture of a parcel of moderately small size, a level of interest and corresponding persistance grows as feature recognition and idea development for a person build on discovery and understanding communicated by others.

The 1 km² grid of a 1:50,000 scale Universal Transverse Mercator, Zone 36 map was used to identify 1,962 basic sampling areas (25 per km²) having the major fraction of their 40,000 m² contained within the 5 km radius of Tell el-Umeiri. Each of the 1,962 squares was assigned a sequence number and 40 randomly selected sequence numbers were used to compose the list of "random squares" to be visited in representative sampling for the region.

To take advantage of the larger 1:25,000 scale and correspondingly increased detail, the actual positions of the random squares were established on older Palestine regional topographic maps produced in 1958. Prints on a 1:10,000 scale of aerial photographs taken in 1981 were used to identify random square boundaries on the ground with respect to prominent features such as roads, buildings, wadis, walls and hedges.

Typically a random square was examined by the regional survey team as follows:
1. A general orientation was provided for the site so that each of the members of the team might begin search of the ground surface for potsherds, lithics, and other artifacts. Meanwhile, the person responsible for identifying the limits of the square completed that task pacing off the lengths of the sides in directions determined using a pocket compass.

2. A minimum of two person-hours was used in sherding to determine the extent to which pottery was to be found and obtain a representative sample for subsequent reading by Larry Herr, Chief Archaeologist for the Madaba Plains Project.

3. Team specialists summarized their findings and completed their individual investigations of the random square and surroundings. A listing of the emphases of the specialists is in fig. 7.1.

<table>
<thead>
<tr>
<th>Øystein Labianca</th>
<th>ethnoarchaeology, contemporary facilities, village environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Boling</td>
<td>architectural remains, pottery, inscriptions, public roads and facilities, operational facilities, periods of use</td>
</tr>
<tr>
<td>Michael Alcorn</td>
<td>human biology, wildlife and domestic animals, disease factors, animal and human remains, flints and artifacts, ethnoarchaeology*, contemporary facilities*, village environment*</td>
</tr>
<tr>
<td>Jon Cole</td>
<td>random square design and layout, water resources and facilities, landuse and features, assignment of location coordinates</td>
</tr>
<tr>
<td>Bruce Cole</td>
<td>photographic record, physical features, animals, plants and cultigens, measurements, layout</td>
</tr>
<tr>
<td>Mohammad, Mihyar</td>
<td>translation</td>
</tr>
<tr>
<td>Hanan Azar</td>
<td>translation*</td>
</tr>
<tr>
<td>Allison McQuidy</td>
<td>ethnoarchaeology*, translation*</td>
</tr>
</tbody>
</table>

* secondary responsibility

Fig. 7.1 Survey team assignments.

Figure 7.4 shows the location of the 38 random squares (2% of the survey area) which were thoroughly examined by the regional survey team during the 1984 season. The team visited the squares in an order only slightly modified from the random selection sequence to minimize travel time between random squares. Adjacent or nearby selected squares were visited on the same day. No attempt was made, however, to examine all of the squares in a given region on successive days before moving on to another area of the survey region. For example, Random Squares 4, 12, and 14 were adjacent to one another and visited on June 28. Nearby Square 37 was visited on August 2 along with Square 36 which is farther away but still in the same general area. This procedure led to the completion of the survey of Square 39 before 38. Time constraints terminated visits to the random squares before Squares 38 and 40 were concluded. Accordingly, the final list of surveyed random squares (fig. 7.3) contains numbers 1 through 39, excluding 38.

Results of the Random Square Survey

As expected, the survey plan directed the team to a variety of archaeological sites, previously known and unknown. Examples include a mausoleum site in central Khirbet es-Suq (Random Square 13, fig. 7.5), Tell Jawa (Square 34, fig. 7.6), ancient roadways (Square 22, fig. 7.7) and a paleolithic site (Square 37, fig. 7.8).

While agriculture predominates the region within 5 km of Tell el-Umeiri, there are also a variety of other features and activities worthy of description. Preliminary study findings by survey team members are found in separate chapters of this report. Subsequent reports will contain further integrated information for the region.

The periods represented by the pottery readings for each of the examined random squares are shown respectively in fig. 7.11 through 7.48. Figure 8.117 (page 188) reveals information indicating a strong correlation between the periods represented in the 38 random squares and those in the 55 sites surveyed and reported by Robert Boling in Chapter 8 of this report. More than 50 percent of the squares surveyed contain pottery sherds from the Iron II/Persian, Roman, and Byzantine periods. While the proportions differ somewhat from the Hesban survey reported by Robert Ibach, the pottery dominance of these periods is still similar.

Ancient structural features at specific sites with corresponding pottery provide good evidence as to how land was used in those periods of time. When such features are not apparent, current land use can give evidence of ancient practices and use.

Figure 7.2 provides identifying information regarding the 200 x 200 m parcels visited and summarizes current landuse of these representative squares. The northern and western portion of the region is more hilly and generally higher than the flatter, drier southern and eastern portions. Major wadis generally slope toward the southeast through fertile valleys interspersed by steep, rocky, hills. Villages tend to occupy the largely uncultivable hills leaving the fertile valleys for agriculture (see fig. 7.9). As the municipalities grow larger and expand their boundaries, they encroach significantly on these productive farm lands (see fig. 7.10). Good
### RANDOM SQUARE SURVEY

<table>
<thead>
<tr>
<th>Random Square</th>
<th>Survey Date, 1984</th>
<th>Coordinates</th>
<th>Aerial Photo</th>
<th>Landuse in Percent of Area of Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>E</td>
<td>I</td>
</tr>
<tr>
<td>1 (765)</td>
<td>June 25</td>
<td>1429</td>
<td>2339</td>
<td>446</td>
</tr>
<tr>
<td>2 (372)</td>
<td>June 26</td>
<td>1443</td>
<td>2357</td>
<td>364</td>
</tr>
<tr>
<td>3 (1291)</td>
<td>June 27</td>
<td>1403</td>
<td>2343</td>
<td>394</td>
</tr>
<tr>
<td>4 (266)</td>
<td>June 28</td>
<td>1445</td>
<td>2315</td>
<td>358</td>
</tr>
<tr>
<td>5 (1281)</td>
<td>June 29</td>
<td>1407</td>
<td>2343</td>
<td>394</td>
</tr>
<tr>
<td>6 (1535)</td>
<td>June 29</td>
<td>1399</td>
<td>2357</td>
<td>394</td>
</tr>
<tr>
<td>7 (330)</td>
<td>July 5</td>
<td>1449</td>
<td>2343</td>
<td>363</td>
</tr>
<tr>
<td>8 (1772)</td>
<td>July 2</td>
<td>1385</td>
<td>2363</td>
<td>530</td>
</tr>
<tr>
<td>9 (550)</td>
<td>July 3</td>
<td>1439</td>
<td>2343</td>
<td>363</td>
</tr>
<tr>
<td>10 (399)</td>
<td>July 3</td>
<td>1417</td>
<td>2305</td>
<td>550</td>
</tr>
<tr>
<td>11 (584)</td>
<td>July 9</td>
<td>1435</td>
<td>2351</td>
<td>363</td>
</tr>
<tr>
<td>12 (260)</td>
<td>June 28</td>
<td>1447</td>
<td>2313</td>
<td>358</td>
</tr>
<tr>
<td>13 (1132)</td>
<td>July 10</td>
<td>1419</td>
<td>2381</td>
<td>442</td>
</tr>
<tr>
<td>14 (265)</td>
<td>June 28</td>
<td>1445</td>
<td>2313</td>
<td>358</td>
</tr>
<tr>
<td>15 (1671)</td>
<td>July 4</td>
<td>1385</td>
<td>2321</td>
<td>525</td>
</tr>
<tr>
<td>16 (1625)</td>
<td>July 4</td>
<td>1387</td>
<td>2305</td>
<td>524</td>
</tr>
<tr>
<td>17 (1569)</td>
<td>July 6</td>
<td>1395</td>
<td>2365</td>
<td>530</td>
</tr>
<tr>
<td>18 (334)</td>
<td>July 3</td>
<td>1419</td>
<td>2305</td>
<td>550</td>
</tr>
<tr>
<td>19 (1566)</td>
<td>July 6</td>
<td>1397</td>
<td>2369</td>
<td>530</td>
</tr>
<tr>
<td>20 (1791)</td>
<td>July 10</td>
<td>1387</td>
<td>2371</td>
<td>532</td>
</tr>
<tr>
<td>21 (309)</td>
<td>July 11</td>
<td>1447</td>
<td>2331</td>
<td>361</td>
</tr>
<tr>
<td>22 (625)</td>
<td>July 12</td>
<td>1439</td>
<td>2373</td>
<td>367</td>
</tr>
<tr>
<td>23 (315)</td>
<td>July 11</td>
<td>1445</td>
<td>2333</td>
<td>361</td>
</tr>
<tr>
<td>24 (219)</td>
<td>July 17</td>
<td>1457</td>
<td>2373</td>
<td>562</td>
</tr>
<tr>
<td>25 (1802)</td>
<td>July 16</td>
<td>1383</td>
<td>2375</td>
<td>418</td>
</tr>
<tr>
<td>26 (1724)</td>
<td>July 16</td>
<td>1385</td>
<td>2347</td>
<td>529</td>
</tr>
<tr>
<td>27 (1639)</td>
<td>July 19</td>
<td>1389</td>
<td>2317</td>
<td>525</td>
</tr>
<tr>
<td>28 (1585)</td>
<td>July 19</td>
<td>1399</td>
<td>2377</td>
<td>531</td>
</tr>
<tr>
<td>29 (1373)</td>
<td>July 17</td>
<td>1411</td>
<td>2387</td>
<td>398</td>
</tr>
<tr>
<td>30 (1542)</td>
<td>July 17</td>
<td>1395</td>
<td>2351</td>
<td>529</td>
</tr>
<tr>
<td>31 (1649)</td>
<td>July 19</td>
<td>1385</td>
<td>2317</td>
<td>525</td>
</tr>
<tr>
<td>32 (1859)</td>
<td>July 25</td>
<td>1375</td>
<td>2335</td>
<td>412</td>
</tr>
<tr>
<td>33 (1843)</td>
<td>July 25</td>
<td>1381</td>
<td>2333</td>
<td>412</td>
</tr>
<tr>
<td>34 (1359)</td>
<td>July 25</td>
<td>1407</td>
<td>2379</td>
<td>398</td>
</tr>
<tr>
<td>35 (1916)</td>
<td>July 25</td>
<td>1373</td>
<td>2359</td>
<td>416</td>
</tr>
<tr>
<td>36 (405)</td>
<td>August 2</td>
<td>1449</td>
<td>2373</td>
<td>366</td>
</tr>
<tr>
<td>37 (105)</td>
<td>August 2</td>
<td>1457</td>
<td>2325</td>
<td>556</td>
</tr>
<tr>
<td>39 (1659)</td>
<td>July 25</td>
<td>1391</td>
<td>2327</td>
<td>526</td>
</tr>
</tbody>
</table>

| Average       |                  |              |             | 3.1    | 2.4    | 31.4   | 37.1   | 8.2   | 10.5   | 7.3    |
| Standard deviation |                  |              |             | 5.4    | 6.7    | 32.9   | 31.5   | 16.7  | 19.6   | 20.3   |

(123) denotes sequence number for random selection

_I_ Paved and unpaved highways and shoulders.
_II_ Highway right-of-way including trees.
_III_ Grain fields including harvested and fallow.
_IV_ Pasture and uncultivated.
_V_ Vegetables crops.
_VI_ Orchards, vineyards and olive groves.
_VII_ Buildings, yards, urban areas and excavated ruins.

Fig. 7.2 Summary of landuse for Random Squares.
roadways encourage urbanization.

Higher annual precipitation amounts in the central and northern portions support greater agricultural productivity in this area where extensive irrigation is rarely employed. Narrow wadis and exposed rock limit the use of farm machinery. Fruit orchards, olive groves and garden crops are often found interspersed with rocky, uncultivated sectors where cultivation of other crops would be difficult. While grain may also be found in similar locations, it predominates in the larger plots and in the flatter, drier low land of the south and east portions. The overall impact of artificially introduced pine forests onto hilltop areas (see Chapter 5) is clearly positive. Badly eroded lands are reclaimed without significant reduction in current agricultural productivity.

A summary of landuse by percentage of the visited parcels reinforces the extent agriculture dominates the region. Orchards, vineyards, vegetable crops, grain fields, pastures and uncultivated areas accounted for 87 percent of the landuse in the sampled parcels. Though data is insufficient to provide statistical support, population growth in the northeast sector, closest to Amman, and in the regions around Na’ur and Khirbet es-Suq is displacing agriculture.

A square-by-square summary of occupation is shown for the visited squares (fig. 7.3). A drawing of each random square shows prominent features of interest to the survey team (figs. 7.11 to 7.48).
Fig. 7.4 Location of the 38 Random Squares examined by the Regional Survey team during the 1984 season.
Fig. 7.5 Mausoleum site in central Khirbet es-Suq.

Fig. 7.6 Tell Jawa.
Fig. 7.7 Ancient roadways in Random Square 22.

Fig. 7.8 Site of paleolithic occupation in Random Square 37.
Fig. 7.9 A typical fertile valley.

Fig. 7.10 Urban encroachment on productive farm lands in Random Square 36.
Fig. 7.11 Random Square 1. (1429.2339) Periods represented by pottery: Late Roman (dominant), Byzantine, Modern.

No buildings, Highway 15 (to airport) passes through square lined with young trees, a cave about 10 m northwest of the square; 20% cultivated, all grain of average quality; no streams; no cisterns.
No habitable buildings, but a 4 m x 7 m concrete open reservoir in square; 63% cultivated, about half grapes and olives (nearly surrounded by cypress and pine trees) and half grain of good quality; no streams; two cisterns, one currently containing water.
No buildings, Highway 15 (to airport) passes through the square lined by young trees; 35% cultivated, grain west of the highway and vegetables east of the highway; two deeply eroded wadis from north and west meet in square, cross under the highway and flow southeast; no cisterns.
One residence contained within an enclosed yard and a partially completed block building and sheepfold; 45% cultivated, mostly fruit, olives and grapes; no streams; no cisterns found, water likely available immediately to west from Na'ur urban supply.
Fig. 7.15 Random Square 5. (1407.2343) Periods represented by pottery: Early Bronze, Roman, Ummayid, Ayyubid/ Mamluke.

No buildings, Highway 15 (to airport) passes through square lined with young trees; 35% cultivated, vegetable crops; deeply eroded wadi from north passes west under highway and to south; no cisterns.
Fig. 7.16 Random Square 6. (1399.2357) Periods represented by pottery: Middle Bronze II. Nabatean, Roman, Byzantine, Ayyubid/Mamluke.

No buildings; 30% cultivated, fallow grain farming in poor soil interspersed between rocky areas; no cisterns, agricultural water by natural runoff.
Fig. 7.17 Random Square 7. (1449.2343) Periods represented by pottery: Iron II/Persian, Early Roman, Late Roman, Byzantine.

Two stone residences on north and west lines, properties divided by stone walls topped by barb wire; 84% cultivated, some grain, mostly olives and grapes; no wadis; several cisterns in the southwest corner and beyond.
Fig. 7.18  Random Square 8. (1385.2363) Periods represented by pottery: Early Bronze, Roman, Byzantine, Ummayid.

No buildings; 100% cultivated, excellent fallow soil; two small wadis form a single wadi in the middle of the square, all flowing south with no deep erosion; no cistern but a 300 mm water pipe lies on the surface in a road right-of-way 250 m to the west.
No completed buildings in square, but new house under construction on the south border, gravel road passes through center of square from north to south; 97% cultivated, good soil, grain and vegetable crops; eroded wadi runs from northwest to southeast through northeast quarter of square; no cisterns found.
One residence and farm buildings including a stone barn; 53% cultivated orchard with poor to good trees, excellent hedge row of pine trees, extensive limestone outcropping along north line and in northeast corner; cistern having plastered walls with inlet structure to collect runoff water; an overflowing cesspool receives wastewater from the house, a likely health hazard with insufficient capacity, excellent source for nutrients and water for downhill olives, pomegranate and grapes.
No buildings; 98% cultivated, fallow grain field and vegetables, excellent soil, eroded wadi near north border; no cisterns.
A major part of the square is in the Na'ur urban area, largely single family dwellings, some with small yards beautifully landscaped, others containing little more than construction rubble, some land has recently been filled with building debris and awaits construction of new buildings; 20% cultivated, olives, pears and apricots; no wadis; no cisterns found.
Fig. 7.23 Random Square 13. (1419.2381) Periods represented by pottery: Iron, Roman/Byzantine, Fatamid.

Urbanized area of Khirbet es Suq—school, apartment buildings, block factory, some fenced ancient ruins, etc.; 4% cultivated vegetable gardens; no wadis; no cisterns found.
Fig. 7.24  Random Square 14.  (1445.2313)  Periods represented by pottery:  Early Bronze, Middle Bronze II, Iron I, Iron II/Persian, Roman, Byzantine.

Three-story apartments and single-family dwellings in Na'ur in western portion of square; 82% cultivated, mostly pears, olives, peaches and apricots, vegetable gardens separated from urban area by high concrete walls; storm drain from urban area drains to south; no cisterns found.
Fig. 7.25 Random Square 15. (1385.2321) Periods represented by pottery: Early Bronze, Iron II/Persian, Late Roman, Byzantine (dominant).

No buildings but divided by partially locust-lined Route 29 north of Umm al Hanafish; 83% cultivated, mostly fallow grain in good soil, one section of grapes and olives enclosed by juniper tree border; deeply eroded wadi cuts across northeast corner in poor soil; no cisterns; a 100-mm diameter water pipe on south side of road.
Fig. 7.26 Random Square 16. (1387.2305) Periods represented by pottery: Byzantine.

No buildings; 81% cultivated, mostly dry and weedy grain in poor soil, barb wire enclosed young orchard; no wadis in hilltop square; no cisterns found.
Fig. 7.27 Random Square 17. (1395.2365) Periods represented by pottery: Iron I, Iron II/Persian, Early Roman, Late Roman, Byzantine, Ummayid, Ayyubid/Mamluke, Ottoman, Modern.

El Yadoudeh fortress and caretakers sheds in square; no cultivation; no wadis on hilltop site; cisterns possible, contained in fortress, at least one on top of main building, large surface reservoir serving Yadoudeh to southeast.
Fig. 7.28 Random Square 18. (1419.2305) Periods represented by pottery: Early Roman, Byzantine (dominant), Ummayid.

No buildings; 56% cultivated, poor near limestone outcropping to excellent near wadi; deeply eroded wadi in gravel flows from northwest corner to middle of east line; no cisterns found, large surface reservoir serving Yadoudeh to southeast.
Several single- and multi-story residences and stores in and adjacent to the square, caves (containing Roman milestone) just beyond south border; no cultivated area, very rocky and partially urbanized; no wadis; no cisterns found but limestone area apparently capable of containing them.
Fig. 7.30 Random Square 20. (1387.2371) Periods represented by pottery: Iron I, Iron II/Persian, Late Roman, Byzantine, Ummayid.

No buildings in square, but concrete wall enclosed orchards occupy major portion of square northeast of black-top road, electric power line parallels road; 75% cultivated, fallow grain southwest of road, orchards in enclosed area and fallow grain northeast of road; slightly eroded wadi flowing south in west part of square; no cisterns found, but 90 mm water pipe parallels black-top and dirt roads.
Fig. 7.31 Random Square 21. (1447.2331) Periods represented by pottery: Iron I, Iron II/Persian, Byzantine.

No buildings; 49% cultivated, mostly grain in poor and rocky soil, some vegetables; no streams; no known cisterns in the square (one large plastered former cistern about 50 m to the west).
Fig. 7.32 Random Square 22. (1439.2373) Periods represented by pottery: Iron, Roman/Byzantine.

No buildings, only an electrical transmission tower (urban development approaching from south—Khirbet es Suq; 13% cultivated—good grain; no stream; one surface collection cistern near ancient road to west of gravel road).
Fig. 7.33 Random Square 23. (1445.2333) Periods represented by pottery: Early Bronze, Iron I, Iron II/Persian, Early Roman, Late Roman, Byzantine.

One small farm shed; 8% cultivated, poor land and crops in all but 1%; no streams; no cisterns found, but higher region contains limestone capable of containing cisterns.
One block residence in square with block barn just north of square; 42% cultivated, good grain beyond barbed wire fence in southeast corner, good vegetables in northwest corner, very poor grain spotted in center area; no wadis; no cisterns found.
Fig. 7.35 Random Square 25. (1383.2375) Periods represented by pottery: Iron II/Persian, Early Roman, Late Roman, Byzantine, Ummayid, Ayyubid/Mamluke.

No buildings; 100% cultivated, essentially all fallow grain field; no wadis; no cisterns.
Only buildings are two plastic greenhouses in southeast corner, Highway 15 (to airport) passes through square lined with young trees; 50% intensely cultivated, mostly vegetables, also a hydroponically watered peach orchard in northeast corner; wadi flows to west along fence line; no cisterns, but excellent well (Bisharat) is about 150 m north.
Fig. 7.37  Random Square 27. (1389.2317) Periods represented by pottery: Iron I, Iron II/Persian (dominant), Roman, Byzantine.

No buildings; 62% cultivated, mostly grain—good in low land to south and parts of higher land to north, grapes behind rock wall in northeast corner good; wadi eroded, flows south; caves and partially excavated tombs found but no evidence of use as cistern.
Fig. 7.38  Random Square 28. (1399.2377) Periods represented by pottery: Iron II/Persian, Roman, Byzantine, Ummayid.

No buildings; 50% cultivated—very good soil containing vegetable crops; upland beginning of a stream at NW corner; no cisterns found although limestone appears capable of containing them.
Fig. 7.39  Random Square 29. (1411.2387) Periods represented by pottery: Iron II/Persian, Late Roman, Byzantine, Ummayid.

Buildings immediately adjacent but none in square; soil steep and rocky but contains some poor grapes and a few olive trees on 8%; no streams; no cisterns found.
No modern buildings but ancient site partially in square; less than 1% cultivated, rocky and steep for the most part; no streams—a large water trailer/tank reservoir permanently on site to supply water under pressure to adjacent land for agricultural purposes through a plastic pipe on the ground surface; caves which are possibly cisterns found on adjacent land.
Fig. 7.41 Random Square 31. (1385.2317) Periods represented by pottery: Iron, Roman, Byzantine.

No buildings, Route 29 (partially tree-lined with locust trees) cuts across northeast corner; 70% cultivated, average to good grain, steep but uncultivated land to south; no wadis; no cisterns found.
Random Square 32. (1375.2335) Periods represented by pottery: Early Bronze, Iron II/Persian, Byzantine.

One small single family residence; 59% cultivated, cultivated—poor land and crops throughout; rocky hilltop—no streams; three cisterns for domestic and stock use including constructed surface collection areas.
No buildings; 22% cultivated—good, partially irrigated and some steep rocky area; crossed by dry stream (including road culvert); modern cistern for irrigating orchard.
Fig. 7.44  Random Square 34. (1359.1407) Periods represented by pottery: Early Bronze, Iron I, Roman, Byzantine, Ummayid.

No modern buildings but contains part of Tell Jawa; 58% cultivated, fair to good; agriculture moisture by precipitation and runoff; several old cisterns (plastered) and caves.
Fig. 7.45 Random Square 35. (1373.2359) Periods represented by pottery: Early Bronze, Iron II/Perian, Early Roman, Late Roman, Byzantine, Ummayid, Modern.

No buildings; 100% cultivated, harvested grain crop (good) this year, currently pasture for sheep from the south of Jordan during a very dry year; water stored earlier in the year in a 1 m deep 20 x 24 m plastic lined surface reservoir (which, at present, due to wear and tear, is incapable of holding water). Reservoir has been supplied with water taken from the nearby stream water currently supplied for sheep in watering trough using tank truck; no old cisterns.
Two residences in square, new black-top road passes through square from east to west; 65% cultivated, mostly vegetables, olives and grapes behind barbed wire fence at northeast corner and stone fence at southeast corner; no wadis; no cisterns found.
Fig. 7.47 Random Square 37. (1457.2325) Periods represented by pottery: Iron II/Persian (dominant), Byzantine, Modern.

Square contains a building and yard for manufacturing mortar block; 63% cultivated; agricultural moisture by precipitation and hauled water, water for block manufacturing likely by hauling; no old or modern cisterns found although the limestone on the northern part of the square and beyond, the location of a fortified site, has the potential of cistern location.
Fig. 7.48 Random Square 39. (1391.2327) Periods represented by pottery: Iron, Roman, Byzantine.

No buildings; 10% cultivated; water for agriculture (strips between rock outcroppings in very rocky terrain) through precipitation; attempts to control erosion by an earthen/rock dam 20 m south of the square across the wadi which runs with a very steep gradient through the square.
NOTES

1The 40 sequence numbers were selected by a pseudorandom num­ber generator on a Hewlett-Packard HP-67 Programmable Pocket Calculator. The pseudorandom number generator used is listed in "HP-67 Standard Pac," available through Hewlett-Packard, 1000 N.E. Circle Blvd., Corvallis, OR 97330.

2There is a small difference in registration between the Mercator grid and the Palestinian grid. The widely used Palestinian coordi­nates were used in referencing locations for random squares and archaeological sites. It is anticipated that new and improved maps of the region will use a more recently established Jordanian Mercator rather than either of these grids having long standing acceptance.

3The photographic prints were obtained from the Royal Jordanian Geographic Center, Amman, Jordan.
CHAPTER 8

Site Survey in the el-'Umeiri Region

Robert G. Boling  McCormick Theological Seminary, Chicago, IL

Tell el-'Umeiri (West) (site 149 on fig. 8.1) lies 10 km southeast of Amman's Seventh Circle, situated beside the new highway to the international airport, in the last of the low lying hills between the heights of Amman and the broad Jordanian plateau. On the opposite side of the highway, which has in fact cut into the site, is the smaller ruin of Tell el-'Umeiri (East) (site 150). The area defined for intensive survey covers a 5 km radius from Tell el-'Umeiri (West). The site will be entirely surrounded by suburban development in a very few years, development which will engulf a number of villages in the survey area, none of which are much more than a hundred years old. The fields and hills flanking the site have already been surveyed for division into housing plots. Land values have sky-rocketed in the past dozen years, especially to the north and east of 'Umeiri, as the city of Amman spreads out, amoeba-like, to the south.

The pace of change is escalated by the new airport and highway, with all that such urban sprawl portends for loss of archaeological data, for the study of recent and current land use, and for the overall impact of rapid change on life in the villages and countryside. For the first season of survey work this meant that highest priority in "site-seeking" would be the northern half of the intensive survey area, with much of ethnography to be learned quickly or lost in the very near future.

Much of the southern half of the survey target-area had already been covered by the Hesban Survey, during its third season (1976), which extended its coverage on the north to a line running "from the road between Na'ur and Umm el-Hanafish to a line between Umm es-Summaq (map ref. 2310. 1436) and Khirbet es-Suq (2375. 1420)" (Ibach 1978: 201-202). The Hesban Survey located 30 sites in this zone (roughly the southern half of our target area), numbers 126-155 on the map (fig. 8.1) (map coordinates for these Hesban Survey sites are listed in fig. 8.2). Still earlier survey work had touched on some of the same sites in our southern sector (Fohrer 1961 and von Rabenau 1978).

Therefore, as an additional control, the strategies for the 1984 season included a random sampling of the entire intensive survey area. The area within a 5 km radius of 'Umeiri was divided into plots 200 m by 200 m (for a total of nearly 2000 such "Random Squares"). Setting a first season goal of 30 squares (minimal) to 40 squares (preferable), chosen with reference to a table of random numbers, the team succeeded in studying 38 such squares. These Random Squares are plotted with numbered boxes on the map (fig. 8.1) (with coordinates given in fig. 8.3). Each square was systematically shered, its geographical setting noted in considerable detail, and a sketch plan drawn to scale indicating all natural and manmade features. Water resources, ancient and modern, were recorded. Special attention was given to description of present plant communities and current land use, according to the following categories:

1. Percentage of the square taken up by roads and shoulders.
2. Percentage of the square in highway right-of-way, and use or development of right-of-way.
3. Percentage of the square planted in grain (or lying fallow).
4. Percentage of the square in pasture.
5. Percentage of the square in vegetable crops.
6. Percentage of the square in orchards, vineyards, or olive groves.
7. Percentage of the square occupied by buildings, yards, or urban area.

The two kinds of sampling turn out to be complementary and, we think, mutually validating. Trusting that the random sample would yield a generally reliable picture of distribution and fluctuations within the entire 5 km radius, the team concentrated conventional survey activities in the areas most immediately threatened by development, to the north and northeast of 'Umeiri. Results of the non-Random survey, sites 1-55, are plotted in numbered circles (fig. 8.1) (coordinates given in the Site List).

It happened not infrequently that another "site" was discovered overlapping, or nearby, one of the Random Squares. In the zone previously surveyed by the Hesban team, discovery this season of Sites 46, 47, 48, 49, 50, and 54 was triggered by the location of RS 39. In the northeast, a pair of hilltop farm(?)-towers (Sites 10 and 40) and the Columbarium (Site 39) were found thanks to the location of RS 2, southwest of Um Quseir. Similarly the traces of an ancient road intersection southeast of Yadoudeh, near a corner of RS 20, and 2 ROM milestones in secondary use of Yadoudeh, one in a cave-cellar (RS 17) and one in a defunct cistern (RS 19), were found thanks to the table of random numbers. Finally, there was the discovery of a rich paleolithic site near the airport highway intersection (Site 53), overlapping RS 37, just as the season ended.

As the several special projects of team members developed, the number of persons involved in a Ran-
SITE SURVEY

dom Square varied from 2 to 7. Minimum field time invested in any Random Square was about 4 person-hours.

| 126 | 1416.2296 | 141 | 1417.2316 |
| 127 | 1414.2303 | 142 | 1412.2321 |
| 128 | 1408.2299 | 143 | 1395.2365 |
| 129 | 1409.2304 | 144 | 1397.2351 |
| 130 | 1407.2304 | 145 | 1402.2349 |
| 131 | 1397.2304 | 146 | 1406.2368 |
| 132 | 1398.2315 | 147 | 1411.2371 |
| 133 | 1402.2311 | 148 | 1420.2359 |
| 134 | 1396.2311 | 149 | 1420.2342 |
| 135 | 1398.2328 | 150 | 1421.2346 |
| 136 | 1400.2331 | 151 | 1423.2316 |
| 137 | 1392.2330 | 152 | 1432.2321 |
| 138 | 1410.2331 | 153 | 1434.2317 |
| 139 | 1403.2335 | 154 | 1435.2313 |
| 140 | 1372.2336 | 155 | 1437.2301 |

Fig. 8.2 Hesban Survey, sites within the Madaba Plains Project intensive survey area, after Ibach (1986).

The table of random numbers sent the team to virtually every conceivable variation in geographical and social location within the 5 km radius from 'Umre's; from densely urban (Naur, Khirbet es-Suq) to villages (el-Buneiyat North, el-Buneiyat South, Umm el-Basatin) to large family villas (Yadoudeh and Bilas), to tent-encampments; and from densely wooded hills to broad fields (some tilled, some fallow). None of the Random Squares surveyed was devoid of ancient artifactual evidence, mostly, of course, potsherds.

Wherever possible, men and women were interviewed in the villages, farmers and shepherds in the fields and open pasture land, for their knowledge of changes occurring within their memories, and especially their attitudes and responses to changes (e.g., the impact of the new 4-lane divided highway separating once-continuous farming and grazing areas). See Chapters in this volume by J. Cole and M. Alcorn.

Except for the artifactual evidence (mainly ceramic) from Random Squares, the bulk of this report deals with the 55 recorded "sites" and concludes with preliminary correlations between the results of random-sampling and site-seeking.

Fifty-five Sites

This list, as distinct from the Random Survey, was compiled from a variety of leads and searches. During the first three weeks in the field, priority was given to the Random Survey. "Sites" were found sometimes in the vicinity of a Random Square, sometimes as a result of leads from local residents, sometimes in seeking to relocate a previously recorded site. What constituted a "site" was defined broadly: any place where one can find evidence of ancient occupation or handles. During the latter half of the season, when it was clear that we would surpass our minimum goal of 30 Random Squares, members of the team were able to spend much more time traversing the area, by vehicle and on foot, with one to six volunteers, and with more lead time to study aerial photos for pointers to possible additional sites. Few of the 55 sites in the following list are very large (e.g., Site 29, Tell Jawa), and most are very small. A "site" may be a town, a village, a road, a cemetery, an isolated tomb or "tower," or merely a distinct sherd scatter on an open hilltop. The following list does not include Tell el-'Umeiri (West) (Hesban Survey 149 on our map), but it does include the fields flanking the Tell to the north (Site 3) and to the south and west (Site 4). These numbers were assigned at the beginning of the season, anticipating J. Cole's study of 'Umeiri's agricultural terraces.

<table>
<thead>
<tr>
<th>Site</th>
<th>Coordinate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1431.2341</td>
<td>1387.2371</td>
</tr>
<tr>
<td>1</td>
<td>1429.2339</td>
<td>Buneiyat (S)</td>
</tr>
<tr>
<td>2</td>
<td>1443.2357</td>
<td>1439.2373</td>
</tr>
<tr>
<td>3</td>
<td>1403.2343</td>
<td>1445.2333</td>
</tr>
<tr>
<td>4</td>
<td>1405.2315</td>
<td>Naur</td>
</tr>
<tr>
<td>5</td>
<td>1407.2343</td>
<td>1383.2375</td>
</tr>
<tr>
<td>6</td>
<td>1399.2357</td>
<td>1385.2357</td>
</tr>
<tr>
<td>7</td>
<td>1449.2343</td>
<td>Buneiyat (N)</td>
</tr>
<tr>
<td>8</td>
<td>1385.2363</td>
<td>1399.2377</td>
</tr>
<tr>
<td>9</td>
<td>1439.2343</td>
<td>1411.2387</td>
</tr>
<tr>
<td>10</td>
<td>1417.2305</td>
<td>1395.2351</td>
</tr>
<tr>
<td>11</td>
<td>1436.2351</td>
<td>1385.2317</td>
</tr>
<tr>
<td>12</td>
<td>1447.2313</td>
<td>1375.2335</td>
</tr>
<tr>
<td>13</td>
<td>1419.2381</td>
<td>Kh. es-Suq</td>
</tr>
<tr>
<td>14</td>
<td>1445.2313</td>
<td>1381.2331</td>
</tr>
<tr>
<td>15</td>
<td>1385.2321</td>
<td>1373.2359</td>
</tr>
<tr>
<td>16</td>
<td>1387.2305</td>
<td>1449.2373</td>
</tr>
<tr>
<td>17</td>
<td>1395.2365</td>
<td>1457.2325</td>
</tr>
<tr>
<td>18</td>
<td>1419.2305</td>
<td>Bilas</td>
</tr>
<tr>
<td>38</td>
<td>1410.2331</td>
<td>1434.2317</td>
</tr>
<tr>
<td>140</td>
<td>1372.2336</td>
<td>1437.2301</td>
</tr>
</tbody>
</table>

Fig. 8.3 Random Square map coordinates (Series K835. 1:25,000. Sheets 225/135 and 225145).

Nearly half of the 55 sites have several distinctive features in common. Most of this group are characterized by small rectangular or round "towers," with or without perimeter walls and associated structures (e.g., fig. 8.18 and 8.19, Site 8). In most cases they are too small and too poorly located to serve a military function. Generally located on low hills or untillable spurts of higher bedrock, they command a broad view of farm fields today and probably served that function in antiquity. We called them "farmsteads." Note especially, in the NE quadrant of the survey area, Sites 10, 17, 19, 23, 26, 31, 34, 35, 37, 40, 41, 42, 43, 45, and 52. See also Sites 6, 7, 8, 15, 30, 48, 49, and 54 all west of the airport highway.
From the saddle connecting the hills that flank ‘Umeiri on the south and west, a roadway is marked by curbstones in lines 2.5-2.7 m apart, followed for more than 100 m into the trees and downhill to the west and southwest. After emerging from the trees on the saddle, the line is traceable ca. 100 m down toward the fields at the foot of ‘Umeiri. Curbstones average .24 x .19 x .12 m. There are no pavers. The west-southwest line of the road passes in the vicinity of two structures along the way (Sites 13 and 14). A similar segment of east-west roadway runs through the next valley to the south and probably intersected with Road A descending to the Wadi el-Mashur, continuing then to Site 15. Pottery along Road A was sparse.

Examined June 21 and 27, 1984. 48 sherds (8 diag).
Pottery: UM dom, BYZ poss, 1 UD.
A. Hidden in the taller evergreens which have been planted since 1940 is a small rectangular structure (ca. 12 x 12 m) at the high point on the hill. A steel angle 10 m west of the structure is the 937 m elevation (1:25,000 map). Roughly dressed stones of the foundation course are barely visible beneath the smaller rubble above them, and average .19 x .12 x .10 m. There are cupmarks in bedrock just outside the perimeter. This was a watchtower, necessary for visible communication, from the Tell, to the south.
Examined June 21 and 27, 1984. 297 sherds (22 diag., with 3 ledge handles and 8 flat bases).
Pottery: 1 UM, ROM, EB dom.

B. Down the north slope, ca. 50 m from the tower, is what appears to be a tomb, recently opened, to judge from the jumble of dirt and large stones in front of the opening. This tomb-facade (?) lies at the uphill end of a stone wall line (1 course, 1 row wide), running 100 m downhill to the north.
Examined June 27, 1984. 19 sherds (2 diag).
Pottery: EB only

C. The wider hillside east and west of A and B above produced a broader range of ceramics.
Examined July 13, 1984. 103 sherds (17 diag).
Pottery: 1 MOD, 2 BYZ, 11, MB2, EB.
This is a cemetery, with numerous tombs recently plundered. There is no evidence of other architectural re­
mains (fig. 8.6). At least five distinct plans are represented. There is a large, incompletely quarried rolling stone, 
needing only to be undercut (fig. 8.7). The position of cupmarks here (16.5 cm diam., 21 cm deep) suggest that 
they often have to do with quarrying. This site was visited and described briefly by Franken (1979: 11). 
Examined June 21, 1984. 59 sherds (mostly bods). 
Pottery: OTT, 1 UM?, BYZ, LR, IA. 8 tesserae.
This location was given a separate site number in anticipation of Jon Cole's hydrological and land use studies. Full of ripening wheat when we arrived, the field could finally be shereded after harvest.

Examined August 6, 1984. 144 sherds (19 diag).
Pottery: 1 poss UM, ROM-BYZ, late 12, few 11, EB. 1 flint.
On the second hill south of Tell el-'Umeiri is a large 3-sided reservoir built against the southwest slope to capture water runoff from winter rains. According to the owner, Mamdua Bisharat, his grandfather built the reservoir and incorporated many marginally drafted stones collected in the near vicinity. One stone near the north end bears a modern Arabic inscription (fig. 8.10, p. 106). See Jon Cole's hydrological studies for full description. There are old cisterns nearby. The reservoir is flanked by the Bisharat homestead on the south and a very recent structure of the Arab Horse Club on the north. There are many architectural fragments of ROM and BYZ origin incorporated in the homestead. This is von Rabenau's site B (von Rabenau 1978: 48-49). He also reports a round "Steinsetzung" of large limestone blocks in the southern farmyard which we were unable to see. He reports Arabic, BYZ, and ROM pottery, nothing earlier. We found very few sherds.

Examined June 29, 1984. 10 sherds, all bods.

Pottery: ROM.
Fig. 8.10 Site 5. Modern Arabic inscription. Field Photo 14-10-29.
The following is Ibach's description; and report on ceramics.

Medium size site. Lying on the eastern slope of a large hill, this site occupies an area about 150 meters in diameter. Illicit excavation here has revealed a complex of walls with excellent masonry. Many tesserae were found as well as two patches of mosaic floor in situ. Inside a structure measuring 6.00 x 3.00 meters there is an apsidal wall oriented toward the east, but its inside diameter is barely two and one-half meters. There are two tombs also within the structure, one with a nicely carved entrance. There are two cisterns and an underground vault which can be entered at three points and which measures 6.20 x 1.90 meters.

Examined 29 June 1976. 100 sherds, 24 tesserae.
Pottery: MOD, UM, L BYZ, E BYZ, I2/P.

The presence of Iron 2 pottery here is suggestive. The site, overlooking lush fields of Wadi el-Mashur and one of its tributaries has a position comparable to Sites 8 and 15 on the hills which flank it to north and south. Not sherded in 1984.
The site lies at the northeast edge of a spacious flat-topped hill (this year in wheat), looking down into a tributary of Wadi el-Mashur. Salvage excavations in 1980 (Zayadine 1981: 341-344) uncovered a substantial building with walls of rectangular dressed stones (average .70 x .33 x .51 m) intact to a height of 5 courses (fig. 8.12). Two arches are intact (fig. 8.13). One small room has a tesselated floor (see fig. 8.14, p. 109).
Fig. 8.14 Site 7 (continued). Umm es-Summaq. Field Photo 31-10-22. Tesselated floor.
SITE SURVEY

Fig. 8.15 Site 7 (continued). Umm es-Summaq. Field Photo 34-10-22. Collapsed stonework.
Fig. 8.16 Site 7 (continued). Umm es-Summaq. Field Photo 10-10-22. Cupmark.
A large rectangular walled area adjacent on the east has a deep depression of collapsed stonework (fig. 8.15). Beneath the cupmarked bedding plane outside the walls to the northeast (fig. 8.16) are caves which were inhabited as recently as 20 years ago, according to Mr. Ayed Murshed, from Buneiyat South. The excavators report the site as "UM" and mention nothing earlier.

Examined June 22 and 28, 1984. 147 sherds (10 diag), 10 tesserae.

Pottery: UM prob, BYZ, LR, ER.
Fig. 8.18 Site 8. Drawing of hill site. Drawn by Robert G. Boling. 1418.2331. Aerial Photo 548.

cave/tomb entrance
no tomb

Site # 8
6/28/84
R.G.B.

C. 2m depression

arg. 50x30

1m. X .70

scale 1cm = 2m

wall/terrace/stone glaciers

100m
This is another flat-topped hill site, overlooking a tributary of Wadi el-Mashur, and unexcavated, with wall lines clear enough to be drawn (see fig. 8.18, p. 113). There are two circular mounds with deep central depressions (towers?), and a stone covered channel or passageway between them intact. The larger mound (ca. 3 m high) is enclosed by a double line of walls, with the smaller mound between the parallel walls. The entire complex sits at the brink of a terrace held in place by a stone glacis that has a right angle corner to the southeast of the building. There are additional traces of a perimeter wall on top, enclosing a large area. A burial cave at the northwest corner of the building had been recently broken into.

Examined June 22, 28, and July 13, 1984: 246 sherds (44 diag). 12 tesserae.

Pottery: UM, BYZ, LR, 12 dom in bods.
Here an ancient road running northwest-southeast, parallel to the new Airport Highway, is marked by the lines of curbstones (no pavers) which are clearest on the southwest (downhill) side. Average width (outside limits, is ca. 4 m). The line of curbstones runs for ca. 300 m, into Random Square 1. A number of tombs (one re-used as a residential cave) were dug into the next bedding place downhill from the road. See also RS 1.

Examined June 25, 1984. 36 sherds (7 diag).

Pottery: ROM, 12 (cf. RS 1. 139 sherds [18 diag]; "Byz, LR dom, some pre-ROM").
Site Survey

Site 10. No Field Photos. 1442.2357. Aerial Photo 364.

A threshing floor cleared to bedrock on this hilltop has left a series of stone heaps and wall lines, with the foundation course of a central rectangular structure (6 x 7 m) at the center of the complex. There are plastered cisterns still in use, one with modern cement cap. The present perimeter wall of loose fieldstones appears to cover ancient wall(s). The site overlaps the south edge of RS 2.

Examined June 26 and July 24, 1984. 373 sherds (39 diag). 21 tesserae.

Pottery: few BYZ, LR, 12, 1 prob II, 1 poss EB.

Fig. 8.22 Site 11. Field Photo 3-10-27. 1406.2348. Aerial Photo 394.

On the southern slope of the first wooded hill south of 'Umeiri east, an ancient cemetery runs for nearly .5 km east-west. There are scores of open tombs, mostly round chambers with as many as 15 loculi, and many with stepped entrances cut into bedrock. Many have been only recently excavated. (The site was a Palestinian camp until 1970.) There are numerous rock-cut installations and quarry marks. A circular vat in the bedrock measures 3.25 m diam. x 1.5 m deep.
Higher up the hill are plastered cisterns, two holding water from winter rains. A v-shaped arrangement of channels (stonewalled on the downhill side) leads water runoff to one of the cisterns. The large site of Tell Jazo'a (Hesban Survey Site 145: MAM dom, ABB, UM, few ER, I2/P) lies .5 km to the south. See also Random Squares 3, 5, 6, 8, 17, 19, 28, 29, and 34.

Examined June 27, 1984. 67 sherds (7 diag).
Pottery: UM, BYZ.
This badly eroded site (Fohrer's site F) lies immediately south of the recently constructed buildings of the Arab Horse Club. It is a long north-south knoll separating fields adjacent to Kh. el-Bishari (Site 5) on the east, and those adjacent to Sites 46 and 49 on the west. There is a long line of a north-south wall and segments of east-west walls (in foundation course only). There are several plastered cisterns, one a very deep, bottle-shaped cistern currently in use, filled by water-truck in summer. Two old cisterns have been secondarily used as caves. Fohrer (1961: 61) reports IA, ROM, BYZ, and Arabic pottery.
Examined June 29 and July 2, 1984. 109 sherds (22 diag).
Pottery: UM, BYZ, LR, ER bods, I bods.
This is a small, round, stone structure, centering in a 1.5 m deep depression of tumbled stone, near the line of Road A (Site 1) as it descends into Wadi el-Mashur, west of ‘Umeiri. It sits at the foot of a bedrock plane 3 m high and undercut by a low natural cave. Deeply buried under pine needles and detritus, a sparse collection of pottery was found after raking. A low wall across the downhill side of the structure is probably a recent terrace, laid down when the trees were planted.

Examined July 2, 1984. 57 sherds (8 diag).

Pottery: MOD, ROM, few 12 bods.
In a small clearing in the trees, ca. 200 m down the wadi, west-southwest from Site 13, is an isolated round "megalithic" structure, 7.5 m in diam. The circular wall (3 courses in part) is 1.5 m wide and 1.5 m high. The large limestone boulders average 1.10 x 1.00 x .30 m. A cup mark on the top surviving course is .30 m in diam. x .10 m deep. Pottery is extremely sparse. Illicit digging has left a central depression 1.5 m deep. None of the other "towers" from the Survey resemble this one. A burial cairn?
Examined July 2, 1984. 13 body sherds.
Pottery: 1 MOD, 12 prob.
Situated on a low watershed between Wadi el-Mashur and Wadi el-Hajal (fig. 8.28), with higher hills to the north and south, the site is partially covered by an intersection of dirt roads. The intersection is astride a long east-west wall. In the northeast corner of the intersection a round structure (8.5 m outer diam.) is mounded to a height of ca. 2 m (fig. 8.29), with a central depression 1 m deep.
Rectangular stones in situ over an entrance (or channel? passageway?) from the west suggest another similar structure buried under the north-south track. The geographical setting and elements of the plan are very similar to Site 8 (above, fig. 8.18) on the second hill north of this one. A large plastered cistern with modern settlement basin, watering trough and overflow drain, is ca. 300 m down the western side of the watershed (See J. Cole's description).

Examined briefly at the end of the work day on July 3, no sherds were found; revisited for systematic searching on July 13. 4 body sherds only.

Pottery: ROM/LR.
This is an imposing ruin stretching ca. 200 x 150 m atop the second hill north of ‘Umeiri east, first hill south of Buneiyat South. The undulating surface is created by numerous caves and large cisterns, many of the latter reused as caves. Within the caves are rectangular dressed stones, framing doorways and forming walls and other functional features. There are a great many open tombs on the south and southwest slopes. A family camped on the ruins was using several of the caves at the time of our visit. Many old wall lines are visible at the surface. This is probably the third of Conder’s sites at el-‘Umeiri. A passer-by informed us that the hill is called "Buneiyat"; but there was not yet a village of Buneiyat South in Conder’s day, and so he may well have viewed this ruin in relation to the other two.

Pottery: UD MOD, MAM dom, UM, BYZ, LR, ER, one I bod.
This is a small site, far down the slopes overlooking broad fields of Wadi el-Hinu, ca. .5 km northwest of Khirbet es-Suq. This hillside has been extensively quarried in antiquity (fig. 8.32). There are several low circular mounds (ca. 3 m diam., see fig. 8.33) and wall lines visible at the surface, and small stone circles (burials?) nearby.
The site is partly under cultivation. A plastered cistern is still in use. An old narrow road along the west side of the area, parallel to a line of wall that runs for 20 m, probably intersected with the wider road found at Site 18, ca. .5 km to the north.

Examined July 6 and 16, 1984. 91 sherds (17 diag). 4 tesserae.

Pottery: BYZ, 1 prob I2.
An ancient road marked by parallel curbstones is traceable for nearly .5 km, running northwest-southeast along the flank of Wadi el-Hinu (fig. 8.35). The road is ca. 4.5 m wide. A fallen milestone lies beside the road and a few meters downhill from it. The stone measures 1.4 m, with diameters at the ends (both somewhat battered and weathered) of .55 and .53 m (fig. 8.36). There is no trace of an inscription.
The stone lies beside a small circular structure, ca. 3.1 m diam. Downhill, another 20 m is the foundation of a large rectangular building (5 x 6 m) partly cut into bedrock and partly of very large cut blocks. At the southwest corner of the large building is a smaller square one (4.1 x 4.1 m), built of unfinished boulders, very like many other small structures seen in the Survey along the Wadi el-Buneiyat and Wadi el-Hinu system (e.g., Sites 23, 34, 37, 38, and 45 on the south bank; Sites 10, 31, 42, and 43 on the north). See also RS 20 and RS 22.

Examined July 6, 12, and 13, 1984. 51 sherds (9 diag).
Pottery: BYZ, ROM, 12.
Random Square 19 was located between the Kings Highway and the walled villa at Yadoudeh. The "caves" plotted just south of the square on J. Cole's sketch plan are actually chambers of a plastered cistern, with collapsed bedrock roof.
In the southern chamber there is a tapered column with square base, all one piece. The base is .70 m square and .40 m high. The lowest diameter of the column as it emerges from the base is .60 m. The top diameter is .55 m. Stacked upside down on the column is an identical base (.70 x .70 x .40 m). Wedged on top of the inverted base is a small rectangular stone, propping up the bedrock roof.
In the nearby walled villa of Yadoudeh is a cave with framed entrance and wooden door, used as a storage cellar. Supporting the roof of the cave is another tapered column 1.50 m high (but no base!). Here the wider end of the pillar (.60 m) is at the top (for broader support of the block wedged on top; the narrower end (.50 diam.) rests on the floor of the cave. This column would match perfectly the amputated base described above.

Although there are no traces of inscriptions on any of these pieces, they are clearly ancient milestones, in secondary use. Prior to the discovery of these milestones this season, the first known milestone south of Amman was at Khirbet es-Suq (Thomsen 1917), although it can no longer be found. The village of 1917 is today a crowded city of some 20,000 inhabitants. The milestones at Yadoudeh, together with the features found at site 18, will establish the route of the Via Nova south of Amman, running to the east near Yadoudeh, rather than to the west toward el-Al. An old road intersection discovered just outside the northwest corner of RS 20 (1387.2371), ca. 1 km southeast of Yadoudeh is also, therefore, almost certainly another piece of the Via Nova.
Near the southwest foot of a low hill, overlooking fields on three sides, a long east-west wall of roughly rectangular stones (average 1.00 x .60 x .60 m) runs downhill to a square structure (7 x 7 m), with 2 courses intact and many building stones tumbled down hill to the edge of the field. The site is less than 300 m across the fields from the higher hill and more substantial tower at Site 38 (Hesban Survey Site 148).

Examined July 6 and 13. 108 sherds (11 diag).

The site extends along the ridge north of the village of el-Buneiyat North. An old road with upright curbstones runs northwest-southeast along the crest of the hill. This is perhaps a continuation of Road C (Site 18). There is a cistern near the old road. Along the hillside below the road are a number of open tombs, some very recently dug, as well as caves. One pit shows scores of small tesserae falling out of a floor. Elsewhere the digging for tombs has uncovered part of a wall built of finely dressed blocks.

Examined July 9, 1984. 81 sherds (29 diag). 34 tesserae.

Pottery: UM dom, few BYZ.
This large site is a low undulating mound ca. 1.5 km east southeast from Yadoudeh. A housing development now encroaches on the site from the south. By the time of a subsequent visit (November 19, 1984), long trenches had been dug for sewer lines, which will extend the line of the housing northward across the tell. The site is served by an ancient east-west road first observed by the Survey team in RS 20. There are many caves with squared stones re-used, and numerous stone vats, in the caves. There are cisterns on top and around the mound, some re-using millstones (or presses) as well-heads. See also RS 20 and 25.

Examined July 10, 1984. 77 sherds (42 diag).

Pottery: MAM dom, UM, ROM, few I2.
Roughly 200 m north-northwest of Tell er-Rufeisa are the remains of a rectangular structure (16 x 15 m), standing to a height of 2 m, and built of extremely large, roughly rectangular blocks (e.g., 1.30 x 1.10 x .55 m; another, 1.05 x 1.00 x .65 m). To the east of the tower a substantial north-south wall runs ca. 50 m along the brink of a sharp slope down to the fields. There are caves on the west and south, two large millstones (1.30 diam x .50 m, with .40 m diam. hole) tumbling into one of the caves. The location of this "tower" and walls suggest comparison with other such sites where IA pottery dominates. See also RS 20 and 25.

Examined July 10, 1984. 75 sherds (23 diag).

Pottery: MAM dom, UM, poss BYZ, ER, I2, I1.
The site is on a low hill (888 on K835 Map). A long stretch of ancient road runs west-northwest/east southeast, ca. 5 m wide, both curblines clear for more than 100 m (see drawing, fig. 8.48, p. 136).
Site Survey

Fig. 8.48 Site 23 (continued). Map drawn by Randall W. Younker in July, 1987 after tower was bulldozed.
North of the road is a rectangular structure, 6.50 m east-west x 7.50 m north-south, built of large limestone boulders. A cornerstone measures 1.10 x 0.90 x 0.70 m (average stones 0.75 x 0.85 x 0.55 m). The structure appears to overlie another one, ca. 10.5 m east-west x 6.50 m north-south. The site overlooks a broad expanse of fields to the north, in the Wadi el-Buneiyat.

Examined July 10 and 13, 1984. 82 sherds (9 diag).
Pottery: 12, 11.
The site lies northwest of the village on a southern slope overlooking tilled fields. The undulating surface shows numerous caves, some collapsed and some illicitly opened. One of the latter shows two arches intact supporting roof slabs. There are plastered cisterns and wall lines clear at the surface. See also RS 21 and 23.


Pottery: MAM dom, 1 poss Abb, UM, BYZ, LR, 1 bods.
This circular hilltop is cut on the east by the new airport highway. There is one modern house. We found no tombs or evidence of quarrying except for a row of three rectangular rooms on the north slope, each with 3 sides cut into the soft bedrock and cement front walls. The sherd scatter is relatively heavy, however.


Pottery: BYZ bods, ROM bods, I2, I1.
This hill overlooks from the southeast the cloverleaf formed by the new airport highway and the old Na'ur highway. There is one large modern house on top. To the east of the house, a right angle of walls (2 rows of stones, ca. 1 m wide) run east-west along the crest and down the north slope to the Na'ur highway. The wall serves in part to deflect runoff into a square reservoir (ca. 4 x 4 m) with 3 sides cut vertically into bedrock (maximum depth ca. 1.5 m) and the uphill side formed by the slope (thus a miniature of the large reservoirs at Yadoudeh and Kh. el-Bishari). The southern hillside is barren, except for numerous tombs (at least 35 open ones). The tombs show a variety of plans, with as many as 12 loculi arranged around central chambers which may be either round or rectangular. There are also small round single-burial tombs. A basalt stele fragment (.65 x .50 x .20 m) was found lying on the hillside. The stele is broken (or roughly finished) top and bottom. The reverse is blank. Dr. Axel Knaupf suggests that it depicts a stylite monk standing in front of his pillar (see fig. 8.53, p. 141).


Site 27. No Field Photos. 1423.2332. Aerial Photo 548.

On the forested hill to the west of Tell el-Umeiri, an old road crosses a tributary gulch descending through the trees into Wadi el-Mashur. Just below it, on the south bank, is a small opening with light sherd scatter, but no architectural remains. There is a cave (originally a tomb), with circular vertical shaft (.55 m diam, .40 m deep). Two chambers are visible from a side opening created by roof fall, with loculi on all sides.


Pottery: 2 ROM/BYZ bods, I2.
The site is a very low hill with undulating surface, to the south of Site 24, with which it shares a narrow wheat field. The site overlooks broader fields on the east, west, and south (fig. 8.54). The west end of the hill is a shelf used as threshing floor. Several wall lines are exposed (fig. 8.55), one uncovered to a height of three courses, and a probable perimeter wall. There are plastered cisterns, several currently in use, one with a millstone as wellhead. There is also a large, elaborate, rubble-filled tomb. See also RS 21 and 23.


Pottery: 1 UM, BYZ dom, 1 LR, few I2, few I1.
At an elevation of 928 m (fig. 8.56), towering above Yadoudeh to the south-west and Khirbet es-Suq to the northwest (fig. 8.57), this is the first large tell to the east of 'Umeiri, from which it dominates the horizon.
A defense wall (probably casemate) on the summit, exposed to a height of four courses encloses an area ca. 100 x 150 m. There are numerous walls, large structures and depressions of buildings collapsed inward. Debris above a cistern mouth suggests a total accumulation of 1.5-3.0 m above bedrock. Two pails of pottery were collected from the summit, and four more from the slopes. Cf. also RS 34 at the foot of the southwest slope of Tell Jawa. Abel’s identification of Tell Jawa with biblical Mepha’at has been widely accepted. See also RS 12 and 29.


Pottery: 2 UD, 1 UM, few BYZ, few LR, 12 dom (early and late), I1, few EB.
This is a northern shelf on the first hill west of el-Buneiyat S., and west of the new airport highway which has cut into the hill (fig. 8.59). An old cobbled road running uphill from the northwest leads directly to the northwest corner of a square perimeter wall, ca. 50 x 50 m (fig. 8.60). A half dozen depressions indicate collapsed structures within the enclosure. Illicit digging has exposed parts of walls. See also RS 1 and Site 9.

Examined July 17, 1984. 70 sherds (15 diag).
Pottery: 1 prob BYZ, I2, I1, prob EB.
SITE SURVEY

Fig. 8.60  Site 30 (continued). Field Photo G-7-8-5.
The site is ca. 1 km south of Um Quseir, on a low spur jutting downhill to the northwest, overlooking farm fields on west, north, and northeast (fig. 8.61). An ancient road first recognized in RS 22 crosses the gently sloping wadi at the uphill (northeast) limit of the fields. The site has a rectangular tower (ca. 8 x 10 m) surviving to several courses (fig. 8.62), adjacent to a probable perimeter wall which runs ca. 40 m north-south and ca. 33 m east-west, the corner well-preserved. There is a large cave east of the tower. Stones in tower and walls average .90 x .70 x .50 m, roughly rectangular boulders with their edges knocked off.

Examined July 18, 1984. 306 sherds (42 diag). Flint. 1 tesserae.

Pottery: MOD, BYZ, few LR, few ER, 12.
On the crest of a hill, the line of an ancient road angles west-northwest toward Hesban Survey Site 152 (1432.2321) and descends southeast toward Wadi el-Mashur. The road is 5.5 m wide between parallel curbstones, both lines intact for ca. 50 m. There are tombs (some secondarily inhabited as caves) nearby on the southern slope, but no other signs of ancient architecture; no pottery was found. Examined July 20, 1984.

Site 33. No Field Photos. 1424.2327. Aerial Photo 548.

This hill on the west of Wadi el-Mashur (elev. 918, K835 map) is now barren, except for an electrical tower, some tombs, and a possible cistern. There is, however, significant sherd scatter. Examined July 20, 1984. 75 sherds (16 diag). Basalt rim frag. Pottery: BYZ, few LR, ER, I2.
SITE SURVEY

Fig. 8.64  Site 34. el-Buneiyat S. (also called Rujm Selim)  Field Photo 28-6-1.  1431.2344.

Fig. 8.65  Site 34. el-Buneiyat S.  Field Photo 19-6-1.
On a low, rectangular shelf overlooking fields of Wadi el-Buneiyat on 3 sides (fig. 8.64, p. 149) is a square structure, 9 x 9 m (fig. 8.65, p. 149). The building stones average .90 x .75 x .50 m (fig. 8.66). The shelf is formed in part by a retaining wall of large boulders, visible for ca. 100 m along the brink. A possible perimeter wall runs northwest/southeast along the southwest side of the "tower" for ca. 26 m. There are two plastered cisterns. Mohammed Suleiman's tent, tractor, and family were there (his house is in Khirbet es-Suq). Pottery abundant.

Examined July 20, 1984. 403 sherds (41 diag). Basalt vessel frag. 1 tess.

Pottery: few UM, few ER, 12 dom, 1 poss LB.
Fig. 8.67 Site 35. Drawn by Randall Younker. 1427.2355. Aerial Photo 445.
Fig. 8.68 Site 35 (continued). Field Photo 20-8-30.

Situated on a low west-northwest slope of the hill (elev. 888 m, K835 map), with site 23 on top (see fig. 8.48, p. 136), and overlooking fields to the west and north, is the foundation outline of a small rectangular structure, 7 x 5.5 m. A dirt road running uphill crosses the long line of a north-south wall at the edge of the field, ca. 35 m to the west of the structure. At roughly the same distance east of the structure the road crosses a parallel line of north-south wall. The surface between the long wall lines is nearly everywhere eroded to bedrock. If the parallel walls are remains of an enclosure, this site had a centrally located tower (see Site 37, p. 153). By the time of a subsequent visit (November 19, 1984), the "tower" had been bulldozed; illicit excavations had also emptied a round-chamber tomb with dressed doorjambs on both sides of the entrance.

Pottery: BYZ, few LR, ER, I2.

Site 36. el-Buneiyat N. No Field Photos. 1445,2336.

The site is on a low promontory facing east southeast into Wadi el-Buneiyat and overlooking fields on the north, east, and south. Random Squares 21 and 23 lie on the western flank of the same hill. The site is badly disturbed by recent construction of new roads for housing plots. There are old cisterns and other evidence of quarrying; with a relatively heavy sherd scatter.

Pottery: few BYZ bods, few ROM bods, I2 dom, 1 poss LB.
This is a farming complex entirely surrounded by a contemporary wall of fieldstones. It overlooks Wadi el-Buneiyat from the south, with tilled fields on the west and north (fig. 8.69). The southern half and northwest corner of the enclosure is a vineyard (which we were not allowed to enter). The central feature of the northeast section is a square "tower" (ca. 9 x 9 m) surviving to 3 courses with recent additions above them (fig. 8.70).
To the west of the tower is a small square building of much more recent construction (somewhat smaller than the older tower), used for storage by the family whose tents and threshing floor lie within the enclosure. In the enclosure are several large heaps of small stones, collected to clear the fields nearby. Separating this complex from the vineyard uphill is a substantial and ancient east-west wall, visible for at least 50 m. On the east there are traces of a possible perimeter wall from antiquity. There are cisterns, one currently in use, and an abundance of potsherds. This is a fine example of what many ancient farmsteads must have looked like. See also RS 9.


Pottery: BYZ, ER, I2, II, I poss LB.
This is Hesban Survey Site 148 (von Rabenau's site D). On a relatively high spot (but too low to be seen from 'Umeiri), is a stone tower (ca. 18 x 18 m square) surviving to four courses. There is a possible perimeter wall on the west. The tower looks down on Site 19, across a narrow field to the northeast, and commands a much wider view of the surroundings.

Pottery: 1 MOD bod, BYZ, ER, I2. Hesban Survey reports also: few UM and LR.
The site is an artificial hillside cave, facing southeast. There are two rectangular chambers, separated by a narrow wall of soft limestone bedrock into which the chambers are cut, for a total width of ca. 15.5 m (fig. 8.74). It is probable that the entire facility was originally underground. Looking into it one sees in each chamber 4 rows of 30 niches in an upper panel beginning at the roofline; beneath them a plain panel (fig. 8.75).
Another section comprises 4 rows of 30 niches with a ridge projecting between the top row and the next lower one. The shallow niches are .14 - .20 m wide and .15 m high. Each row of niches continues in the same arrangement on the side walls of both chambers. The total depth of the chambers is not clear. Some of the niches are blackened. There was no pottery to be found.

Examined July 24, 1984.
On the bare eroded top of the "Columbarium Hill" are several caves, possible tombs (collapsed), and at least one cistern. There is a small mound (ca. 6 x 6 m) with shallow central depression. One stone appears to have a door socket. There are no other traces of ancient architecture, but a relatively dense sherd scatter.

Examined July 24, 1984. 75 sherds (4 diag).

Pottery: 1 prob ROM, IA.
This is a very small site on a low northeast slope into Wadi el-Buneiyat. A dirt road runs between tilled fields. A small circular depression at the south edge of the road has a few stones in a curving pattern that appears to be neither natural nor accidental. Some 150 m to the northwest, in a low spot on the hillside is a similar configuration: bedrock squared off facing northeast, a circular mound of stones closing the gap (fig. 8.78). A tomb? Uphill from the latter is a single line of jagged upright stones, all smoothed on the west face, extending ca. 50 m, probably curb-stones of an old road (fig. 8.79).

Examined July 24 and August 1, 1984. 89 sherds (10 diag).
Pottery: BYZ, ROM, pre-ROM.
Fig. 8.79 Site 41 (continued). Field Photo 33-6-1. Probable curb-stones of an ancient road.
On the north bank of Wadi el-Buneiyat ca. 1.5 km south-southwest of Um Quseir, is a low hill surrounded by fields on all sides, with a substantial square building complex of semi-dressed stones. Ruins of the main central structure, ca. 25 m square, stand 2 m high. There are other smaller buildings, as well as caves and quarry marks.

Pottery: UM, BYZ, few ER, few I bods.
On a low bedrock shelf facing east southeast into Wadi el-Hinu (and just cross a narrow field from site 42) are the remains of a square structure (ca. 7 x 7 m) and a long north-south perimeter (or terrace?) wall immediately to the east, traceable for more than 50 m. There is a large broken millstone.
There are caves and cupmarks in the bedrock. An old narrow cobbled road (ca. 2.5 m wide) runs north from the site with both rows of high curbstones visible, for ca. 100 m (fig. 8.85, p. 164).

Examined July 24, 1984. 120 sherds (18 diag). Basalt vessel fragments.

Pottery: BYZ, LR, ER, I2, II, 1 prob MB2, few EB bods.
Fig. 8.85 Site 43 (continued). Drawn by Randall Younker.

SITE SURVEY

- Roman Road
- Road? (Field Wall)
- Fenced off area
  (New Trees)
- Wall Line (6)
- Millstone (4)
- Cup Holes (5)
- Cave/Tomb? (5)
- Modern Agriculture
- Winepress? (2)
- Bedrock Depression
- R Square Structure
- Wheat Field
- 50 m
- 75 m
- Cistern?
- Bedrock Area
- Field Wall
On a very small, low, hillock (first one to the east of Site 16), we found a relatively heavy sherd scatter, a rectangular shaft tomb (figs. 8.86 & 8.87), and a few tesserae, but no other signs of ancient architecture.


Pottery: UM, BYZ, few ER, few IA.
Fig. 8.87 Site 44 (continued). Field Photo H-7-3-6. Shaft tomb.
This is the first high hill due east (one km) from 'Umeiri (East), overlooked in previous surveys (fig. 8.88). Visible from 'Umeiri, after being spotted in the aerial photo by Randall Younker, are the remains of a building (roughly 10 x 10 m) which has been bulldozed through the middle (fig. 8.89).
Immediately to the north of it is a circular mound (outer diam. ca. 11 m) with central depression (ca. 6.5 m diam. and 2 m deep), possibly a collapsed cistern (Field Photo 9-8-30) (fig. 8.90). There are caves and a possible perimeter wall, along with an abundance of pottery.


Pottery: 4 UD, BYZ, ER, I2.
At the eastern foot of the hilltop overlooking the spacious plateau to the west of The Arab Horse Club (Site 12), is a small circular structure (ca. 5 m diam.), with central depression. The location is near Fohrer's Site E (1395.2331), where his description suggests more substantial remains in 1960 (Fohrer 1977: 60).

Examined July 26, 1984. 64 sherds (10 diag).

Pottery: FEW BYZ, ROM BODS, 12.
SITE SURVEY

Fig. 8.92 Site 47. Field Photo 40-5-27. 1398.2325. Aerial Photo 527.

Fig. 8.93 Site 47. Field Photo 39-5-27.
On a high shelf overlooking Wadi el-Hajal from the east, and downhill from the impressive Hesban Survey Site 135 (1398.2328), Fohrer’s site D, is a line of ancient roadway (fig. 8.92) running northwest-southeast, flanked by small structures, some circular, others rectangular (fig. 8.93), with a related east-west wall (fig. 8.94). Pottery on this severely eroded slope (the most severe that we saw in the seven weeks) is very sparse.

Examined July 26, 1984. 26 sherds (8 diag). 1 flint.
Pottery: poss UM, BYZ, ROM bods, I bods.
Roughly 300 m southeast of Site 47 and on the same hillside shelf, at the head of a small tributary running south into Wadi el-Hajar, the present dirt road follows an old line of road with boulder curbstones.
At the south edge of the road is a rectangular building 10.70 m north-south x 5.50 m east-west (fig. 8.96). The uphill cornerstone boulder is 1.15 x .50 x .50 m. Across the road are foundation traces of a square building. Some 13 m west of the larger structure, a long line of wall runs north-south from the road to the brink of the shelf where the wadi drops sharply away (fig. 8.97).
West of the wall line is a circular mound (ca. 12 m diam.) with rock rubble in a central depression, possibly a collapsed cistern (fig. 8.98). Just south of this is another smaller stone circle (4 m diam.) possibly a small tower (fig. 8.99). Yet another small structure lies beside the road, ca. 100 m to the southeast. See also RS 39.

Examined July 26 and August 1, 1984. 57 sherds (21 diag).

Pottery: BYZ, LR, IA.
The site is on a severely eroded slope facing west into Wadi el-Hajal. An enclosure wall is clear (ca. 40 m east-west x 50 m north-south) on all but the downhill side. The wall is built with 2 rows of stones, 1 m wide (fig. 8.100). Within a large structure (12.70 x 13.50 m) at the northeast corner is a cave or possible cistern (fig. 8.101).
Near the center of the complex is a rectangular structure (fig. 8.102). Near the southeast corner is another one, 4 x 5 m. Outside the southern perimeter wall, at the downhill limit, is a rectangular tower, 5 x 6 m (fig. 8.103). The perimeter wall on the south continues uphill beyond the compound as described above for another 20 m, where it corners with a comparable north-south wall running parallel to the compound for ca. 33 m.

Examined July 26, 1984. 86 sherds (16 diag).

Pottery: few LR bods, I2.
This site lies atop the ridge opposite Site 49, near the head of the same tributary wadi, and overlooks the broader Wadi el-Hajal to the west. There is the foundation course of walls in a rectangular structure, 9 m north-south x 8.5 m east-west (fig. 8.104). There are quarry marks (fig. 8.105) and one open tomb. Like neighboring Sites 48 and 49, the entire area is severely eroded and the sherd scatter is light (fig. 8.106, p. 178). See RS 39.

Examined July 27, 1984. 27 sherds (7 diag).
Pottery: ROM bods, pre-ROM.
Fig. 8.106 Site 50 (continued).
Site 51. No Field Photos. 1420.2342. Aerial Photo 546.

On the south slope of the low hill opposite Tell el-Umeiri (West) on the north, there are open tombs and terrace walls below the line of the present dirt road running east-west. A line of jagged upright stones, smoothed on the uphill side, angles from northwest to southeast down the slope below the road, to the edge of the tilled field.

Examined August 1, 1984. 118 sherds (20 diag).
Pottery: BYZ, ER, 12, EB.

Fig. 8.107 Site 52. Khirbet er-Rahwan. Field Photo 17-6-2. 1458.2325. Aerial Photo 556.

This hilltop site lies just outside the northeast petal of the cloverleaf formed by the Na'ur highway and the new airport highway (fig. 8.107). Before construction of the new highway it was surrounded by fields on all sides (elev. 943 m, K835 Map).
There is a massive perimeter wall ca. 2 m wide, built of large squared stones, enclosing an area ca. 50 x 50 m, with at least three rectangular structures (fig. 8.108). In the northeast corner is a building 6 x 10 m. In the northwest corner is a building 7 x 10 m, with walls 1.5 m wide, probably a tower. The highest points presently within the enclosure are midway along the eastern wall (another square building, ca. 10 x 10 m), and in the southeast quadrant where modern pillbox-like structures have been installed. This compound on the uppermost level looks down, to the north and east, on a shelf that is currently under cultivation, above the Wadi Iraq el-Hamam with its lush fields.
Jutting out at a northeastern angle from the east perimeter wall is a long (ca. 50 m), narrow (ca. 5 m) ridge of bare rock in which we counted some 40 cupmarks (fig. 8.109). The site lies just outside the north edge of RS 37, which in turn overlaps Paleolithic Site 53 along the Na'ur highway.

Examined August 2, 1984. 293 sherds (42 diag).
Pottery: 2 UD, 1 prob BYZ, mostly late 12, few early 12.
Site 53. No Field Photos. 1456.2325. Aerial Photo 556.

This site was recognized by Michael Alcorn, while collecting sherds at the southern edge of RS 37, which it overlaps. The site extends for ca. 300 m east-west along the Na'ur highway, east of the intersection with the new airport highway, and north-south for 200-300 m, mostly south of the highway. It reappears southwest of the interchange, and a few lithics were found in the northwest petal of the cloverleaf. Except for the highway, virtually the entire site is under cultivation. Hundreds of lithic artifacts were collected here in a short time. The Acheulian handaxes (Lower Palaeolithic) are heavily rolled, perhaps a half a million years old, according to Gary Rollefson. The rolled condition is a puzzle, in view of the geographical setting, which is not a deep wadi. After a visit to the site on August 11, 1984, Rollefson suggested that there may have been a seasonal lake just to the southeast to attract the paleolithic folk to this location. The handaxes from this site are considerably smaller than those from the Azraq region, perhaps because of the smaller flint nodules available in our region. There are considerably more Levalloiso-Mousterian tools, suggesting that Middle Paleolithic (ca. 50,000 B.P.) was the dominant period of occupation. Rollefson recognized no very good Upper Palaeolithic material, but a considerable variety of Neolithic/Chalcolithic specimens.

Examined August 2, 5, and 11, 1984.

Site 54. No Field Photos. 1398.2333. Aerial Photo 527.

This site, near the northern end of the Arab Horse Club buildings, lies at the eastern edge of fields dominated by Hesban Survey Site 135 (1398.2328) on the west, and it looks down into Wadi el-Musabba'at and the new airport highway on the east. It is von Rabenau's site A. A rectangular structure, 14 x 8.5 m, built of large flint blocks survives to two courses. A small "rundum Turmes von etwa 5 m Durchmesser" lies ca. 5 m from the southwest corner, not southeast as reported (von Rabenau 1978: 48), and appears rather to be rectangular or square. Examined August 6, 1984. 247 sherds (11 diag).

Pottery: few UM, mostly late I2, few early I2.


This is a low hill, now forested, overlooking fields to the south and east. A rectangular structure, 3.5 x 7.5 m, is clear in foundation courses. Another, smaller, structure, ca. 3 x 5 m, lies ca. 130 m to the northwest (fig. 8.110, p. 183). A line of stones angling across the hill northwest-southeast may be a property boundary, or perhaps marks an old road (figs. 8.111-8.116, pp. 184-186). This is von Rabenau's site F, where the ceramic evidence was "wieder römisch und byzantinisch, aber auch eisenzeitliche" (von Rabenau 1978: 50).

Examined August 6, 1984. 28 sherds (6 diag).

Pottery: BYZ, II/II.
Fig. 8.110 Site 55 (continued).
SITE SURVEY

Fig. 8.111 Site 55 (continued). Field Photo G-7-13-8.

Fig. 8.112 Site 55. Field Photo G-7-13-7.
SITE SURVEY

Fig. 8.113 Site 55 (continued). Field Photo G-7-13-9.

Fig. 8.114 Site 55. Field Photo G-7-13-10.
Fig. 8.115 Site 55 (continued). Field Photo G-7-13-11.

Fig. 8.116 Site 55. Field Photo G-7-13-12.
First Season Summaries and Correlations

The chart below (fig. 8.117) shows in tabular form the ceramic evidence collected from the 38 Random Squares and the 55 sites. The following symbols are used:

X attested
F few
P possible or probable
B body sherds only
D dominant
1 one sherd only
2 two sherds only

A summary of the field readings of the pottery collected in the random sampling, beginning with RS 0, a preliminary trial square surveyed at the outset in order to clarify procedures and deployment of personnel, is presented in fig. 8.117. Random Square 0 consumed far more time than any of the other Random Squares; therefore its data is not included in the totals shown for archaeological periods.

Two Random Squares require special comment. Random Square 12 at the edge of Na'ur is completely urbanized; no sherds were collected. Random Square 39 was surveyed out of sequence, and time ran out before we could return to RS 38.

The distribution of ceramic evidence, period by period, from 38 Random Squares (first column) and 55 Sites (second column) is given in fig. 8.117 as well. The third column shows corresponding figures from the Hesban survey's three seasons in the overlapping and neighboring areas to the south and southwest. Thus, while no Chalcolithic pottery was recognized from our first season, the Hesban Survey reports Chalcolithic at 11 of its 148 sites (7.4%). But three of the 11 sites lie within our survey area and include Tell el-’Umeiri (West) (Hesban Survey Sites 128, 129, 149).

Early Bronze is more widespread: 11 Random Squares (29%) and 10 Sites (18.2%), compared to 46 sites (31%) in the Hesban Survey. But three of the latter lie within our area and include ’Umeiri (West) (Hesban Survey Sites 139, 140, 149).

From Middle Bronze II our returns so far are more meager, in two Random Squares (5.3%) and 2 Sites (3.6%), compared to 14 Hesban Surveysites (9.5%) from MB I and MB II. But three of the Hesban Survey sites lie within our perimeter and include ’Umeiri (West) (Hesban Survey Sites 139, 140, 149).

The distribution of LB readings is similar: none in Random Squares, “possible” at three Sites (5.5%), compared to six sites in the Hesban Survey (4.1%). Again, three of the Hesban Survey sites also fall within our perimeter and include ’Umeiri (West) (Hesban Survey Sites 128, 129, 149).

Distribution in Iron I, where the number of sites increases sharply, is amazingly consistent (23%, 21.8%, 20%), making the pattern for I2/P especially interesting (60.5% of Random Squares, 61.8% of Sites), as compared with the Hesban Survey (43%). The difference is mostly comprehended in the two main periods of intensive agriculture at the northern end of the Madaba Plains, as noted above, in nearest proximity of the capital city of ancient Ammon.

The Hellenistic period is possibly represented in one Random Square, plus a Nabataean sherd in another square, in surprising contrast to the 21 Hesban Survey sites (that is, 14%).

Similarly, the distribution of ER pottery appears to be broader in the Hesban Survey zone (29%, 27.2%, 39%), but then is more nearly uniform in the LR period (36.8%, 29%, 30%).

The heaviest returns in our first season came from the BYZ era, as was to be expected (81.6%, 67.8%, 85%).

While the figures drop off rather sharply in the UM period (42.1%, 40%, 22%), there is evidence of continuity at the transition. Of the 16 Random Squares showing UM pottery, 14 also produced BYZ readings. Similarly, of the 22 Sites with UM sherds, 17 also yielded BYZ.

The striking contrast between our returns and the overlapping Hesban Survey for the Ayyubid/Mamluk period (15.8% and 7.3%, against 35%) is considerably less striking when we observe that 7 of the latter sites lie within the southern half of our intensive target area (Hesban Survey Sites 130, 134, 140, 142, 143, 145, 154).

In general we observe that where the data is most abundant (IA, LR, BYZ, UM) the percentages are closely comparable, thus reinforcing confidence in the random sampling. The greatest differences appear in the Site List, which is lopsided due to concentration this first season in the northeast quadrant. Even there the coverage is far from complete.

There are numerous heights and tributary wadis yet to be traversed.
# SITE SURVEY

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chalcolithic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Bronze</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle Bronze 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle Bronze 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Late Bronze</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron 2/Persian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Persian Period)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hellenistic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nabatean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roman</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Roman</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Late Roman</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roman/Byzantine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Byzantine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Umayyad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abbasid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatimid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ayyubid/Mamluk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ottoman</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


^Another 6 squares (15.5%) and 9 sites (16.4%) produced undifferentiated "Iron Age" sherds.

$Another 13 squares (34.2% and 15 sites (27.2%) produced undifferentiated "Roman Period" sherds.

---

**Fig. 8.117. Summary of Field Readings.**

---

**REFERENCES**


CHAPTER 9
Geophysical Exploration

Jon A. Cole  Walla Walla College, College Place, WA
Bryce E. Cole  University of Notre Dame, Notre Dame, IN

Introduction

Cursory subsurface exploration projects were carried out in four separate sectors of Tell el-Umeiri and the adjacent area as a basis for initiating the development of techniques for archaeological investigation by refraction seismometry. Rapp and Gifford (1985) have summarized the use of geophysical exploration methods in archaeological investigation where most commonly used techniques include the use of magnetometers and electrical resistivity. High levels of success in deep subsurface exploration for petroleum and shallow exploration by civil engineers concerned with potential foundation conditions, the availability of relatively inexpensive equipment and the similarity between traditional labor-intensive methods used by archaeologists with those required in seismometry encouraged modification of available seismic refraction techniques for pre-exavation, on-site investigation. As the archaeological method has evolved, the need for selecting exploration sites, whether by judgment or random process, has simultaneously developed. It is expected that refraction seismometry can be used to increase the likelihood that selected excavation sites will produce significant finds within often limiting budgets.

Seismic Refraction Procedure

Dobrin (1960) has described geophysical exploration theory and Sjögren (1984) has applied the theory to the topic of shallow subsurface investigation (see also Telford, et al. 1976). Figure 9.1 shows a typical setup of seismic refraction equipment on a surface layer of unconsolidated sediments over a more dense rock layer. The extent to which propagated sound will have traveled in the homogeneous, low velocity layer A is shown at times T₁ and T₂ by concentric segments of circles. While the sound signal has just reached the lower limit of layer A in time T₁, subsequently it proceeds more rapidly in the more dense layer B through which sound correspondingly travels faster as shown by the traces at times T₂ and T₃ in that layer. The additional trace segments for T₂ and T₃ in layer A result from refraction back into that layer after a period of higher-velocity travel through layer B. A travel path is shown for the sound wave which arrives first at the receiver and which, with later arriving sound waves, causes a small geophone mass to vibrate and in turn produce an amplified seismograph signal such as the one found in fig. 9.2.

Of great importance to the seismic analysis is the first arrival (indicated by the arrow in fig. 9.2) of the propagated sound wave. A graph of typical first-arrival travel times for the configuration shown in fig. 9.1 with corresponding distances between sender and receiver is depicted in fig. 9.3. The slopes of the lines indicate the inverse of the velocities of sound travel through the surface soil (A) and the more dense subsurface medium (B).
Fig. 9.1. Two-layer seismic propagation profile.

Fig. 9.2. Typical seismograph signal.
Fig. 9.3. Typical first arrival.

Fig. 9.4. First arrival data for lower terrace.
While a simple set of conditions has been depicted in fig. 9.1 for the purpose of describing basic theory, analysis of more complex situations has been described by Mooney (1977). Further development is necessary to aid recognition of buried features commonly encountered in archaeological investigations.

Field Archaeology

In examining a selected site, the data collection procedure varies according to site characteristics. In general a grid pattern for placement of senders and receivers is helpful in analysis of acquired data. Where possible grid lines should be laid out in a direction in which the surface profile is a straight line. It is not necessary that this profile be flat but only that the elevations of the sender and receiver placements be determined. The regular spacing between these placements will vary depending upon the degree of detail required. A minimum of ten positions along a grid line is usually appropriate.

The effect of extraneous noise can be minimized by the propagation of successive impacts. However, factors such as geophone-to-surface contact, striker-plate contact and possibly wind intensity can significantly affect the quality of the signal received. When a representative signal has been obtained for given positions of sender and receiver, the signal is sketched with notation of the best estimates of first-arrival times. The quality and rate of obtaining data could be considerably improved by electronically recording the representative signal. Field plotting of the first-arrival data as in fig. 9.3 provides a basis for determining the extent to which additional data collection would be profitable.

Applications

Three sets of conditions were examined in attempting to determine the extent of applicability of seismic refraction to archaeological investigation. The first was a possible tomb site on the hillside below an ancient tower immediately to the south of Tell el-‘Umeiri. An exposed limestone ledge approximately 15 m in length located in a region where there were several robbed-out tombs appeared to be a region worthy of investigation. The seismic data taken at this site provided no apparent indication of tomb openings but did give opportunities to consider a variety of techniques for grid layout, sound propagation and geophone placement.

Three ancient parallel terraces are on the south hillside below the saddle to the west of the tell. Seismic data were taken along the outer edges of these prominent features to determine their structural make-up. Figure 9.4 shows first-arrival data for the lowest of these terraces. While the data apparently reveal a more gradual change in slope from the surface layer (A) to the more dense subsurface material (B) in comparison with the example in fig. 9.3, there are two clearly distinct layers with sound velocities of 400 and 1400 m per second. Using standard analysis techniques, the depth of the limestone layer is approximately 1.6 m below the surface, a reasonable value. A velocity transition is not uncommon where density gradually increases with depth. Examination of the steep hillside from the south wadi provides the probable explanation. Erosion has washed away topsoil for a stretch exposing piled boulders (fig. 9.5), likely constructed as support for the terraces. The boulders are possibly of the same density as the limestone, but, due to their arrangement, produce a zig-zag pattern for sound transmission and a correspondingly reduced effective sound velocity.

In an attempt to approximate the depth to bedrock from the top of the tell, a seismic refraction line was established southeastward from the region of Field A. As anticipated, because of the likely presence of cut blocks in walls and in the form of scattered debris, there was considerable noise (variation from a theoretical straight line) in the data shown in fig. 9.6. Even using a 30 m line length, no consistently high velocity material was encountered. If velocities of sound through limestone found elsewhere on the site are used for calculation purposes, at least 8 m of loose material are likely to be found before limestone bedrock is reached. A roughly parallel 35 m seismic refraction line was subsequently run easterly from 11 m east of Field A. The initial slope of the first arrival plot closely approximates that of the first line and shows a flattening in the region beyond 30 m. This result tends to verify the approximate 8 m depth of loose material over bedrock.

Data were also collected in a fourth location on the north slope in Field C, where the location of tombs was considered possible. As the site was a likely location for excavation, seismic data were collected prior to digging in order to have the verification of direct observation if a cave or tomb was encountered. Unfortunately, the geophysical data was inconclusive and the excavation uncovered no unusual features in the exposed limestone.
Fig. 9.5. Exposed piled boulders possibly part of support for the terraces.

Fig. 9.6. Bedrock depth estimation.

\[V_a = 500 \text{ m/s} \]
\[\text{Depth} = 8 \text{ m} \]
Conclusion

On the basis of information obtained during the 1984 season, further development of seismic refraction techniques for use in archaeological investigation continues. Primary emphasis is focused on computer storage of field data for later analysis. While there are a significant number of hurdles to cross, the potential of having a relatively inexpensive means of carrying out subsurface investigation provides the impetus for additional work.

NOTES

1The equipment used in this study included a Geometric model ES-125 enhancement seismograph and model PE-3 geophones. A four pound hammer and striker plate were used to propagate sound.
2Further information may be obtained from Bison Instruments, Inc., 5708 West 36th Street, Minneapolis, Minnesota 55416.

REFERENCES


CHAPTER 10

"Towers" in the Region Surrounding Tell el-£Umēiri

Randall W. Younker  Andrews University, Berrien Springs, MI

Introduction

The research objectives of the 1984 season included the collection of data contributing to the understanding of the intensification and abatement in settlement and landuse of the region that has occurred since prehistoric times (Geraty et al. 1986). Thus, while excavations were being conducted at Tell el-£Umēiri proper, Øystein LaBianca, Chief Anthropologist, organized several teams to collect various data from the region surrounding the tell. Two of these teams were the random survey team, supervised by Dr. Robert Boling of McCormick Theological Seminary, and an environmental survey team, which I supervised.

The Ancient Farmsteads

Shortly after Boling and his team commenced their regional survey, they began observing and recording a number of round or rectangular structures, often surrounded by a perimeter wall. The dimensions of the rectangular structures varied from 5 x 7 m to 15 x 16 m, although most were on the smaller end of the scale. The foundation stones of most of these structures were quite large, often averaging .90 x .75 x .50 m, suggesting that they supported rather substantial, high walls, giving the structure the overall appearance of a "tower" of some sort. Initially it was thought that these structures might be more examples of the so-called "defensive towers" that have been described elsewhere in the Amman region (e.g. Glueck 1939: 163; Landes 1961: 72-74). This conclusion seemed to receive support from the surface sherds which indicated that the £Umēiri "towers" were occupied during the same periods as the Amman structures.

Defense, however, was later ruled out as the primary function of £Umēiri's "towers" because, although they generally surrounded the tell, they were not strategically placed for either defense or communication. Indeed, most of the "towers" were located on the sides of hills, rather than the tops, making it possible for them to be easily approached from the other side of the hill without being seen.

The lack of strategic value for these hillside locations was further emphasized by environmental studies. While the hills around £Umēiri are, for the most part, presently covered only with a dwarf shrub community, this was apparently not the case in antiquity. Studies of plant successional patterns (also known as vegetation dynamics) in this general region indicate that these dwarf shrubs are not the natural climax community, but rather a seral community. The original climax community consisted of an oak woodland or maquis (Zohary 1962: 10, 74, 75). The environmental team confirmed this fact, observing that common oak (Quercus calliprinos) was making a natural comeback in the shady areas of a pine forest that was artificially introduced by the Jordanian
government over 40 years ago on the ridge immediately south-southwest of the tell (see Zohary 1962: 90).

The existence of a more aboreal plant community in antiquity is also supported by the faunal remains recovered from the tell. Preliminary identification includes the remains of animals such as the wild pig and fallow deer—both which require a more lush habitat than currently exists in the area (cf. Boessneck and von den Driesch 1978: 269). The occurrence of these animal bones in the archaeological record presupposes a contemporary existence of a forest or maquis, and means that these bones can serve as an indicator as to when, through the lifetime of Tell el-'Umeiri, this biotic community existed. When 'Umeiri bone data is combined with that of nearby Tell Hesban, it would seem that some sort of an arboreal community existed at the same times the "towers" were in use.

The existence of an arboreal plant community on the hills surrounding 'Umeiri, whether an oak woodland, or a more "scrub" forest such as the maquis, would further render these hillsidel "towers" impractical with regards to strategic purposes. Unless the "towers" were at the very tops of the hills their range of visibility would be rather limited.

On the other hand, all the "towers" have excellent vantage points for overlooking the prime agricultural farmland. Usually these structures were places in a centralized location at the junction of two or more arable wadis. Significantly, they were almost always placed on the edge of prime agricultural land, but seldom, if ever, actually upon it, indicating how important good arable land was.

The agricultural function of these "towers" received further support from the features that were often found associated with them. Twenty-nine of the 52 sites examined by the survey team have structures that may be termed "towers." Of these 29 sites, 15 to 18 appear to have perimeter walls, 11 have cisterns, and 3 have millstones. These features, combined with their location on hills and spurs overlooking fertile valleys, accurately recall the image of a vineyard described in Isa 5:1-7 (NIV):

"I will sing to the one I love a song about his vineyard:
My loved one had a vineyard on a fertile hillside.
He dug it up and cleared it of stones
and planted it with the choicest vines.
He built a watchtower in it
and cut out a winepress as well.
Then he looked for a crop of good grapes,
but it yielded only bad fruit....
Now I will tell you
what I am going to do to my vineyard:
I will take away its hedge,
and it will be destroyed;
I will break down its wall,
and it will be trampled.
I will make it a wasteland,
neither pruned or cultivated,
and briers and thorns will grow there.
I will command the clouds not to rain on it."

Careful surface sherdng allows us to make a few tentative remarks about the periods in which these structures were utilized. Of the 29 "tower" sites that were located, only 3 had any evidence of Late Bronze Age occupation. Seven sites showed an Iron I presence, while at least 24 sites indicated an Iron II occupation, often by an abundant number of sherds. After the Iron II period the use of these sites appears to have stopped completely with no evidence of occupation until early Roman times when 9 sites were again used. Then, there is a gradual increase in use through late Roman times with a peak occurring in the Byzantine period when at least 19 were occupied. After the Byzantine period there is another decline with only 9 sites showing evidence of occupation in the subsequent Umayyad period. The two peak periods of use appear to be the Iron II and the Byzantine periods. The larger number of small sites surrounding the main tell during these periods would suggest a higher regional population at these times which, in turn, would require a more intensive use of the land.

Intensive landuse for at least the earlier of these periods (Iron II) is confirmed by the paleobotanical data which was collected from the tell. Carbonized seeds that were retrieved by flotation revealed that barley, wheat, lentil, pea, bitter vetch, chick pea, grape, wild pistachio, olive and pomegranate were among those crops harvested. Tree crops such as olive and pomegranate, as well as grape vineyards, are indicative of a fairly intensive subsistence strategy.

Of particular interest was the high number of grape pips that were recovered—29% of all Iron II plant remains—even higher than barley. Such a high yield would seem to indicate that grapes were being produced for more than just local consumption, but also probably for export.

Another interesting point having to do with the grapes is the question of Tell el-'Umeiri's ancient identification. In 1981, Redford visited the 'Umeiri region during a three-week survey in which he sought to identify Nos. 89-101 of Thutmose III's list of Asiatic toponyms with a series of sites in Transjordan. After sherdng Tell el-'Umeiri (West) and studying its topography, Redford concluded that it fulfills all the criteria posed by Nos. 95, 96 in Thutmose...
TOWERS IN THE REGION SURROUNDING TELL EL-UMEIRI

III's list. It has the largest perennial spring anywhere in the vicinity; it was occupied during MB/LB, and is in a strategic location on a transit corridor of easy passage . . . . The evidence thus seems strong that 'yn/krmn, or the Abel Keramim of the Bible (Jgs 11:33), is indeed to be sought at the site of 'Um eiri west (Redford 1982:69-70).

Abel Keramim can, of course, be translated as "meadow" or "plain" of the vineyards—a name that perfectly coincides with our paleobotanical findings. It would seem that the earlier knowledge from the Late Bronze age of this land's potential for high yielding grape crops was not lost to the Iron II inhabitants as this appears to be their most intensively cultivated crop.

Returning to the question of intensive land use during the Iron II period, it should also be mentioned that the faunal remains for this period yielded a high number of donkey, horse, and cattle bones. The presence of these animals again reflects a period of urbanization and intensification of the food system. Donkey, horse, and oxen are used as draft and transport animals during periods when cash or surplus crops are being intensively cultivated.

The success of 'Umeiri's agricultural program is perhaps reflected in the discovery of the Ba'alis seal impression, which established convincingly that political power and prestige had gravitated to the Ammonite ruler by the 6th century B.C. (Herr 1985; Younker 1985). This success is reflected in Jeremiah 49 where the prophet rebuked the Ammonites for taking advantage of Judah's misfortunes by moving into the territory of Gad. In verse 4 Jeremiah asks, "Why do you boast of your valleys, your valleys so fruitful? O unfaithful daughter, you trust in your riches and say, 'Who will attack me?'" Perhaps Ammon's agricultural success had provided a firm economic base which may, in turn, have led to her political confidence.

It was this confidence that undoubtedly led to the events described in Jeremiah 27 and 40, where the prophet first depicts an Ammonite king as one of those who led the rebellion against Babylon; and then specifically mentions that Ba'alis was responsible for instigating the assassination of the Babylonian appointed governor Gedaliah. Again, such brazen acts against the Babylonians reflect Ammon's increasing political self-confidence, which was based on her successful economic growth.

Conclusions

The combination of draft and transport animals with intensively cultivated crops and numerous rural sites all point to intensive land use in the region surrounding 'Umeiri during the Iron II period. This brings us back to the question of the function of these towers. If these structures are not agricultural installations, then where are the installations that were obviously necessary to support the intensive agricultural activities that were clearly going on during this period? And if they are military installations, why are they so poorly located from a military point of view? While it is not unlikely that some of these "tower" structures had nonagricultural functions, the present data, outlined above, would seem to suggest that the majority of the "towers" must have served in some agricultural capacity.

NOTES

There is actually some debate as to what period the Amman "towers" should be dated. Initially it was thought that they were Iron age for the most part (e.g. Landes 1961:72). However, Boraas discovered two phases of Roman occupation when he excavated Rujm el-Malfuf North in 1969 (Boraas 1971). While Thompson's excavations of Rujm el-Malfuf South and Khirbet el-Hajar showed definite Iron age occupation (Thompson 1973; 1977), Dornemann has shered several other similar sites and has found that they date to a number of different periods (Dornemann 1983:124 n.1). This discovery calls into question the idea that there was a defensive "ring" of these towers surrounding Amman in the Iron age, since there would be no such "ring" if the towers were not in use at the same time. As will be seen below, our own findings show the structures to be occupied at various times also, but the majority of them were in use in the Iron II and Roman/Byzantine periods.

See Dornemann 1983:123 for a similar conclusion.

Øystein LaBianca, Chief Anthropologist for the project, indicated that 32 of the 55 sites may turn out to be farmsteads, but he included three sites that lack actual "tower" structures (see Chapter 1 pp. 9-10). While these other sites are possibly farmsteads also, we are limiting our discussion to those sites which actually have "tower" structures.
TOWERS IN THE REGION SURROUNDING TELL EL-UMEIRI

REFERENCES

Abu Howayej, B.

Aresvik, O.

Banning, E. B.

Boessneck, J., and von den Driesch, A.

Boraas, R. S.

Dornemann, R. H.

Geraty, Lawrence T. et al.

Gese, H.

Glueck, N.

Hentschke, R.

Herr, L. G.

Landes, G. M.

Naveh, Z.

Redford, D. B.

Smith, R. L.

Thirgood, J. V.

Thompson, H. O.


Younker, R. W.

Zohary, M.

CHAPTER 11
Examination of the Valley South and West of Tell el-'Umeiri

Jon A. Cole  Walla Walla College, College Place, WA
Bryce E. Cole  University of Notre Dame, Notre Dame, IN

The proximity and apparent importance of the valley adjacent to Tell el-'Umeiri on the south and west prompted a study of its features and resources. Today this valley is agriculturally productive, even beyond comparable nearby areas. Consideration of this apparently greater fertility is important to an understanding of how the tell occupants lived.

In addition to a study of the features which support agricultural productivity, locations of roadway curbstones (figs. 11.1 and 11.2) and possible tomb sites were considered elements for inclusion in an integral picture. Whether the terraces on the south hillside of the tell and ridge to the west (fig. 11.3) were of agricultural significance or served some other purpose was a dilemma of particular interest.

Study of the area was initiated through examination of aerial photographs of the region. Extensive topography was used to determine the relative locations of surface features. Physical soil characteristics were examined to understand the significance these materials might have played in construction on the tell and in the surrounding area. Soil characteristics are also valuable in understanding agricultural practices. Geophysical exploration provided information regarding natural and man-made subsurface structural features.

Stretching from the heights of a conifer forest on the south and west (fig. 11.4) and bordered by a ridge and the tell on the north (fig. 11.5), the valley contains limestone outcroppings and gradual to steep silty sand slopes (fig. 11.6), to an earthen erosion control embankment opposite Field D (fig. 11.7), some 60 m below the heights. A grain crop was raised on the land during the spring and summer of 1984 (fig. 11.8) with sheep grazing the slopes after harvest. Typical of the region surrounding the tell, a tractor was used to prepare the land for the crop, and the places where seeding took place reflected mechanized accessibility. Portions of this roughly 600 x 400 m valley were rocky, producing poor yields, while major sections having deep tillable, moisture retaining soils gave very fine yields.

Moisture Retention and Agricultural Productivity

Previous inhabitants of the region appear to have attempted structural modification to the valley to increase soil moisture retention during the December to March period when most of the annual precipitation falls. Considering the knowledge and implementation by the Nabataean/Roman occupants south of 'Umeiri, (Evanari, Shanon and Tadmore 1982; Eadie and Oleson 1986) attempts to increase agricultural production through runoff retention is not surprising. By broadening and raising a channel bed using an earth embankment (fig. 11.7), water velocity is decreased...
Fig. 11.1. Roadway curbstones.
EXAMINATION OF THE VALLEY SOUTH AND WEST OF TELL EL-UMEIRI

Fig. 11.2. Roadway curbstones.

Fig. 11.3. Hillside terracing.
EXAMINATION OF THE VALLEY SOUTH AND WEST OF TELL EL-UMEIRI

Fig. 11.4. Conifer forest on the south and west sides of the valley.

Fig. 11.5. The valley is bordered by a ridge and the tell on the north.
Fig. 11.6. Limestone outcroppings and gradual to steep silty-sand slopes.

Fig. 11.7. An earthen erosion control embankment opposite Field D.
EXAMINATION OF THE VALLEY SOUTH AND WEST OF TELL EL-UMEIRI

Fig. 11.8. Grain crop harvest during the summer of 1984.

Fig. 11.9. Currently used furrowing techniques may reflect ancient practices.
Fig. 11.10. Water diverted from central channel to adjacent land increases soil moisture and decreases erosion.

Fig. 11.11. Terraces along the north side of the valley.
EXAMINATION OF THE VALLEY SOUTH AND WEST OF TELL EL-UMEIRI

<table>
<thead>
<tr>
<th>Texture %</th>
<th>Atterberg Limits</th>
<th>Specific Gravity</th>
<th>Shrinkage Plastic Limit</th>
<th>Liquid Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay</td>
<td>Silt</td>
<td>Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample #1</td>
<td>10</td>
<td>18</td>
<td>72</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Sample #4</td>
<td>15</td>
<td>17</td>
<td>72</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Sample #5</td>
<td>10</td>
<td>23</td>
<td>67</td>
<td>2.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>

Permeability: Permeability Constant = 1 x 10^4 cm/sec
Compaction: Optimum Water Content = 23%
Dry Density = 14 kN/m³

<table>
<thead>
<tr>
<th>Water Content</th>
<th>Dry Soil</th>
<th>Wet Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>Cohesion (kilo Pascals)</td>
<td>6.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Angle of Internal Friction</td>
<td>41.3°</td>
<td>18.9°</td>
</tr>
</tbody>
</table>

Fig. 11.12. A summary of soil characterization results.

Fig. 11.13. Soil shear strength.

\[ \text{SHEAR} = 1.7 + 0.34 \times \text{NORMAL STRESS} \]
\[ \text{THETA} = \arctan(0.34) = 18.9 \text{ DEGREES} \]
EXAMINATION OF THE VALLEY SOUTH AND WEST OF TELL EL-UMEIRI

and the water is retained on the land for a longer period of time. Greater water infiltration and settling of soil eroded from the upland area are achieved when it might otherwise be carried away with the runoff.

While evidence of long term usage has been destroyed, currently employed furrowing techniques (fig. 11.9) effectively divert water from the central channel onto flatter land to the side (fig. 11.10), again effectively increasing the period of time water remains on the land, thereby increasing infiltration and decreasing erosion. It is possible that the terraces along the north side of the valley (fig. 11.11) were constructed for this purpose. During precipitation runoff periods, it is conjectured that moisture build-up occurs in the terrace soils and, deflected by subsurface limestone, slowly flows by gravity additionally supplying moisture to the soils on the valley floor.

Soil build-up on the conifer forest floor appears significant by comparison with typically rocky hillsides throughout the ‘Umeiri region. The forests which cover much of the rim of the valley, provide a source of soil and nutrients. The combination of these factors provides the basis for improved crop production.

Soil Characterization

A total of twelve surface soil samples were collected from various locations in the southwest valley. Initially three of these samples were tested to determine the uniformity of soil characteristics. The initial tests used were grain-size analysis, specific gravity determination and Atterberg limits. Because the correlation of soil characteristics in the three samples was high, the remaining samples were combined as needed to perform compaction, permeability and direct shear tests. The results of all tests are summarized in fig. 11.12.

The values obtained for grain-size analysis, specific gravity and Atterberg limits are all typical of silty sand. The permeability constant is low for sandy soil, probably as a result of the significant fraction of clay in the samples. Greater time is required to absorb water into the soil by infiltration than for a sandy soil. The optimum soil density was obtained at 23% water content. This level of soil moisture is obtainable naturally only as a result of the winter rainy season. The best available estimate of the summer ambient water content is three percent.

The direct shear test was used to evaluate the strength of the soil. The relationship between normal and shear stress is shown in fig. 11.13 for a sample with moisture content of 23%. From the data it is clear that the soil exhibits characteristics of a sand when dry but properties of the more cohesive silt particles are apparent when the sample is wetted.

Geophysical Exploration

An enhancement seismograph was used to examine the three terraces along the north edge of the valley. Techniques for this investigation are described in Chapter 9 of this report.

Seismic velocities through the surface soils of each of the terraces were approximately 400 m per second. At depths ranging from 1.6 m below the surface on the east to 1.7 m on the west for the first (lowest) terrace, a more dense material having a seismic velocity of 1,400 m per second was encountered.

Investigation of the second terrace also revealed the more dense layer of limestone at depths of 2.0 to 3.9 m but a layer of intermediate density was located at a depth of 0.72 — 0.75 m. This layer carried a seismic velocity of approximately 800 m per second.

Using a 10 m long line in considering the third terrace, only the 800 m per second layer was located and that at a depth ranging from 1.5 m on the west to 0.8 m on the east. While the more dense 1,400 m per second layer might have been encountered if a longer line had been used, it is likely that it would have been found at depths in excess of four meters.

Conclusions

The features of the valley to the south and west contain additional information about life at Tell el-‘Umeiri. The next expedition season promises to reveal further insights through more advanced techniques and broader applications. The integration of this information with data obtained through excavation will prove helpful in further development of techniques and understanding information already obtained.

REFERENCES


CHAPTER 12

Dental Enamel Defects Among Contemporary Nomadic and Sedentary Jordanians

C. Michael Alcorn  Harvard University, Amherst, MA
A. H. Goodman  Boston, MA

Introduction

The disease ecology associated with sedentarization and bedouinization presents unique questions. In central Jordan, conflict has existed between these differing ways of life since antiquity. This location provides one of the few areas in the world where one can study the transition from hunting-gathering to agriculture, followed by a return to nomadic herding. Unlike other populations, these groups successfully returned to a nomadic lifestyle. It is thought that the American Southwest Indians essentially went extinct after several consecutive famines, becoming too dependent upon agriculture. Initially, as a result of the sedentary lifestyle, more individuals were surviving. As time progressed, however, the "general health" of the population declined.

In recent years, Jordan's infant mortality rate has decreased significantly. Health officials use this as an indicator, concluding that the country's health status has improved. It is true that a greater number of individuals are surviving to reproductive maturity. However, the general health for some segments of this population has deteriorated. This country, because of limited resources, finds itself "robbing the future" to support a growing sedentary population. Sedentary populations must deal with problems associated with waste disposal, drinking water, agriculture management, acquiring funds necessary for purchasing industrially produced products, etc. Nomadic groups normally have a better understanding about landuse and those resources available from the natural surroundings. In such a group, fewer individuals may survive. However, those that survive are healthier, as weaker individuals do not drain the limited resources of the entire population. Unhealthy individuals have children that are less healthy.

To evaluate this hypothesis, I chose to study dental enamel disruptions or hypoplasias1 among 156 children occupying a village near Amman, 102 Bedouin children (completely or predominantly nomadic for most of the year), and 120 children living further from Amman (n=152). The group from "Village A," nearest Amman and most dependent upon its economy, has shifted from a nomadic to sedentary lifestyle within the last fifteen years. In contrast, the group from "Village B" is less dependent on an outside economy and has been settled for a longer time. The nomadic group coexists with the villages around Amman.

Method

Black and white photographs of the anterior teeth were taken, providing a permanent record enabling us to confirm field analysis. Teeth should be cleaned and dried at the time of examination. Removal of stains

208
Fig. 12.1 Dental enamel defects comparisons between sedentary and nomadic children.

Fig. 12.2 Dental enamel defects according to age in Village A children.
DENTAL ENAMEL DEFECTS

and soft deposits reveals more defects than uncleaned and stained surfaces. From photographs, we scored the chronology of defects by half-year periods. A flash, filter, gray scale, and micrometer were used to maximize detail and permit accurate 1:1 reproductions. In the future, we recommend the use of color photographs rather than black and white as illustrated in FDI Technical Report No. 15 (1982).

Results and Conclusions

The frequency of dental defects on maxillary central incisors is relatively low for "Village B" children (31.4%), in comparison to "Village A" children (46.7%), and almost nonexistent among the nomadic children (7.4%). Enamel defects found in "Village A" children are more frequent among males (fig. 12.1), and peak between one and three years of age (fig. 12.2). Defects among the three groups of children appear and peak in contrast to data already published on archaeological populations (Goodman et al. 1984).

These data indicate that the rapid changes experienced among the "Village A" inhabitants have caused an increase in infant-childhood stress. The peak frequency of defects between one and three years suggests weaning nutritional problems.

Many questions remain. In the future, I would like to conduct a more extensive epidemiological study utilizing anthropometric and hematological analysis to complement data generated from the dental study. Studying health records would provide specific dental disruption to the individual's medical history. Results from this study will enable us to determine those physiological stressors responsible for dental enamel disruptions.

Acknowledgements

This study was supported by an ASOR/EBR Research Grant and NIDR Grant #T-32-DE07047. Follow-up field work will be undertaken through support of the Fulbright Program.

NOTES

Hypoplasias are operationally defined as circumferential lines, bands, or pittings of decreased enamel thickness. Because of the regular and ring-like fashion of enamel development, it provides a chronological memory of stresses occurring during its development. One can actually determine the time of formation within a three- to six-month period. The deciduous tooth enamel development occurs between birth and seven years. Others have collected information on the frequency, chronological distribution and, perhaps, the severity and duration of infant-childhood stresses in early populations. However, a chronology of defects-stress has never been published for a living, nonindustrial sample. The temporal pattern of hypoplasias may be related to infant-childhood events, status differences, illness and dietary reconstructions, and other growth data. Studying a large contemporary population will solve these methodological and theoretical questions, making important contributions to the study of anthropology and biomedicine.
Part Three

THE TELL
CHAPTER 13
Organization and Procedures of Excavation

Larry G. Herr  Canadian Union College, College Heights, Alberta

The method of excavation employed by the Madaba Plains Project at Tell el-Umeiri was an adaptation of the "Wheeler-Kenyon" method used during the first stage of the Hesban excavations in the 1970's (Boraas 1976). However, in determining the overall research design of the excavations at Tell el-Umeiri, we further adapted this method by broadening the horizontal exposure more than is normally the case in the Wheeler-Kenyon method. This was done in order to gain a more coherent picture of the nature of the strata excavated. We also made a significant adaptation in the form and style of the record-keeping procedures in order to expand storage and potential manipulation of data by computer (see Brower Appendix A).

A random surface survey (see Chapter 14) was undertaken which, along with topographic and architectural reconnaissance, became the basis for choosing four Fields of excavation as judgment samples. Field A was located at the western rim of the acropolis; Field B explored the fortifications on the northwestern slope; Field C was laid out on the upper of two terraces on the northern slope within a separately walled portion of the site we have called a "suburb," and Field D tested the lower and wider of two terraces on the southern slope.

These Fields, each initially made up of four Squares 6 x 6 m in size, were laid out contiguous with one another in the form of a square. Field B, a linear cut through the western defense system, was an exception. It was laid out so that the four Squares were alternately offset in a checkerboard pattern. This was done to obtain a wider horizontal exposure than would be given by a linear arrangement of Squares, as well as to reduce the clouds of dust from the sieves which the wind tended to blow directly back on the work in the Squares. However, because this reduced transbalk connections between the Squares to the corners only, stratigraphic connections were uncertain. This layout will be abandoned in subsequent seasons.

The Fields were located so that horizontal expansion in at least one direction was possible. However, only in Fields B and C were Squares opened outside the original four during the 1984 season (7J88 in Field B and 8L82 in Field C). Horizontal expansion is planned for all other Fields in subsequent seasons. In most Fields, when a coherent Field-wide stratigraphic unit was exposed, the standing balks separating the Squares were carefully interpreted, drawn, photographed, and stratigraphically removed, incorporating new data into the existing records.

The excavation of each Field was overseen by a Field Supervisor in consultation with the Chief Archaeologist. Four Square Supervisors, each aided by an Assistant Square Supervisor, controlled the excavation and record keeping in close communication with the Field Supervisor. Two hired local workers facilitated the work in each Square. All debris was sifted and, to reduce pottery pail confusion and heighten the interest and participation of the sifter, all pottery, bones, and other small arti-
facts from nonsurface debris layers were removed at
the sieve, unless in-situ records were needed. The
sifter also kept track of the quantities of debris bas­
ketfor each locus so that quantitative statistics
could be interpreted meaningfully in terms of soil
volume. Another innovation which significantly re­
sized our worker needs and enhanced the aesthetic
appearance of the site made use of a front-loader
and dump truck, loaned to us from the Department
of Antiquities, to remove dump debris directly from
the area of the sieves and deposit it in the valley
below.

Work on the publication of the Hesban excavat­
ions during 1978 and 1979 spawned two significant
improvements in record keeping and data storage
for the present excavation. A decision was made at
that time to organize and store the Hesban data on
computer files to ease recall and data manipulation.
The problems involved with the conversion of the
original Hesban field records, which were similar in
format to those in use by most other American
excavations using the "Wheeler-Kenyon" method, to
a computer format, made the team realize that any
future fieldwork must include record-keeping
processes and forms compatible with the precision
necessary for computer entry.

One of the most frequent recording problems
encountered during the Hesban publication work in­
cluded the variety of terminology used by the
Square Supervisors on the recording forms. Similar
sizes of stones could be variously described as
"boulder sized," "head-sized," "cantaloupe-sized," "small
watermelon-sized," "cinder block-sized," etc. Similar
soils could be described as "loose," "friable," "rubby," "gravelly," etc. Clearly, a method of record
keeping was needed in which different observers
could utilize the same term to describe identical or
similar features or classes of features.

Another major problem was the fact that some
supervisors did not fill out their forms completely,
leaving the records incomplete. Some locus sheets
were almost completely blank. Record-keeping
forms and procedures needed to be found that
would demand completion. We thus devised experi­
cmental locus sheets for use by the Hesban North
Church Project directed by John I. Lawlor in 1978.
These forms asked specific questions demanding
specific answers from the remains. Although sample
answers were suggested in a reference glossary, the
form still trusted the supervisor to describe some of
the material in his or her own words. This resulted
in a more unified terminology, but descriptions con­tinued to be vague at times.

We thus revised the form again so that virtually
all terms used to describe the various features of a
locus were already included on the locus sheet. The
result was a checklist of the descriptors which best
described the locus under study, each one defined
clearly in an accompanying manual. In this way the
same specific terms would be used by everyone for
the same or very similar features. The use of terms
not listed on the forms had to be cleared with the
Field Supervisor and the Chief Archaeologist. Sepa­
rate locus sheets were drawn up for soil layers,
arachitectural features, installations, and burials. Each
form included separate groups of descriptors that
would, in our estimation, fully describe any locus
feature and its contents. An attempt was made to
use terms and sets of terms that were already in
use by soil scientists, geologists, architects, anthro­
pologists, etc. If no terms existed, appropriate ones
were devised. After a season of use, only a few mi­
nor changes in specific terminology needed to be
made. Use of the forms significantly reduced the
"composition time" involved in writing long verbal
descriptions and allowed the supervisor to be easily
interrupted while working on the recording proce­
dures. Although specific measurements requested by
the forms are sometimes time consuming, the result­
ing precision of the records is ample compensation.

The manual consisted of two parts, procedures of
excavation and a glossary of the terms used on the
locus sheets. The former was a description of proce­
dures similar to those used on other american ex­
cavations employing the "Wheeler-Kenyon" method
(Dever and Lance 1978; Blakely and Toombs 1980),
and the latter gave a term-by-term definition of the
descriptors used on the locus sheets and instructed
the supervisors how to take the specific measure­
ments required by each entry.

Two checks were incorporated into the system to
insure correct and complete entry of the data: (1) It
was part of the Field Supervisor's work to go over
every locus sheet to make sure that each section
was filled out and each entry agreed with his recol­
lection of the locus involved; and (2) A computer
was set up in camp to process the locus sheets into
summarized data sheets called locus lists. Any in­
complete or incorrectly labeled entries were caught
at this stage and sent back to the supervisor for re­
working.

The aim of the computer data system was to
produce completed locus lists by the end of excava­
tion so that the Field Supervisors could write their
preliminary reports during the week following the
excavation. This proved only partially successful be­
cause many locus sheets were only finished toward
the end of the season, loading the data processor
with impossible amounts of work. This problem will
be corrected in subsequent seasons by entering all
new data daily into the computer. A full account of the use of the computer in the field occurs below in this report.

Stratigraphic Summary of the 1984 Season

In the Field reports which follow, the stratigraphy of each Field is broken down into Field Phases (abbreviated FP) numbered from top to bottom. Although no one Field revealed more than seven Field Phases before excavation ceased, an integrated stratigraphy lists 12 phases and one pottery period (no architectural or soil deposits, but ample ceramic evidence indicating occupation somewhere on the site). The following chart summarizes the site-wide stratigraphy for 1984. It should be stressed that more phases will undoubtedly be uncovered in subsequent seasons. The integrated phase numbers, therefore, are “working” numbers and will be changed in reports of future seasons. Integrated Phase 1 is the evidence for agricultural activities at the site following the end of the last settlement in the late Iron II period.

### Integrated Phase No. | Period |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hell-Ay/Mam Debris</td>
</tr>
<tr>
<td>2</td>
<td>Late Ir II FP 1</td>
</tr>
<tr>
<td>3</td>
<td>Late Ir II FP 2</td>
</tr>
<tr>
<td>4</td>
<td>Late Ir II FP 3</td>
</tr>
<tr>
<td>5</td>
<td>Early Ir II FP 4</td>
</tr>
<tr>
<td>6</td>
<td>L Ir I/E Ir II FP 5</td>
</tr>
<tr>
<td>7</td>
<td>Iron I FP 6</td>
</tr>
<tr>
<td>8</td>
<td>LB FP 5</td>
</tr>
<tr>
<td>9</td>
<td>MB Present</td>
</tr>
<tr>
<td>10</td>
<td>EB IVC FP 2</td>
</tr>
<tr>
<td>11</td>
<td>EB IV FP 6</td>
</tr>
<tr>
<td>12</td>
<td>EB III? FP 4</td>
</tr>
</tbody>
</table>

Ceramic materials in the topsoil suggested non-occupational activities in the Hellenistic, Early and Late Roman, Byzantine, Umayyad, and Ayubid/Mamluk periods. Pottery from the MB period was extremely frequent in Field C, all of it from secondary deposits.

REFERENCES

Blakely, J. A., and Toombs, L. E.

Boraas, R. S.

Dever, W. G., and Lance, H. D.
CHAPTER 14

The Random Surface Survey

Larry G. Herr  Canadian Union College, College Heights, Alberta

Introduction

When the Madaba Plains Project began its excavations at Tell el-Umeiri, a detailed research design for the stratigraphic excavation of the site could not be written because of the lack of sufficient surface reconnaissance. To be sure, two earlier surface surveys had been conducted at the site (below), but they were limited to a relatively unsystematic collection of surface pottery without reference to precise provenance.

The modern discovery of the site occurred during a survey conducted by Robert Ibach, Jr. for the Hesban expedition in 1976. Aside from two 10 x 10 m squares where sherds were collected in entirety, nothing systematic was attempted (Ibach 1978: 209). In 1978 H. G. Franken, at the behest of the owner of the site, Raouf Abujaber, surveyed several sites in the region including Tell el-Umeiri (Franken and Abujaber 1979), but again his survey does not seem to have been systematic enough for valid statistical studies to be made. In general, however, the two surveys supported each other regarding general chronological patterns of occupation. The periods of heaviest ceramic representation were EB, MB, LB, Iron I, and Iron II, though a few sherds from later periods were also found.

In order to learn more of the distribution of occupation during these periods, it was felt that a random surface-collection survey was needed before the fields of excavation were laid out. Because of the excellent results of the random survey method used at Qashish and Shimron by Portugali (1982) and because Tell el-Umeiri showed clear signs of containing shelves or terraces (a basic element of Portugali's method), it was decided to adopt similar procedures at our site (fig. 14.1).

Accordingly, 64 randomly selected squares, 6 x 6 m in size, were laid out on the overall grid of the site. Each Square was cleaned of its flora (samples were analyzed by Randall Younker with identifications confirmed by Dawud al-Eisawi in the ecolab's own random survey) and pottery and other objects were collected in two separate samples, one for the surface pottery and another for the pottery within the upper .10 m of topsoil. It was decided that excavation of the topsoil would give a larger, and therefore more valid, sampling of the ceramic remains in the Square (see also Portugali 1982: 176). Surface and topsoil samples were separated in order to compare the two samples and to test the hypothesis that surface pottery alone could provide sufficiently accurate data upon which to base a research design. All topsoil debris was sifted. In giving totals for the pottery, only rim forms were counted, because the pottery of some periods displayed more diagnostic features elsewhere on the sherd than others. It was thereby hoped that biased results would be avoided. All artifacts and biofacts besides pottery were also saved for analysis.

It was found after the survey was completed that approximately 23 Squares had been located outside
Fig. 14.1. Topographic map and cross section of the site showing the 64 squares of the random survey.
the limits of occupation at the site during any of its periods. The data from these Squares have been retained, but the analysis of the occupation at the site is limited to the Squares located inside the largest extent of the urban limits as understood at present.

The topographic map (fig. 14.1) shows the nature of the site with its shelves on all sides. Hypothesizing the results of Portugali's survey that shelves represented varying occupation limits during the several periods of the site, we hoped to obtain results that would allow drawing period dominancy maps in which the shelves would roughly correspond to the limits of occupation during specific periods.

Following Portugali, the data from each Square were analyzed in two separated matrices, constructing maps based on them. The first matrix (fig. 14.2) lists the percentages of the diagnostic (rim) pottery from each period found within a Square. This became the basis for the dominancy distribution maps shown in the A halves of figs. 14.4-14.9. (Periods other than those listed were considered too lightly represented to suggest occupation.) These maps are designed to show the relative importance of each period in a single location.

The second matrix (fig. 14.3) lists the percentages of the diagnostic (rim) pottery from each period found over the complete site. The spatial distribution maps in the B halves of figs. 14.4-14.9 are based on this matrix.

Analysis

The analysis of each period was accomplished with both maps in mind. One weakness of the spatial distribution maps is that their accuracy depends on the quantity of pottery recovered from each Square. Results would be most valid if very similar quantities were recovered from every Square. But because this is never the case, and indeed very different sherd totals could be recovered from neighboring Squares, anomalies are to be expected and corrected using the corresponding dominancy distribution map.

This can be illustrated by fig. 14.4 where the spatial distribution map (fig. 14.4b) contains two tongues of low densities (Squares 7K67 and 7L96) projecting into an otherwise strongly attested area. By examining the dominancy distribution matrix for the Squares involved, however, it is noted that both Squares produced relatively low quantities of diagnostic pottery. Within the respective Squares, however, the dominancy percentages were virtually identical to the neighboring Squares (fig. 14.4a).

 Likewise, the dominancy distribution map contains a tongue of relatively low density on the east shelf that does not exist on the spatial distribution map. The two maps taken together thus tend to cancel out eccentricities of either map alone.

Post-Iron II Periods

Out of 5,641 diagnostic (rim) sherds recovered during the Random Survey, only 61 (slightly more than 1%) were from periods postdating the Iron II period (3 Hellenistic, 9 early Roman, 20 late Roman, 27 Byzantine, and 2 Modern). This paucity would suggest that, during these periods, the site was either used for farming with manuring practices bringing in occasional sherds (Wilkenson 1982) and/or very ephemeral occupational activities. However, no concentration of pottery from any of these periods would suggest a living area at the site.

Excavation in the four Fields in 1984 supported this conclusion. No occupational remains post-dating the Iron II period were found. However, sherds from these periods (as well as two Ayyubid/Mamluk sherds) were consistently found over the complete site in top-soil, which at times was up to .50 m deep where erosional deposits and deep plowing disturbed the ancient surface. Most of the amorphous stone piles on top of the mound, originally thought to represent architectural remains immediately below the surface, are now interpreted to represent agricultural clearing activities. One such stone pile was excavated in Field A (Square 7K50), beneath which were found the two Ayyubid/Mamluk sherds mentioned above.

Late Iron II Period (figs. 14.4a and 14.4b)

The well-known corpus of Transjordanian pottery from the 7th and 6th centuries B.C. (Lugenbeal and Sauer 1972) was the most frequently attested ceramic group at the site, dominant in all but 10 Squares (fig. 14.10). Using Portugali's interpretive principles (1982: 184), this should indicate that this period included the last significant occupation at the site. Late Iron II pottery was dominant in every Square within the site except for the northernmost tip of the lower northern shelf and the western shelf, where none existed. These facts should suggest that the complete site was occupied during the late Iron II period, except for the western shelf and perhaps the tip of the lower northern shelf.

However, the relatively high densities of pottery outside the limits of the site suggest that erosion subsequent to the Iron II period may have moved topsoil debris considerably downslope. Thus, late Iron II pottery on the slopes may not represent occupation in those areas, but erosional deposition.
### THE RANDOM SURFACE SURVEY

<table>
<thead>
<tr>
<th>Square</th>
<th>EB</th>
<th>MB</th>
<th>LB</th>
<th>% 1</th>
<th>EB2</th>
<th>Ly2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5K25</td>
<td>22%</td>
<td>51%</td>
<td>6%</td>
<td>6%</td>
<td>11%</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>5K37</td>
<td>27%</td>
<td>57%</td>
<td>4%</td>
<td>—</td>
<td>2%</td>
<td>8%</td>
<td>51</td>
</tr>
<tr>
<td>5K62</td>
<td>53%</td>
<td>41%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>17</td>
</tr>
<tr>
<td>5K79</td>
<td>23%</td>
<td>5%</td>
<td>5%</td>
<td>24%</td>
<td>34%</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>5K80</td>
<td>13%</td>
<td>27%</td>
<td>4%</td>
<td>6%</td>
<td>22%</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>5K95</td>
<td>3%</td>
<td>3%</td>
<td>7%</td>
<td>35%</td>
<td>44%</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>5L01</td>
<td>57%</td>
<td>25%</td>
<td>8%</td>
<td>3%</td>
<td>3%</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>5L44</td>
<td>4%</td>
<td>4%</td>
<td>—</td>
<td>20%</td>
<td>65%</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>5L57</td>
<td>7%</td>
<td>19%</td>
<td>9%</td>
<td>14%</td>
<td>44%</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td>5M22</td>
<td>82%</td>
<td>—</td>
<td>—</td>
<td>9%</td>
<td>9%</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>5M25</td>
<td>78%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>5M51</td>
<td>9%</td>
<td>5%</td>
<td>13%</td>
<td>16%</td>
<td>23%</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>5M00</td>
<td>29%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>6J96</td>
<td>—</td>
<td>17%</td>
<td>2%</td>
<td>4%</td>
<td>16%</td>
<td>58%</td>
<td></td>
</tr>
<tr>
<td>6K38</td>
<td>2%</td>
<td>5%</td>
<td>—</td>
<td>8%</td>
<td>32%</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>6K52</td>
<td>3%</td>
<td>6%</td>
<td>3%</td>
<td>6%</td>
<td>27%</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>6K83</td>
<td>3%</td>
<td>4%</td>
<td>2%</td>
<td>9%</td>
<td>16%</td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>6L23</td>
<td>—</td>
<td>5%</td>
<td>1%</td>
<td>6%</td>
<td>24%</td>
<td>62%</td>
<td></td>
</tr>
<tr>
<td>6L28</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>7%</td>
<td>23%</td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>6L30</td>
<td>3%</td>
<td>13%</td>
<td>—</td>
<td>5%</td>
<td>8%</td>
<td>71%</td>
<td></td>
</tr>
<tr>
<td>6N71</td>
<td>10%</td>
<td>9%</td>
<td>6%</td>
<td>10%</td>
<td>14%</td>
<td>47%</td>
<td></td>
</tr>
<tr>
<td>6N83</td>
<td>10%</td>
<td>8%</td>
<td>18%</td>
<td>6%</td>
<td>14%</td>
<td>41%</td>
<td></td>
</tr>
<tr>
<td>6N90</td>
<td>3%</td>
<td>14%</td>
<td>4%</td>
<td>10%</td>
<td>15%</td>
<td>52%</td>
<td></td>
</tr>
<tr>
<td>6K12</td>
<td>—</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>14%</td>
<td>81%</td>
<td></td>
</tr>
<tr>
<td>6K30</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
<td>24%</td>
<td>66%</td>
<td></td>
</tr>
<tr>
<td>6K37</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>1%</td>
<td>14%</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>6K53</td>
<td>2%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>12%</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>6K67</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>6K81</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>1%</td>
<td>16%</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>6K87</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>2%</td>
<td>9%</td>
<td>87%</td>
<td></td>
</tr>
<tr>
<td>6L22</td>
<td>1%</td>
<td>—</td>
<td>1%</td>
<td>6%</td>
<td>10%</td>
<td>82%</td>
<td></td>
</tr>
<tr>
<td>6L37</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>3%</td>
<td>21%</td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td>6L77</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
<td>3%</td>
<td>16%</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>6L90</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>8%</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>6L96</td>
<td>1%</td>
<td>1%</td>
<td>—</td>
<td>—</td>
<td>12%</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>6M04</td>
<td>9%</td>
<td>23%</td>
<td>9%</td>
<td>20%</td>
<td>14%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>6M35</td>
<td>—</td>
<td>14%</td>
<td>9%</td>
<td>12%</td>
<td>16%</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>6M46</td>
<td>6%</td>
<td>24%</td>
<td>9%</td>
<td>3%</td>
<td>15%</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>6N12</td>
<td>3%</td>
<td>15%</td>
<td>11%</td>
<td>6%</td>
<td>16%</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>6H98</td>
<td>57%</td>
<td>29%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>6J09</td>
<td>8%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>92%</td>
<td></td>
</tr>
<tr>
<td>6J16</td>
<td>—</td>
<td>100%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>6K41</td>
<td>2%</td>
<td>9%</td>
<td>7%</td>
<td>21%</td>
<td>59%</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>6K70</td>
<td>5%</td>
<td>5%</td>
<td>7%</td>
<td>26%</td>
<td>54%</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>6K81</td>
<td>—</td>
<td>13%</td>
<td>7%</td>
<td>4%</td>
<td>33%</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>6L27</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
<td>14%</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>6L32</td>
<td>1%</td>
<td>4%</td>
<td>5%</td>
<td>9%</td>
<td>80%</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>6L34</td>
<td>2%</td>
<td>1%</td>
<td>3%</td>
<td>3%</td>
<td>20%</td>
<td>72%</td>
<td></td>
</tr>
<tr>
<td>6L59</td>
<td>1%</td>
<td>5%</td>
<td>7%</td>
<td>3%</td>
<td>22%</td>
<td>63%</td>
<td></td>
</tr>
<tr>
<td>6M04</td>
<td>—</td>
<td>6%</td>
<td>2%</td>
<td>1%</td>
<td>12%</td>
<td>76%</td>
<td></td>
</tr>
<tr>
<td>6M42</td>
<td>—</td>
<td>2%</td>
<td>—</td>
<td>4%</td>
<td>24%</td>
<td>71%</td>
<td></td>
</tr>
<tr>
<td>6M44</td>
<td>6%</td>
<td>3%</td>
<td>1%</td>
<td>4%</td>
<td>21%</td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>6M74</td>
<td>11%</td>
<td>4%</td>
<td>4%</td>
<td>8%</td>
<td>18%</td>
<td>54%</td>
<td></td>
</tr>
<tr>
<td>6M83</td>
<td>—</td>
<td>11%</td>
<td>3%</td>
<td>5%</td>
<td>22%</td>
<td>59%</td>
<td></td>
</tr>
<tr>
<td>6M86</td>
<td>14%</td>
<td>2%</td>
<td>5%</td>
<td>7%</td>
<td>17%</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td>6N30</td>
<td>7%</td>
<td>6%</td>
<td>5%</td>
<td>15%</td>
<td>59%</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>6N52</td>
<td>8%</td>
<td>5%</td>
<td>3%</td>
<td>9%</td>
<td>15%</td>
<td>63%</td>
<td></td>
</tr>
<tr>
<td>6K57</td>
<td>3%</td>
<td>17%</td>
<td>8%</td>
<td>11%</td>
<td>12%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>6K02</td>
<td>1%</td>
<td>14%</td>
<td>8%</td>
<td>6%</td>
<td>19%</td>
<td>52%</td>
<td></td>
</tr>
<tr>
<td>6K27</td>
<td>2%</td>
<td>45%</td>
<td>2%</td>
<td>5%</td>
<td>24%</td>
<td>41%</td>
<td></td>
</tr>
<tr>
<td>6L43</td>
<td>—</td>
<td>29%</td>
<td>5%</td>
<td>5%</td>
<td>24%</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>6L73</td>
<td>15%</td>
<td>50%</td>
<td>—</td>
<td>—</td>
<td>6%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>6M16</td>
<td>9%</td>
<td>7%</td>
<td>1%</td>
<td>9%</td>
<td>19%</td>
<td>53%</td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 14.2. Dominancy Distribution Matrix.**
<table>
<thead>
<tr>
<th>Square</th>
<th>MB</th>
<th>LB</th>
<th>Lr 1</th>
<th>Elr2</th>
<th>Lid2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM</td>
<td>267</td>
<td>417</td>
<td>156</td>
<td>263</td>
<td>946</td>
<td>3520</td>
</tr>
<tr>
<td>5K25</td>
<td>6.7%</td>
<td>10.1%</td>
<td></td>
<td>1.1%</td>
<td>0.5%</td>
<td>0.3%</td>
</tr>
<tr>
<td>5K37</td>
<td>5.2%</td>
<td>7.0%</td>
<td>1.3%</td>
<td></td>
<td>0.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>5K52</td>
<td>3.4%</td>
<td>1.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5K79</td>
<td>10.5%</td>
<td>1.4%</td>
<td>1.3%</td>
<td>2.3%</td>
<td>3.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>5K90</td>
<td>4.1%</td>
<td>5.3%</td>
<td>1.9%</td>
<td>1.9%</td>
<td>1.9%</td>
<td>0.9%</td>
</tr>
<tr>
<td>5K95</td>
<td>0.7%</td>
<td>0.5%</td>
<td>1.3%</td>
<td>1.9%</td>
<td>2.6%</td>
<td>0.9%</td>
</tr>
<tr>
<td>5L01</td>
<td>8.6%</td>
<td>2.4%</td>
<td>0.6%</td>
<td>1.1%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>5L04</td>
<td>0.7%</td>
<td>0.5%</td>
<td></td>
<td>0.8%</td>
<td>1.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td>5L07</td>
<td>200%</td>
<td>4.8%</td>
<td></td>
<td>3.4%</td>
<td>1.6%</td>
<td>1.3%</td>
</tr>
<tr>
<td>5M22</td>
<td>304%</td>
<td></td>
<td></td>
<td></td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>5M25</td>
<td>2.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5M51</td>
<td>1.9%</td>
<td>0.7%</td>
<td>4.4%</td>
<td>3.4%</td>
<td>1.4%</td>
<td>0.5%</td>
</tr>
<tr>
<td>5M67</td>
<td>0.7%</td>
<td>0.2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5M90</td>
<td></td>
<td>0.7%</td>
<td></td>
<td>1.1%</td>
<td>1.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td>6J06</td>
<td></td>
<td>2.2%</td>
<td>0.6%</td>
<td>0.8%</td>
<td>0.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>6K38</td>
<td>0.7%</td>
<td>1.2%</td>
<td></td>
<td>3.4%</td>
<td>3.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>6K52</td>
<td>1.5%</td>
<td>2.4%</td>
<td>3.8%</td>
<td>4.2%</td>
<td>5.2%</td>
<td>2.9%</td>
</tr>
<tr>
<td>6K83</td>
<td>1.1%</td>
<td>1.0%</td>
<td>1.3%</td>
<td>3.0%</td>
<td>1.6%</td>
<td>1.7%</td>
</tr>
<tr>
<td>6L23</td>
<td></td>
<td>1.0%</td>
<td>0.6%</td>
<td>1.9%</td>
<td>2.0%</td>
<td>1.4%</td>
</tr>
<tr>
<td>6L28</td>
<td>0.4%</td>
<td>0.5%</td>
<td>0.6%</td>
<td>2.7%</td>
<td>2.4%</td>
<td>1.8%</td>
</tr>
<tr>
<td>6L30</td>
<td>0.4%</td>
<td>1.2%</td>
<td></td>
<td>0.8%</td>
<td>0.3%</td>
<td>0.8%</td>
</tr>
<tr>
<td>6N71</td>
<td>304%</td>
<td>1.9%</td>
<td>3.2%</td>
<td>3.4%</td>
<td>1.3%</td>
<td>1.1%</td>
</tr>
<tr>
<td>6N82</td>
<td>3.0%</td>
<td>1.4%</td>
<td>8.9%</td>
<td>1.9%</td>
<td>1.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>6N90</td>
<td>1.1%</td>
<td>3.1%</td>
<td>2.5%</td>
<td>3.4%</td>
<td>1.5%</td>
<td>1.9%</td>
</tr>
<tr>
<td>7K22</td>
<td></td>
<td>0.5%</td>
<td>1.3%</td>
<td>1.1%</td>
<td>2.0%</td>
<td>3.2</td>
</tr>
<tr>
<td>7K30</td>
<td>1.5%</td>
<td>0.7%</td>
<td>1.9%</td>
<td>1.5%</td>
<td>2.0%</td>
<td>1.3%</td>
</tr>
<tr>
<td>7K37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7K53</td>
<td>1.1%</td>
<td></td>
<td></td>
<td>1.1%</td>
<td>1.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>7K67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7K81</td>
<td></td>
<td></td>
<td></td>
<td>1.3%</td>
<td>1.1%</td>
<td>2.7%</td>
</tr>
<tr>
<td>7K87</td>
<td></td>
<td></td>
<td></td>
<td>2.5%</td>
<td>1.5%</td>
<td>2.1%</td>
</tr>
<tr>
<td>7L22</td>
<td>0.4%</td>
<td></td>
<td>0.6%</td>
<td>3.0%</td>
<td>1.5%</td>
<td>3.2%</td>
</tr>
<tr>
<td>7L37</td>
<td>0.4%</td>
<td>0.5%</td>
<td>1.9%</td>
<td>2.7%</td>
<td>3.3%</td>
<td>2.9%</td>
</tr>
<tr>
<td>7L77</td>
<td>0.7%</td>
<td>0.7%</td>
<td>4.4%</td>
<td>2.3%</td>
<td>3.9%</td>
<td>5.0%</td>
</tr>
<tr>
<td>7L90</td>
<td>1.5%</td>
<td>0.7%</td>
<td>1.3%</td>
<td>1.1%</td>
<td>2.3%</td>
<td>7.0%</td>
</tr>
<tr>
<td>7K96</td>
<td>0.4%</td>
<td>0.2%</td>
<td></td>
<td></td>
<td>0.8%</td>
<td>1.6%</td>
</tr>
<tr>
<td>7M04</td>
<td>2.2%</td>
<td>3.6%</td>
<td>3.8%</td>
<td>4.9%</td>
<td>0.9%</td>
<td>0.5%</td>
</tr>
<tr>
<td>7M35</td>
<td></td>
<td>1.7%</td>
<td>2.5%</td>
<td>2.3%</td>
<td>0.9%</td>
<td>0.6%</td>
</tr>
<tr>
<td>7M46</td>
<td>1.9%</td>
<td>5.0%</td>
<td>5.1%</td>
<td>1.1%</td>
<td>1.4%</td>
<td>1.1%</td>
</tr>
<tr>
<td>7N12</td>
<td>1.1%</td>
<td>3.8%</td>
<td>7.8%</td>
<td>2.3%</td>
<td>1.8%</td>
<td>1.3%</td>
</tr>
<tr>
<td>8H98</td>
<td>1.5%</td>
<td>0.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8L09</td>
<td>0.4%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8L91</td>
<td></td>
<td>1.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8K41</td>
<td>0.4%</td>
<td>1.0%</td>
<td></td>
<td>1.1%</td>
<td>0.9%</td>
<td>0.7%</td>
</tr>
<tr>
<td>8K70</td>
<td>0.7%</td>
<td></td>
<td>1.3%</td>
<td>1.1%</td>
<td>1.3%</td>
<td>0.6%</td>
</tr>
<tr>
<td>8K81</td>
<td></td>
<td>1.4%</td>
<td>1.9%</td>
<td>0.6%</td>
<td>1.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>8L27</td>
<td>0.7%</td>
<td>0.7%</td>
<td>2.5%</td>
<td>2.3%</td>
<td>3.7%</td>
<td>3.6%</td>
</tr>
<tr>
<td>8L32</td>
<td>0.7%</td>
<td>1.4%</td>
<td>1.3%</td>
<td>3.0%</td>
<td>1.7%</td>
<td>3.9%</td>
</tr>
<tr>
<td>8L34</td>
<td>1.1%</td>
<td>0.5%</td>
<td>1.3%</td>
<td>1.5%</td>
<td>2.8%</td>
<td>2.9%</td>
</tr>
<tr>
<td>8L59</td>
<td>0.4%</td>
<td>1.2%</td>
<td>5.1%</td>
<td>1.1%</td>
<td>2.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td>8M04</td>
<td></td>
<td>1.9%</td>
<td>1.9%</td>
<td>0.4%</td>
<td>1.8%</td>
<td>3.0%</td>
</tr>
<tr>
<td>8M42</td>
<td></td>
<td>0.2%</td>
<td></td>
<td>0.8%</td>
<td>1.4%</td>
<td>1.1%</td>
</tr>
<tr>
<td>8M44</td>
<td>3.4%</td>
<td>1.0%</td>
<td>0.6%</td>
<td>2.3%</td>
<td>3.2%</td>
<td>2.6%</td>
</tr>
<tr>
<td>8M74</td>
<td>3.0%</td>
<td>0.7%</td>
<td>1.9%</td>
<td>2.3%</td>
<td>1.4%</td>
<td>1.1%</td>
</tr>
<tr>
<td>8M83</td>
<td></td>
<td>1.7%</td>
<td>1.3%</td>
<td>1.1%</td>
<td>1.5%</td>
<td>1.1%</td>
</tr>
<tr>
<td>8M86</td>
<td>3.0%</td>
<td>0.2%</td>
<td>1.9%</td>
<td>1.5%</td>
<td>0.9%</td>
<td>0.9%</td>
</tr>
<tr>
<td>8N30</td>
<td>2.6%</td>
<td>1.4%</td>
<td>3.2%</td>
<td>1.9%</td>
<td>1.5%</td>
<td>1.6%</td>
</tr>
<tr>
<td>8N52</td>
<td>1.1%</td>
<td>0.5%</td>
<td>0.6%</td>
<td>0.4%</td>
<td>0.6%</td>
<td>0.7%</td>
</tr>
<tr>
<td>8N57</td>
<td>0.7%</td>
<td>2.6%</td>
<td>3.2%</td>
<td>2.7%</td>
<td>0.8%</td>
<td>0.9%</td>
</tr>
<tr>
<td>8L02</td>
<td>0.4%</td>
<td>2.6%</td>
<td>3.8%</td>
<td>1.9%</td>
<td>1.6%</td>
<td>1.2%</td>
</tr>
<tr>
<td>8L27</td>
<td>0.4%</td>
<td>1.4%</td>
<td>0.6%</td>
<td>0.8%</td>
<td>1.1%</td>
<td>0.6%</td>
</tr>
<tr>
<td>8L43</td>
<td>1.4%</td>
<td>0.6%</td>
<td>0.6%</td>
<td>0.5%</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>8L73</td>
<td>2.6%</td>
<td>5.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9M16</td>
<td>2.2%</td>
<td>1.2%</td>
<td>0.6%</td>
<td>2.3%</td>
<td>1.4%</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

Fig. 14.3. Dominancy Distribution Matrix.
Fig. 14.4a Dominancy distribution map for the late Iron II period.

Fig. 14.4b Spatial distribution map for the late Iron II period.
THE RANDOM SURFACE SURVEY

Only excavation can accurately examine this question.

While excavations in Field A on the acropolis confirmed the hypothesis for heavy occupation there, the excavation results elsewhere showed that Portugali's principles could lead to misleading results. Field C on the upper northern shelf uncovered evidence of merely ephemeral occupation and Field D on the southern shelf found no occupational remains from this period whatsoever. The strong presence of late Iron II pottery in the random survey from these areas must have been the result of erosion of material from the top of the mound to the lower shelves. Portugali's method of interpretation thus needs qualification when dealing with sites having relatively steep slopes situated on high hills, such as Tell el-'Umeiri.

With the realization that erosion played a significant role in the deposition of surface and topsoil debris below steep slopes at our site, we used a revised version of Portugali's method. That incorporated the results of excavation in the four Fields, to suggest hypotheses regarding the extent of occupation in the late Iron II period. The very strong presence of late Iron II pottery on the acropolis, which corresponds to the results of the Field A excavations, suggests that significant occupation occurred there. Field D showed that no occupation took place on the lower southern shelf, and Field C made it very clear that very little took place on the northern shelves. The survey showed that none occurred on the western shelf. There is little chance of significant erosion from the acropolis onto the broad eastern shelf. Thus the survey data, implying occupation somewhat weaker than the acropolis, may be applied. A hypothesis modified by excavation would thus suggest intensive occupation on the acropolis and eastern shelf, while extra-urban activities may have taken place on the upper northern shelf. The rest of the site remained unoccupied.

Early Iron II Period (figs. 14.5a and 14.5b)

The pottery identified with this period reflects the Transjordanian corpus for the 9th and 8th centuries B.C. Analysis of the two maps in fig. 14.5 should keep in mind the conclusions above that the topsoil on and below the steep slopes includes much debris from the late Iron II settlement on top of the mound. Thus the data for earlier periods on the slopes are very tenuous. However, it is interesting to note that the dominancy distribution map (fig. 14.5a) reflects relatively even data from the acropolis and eastern shelf with higher density nodes along the western edge of the acropolis. However, the dense node on the southern shelves must be debris eroded from the southern edge of the acropolis (no early Iron II occupation was discovered in Field D). Likewise, the dense nodes on the northern shelf probably resulted from eroded debris. This may suggest that a relatively high degree of occupational activity took place along the edges of the acropolis, perhaps in connection with a fortification system. Supporting this would be the high percentages on the spatial distribution map at the eastern limits of the acropolis. Again, it is difficult to express any confidence regarding projections for the shelves, but, based on the survey and excavations, it would seem that occupation occurred on the acropolis and eastern shelf only.

Iron I Period (figs. 14.6a and 14.6b)

Two density nodes occur on the dominancy distribution map and are reflected on the spatial distribution map as well. The best possibility for occupation, according to these data, seems to exist on the eastern shelf. The node on the northern slope may not be due to erosion of Iron I material from the acropolis, because architectural finds from this period were made in the northernmost Square of Field C. It may be suggested, therefore, that Iron I occupation occurred on the acropolis and the eastern and northern shelves. The low density levels on the acropolis are no doubt due to the massive Iron II constructions which covered earlier remains there. The high concentrations of Iron I pottery originating from the acropolis edges would suggest activity along the fortification line. This was confirmed by the location of a major Iron I fortification system in Field B. No occupation should be found on the western and southern shelves.

Late Bronze Age (figs. 14.7a and 14.7b)

Both the dominancy and spatial distribution maps agree that the eastern shelf gives the strongest evidence for the Late Bronze Age. They also show a relatively strong density in the central northern shelf where excavations in Field C also collected LB finds. Although densities are very weak on the acropolis, it would be strange were it unoccupied. The lack of survey remains there is most likely due to the heavy Iron II deposits covering them, while the edges of the acropolis had been built up with Iron I and early Iron II fortifications allowing little or no LB remains to erode onto the upper slopes. It may thus be implied that LB occupation occurred on the acropolis, eastern shelf, and the upper to middle portions of the northern shelf. No remains were
Fig. 14.5a Dominancy distribution map for the early Iron II period.

Fig. 14.5b Spatial distribution map for the early Iron II period.
Fig. 14.6a  Dominancy distribution map for the Iron I period.

Fig. 14.6b  Spatial distribution map for the Iron I period.
Fig. 14.7a Dominancy distribution map for the late Bronze period.

Fig. 14.7b Spatial distribution map for the late Bronze period.
found on the southern shelf in Field D and, based on the survey, none should be encountered on the western shelf.

Middle Bronze Age (figs. 14.8a and 14.8b)

Both the dominancy and spatial distribution maps agree on four nodes of strong density during the MB period: the lower northern shelf, the eastern shelf, the western portion of the upper southern shelf, and the western shelf. The low densities on the acropolis are again undoubtedly due to covering Iron II levels. Of special interest are the high percentages of MB debris outside the urban limits to the south, suggesting a strong settlement on the southern shelf from which erosion occurred.

Field C on the northern shelf confirmed the hypothesis by discovering fragmentary material near the topsoil, including a reconstructible platter bowl. However, remains in Field D on the southern shelf were completely devoid of MB remains. The ceramic densities outside the walled limits of the site to the south must have eroded from farther up the slope during the centuries following the MB period when no occupation occurred on the southern slopes. Projections based on the survey and excavations would thus suggest that the MB settlement covered the acropolis and the western, northern, and eastern shelves.

Moreover, the weak representation of eroded LB material outside the limits of its occupation, as outlined above, would seem to suggest that the LB settlement occurred within that of the MB and that strong MB fortifications retained the LB debris from erosion.

Early Bronze Age (figs. 14.9a and 14.9b)

Both the dominancy and spatial distribution maps agree that density nodes are located on the western, northern, eastern, and southern shelves for the EB period. Especially high are those in the south and north. Given this strength on the slopes of the site, one may assume that the top of the mound was also occupied at this time. It thus would seem that the EB settlement was the largest of any at the site, covering all sectors.

Excavations have tended to bear this out. Field D uncovered several phases of EB IV architecture and Field C produced significant EB phases as well. Even at the top of the mound where nothing earlier than the Iron Age was reached in Fields A and B, occasional EB sherds were encountered. It is thus apparent that the survey data are correct and that EB occupation covered the complete site.

History of Settlement

The combined data of the random surface survey, topographic studies, and excavation would suggest the following reconstruction of the history of settlement at Tell el-Umeiri.

The site would seem to have been first settled toward the end of the Chalcolithic or the very beginning of the EB period, as the earliest pottery uncovered by the various surveys would suggest. Settlers were attracted to the site most likely by the spring at the base of the hill. The first settlement was probably small and likely located on top of the hill. The earliest pottery above bedrock in Field C, the northern slope near the water source, was EB II-III. Growth seems to have taken place slowly, probably down the slope southward to the region of Field D where fairly deep EB remains seem to be present. The western shelf was probably the last to be occupied, because of its poor defensibility, an observation supported by the shallow buildup of occupational debris apparent from the contours of bedrock nearby. By the EB IV period the site seems to have been completely occupied. Because EB IV remains, including late EB IV (MB I), were uncovered in Fields C and D, it would appear that occupation continued through the complete EB period (EB II-III pottery was also apparent in the survey and in secondary excavated deposits).

The transition to the MB period may have been smooth with no break in occupation, because some of the pottery found during the survey and in secondary debris layers of the excavation may have originated from early in the period (MBIIa). If so, the importance of the site is clear, allowing study of the complete transition from EB III to MB II. As noted above, there is evidence for strong fortifications built during this period, though the precise time within the period is unknown. However, the strong densities of MB pottery outside the southern limits of the site may suggest erosion of the settlement before the fortifications were constructed, possibly late in the period. The settlement of the MB period seems to have covered most of the site, except for the lower southern shelf. Because the occupation on the northern shelf in later periods was light and would have had little need for a perimeter wall around the northern suburb such as the one to be found there (see the Field C report), it is very possible that this wall was constructed at this time and/or the EB period. The visible wall on the northern side of the western shelf may have been constructed now or in the EB period as well.

The LB settlement seems to have been smaller in size, having abandoned the western shelf and re-
Fig. 14.8a Dominancy distribution map for the middle Bronze period.

Fig. 14.8b Spatial distribution map for the middle Bronze period.
THE RANDOM SURFACE SURVEY

Fig. 14.9a Dominancy distribution map for the early Bronze period.

Fig. 14.9b Spatial distribution map for the early Bronze period.
Fig. 14.10 Period dominancy map.
frained from expansion outside the MB fortifications elsewhere. The random survey and excavations suggested that the settlement included the acropolis, the eastern shelf, and the northern slope. The pottery from this period was not as well-represented as the other periods, perhaps because the settlement was relatively small, located beneath deposits from later periods, and contained by the MB fortification system.

The Iron I settlement seems well-represented ceramically from the earliest to the latest of its subperiods. The random survey and excavations suggest that it stretched over most of the LB settlement, that is, the acropolis, the eastern shelf, and the northern slope. Excavation in Field B revealed a casemate fortification system constructed toward the end of the period.

The Iron II period probably continued from the Iron I without a break, though there was likely a decrease in settlement size. Excavation in Field C seemed to suggest that the northern shelf was occupied only ephemerally during this period. The settlement thus may have been limited to the acropolis and eastern shelf.

At the end of the Iron II period or early in the Persian period settlement at the site ceased. Probably beginning in the Hellenistic period the site came under cultivation, an activity lasting periodically through Ayubid/Mamluk times to judge by the range of sherd scatter in topsoil. Settlements from the Hellenistic to the Ayubid/Mamluk periods were located within a few hundred meters of the site at ‘Umeiri East and North. The spring continued to attract settlements to the region.

The site thus displays a tendency to shrink in size through time from its greatest floruit in the EB IV period to its smallest in late Iron II times, when Tell Jawa to the east seems to have taken over leadership in the immediate region.

Summary

It should be noted that, in general terms, the results of the random survey produced more accurate results for the earlier periods. That is, high survey nodes from the earlier periods seem to accurately reflect occupational patterns, while similar nodes from the later periods do not necessarily indicate occupation. This may be explained by erosional patterns on a steeply sloping site. While a city is occupied and the fortification system is maintained, little erosion takes place. One would therefore expect a low representation of erosional debris. With the end of occupation and the subsequent disintegration of the city walls, however, erosion begins with the latest materials present. Thus late Iron II erosional debris is found overlying virtually the complete site, even though occupation in that period apparently covered only the acropolis and eastern shelf.

The survey and interpretive method presented by Portugali thus proved helpful, but needed significant qualifications for the later periods. Once the suggested modifications are taken into account, more successful hypotheses can be suggested. The most difficult period to judge was the last one, a problem unanticipated by Portugali’s method, because of the long episode of abandonment and subsequent erosional deposition.

Artifacts

A total of 55 artifacts other than pottery were reported from the Squares of the random survey. Relative to the volume of soil removed, it appears that artifacts (and potsherds, for that matter) were more common in topsoil than in the lower layers excavated in the four Fields. During the later agricultural use of the site, the artifacts and sherds tended to move toward the top of the plow zone and thus would be retrieved in the top .10 m of our survey (Frink 1984).

Although the artifacts found during the random survey will be described elsewhere, it is appropriate at this point to list the types of objects found. Artifacts indicating food preparation included 1 upper millstone, 1 pestle, 4 mortars, and 1 grinder; the finds suggest a significant importance in grain preparation. Military objects included 3 ballistic missiles (slingstones) and 2 arrowheads; interestingly the ballistic missiles were found on the slopes of the site, while the arrowheads were found on the acropolis. However, this pattern was not maintained in the excavations. Artifacts reflecting industrial activities included 13 spindle whorls and/or loom weights; textile industries thus flourished at the site. Items which suggested trade included 2 scarab fragments, 1 seal impression probably used as a juglet stopper and inscribed with a governmental official’s name (see Herr, Chapter 21), and 1 cylinder seal (see Porada, Chapter 23). Luxury objects were also found, including the cylinder seal and 2 scarab fragments discussed above if they were used as jewelry or decoration, 1 possible cosmetic applicator, 1 glass fragment, 3 coins, 3 fibulas, 6 beads, 2 possible bangles, 1 pumice stone. Possibly reflecting religious activities were 2 female figurine fragments, and 1 animal figurine (alternatively a toy). The normal activities of an ancient urban center were thus reflected in the finds of the survey. The strong representation of luxury items may suggest that the in-
THE RANDOM SURFACE SURVEY

All numbers in columns are percentages except the totals. The surface sam ples are listed first in each column followed by
the top so il sam p le s.
S a u a re
5K25
5K37
5K62
5K79
5K80
5K95
5L01
5L64
5L97
5M 22
5M 25
5M 51
5M 67
5M 90
6J98
6K38
6K52
6K83
6L23
6L28
6L 3 0
6N 71
6N82
6N90
7K22
7K30
7K37
7K53
7K67
7K81
7K87
7L22
7L37
7L 7 7
7L90
7L96
7M 04
7M 35
7M 46
7N12
8H98
8J09
8J81
8K41
8K 70
8K81
8L27
8L32
8L34
8L59
8M 04
8M 42
8M 44
8M 74
8M 83
8M 86
8N30
8N52
9K57
9L 0 2
9L27
9L43
9L73
9M 16

EB
4 0 -2 1 %
50-21
5 0 -5 5
0 -2 6
9 -1 4
. 0 -0 3
5 0 -6 0
. 0 -0 5
3 -0 8
5 0 -8 9
0 -8 8
1 5-07
2 5 -3 3
0 -0 0
0 -0 0
7-01
5 -0 3
0 -0 4
0 -0 0
0-01
0 -0 4
1 9-09
2 2 -0 9
0 -0 4
0 -0 0
6 -0 5
0 -0 0
0 -0 3
0 -0 0
0 -0 0
0 -0 0
5 -0 0
0-01
2 -0 0
0 -0 3
0 -0 2
0 -1 2
0 -0 0
x0 -0 7
0 -0 3
0 -6 7
0 -1 0
0 -0 0
0 -0 4
1 1-0 3
0 -0 0
4 -0 0
0-01
3 -0 2
0-01
0 -0 0
0 -0 0
0 -0 6
12-11
0 -0 0
0 -1 6
0 -0 8
1 8-0 3
1 7-02
0-01
0 -0 3
0 -0 0
0 -1 6
0 -1 0

MB
4 0 -5 2 %
5 0 -5 9
3 3 -4 5
6 -0 5
1 8-28
0 -0 3
3 0 -2 3
0 -0 5
0 -2 8
0 -0 0
0 -0 0
0 -0 0
2 5 -0 0
1 7-0 3
0 -2 2
0 -0 5
5 -0 5
0 -0 5
5 -0 5
0 -0 2
1 0-14
6 -1 0
2 2 -0 6
3 5 -0 9
3-01
0 -0 5
0 -0 0
0 -0 0
0 -0 0
0 -0 0
0 -0 0
0 -0 0
5-01
2-01
0-01
0 -0 2 •
- 2 5 -2 2
2 2 -1 3
1 3-26
1 2-1 5
1 00 -1 6
0 -0 0
1 00 -1 0 0
0 -0 5
0 -0 0
0 -3 0
2-01
6 -0 3
0 -0 2
3 -0 5
0 -0 7
0 -0 5
0 -0 3
1 2-0 3
1 5-10
0 -0 2
0 -0 7
9 -0 3
0 -1 8
2 0 -1 3
1 0-10
3 0 -5 7
7 5 -4 8
1 3-06

LB
0 -0 0 %
0 -0 5
0 -0 0
0 -0 2
9 -0 3
0 -0 3
1 0-00
0 -0 0
0 -0 0
0 -0 0
0 -0 0 '
8 -1 4
0 -0 0
0 -0 0
0 -0 2
0 -0 0
0 -0 4
0 -0 3
0 -0 2
0-01
0 -0 0
0 -0 7
0 -2 0
0 -0 5
0 -0 2
6 -0 3
0 -0 0
0 -0 0
0 -0 0
0-01
0 -0 2
0-01
0 -0 2
2 -0 4
0-01
0 -0 0
0 -1 2
1 1-07
0-11
12-11
0 -0 0
0 -0 0
0 -0 0
0 -0 0
0 -0 6
0 -1 5
0 -0 2
0-01
0 -0 2
0 -1 0
10-01
0 -0 0
0-01
0 -0 5
0 -0 4
0 -0 6
0 -0 5
9 -0 0
0 -0 8
0 -0 9
0 -0 3
1 0-0 0
0 -0 0
0 -0 2

Fig. 14.11. Topsoil and surface % compared.

Ir 1
0 -0 4 %
0 -0 0
1 7-0 0
6 -0 5
9 -0 5
0 -0 7
1 0-07
0 -0 5
1 6-0 6
0 -0 0
0 -0 0
2 3 -1 4
0 -0 0
8 -0 6
1 0-2 2
7 -0 8
9 -0 5
0 -1 0
5 -0 7
0 -0 8
0 -0 7
1 2-10
1 1-06
1 2-0 9
3 -0 2
6 -0 5
0-01
3 -0 2
0 -0 0
0 -0 2
0 -0 2
0 -0 7
0 -0 6
0 -0 5
4-01
0 -0 0
1 9-2 0
1 1-13
7 -03
0 -0 6
0 -0 0
0 -0 0
0 -0 0
0-11
1 1-06
8 -0 0
2 -0 2
6 -0 5
0 -0 4
3 -0 2
0-01
0 -0 9
0 -0 4
3 7 -0 5
2 3 -0 0
1 2-06
0 -0 5
0 -0 3
0 -1 2
0 -0 7
0 -0 6
0 -0 9
0 -0 0
2 9 -0 6

Elr2
0 -0 7 %
0 -0 2
0 -0 0
2 9 -2 2
4 6 -1 8
1 00 -3 4
0 -0 3
2 9 -1 9
2 5 -1 0
5 0 -0 0
0 -0 0
2 3 -2 3
0 -0 0
3 3 -1 8
2 0 -1 5
46-31
2 2 -2 8
8 -1 8
2 7 -2 3
4 0 -2 3
0-11
1 2-14
3 4 -1 2
0 -2 0
3 1 -0 9
2 7 -2 3
1 5-1 4
3 1 -1 9
6 -1 8
3 1 -1 5
1 6-08
5 -1 0
3 5 -1 9
1 7-14
1 3-07
0 -1 5
1 3-14
4 5 -1 3
3 3-11
1 2-1 6
0 -0 0
0 -0 0
0 -0 0
3 1 -1 5
3 3 -2 8
3 8 -2 5
4 -1 6
2 9 -0 7
2 9 -1 6
24-21
2 5 -1 0
2 1 -2 7
12-21
1 2-19
3 1 -2 0
1 2-1 6
0 -1 6
27-11
1 7-12
2 0 -1 9
2 6 -2 0
4 0 -0 9
0 -0 9
2 9 -1 8

Llr2
0 -1 2 %
0-11
0 -0 0
5 9 -3 7
0 -2 9
0 -4 5
0 -0 3
5 7 -6 6
5 3 -4 0
0-11
0 -1 2
3 1 -3 5
5 0 -3 3
4 2 -7 0
6 0 -5 7
4 0 -5 5
5 9 -5 4
9 2 -6 0
63-61
6 0 -6 5
9 0 -6 4
5 0 -4 6
1 1-45
5 3 -5 2
6 2 -8 6
5 5 -5 6
8 5 -8 5
6 3 -7 6
9 4 -8 2
69-81
8 4 -8 8
9 0 -8 0
4 5 -1 9
7 4 -7 5
8 3 -8 7
1 0 0 -8 0
4 3 -2 0
1 1-5 2
4 7-41
62-41
0 -0 0
1 0 0 -9 0
0 -0 0
69-51
4 5 -5 7
5 4 -3 0
8 8 -7 8
5 9 -8 2
6 8 -7 4 l
7 0-61
65-71
7 9 -5 9
8 8 -6 4
2 5 -5 7
3 1 -6 6
7 5 -5 4
8 3 -5 8
3 7 -7 3
6 6 -4 8
60-51
7 0 -4 6
2 0 -5 5
2 5 -2 7
2 9 -5 6

Total
5 -7 7
1 0-7 7
6-11
1 7 -1 0 6
1 1-7 2
1-71
1 0-3 0
7 -4 2
3 2 -7 2
2 -0 9
1 -08
1 3-4 3
4 -0 3
1 2-3 3
1 0-42
1 5-9 6
2 2 -1 5 9
1 2-79
2 2 -5 6
5 -9 3
1 0-2 8
1 6-7 0
9 -6 9
1 7-7 4
2 9 -1 1 0
18-61
2 6 -1 4 7
3 5 -1 1 3
1 6-4 9
1 6-1 4 3
3 1 -1 8 8
2 0 -1 2 3
2 0 -1 2 7
1 0 5 -1 3 0
2 3 -2 5 8
16-51
1 6-5 0
9 -4 0
1 5-74
8 -1 0 0
1-06
2 -1 0
2 -0 6
1 6-2 7
9 -3 2
2 6 -2 0
4 5 -2 1 2
1 7 -1 5 4
3 4 -1 0 3
29-81
2 0 -1 1 9
3 3 -2 2
8 -1 3 6
8 -6 3
1 3-5 0
8 -5 0
6 -8 9
1 1-2 9
6 -6 0
1 0-6 9
10-31
10-11
4 -4 4
7-61


habitants were relatively wealthy. Moreover, the fact that most objects were found on the acropolis where the pottery was overwhelmingly late Iron II would suggest that it was primarily that population which displayed wealth.

In analyzing the provenance of these artifacts, the 64 random Squares were divided into three sectors: (1) acropolis; (2) slopes and shelves; and (3) extra-urban. Although the acropolis contained only 12 random Squares (19%), it produced 22 artifacts (40%). The slopes and shelves contained 29 Squares (45%) but produced only 21 objects (38%). The acropolis was thus roughly four times richer in artifacts than the slopes and shelves. The extra-urban Squares numbered 23 (36%) but produced only 7 objects (13%).

Topsoil Versus Surface

Fig. 14.11 is a comparison of the topsoil and surface pottery found within the 64 Squares of the random sample survey. Data from only the most frequently attested periods are included. Each column contains two subcolumns listing the percentages of pottery from the period in the Square. The surface percentage is to the left and that of the topsoil is to the right. The final column lists the diagnostic (rim) sherd totals for each Square with the surface totals to the left and the top-soil totals to the right.

It will be seen that, barring a few exceptions, the general tendency is toward agreement when the sample sizes are larger than 15 for both the surface and the topsoil. Most comparisons are within ten percentage points in such samples. The greatest disparity comes with the earlier periods which also displayed generally the smallest densities per Square. The conclusion that, when sample sizes are large, surface remains generally reflect those obtained from the much larger samples in topsoil seems to remain valid. However, accuracy decreases not only as the total sample size decreases, but individual periods with small quantities attested in a much larger sample tend toward inaccurate results, as well. Thus enlarging the sample obtained by topsoil excavation is helpful.

REFERENCES

Franken, H. J., and Abujaber, R. S.  

Ibach, R.  
1978 Expanded Archaeological Survey of the Hesban Region.  

Lugenbeal, E. N., and Sauer, J. A.  

Portugali, Y.  

Wilkenson, T. J.  
CHAPTER 15

FIELD A: The Ammonite Citadel

John I. Lawlor  Baptist Theological Seminary, Clark Summit, PA

Introduction

Field A was chosen for excavation because of its prominent location at one of the highest levels on the western edge of the acropolis. A slight depression in the topography of the mound flanked by two amorphous stone piles suggested architectural remains (a possible gate) might lay immediately below the surface. This suggestion was reinforced by surface features to the west on the slope below—a steep path or ramp seemed to lead up the slope and cut through the fortification lines at the depression. Four Squares were laid out (7K40 in the southwest, 7K41 in the southeast, 7K50 in the northwest, and 7K51 in the northeast) to section the northern stone pile (hypothesized tower) and the depression (hypothesized gate passage).

The overall results, however, did not confirm our projections. The stone pile would seem to have most likely originated in agricultural field clearance during Mamluk times (two Mamluk sherds, a period otherwise virtually unattested at the site, were discovered directly beneath the stones). Thus, the ramp leading to the depression between the stone piles probably represented field access in the form of a path in medieval times.

Beneath these observable topographic features the remains of two major Field Phases from the late Iron II period, each followed by an ephemeral phase, were found. Field Phase (FP) 1A was an ephemeral phase following the major FP-1B; FP-2A was another ephemeral phase following FP-2B, the earliest phase so far excavated. Both major Field Phases produced only parts of an apparently massive structure (figs. 15.1 and 15.2). Together with the large size of the individual walls in the building, the large size of the structure would seem to indicate that its function was not domestic in nature, but rather defensive and/or administrative. Thus we have chosen to refer to Field A as the "Ammonite Citadel." The term "Ammonite" is used because of the discovery of an Ammonite royal seal impression found within the topsoil immediately above the remains of the citadel (see Herr, Chapter 21). Excavation ceased at the floors of FP-2B.

Field Phase 2B (fig. 15.3)

The most coherent feature of FP-2B was a two room complex located in Squares 7K40 and 41, the southern half of the Field. Adjoining walls and rooms were also uncovered in Squares 7K50 and 51 to the north. The north-south trending walls in these complexes were consistently oriented to the north-northeast (20-25°), while the east-west walls ranged in orientation from 114-122° (east-southeast). Since the FP-1B walls above rested in part on these walls, it was difficult to determine the exact widths of the FP-2B walls, but where both faces were exposed, their average widths were 1.15-1.30 m. All walls were constructed in two rows of medium to large boulders with chinkstones.
Fig. 15.1. The Ammonite Citadel, view toward the north.

Fig. 15.2. The Ammonite Citadel, view toward the west.
Fig. 15.3. Plan of FP 2b and 2a.
The two-room complex in the south was best defined in its eastern half by Walls 7K40:8, 14, 7K41:4B, 6B, and 12, creating a room 2.5 x 4 m in size (Room 5). Only part of the top course of Wall 7K40:8, the wall which separated the two rooms, could be exposed before the end of the season. Due also to the presence of a FP-1B wall (7K40:5) founded above it, it was impossible to determine precisely its measurements, though it was approximately 1.5 m wide and 3.3 m long. The northern wall of Room 5, 7K41:4B, stood five to six courses (1.80 m) above the FP-2B surface. It appears to have bonded with Wall 7K40:8 to the west and 7K41:6B to the east. Although not fully exposed at the western end, it was exposed to a length of approximately 2.7 m along its south face. Because a FP-1B wall (7K41:4A) was founded above and slightly to the north of it, its northern face could not be uncovered. The eastern wall of Room 5, 7K41:6B, was preserved six to seven courses (1.80 m) above the FP-2B surface. Once again a FP-1B wall (7K41:6A) was partially founded on it, making it impossible to determine its width. The southern limits of this room were established by the existence of Walls 7K41:12 and 7K40:14. Seven courses of the former were just visible in the south balk of the Square above the surface. At the southwest corner of the Square the wall seems to have terminated in a door jamb, possibly the entrance to this part of the complex. The top courses of the wall at the jamb were finely hewn. The western jamb of this door is yet to be uncovered at the termination of Wall 7K40:14, visible only in the southeast corner of 7K40. The space between this wall and the southern terminus of Wall 7K40:6B was a well-preserved Iron II storage jar. It had been protected from destruction on the east by Wall 6B and on its other sides by what appeared to have been deliberately placed stones (fig. 15.4). Flotation of the soil contents of the jar yielded legume, olive, and grape seeds, as well as flax, rodent, and shell remains.

The soil layers above the surface, but beneath the FP-1B surface, consisted of Layers 7K41:13, 10, 9, 8, and 19 (bottom-to-top sequence, fig. 15.5). They reached a total of 1.80 m in depth. Whether these layers originated as fill debris imported to the area for FP-1B construction activities or destruction debris from the upper floor(s) of the FP-2B Ammonite Citadel is difficult to determine. Large amounts of rock tumble of all sizes which were found in the various soil layers might argue for destruction debris (an earthquake?); on the other hand, vast amounts of unrestorable pottery in the layers suggest fill debris. It is possible that Layers 13, 10, and 9 were destruction debris, while Layers 8 and 19 were leveling fill. Layer 8 yielded 1 ballistic missile, 1 pounder, 1 whetstone, 1 rubbing stone, 1 shell pendant, and 2 pails of pottery in .5 m³ of soil; Layer 9 yielded 7 ballistic missiles, 1 zoonomorph vessel fragment, 1 small but complete female figurine, 1 spindle whorl, and 14 pails of pottery in 2.75 m³ of soil. Three ballistic missiles, 1 fibular bow, 1 cosmetic spatula, 1 spindle whorl, 1 cosmetic palette, and 17 pails of pottery were found in the 2 m³ of soil in Layer 10. One grinder, several loom weight fragments, and 9 pails of pottery were found in the 1.73 m³ of soil in Layer 13.

To the west of Room 5 a similar room (Room 6) may be projected on the basis of the door between Walls 7K40:8 and 14, and the existence of a probable western wall for the room, Wall 7K40:21, parallel to Wall 8 approximately 2.5 m to the west. However, Wall 7K40:14 was only partially exposed in plan and no definite connection with Wall 21 could be determined.

A fourth Wall, 7K41:24, located in the southeastern corner of the Field, also appeared to be associated with FP-2B. Though only partially exposed, its orientation (25°), top level, and style of construction suggested that it was probably structurally associated with the FP-2B complex. Stratigraphically, it seems to have been cut by the FP-1B Walls 7K41:4A and 18. Although its connection with other FP-2B walls could not be established, it may indicate the presence of a narrow room to the east of Room 5.

Clear evidence of FP-2B construction was also evident in the northern half of the Field where three more rooms could be defined. The first was
FIELD A: THE AMMONITE CITADEL

Fig. 15.4. Iron Age store jar in situ.

Fig. 15.5. Drawing of west balk of 7K41.
FIELD A: THE AMMONITE CITADEL

Room 4, a rather large room (6.40 x 1.70 m) located primarily in 7K51, but extending slightly west into 7K50. The western wall of the room, 7K50:4B, rose five courses (1.25 m) above the surface (here measured from the surface in Room 2; the FP-2B surface has not yet been reached in 7K51). It has been exposed along its western face for 2.45 m, but its northern terminus extended outside our excavation area. At the southern end of the wall it cornered to the east-southeast, becoming Wall 7K50:16 = 7K51:3, the southern wall of Room 4 (fig. 15.6). The third architectural component was Wall 7K51:5, the northern wall of the room, of which we have uncovered 8 courses (1.55 m), though the FP-2B surface in Room 4 has not yet been reached. The stone components of this wall were smaller in size and constructed with a better fit than those in the other walls of FP-2B (fig. 15.7). While all other FP-2B construction employed bonded joins, 7K51:5 abutted the east face of 7K50:4B.

The second FP-2B feature in the northern half of the Field was made up of Rooms 2 and 3, located primarily in 7K50. Walls 7K50:4B and 7K50:16 = 7K51:3 were major walls in the formation of a narrow aisle-like room (Room 3, 4.70 x 1.55 m). A short wall, 7K51:7B = 7K41:22B, stretching south from Wall 7K51:3, formed the easternmost limit of the room, while Wall 7K50:7 = 7K41:4B constituted the southern limit of the room. Wall 7K51:7B = 7K41:22B was .90 m wide and five to seven courses high. It bonded with Wall 7K51:3 to the north and Wall 7K41:4B to the south. Wall 7K50:7 was exposed only to a height of two courses (.90-1 m); its northern face extended throughout the Square from the west balk to the east balk for a length of 5.40 m. It was the widest of the FP-2B walls at 1.65 m. But it was also the least well constructed with very large boulders loosely laid.

In the west the room broadened considerably to the north into Room 2. Surfaces 7K50:14 and 7K51:15 comprised the surfaces which were associated with these FP-2B walls. No northern and western boundaries for Room 2 have been found. There was no evidence to suggest that Rooms 2 and 3 were exterior space, though this is a possibility.

In the .20 m deep soil layer situated immediately above Surface 7K50:14 many objects were found, including three ballistic missiles and a cache of seven ceramic vessels, most of which were smashed but restorable (fig. 15.8). It must be emphasized that these vessels did not appear to be lying on the surface, but were contained in the fill debris above the surface. Unless one posits this as roof collapse, they should be considered a secondary deposit and invalid for determining the date of the end of FP-2B. There was no sign of roofing materials.

Although much of the pottery from the fill (or destruction) debris immediately above the FP-2B surfaces was from the early Iron II period, forms from late Iron II consistently appeared. A provisional date for FP-2B in the 7th century B.C. may be suggested.

Field Phase 2A

Field Phase 2A was an ephemeral phase which was apparent only in 7K50. The soil layer immediately above the FP-2B surface (7K50:13) may have been a fill layer for the surface apparently associated with FP-2A (7K50:10; this locus also included much lower debris). Related to this surface was a small "room" created by a right-angled "wall" (11), which abutted Wall 7K50:4B on the east, and 7 on the south, and Wall 7K50:12, a one-course wall .65 m wide and 2.55 m long in the north of the Square. The latter abutted the west face of Wall 7K50:4B.

Wall 11 was founded on Surface 10, while Surface 10 sealed against the south face of Wall 12 (fig. 15.9). The two were thus built in separate constructional activities. The function of the features in this sub-phase is undeterminable. No pottery vessels or objects were found on the surface. Sherds from Surface 10, however, were consistently late Iron II.

Field Phase 1B (fig. 15.10)

Field Phase 1B was the second major construction phase apparent throughout this Field of excavation. All walls were, for the most part, preserved only 1-2 courses high and were constructed with two rows of large boulders stabilized by chinkstones. The FP-1B walls appear to have been somewhat wider than those of FP-2B, averaging ca. 1.25 m. This may partially be attributed to the fact that many of the individual stones of the FP-1B walls were considerably larger ("large boulders", .75-1 m in diameter) than those in the FP-2B walls. Probably related to this is the observation that the quality of the FP-1B walls was not as fine as those of FP-2B. That is to say, the stones were not as finely hewn nor as tightly laid. Finally, the state of preservation of the FP-1B walls was not as good as that of the walls of FP-2B. The former, of course, protected the latter through subsequent history and were more exposed to robbing and natural desiccation.

The primary feature in the southern half of the Field was Room 1 (4 x 5.50 m), created by Walls 7K40:5 on the west, 7K41:4A on the north and 7K41:6A on the east. All were bonded at the
Fig. 15.6. Wall 7K50:4 cornering toward the southeast.

Fig. 15.7. Wall 7K51:5.
Fig. 15.8. Broken ceramic vessels in 7K50:13.

Fig. 15.9. FP-2A in 7K50.
Fig. 15.10. Plan of FP 1b and 1a.
corners. All three of the walls were in part founded upon the FP-2B walls beneath; however, the FP-1B walls were offset outward, creating a wider room. There was no evidence to suggest an attempt to perpetuate the two-room complex of FP-2B by constructing a room to the west. (The FP-2B passageway between Walls 7K40:14 and 8 was filled with the lower courses of Wall 7K40:5.)

Soil Layers 7K40:7 and 23, as well as 7K41:8, 9, 10, and 19, may have functioned as fill layers for FP-1B Surface 7K40:6=7K41:11. Just as the quality of the FP-1B wall construction was lower than that of FP-2B, the quality of the FP-1B surface was much poorer than the beaten-earth surface of FP-2B. The surface was rough and uneven, seemingly disappearing in places. Only at some points did it appear to seal against the east face of Wall 7K40:5.

Wall 7K41:18 appeared in the southeast quadrant of the Square. One and a half courses (.40 m) of this wall have been exposed along ca. 3 m of its extent. While it has not been established with any degree of certainty, it appears as though this wall bonded with 7K41:6A. If so, then a second room, west of Wall 7K41:6A, and north of Wall 7K41:18, may have existed as a part of the FP-1B complex.

In the northern sector of the Field it appears that the FP-2B walls of the Field were reused in FP-1B with a few significant alterations. Room 3, created by Walls 7K50:16=7K51:3, 7K51:7A=7K41:22A, and 7K41:4A, was blocked at its western end by an extension of Wall 7K50:4A to the southwest until it joined Wall 7K50:7. In order to retain the use of the room an opening 1.70 m wide was made in Wall 7K50:16=7K51:3 to act as a door into Room 3 from Room 4 to the north (fig. 15.11). Room 2, to the west, was bounded by Walls 7K50:4A on the east, 7K50:7 on the south, and a new, very poorly constructed wall (7K50:6) on the west. Entrance to this room must have been from the north, because no doors were found in the other walls. Room 4 to the east was identical in plan to Room 4 of FP-2B.

Surfaces, though difficult to trace, were found in association with these structural adjustments. Surface 7K50:9 in Room 2 sealed over FP-2A and ran up to Walls 7K50:6, 7, and 4A. Surface 7K51:13 in Room 4 was apparently the surface to the north of the door into Room 3, while Surface 7K51:9 was apparently a very uneven floor in Room 3. No ceramic vessels or other objects were found on these floors.

The date of this Field Phase is based primarily on the ceramic evidence from Surface 7K40:6 and Fills 7K40:7 and 23 immediately beneath. None of these soil layers yielded any pottery more recent than late Iron II. The same was true of the soil layers immediately above the surfaces.

Field Phase 1A

Field Phase 1A was another ephemeral phase, remains of which were evident in 7K40 and 7K41, the southern half of the Field. Wall 7K40:17 was a two-course, one-row wall, which abutted the west face of Wall 7K40:5 and extended 1.5 m to the west-northwest. Possible Wall 7K41:5, located in the extreme northwest corner of the Square, was ca. 1.3 m long. It has been exposed only to a depth of approximately .20 m. It is impossible to relate these two isolated walls either stratigraphically or structurally.

Post-Occupational Remains

The unsealed soil layers above the FP-1B surfaces contained a few sherds from latter periods (including Roman, Byzantine and Ayyubid/Mamluk). These sherds may have originated in agricultural activities at the site, such as plowing and manuring. The several rock piles dotting the acropolis (one of which was excavated in Field A and contained Ayyubid/Mamluk pottery) probably represent field clearance for these agricultural activities. The resulting topsoil accumulation, relatively free of stones, amounted to .50-.70 m.

Conclusion

The first season of excavation in the area of the Ammonite Citadel has exposed two major architectural phases, each of which seems to have been followed or accompanied by a minor sub-phase. In both main phases the large proportions of the walls do not lend themselves to a domestic interpretation. Rather, they strongly suggest that they were part of an administrative and/or perhaps a defensive complex (compare the "Western Tower" at Tell Beit Mirsim; Y. Aharoni, *The Archaeology of the Land of Israel*, Westminster: 1978, p. 262). Both Field Phases contained late Iron II pottery, though the materials in the fill debris below the FP-2B surfaces have not yet been excavated to give us a construction date.

A few remarks regarding further exploration of this portion of the site are in order. Because of the massive nature of the architecture, broader horizontal exposure will be necessary in order to clarify and refine our understanding of the nature and function of both phases encountered. Horizontal expansion could profitably be undertaken in all directions. A
test of the relation of the citadel to the fortification system to the west is desirable. The fact that the Ba'alis seal impression was found in the topsoil of the Square immediately south of 7K40 (7K30) might legitimately raise the possibility that the archives of the citadel would be found in that direction. Expansion of the excavation to the north would perhaps provide information clarifying the architecture of the northern part of the Field and its connection to the defenses in Field B. An eastward expansion would have the advantage of locating the eastern limits of the citadel and relating it to the rest of the acropolis. Presently the view favors expansion to the north in order to connect Fields A and B.
CHAPTER 16

FIELD B: The Western Defense System

Douglas R. Clark  Walla Walla College, Walla Walla, WA

Introduction

Excavation of Field B, located at the northwestern edge of the acropolis of Tell el-Umeiri, was conducted to examine the fortifications of the site. The relatively low rise to the acropolis of the tell from the ridge to the west would have made the western slope the most vulnerable to enemy assault during all periods of settlement on the acropolis. However, the slope at this point was steeper than elsewhere. It was therefore projected that special efforts at defense construction took place here.

Work in the Field began in four Squares laid out in checkerboard fashion along a central east-west balk line. We hoped this arrangement would permit us to section the western slope from the lip of the acropolis (at a large rock pile which we thought might be a tower) to a point two-thirds of the way down the slope of the tell, while also gaining more horizontal exposure than would be visible in four aligned Squares. There was also the practical consideration of protecting work and workers from dust which the prevailing westerly winds carried directly up the slope.

Important features visible above topsoil included the rock tumble on the lip of the tell mentioned above (fig. 16.1), some very broken, scarcely identifiable wall lines, a talus slope, and an intriguing depression at the base of the slope where it joined the saddle to the western ridge. One wall line was quite clear as it traversed the Field near the top of the slope at an orientation of 20-25° and rounded the northwest corner of the acropolis toward the east. Although made of relatively small stones such as large cobbles and small boulders, it was nearly 2 m wide, suggesting a possible defensive function.

The four Squares, from the top (east) down, were 7K90, 7J89, 7J98, and 7J87. Excavation proceeded in 7K90 through topsoil and rock tumble, some fragmentary walls, and domestic installations to a point at which nearly the only feature exposed in the Square was a massive mudbrick structure. In 7J89—after removing topsoil, a storeroom, surfaces and walls which preceded it, and walls of a probable casemate defensive system were found. Square 7J98 revealed, after removal of a great deal of talus, a nari-and-clay beaten-earth rampart (glacis) with a stone stabilizing wall. In Square 7J87 more of the sloping rampart was uncovered.

Because of the checkerboard layout of the Squares, inter-Square connections could only be made at corners. We thus opened a 2 x 5 m Square (7J88), which bordered 2 m of 7J89 to the east, 7J98 to the north, and 2 m of 7J87 to the west. The added Square was able to connect the rampart in 7J88 and 7J98 with the other casemate wall in 7J89. Squares 7K90 and 7J89 could be connected by means of the massive mudbrick structure which appeared in both Squares.

The first season of excavations included remains from the Iron II and Iron I periods. In no Square was bedrock reached. Plans for future excavation on
the western slope include abandoning the checkerboard layout of the Field in preference to a linear arrangement of Squares. The rock pile at the top of the Field most likely originated in agricultural activities following the abandonment of the site, as shown in Field A, and need not be excavated (see Lawlor, Chapter 15).

Seven Field Phases (FP) were stratigraphically distinguished in Field B:

<table>
<thead>
<tr>
<th>FP</th>
<th>Date</th>
<th>Squares Represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>?</td>
<td>7K90 7J87 7J98?</td>
</tr>
<tr>
<td>6</td>
<td>Probably Ir I</td>
<td>7K90 7J89 7J88 7J98</td>
</tr>
<tr>
<td>5</td>
<td>Ir I/E Ir II</td>
<td>7J89</td>
</tr>
<tr>
<td>4</td>
<td>early Ir II</td>
<td>7J89 7J88? 7J87?</td>
</tr>
<tr>
<td>3</td>
<td>late Ir II</td>
<td>7K90 7J88? 7J87?</td>
</tr>
<tr>
<td>2</td>
<td>late Ir II</td>
<td>7K90 7J87?</td>
</tr>
<tr>
<td>1</td>
<td>late Ir II</td>
<td>7K90 7J89 7J88 7J98 7J87</td>
</tr>
</tbody>
</table>

Field Phase 7 (fig. 16.2)

7K90:5 Mudbrick structure (=7J87:19)
7J89:19 Mudbrick structure (=7K90:5)
7J98:10 Beaten-earth rampart

Field Phase 7 was only scarcely attested by our excavations. None of the included loci has been excavated and we have neither stratigraphic evidence to prove phase relationships nor ceramic data to provide dates.

The mudbrick structure, 7K90:5=7J89:19, whether a defensive wall or platform, was massive. It covered nearly all of 7K90, measuring at least 4.5 m wide (east-west) before it continued for an unknown distance east of the Square and stretched for 11 m north-south before exceeding the bounds of our excavation. It was at least 1.4 m deep from its extant top level, because Pit 7K90:17 of FP-3 cut into it for that depth without reaching bottom. Many of the bricks had been laid at a 45-50° angle, sloping down to the north in 7K90 and south in 7J89. They varied in color (red, yellowish-red, dark brown, dark red, brownish-yellow, and black), consistency and firing. Most appeared to have been sunbaked (they were very friable), although the colors suggested that many were severely heated, possibly during a destructive fire.
Fig. 16.2. Mudbrick structure of FP7 during excavation.
At the present stage of excavation in 7K90, it is clear that nearly all the features excavated in the Square rested upon, cut into, or were laid against the mudbricks of 7K70:5. The mudbrick structure was thus earlier than all other features so far excavated in the Square. Although it is most likely that stone Wall 7K90:10=7J89:11, set against the west face of the mudbrick structure, belonged to FP-6, until relationships are more firmly established in future seasons it should be considered a possible component of the mudbrick structure. It may have functioned as a stone retaining wall for the mudbrick on its western face. The same is true for Wall 7K90:11; as it was only partially observable at the northern edge of the Square, a definite relationship with the mudbrick structure could not be established.

Although there are no stratigraphic reasons at present for making positive connections, it may be suggested that the lower, as yet unexcavated, section of the two walls was outside the Square to the north and precise relationships could not be determined from either the architecture or soil layer relationships.

Further south, Wall 7J89:9 bonded with Wall 11 and ran to the west at 295°. Three to four courses of large cobbles and small boulders have so far been excavated. But because it angled out of the Square to the north as it ran west, it was not entirely measurable. It is assumed, however, that Wall 9 joined Wall 7J89:22 to the west.

When the east balk of 7J88 (immediately to the east of 7J89) was removed, the complete width of Wall 22 (=7J88:6) was exposed. The top two-three courses consisted of large cobbles and small boulders with chinkstones similar to the construction of Wall 9. Beneath these, however, the extant portion of the wall was constructed of four to five courses of mostly medium and a few large boulders. Its width as presently excavated was between 1.40 and 1.56 m, orientation was 25°, and it leaned westward at about 10° off plumb. Whether this leaning was due to upslope pressure, earthquake, or construction technique may be impossible to determine from field evidence. Its contemporary surface on the uphill side has not yet been uncovered, nor have its foundation courses been reached. The continuation of this wall was visible on the surface of the mound as it went around the northwest corner of the tell. The above walls suggest a casemate defensive structure: Outer Wall 7J89:22=7J88:6; Inner Wall 7K90:11=7J89:11; and Cross Wall 7J89:9.

Sealing against the outer casemate wall on its exterior side was a beaten nari-and-clay rampart, exposed in Square 7J88 (Locus 5) and excavated in 7J98 (Loci 4-9). Square 7J98:4, besides sloping up to the casemate wall from the west, arched upward to the north, crowned, then descended slightly (fig. 16.4).

A 2 x 5 m probe in Square 7J98 examined the construction of the rampart most likely to be the surface of an earlier beaten-earth rampart (see FP-7). Upon this lower rampart, and sloping at 32°, rested the foundations of the upper rampart (Locus 9), consisting of loosely-packed, sharply-angular limestone boulders (large to small in size). Evidently they were intended to prevent the new rampart
FIELD B: THE WESTERN DEFENSE SYSTEM

Fig. 16.3. Plan of FP-6 walls.
FIELD B: THE WESTERN DEFENSE SYSTEM

from slipping on the smooth face of the lower rampart.

On the stones of Locus 9 was a composite layer of cobble-sized nari chunks and pockets of brownish-yellow clay (Locus 8). It measured 1.1 to 1.2 m in thickness, providing a substantial and cohesive substructure. Locus 8 also sloped down to the west at 32°. Locus 7, overlying 8, averaged .30 m in thickness, but was very irregular. It consisted of nari chunks similar to those in Locus 8, but lacked the clay.

The top layer in the rampart was Locus 4. It averaged .5 m in thickness and consisted of dark yellowish-brown clay which surrounded and held together pebble and cobble-sized nari pieces. This layer, like the layers below, sloped at 32°.

Across the face of the rampart in the middle of the Square at an orientation of 20-26° ran a wall-like line of medium-sized boulders (Locus 5), triangular in section, which probably was intended to stabilize the upper portion of the slope (fig. 16.4). The lower course was level in cross section. Top levels ranged, from north to south across the Square, between 910.52 and 709.17 m. Downslope from Stone Row 5, the nari and clay construction continued (Locus 6), but at a steeper slope (40°).

The latest pottery from the various layers of the rampart was Iron I, but the sherd count was small. This date, combined with the stratigraphic evidence in Square 7J89 (the FP-6 remains were below the early Iron II materials of FP-5) would suggest a date toward the end of the Iron I period, perhaps the 10th century B.C. Future seasons should uncover surfaces belonging to FP-6 which will allow more precise dating.

Fig. 16.4 Beaten earth rampart with stabilizing wall.

Field Phase 5

7J89:17 Cobble surface
7J87:18 Beaten-earth surface
7J89:20 East-west wall
7J87:23 Fill for 17
7J89:217 Cobble surface

Although consisting of few loci and represented in only one Square, FP-5 was stratigraphically significant. It drew definite lines of separation between FP-6 below and FP-4 above, since its surfaces sealed over Wall 11 of FP-6 (putting at least the inner casemate wall out of use) and extended beneath the walls forming the storeroom of FP-4.

Field Phase 5 consisted of two surfaces (7J89:17 and 18), the fill for 17 (23), and part of one course of the face of Wall 20, the rest of which was outside the Square to the south. Another possible surface (21) may have been part of this Field Phase, as well.
FIELD B: THE WESTERN DEFENSE SYSTEM

The remains of FP-6 must have been removed at the top of the slope, since they were not found here. Instead, resting upon the FP-7 mudbrick was Layer 23, a fairly crumbly soil layer evidently having provided fill for cobbled Surface 17 (alternatively, it may have been what was left of FP-6). The soil varied in thickness from .09 to .15 m. Above the fill, cobbled Surface 17 was found in the southeastern quadrant of the Square, measuring 1.37 x 2 m. At its southern limit the surface sealed against Wall 20 which had been constructed of small boulders. Only one course has so far been uncovered. No walls were found at the western and northern limits of the surface. Although the function of cobbled Surface 17 and Wall 28 was not clear, it has been suggested that they formed part of a broad stairway with curbing that led down the slope to the west. If correct, cobbled Surface 21, lower to the west, may have served as another step in the descent. Surface 18, made of hard-packed, dark-brown soil .01-.02 m thick, was laid upon the cobbles of Surface 17. It probably was the accumulation of occupational debris.

On the basis of stratigraphic considerations and ceramic remains, FP-5 should be dated to the transitional period between Iron I and early Iron II, probably the late 10th century B.C. Its limited features only sketchily represented an occupational phase and left little evidence on which to reconstruct its functional history. Whether the remains represent defensive or domestic structures is a question which must await further excavation.

Field Phase 4 (fig. 16.5)

7J89:4 North wall of storeroom
7J89:5 West wall of storeroom
7J89:6? Surface (?) in storeroom
7J89:12 Ash layer
7J89:13 Surface in storeroom
7J89:14 Surface in storeroom
7J89:15 South wall of storeroom
7J89:16 Stone tumble beneath Walls 4 and 5
7J88:4? Beaten earth (=7J87:6)
7J87:6? Beaten earth (=7J88:4)

Again, only 7J89 provided clear evidence of this phase, although 7J88 and 7J87 may have contained contemporary features below defensive Wall 7J89:22. Field Phase 4 represented a distinct period of occupational activity on the slope above the defensive wall. This wall may have continued in use (not as a casemate structure, however see FP-5), but erosion has destroyed any firm connections with the fortifications after FP-6.

Rock Tumble 16 consisted of cobbles and small to medium boulders in dark-brown soil in the southeast quadrant of the Square above the FP-5 surfaces. Founded into this tumble were three walls, 4, 5, and 15, which formed a room extending beyond the Square to the east. The southern Wall, 15, rested upon Wall 20 of FP-5 at a slightly different orientation (110°). Together with walls 4 and 5 it formed the western end (2 x 2 m) of a rectangular room. The walls were preserved 3-4 courses high with some of the larger stones exposed through top soil at the beginning of excavation.

Within the room Surface 14 (top level: 913.46 m) was the earliest of two surfaces in the room. The dark-brown, compact layer was only .02 m thick. The function of the roof at this time could not be determined.

Above Surface 14 was Surface 13 (top level: 913.46 m) which represented the second surface within the room bounded by Walls 4, 5, and 15. Its very dark-gray soil with some cobbles most likely constituted the floor of a storeroom in which were found, in situ, three early Iron II collared-rim store jars lined up against Wall 15 (fig. 16.6). These had been set into the surface and supported by cobbles. A small jug was found near the base of the westernmost jar (fig. 16.7). Flotation of the jug's contents revealed a few barley and flax seeds whose large size indicated irrigation agriculture (oral communication from David McCreery).

Lying over Surface 13 and surrounding the store jars was Layer 12, an irregular layer of ashy soil, very dark grayish-brown with charcoal chunks .04-.05 m in thickness, suggesting that FP-4 came to an end in a conflagration. The storage jars also revealed burn marks. Based on the most likely date of the store jars and the jug, the destruction probably took place at some point within the 9th century B.C. The presence of several ballistic missiles associated with the ash point directly to a military assault as the cause of the destruction. Above this debris was a deposit .50 m deep of tumbled stones of all sizes in brown soil, probably representing the destruction of the FP-4 walls following the initial conflagration.

Above this destruction debris was Surface 6. It was, however, very difficult to find any difference in soil color and consistency from the top of 6 to the bottom of the destruction debris beneath. The surface was probably only lightly used and may reflect a period of disuse in the area after the destruction. No signs of rebuilding were noticed in the extant wall remains.

Although we can only hypothesize that Defensive Wall 7J89:22 and the beaten-earth rampart west of 7J87 continued to exist contemporary with the FP-4 structures (no stratigraphic connections have so far
Fig. 16.5. FP-4 storeroom.
Fig. 16.6. Three large early Iron II store jars in situ.

Fig. 16.7. Small jug in situ with large early Iron II collared-rim store jar.
been found between the two), the ceramic dating of beaten-earth Layer 7J88:4 was similar to that of the surfaces discussed above (early Iron II). The dark yellowish-brown beaten earth of 7J88:4, which was laid immediately over the nari-and-clay rampart of FP-6, may thus have been laid during this time. It sealed against the FP-6 outer casemate Wall 7J88:6 (=7J89:22). Further down slope it seems to have been continuous with 7J87:6, a dark-brown layer of beaten earth. Unfortunately, a stone, tumble between the two Squares broke any clear connections.

Field Phase 3 (fig. 16.8)

| 7K90:14 | Pit |
| 7K90:15 | Pit |
| 7K90:16 | Pit |
| 7K90:17 | Pit |
| 7K90:18 | Pit |
| 7J88:3? | Beaten earth (=7J87:5?) |
| 7J87:5? | Beaten earth (=7J88:3?) |

Field Phase 3 was clearly isolated only in 7K90. Sealed beneath the fragmentary FP-2 Surface where five pits of varying sizes and shapes dug into the FP-7 mudbrick: 14, 15, 16, 17, and 18. Four had similar top levels (the one exception, Pit 17 which had been almost totally removed by later Pits 15 and 18, most likely had the same top level originally) and all were located in the southeast quadrant of the Square. Lensing ash layers near their tops indicated burning, while the deepest fill of all appeared to have been secondary tell debris.

Pit 17, in the southeast corner of the Square, represented the earliest pit. Its original dimensions were not determinable, because Pits 15 and 18 removed all but the bottom .65 m. Later, a large bulbous pit, 15, cut into Pit 17. It was 1.15 m deep and at the top it measured 1.45 m across, but was 1.65 m in diameter at its widest point approximately .30 m below its top edge. Its flat bottom and side walls consisted of the FP-7 mudbrick. Its contents included numerous bone fragments, tumbled bricks and debris pockets, and a broken pregnant female figurine.

Pit 18 was dug into the eastern part of Pit 15 and only partially extended. Although its diameter was undoubtedly wider than the .75 m available to us, its depth was probably very near the 1.08 m preserved in the Square.

To the immediate northeast of Pit 18 was Pit 14, smaller and shallower (.46 m in diameter and .65 m deep). Just west of 18 was the fifth pit, 16, .72 m long, .52 m wide, and .60 m deep. It was not entirely clear how all these pits interrelated, but the presence of several in one general location suggested a repeatedly reused dump area possibly near domestic structures. The fact that Pit 18 dug into 14, and Pit 15 dug into Pit 17 would further support this suggestion. The fill from all pits contained late Iron II pottery.

As with FP-4, although we have no stratigraphic connections to prove it, the ceramic data suggest that the upper layers of the beaten earth rampart preserved down the slope in 7J88 (Layer 3) and 7J87 (Layer 5) were contemporary with these pits. This beaten earth was dark yellowish-brown, containing small nari and charcoal flecks and measured .3-.4 m in depth as preserved, especially in 7J87. It sealed against Defensive Wall 7J88:22 and sloped down to the west at 32°. Because one would expect the defensive system to have been renovated at or near the start of an occupational period and/or immediately following a destruction, it seems reasonable to conclude that these beaten-earth layers were a part of FP-3. The devastation apparent at the end of FP-4 in 7J89 may have provided the stimulus for rebuilding or repairing the rampart with a new beaten-earth cover.

Field Phase 2

| 7K90:8 | Stone-ringed hearth |
| 7K90:12 | Stone-lined storage silo |
| 7K90:13 | Irregular surface |
| 7J87:4? | Sheetwash from beaten-earth rampart |

Field Phase 2 represented a distinct, though probably short-term, occupational level, exhibited with certainty only in 7K90. Only one installation, reused with a new function, and a surface which sealed against it remained from this phase.

Initially Silo 7K90:12, measuring 1.1 m in diameter at the top and .54 m deep, was dug into the FP-7 mudbrick near the midway point of the eastern edge of the Square. The silo lining consisted of well-preserved medium-to-large cobbles laid in four to five circular courses (fig. 16.9).

Surface 13, a hard-packed, fragmentary layer of dark yellowish-brown beaten earth which covered the FP-3 pits, sealed against the top course of stones making up the silo, indicating contemporary usage. (That the silo could have been dug in FP-3 and reused in FP-2 cannot be disproved, however.) Surface 13 covered most of the southeast quadrant of the Square. The original dimensions were not possible to determine due to the intrusion of later construction in FP-1. Near the center of the Square, 13 simply disappeared. We were unable to establish connections between 13 and any wall lines, although we would expect such, because a surface sealing against a silo suggests domestic activities.

253
Fig. 16.8. Plan of FP-3 pits.
Fig. 16.9. FP-2 storage silo in 7K90.
At a later time, the silo having filled with debris, the ring of stones forming its top course served as the perimeter of Hearth 8. The soil inside was very dark grayish-brown and approximately .05 m thick. Whether this represented transient occupation during a time of sparse population or simply a brief period of domestic utilization was difficult to determine. Numerous bone fragments with butcher marks nearby on Surface 13 could point in either direction.

The limited features of FP-2 derive from late Iron II times according to the ceramic evidence. But no functional interpretations can be given. That domestic activities took place appears clear, but questions about how long the silo/hearth was used and the type of structure it was associated with cannot be determined at present.

At some time during the late Iron II period and probably following FP-3, the top layer of the beaten-earth rampart (Layer 7J88:4=7J87:5) began to deteriorate, sliding down the slope in the form of sheetwash (Layer 7J87:4). The sheetwash consisted of a very irregular, dark yellowish-brown layer of soil which included small nari and charcoal flecks and varying sizes of stones (the same makeup as the top layer of the rampart in FP-3).

Field Phase 1 (fig. 16.10)

7K90:2 Stone tumble
7K90:3 East-west wall
7K90:4 East-west wall
7K90:6 Cobble surface
7K90:7 East-west wall
7K90:9 Stone tumble
7K89:2 Stone tumble
7K89:3 Stone tumble
7K89:7 Stone tumble
7K89:8 Stone tumble
7K88:2 Stone tumble
7K88:2 Stone tumble
7K88:3 Stone tumble
7K87:2 Stone tumble
7K87:3 Stone tumble

Architectural features of FP-1 appeared only in 7K90 and included at least two parallel, east-west walls. Wall 3 extended into the Square 1.4 m from the east, while Wall 4 ran 2.2 m in from the west. The walls were nearly 3 m apart and were oriented at 305°. Locus 6, made up of a horizontal layer of large cobbles, may have been the remains of a cobbled surface joining the two walls, although it was found to seal against Wall 3 only, and broke off before reaching Wall 4. Alternatively, it may have been the bedding for a wall lying perpendicular to and abutting Walls 3 and 4, but other evidence for such a wall was lacking. Both of the walls were constructed of small to medium-sized boulders. Wall 4 was founded upon the mudbrick of FP-7, but Wall 3 was constructed upon stone tumble overlying the silo/hearth of FP-2. The precise relationship between the walls and the functional use of a room they may have formed were unclear from the fragmentary evidence.

Wall 7 ran parallel to but lay directly adjacent to Wall 4 on the south. It consisted of two courses of small to medium-sized boulders resting on a cobbled bedding. Because, however, only a small portion of the wall extended into the Square from the south, the architectural and functional relationships of Walls 4 and 7 could not be determined beyond the observation that they were founded at the same level. No clear surfaces were found which could be associated with these walls.

The deposits of stone tumble surrounding these walls most likely stemmed from the final demise of the FP-1 structures, whether in a final destruction of the site or in a gradual post-abandonment desiccation. The tumble layers consisted of soil varying in color from dark (or very dark) brown through dark yellowish-brown to very dark grayish-brown (one layer contained charcoal inclusions, suggesting burning). Depth varied from almost nothing where the walls were present just beneath the surface to 1.4 m. All sizes of stones, from pebbles to boulders, were present, and the layers sloped down 15-30° to the west.

Although the breakdown of the rampart down the slope seems to have already begun in FP-2, some of the tumble from the FP-1 walls was deposited above the sheetwash of the earlier phase. The final state of the talus slope as far as our team encountered it was the result of this desiccation.

The pottery from the walls was late Iron II, but a lack of sealed soil layers and surfaces for this Field Phase precluded a firm dating mechanism. However, because no signs of occupational activity after the late Iron II period are known from the site, it may be assumed that final destruction and/or abandonment of the western slope took place in that period, perhaps in the mid 6th century B.C.
FIELD B: THE WESTERN DEFENSE SYSTEM

Fig. 16.10. Plan of FP-1 walls in 7K90.

Fig. 16.10. Plan of FP-1 walls in 7K90.
FIELD C: THE NORTHERN SUBURB

Fig. 17.2. Bedrock terrace in Field C

Fig. 17.3. FP-7 cupmarks in 8L62.
FIELD C: THE NORTHERN SUBURB

17.4), and two in 8L73 (fig. 17.5). Varying in size from .15-30 m in diameter and .08-.15 m deep, only one (in 8L63) was sealed beneath an in-situ surface of FP-6. The remaining cupmarks lay beneath debris deposited after FP-3, but the late Iron II inhabitants of FP-3 and 2 did not seem to utilize the bedrock they exposed (below). It is thus most likely that at least some of the cupmarks predated FP-6. There is no evidence to suggest, however, that all were cut at the same time. We found nothing to suggest a function for the cupmarks beyond the observation that they were not natural, since they were perfectly round with no irregularities. Natural solution cavities and holes were also encountered, but they were highly irregular in size and shape. Some of the cupmarks showed slight signs of human activity, primarily parallel horizontal pressure lines as if abrasion or friction activities were taking place. The similarity of the cupmarks to the abundant mortars found in EB contexts elsewhere on the site suggested grain grinding, but other activities, ranging from fire sparking to bases for upright poles (to prevent slippage), are also possible. The old explanation that they served to receive cultic libations or the like must be rejected. When combined with the 10-20 others observed in exposed bedrock around the site, especially on the south side where EB material is prominent, and the undoubtedly scores or hundreds of others that are most likely beneath the debris accumulation over the rest of the site, there are simply too many of them in no apparent arrangement to warrant a suggestion of cultic activity. Most likely they played a variety of roles in EB domestic activities. Perhaps the best interpretation is that of team member Younker, that they served as mortars to grind acorns into flour.

Other bedrock features included several shallow channels (fig. 17.6) and natural solution cavities and cracks. The channels cannot be related to any water conservation activities and their connection with the other features described above is unclear. However, it should be noted that the best preserved bedrock channels and a shallow circular cut were located near a cupmark in 8L63 (fig. 17.6). Could this suggest pressing activities?

Another feature in bedrock was a large, oval milling installation, 8L73:14 (fig. 17.7), that measured ca. 1.75 m long (east-west) and .55 m wide. It had been carved into the inner side of a bedrock terrace with the lip of the terrace left standing as the southern edge for the installation. No walls, surfaces, or other objects were found in association with it. Inside, three upper millstones were found lying in situ neatly in a row, grinding surface down. The large size of the installation was so unlike the common domestic mortars and single millstones found in EB dwellings at our site and elsewhere that it probably represented a type of job specialization in grain milling.

The lack of soil layers made stratigraphic connections between the cupmarks, channels, and milling installation impossible. They are connected here into one Field Phase because one of the cupmarks and the milling installation were overlaid by FP-6 soil layers. A secure date is likewise impossible to determine, though FP-6 appears to date to early EB IV. Our present working hypothesis for the EB settlement history at the site suggests the earliest settlement occurred on top of the mound and gradually spread down the slope toward the spring as the settlement grew. It may be that the bedrock features described here were associated with the earlier settlement(s) at the site in extra urban activity patterns between the spring and the city on the summit. In terms of this hypothesis, FP-717.10 may be dated anywhere from the EB I period, when surveys show the site to have been most likely founded, to early EB IV prior to the FP-6 occupation. The bedrock remains of FP-7 most likely represented several phases of use in the area and should not be understood to reflect a coherent pattern of activities taking place at a single time.

Field Phase 6

In 8L63 a FP-7 cupmark was overlaid by a moderately hard surface (8L63:13), containing only EB potsherds and a worked bone fragment. The surface was associated with two wall lines founded on a thin fill beneath Surface 13 (fig. 17.8). The east-west wall line, 8L63:12, measured 1.60 m long before it disappeared out of the Square to the west. It was made up of one row of cobbles and small boulders two courses high (fig. 17.9) and it was constructed at the base of and parallel to the southernmost bedrock terrace in the Field. Its location along the base of the vertical bedrock face, making it seem redundant as a wall, and the flatness and evenness of the top course suggested that it may have served as a bench for a room, a typical feature of EB houses.

Another wall line, 8L63:7, was founded in the same relation to Surface 13 as was Wall 12, making them contemporary. Wall 7 stretched north-south and measured 1.70 m long before it stopped (figs. 17.9, 17.10). It did not extend into 8L73 to the north. It was constructed one row wide of very evenly laid large cobbles, but preserved only one
Fig. 17.4. FP-7 cupmarks in 8L63.

Fig. 17.5. FP-7 cupmarks in 8L73.
Fig. 17.6. FP-7 bedrock channels in 8L63.

Fig. 17.7. FP-7 bedrock milling installation in 8L73.
Fig. 17.8. Plan of FP-6 in Field C.
Fig. 17.9. FP-6 room in 8L63.

Fig. 17.10. FP-6 room in 8L62.
course high. The stones were extremely smooth on the top, showing no signs of upper courses. Laid against the stones to the west was a pebbled layer with the same top level as the cobbles. In normal wall construction one would expect a second row of cobbles west of the pebbles, but Surface 13 was well-represented here, at the same level as the pebbles. This configuration gave the appearance of having functioned as a curbing backed by a line of pebbles before the soil of Surface 13 continued farther west. A threshold is another possibility, but the door it served would have been extraordinarily wide.

A small fragment of a probable cobble and boulder pavement (8L63:10) lay in front of the curbing (fig. 17.11—here with a boulder lying on top), though it was connected to the curbing only by a beaten-earth component of the paving (8L63:11). The level of the pavement was about .15 m lower than the curving.

The overall picture of the features in 8L63 thus included Bench 12 set against a bedrock terrace face acting as the southern wall of a room. The room used Surface 13 as its floor, which in turn was structured by Curbing 7 on its eastern side. Surface-Pavement 11/10 ran up to the curbing from the east at a slightly lower level. The larger function of these fragments is difficult to determine, but one may speculate that the curbing may have also served as a wide threshold for a shop or other public area that used benches in its activity pattern. The pavement may have been from a dead-end street or alley which terminated at the bedrock terrace. At any rate, bona fide occupational activities seem to have been taking place in the area during this Field Phase. The pottery from all these loci contained early EB IV forms.

In 8L64 to the east moderately hard Surface 8L64:4 was laid over bedrock irregularities. However, it could not be connected with any of the surfaces in 8L63. The only reason for placing it in FP-6 was its comparable position to bedrock.

Square 8L72:23 was a laminated series of moderately hard-beaten earth and plaster surfaces, and repairs about .20 m thick laid directly on bedrock in the southern third of the Square. Five separate surfaces could be counted in a vertical section, but each one was patchy, suggesting constant wear and repair. At least two of the surfaces had been plastered. No walls or installations could be associated with any of the surfaces, but objects included three worked bone tools, a basalt weight, an EB juglet, and part of a holemouth jar. Again, stratigraphic connections with the other features of this Field Phase were not discernible, but the position of the surfaces immediately above bedrock suggests contemporaneity. The thickness of the combined sur-
FIELD C: THE NORTHERN SUBURB

faces might suggest the existence of several occupational phases in antiquity. This further suggests relatively heavy occupational activities in the area. All pottery readings from five separate samples collected were EB.

Overlying the milling installation of FP-7 and the rest of bedrock in the northern third of 8L73 was a loose layer of soil (8L73:15) probably laid to level the bedrock irregularities for Surface 8L73:13, a very hard beaten-earth surface which included a few ash pockets. Bones and flint fragments were especially frequent. Again, however, no walls, installations, or objects could be associated with the surface and no stratigraphic connection with other FP-6 remains could be established except that it was the first sign of occupational activity above bedrock. Potsherds from three separate samples were all EB.

Although an architectural setting for this Field Phase cannot be outlined from the fragmentary remains, the multi-layered surface in 8L72, the hard, well-prepared surface in 8L73, and the room-street complex in 8L63 suggest normal urban occupational remains. It was probably at this time that the northern suburb was walled and became a part of the urban infrastructure. The EB pottery has not been studied in detail as yet, but seems to reflect a time within the early EB IV horizon.

Late Early Bronze IV

Clearing activities to prepare for FP-3 construction seem to have destroyed EB remains above that of FP-6 (except probably for 8L82 where excavation is below that of FP-3, but EB levels have not yet been reached). However, EB pottery was dominant in most soil layers of FP-3 in 8L63, 8L72, and 8L73 (below). Some of the sherds in these mixed layers were from forms late in the EB IV tradition.

Middle Bronze Age

Although a Field Phase cannot be ascribed to the Middle Bronze Age, because there were no surfaces, walls, or soil layers which yielded MB sherds as the latest pottery, significant amounts of MB ceramic remains were found (see Herr [Pottery] in this volume). Again, the clearing operations for FP-3 had apparently excavated all MB remains, except for possible materials in 8L82, not yet reached. Soil Layer 8L72:25 and others of FP-3 and 2 were dominantly MB in their ceramics, but the consistent appearance of a few late Iron II sherds in at least half the samples taken from these loci made it clear that they belonged to the late Iron Age. Middle Bronze pottery was present in virtually every later locus. A reconstructible MB platter bowl was found in Layer 8L72:4. It would thus appear that MB remains in the area had been destroyed and reused.

Field Phase 5

Late Bronze remains may be present in 8L82, where the clearing and leveling operations of FP-3 did not excavate deeply. Although the LB remains have not yet been excavated, the fill layers for the FP-4 surfaces contained significant amounts of LB pottery. Indeed, in the lowest samples taken, the latest pottery was LB, suggesting that the top layers of unexcavated remains in this Square may represent a Late Bronze Field Phase. Two such loci, Soil Layer 8L82:14 to the south and Rock Tumble 8L82:13 to the north (fig. 17.12), were located behind a retaining wall tentatively assigned to FP-4 (8L82:5). Whether or not the retaining wall cut these layers cannot be known without further excavation. But if not, it should be considered a part of this Field Phase as well.

Possible Wall 8L82:7 (fig. 17.13), running east-west along the south balk, was also unexcavated, but Layer 14 clearly ran up to it, suggesting that it was standing when the layer was deposited. The wall was, however, constructed of cobbles and small boulders in a very flimsy manner, making us uncertain whether it was a wall or part of a rock tumble (8L82:10; compare figs. 17.14 and 17.15). Alternatively, it could have been the disturbed top course of an emerging wall.

Thus, there were no certain LB features or soil layers excavated, but 8L82 produced the most significant numbers of LB pottery in 1984, most coming from levels just above the layers presently exposed. Future excavation should be able to give us a clearer picture. Likewise, nothing can be said about the type of occupational activities which took place here.

Field Phase 4

Square 8L82 was again the only one to preserve in-situ Iron I remains. Two subphases were represented by the presence of two surfaces, one on top of the other. Both surfaces ran up to or, more likely, were cut by the construction of retaining Wall 5.

Field Phase 4b, the lower subphase, was represented by Surface 3, a very hard beaten-earth surface that was cut by retaining Wall 5 on the north, though frequent cobbled stones mixed into the surface near the wall made it difficult to trace a pre-
Fig. 17.12. FP-5 remains in 8L82.

Fig. 17.13. FP-5 possible Wall 8L82-7.
Fig. 17.14. FP-5 rock tumble 8L82:10.

Fig. 17.15. FP-5 rock tumble 8L82:10.
cise relationship (fig. 17.16). The infrequent pottery from two samples contained a few early Iron I sherds, but was predominantly LB, suggesting a date in the early Iron I period. A figurine fragment and slingstone were found in the surface makeup.

Field Phase 4a was represented by a layer of fill debris (8L82:8; fig. 17.17) above Surface 3 on top of which a second surface was laid (8L82:6). It seems to have been the surface from which retaining Wall 5 was cut, since it ran up to the top course of the wall. The pottery from the fill contained late Iron I sherds.

Retaining Wall 5, probably of FP-4a, was constructed of unshewn hard limestone cobbles and small boulders in random coursing (fig. 17.18). The wall clearly had been constructed with a 70° slope for its northern face. There was no southern face. It would seem that earlier gently sloping layers had been cut and battered by it. This is supported by the topography of the slope, which at this point begins a sharper downward slope to the north. The north face of the wall also showed signs of having been slightly offset (fig. 17.19). Indeed, the eastern section of the wall seems to have been constructed on a slightly different orientation. The foundation levels of the wall have not been reached on the north and retaining walls are notably difficult to analyze stratigraphically on their battered sides. The date of its construction is thus not clear, but if it was cut from FP-4a Surface 8L82:6, as seems likely, it should date to the late Iron I period.

North of the retaining wall a deposit of extremely loose and soft ashy soil 1.00-1.50 m deep was found against the wall (8L82:4 = 9: fig. 17.19), reflecting the use stage of FP-4a. Pottery and bones were remarkably rare. It is not possible to determine at present whether this ash should, indeed, be ascribed to FP-4a, because it was not sealed beneath FP-3 remains. Instead, it was found directly beneath post-FP-2 debris. The origin of the ashy soil is difficult to determine. The significant lack of bones and pottery seems to indicate that the debris did not result from the burning of occupational waste. Likewise, the depth of the deposit would speak against periodic brush fires, which would not accumulate over time to such depths. The hardness of the surfaces retained by the wall would also suggest that they were occupational surfaces and not threshing floors where seasonal activities included the burning of large amounts of chaff which would have been pushed over the terrace wall after burning. Alternatively, the wall may have been the southern edge of a stone-lined pit filled with ash debris. Certainly the soft, loose consistency of the soil would suggest that it was rapidly deposited in a contained area where seasonal rains, pressure, and time could not consolidate it.

The two subphases of FP-4 are very difficult to characterize. On the one hand the hardness of the surfaces would seem to suggest strong occupational activities in the area, while on the other the existence of the deep ash deposit might suggest extrurban activities involving heavy burning.

Early Iron II

Early Iron II pottery was not well-attested in Field C. A few sherds were found in later, mixed loci, but not enough to suggest that occupation took place on this part of the mound during the 9th and 8th centuries B.C. Any possible remains were destroyed by the FP-3 clearing operations.

Field Phase 3

At some point within the late Iron II period, the area around Field C was cleared along the bedrock lip we initially observed on the surface down to EB levels upslope in the south and Iron I levels in the north downslope. Very little late Iron II pottery was found in the FP-3 debris, but it was consistently present in many of the ceramic samples taken. The excavation was done with great care and contamination was highly improbable. The few sherds must therefore date the Field Phase.

In 8L63 the cutting activity went very deep in the southeast corner, excavating a bedrock pit (8L63:9—a quarry?) whose top was 1.40 m below the terrace lip. The pit was .72 m deep, .55 m across on the east side, and 1.30 m on the south side (fig. 17.20). Some of the irregularities seemed like steps. It could have been the beginnings of a tomb that went unfinished. No objects were found in the fill (8L63:8) and the latest pottery was Iron I. It is possible that the excavation and filling of this pit should therefore be dated to that period. But, as has been mentioned above, late Iron II pottery was often not found in debris which must nevertheless be attributed to that period on the basis of stratigraphy. The debris covering the pit was late Iron II. The excavation of an earlier, Iron I bedrock pit whose upper remains were removed by the FP-3 clearance, cannot be denied.
Fig. 17.16. FP-4B Surface 8L32:3.

Fig. 17.17. FP-4A fill debris 8L32:8.
FIELD C: THE NORTHERN SUBURB

Fig. 17.18. FP-4 terrace Wall 8L82-5.

Fig. 17.19. FP-4 terrace Wall 8L82-5.
Two subphases of this Field Phase seem to have been present in 8L72, though this was present only in the restructuring of one of the walls, 8L72:7. A three-sided structure made up of east-west Wall 5 on the north, north-south Wall 8 on the east, and east-west Wall 7b on the south enclosed a rectangular space which apparently used bedrock for its inner surface (figs. 17.21, 17.22). At a later point, though probably very soon after the construction of the walls mentioned above, a parallel wall (7a) was built immediately next to 7b with a different masonry technique (fig. 17.23). Whereas Walls 5, 7b, and 8 had been constructed primarily of semihewn small boulders laid in one row of headers, Wall 7a was built of smaller boulders and cobbles laid in two rows. Moreover, while Walls 5, 7b, and 8 were founded on bedrock, Wall 7a was founded on a soil layer, either a hard fill or a moderately hard surface (8L72:24) that contained EB pottery, but could not have been an EB layer since it ran up to Wall 7b and filled its foundation trench (compare fig. 17.24 taken before the removal of 7a and fig. 17.25 taken after removal). Surface 24 may have served with the first subphase of the walled structure before Wall 7a was built. Possibly also built for this earlier subphase was north-south Wall 27, a fragmentary wall aligned with Wall 8, but on the lower bedrock terrace to the north. The walls could not be connected, and Wall 27 was built in two rows with smaller stones than 8 (fig. 17.21). It is possible that Wall 27 should not be connected with this Field Phase at all, but should be earlier. However, no earlier soil layers or surfaces were found running up to it. Field Phase 3a (when Wall 7a was in use) was represented by Surface 8L72:6 on the north, a moderately hard surface made of beaten-earth which covered Wall 27 of FP-3b and ran up to the northern side of Wall 5 (fig. 17.26). Its pottery was MB, but it covered and sealed fill Layers 25, 26, and 28 which contained two Iron I and one late Iron II sherds. No objects were found in the surface and fill debris. Running up to the east side of Walls 8 and 7a was fragmentary Surface 16 made of very hard beaten-earth. Continuous to this surface (that is, they were on the same horizontal level) and also running up to Wall 8 was a hard plaster surface (8L72:15), founded on pebbles and cobbles but preserved only in a fragment 1.00 x .55 m and .19-.29 m thick (including underlying foundational pebbles; fig. 17.27). The plaster may have been the bottom of an installation of some type. A small, rounded, cup-like depression was found on its surface. No other indications as to the specific function of the surface (or installation) were uncovered, however. Although only EB pottery came from the plaster, one late Iron II sherd came from Surface 16. No
objects were found in association with either Surface 16 or 15. The fill layers (8L72:18 and 19) beneath the surface were predominantly EB, except for one clear Iron age sherd. Running up to the south side of Wall 7a was probable Surface 8L72:21, another fragmentary surface made of moderately hard beaten-earth (fig. 17.22). Although the surface contained only EB pottery (except for one possible Iron age body sherd), the fill beneath, 8L72:22, contained several late Iron II sherds. No objects of any kind were found on the surface or in the fill.

In 8L73 other remains which could not be strati-
Fig. 17.22. FP-3 room in 8L72.

Fig. 17.23. FP-3 Walls 8L72:7A and 7B.
Fig. 17.24. FP-3 Walls 8L72:7A and 7B before removal.

Fig. 17.25. FP-3 Wall 8L72:7B after removal of Wall 7A.
FIELD C: THE NORTHERN SUBURB

Fig. 17.26. FP-3A Surface SL72:6.

Fig. 17.27. FP-3 plaster Surface 872:15.
In 8L73 other remains which could not be stratigraphically related to those in 8L72 were constructed in the space created by the FP-3 clearance. Here the clearing had reached either bedrock or the lowest EB levels. In the southern half of the Square, Wall 8L73:6, a semicircular line of small boulders and cobbles, was laid on bedrock (fig. 17.28). The exterior diameter of the semicircle was 2.75 m. The construction was so weak that a significant superstructure can hardly be suggested. Inside the semicircle were several soil layers or soft surfaces. On top of bedrock and within the semicircle was Layer 8 which partially ran beneath some of the stones of Wall 6 and on to the north. The pottery within Layer 8 contained a few late Iron II sherds. Surface 7 and Soil Pocket 9 were above 8 and ran up to Wall 6 within the semicircle. Although the pottery from these loci was predominantly EB, a few late Iron II sherds were also found. Outside Wall 6 and running up to it, Fill Layer 8L73:3 was laid above bedrock 30-65 m deep. It contained mostly EB and MB sherds, but a few late Iron II sherds were present in eight of the 24 samples taken. A Roman and an Umayyad sherd probably came from the top of the layer, which was difficult to differentiate from a thick layer of mixed, unsealed debris above.

One meter to the north of Wall 6, set into Layer 3, and above Layer 8 were the remains of a cyst-like construction made of flat limestone blocks set horizontally on the bottom and vertically on the sides (fig. 17.28 as it was first uncovered; fig. 17.29 as it was cleared). The installation measured 1.25 m long by .75 m wide and the side stones reached .50 m high. Since no foundation trench was discovered, the installation does not seem to have been cut through Layer 3, but it is impossible to suggest that the flat vertical stones were free-standing. The best suggestion is that the installation was constructed while Layer 3 was being laid. The stones were laid in a small lens of red soil (terra rossa) which contained one Iron I sherd along with EB pottery. Before excavation (fig. 17.28), it was thought the oval-shaped installation might be a burial, but no bones or objects were found. It should perhaps be associated with Wall 6. Below the installation was Fill Layer 12 immediately above EB Surface 13 of FP-6 and laid in the lower bedrock terrace to level the area for the FP-3 installations. The fill contained a few late Iron II sherds.

Although the vast majority of the sherds found in the loci from this Field Phase in both 8L72 and 8L73 was EB or, less frequently, MB, the persistent presence of late Iron II pottery in certain key layers was sufficient to date the Field Phase to that period.

None of the structures discovered clearly suggested domestic activities, unless one posits very
Fig. 17.29. FP-3 cyst-like installation in 8L73.
poor inhabitants, living in very small ephemeral structures. Both the three-sided room in 8L72 and the semicircular feature in 8L73 lacked end walls and may have functioned as animal pens or temporary storage facilities. The cyst-like installation in 8L73 could also be interpreted as a crib or a small silo. Alternatively, the plaster installation in 8L72 could indicate an industry of some type, though no finds suggested its specific nature. At any rate, the picture one gets is of extra-urban activities built up in proximity to an urban center.

Field Phase 2

Constructed on top of Surface 8L72:21 of FP-3a in the southwest corner of the Square were two very fragmentary walls. Square 8L72:3 was an east-west wall measuring 83 m wide and preserved 1.50 m long. Constructed of semihewn small boulders with chinkstones, it was two rows wide and one course high. When dismantled, it yielded primarily EB pottery with one probable Iron Age body sherd. No associated surfaces were found.

Just north of Wall 3 the second wall fragment, 8L72:12, was a north-south wall measuring .80 m wide and preserved .52 m long. With a construction technique identical to that of Wall 3 it yielded EB and MB sherds. Again, no surfaces were found in association with it. Whether Walls 3 and 12 were part of the same structure is difficult to discern. Wall 12 may have been a divider wall for a two-room structure whose south wall was Wall 3.

Three soil layers which probably were stratigraphically equivalent (8L72:13, 17, and 20) seem to have been laid to level the area for the FP-2 construction in the southwest corner of 8L72. Layer 13 was sealed beneath Surface 10 of FP-1 and ran up to the upper remains of FP-3a Wall 7a. It contained one late Iron II sherd along with many EB and MB types. Objects included a polished bone fragment and a basalt weight. Layer 17 was not preserved beneath a surface, but its description was very similar to that of 13, suggesting that they may have been the same layer. The pottery contained a few late Iron II sherds among EB and MB forms. Layer 20 was an arbitrary designation, but the description of the soil was very similar to that of both 13 and 17. It contained one late Iron II sherd in a sample which was otherwise EB. These three soil layers seem to have filled irregularities in Surface 21 and Layer 22 of FP-3, perhaps for surfaces of FP-2 now disappeared, but their precise relationship to Walls 3 and 12 was not possible to determine because of later cutting activities. All remains were extremely fragmentary and were very close to the surface of the site, making clear observations difficult because of disruption since the abandonment of the site.

Although stratigraphically later than FP-3, the nature of the remains of FP-2 was very similar. Late Iron II pottery was relatively infrequent, but persistent in most loci, suggesting little or no importation of materials from other parts of the inhabited site for construction. Rather, the builders seem to have made use of EB and MB materials already present in the immediate area. The remains seem to suggest a light form of occupational activity, possibly extra-urban. This Field Phase marks the end of occupational activity in Field C.

Field Phase 1

Surface 8L72:10 was laid partially above Layer 13 of FP-2, but also partially above Layer 11 which contained one Roman potsherd (fig. 17.30). Surface 10 itself contained late Iron II and EB pottery. However, the surface was very fragmentary, measuring only .65 x .90 m along the south balk, and was associated with no walls. It is possible that the Roman sherd in Layer 11 resulted from contamination during later agricultural activities at the site and that Surface 10 goes with the walls of FP-2. But it is also possible to suggest that the surface was associated with a Roman farm located on the relatively unarable slopes above the spring. Roman, Byzantine, and Umayyad pottery found in topsoil over the complete site suggests plow-zone activities during these periods and a farm should not be unexpected.

Other debris layers were deposited after the formal abandonment of the site at the end of the late Iron II period and showed signs of significant disruption and mixing. They probably also belonged to this agricultural phase of the history of the site. Layers 8L62:3 and 4 were soil layers with concentrations of cobbles above bedrock that probably washed down from the upper steep slopes over the top of the exposed bedrock lip after the centuries between the end of occupation at the site and the commencement of farming, which probably began in the late Hellenistic or early Roman period. The same was true of Layers 8L63:3, 4, 5, and 6, as well as 8L64:3, all of which showed no signs of occupational surfaces. Layer 8L63:3 was a small pocket of debris above the bedrock lip with the identical description of the top layer of the late Iron II beaten-earth rampart in Field B, suggesting that the rampart continued on the northern side of the acropolis, from whence it washed down to Field C.
FIELD C: THE NORTHERN SUBURB

Fig. 17.30. Fragmentary Surface 8L72:10 of FP-1, looking south.

Also above the bedrock lip was a concentration of cobbles and brick detritus, 8L63:4, probably washed down from the fortification systems above. It contained late Iron II pottery. Layer 5 was a large pocket of ashy debris that included burned stones and pottery dated to the MB and EB periods, including a smashed, but complete, flat jar base. This deposit may have originated in a destroyed layer of the fortification system. 8L63:6 = 8L64:3 was a very thick layer with mixed pottery of all periods from EB to late Iron II, including portions of a crushed EB jar. It seems to have been an eroded material as well.

Similar layers were present in 8L72 (2 = 4 = 14), 8L73 (2 and 5), and 8L82 (2), all with a complete mixture of pottery and a random deposition of soil and stone inclusions. All these layers, except those in 8L72, were relatively thick, usually between .50-1.00 m.

Objects were diverse and relatively frequent, including eight loom weights, 11 grinders/pounders, two spindle whorls, two pestles, two stoppers, one palette, one figurine fragment, and one slingstone. The thickness of these layers along with their similar description throughout their depth and the complete mixture of debris within the layer from top to bottom suggested that plow-zone mixing was occurring while the layers were being deposited by periodic erosion from above. A few Roman potsherds found in these layers may suggest the best period for the farming activities.

Topsoil (Locus 1 in all Squares) probably represented soil development after the cessation of farming in the area by erosion, plant development, and chemical changes. No pottery after the Umayyad period was found in the Field, suggesting complete disuse of the north slope after that period.
CHAPTER 18

Field D: The Lower Southern Terrace

Larry Mitchel  Sacramento, CA

Introduction

Two principal factors influenced the decision to place a series of Squares on Tell el-Umeiri's lower southern terrace. First, there was a spine of higher earth running up from the wadi south of the tell to the lip of the lower of the two south terraces. This line of higher earth then turned slightly eastward and continued toward the summit of the site oriented at about 155°. At the face of the upper terrace, and again at the south edge of the summit, this ramp-like feature was marked by the remains of large-boulder masonry. It seemed possible that this series of features might represent one point of entry to the ancient city.

Secondly, the Squares on the lower southern terrace (and nearby) which were included in the random surface survey (see Herr in this report) suggested a sequence of Early Bronze and Middle Bronze occupation. A cluster of four Squares was laid out near the present lip of the lower southern terrace (Squares 5K76, 5K77, 5K86, and 5K87) (topographic map on p. 217) on gently sloping ground (the southwest corner of 5K76 extended just over the present lip of the terrace). While not presently under agricultural use, the topography of the terrace showed agricultural potential. There was good evidence that the area had been plowed in antiquity (see below, Field Phase 1).

After slightly more than five weeks of excavation on the lower southern terrace, five Field Phases of occupation have been delineated. They will be described and interpreted from earliest (lowest) to latest.

Field Phase 5 (fig. 18.1)

The earliest architecture in the Field was uncovered in the northwest corner of Square 5K76. Consistent late pottery readings from the west side of this Square led to the discovery of an ancient erosion channel. In delineating and removing this later material, the upper courses of walls were found (5K76:16, 17, 18). The walls were about .55 m wide, made mostly of unhewn stones of cobble and small-boulder size. The orientations were 226-230° (north-south walls) and about 118-120° (east-west walls). While only the uppermost stones have yet been exposed, it appears that north-south Walls 16 and 17 may have formed the two jambs of a doorway, while east-west Wall 18 ran out of the Square to the northwest at an angle perpendicular to the north-south walls. An unexcavated soil layer was probably associated with these walls, perhaps contemporary with their destruction (5K76:19). Only with further excavation will remains of FP-5 be understood. No date can yet be assigned to the walls, though a date in the late Early Bronze period seems reasonable, perhaps late EB III or early EB IV.
Fig. 18.1. Plan of FP-5.
Field Phase 4 (fig. 18.2)

While just over half of the loci excavated in this Field in 1984 were assigned to a stage of FP 4 (57 loci out of a total of 109), the fact is that until further excavation is carried out little more can be said than to give a general description of architecture so far exposed, along with some general and tentative suggestion of a more interpretive nature.

Walls assigned to FP 4 were unearthed in all four Squares in the Field. Beginning at the north side of the excavated area, the longest FP-4 wall ran from the northeast corner of 5K86 to the east balk of 5K87 (5K86:29 = 5K87:14), for a known length of 7.40 m, oriented about 110°. The stones in this wall ranged from cobble to small boulder in size. Also included in the masonry were a few man-made items, including half of a mortar and a rectangular stone about .30 x .20 x .15 m with a nicely-executed oval hole cut through it (fig. 18.3). The wall seemed to have averaged about .70 m wide, but the width was somewhat difficult to determine without further excavation. The reason for the confusion was that the majority of the wall so far uncovered appeared to have slumped severely toward the south-southwest, some 10° out of plumb. This slumping displaced stones in the south face, making measurements of width difficult. The cause of the slumping was not clear. While earthquake was a possible cause, it is also very possible that simple gravity did the job, the pressure of soils caught up-hill of the wall causing it to lean out—and downhill—more and more.

The excavation record for 5K87 suggested that this wall consisted of two phases. There was some difference of stone size (the upper courses at the east end—Phase A—were of somewhat smaller stones), and the upper courses were slightly offset from the south (.05 to .10 m). Excavation of this wall in a future season will help settle this question. For the present report this wall is not subdivided.

It appeared that when this east-west wall slumped it pulled away from a north-south wall which was only fragmentarily preserved (5K87:23). This latter wall probably had bonded to the north face of Wall 14.

In the lower (southernmost) two Squares of the Field, more FP-4 walls have been partially excavated. In 5K76, two north-south walls were built parallel to each other about 1.25 m apart. The east wall (5K76:4) was built first. After at least one surface had been built up against its west face (5K76:9), the second wall was built to the west (5K76:3—fig. 18.4). This western wall appeared to be oriented precisely with FP-5 Wall 5K76:17 (at about 230°) but was wider than the earlier wall and offset from it by about .20 m to the east. The two FP-4 walls are to be considered contemporary. The south end of Wall 5K76:4 bonded to a wall that ran eastward (at 114°) into 5K77 (Wall 5K76:8 = 5K77:20).

Wall 5K76:21 was built against the south face of Wall 8, its west end aligned with the west face of Wall 4. Then a single line of stones (5K76:22) was laid southward, abutting the south face of Wall 21, its west face aligned with both the west face of Wall 4 and the west end of Wall 21. The south end of Wall 22 was robbed and/or eroded away in antiquity.

In 5K86 a few stones in line with Wall 5K76:4 were uncovered (5K86:37); these probably represented a continuation of Wall 4—pending further excavation.

One other wall in 5K77, discovered during removal of the north balk, probably also belonged to FP 4, but was almost entirely unexcavated (5K77:19). Further excavation will also be necessary to determine if an east-west wall in 5K86 (5K86:30) was contemporary with and connected to Wall 5K76:3. Two other walls in 5K86 may be allocated to FP 4 (5K86:19 and 27, possibly associated with Surface 5K86:33). These latter two walls may however prove to belong to FP 3.

Excavation had to be halted before a very clear picture had developed of the occupation stage of FP 4. There were a number of soil layers and surfaces in clear association with several of the FP-4 walls, however, few can clearly be classed as occupation surfaces. A pebbly surface south of Wall 5K87:14, with many flat-lying sherds and bones, may have been one such (5K87:17 [= 5K86:34?] contemporary with 5K86:35?). The appearance of Surface 5K87:17 was similar to present windblown and water-eroded surfaces of the tell, suggesting an outside surface or courtyard. Possible Surfaces 5K87:15, 21, and 22 sealed against the north face of Wall 5K87:14. And in Square 5K76 several surfaces were associated with Walls 3, 4, and 8 (5K76:5, 6, 7, 9, 11, and 12 [unexcavated]). Surface 5K76:12 equaled Surface 5K77:15. The latter surface included a carefully socketed mortar (5K77:11) beside which there were the remains of a possible hearth (as yet unexcavated) partly lined with five pieces of one or more basalt grinders. Several ash deposits have also been assigned to FP 4 (5K76:20, 5K77:7 = 10 and 11). Ash was scattered widely over surface 5K76:12 = 5K77:15. Quantities of plaster with reed apparently from walls and roofs, were found in 5K77:17. They are discussed in more detail in the FP-3 discussion below.
Fig. 18.2. Plan of FP-4.
FIELD D: THE LOWER SOUTHERN TERRACE

Fig. 18.3. FP-4 Wall 5K87:14, looking east.

Fig. 18.4. FP-4 walls in 5K76, looking west.
The space between Walls 5K76:3 and 4 may have formed a small room. One the other hand, it may well have constituted a passageway or narrow street. It was located in the proper place, aligned with the ramp-like surface feature below the Field, to have served as an access way to the wadi below. Although, it may be too early to be certain, the general plan of the houses in this sector of the site could turn out to be the typical EB broadroom type.

Loci assigned to FP 4 produced barley grains and grape pits from floatation samples. Small objects included two sling stones, two basalt bowl fragments, and one complete ceramic loom weight.

There was not unarguable evidence for a violent destruction of FP 4, except possibly for the slumping of Wall 5K87:14. It appears, rather, that at least this area of the site was abandoned for some time. During this period of abandonment, two types of material built up on the FP-4 architectural remains: (1) loose and fine-grained soil, especially between larger tumbled stones, which had all the appearance and feel of loess; and (2) patches of harder clay-like material—in other places, and sometimes capping or interleaving with the loess deposits. This appeared to have been sheetwash from higher on the tell, deposited during rainy periods. Loci assigned to the destruction/abandonment stage of FP 4 included: 5K77:9, 12, 14, 17; 5K86:5, 16, 18, 20, 22, 24, 26, 28, 32; 5K87:3(?), 4(?), 5(?), 8(?), 9(?), 12, and 16(?). It was into these destruction/abandonment deposits that FP-3 houses were excavated. The latest pottery from these layers may be assigned to the early EB IV period.

Field Phase 3 (fig. 18.5)

The preserved architecture of FP 3 was more fragmentary than of FP 2 (both Field Phases having been fully excavated, though FP 3 has not yet been dismantled). Ironically, the remains of FP 3, though fragmentary, were fairly coordinated and quite clear. In 5K86 and 5K87 the northwestern parts of two houses were discovered.

After FP-4 walls had eroded and were nearly entirely covered by wind-blown and water-borne soils, a new phase of construction began. Into the soil layers comprising the destruction/abandonment stage of FP 4, builders dug broad, hallow foundation pits, an estimated 4 x 4 m in size (they may have been longer), and perhaps .50 to .75 m deep (fig. 18.7). Into these pits they placed walls which below ground level consisted of a single (inner) face (5K86:21; 5K87:6, 13). In the case of the western house (in 5K86) the two northern corners were gently rounded, the northeast corner on about a .25-30 m radius, the northwest corner on a radius of .60-70 m (fig. 18.7). In the eastern house (in 5K87), the one corner which has so far been excavated was sharply acute (under 80°—fig. 18.8). These walls were built entirely of stones of large cobble size or smaller, set in random courses of one to three rows.

In both houses, the stepped thresholds were preserved in the center of the north wall. This placed the doorway opposite the wadi overlook, and at a protective angle from the prevailing wind. During the period of excavation, the wind tended consistently from the west and west-southwest. The western house made use of one step, and a slightly-inclined short ramp above it, for access to the living surface of the house (fig. 18.9). The counterpart dwelling in 5K87 used two steps (fig. 18.10). In each case the steps preserved wear patterns from ancient foot-traffic, none more obvious than the westernmost stone in the lower step of the house in 5K87, the stones contained crystalline fossils which did not wear away as quickly as did the softer limestone matrix (fig. 18.11).

Since both doorways were located on the uphill side of the dwellings, runoff water would present a problem in the winter. It appeared the builders planned for this inconvenience. In the case of the eastern house, earlier Wall 5K87:14 (FP 4) was apparently still standing slightly above ground. Its preserved height appeared to have created a hump of resistant soil (sheetwash high in clays). Furthermore, the wall was oriented at an angle (perhaps 10-15°) off the fall (or drainage) line of the ancient terrace slope. The doorway for the house was apparently located in such a position that surviving earlier Wall 5K87:14 provided a diversion for runoff. No such walls were available in the case of the western house. Here, while the evidence was problematic, it appears possible, if not probable, that a diversionary wall of small pebbles to medium cobbles was constructed at about the same angle as the north wall of the house. This, along with the natural relief of the "ramp" north of the doorway, would have served the same purpose as the earlier wall in 5K87— to channel the occasional runoff away from the door of this semisubterranean dwelling.

In neither case were the door jambs preserved. Indeed, the walls of neither house survived to a height exceeding that of the surface of the slope into which their foundation pits were excavated.

Inside the houses, at a point from 1.60-1.80 m from the walls, a large stone was placed on the floor. There is little doubt that these stones served as the bases for central supporting pillars.
Fig. 18.5. Plan of FP-3.
FIELD D: THE LOWER SOUTHERN TERRACE

Fig. 18.6. Interior of western house of FP-3 in 5K86, looking north.

Fig. 18.7. Eastern house of FP-3 in 5K87, looking north.
Fig. 18.8. Steps into FP-3 house in SK86, looking north.

Fig. 18.9. Steps into FP-3 house in SK87, looking north.
FIELD D: THE LOWER SOUTHERN TERRACE

Fig. 18.10. Step showing wear on threshold of house in 5K87.

Fig. 18.11. Plaster with reed impressions in Square 5K77.
While stone pillars may have been used for such structures, the rounded top of the pillar base in the western house (the stone in the eastern house was not much flatter) precluded, in our opinion, the use of stones as a segmented pillar in this instance. In all likelihood, a wooden beam, perhaps about the same length as the roof members (1.60-1.80 m), was set on the stone base as a central support for the rafters.

While tentatively assigned to FP 4, the plaster material found in 5K77 (Locus 17 particularly) may provide some insight into the method of finishing the roof of these FP-3 houses. While the remains of beams have not yet been found in 5K77 (the plaster material was not entirely removed this season), it was assumed that stout wood rafters were used to bridge the gap from wall to pillar. Over these rafters reeds would have been placed. The fragments and slabs of plaster in 5K77:17, in fact, preserved many impressions of reinforcing reeds, some clear enough to provide a probable identification for the plant material: *phragmites* sp., probably *phragmites australis* from the large diameter of the reeds (average about .01 m—oral communication from botanist David Al-Eisawi). If the reed-reinforced plaster we found was from a roof/ceiling, it is clear that plaster was applied to the inside surface of the reeds as well: the larger slabs of plaster material carried the reed mold holes between two clear surfaces of plaster.

The walls of FP 3 did not preserve signs of plaster, though it is not impossible that mud plaster was used and has simply not survived.

Within these small rooms a series of surfaces were found. In the western house (in 5K86) at least two hard beaten-earth floors were preserved (5K86:24; .35 x 40 m) located about .80 m west of the pillar base. What appears to have been a stone-outlined ash and refuse pit (5K86:36) was located in the northwest corner of the room (it does not appear to have been fully stone-lined). A fine flint blade and animals bones were found flat on the earth floor. When the mortar cracked into two pieces, it was covered by a new floor. The floors in the eastern house (5K87:18 and 20) were quite level, as in the western house, but were not as hard-beaten. In both cases the houses appeared to have been cleared and abandoned, not destroyed suddenly by earthquake or conflagration. Destruction/abandonment loci for this Field Phase were difficult to distinguish from destruction/abandonment loci for FP 4. Assigned to FP 3 were: 5K76:26(?); 5K77:3(?), 7(?), 8(?); 5K86:6(?), 8, 10, and 17.

What occupied the space between the two houses? It appears clear that the space was not taken up by another building. If the two houses were connected at all, it would probably have been by a courtyard, or animals pens, or such. No walls for such enclosures, however, have survived. Thus, it is also possible that these houses were independent units, perhaps attached to their own pens, courtyards, and so forth. Most of the pottery from FP 3 falls within the EB IV period, none later.

**Field Phase 2 (fig. 18.12)**

Architecture assigned to FP 2 differed in several respects from that of prior Field Phases. While fairly completely-preserved wall lines were excavated (at least in 5K86), the lack of clear associated surfaces made it difficult to say much apart from describing its walls.

Field Phase 2 walls were found best preserved in 5K86 (figs. 18:13 and 18:14). Sections of the walls were clearly built upon FP-3 walls (5K86:14), others probably were (5K86:2, and possibly 3), and others were built upon FP-4 destruction/abandonment debris (5K86:13).

Though outside of excavated areas of the Field, it seemed clear that Wall 5K86:13 made a corner north of the Square and turned southeast to become Wall 5K87:2. Wall 5K86:14 bonded with Wall 5K86:2, parallel to Wall 5K87:2.

These FP-2 walls were uniformly and loosely built almost completely of medium to large cobbles. As preserved, a considerable amount of loose soils filled the relatively large spaces between the stones. The width of the walls was usually .40-.50 m, with two outer rows of stone filled with less-regular stones between. COURSING was more or less regular (not quite random), while the orientation was a bit more diagonal, relative to cardinal compass points, than were the earlier walls (220-238° and 118-132°).

On the basis of these characteristics, and the general level at which the above walls were found, several other segments of FP-2 architecture were identified. In 5K76, two segments were found, one (5K76:23) during removal of the north balk. It paralleled the long FP-2 wall in 5K86. The other (5K76:24) was the continuation of Wall 5K77:4. Also in 5K77 were found Wall 5, a north-south segment, and Wall 6, which bonded with another north-south wall near the east balk (5K77:13). The soil found within these FP-2 walls was 5K86:23; associated foundation trenches included 5K86:7, 9, 11, 12, and 15.

Apart from these walls and wall segments, only one piece of architecture remains to be allocated (5K76:2).
Fig. 18.12. Plan of FP-2.
FIELD D: THE LOWER SOUTHERN TERRACE

Fig. 18.13. FP-2 walls in 5K86, looking north.

Fig. 18.14. FP-2 walls in 5K86, looking east.
FIELD D: THE LOWER SOUTHERN TERRACE

This element, which looked like two steps, was assigned to FP 2 almost by default. It was not connected to any FP-2 wall, but was rather unlike them in that the stones were larger. However, like all FP-2 walls, this feature was found very close to the surface, and did not connect with earlier architecture. Given the greatly disturbed nature of the south side of 5K76 (see FP 1, below), it is not impossible that this step or stair was even later than FP 2.

As indicated, there were no surfaces securely associated with FP-2 walls. Except to note the arrangement of walls, then, it is virtually impossible to describe a history of use and destruction/abandonment of this Field Phase. Several of the soil layers immediately below topsoil contained EB IVC sherds. Perhaps they may suffice for a tentative date.

Field Phase 1

Normally the natural erosion and destruction of an archaeological site such as a tell does not deserve consideration as a phase. However, activity on the lower southern terrace more recent than the Early Bronze Age has had significant archaeological impact.

Attempts to isolate the source of Roman and Byzantine pottery, and even one Umayyad sherd in Square 5K76, led to the realization that during a period of abandonment stretching from Early Bronze to Late Roman or even Byzantine times, the original face of the lower southern terrace had receded, perhaps on the order of meters (not tens of meters, however). At the same time, apparently, erosion channels cut down vertically into Early Bronze deposits, arrested primarily by FP-4 east-west walls. One such channel ran through 5K76.

With the intensification of terrace agriculture in the Late Roman and Byzantine periods in Transjordan, the lower southern terrace would have been prime agricultural land. The terrace, 20 to 30 m wide, reasonably flat, and low enough that runoff from higher in the wadi that drains areas south and west of the tell could be directed onto the terrace. Evidence of such channels was found in the agricultural survey conducted in the area surrounding the tell (see Cole in this volume).

Though we lacked much direct evidence, apart from the large-scale scattering of stones from FP-2 walls and three or four clear plow-share scars on the tops of stones in FP-4 walls (which could easily have been more modern still), it seems reasonable to posit that in the Late Roman (or Byzantine) period a new terrace wall was constructed (there were remnants of such at several places along the face of the present terrace). Behind this retaining wall, soil was filled in, extending the terrace nearly to its Early Bronze parameters. In the process, the abandonment-era erosion channels would have been filled in, as well apparently the case in 5K76, with soil containing contemporary pottery.

Conclusion

In nearly every respect, the purposes for opening this Field were fulfilled. It was somewhat surprising that, given the strong representation in the random surfaces survey, there was no apparently no Middle Bronze occupation on the lower southern terrace. It now seems clear that the Middle Bronze pottery collected from the surface and topsoil of our terrace eroded out of deposits higher on the mound, and came to rest on the lower flat area (much as apparently Early Bronze pottery has eroded from our terrace and come to rest outside the site on the flatter areas immediately below).

On the other hand, we have been able to delineate several phases of late Early Bronze domestic architecture, with promise of more EB phases to come before bedrock levels are reached. The promise of a future season is that with better-stratified pottery results, the dating of the several Field Phases will be clearer.

NOTES

1Interestingly, the Squares on either side of the eventual location of Field D did not yield Early Bronze indicator sherds from the surface/topsoil collection (Squares 5K95 and 5K79). East of the terrace three out of five Squares did yield EB indicators (5L64, 5M22, and 5M25). However, below the lower southern terrace (south and southwest of the Field), the Squares consistently yielded EB indicators (5K25, 5K62, 5K80, and 5L01).

2The excavating team was acutely aware of such things as wind patterns when the sieves were operating and great quantities of fine soil became airborne!

It appeared that either the rest of the wall north and south of the balk had been destroyed by later plowing (always possible at these shallow levels), or that it was simply missed in the Squares on either side of the balk. In defense of the excellent Square Supervisors in the Field, almost all of the rubble and tumble immediately under topsoil was composed of stones of the very same size as the stones used in the FP-2 walls. It was difficult, even once we knew what we were looking for, to differentiate this particular type of wall from the corresponding outfall!
Part Four

THE FINDS
Tell el-‘Umeiri with its occupation dating to the EB, MB, LB, Iron I, and Iron II periods represents a unique opportunity to recover ceramic assemblages which are at present poorly attested in Transjordan. While a corpus for the late Iron II period had been published from Hesban (Lugenbeal and Sauer 1972), other published materials stem from secondary mixed deposits such as fill or isolated tombs. Yet other assemblages are either only partially published, or not published at all. It is hoped the ‘Umeiri pottery will begin to right this situation, even though this publication is preliminary in nature.

After outlining the procedures of pottery analysis which were followed while the excavation was in the field, a tentative discussion of some of the pottery is included. Much is yet to be learned about Transjordanian ceramic history, but we are, nevertheless, committed to sharing our materials with colleagues in spite of our own frequent uncertainty.

**Procedures of Analysis**

Prior to excavation a detailed outline of procedures for pottery analysis in camp was drawn up. It was envisioned that a number of specialized teams would be working at various stations, performing the necessary tasks of pottery processing, such as washing, registration, mending, drawing, photographing, and ware analysis. To facilitate this procedure a pottery routing tag accompanied the bags of sherds through the various stations. Except for major revisions in ware analysis, the procedure was followed closely.

The pottery from each day’s collection was returned to pails marked with ID tags giving provenance and recommendations for special handling, if any. The pails were filled with water and allowed to soak overnight. Hired workers washed the pottery the next morning, placing the washed sherds in plastic baskets for drying. An attempt was made to discipline the washers to look for inscriptions on the Iron II pottery before the sherds were scrubbed but met with little success.

Pottery reading took place in the afternoon. Before the pottery was read, the sherds from each square were laid out on tables and sorted pail by pail into piles of diagnostic and non-diagnostic sherds. Both were counted for statistical studies. When the pottery from one square was finished the next square was ready to be read. In this way 80 pails of pottery could be read in two to three hours by one person. The field and square supervisors as well as the pottery registrar (Mary Ellen Lawlor assisted by her three daughters, Karis, Nancy, and Rene) were always present and entered the reading on the ID tag associated with the pail, the field notebook, and the pottery routing tag. When the reading was finished, the registrar’s assistants removed the pottery from the tables into plastic bags and placed them at the next station in the pro-
cessing system.

A decision as to the publishability of the pottery was made at the reading. If the pottery was from a sealed, unmixed locus, contained forms of special interest, or originated from a stratigraphically important locus, the routing tag was marked "Publishable." Otherwise it was marked "Unpublishable." Unpublishable pottery did not go through the processing system, but was immediately stored.

Only publishable diagnostics were registered. The first destination for all sherds in publishable loci was the reforming station for possible mending. It had been originally intended that all pottery would go through this station, but the vast amounts of sherds at the site (up to 2200 per m³ of soil) made it prohibitive. If a vessel was reconstructed, it was processed like of complete vessels found intact at the site. Otherwise the registered sherds were sent to the sawing station where they were sawn in preparation for drawing and ware analysis. After sawing, the profiles of the sherds were photographed and drawn.

The next stage included the analysis of the ware. This was done for all registered sherds, complete vessels, and all diagnostic sherds from Field D. The latter was an attempt to establish patterns of ware and form types within a single field. Significant input from Hans Curvers of the University of Amsterdam occurred at this point.

The pottery was then stored. The original ID tag remained with the pottery when it was stored. All other records including the routing tag, drawing, photographs, and ware analysis reports were filed together by pottery pail number and became the raw data from which publication could proceed. These records and the registered sherds were shipped to Canadian Union College for further study.

The Pottery

Introduction

Pottery from the various loci attributed to Integrated Phases (see Herr Chapter 13) were combined so that a synthesized view of the ceramics for each Integrated Phase (IP) could be illustrated. The diagnostic pottery from some loci have been published in entirety, while a limited number of selected sherds from other, less significant loci were included to illustrate forms not otherwise attested. Very few of the sherds published here came from surfaces, and intrusive mixing from lower levels should be considered a not infrequent possibility. None of the assemblages are complete and future seasons will add to them, most likely altering some of the conclusions presented here. But the results seem to have been relatively consistent, making preliminary observations possible. These will then be used as working hypotheses to be tested next season.

In a preliminary work of this nature unevenness is to be expected. Much more time was given to analysis of the late Iron II materials than to the earlier pottery so that sub-horizons within that period could be detected.

Integrated Phase 12 (fig. 19.1: 1)

This common EB bowl can be found from EB I (Callaway 1980: Fig. 37: 10) to the end of EB III when it seems to be most popular (Callaway 1980: Fig. 125). For stratigraphic reasons IP 12 may date to the end of the EB III period.

Integrated Phase 11 (figs. 19.1: 2 — 19.2: 7)

Holemouth Jars (fig. 19.1: 2-8). Fig. 19.1: 2-4 illustrates the typical Early Bronze holemouth jar with its slightly thickened rim and round terminus. Rim stances can range from virtually horizontal (fig. 19.1: 3) toward the vertical (fig. 19.1: 4). The latter may have been a cooking pot. The form ranges from EB I (Amiran 1978: PI. 8: 32) to the end of the EB III (Callaway 1980: Figs. 133-136) and probably into the very early EB IV.

The incising and grooving below the holemouth rim of the vessel in fig. 19.1: 5 is very frequent in the early stages of EB IV, especially on teapots (Prag 1974: Figs. 4: 11; 7: 8, 15). This is also the case for the square holemouth rim with an inward flange (fig. 19.1: 6-8). It seems to begin in EB III (Callaway 1980: Figs. 114: 2; 136: 4, 21; 137: 1; 141: 28; Johnston and Schaub 1978: Fig. 3: 8) and flourished in the early stages of EB IV, dying out before the end of that period.

Necked Jars (fig. 19.1: 9-14). The cooking pot with thin, everted rim (fig. 19.1: 9) seems to have begun late in EB III (Callaway 1980: Fig. 132: 22; Johnston and Schaub 1978: Fig. 3: 6). The upward turn of the rim, however, is limited to EB IV (Amiran 1969: PL 22 7; Dever 1980: Fig. 2: 4). The out-curving rim of fig. 19.1: 10-12 is frequent throughout the Early Bronze Age, but our particular collection of forms may be limited to the period from EB III (Callaway 1980: Figs. 111: 12, 16-18; 131: 21) to the end of EB IV (Amiran 1969: PL 23: 14; Prag 1974: Fig. 5: 19). Fig. 19.1: 10, with incising on the shoulder particularly suggests EB IV.

The thin-walled jar with a flaring rim and distinct join where rim meets body (fig. 19.1: 13) seems to have begun late in EB III (Callaway 1980: Fig. 131: 12, 16; Johnston and Schaub 1978: Fig. 3: 28) and
THE POTTERY FINDS

lasted to the end of EB IV when it flourished (Dever 1980: Fig. 4: 1-3, 6). Very frequent at 'Umeir were the large jars with high, flaring, folded rims (fig. 19.1: 14-15). The form begins in EB I with a short, clearly defined fold at the rim (compare fig. 19.18: 14; Callaway 1980: Figs. 37: 15; 62: 17) and becomes most popular in late EB III (Callaway 1980: Figs. 131: 35, 37, 40; 132), when the folded rim becomes longer and rounder as in our forms. This type does not seem to be frequent in EB IV at other sites, probably not extending beyond the earliest stages of the period.

Basin (fig. 19.1: 16). This large vessel (called a "vat" by Johnston and Schaub 1978: Figs. 3: 1, 26; 4: 56; 5:1) frequently contains rope molding (Prag 1974: Fig. 4: 14; Callaway 1980: Fig. 138: 1, 3). The broad ridge beneath the rim in our vessel is most likely vestigial molding. Basins are infrequent, but persistent in EB III and IV.

Bowls (fig. 19.2: 1-6). The hemispherical bowl with a simple rim and a slight vertical bend near the rim is frequent in EB III (Callaway 1980: Figs. 108: 11-17; 125: 14-16) and early EB IV (Johnston and Schaub 1978: Fig. 4: 40, 43). It does not seem to appear in late EB IV. The inverted and everted rims of fig. 19.2: 2-5 can occur on both shallow (fig. 19.2: 2-3) and deep bowls (fig. 19.2: 4-5) and seem to be the predominant rim form among the EB IV bowls in this assemblage. They begin in EB III (Callaway 1980: Figs. 110: 2, 6; 128: 12, 14) and continue into EB IV (Johnston and Schaub 1978: Fig. 5: 81). The large, shallow platter in fig. 19.2: 6 is typical of EB II-III, but begins as early as EB I (Callaway 1980: Fig. 62: 9). It does not seem to have lasted into EB IV. Our sherd may thus be an intrusion from a lower level.

Date. The above discussion shows clearly that IP 11 is best dated to the early stages of EB IV.

Integrated Phase 10 (fig. 19.2: 8-17)

Holemouth Jars (fig. 19.2: 8-9). While there is a distinct lack of the typical EB II-III holemouth jar rim in IP 10, the squared rim of fig. 19.2: 8 with perhaps an incipient flange is best dated to late EB III or early EB IV. The same is true of the form in fig. 19.2: 9, with its thin ware and squared rim (similar forms may be found in Callaway 1980: Figs. 114: 3; 136: 21 and Johnston and Schaub 1978: Fig. 3:21). Of note is the thin wedge applied to the shoulder beneath the rim, perhaps a variety of a high ledge handle.

Necked Jars (fig. 19.2: 10-12). New to our corpus is fig. 19.2: 10 with its internally-thickened flaring neck and everted rim. It is similar to the rims in fig. 19.18: 11-13, but the neck is taller and more flaring. This form may begin in late in EB III (Callaway 1980: Fig. 131:21, but here without the same everted rim and straight neck). The flaring simple rim of fig. 19.2: 11 is frequent throughout the Early Bronze Age, but the slightly thickened neck is best in EB III-IV (Callaway 1980: Fig. 111:22; especially Fig. 131: 4, 17, 26; Johnston and Schaub 1978: Fig. 3:27; Dever 1980: Fig. 3: 13). The large jar with flaring neck and folded rim (fig 2: 12) still occurs in IP 11, reflecting further development. An almost precise parallel from late EB III may be found in Callaway 1980: Fig. 132: 15.

Amphoriskos (fig. 19.2: 13). The best parallel for this form, with its narrow neck and large loop handles on gently rounded shoulders, comes from what Dever designates a "bottle amphoriskos" dated to "EB IVB" (1980: Fig. 2: 11).

Juglet (fig. 19.2: 14). The date for this juglet, with its high loop handle would seem to be EB I or II. The vessel came from a deposit in Field C which was considerably disturbed and may have intruded from lower levels.

Wire (fig. 19.2: 15). The rim of this bowl is identical to those in fig. 19.2: 2-5, but here it is on a miniature version of the bowl.

Ledge Handle (fig. 19.2: 17) and Body Sherds (fig. 19.3: 8-9). The envelope ledge handle is typical EB IV. But the band-combing of the body sherd is best dated to EB III (Albright 1932: Pls. 1: 14, 15; 2: 1,2).

Date. Very little difference is apparent between this pottery and that of IP 11, suggesting a date also in the early EB IV period.

Integrated Phase 9 (fig. 19.3: 1-11)

Holemouth Cooking Pot (fig. 19.3: 1). Although holemouth cooking pots with flanges were not included in our small IP 10 corpus, one example reappears in IP 9. It is possible this sherd was intrusive from lower levels.

Necked Jars (fig. 19.3: 2-6). The only type of jar which may be securely attributed to IP 9 is that which carries a simple rim on a flaring neck. Such rims can occur from EB II (Arad 1978: Pl. 15: 34) through the end of EB IV, when it is especially dominant on several vessel forms including jars, amphoriskoi, and pitchers (Dever 1980: Fig. 4: 1, 6, 11, 12). However, the puncture decoration on the upper shoulder of fig. 19.3: 6 seems to occur only in EB IV, especially at the end of that period (Prag 1974: Fig. 8: 13; Dever 1980: Fig. 4: 1, 6, 11, 12). The late EB IV period is also a time when the exaggerated inner join of the neck to the shoulder is frequent.

Bowl (fig. 19.3: 7). This deep bowl or small basin has an everted rim and a curious fold over the top of the rim as if the potter envisioned the rim as an envelope ledge handle.

Handles (fig. 19.3: 8-9) and Body Sherds (fig. 19.3:
10-11). The broad, thin loop handle with short incised lines and the envelope ledge handle fit the late EB IV horizon very well. This is also true of the two body sherds, one with herring-bone incising (fig. 19.3: 10) and the other with parallel incised combing in circular and chevron patterns (fig. 19.3: 11).

**Date.** Most of the forms discussed here are best placed at the very end of the EB IV period, Dever's and Richard's EB IVC (Dever 1980; Richard 1980).

**Integrated Phase 5 (fig. 19.4: 1-16)**

**Jar** (fig. 19.4: 1). The large holemouth pithos with a bulbous, thickened rim and grooves or ridges below the rim on the shoulder seems to extend throughout the Iron II period (Dornemann 1983: Fig. 57: 635 for a probable early Iron II example; Lugeneal and Sauer 1972: nos. 385, 387 for late Iron II examples; see also fig. 12: 9, figs. 1-14 below). This form is very infrequent west of the Jordan Valley but ubiquitous in central Transjordan.

**Small Jug** (fig. 19.4: 2). No good parallels to this have been found, though the closest comes from an 8th century deposit at Sa'idiyeh (Pritchard 1985: Figs. 5: 6; 7: 14). Antecedent forms seem to have occurred at Taanak in the 10th and 9th centuries (Rast 1978: Figs. 25: 4, 58: 12; 70: 2).

**Basin** (fig. 19.4: 3). Basins seem to be a typical form of the Ammonite plateau during Iron II (see figs. 19.7: 1; 19.13: 1-4). Precise rim parallels are difficult to find, but a basin possibly from an early Iron II context was found at the Amman Citadel (Dornemann 1983: Fig. 57: 613).

**Kraters** (fig. 19.4: 4-6). The holemouth form with thickened, elongate rim (fig. 19.4: 4) is typical of the Iron II period. A very close parallel comes from a late 8th century deposit at Sa'idiyeh (Pritchard 1985: Fig. 14: 18). The large bowl with a thickened rim and ridge below (fig. 19.4: 5) is best paralleled at the Amman Citadel (Dornemann 1983: Fig. 53: 254), probably from an early Iron II deposit. Fig. 19.4: 6 has parallels form Buseirah (Bennett 1975: Fig. 8: 2 — with paint) and Jericho (Kenyon and Holland 1983: Fig. 29: 39).

**Bowl** (fig. 19.4: 7-12). The very shallow fine ware bowl in fig. 19.4: 8 contains no ridges or grooves on the rim exterior, a feature common on late Iron II forms (Lugeneal and Sauer 1972: no. 522; Dornemann 1983: Fig. 32: 18-21). The early Iron II deposits on the Ammon Citadel contained forms similar to ours (Dornemann 1983: Fig. 54: 492, 495, 496). This would seem to be an Ammonite plateau form. The small shallow bowl with a thinned simple rim has a parallel at Dibon (Tushingham 1972: Fig. 17: 6). The simple hemispherical bowl of fig. 19.9.4: 10 finds parallels from the 10th century at Taanak (Rast 1978: Fig. 18: 5) and Irbid (Dornemann 1983: Fig. 20: 5, 30), but also from the 8th century at Sa'idiyeh (Pritchard 1985: Fig. 6: 14).

**Cooking Pots** (Fig. 19.4: 13-16). The holemouth cooking pot with a ridge below the rim has ubiquitous parallels from the 9th century to the early 7th century (see also fig. 19.10: 21-28). Fig. 19.4: 14 is probably a sloppy variant of this rim form. The rim of fig. 19.4: 16 comes from a vessel with a round, globular body (see especially the IP 3 forms in fig. 19.11: 1-9). Our form probably represents one of the earliest examples from this type of cooking pot. The top of its rim is drawn to a point and there is excellent definition of the thickened rim both on the interior and exterior. The rim gradually becomes rounded, especially at the end of the 7th century when the pointed top seems to disappear.

**Date.** The forms discussed above are best dated to the 8th century. Although some forms have antecedents going back to the 10th and 9th centuries, other forms are closely related to the late Iron II Ammonite corpus (Lugeneal and Sauer 1972). Not illustrated are three storejars, from the same in situ location as the small jug in fig. 19.4: 2, with an advanced collared rim in which the collar was made up of a small ridge near the bottom of the neck (see an identical example in fig. 19.20: 15 from an unstratified deposit).

**Integrated Phase 4 (fig. 19.4: 17-24)**

**Jars/Jugs** (fig. 19.4: 17-18). Fig. 19.4: 17, possibly a jar or a jug, is similar to fig. 19.12: 17 of IP 2, but the latter has two grooves instead of one below the rim. The jug rim in fig. 19.4: 18 may be a developed form of the rim on the small jug in fig. 19.4: 2 (IP 5).

**Juglet** (fig. 19.4: 20). The high, vertical to slightly flaring neck of this juglet was quite frequent at 'Umeiri. It seems to come from the middle centuries of Iron II.

**Bowl** (fig. 19.4: 21, 23). The globular bowl with an upright simple rim (fig. 19.4: 21) is frequent in IP 3, but less so in IP 2. Fig. 19.4: 23 may be antecedent to the similar bowl with grooves on the sidewall (see IP 3, fig. 19.8: 12; and especially IP 2, fig. 19.15: 1-5).

**Date.** The above forms seem to place themselves at the beginning of late Iron II, most likely the late 8th or early 7th centuries.

**Integrated Phase 3 (figs. 19.5-19.11)**

**Handleless Jars** (fig. 19.5: 1-2). These relatively small jars tapered to a pointed base. The best parallel comes from the tomb of Adoni-Nur in Amman, dated to the mid- to second half of the 7th century (Dorne-
mann 1983: Fig. 40: 10). They do not seem to occur in IP 2.

_Holemouth Jars_ (fig. 19.5: 3-8). These jars, with a long, thickened rim turning sharply inward from a more-or-less vertical sidewall, were very frequent in all IP 3 loci. Similar rim forms with rounded sidewalls have been classified as kraters (below). There are several varieties of this form, including large (fig. 19.5: 4, 6) and small (fig. 19.5: 3, 5, 7, 8) types. Rims can range from thick (fig. 19.5: 5, 7) to thin (fig. 19.5: 6, 8) and from short (fig. 19.5: 5, 7) to long (fig. 19.5: 4, 6). There can also be a thickening ridge on the exterior at the inward turn of the rim (fig. 19.5: 4-7). Parallels may be found in late Iron II levels throughout Transjordan and western Palestine (see especially Hesban [Lugenbeal and Sauer 1972: nos. 333-375] and the Amman Adoni-Nur tomb [Dornemann 1983: Fig. 41: 51]). These jars occur with little change in IP 2.

_Necked Jars_ (figs. 19.5: 9-29; 19.6: 6-7). There are many varieties of necked jars. Common in IP 3 were forms with a triangular thickened rim and grooves on a more-or-less vertical neck (fig. 19.5: 9-14). The best parallel is from Hesban (Lugenbeal and Sauer 1972: no. 428). The absence of other parallels may suggest that it is limited to the Ammonite plateau in the 7th century; note that it does not seem to be found in earlier deposits and is lacking from our IP 2 assemblage as well.

A variant of the above jar has a strongly sloping neck (figs. 19.5: 15-17; 19.6: 11), a feature frequently found on other Ammonite necked jars. Again the best parallel comes from Hesban (Lugenbeal and Sauer 1972: no. 433). Its regional and chronological range seem to be similar to that of the previous form.

Jars with a very small mouth diameter and triangular folded rims (fig. 19.5: 18-19) also seem to be typical of Ammonite deposits in the 7th century. These jars were much larger than their rims and necks would suggest. The best parallels come from Amman (for example, Dornemann 1983: Fig. 41: 11).

Wide-mouthed jars with a short neck and an out-turned rim (fig. 19.5: 20-21) did not continue into IP 2. The distinctive rim has a tendency to be pointed at the top.

The squat jar with a vestigial ridge on the neck (fig. 19.5: 23) was found _in situ_ on an IP 3 surface. Precise parallels are hard to find, but the closest is from Dibon (Tushingham 1972: Fig. 1: 5). Note the thickened triangular rim, a frequently attested rim type in ‘Umeiri deposits.

The jar with a very short neck and a flat-topped thickened rim (fig. 19.5: 25) may be intrusive from lower levels. None of the forms in fig. 19.5: 24-27 occurs in IP 2. The jar in fig. 19.5: 28, with its sloping neck and inverted rim, however, occurs in IP 2 (fig. 19.12: 15).

_Amphora_ (fig. 19.5: 29). The one amphora attributed to IP 3 was found in what appeared to be a secondary deposit and may precede the present assemblage. It has a tall ridged neck and an in-curving rim common to the Ammonite corpus (see especially the Amman Joffeh tomb [Dornemann 1983: Fig. 40: 19-20, 22]). Note the similar in-curving rims on the two amphoriskoi in fig. 19.6: 17-18, also from IP 3. No such forms occur in IP 2.

_Jars/Jugs_ (fig. 19.6: 1-5, 8-10). Forms that are difficult to set apart either as jars or jugs are considered together here. The first (fig. 19.6: 1), because of its sloping neck, was probably a jar. It may have been intrusive from lower levels, dating best to the early Iron II period. The form with the flattened rim (fig. 19.6: 2-3) does not seem to have parallels. Fig. 19.6: 4, with its in-curving, elongated rim seems to be typologically earlier and may be intrusive from lower levels (see Pritchard 1985: Figs. 4: 10; 7: 23). Similar to this form, but with a wider mouth and a groove on the rim is fig. 19.6: 5. The thin ware suggests a wide-mouthed jug. Two other forms which may be related include a triangular everted rim with a small ridge on the neck (fig. 19.6: 8-9). The best parallels are from Transjordan (Hesban [Lugenbeal and Sauer 1972: nos. 474-5] and Amman [Dornemann 1983: Figs. 56: 611; 57: 620 — but without ridges]). The form in fig. 19.6:10, with its short neck and wide shoulder, may have been a small jar. None of the forms, except fig. 19.6: 4, were found in IP 2.

_Narrow-Mouthed Jugs_ (fig. 19.6: 12-16, 21-23). Jugs with a tall neck and a cup-like offset rim (fig. 19.6: 12, 16) are not well attested elsewhere. They are probably related to the following form which seems to be typically Ammonite. The latter, with its flaring rim (fig. 19.6: 13), is paralleled best in two Amman tombs (Dornemann 1983: Figs. 34: 25; 35: 2) dated to the 8th and 7th centuries. These forms do not appear in IP 2.

Fig. 19.6: 14 is precisely paralleled in a 10th century deposit at Taanak (Rast 1978: Fig. 61: 7, 9-11) and is probably intrusive from lower levels. The same is true of fig. 19.6: 15, which has Iron I parallels (Afula IIA [Dothan 1955: Fig. 13: 26]; Beth Shan [James 1966: Fig. 54: 6]; and an Irbid tomb [Dornemann 1983: Fig. 26: 29]). Fig. 19.6: 21, possibly a beer jug, also seems to be intrusive from Iron I layers (see especially Dornemann 1983: Fig. 27: 4-5, 20).

Jugs with a flaring neck and a simple rim are not limited to Ammonite contexts. Parallel forms, even to the interior grooves (fig. 19.6: 22), come from as far afield as Ashdod (Dothan 1971: Fig. 41: 23). This form does not occur in IP 2.

_Wide-Mouthed Jugs_ (fig. 19.6: 19-20, 24-28). None
of the IP 3 wide-mouthed jugs were found in IP 2 levels. Jugs with a flaring neck and a narrow triangular rim (fig. 19.6: 19) were frequently attested in many IP 3 loci. The best parallel is from Amman (Dornemann 1983: Fig. 57: 619). Fig. 19.6: 20, with its thickened rim and ridged neck, could be a miniature handleless jar. The form in fig. 19.6: 25, with its rounded, thickened, offset rim may be a jar (see Dornemann 1983: Fig. 41: 9). The slightly everted simple rim in fig. 19.6: 26 is probably earlier than the Iron Age. Fig. 19.6: 27, with its flaring neck and inverted rim, could be a pedestal base for a chalice. Finally, fig. 19.6: 28, with its flaring, wavy sidewall and multi-pinched rim, probably is not a jug. It could be a chalice base or part of a cultic stand (the closest parallel comes from Far'ah [S] [Duncan 1930: no. 17.D2], but there is no pinching).

Amphoriskoi (fig. 19.6: 17-18). Both forms contain high, ridged necks with in-curving rims, handles that loop form the neck ridge to the shoulder, stepped bases, and parallel painted lines. The closest parallels come from an Amman tomb dated to the 8th-7th centuries (Dornemann 1983: Fig. 40: 19-20). The form is rare in IP 3 and was not found in the same secondary deposit and thus could be earlier.

Dipper Juglets (fig. 19.6: 29-33). The squared, squat bodies of fig. 19.6: 29-30 are typical of the late Iron II period all over southern Palestine and Transjordan, as is also the high neck with slightly thickened rim of fig. 19.6: 31. The body on this latter type was more elongated, however (see Dornemann 1983: Fig. 38: 7-8). A form with a squat, rounded body and flaring neck (fig. 19.6: 33) may have been used as a small pitcher. None of these forms have as yet been found in IP 2.

Globular Juglet (fig. 19.6: 34). A globular juglet, with a narrow, flaring simple rim and a loop handle stretching from mid-neck to the outer shoulder, is best paralleled in Stratum VII at Sa'idiyeh (Pritchard 1985: Fig. 4: 36) from the 8th century. This form is also not witnessed in IP 2.

Miscellaneous Juglets (fig. 19.6: 35-37). The first form (fig. 19.6: 35), with its short, sloping neck and everted rim, could be a jar similar to those in fig. 19.5: 18-19, but its ware is very thin. Juglets with multi-ridged rims (fig. 19.6: 36) sometimes include a spout (Herr 1986: Fig. 2: 4-5). The pinched rim on our example may suggest that a spout was not present, however. Other parallels have longer necks (Sahab tomb [Dornemann 1983: Fig. 37: 21]; Amman tomb [Dornemann 1983: Fig. 37: 201]). The example in fig. 19.6: 37, with a ridged neck and a handle or handles springing from the ridge, may have been a flask. None of these forms occurred in IP 2.

Small Juglets (fig. 19.6: 38-39). On both forms the handle springs from the neck of slightly below the rim. Neither form was found in IP 2.

Basin (fig. 19.7: 1). Large, open basins with flat bases were very frequent in late Iron II loci. Many were covered with a white or pinkish white slip. More seem to have occurred in IP 2 than in IP 3 (fig. 19.13: 1-4), though this cannot be a chronological factor (see the basin in IP 5 — fig. 19.4: 3). The relatively small example in fig. 19.7: 1 has a slightly curving sidewall and a strongly everted rim with grooves on the top, typical features on many of the basin sherds found. Parallels have not been noted in other publications.

Holemouth Kraters (fig. 19.7: 2-9). The first form has the elongated, thickened rim seen on the jars in fig. 19.5: 3-8, but here the sidewall curves outward from the rim instead of descending vertically (fig. 19.7: 2-4). It is possible that some of these sherds should be considered jars, as well. There is usually a mild bump at the joint of the rim to the sidewall and many of our forms carried knobs immediately below the rim (for example, fig. 19.7: 3-4). Parallels are ubiquitous in southern Palestine and Transjordan.

A variant of the above type is found in fig. 19.7: 5 with its multi-grooved rim and relatively thin ware. The rim of fig. 19.7: 6 also looks like a variant of the holemouth krater, with its thickened, grooved rim, but is more likely a large closed krater with its handles springing from the upper neck. This rim type is closely paralleled at Beer Sheba (Aharoni 1973: Figs. 56: 17; 58: 17-26; 70: 2-3; 71: 20; 73: 2-3; 74: 20-21), but they are on jars.

A form which was frequent at ‘Umeiri in both IP 3 and 2 but apparently unattested elsewhere was a globular krater with a triangular rim (fig. 19.7: 7-9). It may have adapted the first holemouth krater form (fig. 19.7: 2-4) by shortening and thickening the rim significantly. There is a tendency to point the inner angle of the rim (fig. 19.7: 8-9).

Closed Kraters (fig. 19.7: 10-12). A large krater with an upright triangular, grooved rim seems to lack parallels, except for the same rim form without grooves from an 8th century deposit at Sa’idiyeh (Pritchard 1985: Fig: 8: 12). The small krater with a thin, everted rim (fig. 19.7: 12) may be intrusive from lower deposits.

Bowls (figs. 19.7: 13-19.10: 7). Bowls were by far the most frequent type of vessel found in the late Iron II levels and included a large variety of forms. A shallow bowl with inset rim (or stepped rim) (figs. 19.7: 13-19.8: 4) is ubiquitous at ‘Umeiri and other Ammonite plateau sites such as Hesban (Lugengeal and Sauer 1972: nos. 1-93) and Amman (Dornemann 1983: Figs. 33: 15-17, 19-23; 55: 551, 555-557, 559-560, 562-583). The form is not found on the plateau outside the Ammonite sphere (Dibon) or in the Jordan Valley next to the Ammonite plateau (Sa’idiyeh). In
THE POTTERY FINDS

IP 3 the exterior groove is relatively sharp (fig. 19.7: 13, 17, 19); a double groove can occur on the exterior (fig. 19.7: 21, 23); and some forms were made of very thick ware (fig. 19.8: 2-4).

Another exclusively Transjordanian form is the small fine bowl with a simple rim and an exterior ridge (fig. 19.8: 5-11). It is found at Sa'idiyeh apparently as early as the 8th century (Pritchard 1985: Figs. 2: 21; 3: 10) in a very thin ware, most likely early in the tradition. It is very frequent at Hesban (Lugenbeal and Sauer 1972: nos. 158-195) and also occurs at Amman (Dornemann 1983: Fig. 32: 32-33). It thus seems to be limited to the Ammonite sphere both on the plateau and in the Jordan Valley. In IP 3 the rims can be upright (fig. 19.8: 5), inward leaning (fig. 19.8: 6-9), and outward leaning (fig. 19.8: 10-11); the ware tends to be thin; paint can be present; and the ridge is well defined.

The bowl with everted rim and grooved sidewall in fig. 19.8: 12 is also largely typical of the Ammonite region, with parallels coming from Hesban (Lugenbeal and Sauer 1972: nos. 102-149), the Amman Citadel (Dornemann 1983: Fig. 56: 588-589), and Jericho (Kenyon and Holland 1982: Fig. 203: 9). In IP 3 the grooves are better defined than IP 2; and the rim tends toward a square shape.

Globular bowls with upright simple rims (fig. 19.8: 14-22) seem to be limited to the Ammonite and Moabite plateau (Hesban [Lugenbeal and Sauer 1972: nos. 257-263,268-272]), an Amman tomb [Dornemann 1983: Fig. 33: 11], Amman Citadel [Dornemann 1983: Fig. 57: 650-652,654-656], and Dibon [Tushingham 1972: Figs. 1: 67; 24: 241]). Similar, but imprecise parallels are ubiquitous elsewhere in Transjordan and Palestine. Our form is most likely a regional adaptation of a more universal type. Rims can be upright (fig. 19.8: 17, 19-21), and thick with grooves (fig. 19.8: 22). The vessels also vary in size, some reaching krater size (fig. 19.14.7). Many more occur in IP 3 than IP 2.

Another frequent bowl type displays a thickened rim that inverts sharply at almost 90° (fig. 19.8: 23-26). Parallels again tend to be limited to Transjordan (Sahab tomb [Dornemann 1983: Fig. 33.7], Amman Citadel [Dornemann 1983: Fig. 58: 668-672], Dibon [Tushingham 1972: Figs. 1: 64; 3: 51; 22: 5], Sa'idiyeh [Pritchard 1985: Fig. 2: 1, 6], and Buseirah [Bennett 1975: Fig. 5: 61]). Other sites contain similar forms, but ours seems to be a regional adaptation for Transjordan. Many of the examples from 'Ummeiri as well as those listed among the parallels contain knobs below the rim (for example, fig. 19.8: 25). In IP 3 the rims tend more toward the horizontal than in IP 2.

A form frequent especially in western Palestine is fig. 19.8: 27, a bowl with a sharply curving sidewall and a vertical simple rim. Most parallels date to the 8th to 7th centuries B.C.

Very frequent in western Palestine, but rarer in Transjordan, is the hemispherical shallow bowl with a sloping sidewall and a simple rim (fig. 19.9: 1-2). Parallel contexts are usually dated to the 9th to early 7th centuries.

The carinated bowl with a flaring simple rim (fig. 19.9: 3-9) is ubiquitous in 9th to 8th century contexts all over Palestine. Its rim can sometimes be thickened (fig. 19.9: 8-9) and on one example a disk base was preserved (fig. 19.9: 9). No examples occurred in IP 2.

Gently carinated bowls with square-topped rims occur in three varieties (fig. 19.9: 10-16). The first contains a slightly widened rim (fig. 19.9: 10-11) with the best parallels coming from the Jordan Valley in the 8th century (Sa'idiyeh [Pritchard 1985: Fig. 3: 3] and Jericho [Kenyon and Holland 1982: fig. 197: 29]). Similar forms occur throughout Palestine in the 9th to 8th centuries. The second variety has an exterior-thickened rim (fig. 19.9: 12-14) that seems most at home in Transjordan (an Amman tomb [Dornemann 1983: Fig. 32: 47], Amman Citadel [Dornemann 1983: Fig. 55: 536], Sahab tomb [Dornemann 1983: Fig. 32: 49], Hesban [Lugenbeal and Sauer 1972: no. 218], and Sa'idiyeh [Pritchard 1985: Figs. 2: 4, 8; 10: 11]). Similar forms come from the Jordan Valley and the northern hill country of western Palestine. Most contexts would suggest the 8th to early 7th centuries. No examples come from IP 2. The third variety has an interior-thickened rim (fig. 19.9: 15-16) that again is best paralleled in Transjordan (Sahab tomb [Dornemann 1983: Fig. 55: 532], Sa'idiyeh [Pritchard 1985: Fig. 3.2], and Jericho [Kenyon and Holland 1982: Fig. 198: 5]). Regional and chronological dispersion seem to be similar to the second variety above.

A rare, small carinated bowl with both interior and exterior thickening (fig. 19.9: 17) is paralleled in 7th century deposits.

Large, shallow bowls with rounded thickened rims and a exterior groove below the rim (fig. 19.9: 18-20) have parallels coming from the 8th to 7th centuries.

Deep bowls with a bulbous ridge below the rim in three varieties (fig. 19.9: 21-23) seem to have been limited to Transjordan (Lugenbeal and Sauer 1972: no. 197). Fig. 9: 23 is probably a variant of fig. 19.9: 26-29 below.

The shallow carinated bowls with everted rims (fig. 19.9: 24-25) are relatively rare (Amman Citadel [Dornemann 1983: Fig. 56: 599]). A vessel precisely parallel to fig. 19.9: 25 was found in a 7th century deposit at Tel Batash. With its black-burnished ware and stepped base, the vessel is clearly an Ammonite import (Kelm and Mazar 1985: 110: 4). Relatedly large deep bowls in a thin ware included a grooved
out-turned rim (fig. 19.9: 26, 29). Parallels are again limited to the Ammonite region of Transjordan (Hesban [Lugenbeal and Sauer 1972: no. 142], Amman Citadel [Dornemann 1983: Fig. 56: 585-586, 595], and Sa‘idiyeh [Pritchard 1985: Fig. 17: 9-10]). The form may be limited to the 7th century.

A shallow bowl with gently curving sidewall and an interior-and exterior-thickened rim (fig. 19.9: 27-28, 30) often carries a groove below the rim on the exterior. Parallels are widespread from the 8th to 7th centuries.

Miscellaneous bowl forms include 1) a handled bowl with a gently inset rim (fig. 19.9: 31) which probably included two handles like its parallel at Buseirah (Bennett 1975: Fig. 6: 14); 2) a very shallow bowl with a flaring out-turned simple rim (fig. 19.10: 1) that may have been a chalice bowl; 3) a similar form with knobs for legs (fig. 19.10: 2), also possibly a chalice; and 4) a deep form with flaring simple rim (fig. 19.10: 3) that may have been a chalice/goblet (Rast 1978: Fig. 24: 10) or a pedestal base. The hemispherical holemouth bowl with a simple rim (fig. 19.10: 7) may have been intrusive from earlier levels.

Mortar (fig. 19.10: 8). Large shallow bowls in a thick, gray ware were probably intended to look like mortars made of magmatic stone (gabbro or basalt). The single form from IP 3 is more shallow than those from IP 2 (fig. 19.16: 16-17) and Hesban (Lugenbeal and Sauer 1972: no. 237). Parallels seem to be limited to the Ammonite sphere of Transjordan (below, IP 2).

Tri-Pod Cup (fig. 19.10: 9). The tri-pod cup seems to be a form found only at Ammonite plateau sites. The present form, with its sharply in-turned rim and a high, ridged carination, occurs also at Hesban (Lugenbeal and Sauer 1972: no. 282) and an Amman tomb (Dornemann 1983: Fig. 34: 8-9). This precise form does not occur in IP 2. We may tentatively suggest that the high, sharp carination and the horizontal rim illustrate the beginning of the tradition.

Mug (fig. 19.10: 10). The mug with a high simple rim and a low carination occurs at Transjordanian plateau sites (Hesban [Lugenbeal and Sauer 1972: no. 279], an Amman tomb [Dornemann 1983: Fig. 33: 41], Amman Citadel [Dornemann 1983: Fig. 60: 734], Dibon [Tushingham 1972: Fig. 1: 13], and Buseirah [Bennett 1975: Fig. 5: 17-17]). An identical form also occurs in IP 2 (fig. 19.16: 23).

Plates (fig. 19.10: 11-17). Four varieties of plates occur in IP 3.

1) The flat plate with simple rim (fig. 19.10: 11) has many parallels from Transjordan and western Palestine. This form does not seem to occur in IP 2.
2) A deeper plate with a flaring simple rim (fig. 19.10: 12-13) and probably a flat or shallow disk base is best paralleled from Transjordanian sites (Hesban [Lugenbeal and Sauer 1972: no. 509], two Amman tombs [Dornemann 1983: Fig. 32: 2, 11], Sahab tomb [Dornemann 1983: Fig. 32: 13], Amman Citadel [Dornemann 1983: Figs. 52: 184; 53: 475; 54: 481], Sa‘idiyeh [Pritchard 1985: Figs. 10.23: 17: 2], and Dibon [Tushingham 1972: Fig. 2: 23]). There are few parallels from western Palestine and the form does not seem to be present in IP 2. The parallels are best dated from the late 8th to 7th centuries.
3) Plates with squared rims (fig. 19.10: 14-15) have many parallels in Transjordan and western Palestine. It is the only plate form that is also present in IP 2.
4) A simple rim with a groove on the interior of the rim (fig. 19.10: 16-17) is paralleled only on the Ammonite plateau (Hesban [Lugenbeal and Sauer 1972: no. 512] and Amman Citadel [Dornemann 1983: Fig. 54: 484]).


Holemouth forms with a slightly thickened rim and a prominent ridge just below (fig. 19.10: 21-28) were ubiquitous in IP 3, but did not occur at all in IP 2. Many parallels from all over Transjordan and western Palestine could be cited, dating from the 9th to early 7th centuries. There are a variety of stances and mouth diameters both in our examples and in the parallels. It seems to have been the standard cooking-pot during most of the Iron II period, but this form disappeared before the beginning of the 6th century.

A closed globular cooking pot with an upright, round or pointed rim (fig. 19.11: 1-9) has parallels that are limited to Transjordan (Hesban [Lugenbeal and Sauer 1972: nos. 314-320], Amman Citadel [Dornemann 1983: Fig. 57: 639-640], Sa‘idiyeh [Pritchard 1985: Figs. 13: 6; 15: 27, 30], and Dibon [Tushingham 1972: Fig. 1: 36]). The tendency to point the top of the rim (fig. 19.11: 5-9) is an early feature (note the lack of pointed rims at Hesban; see also the pointed IP 5 form in fig. 19.4: 16). This form also occurs in IP 2, but probably without the pointed rim (especially fig. 19.17: 8).

Necked cooking pots with upright, multi-ridged rims (fig. 19.11: 10-12) are best paralleled in western Palestine, but no parallels are precise. This may be a variety at home in Transjordan. The form does not occur in IP 2.

The type illustrated in fig. 19.11: 13 probably is intrusive from lower levels.

Lamp (fig. 19.11: 14). The one example of a lamp from IP 3 is the normal Iron II type with a wide rim.
THE POTTERY FINDS

and a relatively deep pinch. Parallels are copious from deposits of the 9th to 7th centuries.

**Bases (fig. 19.11: 15-19).** There were several varieties of bases in IP 3, but only two are illustrated here.

1) Typically Ammonite "stepped" bases (fig. 19.11: 15-16) are very frequent in many varieties. Fig. 19.11: 15 probably belonged to a bowl, while fig. 19.11: 16 belonged most likely to a krater.

2) Disk bases (fig. 19.11: 17-19) were also frequent and occurred on kraters (fig. 19.11: 17), jugs (fig. 19.11: 18), and bowls (fig. 19.11: 19).

**Body Sherds (fig. 19.11: 20-22).** Two body sherds depict typical Ammonite forms of painted decoration. Fig. 19.11: 20 illustrates bichrome horizontal-band patterns, here thin black lines bordering a thick red band on the shoulder of a jug. The second sherd is a crowstep pattern, upside down in our drawing (fig. 19.11: 21). Note the slight ribbing on the exterior and the burningish inside. The third sherd illustrates a type of decoration found relatively rarely in which the exterior of the vessel was covered with small circular punctures (fig. 19.11: 22). No parallels have been found at present.

**Date.** The parallels to the forms discussed above seem to fit the 7th century best, Sa’idiyeh VII and the early forms of the Hesban assemblage.

**Integrated Phase 2 (figs. 19.12-19.17)**

**Holemouth Jars (fig. 19.12: 6-7).** The holemouth jars with vertical sidewalls and thickened elongated rims (fig. 19.12: 6-7) are identical to those of IP 3 (fig. 19.5: 3-8).

**Necked Jars (fig. 19.12: 1-5, 8, 10, 15-16).** Fig. 19.12: 5 may be an advanced form of the jar with sloping, grooved neck of IP 3 (fig. 19.5: 15-17), but lacking the triangular rim. Possibly developed from the IP 3 jar illustrated in fig. 19.5: 22 is the form with a sloping neck, a round rim, and a vestigial ridge at the base of the neck (fig. 19.12: 4). A parallel has been found in a 7th century deposit at Sa’idiyeh (Pritchard 1985: Fig. 17-19).

Fig. 19.12: 15 may also have developed from an IP 3 form (fig. 19.5: 28). The ware in the IP 2 example, however, is thinner.

Jars with a thickened, often bulbous rim and a ridge on the neck (fig. 19.12: 1-2, 16) may have been jugs. They are identified as jars here primarily because of the sloping neck of fig. 19.12: 2. They are probably to be related to similar jugs in IP 3 (fig. 19.6: 6-7).

A thin-walled jar with a sloping, ridged neck and an everted rim (fig. 19.12: 3) is similar to forms found at Amman and Megabelein (Dornemann 1983: Fig. 41: 9-10). The neck is too sharply sloping for a decanter (compare Dornemann 1983: Fig. 37: 4-10; and here, fig. 19.12: 21). This form seems to have begun in IP 2.

Wide-mouthed jars with thickened rims (fig. 19.12: 8, 10) may have been from kraters. Because their closest parallels come from Iron I deposits, these sherds may have intruded from lower levels.

**Pithoi (fig. 19.12: 9, 11-14).** These large jars were generally constructed of thick ware with holemouth rims and wide shoulders. Although no pithoi were present in the IP 3 loci published here, five rim varieties were found in IP 2. The best parallels come from Hesban (Lugenbeal and Sauer 1972: nos. 376-388). The presence of one pithos rim in IP 5 (fig. 19.4: 1) would suggest the form had a long history.

**Jars/Jugs (fig. 19.12: 17-18).** The form with an incurving, elongated rim (fig. 19.12: 18) is less graceful than its antecedent in IP 3 (fig. 19.6: 4), while fig. 19.12: 17 may be a similar form but with a groove and ridge on the outer rim.

**Narrow-Mouthed Jugs (fig. 19.12: 19-24).** Jugs with cup-like offset rims (fig. 19.12: 23-24) seem to have developed from those of IP 3 in two directions. 1) The mouth widened (fig. 19.12: 23) similar to forms in an Amman tomb (Dornemann 1983: Figs. 34: 26; 35: 9, 12-15). 2) The form with a very small mouth and an incurving rim (fig. 19.12: 24) could be from a different type of vessel, but incurving rims are relatively frequent on Ammonite jugs and amphoriskoi (Ammonite Citadel [Dornemann 1983: Fig. 59: 724]).

The form with a vertical neck and a simple rim (fig. 19.12: 22) developed from that illustrated in fig. 19.6: 21 of IP 3. Here there are no grooves.

The type of decanter in fig. 19.12: 21, with its sloping neck, is best paralleled in the Ammonite region (Megabelein [Dornemann 1983: Fig. 37: 6]). Two other jugs with rounded everted rims (fig. 19.12: 19-20) occur in IP 2, but not IP 3.

**Small Juglet (fig. 19.12: 26).** The only type of small juglet found in IP 2 had a globular body with an everted rim. It is similar to other small juglets from the end of the Iron II period.

**Basins (fig. 19.13: 1-4).** This type of vessel, rare at other sites and in IP 3, was very frequent in IP 2 levels. Four varieties are illustrated here. 1) A very large basin with an everted rim and a straight sidewall (fig. 19.13: 1) finds its closest parallel at the Amman Citadel (Dornemann 1983: Fig. 57: 613). 2) The form with two grooves in the top of the everted rim (fig. 19.13: 2) is larger than the IP 3 example and has a straight sidewall (fig. 19.7: 1). 3) Fig. 19.13: 3 has an everted and inverted rim with deep grooves on the sidewall. Although the form is different, grooves occur on the wall of a basin from the Amman Citadel
Holemouth Kraters (figs. 19.13: 5-19.14: 3). Holemouth kraters with elongated thickened rims in IP 2 may have developed from those in IP 3 by increasing the thickness of the rim (fig. 19.13: 5, 8-9), thereby exaggerating the "bump" between rim and sidewall (fig. 19.13: 7-9), sometimes becoming a ridge (figs. 19.13: 6; 19.14: 3). Parallels are very frequent from both Transjordan and western Palestine.

The large, thick, grooved rim of the krater in fig. 19.14: 1 is similar to that found in IP 3 (fig. 19.7: 6), but here with only two grooves in the rim.

The small globular krater with a triangular rim in IP 2 has painted bands (fig. 19.13: 10) and occurs in a thinner ware and with a more angular rim than the examples in IP 3 (fig. 19.7: 7-9).

Closed Kraters (fig. 19.14: 4-8). A variety of closed kraters occur in IP 2 that were not found in IP 3 (fig. 19.14: 4-8). The large globular bowl with a vertical simple rim and grooves on the rim exterior (fig. 19.14: 7) is a large version of the deep bowl of identical shape (fig. 19.15: 6). A thin-walled krater with a vertical neck and an out-turned simple rim with grooves on the exterior (fig. 19.14: 8) may be intrusive from lower levels; note a similar form from late Iron I or early Iron II at the Amman Citadel (Dornemann 1983: Fig. 57: 657).

Bowls (figs. 19.14: 9-19.16: 15). Shallow bowls with inset rims are again ubiquitous in IP 2 (fig. 19.14: 9-15; compare fig. 19.7: 13-8; 4 for IP 3 examples). However, the following differences may be noted: the outer groove on the rim is lower, sometimes even lower than the inner step (fig. 19.14: 10-14); angles are more rounded (fig. 19.14: 10, 14); and there can be interior grooves (fig. 19.14: 9, 13).

Small bowls with a simple rim and a ridge on the exterior below the rim (fig. 19.14: 16-19) were also present in IP 3 (fig. 19.8: 5-11). But there is now a trend toward more upright forms (fig. 19.14: 16-18); there is only one outward leaning rim (fig. 19.14: 19) and no inward leaning rims, whereas the latter were more frequent in IP 3 (fig. 19.8: 6-9). In IP 2 the ridge also seems to be less well defined (note especially fig. 19.14: 19).

Bows with an everted rim and a grooved sidewall (fig. 19.15: 1-5) were apparently more frequent in IP 2 than IP 3 and could occur without grooves (fig. 19.15: 5). The grooves in IP 2 were also less well defined (compare fig. 19.8: 12-13 [IP 3] with fig. 19.15: 1-4 [IP 2]).

Deep globular bowls with an upright simple rim (fig. 19.15: 6) were less frequent in IP 2 than IP 3 (fig. 19.8: 14-22). Here the rim is slightly everted.

Shallow bowls with a thickened rim inverting at about 90° to the sidewall (fig. 19.15: 7-12) seem to have been more frequent in IP 2 than IP 3 (fig. 19.8: 23-26). Now the rim tends to point upward slightly and one example occurs with knobs (fig. 19.15: 12).

Small bowls with a vertical simple rim and a sharply curving sidewall (fig. 19.15: 13-14) have perhaps a more sharply curving sidewall than those of IP 3 (fig. 19.8: 27). The hemispherical bowl with a simpler rim in fig. 19.16: 3 may be intrusive from lower levels.

Shallow carinated bowls with a slightly thickened, flattened rim (fig. 19.15: 15-16) exhibit no differences from the forms found in IP 3 (fig. 19.8: 10-11). The same is true of the related form with an inverted rim (compare fig. 19.15: 17 [IP 2] with fig. 19.9: 15-16 [IP 3]).

The deep bowl with an exterior-thickened rim and groove (fig. 19.15: 18-19) probably developed from a similar form with a rounded rim in IP 3 (fig. 19.9: 18-20). Parallels to the IP 2 form were found at Hesban (Lugenbeal and Sauer 1972: no. 208), Buseirah (Bennett 1974: Fig. 15: 13 [with knobs and paint]), and Jericho (Kenyon and Holland 1982: Figs. 195: 23; 196: 10; 1983: Fig. 23: 24).

Like IP 3 (fig. 19.9: 21-23), three varieties of rim forms occur on deep bowls having a bulbous ridge below the rim (fig. 19.15: 20-22). The first two may be variants of the holemouth krater (fig. 19.15: 20), but smaller. In IP 2 the bulbous ridge seems to be more prominent.

A small, shallow, carinated bowl with an everted rim (fig. 19.16: 1) is very similar to the two forms in IP 3 (fig. 19.9: 24-25). The same is true of a shallow bowl with an inverted and everted rim (compare fig. 19.16: 2 [IP 2] with fig. 19.9: 27-28, 30 [IP 3]).

Several varieties of bowls were found in IP 2 which did not occur in IP 3 (fig. 19.16: 4-15). The platter bowl in fig. 19.16: 4 may be intrusive from lower levels. A shallow bowl with an in-turned rolled rim (fig. 19.16: 5) is similar to typical bowls of the 8th and 7th centuries in southern regions of western Palestine. Fig. 19.16: 7 was probably an imitation of an Assyrian palace bowl. The ware is thicker than most palace ware and the carination is not as sharp. There are many parallels from the 7th and perhaps the early 6th centuries. The shallow bowl with a simple, out-turned rim (fig. 19.16: 8) may have been a chalice bowl. A large platter with a long, thickened rim (fig. 19.16: 12) has a parallel at Hesban (Lugenbeal and Sauer 1972: no. 222).

Mortars (fig. 19.16: 16-17, 19). Mortars were more frequent in IP 2 than IP 3 and came in three varieties. 1) The first, with a slightly thickened rim (fig. 19.16:
THE POTTERY FINDS

17), was deeper than the IP 3 example (fig. 19.10: 8). A very close parallel was found at Hesban (Lugenbeal and Sauer 1972: no. 237). 2) A second form had a slightly more squared rim and included heavy tripod legs (fig. 19.16: 16). 3) The third was very shallow and included a wavy sidewall and a squared rim (fig. 19.16: 19). It is paralleled closely at Hesban (Lugenbeal and Sauer 1972: no. 234) and Sa‘idiyeh (Pritchard 1985: Fig. 15: 9); both seem to come from the 7th or early 6th centuries.

Tripod Cups (fig. 19.16: 18, 20). The tripod cups of IP 2 were different than the one in IP 3 (fig. 19.10: 9). The first example exhibits an almost horizontal rim, but carries an inward-sloping sidewall (fig. 19.16: 20) is much better attested (Hesban [Lugenbeal and Sauer 1972: no. 281], Sahab tomb [Dornemann 1983: Fig. 34: 3, 7], an Amman tomb [Dornemann 1983: Fig. 34: 13-16], and Amman Citadel [Dornemann 1983: Fig. 58: 660]). The form is typical of the Ammonite plateau. The up-turned rim may indicate a more advanced form.

Mug (fig. 19.16: 23). This form is identical to that found in IP 3 (fig. 19.10: 10).

Plates (fig. 19.16: 21-22). Of the four plate types in IP 3 only the form with the squared rim occurs in IP 2 (fig. 19.16: 21-22). There is no apparent difference with the IP 3 examples (fig. 19.10: 14-15).

Cooking Pots (fig. 19.17: 1-12). Holey-mouth cooking pots with a doubly-grooved thickened rim (fig. 19.17: 1, 3, 5) are identical to those of IP 3 (fig. 19.10: 18-20). Most telling, however, for IP 2, is the complete lack of holemouth cooking pots with a ridge below the rim, a form ubiquitous in IP 3 (fig. 19.10: 21-28).

Another holemouth cooking pot apparently limited to IP 2 exhibits an interior-thickened rim with an exterior groove and can occur in large and small form (fig. 19.17: 2, 6). The best parallels come from the Amman Citadel (Dornemann 1983: Fig. 57: 642-644).

A large holemouth cooking pot with an exterior- and interior- thickened rim (fig. 19.17: 4) also has its best parallel at the Amman Citadel (Dornemann 1983: Fig. 53: 440).

Closed, round-bodied, cooking pots with an upright round-to-pointed rim were much rarer in IP 2 than IP 3 (compare fig. 19.17: 7-8 [IP 2] with fig. 19.11: 1-9 [IP 3]). They seem to be dying out during IP 2.

An adaptation of the above form occurs in a much squatter, broader cooking pot with a round, upright rim carrying a groove on the upper exterior (fig. 19.17: 9-11). Because this rim form did not occur in IP 3, this type of cooking pot probably developed from the above type during IP 2. Parallels come, again, from the Ammonite plateau (Hesban [Lugen-
for the rest of the necked forms. Noteworthy is the large jar with flaring neck and distinct folded rim (fig. 19.18: 14), representing the early stages of the form. The juglet in fig. 19.18: 15 was elegantly made in very thin ware.

The platter in fig. 19.18: 17 was most popular in EB III, whereas the form in fig 19.18: 18 was most frequent in EB IIB – IV.

Hemispherical bowls represent the usual EB range of forms. Of note is the tendency to thin the rim in fig. 19.18: 21, 23, 27. The painted patterns of fig. 19.18: 22-23, 25 are typical of early EB IV.

The baking tray in fig. 19.18: 28 had impressions up to 2 mm deep on the bottom made by the point of a reed or stick.

Middle Bronze Age (fig. 19.19: 1-18). Middle Bronze Age pottery was found extensively in Field C on the northern slope of the site, but not a single locus could be considered an in situ deposit. The profiled jar rim of fig. 19.19: 1 is best places in the MB IIB period (Cole 1984: Pl. 33: e). Although similar forms also occur in MB IIC, they are usually more ornately profiled (Seger 1974: Fig. 3: 3).

The wide-mouthed jugs or small jars in fig. 19.19: 2-3 are found in MB IIB-C (Cole 1984: Pl. 42: g, i; Seger 1974: Fig. 3: 32). The thin ware is covered with a thick white slip and one has reddish-brown paint, a feature best dated toward the end of the Middle Bronze Age (Seger 1974: Fig. 3: 25-26) and into LB I (Amiran 1969: PI. 46: 5). Forms similar to fig. 19.19: 4 come also from MB IIB-C (Cole 1984: Pl. 29: d; Seger 1974: Fig. 5: 32).

Platter bowls (fig. 19.19: 5-9) include several rim forms. The simple rim of fig. 19.19: 5 is at home in the MB IIB (Cole 1984: Pl. 1: b) to LB I (Amiran 1969: PI 40: 3). Continuing somewhat longer into LB IIA was the squared-rim form of fig. 19.19: 6 (Amiran 1969: Pl 38:14). Forms with interior-thickened rims (fig. 19.19: 7-9), however, were usually limited to MB IIB-C (Cole 1984: PIs. 4: a; 5: e, f, h; Seger 1974: Fig. 3: 20-22; 5: 1-5; 6: 39-41).

Carinated bowls made of fine, thin ware with a thin cream slip tended to be dominated by forms with in-sloping sidewalls and a slight eversion at the rim (fig. 19.19: 10-12). Because this does not seem to be a frequently attested form elsewhere, it should perhaps be considered a type most a home in Transjordan. Similar forms would suggest it dates to MB IIB-C (Amiran 1969: Pl. 27: 5; Seger 1974: Fig. 3: 30). The bowl in fig. 19.19: 13 with its short flaring upper sidewall may be a variant of the previous type. Better attested is the deep bowl of fig. 19.19: 14, dated from MB IIB (Cole 1984: Pls. 12: b; 17: e; 18: h) to LB I (Amiran 1969: Pl. 39: 9). The clarity of the form and the fineness of the ware, however, suggest a date early in this time span.

The cooking pot in fig. 19.19: 15 is a rare rim form, with a similar form coming from MB IIB (Cole 1984: Pl. 26: e). No examples of flat-bottomed cooking pots were found.

The lamp (fig. 19.19: 16) with its slight pinch is typical of MB II – LB I forms, while the bases in fig. 19.19: 17-18 are frequently found in MB II contexts. We thus have strong evidence that the site was occupied in MB IIB-C. The lack of MB IIA forms, on the other hand, seems to suggest that the site experienced a hiatus at that time.

Late Bronze Age (fig. 19.19: 19-21). Three cooking pots are illustrated which most likely came from the Late Bronze Age. Fig. 19.19: 19, with only the beginnings of a triangulated rim, is closest to LB I (Amiran 1969: Pl. 42: 2), while the beginnings of a flange on fig. 19.19: 20 would suggest LB IIB (Amiran 1969: Pl. 42: 14). The profiled rim in fig. 19.19: 21 may represent an out-turned rim of LB date or a unique Iron I form in which the flange has become a collar and the top of the rim has been turned out. While only thinly represented in our corpus, the LB pottery might suggest that the settlement existed through most of the period.

Iron Age I (fig. 19.20: 1-4). Two collared-rim jars are most likely from early Iron I (fig. 19.20: 1-2). Three other large jars which may also have carried somewhat more developed collars (fig. 19.20: 3-5) probably date later in Iron I (note the small ridge on fig. 19.20: 4).

Closed kraters, descendents of bi-conical LB forms, have rims which were everted and slightly thickened on the interior (fig. 19.20: 6-7). Fig. 19.20: 6 was painted in what appears to have been a metope design.

The two bowls cannot be certainly attributed to Iron I. They do not seem at home in Iron II, however. Fig. 19.20: 9 may have been a chalice bowl.

The vertical stance of the cooking pot rims, however, allows us to be more certain regarding their attribution to Iron I (fig. 19.20: 10-14). The flanged forms of fig. 19.20: 10-11 suggest they were early in the period, probably the 12th century, while the more developed rims of fig. 199.20: 12-13 would suggest a somewhat later date. Fig. 19.20: 14 may be a 10th century form.

It would thus seem that occupation at 'Umeiri extended throughout the Iron I period.

Early Iron II (fig. 19.20: 15-21). A form of collared-rim jar existed into the early parts of the Iron II period (fig. 19.21: 15), but the collar has become a small ridge on the lower part of the neck. Three unillustrated jars of this form were found in situ in a store­room in Field B (Field Phase 4) together with the
small jug shown in fig. 19.4: 3.
The cooking pots show development beyond the Iron I forms (fig. 19.20: 19-21).

Regional Survey Site 42 (fig. 21: 1-5)
The pottery from this site represents the transition from the Byzantine to the Umayyad periods. Whereas the first bowl is not well known, the second bowl is part of a very widespread tradition dating from the late Roman times to early Umayyad. Also not well known are the two large basins (fig. 19.21: 3-4).

Summary
The pottery presented here would seem to suggest that the site was occupied from EB III or earlier to the end of EB IV. After a possible hiatus during MB IIA, it was again occupied from MB IIB to the end of the Iron II (probably including the "Babylonian" period).

Pottery Description
The detailed pottery descriptions have been codified so that a maximum amount of data may be presented in a columnar arrangement. Definitions for the technological categories and their conventions of measurement were adapted from Glock (1975). Following is a key for the various codes used. A 7X hand comparator with geological reticule aided the analysis.

COLORS: Munsell Soil Color Charts (1975).

NON-PLASTICS: Type L—Lithic

<table>
<thead>
<tr>
<th>Size:</th>
<th>Qualifiers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7—granule (4 mm)</td>
<td>A—0.39%</td>
</tr>
<tr>
<td>6—very coarse sand (2 mm)</td>
<td>B—40.69%</td>
</tr>
<tr>
<td>5—coarse sand (1 mm)</td>
<td>C—70.89%</td>
</tr>
<tr>
<td>4—medium sand (.5 mm)</td>
<td>D—90-100%</td>
</tr>
<tr>
<td>3—fine sand (.25 mm)</td>
<td></td>
</tr>
<tr>
<td>2—very fine sand (.12 mm)</td>
<td></td>
</tr>
<tr>
<td>1—silt (.06 mm)</td>
<td></td>
</tr>
</tbody>
</table>

Shape:
A—angular                        A—0.39%
SA—sub-angular                   B—40.69%
SR—sub-round                     C—70.89%
R—round                          D—90-100%

Density:
H—high (70-30% of fabric space) MH—(30-25%)
M—(25-15%)                       L—(15-7%)
VL—(>7%)

DATA:
FS—fissure simple  A—0.39%  7 (4 mm)
FC—fissure complex B—40.69%  6 (2 mm)
PR—pit round       C—70.89%  5 (1 mm)
PA—pit angular     D—90-100% 4.5 (mm)
JR—join rim        3 (.25 mm)
JH—join handle     2 (.12 mm)
JB—join base       1 (.06 mm)

FIRING:
U—underfired        O—oxidation
R—reduction         V—vitrification

Acknowledgements
The work of many individuals made this chapter possible. Hans Curvers of the University of Amsterdam and Larry Mitchell of Adventist Health Systems West began the description process during the field season of 1984. Marlene Sinclair, a potter from Airdrie, Alberta, applied her knowledge of potting to the final form of the descriptions. The pottery was drawn primarily by Colin House of Andrews University but also by David Merling and Randall Younker, both of Andrews University. All drawings were inked by Gerald Serhan of Canadian Union College.
THE POTTERY FINDS

Fig. 19.1. Pottery of Integrated Phases 12(1) and 11(2-16).

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Provenience</th>
<th>Fabric Color</th>
<th>Non-Metals</th>
<th>Voids</th>
<th>Staining</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Type</td>
<td>Square</td>
<td>Local</td>
<td>Flag</td>
<td>Exterior</td>
<td>Color</td>
<td>Interior</td>
<td>Color</td>
</tr>
<tr>
<td>1</td>
<td>Bowl</td>
<td>S475</td>
<td>15 38 1</td>
<td></td>
<td>S5/V2/2</td>
<td>gray</td>
<td>W</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Jar</td>
<td>S487</td>
<td>15 27 3</td>
<td></td>
<td>S5/V2/4</td>
<td>brown</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Jar</td>
<td>S486</td>
<td>28 46 13</td>
<td></td>
<td>S5/V2/3</td>
<td>brown</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Jar</td>
<td>S487</td>
<td>15 31 2</td>
<td></td>
<td>S5/V2/5</td>
<td>gray</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Jar</td>
<td>S477</td>
<td>9 22 1</td>
<td></td>
<td>S5/V2/5</td>
<td>gray</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Cook pot</td>
<td>S487</td>
<td>15 21 1</td>
<td></td>
<td>S5/V2/4</td>
<td>brown</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Cook pot</td>
<td>S488</td>
<td>22 36 2</td>
<td></td>
<td>S5/V2/4</td>
<td>gray</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Cook pot</td>
<td>S486</td>
<td>32 56 4</td>
<td></td>
<td>S5/V2/3</td>
<td>brown</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Cook pot</td>
<td>S485</td>
<td>26 46 9</td>
<td></td>
<td>S5/V2/2</td>
<td>brown</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Jar</td>
<td>S486</td>
<td>26 46 11</td>
<td></td>
<td>S5/V2/5</td>
<td>gray</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Jar</td>
<td>S487</td>
<td>21 27 1</td>
<td></td>
<td>S5/V2/3</td>
<td>gray</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Jar</td>
<td>S486</td>
<td>22 36 3</td>
<td></td>
<td>S5/V2/4</td>
<td>gray</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Jar</td>
<td>S477</td>
<td>9 20 1</td>
<td></td>
<td>S5/V2/3</td>
<td>brown</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Jar</td>
<td>S486</td>
<td>26 46 12</td>
<td></td>
<td>S5/V2/3</td>
<td>gray</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Jar</td>
<td>S486</td>
<td>32 56 6</td>
<td></td>
<td>S5/V2/3</td>
<td>gray</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Basin</td>
<td>S478</td>
<td>5 46 1</td>
<td></td>
<td>S5/V2/5</td>
<td>gray</td>
<td>L</td>
<td>SIR + H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

THE POTTERY FINDS

Fig. 19.1. Pottery of Integrated Phases 12(1) and 11(2-16).
THE POTTERY FINDS

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

313
# THE POTTERY FINDS

**Fig. 19.2. Pottery of Integrated Phases 11(1-7) and 10(8-17).**

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Provenience</th>
<th>Locality</th>
<th>Pot Mark</th>
<th>Paint Mark</th>
<th>Fabric Color</th>
<th>Type</th>
<th>Surface Treatment</th>
<th>Vessel Mark</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bowl</td>
<td>SKX7</td>
<td>15</td>
<td>27</td>
<td>2</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>2</td>
<td>Platter</td>
<td>SKX7</td>
<td>16</td>
<td>25</td>
<td>13</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>3</td>
<td>Bowl</td>
<td>SKX6</td>
<td>30</td>
<td>59</td>
<td>3</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>4</td>
<td>Bowl</td>
<td>SKX6</td>
<td>32</td>
<td>58</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>5</td>
<td>Bowl</td>
<td>SKX7</td>
<td>19</td>
<td>31</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>6</td>
<td>Platter</td>
<td>SKX7</td>
<td>16</td>
<td>25</td>
<td>9</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>7</td>
<td>Jug Handle</td>
<td>SKX7</td>
<td>15</td>
<td>21</td>
<td>3</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>8</td>
<td>Jar</td>
<td>B713</td>
<td>13</td>
<td>74</td>
<td>4</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>9</td>
<td>Jar</td>
<td>B712</td>
<td>23</td>
<td>88</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>10</td>
<td>Jar</td>
<td>B712</td>
<td>13</td>
<td>74</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>11</td>
<td>Jar</td>
<td>SKX7</td>
<td>18</td>
<td>29</td>
<td>3</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>12</td>
<td>Jar</td>
<td>B04</td>
<td>4</td>
<td>11</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>13</td>
<td>Amphora Imbas</td>
<td>B04</td>
<td>4</td>
<td>11</td>
<td>2</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>14</td>
<td>Jug</td>
<td>B72</td>
<td>23</td>
<td>89</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>15</td>
<td>Bowl</td>
<td>SKX7</td>
<td>16</td>
<td>29</td>
<td>4</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>16</td>
<td>Jug Handle</td>
<td>SKX7</td>
<td>18</td>
<td>29</td>
<td>2</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
<tr>
<td>17</td>
<td>Jar</td>
<td>SKX7</td>
<td>18</td>
<td>29</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>M</td>
<td>FSSA</td>
<td>PR3A</td>
</tr>
</tbody>
</table>

*Note: Table continues for all pottery finds.*

---

314
THE POTTERY FINDS

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

315
Fig. 19.3. Pottery of Integrated Phase 9.
THE POTTERY FINDS
THE POTTERY FINDS

Fig. 19.4. Pottery of Integrated Phases 5(1-16) and 4(17-24).

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Type</th>
<th>Square</th>
<th>Period</th>
<th>Phase</th>
<th>Exterior</th>
<th>Core</th>
<th>Interior</th>
<th>Type</th>
<th>Size</th>
<th>Shape</th>
<th>Colour</th>
<th>Decor</th>
<th>Fixing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>jug</td>
<td>7887</td>
<td>6</td>
<td>35</td>
<td>3</td>
<td>H</td>
<td></td>
<td>L</td>
<td>7A</td>
<td>HH</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>7887</td>
<td>6</td>
<td>35</td>
<td>1</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>MM</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>basin</td>
<td>7887</td>
<td>6</td>
<td>35</td>
<td>4</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>MM</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>3</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>MM</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>jar</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>1</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>2</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>3</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>4</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>5</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>6</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>7</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>8</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>pot</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>9</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>pot</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>10</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>pot</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>11</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>pot</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>12</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>pot</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>13</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>jar</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>14</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>jar</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>15</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>16</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>17</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>18</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>19</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>bowl</td>
<td>7887</td>
<td>6</td>
<td>43</td>
<td>20</td>
<td></td>
<td></td>
<td>L</td>
<td>7A</td>
<td>H</td>
<td>7.5YR/6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

318
THE POTTERY FINDS

1.  

2.  

3.  

4.  

5.  

6.  

7.  

8.  

9.  

10.  

11.  

12.  

13.  

14.  

15.  

16.  

17.  

18.  

19.  

20.  

21.  

22.  

23.  

24.  

319.
### THE POTTERY FINDS

#### Fig. 19.5. Pottery of Integrated Phase 3.

<table>
<thead>
<tr>
<th>Vessel Type</th>
<th>Square</th>
<th>Locality</th>
<th>Phenomenon</th>
<th>Fabric Color</th>
<th>Non-Pastics</th>
<th>Voids</th>
<th>Mernal</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Filing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>150</td>
<td>2</td>
<td>5 YR 6/4</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>M</td>
</tr>
<tr>
<td>2</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>170</td>
<td>4</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>3</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>180</td>
<td>4</td>
<td>2 YR 7/1</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>BA</td>
</tr>
<tr>
<td>4</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>200</td>
<td>2</td>
<td>2 YR 7/1</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>5</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>210</td>
<td>5</td>
<td>2 YR 7/5</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>BA</td>
</tr>
<tr>
<td>6</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>230</td>
<td>2</td>
<td>2 YR 7/1</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>7</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>240</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>8</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>250</td>
<td>2</td>
<td>2 YR 7/1</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>9</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>260</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>10</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>270</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>11</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>280</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>12</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>290</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>13</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>300</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>14</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>310</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>15</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>320</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>16</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>330</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>17</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>340</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>18</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>350</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>19</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>360</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>20</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>370</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>21</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>380</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>22</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>390</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>23</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>400</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>24</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>410</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>25</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>420</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>26</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>430</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>27</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>440</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>28</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>450</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>29</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>460</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>30</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>470</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>31</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>480</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>32</td>
<td>hand-</td>
<td>7542</td>
<td>13</td>
<td>490</td>
<td>1</td>
<td>2 YR 7/2</td>
<td>yellow brown</td>
<td>L</td>
<td>7 A</td>
<td>RA</td>
</tr>
<tr>
<td>Vessel</td>
<td>Provenience</td>
<td>Fabric Color</td>
<td>Non-Plastics</td>
<td>Voids</td>
<td>Surface Treatment</td>
<td>Decoration</td>
<td>Filling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
<td>--------------</td>
<td>--------------</td>
<td>-------</td>
<td>------------------</td>
<td>------------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7K411</td>
<td>10 105 3</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>2</td>
<td>7K411</td>
<td>13 126 9</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>3</td>
<td>7K414</td>
<td>13 126 2</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>4</td>
<td>7K522</td>
<td>10 87 3</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>5</td>
<td>7K419</td>
<td>9 63 3</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>6</td>
<td>7K419</td>
<td>13 86 6</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>7</td>
<td>7K419</td>
<td>13 126 1</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>8</td>
<td>7K419</td>
<td>10 118 3</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>9</td>
<td>7K419</td>
<td>10 105 6</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>10</td>
<td>7K419</td>
<td>10 118 2</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>11</td>
<td>7K520</td>
<td>10 88 6</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>12</td>
<td>7K520</td>
<td>13 120 10</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>13</td>
<td>7K520</td>
<td>13 63 1</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>14</td>
<td>7K520</td>
<td>13 28 1</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>15</td>
<td>7K520</td>
<td>13 113 11</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>16</td>
<td>7K520</td>
<td>13 114 11</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>17</td>
<td>7K520</td>
<td>13 126 3</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>18</td>
<td>7K520</td>
<td>10 84 2</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>19</td>
<td>7K520</td>
<td>10 89 1</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>20</td>
<td>7K520</td>
<td>13 104 2</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>21</td>
<td>7K520</td>
<td>10 127 5</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
<tr>
<td>22</td>
<td>7K520</td>
<td>10 95 3</td>
<td>2.5YR6/4 grey</td>
<td>5/6</td>
<td>PASS</td>
<td>7K004</td>
<td>7K004</td>
<td>W</td>
<td>2.5YR6/3 red</td>
<td>RH</td>
</tr>
</tbody>
</table>
### THE POTTERY FINDS

**Fig. 19.7. Pottery of Integrated Phase 3 (continued).**

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Provenience</th>
<th>Fabric Color</th>
<th>Non-plastics</th>
<th>Vests Marked</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bowl</td>
<td>7K50 13 110 2</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>water</td>
<td>7K41 13 120 1</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>krater</td>
<td>7K50 10 105 3</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>krater</td>
<td>7K50 13 111 1</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>krater</td>
<td>7K41 9 93 2</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>krater</td>
<td>7K41 10 105 3</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>krater</td>
<td>7K50 10 83 2</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>krater</td>
<td>7K41 12 13</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>krater</td>
<td>7K50 13 114 4</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>krater</td>
<td>7K41 10 105 4</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>krater</td>
<td>7K41 13 126 6</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>krater</td>
<td>7K41 9 93 1</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>krater</td>
<td>7K41 10 105 4</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>krater</td>
<td>7K50 10 105 5</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>krater</td>
<td>7K41 13 126 6</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>krater</td>
<td>7K50 10 81 1</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>krater</td>
<td>7K50 10 105 9</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>krater</td>
<td>7K41 13 114 4</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>krater</td>
<td>7K50 10 105 4</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>krater</td>
<td>7K41 13 126 6</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>krater</td>
<td>7K50 10 81 1</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>krater</td>
<td>7K41 13 114 4</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>krater</td>
<td>7K50 10 105 9</td>
<td>2.5Y5/0 brown reddish brown</td>
<td>2.5Y5/0 brown</td>
<td>10YR6/2 white</td>
<td>SLR-H</td>
<td>0</td>
</tr>
</tbody>
</table>

---

**Note:** The table above provides detailed information about the pottery finds, including vessel type, provenience, fabric color, non-plastics, vests marked, surface treatment, decoration, and firing. Each row represents a different find, with specific details about its characteristics and condition.
THE POTTERY FINDS

Fig. 19.8. Pottery of Integrated Phase 3 (continued).

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Provenience</th>
<th>Fabric Color</th>
<th>Non-Plastics</th>
<th>Voids</th>
<th>Mand</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Filling</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Type</td>
<td>Square</td>
<td>Lozenge</td>
<td>Fal</td>
<td>Reg</td>
<td>Color</td>
<td>Color</td>
<td>Color</td>
</tr>
<tr>
<td>1</td>
<td>bowl</td>
<td>7641</td>
<td>10</td>
<td>101</td>
<td>2</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>2</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>108</td>
<td>5</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>3</td>
<td>bowl</td>
<td>7644</td>
<td>9</td>
<td>90</td>
<td>2</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>4</td>
<td>bowl</td>
<td>7643</td>
<td>13</td>
<td>128</td>
<td>6</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>5</td>
<td>bowl</td>
<td>7641</td>
<td>13</td>
<td>129</td>
<td>4</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>6</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>107</td>
<td>6</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>7</td>
<td>bowl</td>
<td>7650</td>
<td>13</td>
<td>111</td>
<td>5</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>8</td>
<td>bowl</td>
<td>7641</td>
<td>13</td>
<td>112</td>
<td>2</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>9</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>114</td>
<td>2</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>10</td>
<td>bowl</td>
<td>7650</td>
<td>13</td>
<td>57</td>
<td>5</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>11</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>51</td>
<td>1</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>12</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>58</td>
<td>2</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>13</td>
<td>bowl</td>
<td>7650</td>
<td>13</td>
<td>112</td>
<td>3</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>14</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>97</td>
<td>6</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>15</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>64</td>
<td>4</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>16</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>83</td>
<td>3</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>17</td>
<td>bowl</td>
<td>7641</td>
<td>10</td>
<td>108</td>
<td>5</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>18</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>77</td>
<td>10</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>19</td>
<td>bowl</td>
<td>7641</td>
<td>10</td>
<td>101</td>
<td>8</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>20</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>85</td>
<td>3</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>21</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>98</td>
<td>1</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
<tr>
<td>22</td>
<td>bowl</td>
<td>7650</td>
<td>13</td>
<td>98</td>
<td>1</td>
<td>2.5YR5/0</td>
<td>GYR</td>
<td>2.5YR5/0</td>
</tr>
</tbody>
</table>

326
THE POTTERY FINDS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
327
THE POTTERY FINDS

Fig. 19.9. Pottery of Integrated Phase 3 (continued).

<table>
<thead>
<tr>
<th>Vessel Type</th>
<th>Prominence</th>
<th>Fabric Color</th>
<th>Finish Marks</th>
<th>Vessel Marks</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Square</td>
<td>Color</td>
<td>Fall</td>
<td>Exeter</td>
<td>Core</td>
<td>Interior</td>
<td>Type</td>
</tr>
<tr>
<td>1</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>98</td>
<td>2</td>
<td>2.5/4X/8</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>96</td>
<td>7</td>
<td>2.5/4X/6</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>97</td>
<td>8</td>
<td>2.5/4X/7</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>112</td>
<td>1</td>
<td>1.0/5X/4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>94</td>
<td>6</td>
<td>2.5/4X/4</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>92</td>
<td>6</td>
<td>2.5/4X/4</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>97</td>
<td>2</td>
<td>2.5/4X/5</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>114</td>
<td>1</td>
<td>2.5/4X/5</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>92</td>
<td>5</td>
<td>2.5/4X/6</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>94</td>
<td>4</td>
<td>2.5/4X/4</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>96</td>
<td>3</td>
<td>2.5/4X/3</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>100</td>
<td>3</td>
<td>2.5/4X/4</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>128</td>
<td>8</td>
<td>2.5/4X/5</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>96</td>
<td>4</td>
<td>2.5/4X/5</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>97</td>
<td>3</td>
<td>2.5/4X/5</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>97</td>
<td>2</td>
<td>2.5/4X/5</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>104</td>
<td>2</td>
<td>2.5/4X/6</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>93</td>
<td>1</td>
<td>2.5/4X/6</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>97</td>
<td>4</td>
<td>2.5/4X/5</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>128</td>
<td>6</td>
<td>2.5/4X/4</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>128</td>
<td>7</td>
<td>2.5/4X/6</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>128</td>
<td>6</td>
<td>2.5/4X/4</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>128</td>
<td>6</td>
<td>2.5/4X/4</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>110</td>
<td>1</td>
<td>2.5/4X/3</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>bowl</td>
<td>7650</td>
<td>10</td>
<td>112</td>
<td>2</td>
<td>2.5/4X/4</td>
<td></td>
</tr>
</tbody>
</table>

(continued on next page)
THE POTTERY FINDS

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

0 | 10
LGH
### THE POTTERY FINDS

#### Fig. 19.10. Pottery of Integrated Phase 3 (continued).

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Provenance</th>
<th>Fabric Color</th>
<th>Amo-Pathic</th>
<th>Voids</th>
<th>Mound</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bowl</td>
<td>7K20</td>
<td>16</td>
<td>188</td>
<td>7</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>bowl</td>
<td>7K20</td>
<td>13</td>
<td>114</td>
<td>5</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>bowl</td>
<td>7K20</td>
<td>10</td>
<td>114</td>
<td>1</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>bowl</td>
<td>7K20</td>
<td>13</td>
<td>80</td>
<td>3</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>bowl</td>
<td>7K20</td>
<td>13</td>
<td>126</td>
<td>2</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>bowl</td>
<td>7K20</td>
<td>9</td>
<td>58</td>
<td>4</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>bowl</td>
<td>7K20</td>
<td>10</td>
<td>112</td>
<td>4</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>bowl</td>
<td>7K20</td>
<td>10</td>
<td>102</td>
<td>5</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>bowl</td>
<td>7K20</td>
<td>10</td>
<td>102</td>
<td>4</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>plate</td>
<td>7K20</td>
<td>13</td>
<td>126</td>
<td>5</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>plate</td>
<td>7K20</td>
<td>13</td>
<td>126</td>
<td>6</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>81</td>
<td>6</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>101</td>
<td>3</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>105</td>
<td>3</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>85</td>
<td>2</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>101</td>
<td>4</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>101</td>
<td>4</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>85</td>
<td>2</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>plate</td>
<td>7K20</td>
<td>13</td>
<td>120</td>
<td>4</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>plate</td>
<td>7K20</td>
<td>13</td>
<td>120</td>
<td>4</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>plate</td>
<td>7K20</td>
<td>16</td>
<td>113</td>
<td>14</td>
<td>2.5YR6/2</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>plate</td>
<td>7K20</td>
<td>13</td>
<td>92</td>
<td>1</td>
<td>2.5YR6/2</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>plate</td>
<td>7K20</td>
<td>13</td>
<td>92</td>
<td>3</td>
<td>2.5YR6/2</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>plate</td>
<td>7K20</td>
<td>13</td>
<td>111</td>
<td>10</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>25</td>
<td>plate</td>
<td>7K20</td>
<td>13</td>
<td>114</td>
<td>12</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>26</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>80</td>
<td>4</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>27</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>80</td>
<td>5</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
<tr>
<td>28</td>
<td>plate</td>
<td>7K20</td>
<td>10</td>
<td>58</td>
<td>0</td>
<td>2.5YR6/4</td>
<td>Gla</td>
<td>0</td>
</tr>
</tbody>
</table>
THE POTTERY FINDS

Fig. 19.11. Pottery of Integrated Phase 3 (continued).

<table>
<thead>
<tr>
<th>No</th>
<th>Type</th>
<th>Square</th>
<th>Status</th>
<th>Fabric Color</th>
<th>Non-Myths</th>
<th>Voids</th>
<th>Weight</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>cook</td>
<td>7641</td>
<td>10</td>
<td>115</td>
<td>5</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>cook</td>
<td>7641</td>
<td>10</td>
<td>115</td>
<td>4</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>cook</td>
<td>7650</td>
<td>10</td>
<td>01</td>
<td>3</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>cook</td>
<td>7650</td>
<td>10</td>
<td>01</td>
<td>2</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>cook</td>
<td>7651</td>
<td>10</td>
<td>115</td>
<td>2</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>cook</td>
<td>7651</td>
<td>10</td>
<td>115</td>
<td>2</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>cook</td>
<td>7651</td>
<td>10</td>
<td>137</td>
<td>1</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>cook</td>
<td>7651</td>
<td>10</td>
<td>136</td>
<td>3</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>cook</td>
<td>7652</td>
<td>13</td>
<td>126</td>
<td>11</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>cook</td>
<td>7652</td>
<td>13</td>
<td>06</td>
<td>3</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>cook</td>
<td>7653</td>
<td>13</td>
<td>114</td>
<td>6</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>cook</td>
<td>7653</td>
<td>10</td>
<td>66</td>
<td>1</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>cook</td>
<td>7653</td>
<td>13</td>
<td>126</td>
<td>9</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>lamp</td>
<td>7656</td>
<td>13</td>
<td>04</td>
<td>1</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>base</td>
<td>7651</td>
<td>13</td>
<td>126</td>
<td>0</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>base</td>
<td>7651</td>
<td>10</td>
<td>01</td>
<td>1</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>base</td>
<td>7652</td>
<td>10</td>
<td>06</td>
<td>10</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>base</td>
<td>7652</td>
<td>10</td>
<td>08</td>
<td>2</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>base</td>
<td>7653</td>
<td>10</td>
<td>93</td>
<td>5</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>body</td>
<td>7650</td>
<td>10</td>
<td>95</td>
<td>9</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>body</td>
<td>7650</td>
<td>10</td>
<td>105</td>
<td>6</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>body</td>
<td>7650</td>
<td>10</td>
<td>105</td>
<td>2</td>
<td>2.376/6</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

332
THE POTTERY FINDS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
### THE POTTERY FINDS

**Fig. 19.12. Pottery of Integrated Phase 2.**

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Square</th>
<th>Locus</th>
<th>Fall</th>
<th>Reg.</th>
<th>Fabric Color</th>
<th>Core Color</th>
<th>Interior</th>
<th>Type</th>
<th>Size</th>
<th>Shape</th>
<th>Density</th>
<th>Voids</th>
<th>Manuf.</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>jar</td>
<td>7K51</td>
<td>13</td>
<td>65</td>
<td>2</td>
<td>5YR7/4</td>
<td>pink</td>
<td>5YR7/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>2</td>
<td>jar</td>
<td>7K51</td>
<td>4</td>
<td>47</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>red</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>L</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>3</td>
<td>jar</td>
<td>7K51</td>
<td>2</td>
<td>39</td>
<td>5</td>
<td>2.5YR6/5</td>
<td>light red</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>L</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>4</td>
<td>jar</td>
<td>7K50</td>
<td>9</td>
<td>76</td>
<td>3</td>
<td>5YR7/3</td>
<td>pink</td>
<td>5YR7/3</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>L</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>5</td>
<td>jar</td>
<td>7K51</td>
<td>13</td>
<td>65</td>
<td>3</td>
<td>5YR6/5</td>
<td>red</td>
<td>5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>L</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>6</td>
<td>jar</td>
<td>7K51</td>
<td>4</td>
<td>52</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>pink</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>7</td>
<td>jar</td>
<td>7K50</td>
<td>4</td>
<td>9</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>red</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>L</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>8</td>
<td>jar</td>
<td>7K51</td>
<td>13</td>
<td>68</td>
<td>3</td>
<td>2.5YR6/5</td>
<td>pink</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>9</td>
<td>phial</td>
<td>7K51</td>
<td>9</td>
<td>33</td>
<td>3</td>
<td>5YR6/5</td>
<td>pink</td>
<td>5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>D</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>10</td>
<td>phial</td>
<td>7K51</td>
<td>13</td>
<td>66</td>
<td>5</td>
<td>2.5YR6/4</td>
<td>pink</td>
<td>2.5YR6/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>11</td>
<td>phial</td>
<td>7K50</td>
<td>9</td>
<td>77</td>
<td>9</td>
<td>2.5YR6/5</td>
<td>pink</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>I</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>12</td>
<td>phial</td>
<td>7K49</td>
<td>0</td>
<td>54</td>
<td>4</td>
<td>5YR7/4</td>
<td>pink</td>
<td>5YR7/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>I</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>13</td>
<td>phial</td>
<td>7K51</td>
<td>10</td>
<td>82</td>
<td>2</td>
<td>2.5YR6/4</td>
<td>pink</td>
<td>2.5YR6/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>14</td>
<td>phial</td>
<td>7K51</td>
<td>10</td>
<td>88</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>pink</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>I</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>15</td>
<td>jar</td>
<td>7K51</td>
<td>13</td>
<td>78</td>
<td>6</td>
<td>2.5YR6/4</td>
<td>pink</td>
<td>2.5YR6/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>16</td>
<td>jar</td>
<td>7K51</td>
<td>13</td>
<td>65</td>
<td>4</td>
<td>5YR7/4</td>
<td>pink</td>
<td>5YR7/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>17</td>
<td>jar</td>
<td>7K51</td>
<td>13</td>
<td>94</td>
<td>2</td>
<td>10R6/4</td>
<td>pink</td>
<td>10R6/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>18</td>
<td>jar</td>
<td>7K51</td>
<td>9</td>
<td>33</td>
<td>5</td>
<td>5YR7/4</td>
<td>pink</td>
<td>5YR7/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>19</td>
<td>jar</td>
<td>7K51</td>
<td>9</td>
<td>33</td>
<td>6</td>
<td>5YR6/5</td>
<td>pink</td>
<td>5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>20</td>
<td>jar</td>
<td>7K51</td>
<td>9</td>
<td>33</td>
<td>7</td>
<td>5YR6/5</td>
<td>gray</td>
<td>5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>21</td>
<td>jar</td>
<td>7K50</td>
<td>0</td>
<td>72</td>
<td>10</td>
<td>2.5YR6/5</td>
<td>pink</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>22</td>
<td>jar</td>
<td>7K50</td>
<td>0</td>
<td>78</td>
<td>1</td>
<td>2.5YR6/5</td>
<td>pink</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>23</td>
<td>jar</td>
<td>7K50</td>
<td>0</td>
<td>79</td>
<td>7</td>
<td>2.5YR6/4</td>
<td>pink</td>
<td>2.5YR6/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>24</td>
<td>jar</td>
<td>7K50</td>
<td>1</td>
<td>78</td>
<td>1</td>
<td>2.5YR6/4</td>
<td>pink</td>
<td>2.5YR6/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>25</td>
<td>jar</td>
<td>7K51</td>
<td>13</td>
<td>78</td>
<td>3</td>
<td>2.5YR6/4</td>
<td>pink</td>
<td>2.5YR6/4</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
<tr>
<td>26</td>
<td>jar</td>
<td>7K51</td>
<td>2</td>
<td>31</td>
<td>15</td>
<td>2.5YR6/5</td>
<td>pink</td>
<td>2.5YR6/5</td>
<td>L</td>
<td>5A</td>
<td>RA</td>
<td>M</td>
<td>FISA</td>
<td>PR4A</td>
<td>SIR+</td>
<td>pink</td>
<td>SIR+</td>
</tr>
</tbody>
</table>

334
Fig. 19.13. Pottery of Integrated Phase 2 (continued).

<table>
<thead>
<tr>
<th>No.</th>
<th>Vessel</th>
<th>Square</th>
<th>Provenience</th>
<th>Fabric Color</th>
<th>Red. Plastics</th>
<th>Vessel</th>
<th>Manuf.</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>basin</td>
<td>7K40</td>
<td>13</td>
<td>65</td>
<td>2</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
<tr>
<td>2</td>
<td>basin</td>
<td>7K40</td>
<td>13</td>
<td>64</td>
<td>1</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
<tr>
<td>3</td>
<td>basin</td>
<td>7K51</td>
<td>15</td>
<td>126</td>
<td>1</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
<tr>
<td>4</td>
<td>basin</td>
<td>7K51</td>
<td>19</td>
<td>95</td>
<td>2</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
<tr>
<td>5</td>
<td>water</td>
<td>7K51</td>
<td>9</td>
<td>34</td>
<td>3</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
<tr>
<td>6</td>
<td>water</td>
<td>7K51</td>
<td>12</td>
<td>64</td>
<td>2</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
<tr>
<td>7</td>
<td>water</td>
<td>7K51</td>
<td>4</td>
<td>46</td>
<td>3</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
<tr>
<td>8</td>
<td>water</td>
<td>7K51</td>
<td>12</td>
<td>58</td>
<td>1</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
<tr>
<td>9</td>
<td>water</td>
<td>7K51</td>
<td>9</td>
<td>34</td>
<td>2</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
<tr>
<td>10</td>
<td>water</td>
<td>7K50</td>
<td>5</td>
<td>64</td>
<td>8</td>
<td>S5YR2/4</td>
<td>S5YR5/5</td>
<td>S5YR6/5</td>
<td>5A</td>
<td>W</td>
</tr>
</tbody>
</table>

| 336 |
THE POTTERY FINDS

Diagram of pottery findings.
**THE POTTERY FINDS**

Fig. 19.14. Pottery of Integrated Phase 2 (continued).

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Provenience</th>
<th>Fabric Color</th>
<th>Rim Felxity</th>
<th>Yield</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bowl</td>
<td>7531</td>
<td>14 82 3</td>
<td>5YR 4/2</td>
<td>3</td>
<td>2YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>2 bowl</td>
<td>7531</td>
<td>13 60 6</td>
<td>2.5YR 5/0</td>
<td>2</td>
<td>5YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>3 bowl</td>
<td>7531</td>
<td>14 82 2</td>
<td>2.5YR 5/0</td>
<td>2</td>
<td>5YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>4 bowl</td>
<td>7453</td>
<td>2 27 5</td>
<td>5YR 4/2</td>
<td>2</td>
<td>2YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>5 bowl</td>
<td>7531</td>
<td>9 33 4</td>
<td>5YR 4/2</td>
<td>2</td>
<td>2YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>6 bowl</td>
<td>7531</td>
<td>4 52 4</td>
<td>2.5YR 5/0</td>
<td>2</td>
<td>5YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>7 bowl</td>
<td>7531</td>
<td>2 29 1</td>
<td>2.5YR 5/0</td>
<td>2</td>
<td>5YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>8 bowl</td>
<td>7531</td>
<td>13 78 4</td>
<td>2.5YR 5/0</td>
<td>2</td>
<td>5YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>9 bowl</td>
<td>7531</td>
<td>13 80 3</td>
<td>5YR 4/2</td>
<td>2</td>
<td>2YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>10 bowl</td>
<td>7531</td>
<td>9 79 5</td>
<td>5YR 4/2</td>
<td>2</td>
<td>2YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>11 bowl</td>
<td>7531</td>
<td>2 27 3</td>
<td>2.5YR 5/0</td>
<td>2</td>
<td>5YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>12 bowl</td>
<td>7531</td>
<td>13 79 3</td>
<td>2.5YR 4/2</td>
<td>2</td>
<td>5YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
<tr>
<td>13 bowl</td>
<td>7531</td>
<td>13 65 2</td>
<td>2.5YR 4/2</td>
<td>2</td>
<td>5YR 4/2</td>
<td>VR</td>
<td>VR</td>
</tr>
</tbody>
</table>
### THE POTTERY FINDS

**Fig. 19.15. Pottery of Integrated Phase 2 (continued).**

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Provenience</th>
<th>Fabric Color</th>
<th>Non-Metals</th>
<th>Ysote</th>
<th>Band</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Filling</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
THE POTTERY FINDS

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

0 10 LGH

341
### THE POTTERY FINDS

**Fig. 19.16. Pottery of Integrated Phase 2 (continued).**

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Preparience</th>
<th>Fabric Color</th>
<th>Non-Plastics</th>
<th>Ducks</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bowl</td>
<td>7K20 2</td>
<td>27 1</td>
<td>5YR/74</td>
<td>pink</td>
<td>5YR/74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>bowl</td>
<td>7K50 9</td>
<td>74 3</td>
<td>3YR/78</td>
<td>red</td>
<td>2.5YR/60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>bowl</td>
<td>7K51 12</td>
<td>60 1</td>
<td>10YR/55</td>
<td>brown</td>
<td>10YR/55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>bowl</td>
<td>7K51 4</td>
<td>51 1</td>
<td>2.5YR/75</td>
<td>light</td>
<td>2.5YR/75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>bowl</td>
<td>7K51 14</td>
<td>68 1</td>
<td>2.5YR/68</td>
<td>light</td>
<td>2.5YR/68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>bowl</td>
<td>7K60 9</td>
<td>43 1</td>
<td>5YR/81</td>
<td>gray</td>
<td>5YR/81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>bowl</td>
<td>7K60 9</td>
<td>43 3</td>
<td>2.5YR/74</td>
<td>pink</td>
<td>2.5YR/74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>bowl</td>
<td>7K61 14</td>
<td>63 2</td>
<td>5YR/73</td>
<td>pink</td>
<td>5YR/73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>bowl</td>
<td>7K61 5</td>
<td>78 4</td>
<td>5YR/65</td>
<td>yellow</td>
<td>5YR/65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>bowl</td>
<td>7K61 4</td>
<td>45 2</td>
<td>2.5YR/49</td>
<td>pink</td>
<td>2.5YR/49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>bowl</td>
<td>7K61 12</td>
<td>63 1</td>
<td>2.5YR/49</td>
<td>pink</td>
<td>2.5YR/49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>bowl</td>
<td>7K63 4</td>
<td>49 3</td>
<td>2.5YR/62</td>
<td>red</td>
<td>2.5YR/62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>bowl</td>
<td>7K63 4</td>
<td>73 5</td>
<td>2.5YR/62</td>
<td>red</td>
<td>2.5YR/62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>bowl</td>
<td>7K63 12</td>
<td>60 3</td>
<td>5YR/63</td>
<td>pink</td>
<td>5YR/63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>bowl</td>
<td>7K64 7</td>
<td>84 1</td>
<td>2.5YR/74</td>
<td>pink</td>
<td>2.5YR/74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>bowl</td>
<td>7K65 4</td>
<td>50 2</td>
<td>5YR/73</td>
<td>pink</td>
<td>5YR/73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>bowl</td>
<td>7K65 9</td>
<td>46 2</td>
<td>2.5YR/74</td>
<td>pink</td>
<td>2.5YR/74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>bowl</td>
<td>7K65 13</td>
<td>65 5</td>
<td>2.5YR/74</td>
<td>pink</td>
<td>2.5YR/74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>bowl</td>
<td>7K65 9</td>
<td>77 3</td>
<td>5YR/74</td>
<td>pink</td>
<td>5YR/74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>bowl</td>
<td>7K65 4</td>
<td>49 3</td>
<td>2.5YR/62</td>
<td>pink</td>
<td>2.5YR/62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>bowl</td>
<td>7K65 4</td>
<td>75 2</td>
<td>2.5YR/62</td>
<td>pink</td>
<td>2.5YR/62</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The table includes various pottery types, their colors, and details such as firing and decoration techniques. The colors are specified using Munsell color notations.
THE POTTERY FINDS
### THE POTTERY FINDS

**Fig. 19.17. Pottery of Integrated Phase 2 (continued).**

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Preform</th>
<th>Fabric Color</th>
<th>Non-Plastics</th>
<th>Voids</th>
<th>Material</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Finng</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Type</td>
<td>Square Lock</td>
<td>Fill</td>
<td>Reg.</td>
<td>Exterior Core Interior</td>
<td>Type Size Shape Density</td>
<td>Exterior Color Interior Color</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>cook pot</td>
<td>7509 3</td>
<td>31</td>
<td>1</td>
<td>3S15/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>2</td>
<td>cook pot</td>
<td>7509 5</td>
<td>64</td>
<td>6</td>
<td>3S15/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>3</td>
<td>cook pot</td>
<td>7509 5</td>
<td>64</td>
<td>5</td>
<td>3S15/5/2 reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/5/2 reddish brown yellow</td>
</tr>
<tr>
<td>4</td>
<td>cook pot</td>
<td>7509 9</td>
<td>75</td>
<td>5</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>5</td>
<td>cook pot</td>
<td>7501 12</td>
<td>56</td>
<td>3</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>6</td>
<td>cook pot</td>
<td>7501 14</td>
<td>63</td>
<td>3</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>7</td>
<td>cook pot</td>
<td>7501 4</td>
<td>56</td>
<td>6</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>8</td>
<td>cook pot</td>
<td>7501 2</td>
<td>57</td>
<td>1</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>9</td>
<td>cook pot</td>
<td>7501 9</td>
<td>54</td>
<td>1</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>10</td>
<td>cook pot</td>
<td>7501 9</td>
<td>53</td>
<td>1</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>11</td>
<td>cook pot</td>
<td>7501 12</td>
<td>63</td>
<td>4</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>12</td>
<td>cook pot</td>
<td>7501 13</td>
<td>64</td>
<td>1</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>13</td>
<td>base pot</td>
<td>7501 4</td>
<td>73</td>
<td>1</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>14</td>
<td>lamp pot</td>
<td>7501 6</td>
<td>37</td>
<td>1</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>15</td>
<td>lamp pot</td>
<td>7501 2</td>
<td>27</td>
<td>2</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>16</td>
<td>lamp pot</td>
<td>7501 3</td>
<td>53</td>
<td>1</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>17</td>
<td>base pot</td>
<td>7501 13</td>
<td>78</td>
<td>2</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>18</td>
<td>base pot</td>
<td>7501 13</td>
<td>80</td>
<td>5</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>19</td>
<td>base pot</td>
<td>7501 15</td>
<td>95</td>
<td>1</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
<tr>
<td>20</td>
<td>base pot</td>
<td>7501 13</td>
<td>94</td>
<td>3</td>
<td>3S15/6/4 dark reddish brown yellow</td>
<td>L</td>
<td>SA RA L FRA W 0</td>
<td>3S15/6/4 dark reddish brown yellow</td>
</tr>
</tbody>
</table>
THE POTTERY FINDS

1. 17
2. 18
3. 16
4. 345
5. 0 10
6. LGH
## The Pottery Finds

**Fig. 19.18. Unstratified Pottery.**

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Provenience</th>
<th>Fabric Color</th>
<th>Rim Paste</th>
<th>Y axis</th>
<th>Handle</th>
<th>Surface Treatment</th>
<th>Description</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>2</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>3</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>4</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>5</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>6</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>7</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>8</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>9</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>10</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>11</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>12</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>13</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>14</td>
<td>rim jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>15</td>
<td>jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>16</td>
<td>jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>17</td>
<td>jar</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>18</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>19</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>20</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>21</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>22</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>23</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>24</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>25</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>26</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>27</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
<tr>
<td>28</td>
<td>bowl</td>
<td>2.5 Y R 6/6</td>
<td>pink</td>
<td>L</td>
<td>RA</td>
<td>SL BL</td>
<td>0</td>
<td>0 VO</td>
</tr>
</tbody>
</table>

**Notes:**
- **Vessel:** Various types of pottery vessels (e.g., rim jar, jar, bowl).
- **Provenience:** Locations from which the pottery was found.
- **Fabric Color:** The color of the pottery fabric.
- **Rim Paste:** The material used for the rim of the pottery.
- **Y axis:** The Y-axis position of the pottery find.
- **Handle:** The presence or absence of handles.
- **Surface Treatment:** Methods used to treat the pottery surfaces.
- **Description:** Additional details or notes about the pottery.
- **Firing:** The method or process used to fire the pottery.
### THE POTTERY FINDS

#### Fig. 19.19. Unstratified Pottery (continued).

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Provenance</th>
<th>Fabric Color</th>
<th>Non-Metrics</th>
<th>Vessel</th>
<th>Mould</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Type</td>
<td>Square</td>
<td>Local</td>
<td>Pal</td>
<td>Reg</td>
<td>Liner/Case/Color</td>
<td>Size/Shape/Density</td>
<td>Exterior/Color</td>
</tr>
<tr>
<td>1</td>
<td>Jar</td>
<td>BL.72</td>
<td>38</td>
<td>52</td>
<td>1</td>
<td>5YR7/4 pink</td>
<td>L</td>
<td>5YR7/4 pink</td>
</tr>
<tr>
<td>2</td>
<td>Jug</td>
<td>BL.72</td>
<td>6</td>
<td>73</td>
<td>4</td>
<td>2.5YR6/4 light red</td>
<td>L</td>
<td>2.5YR6/4 light red</td>
</tr>
<tr>
<td>3</td>
<td>Jug</td>
<td>BL.72</td>
<td>6</td>
<td>73</td>
<td>3</td>
<td>2.5YR6/2 gray</td>
<td>L</td>
<td>2.5YR6/2 gray</td>
</tr>
<tr>
<td>4</td>
<td>Jug</td>
<td>BL.72</td>
<td>4</td>
<td>70</td>
<td>5</td>
<td>5YR7/4 pink</td>
<td>L</td>
<td>5YR7/4 pink</td>
</tr>
<tr>
<td>5</td>
<td>Flask</td>
<td>BL.72</td>
<td>4</td>
<td>70</td>
<td>1</td>
<td>7.5YR7/4 light brown</td>
<td>L</td>
<td>7.5YR7/4 light brown</td>
</tr>
<tr>
<td>6</td>
<td>Flask</td>
<td>BL.72</td>
<td>4</td>
<td>70</td>
<td>3</td>
<td>5YR7/3 pink</td>
<td>L</td>
<td>5YR7/3 pink</td>
</tr>
<tr>
<td>7</td>
<td>Bowl</td>
<td>BL.72</td>
<td>8</td>
<td>73</td>
<td>2</td>
<td>7.5YR7/2 light brown</td>
<td>L</td>
<td>7.5YR7/2 light brown</td>
</tr>
<tr>
<td>8</td>
<td>Bowl</td>
<td>BL.72</td>
<td>25</td>
<td>76</td>
<td>1</td>
<td>5YR7/3 pink</td>
<td>L</td>
<td>5YR7/3 pink</td>
</tr>
<tr>
<td>9</td>
<td>Bowl</td>
<td>BL.72</td>
<td>8</td>
<td>73</td>
<td>3</td>
<td>5YR7/3 light brown</td>
<td>L</td>
<td>5YR7/3 light brown</td>
</tr>
<tr>
<td>10</td>
<td>Bowl</td>
<td>BL.72</td>
<td>25</td>
<td>81</td>
<td>1</td>
<td>5YR7/3 pink</td>
<td>L</td>
<td>5YR7/3 pink</td>
</tr>
<tr>
<td>11</td>
<td>Bowl</td>
<td>BL.72</td>
<td>4</td>
<td>76</td>
<td>2</td>
<td>5YR7/6 medium light</td>
<td>L</td>
<td>5YR7/6 medium light</td>
</tr>
<tr>
<td>12</td>
<td>Bowl</td>
<td>BL.72</td>
<td>4</td>
<td>70</td>
<td>6</td>
<td>2.5YR9/5 light brown</td>
<td>L</td>
<td>2.5YR9/5 light brown</td>
</tr>
<tr>
<td>13</td>
<td>Bowl</td>
<td>BL.72</td>
<td>6</td>
<td>73</td>
<td>1</td>
<td>5YR7/3 medium brown</td>
<td>L</td>
<td>5YR7/3 medium brown</td>
</tr>
<tr>
<td>14</td>
<td>Bowl</td>
<td>BL.72</td>
<td>8</td>
<td>73</td>
<td>1</td>
<td>5YR7/3 medium brown</td>
<td>L</td>
<td>5YR7/3 medium brown</td>
</tr>
<tr>
<td>15</td>
<td>Cooking pot</td>
<td>BL.72</td>
<td>25</td>
<td>81</td>
<td>3</td>
<td>5YR7/3 medium brown</td>
<td>L</td>
<td>5YR7/3 medium brown</td>
</tr>
<tr>
<td>16</td>
<td>Lamp</td>
<td>BL.72</td>
<td>4</td>
<td>70</td>
<td>1</td>
<td>2.5YR9/4 light brown</td>
<td>L</td>
<td>2.5YR9/4 light brown</td>
</tr>
<tr>
<td>17</td>
<td>Base</td>
<td>BL.72</td>
<td>28</td>
<td>54</td>
<td>1</td>
<td>2.5YR9/5 medium brown</td>
<td>L</td>
<td>2.5YR9/5 medium brown</td>
</tr>
<tr>
<td>18</td>
<td>Base</td>
<td>BL.72</td>
<td>6</td>
<td>73</td>
<td>2</td>
<td>2.5YR9/6 light brown</td>
<td>L</td>
<td>2.5YR9/6 light brown</td>
</tr>
<tr>
<td>19</td>
<td>Cooking pot</td>
<td>2.5Y5</td>
<td>3</td>
<td>11</td>
<td>1</td>
<td>5YR7/3 yellowish brown</td>
<td>L</td>
<td>5YR7/3 yellowish brown</td>
</tr>
<tr>
<td>20</td>
<td>Cooking pot</td>
<td>2.5Y5</td>
<td>3</td>
<td>14</td>
<td>1</td>
<td>5YR7/3 yellowish brown</td>
<td>L</td>
<td>5YR7/3 yellowish brown</td>
</tr>
<tr>
<td>21</td>
<td>Cooking pot</td>
<td>2.5Y5</td>
<td>3</td>
<td>11</td>
<td>7</td>
<td>5YR7/3 medium brown</td>
<td>L</td>
<td>5YR7/3 medium brown</td>
</tr>
</tbody>
</table>
# THE POTTERY FINDS

Fig. 19.20. Unstratified Pottery (continued).
THE POTTERY FINDS
### THE POTTERY FINDS

**Fig. 19.21. Pottery of Regional Survey Site 42.**

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Provenience</th>
<th>Fabric Color</th>
<th>Non-Mastic</th>
<th>Voids</th>
<th>Model</th>
<th>Surface Treatment</th>
<th>Decoration</th>
<th>Firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Square</td>
<td>Pal</td>
<td>Exterior</td>
<td>Color</td>
<td>Interior</td>
<td>Color</td>
<td>Color</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reg</td>
<td>Reg</td>
<td>Core</td>
<td>Color</td>
<td>Shape</td>
<td>Texture</td>
<td>Color</td>
<td></td>
</tr>
<tr>
<td>Reg</td>
<td>Type</td>
<td>Square</td>
<td>Pal</td>
<td>Exterior</td>
<td>Core</td>
<td>Colour</td>
<td>Texture</td>
<td>Color</td>
</tr>
<tr>
<td></td>
<td>Reg</td>
<td>Reg</td>
<td>Exterior</td>
<td>Core</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reg</td>
<td>Reg</td>
<td>Exterior</td>
<td>Core</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reg</td>
<td>Reg</td>
<td>Exterior</td>
<td>Core</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reg</td>
<td>Reg</td>
<td>Exterior</td>
<td>Core</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Bowl AS42</td>
<td>B7</td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
<tr>
<td>2</td>
<td>Bowl AS42</td>
<td>B7</td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
<tr>
<td>3</td>
<td>Bowl AS42</td>
<td>B7</td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
<tr>
<td>4</td>
<td>Bowl AS42</td>
<td>B7</td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
<tr>
<td>5</td>
<td>Bowl AS42</td>
<td>B7</td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.5 YR 6/6</td>
<td>Light</td>
<td>Red</td>
<td>VL</td>
<td>FSA</td>
<td>W/Red</td>
</tr>
</tbody>
</table>

352
REFERENCES

Aharoni, Y.
1973
Beer Sheba I. Tel Aviv.

Albright, W. F.
1952

Amiran, R.
1969

Bennett, C-M.
1974
1975

Callaway, J. A.
1980
The Early Bronze Age Citadel and Lower City at Ai (et-Tell). Cambridge, MA.

Cole, D. P.
1984
Shechem I: Middle Bronze IIIB Pottery. Winona Lake, IN.

Dever, W. G.
1980

Dornemann, R. H.
1983
The Archaeology of the Transjordan in the Bronze and Iron Ages. Milwaukee.

Dothan, M.
1955
1971

Duncan, J. G.
1930

Glock, A.
1975

Herr, L. G.
1986

James, F.
1966
The Iron Age at Beth Shan. Philadelphia.

Johnston, R. H. and Schaub, R. T.
1975

Kelm, G. L. and Mazar, A.
1985

Keayon, G. L. and Holland, T. A.
1982
Jericho IV. London.
1983
Jericho V. London.

Lugonbeal, E. N. and Sauer, J. A.
1972

Prag, K.
1974

Pritchard, J. B.
1985

Rast, W. E.
1978
Taanach I. Cambridge, MA.

Richard, S.
1980

Seger, J. D.
1974
The Middle Bronze IIC Date of the East Gate at Shechem. Levant 6: 117-130.

Tushingham, A. D.
1972
The Excavations at Dibon (Dhibon) in Moab. Annual of the American Schools of Oriental Research 40. Cambridge, MA.
Introduction

Five hundred two objects were classified in the Object Registry at Tell el-‘Umeiri during the 1984 season of excavation. About one-quarter of these were household items mostly used for food preparation, consumption, and storage. Another quarter were used for textile manufacture, and a third quarter suggest military activities.

In the category of food preparation were 37 loaf-shaped limestone objects, fragmented or whole, designated "Upper Millstones." There were also stone bowls (fragments), grinders, pestles, mortars, whetstones, rubbing stones, pounders, querns, ceramic spoons, stoppers and flint tools such as scrapers.

In the category of textile manufacture were spindle whorls, 58 of which were ceramic objects that could also have been used as loom weights. There were bone spindles and flat weaving pattern spatulæ.

For military activities were mace heads, arrow and javelin heads, chains and 53 slingstones or "Ballistic Missiles" of limestone and chert.

Used in trade activities were coins, scarabs, scaraboids, cylinder seals and pendant seals. A group of objects relating to ceramic figurines included a toy cart wheel, a shoulder fragment of a male figurine, a whole female figurine holding a child plus fragments of legs, heads and waist. Zoomorphic figurine fragments included bovine animals, sheep, goat and lion. Cosmetic items were small mortars, pestles, palettes, metal rods, applicators, spatulæ and a mirror. Objects related to clothing were fibulae and buttons. Jewelry included beads, bangles, earrings and pendants. Bone items were awls, inlays and a carved finial. Rope stone weights (counter weights for doors), shells, glass fragments and gaming pieces were also found.

Thirteen objects went to the Jordanian Department of Antiquities: ceramic pots 548, 569; figurines 342, 368, 390; arrowhead 41; pendant 491; button 90; lotus-seed vessel bead 428; seals 75 (impression), 49, 110; and glass drop #1 (fig. 20.5). The rest went to Andrews University for the Horn Archaeological Museum or were kept in dig storage in Amman.

Jewelry

Four fragments relating to Bangles were: 8, glass, twisted, found in Random Sample Survey M16; 89, weathered glass found in 5K86; 201, bronze, found in A.7K50; and 301, glass, found in A.7K51 (fig. 20.6).

Of note were Pendants: 137, bone, with rectangular perforation; 267, basalt, fragment with ovoid perforation; 283, ceramic, ovoid with perforation; 414, ceramic, circular with center perforation, a series of raised rectangles on one surface; 503, shell, perforated, spiral in shape; 491, bone, rectangular with perforation (fig. 20.6).

Eight notable Beads were found in the Random Sample Survey and can be described as follows by color in Munsell’s Soil Color Chart terminology (fig. 20.7).

- 42 ceramic, Grayish Yellow
- 60 carnelian, Reddish Brown, mottled
- 61 bone, Light Yellow Orange
UMEIRI OBJECTS

62 carnelian, Reddish Brown
67 carnelian, Orange, mottled
72 carnelian, Reddish Brown, mottled
77 carnelian, Dull Orange
88 carnelian, Reddish Brown

Eight notable beads were found in loci on the mound (fig. 20.7):

115 alabaster, Light Gray, A.7K50:2
218 jasper, Yellow, B.7K90:2
266 frit, Light Gray, B.7J98:2
297 ceramic, A.7K50:5, lost
411 haematite, Greenish Black, A.7K50:10
428 carnelian, lotus-seed vessel, B.7J87:3
469 haematite?, Black, A.7K50:10
489 shell, Light Gray, B.7K90:2

Earrings were a popular jewelry item during the Iron Age in Palestine. The most frequently found type is the "lunate" which looks somewhat like an elongated ring (fig. 20.8). The narrow end of the ring goes through the pierced earlobe and bends downward. Usually the other end meets the first just under the lobe; it is thickened and resembles a crescent moon which is associated with bovine horns in the ancient Near East. The Hebrew cagil (Num 31:50), from the root related to "calf", is probably the biblical term for lunate earring.

Bronze is characteristically the metal for lunates found frequently, though not exclusively, in loci of everyday life on the mounds of Palestinian excavations. Gold and silver lunates occur with other precious jewelry in tombs. Bronze lunates have been found in Iron Age strata at Tell en-Nasbeh, Lachish, Megiddo Tombs, and Tell Jemmeh. From Tell Hesban are two bronze lunates: 208 from C, 2, 6-91, Str. 03, and 439 from B, 4, 5, Str. 02.

Three finds of bronze lunates come from 'Umeiri. Object 341 is a single whole earring from B.7J89:6. Associated objects were a fragment of an Upper Millstone, a Ballistic Missile, and ceramic pot 557.

Object 4 from the preliminary survey in the topsoil of the mound, Random Sample Survey, 6/21/84, 7L77, no associated objects.

A complete bow classified in Stronach's Type IIa, arched fibulae with plain bow and riveted pin, dated 6th to 4th centuries B.C. (Stronach 1959: 190-191, fig. 6, 2). Stronach wrote (1959: 185):

in the vast majority of cases the pin and the spring were made in a separate piece, the end of the spring being inserted into a special socket at the end of the bow. In a few cases, notably in Palestine, the pin was riveted to the bow in such a way that it could be turned sideways if necessary.

Comparisons (No relevant comparisons appear in the fibula corpus of Tell Hesban):

Gezer (Macalister 1912: Vol. III) pl. CXXIV: 15.
UMERI OBJECTS

Megiddo I (Lamon and Shipton 1939) pl. 78: 1, 2, 6; Str. I, 7th century to mid 4th century B.C.
"Umeiri see 84: 420 below.

Object 11 (Fig. 20.2)

Object 11 from Random Sample Survey, 6/21/84, 7K67, no associated objects.
A complete bow classified in Stronach’s Type IIIa, Triangular with ribbed and beaded mouldings, dated 7th century to end of 5th century B.C. (Stronach 1959: 197-200, fig. 9, 10-12):

the vast majority of the triangular fibulae found in the Near East all belong to this comprehensive type.

This example belongs to those with thick multi-ribbed mouldings whose distribution in the 7th century B.C. is "from the Nile Delta to Western Persia." Stronach noted "the marked tendency for Syro-Palestinian as opposed to Assyrian examples to have vertically incised ribs."

Object 73

Object 73 from Random Sample Survey, 6/26/84, 8K41, no associated objects.
A complete bow classified in Stronach’s Type IIIa, Triangular with grooved rings on each arm, which was most popular in Syro-Palestine, not further east, 8th century B.C. at earliest. This type clearly demonstrates design of an arm and hand: the clasp can be made to look like a palm with bent fingers, the grooved rings imitate bangle bracelets, the apex of the triangle is the elbow, and the upper arm has bangle armlets. The placement may be to imitate a human arm crossing the chest to clasp the end of a fabric piece on the opposite shoulder. This design could indicate the object's position when worn.

Comparisons:
Tell en-Nasbeh pl. 109: 15, 16; pl. 110: 17-21; dated 8th to 5th centuries B.C.
Lachish pl. 56: 29, 37; pl. 58: 15, 18.
Beth-shemesh, Tombs (Mackenzie 1912-1913) pl. XXVII: 8, 9; 7th century B.C.
Samaria I (Reisner 1924) fig. 228: 11j and h (note illus. position).

Object 385

Object 385 from A.7K40:3, associated objects: small mortar (frag.), mortar, Ballistic Missile, and bone with perforation 571. (See fig. 20.9).
Fragment of fibula pin with spring; point missing. The fibula pin-with-spring was made separately from the bow because they evidently broke easily and could be replaced frequently.
Object 420 (Fig. 20.4)

Object 420 from A.7K41:10, many associated objects, see below (fig. 20.10).

A complete bow classified in Stronach's Type II2, Arched with plain bow and riveted pin, dated 6th to 4th centuries B.C. Metal remains on spring end indicate that spring and pin were iron. Cf. 4 above.

Associated Objects — a classic assemblage of "everyday life" objects, perhaps suggesting a woman's belongings.

- 349 Alabaster Bowl
- 421 Cosmetic Spatula
- 422 Metal ring and Fragments
- 423 Blacksmith's Stamp?
- 424 Chain Links
- 425 Spindle Whorl
- 438 Ballistic Missiles
- 439 Ballistic Missiles

REFERENCES

Platt, E. E.


1986 Jewelry. Anchor Bible Dictionary. Accepted for publication 6/30/86.

Lachish

**EXCAVATION REPORTS REFERRED TO IN THIS STUDY:**

**Beth-shemesh**
Mackenzie, D. 1912 *Excavations at Ain Shems (Beth-shemesh), Tombs*. London: PEFA.

**Gezer**

**Hazor**

**Megiddo**

**Samaria**

**Tell en-Nasbeh**

**Tell Jemmeh**
Fig. 20.5 Objects at the Jordanian Department of Antiquities.
Fig. 20.6 Bangles and pendants from the 1984 season.
Fig. 20.7 Beads from the 1984 season.
UMEIRI OBJECTS

Fig. 20.8 Earrings from the 1984 season.

Object #341. B.7J89. Bronze lunate earring.
Object #344. A.7K41. Bronze lunate earring.
Object #412. B.7K90. Bronze lunate earring.

Fig. 20.9 Objects found in association with Object 385.

Object #349. A.7K50. Grinding stone?
Object #349. A.7K50. Grinding stone?
Fig. 20.10 Objects found in association with Object 420.

Object #227. B.7K90. Basalt quern.

Object #227. B.7K90. Limestone quern.

Object #230. B.7K90. Basalt quern.

Object #111. B.7K90. Ceramic spindle whorl.

Object #295. B.7K90. Basalt quern.

Object #135. B.7K90. Ceramic spindle whorl.

Object #150. B.7K90. Ceramic spindle whorl.

Object #204. B.7K90. Stone spindle whorl.

Object #122. B.7K90. Bronze coin, Byz.

Object #364. B.7K90. Basalt pestle.

Object #359. B.7K90. Basalt pestle?

Object #149. B.7K90. Basalt stone bowl rim.
UMEIRI OBJECTS

Fig. 20.11 Objects found in association with Object 426.

Object #152. B.7K90. Limestone mortar
Object #153. B.7K90. Basalt upper millstone.
Object #155. B.7K90. Basalt upper millstone.
Object #156. B.7K90. Basalt upper millstone.
Object #164. B.7K90. Basalt upper millstone.
Object #165. B.7K90. Basalt upper millstone.
Object #166. B.7K90. Basalt upper millstone.
Object #193. B.7K90. Basalt upper millstone.
Object #231. B.7K90. Upper millstone.
Object #325. B.7K90. Basalt upper millstone.
Object #326. B.7K90. Basalt upper millstone.
Object #358. B.7K90. Basalt upper millstone.
Object #244. B.7K90. Ballistic missile.
Object #255. B.7K90. Stone vessel rim.
Object #271. B.7K90. Carved limestone seal.
Fig. 20.11  Objects found in association with Object 426 (continued).
Part Five

THE INSCRIPTIONS
A significant new Ammonite seal impression with the name of an Ammonite king was discovered in the 1984 season. It also contained one of the first attested occurrences of the divine name Milkom, as the theophoric element in an Ammonite name (the other two occurrences, also known only recently, were found on a 7th-century B.C. seal of unknown provenance [Avigad 1985: 5] and a 5th-century B.C. ostracon from Tell el-Mazar in the Jordan Valley [Yassine and Teixidor 1986: 49]). Because Milkom (or Milcom) is known from the Bible to have been the national deity of the Ammonites (1 Kgs 11:5, 33, etc), it has been surprising to students of the Ammonite onomasticon that his name was not represented heretofore.

The impression was found in topsoil mixed with stone rubble near the western rim of the mound at the eastern edge of Square 7K30 during the random surface survey. This square was located immediately to the south of our subsequent Field A, the Ammonite Citadel, which uncovered the massive remains of a palatial structure. Thus, although its archaeological provenience made it impossible to establish direct connections with other archaeological finds, one may speculate that an original association with the citadel is possible (Frink 1984: 359).

Due to its small size, it was not discovered while being excavated, but was only first observed while the supervisor, Lloyd Willis (Spicer College, Pune, India) was sifting the soil. Field Supervisors Larry Mitchell and Douglas Clark aided in the initial recognition of the object as a seal impression.

The impression was made of fired ceramic ware, yellowish brown in color and shaped by the fingers into a blunt cone upon which the ancient fingerprints were still visible. The original seal had been impressed into the flat end of the cone which measured 21 mm high, while the impressed face was 19 mm in diameter. Perhaps the best suggestion for its function is that of a stopper for a juglet. The impression may have been meant to guarantee quality or quantity of contents, or may have been used to identify origins for use in trade. It may have been fired in order to preserve the seal impression while it was being used or was burnt in a local conflagration subsequent to its use.

The seal impression itself was divided into three zones, the top and bottom were used for the inscription, while the middle was reserved for a decorative motif. The zones were separated by double parallel lines common on Iron Age seals, especially on those from southern Palestine (Ammonite, Hebrew, Moabite, and Edomite, [Herr 1978: figs. 38-41, 54-63, 75, and 78]).

The middle scene contained symbols which were also frequent on ancient seals during the Iron Age (see also Younker, Chapter 22). A scarab beetle was depicted in the middle with all four wings outstretched, apparently in flight, though the line inscribed down the middle of the back indicates that the wings were also depicted at rest. This double depictions of the scarab was the norm in ancient art when shown with wings outstretched. The forelegs including pincers were depicted stretching forward on either side of the head. Although many representations of scarabs depict them holding a solar disk in their forelegs, this seal impression does not. However, the solar disk is present...
between the legs just in front of the head. The high quality of the art work is exemplified here in the careful, nonstylized veining on the wing membranes.

The scarab is flanked on either side by what appear to have been two standards made up of vertical poles each with a solar or lunar disk and inverted lunar crescent on top. Both the solar disk and the lunar crescent are very common in ancient seal art. The presence of the standards may emphasize the official status of the owner. A very similar scene, but with somewhat cruder art work, is depicted on the seal of an Ammonite official named 3wdr who bears the title hns "the Standard-bearer." (The basis for identifying this later seal as Ammonite is its script, its provenance is unknown.) This seal depicts a four-winged scarab beetle flanked by two standards, one very similar to those on our seal (a possible lotus plant with a semicircular head) and another in the form of an Egyptian wsr scepter (Hestrin and Dayagi-Mendels 1979:25). Because the script forms of both seals are very close to each other paleographically, it is possible to suggest that the owner of our seal and 3wdr may have been colleagues in officialdom.

Paleographically, the original seal which made our impression must have been inscribed within a generation of 600 B.C. by an Ammonite scribe. The letters show the typical vertical stance of the Ammonite formal script. The lack of any leftward curve to letters with subline legs, such as ntn and kph, and the square 'ayin are strong Ammonite indicators, as is the juxtaposition of open 'bd, dalet, and res with closed 'ayin; in Aramaic, for instance, all four would have been either open or closed together. Toward the end of the 7th century, Ammonite scribes began to open the bet, dalet, res, and sometimes the 'ayin. All three 'ayins on our impression are closed, but the bets, dalet, and res are strongly opened. The best parallels for this type of head seem to date around 600 B.C. or slightly later, most likely not earlier (see Ammonite seal no. 31 in Herr 1978 and the Siran bottle inscription in Thompson and Zayadine 1973:5;11; our impression is slightly more advanced than the latter). The waw with its head almost horizontal suggests a similar date. The tilted yod with curved head fits this general period as well. Since Ammonite scribes seem to have reverted to the Aramaic script in the middle of the 6th century (Cross 1975:14), we can place outer limits on the span for the carving of the seal between 625 and 550 B.C. The above paleographic discussion would, however, suggest the very early 6th century (soon after the Siran bottle) as the most likely date within that span.

Although the first few letters of the top line of the inscription are difficult to read, examination of the impression beneath a stereoscopic microscope made a positive reading possible: Inmlkmwr 'bd b'l'y's

The first line contains the name of the owner of the seal that made the impression. It reads in transliteration: Inmlkmwr, and may be translated: "Belonging to Milkom'ur," or "Milkom'wr." If the Ammonite provenance and script were not enough to tell us that the owner was an Ammonite, the theophoric element of the name certainly is. However, until the discovery of this seal impression and the two occurrences mentioned above, the divine element "Milkom" has not been found on any of the scores of Ammonite names known from the Bible, seals, and inscriptions.

The second element of the name 'wr, is from a Semitic root meaning "light." It occurs in biblical names such as 'Uriah, where it probably meant "flame." The complete name on our seal most likely meant something like "Milkom's Flame" or "Milkom is flame." Of note here is the plene spelling. The use of matres lectionis by the Ammonite scribes from the late 9th century is well-known (Jackson 1983:103-105). Examples on seals include ‘nnw t (Herr No. 13), 3wdr (Herr No. 14), and 'wr (Jackson 1983:74) among others.

The next word of the inscription is made up of three letters and indicates the title of the owner of the seal. The first two letters are to be found above the two standards in the central decorative zone adding the force of the title of the owner to the meaning of the standards, as it were, while the last appears at the beginning of the lower line of the inscription. Together they give us the word for 'servant,' 'bd, a title which occurs on about 5% of the Hebrew, Moabite, and Ammonite seals.

The servant title does not indicate that the owner of our seal was a lowly slave. Rather, on seals such as this one, the title indicates a high government official, for the name which follows, the person the seal owner served, is invariably royal. The owner thus most likely served the king in some governmental capacity, perhaps similarly to the Standard-bearer 3wdr mentioned above.

The prominence of our official may explain why the art work and the engraving of the letters in the inscription were so finely done. In terms of quality, the original seal was certainly among the best from this general period.

Because the name which follows the servant title is always a royal name, the last name on the impression is obviously historically important. It reads: b'l'y's, and may be vocalized "Ba'alyasa" or "Ba'alyi'si" (not "Ba'alyi'sa" as in earlier publications: Herr 1985a, 1985b). This name, like the owner's name, is also made up of two elements. The theophoric element, b'l, is either the divine name Baal, very well-known from the Bible and Ugaritic texts as a god of the Canaanites frequently worshiped by others as well, or a title meaning "lord," applied to any specific divinity. If the latter is correct, just which deity was intended behind the title may be impossible to determine, but because Ba'alyasa was an Ammonite king, it may have referred to Milkom.

The second element of the name, y's, occurs in many northwest Semitic names such as Elisha. The root meaning of the word indicates salvation or saving action. Thus the name has the general meaning of "Baal saves," "Baal is my salvation," or the like.
Fig. 21.1. Seal impression found at Tell el-'Umäri. Photo by Larry Coyle.
THE INSCRIBED SEAL IMPRESSION

Fig. 21.2. Drawing of the seal impression found at Tell el-‘Umeiri, by Peter Erhard in consultation with Larry G. Herr.
Jeremiah 40:14 mentions a king of the Ammonites, spelled 'baru'ls in Hebrew, who reigned during the conspiracy to murder Gedaliah dated to 582 B.C. It is certain that Baalis and our Baalyasa were the same individual. The paleographic date of our seal and that of the biblical event are virtually identical. Moreover, the divine element Baal does not seem to have been generally favored by Ammonite parents when choosing names, the theophoric element 'El being extremely popular. To have two different kings ruling so close together, each with the divine element Baal at the beginning of their names, would seem highly unlikely (see also Shea 1985:112, who independently noted this).

The biblical spelling of 'baru'ls can be equated with that of b'ha'ys. The letter yod in the biblical spelling undoubtedly preserves the yod from y's. Dennis Pardee (University of Chicago) has suggested to me orally that the biblical spelling of the word may reflect the way the Judean author heard the name pronounced in Ammonite. That is, it is a phonic and not consonantal spelling. Although we know the consonantal spellings of words in Ammonite and biblical Hebrew, we do not know precisely how they were pronounced, or how a Judean would have heard cognate words from Ammonite. If Bara'yiri was the Ammonite form, the 'ayin may have been difficult to pronounce and thus lost in the spelling when the name was written in Hebrew. Interestingly, the Septuagint spells the name in Jer 40:14 belissa, with the final a, perhaps reflecting the presence of the final 'ayin which could not be written in Greek.

The switch of the sibilants from s/s to our seal to samek in the Hebrew Bible may be explained by the fluidity with which sibilants were apparently pronounced in northwest Semitic languages and dialects if the biblical spelling was phonetic.

Alternate explanations for the biblical spelling have been offered. Shea (1985) has suggested that the name was deliberately mutilated by Jeremiah because of the offensive meaning of the name to a pious Yahwist. He cites the change of the name Abednego ('Servant of Nabu') to Abednego (no meaning) in Daniel. But a study of names in the Hebrew Bible indicates that biblical writers, including Jeremiah, did not deliberately change the spellings of names of foreigners that contained non-Yahwistic theophoric elements (Herr 1985b). In fact, in Jer 40, the same chapter in which Baalis appears, the divine name Nabu occurs in the name Nubuzaradan (verse 1).

Cross has suggested that the spelling in Jer 40:14 reflected a hypocoristicon vocalized barlay along with a textual error (1973: 15). He reiterated it in 1975 (11-12) while discussing the Amman Theatre Inscription, which contains the letters b'l followed by a word divider. Basing his argument on the date of the script, his earlier suggestion that Baalis originated in a hypocoristicon, and the monumental nature of the inscription which could easily refer to a king, he suggested that these three letters made up the divine element of the king's name recorded in Jer 40:14. In this explanation, the hypocoristicon barlay was taken from the final element in the king's name. However, we now know that, since the b'l element was the first part of the king's name on our seal impression, the Amman Theatre Inscription, where it occurs as the last element, cannot refer to Baalis of Jer 40:14.

In a Feb. 4, 1985 letter to Geraty, Cross, after seeing a photograph of our seal impression, still maintained that the reading in Jer 40:14 originated in the use of the hypocoristicon barlay. He suggested, as he did in 1973, that the samek in Jeremiah's spelling was a scribal dittography from the following mem, noting that samek and mem were confused quite commonly in 2-century B.C. Jewish scripts. However, if the scribe mistook samek for mem and used it as the basis for a dittography, the following mem should also have been mistakenly written as a samek. Cross's argument also assumes the scribe forgot the traditional spelling and pronunciation of the hypocoristicon as written in Jeremiah (not a normal failure with other exotic names).

E. Peuch, also before knowing of our seal impression, hypothesized that the b'ha'ys of Jeremiah originated from b'ha'ys via b'ha'ys (1985: 10-11). He suggested that the 'ayin was lost in the transmission of the text. In a letter to Geraty dated Feb. 27, 1985, after seeing a photograph of our impression, he elaborated his idea that, like the loss of the 'ayin in the transmission of Hebrew yod to Greek Iesous, 'ayin may have been lost after s/s sounds. For the 3/s to samek change he refers to the 3/blisblit pericope in Judg 12:6, which he notes took place following a war with the Ammonites. However, according to the story, the dialectical difference which caused the 3/blisblit confusion was between Israelites and had nothing to do with Ammonites. Moreover, he does not make clear how patterns of Greek transliteration can be used to explain either the transliteration of an Ammonite name into Hebrew or the Hebrew transmission of the text of Jer 40.

Baalyasa (or Baalis) was not known outside the Bible before the discovery of this seal impression. (The notice in Feinberg [1982: 272] that a king named Barlay, mentioned on the Siran Bottle was to be equated with Baalis is based on a mistaken understanding by George Ernest Wright of an oral presentation given by Cross [Wright 1974: 3]). Both George Landes (1962: 112) and Cross (1973: 15) noted the fact that the biblical form of the name Baalis does not represent a meaningful name. Now, thanks to the addition of our seal impression to the corpus of ancient seals, the correct spelling of this king's name is available to us.

Acknowledgements

I wish to thank Lawrence T. Geraty, director of the Madaba Plains Project, for allowing me to publish this seal.
impression. During the excitement of discovery and decipherment, it was Robert G. Boling (McCormick Theological Seminary) who called my attention to Baalis in Jer

40:14 and suggested that the king on our impression was probably the same person.

REFERENCES


CHAPTER 22

Historical Background and Motifs of a Royal Seal Impression

Randall W. Younker  Andrews University, Berrien Springs, MI

One of the most interesting and significant finds of historical nature to be discovered on the mound during the first season of excavations at Tell el-'Umeiri was a seal impression of Milkom'ur, the servant of Ba'alyiš'a (or Baalis), an Ammonite ruler. Until now this king was known to history only from a single reference found in Jer 40:14. As Larry Herr points out in the preceding article in this volume, preliminary paleographic analysis confirms that it is Ammonite and that it dates to around 600 B.C.

While the inscription itself is most exciting, the motifs that are depicted in the center of the impression are also interesting and significant. They consist of a four-winged flying scarab beetle pushing a solar ball, flanked on both sides by what appear to be standards, each surmounted by a lunar crescent. On top of each crescent is a single letter. Both the upper and lower registers of the inscription are set off from the centered motifs by two parallel lines.

In addition to the seal of "Shoher the standard-bearer" that Herr refers to in his article, there is another that is virtually identical to our newly discovered "Baalis Seal." This other seal, which belonged to an individual named Menahem, was originally published by G. Lankester Harding (1949: 351), who described it as "a brown stone seal, showing the royal four-winged scarab and two lines of very worn inscription." Nahman Avigad, who later published a study of the same seal (1952), described it further by pointing out that it was divided into three zones: "The large central zone shows the Egyptian emblem of the winged scarab with the ball before it, flanked by two apparently misrepresented hieroglyphs."

When the positioning and combination of motifs on these two seals are compared with the 'Umeiri seal impression, three similarities can be noted. First, all three are divided into three registers, with the top register displaying the first part of the inscription, the center register containing the motifs, and the bottom register displaying the latter part of the inscription. Second, both the seals and the impression all display the four-winged scarab in the middle. Third, the beetle is, in all cases, flanked on both sides by standardlike depictions.

Because, to date, this particular positioning and combination of motifs occur only on these three seals, and because the script on all three of these seals is definitely Ammonite, it is possible that this particular combination of motifs is uniquely Ammonite. Keeping this in mind, we will now focus further on the central motif—the four-winged scarab—which is obviously intended to attract the viewer's attention in all three of these seals.

The Use of the Four-winged Scarab on the Royal Seal of Israel

Several years ago, A. Douglas Tushingham published a seal that depicted a four-winged scarab; he had ac-
The Four-winged Scarab as the Royal Emblem of the Ammonites

Recognizing that the motif of the four-winged scarab served as a royal insignia on seals of both the northern and southern kingdoms naturally raises the question of its significance on the Ammonite seal discovered at Tell el-'Umeiri. That the seal belongs to "Milkom'ur, servant [bd] of Ba'alyi'sa," a known king of the Ammonites, suggests that the iconography depicted in this seal reflects the position of an officer of the royal court.

It is perhaps not just coincidence, then, that the other two seals that we note as having identical iconographical features also have, as it were, "royal connections." The seal of "Menahem" was found in a tomb with two other seals that belonged to Adoninur and Adonipelet, respectively, both servants of the earlier Ammonite king, 'Amminadab (see Avigad 1952: 164). This tomb was apparently a burial place for important people of the Ammonite kingdom, and we would suggest that "Menahem, son of Yenahem," even though his specific title or office is not mentioned on his seal, was also an important individual with royal connections.

The other seal belonged to an individual who was known as "Shoher, the standard-bearer" (Avigad 1970: 287). Avigad suggests that the owner of this seal may have been a functionary who was in charge of military or cultic standards at the Ammonite court, army, or temple. Thus the fact that all three of these seals have identical iconographic elements and that all three have some connection with the Ammonite royal court make it likely that the seal motifs represent the royal insignia of the kingdom of Ammon.

The adoption of the four-winged scarab as the central motif for the royal insignia of Ammon would not be surprising in view of Ammon's close proximity to, and relationships with, the kingdoms of Israel and Judah, who both, as noted above, employed this same motif as their royal emblem. But when and how did the kingdom of Ammon come to use this motif on its royal seals? In order to best answer this question a review of how Israel may have come to adopt this symbol might be helpful.

Israel's Adoption of the Four-winged Seal

In his discussion of the motif of the four-winged scarab, Tushingham suggests that the transformation of the Egyptian symbol took place in Phoenicia and was transmitted to Israel at a time when Phoenician influence was strong in Palestine. Although this influence was undoubtedly great during the time of Solomon, Tushingham feels that it is more likely that the four-winged scarab came into Israel during the Omri-Ahab period in the ninth century B.C. (Tushingham 1970: 76).
Omri did not do much for Israel in a religious sense, but his coming to the throne was a critical factor in Israel's becoming a significant economic and political entity in the region. He was responsible not only for establishing Samaria as the capital but also for entering into cordial commercial and political relations with Phoenicia, including the marriage of his son Ahab to Jezebel, the daughter of the king of Tyre. In addition, he was responsible for subduing Moab and placing it under tribute, as described by the Moabite Stone.

Israel's regional predominance during the time is also seen in how the northern kingdom repeatedly intimidated Judah, as aptly illustrated in the cases of Amaziah (2 Kings 14:8-14) and Ahaz (2 Kings 16:5-8). And although Israel was quite involved in the local intramural fights that frequently occurred between the various Palestinian kingdoms, she was still able to thrive economically.

Even after Omri's dynasty ended, the economic and political foundations he created permitted Israel to continue to grow well into the next (the eighth) century. Indeed, Israel's peak probably came under Jeroboam II (782-753 B.C.), with the after effects of this success reaching down to the fall in 722 B.C. This picture is well substantiated by both the testimonies of the prophets (for instance, Amos 4:1, 2; 5:11, 12) who describe the sinful waste of the upper classes, and the archaeological remains recovered from northern sites such as Samaria, Megiddo and Hazor.

Israel's prominence was also recognized by the Transjordanian kingdoms. While the Bible does record one Moabite attack upon Judah (2 Chronicles 20), it was Israel that held Moab's political strings as both 2 Kings 3 and the Moabite Stone testify. Even Ammon, although technically a vassal of Judah (2 Kings 15:37), was bordered on the north, west and southwest by territory that was actually controlled by Israel throughout most of the Iron II period (the ninth through sixth centuries B.C.; Dornemann 1983: 27-29). Thus, the Ammonites would have been subjected to much Israelite influence.

HISTORY BACKGROUND AND MOTIFS OF A ROYAL SEAL IMPRESSION

Ammon's Adoption of the Motif of the Four-winged Scarab

Keeping this situation in mind, we can now return to the question of Ammon's adoption of the four-winged scarab as a symbol for its own royal seal. With Israel playing a dominant role among the small Transjordanian kingdoms and, with her territory adjacent to Ammon, it would not be at all surprising to find that Israel exerted a significant, if not the major, impact on the economic and political practices of Ammon.

Israel would also have been more in the limelight culturally with its closer ties (both geographical as well as political) to Phoenicia and Syria. Its Phoenician-inspired material culture, as exhibited in such items as carved ivories and architectural elements, would have been something that undoubtedly exerted an influence on the Ammonite court. It is interesting in this connection to note that Ammonite art styles and pottery have a definite Palestinian orientation throughout the tenth and ninth centuries B.C. It is not until the eighth century that the emphasis shifts away from there, most likely after the time of Jeroboam II, whose reign ended in 753 B.C. (Dornemann 1983: 183). The notable exception is the Amnonite statuary which has affinities more with Egypt and Syria, though that is not surprising when one considers the religious/cultural ban on portraying the human image in Israel and Judah (Dornemann 1983: 178).

That the ancients were style-conscious is evident from the story of Ahaz' visit to Damascus, where he saw a certain style of altar and immediately had plans drawn up so he could have one built for himself (2 Kings 16:10-12). Thus I would suggest that the Ammonites, impressed by the Syro-Phoenician-inspired royal trappings exhibited by the Israelites at their capital at Samaria, adopted some of the trappings for themselves, including the symbol for the royal seal, the four-winged scarab—albeit with a more Syro-Phoenician flavor as shown by the lower downswept wings.

It is interesting to note the time when this symbol came to vogue in Ammon. As noted above, both the seal of "Shoher, the standard-bearer" and the Baalis seal are dated to the seventh and the late seventh-early sixth centuries B.C., respectively, while the Menahem seal was dated paleographically to the late eight century but no later than around 700 B.C. (Herr 1978: 66). When it is recalled that the four-winged scarab was apparently used until the fall of Samaria in 722 B.C., it can be seen that the time the four-winged scarab was used as a royal symbol in Israel and the time it was used in Ammon come close to overlapping, if indeed they actually do not. Since it is likely that the Menahem seal does not represent the earliest occurrence of this motif, on what I believe is a royal Ammonite seal, it would not be unreasonable to surmise that it came into use by the time of Jeroboam II when Israel was at its peak, if not earlier.

The Caduceus and the Lunar Crescent

Before concluding this paper we would like to briefly examine the other motif that appears on either side of the four-winged scarab—the standard surmounted by the lunar crescent. As noted earlier, Avigad described the standards on the Menahem seal as "misrepresented hieroglyphs;" he described the standard on the left side of the Shoher seal as a "stylized lotus stalk" and the one on the right as a "hooked staff." Unfortunately we lack clear photos of these two seals, which we believe parallel our
HISTORY BACKGROUND AND MOTIFS OF A ROYAL SEAL IMPRESSION

Baalis seal, and it should be noted that the Menahem seal was badly eroded and thus we are not sure of the accuracy of the line drawings that were reproduced for the original publication. Nevertheless, the standard on the left side of the Shoher seal is clearly identical to both of the standards depicted on our Baalis seal. The upper end of the standard definitely takes on a swollen circular shape and is surmounted by a crescent with both points pointing downward.

This same motif appears on several other seals, two of which are very close in style to our Baalis seal. The first seal, published by Avigad (1978: 67-69), is the seal of "Yashda." Both behind and in front of the figure of a youthful pharaoh, the lunar crescent and full disk appear. The standard on the left is surmounted by a long-tailed monkey, while the one on the right shows a pair of ostrich feathers above it. Both of these standards are again described by Avigad as either lotus or papyrus plants. (Interestingly, however, above the monkey's head a crescent, with the points pointing upwards, and a full disk appears). Clearly both of these standards are identical to those that appear on our Baalis seal.

In the very same article Avigad published another seal with very similar (although not identical) motifs, the seal of "Miksap." The arrangement of figures on this seal is virtually identical to that of the previous seal, with a figure being depicted in the center and the standards on either side. In this case, however, the seal behind the figure is surmounted by an owl instead of a monkey. The standards also differ slightly from those in the previous seal in that they each display a complete (full moon?) disk between the bulbous top of the standard.

These crescent/disk symbols clearly reflect those found at Hazor (Yadin 1970: 199-231), which are identical to those appearing on the steles at Carthage and Zinjirli. The disk with crescent probably symbolizes Baal Hammon, who Yadin believed was a moon deity.

Because the general grouping of the various motifs on the Miksap seal is virtually identical with that of the Yashda seal, we would suggest that the standards on both of these seals, while varying slightly, represent the same thing. Indeed, Avigad identified the standards on both seals as being the same thing, although he identified them as lotus or papyrus plants. We would suggest that both represent a lunar crescent surmounting a caduceus. The Yashda seal depicts this with a simple inverted crescent over a swollen-headed standard (the swollen part representing either an atrophied full lunar or solar disk?), while the Miksap seal displays both the crescent and full disk atop the standard.

Returning to our royal Ammonite seals, we see that the crescent surmounting the caduceus on the Shoher seal and those on the Baalis seal are closer in style to those depicted on the Yashda seal; the Menahem seal shows a full disk over the standard as seen in the Miksap seal. It is true that the Menahem seal is missing the inverted crescent that all of the other seals display, but it may be that the lunar symbol was sometimes depicted as only a full disk—similar to the symbol that appears on the Ordek-burnu monument and the Kilamu orthostat (Yadin 1970: 201, 210). On the other hand, it is possible that there originally was an inverted crescent above the full disk but that it has eroded away. The surface of the seal is indeed badly worn.

In any event, the general arrangement of the motifs on all three of the Ammonite seals, as well as the similarity of the motifs themselves, would suggest they were intended to represent the same thing: astral bodies of some sort—either lunar or solar. The similarity of the motifs on the Miksap and Yashda seals to the motifs on the Ammonite seals, and the similarity of all these to known astral symbols that appear on steles found at Carthage and Zinjirli, make it likely that the Ammonite symbols were intended to depict lunar deities.

If this is the case, it might shed some light on the nature of Ammon's national deity, Milkom. If our Ammonite seals are indeed royal seals, then it would be reasonable to assume that the symbol for the national deity would appear on the royal seal. (Symbolic depictions of deity with royal motifs are quite common in Egyptian art, for example). It may be more than coincidence that the name that appears on the top of the Baalis seal is Milkom 'ur, which could be interpreted as the "light or flame of Milkom." Such an Ammonite name would make sense if Milkom were an astral deity.

Support for such a conclusion can perhaps be found in Zeph 1:5 which reads, "those who bow down on the house tops to worship the starry host, those who bow down and swear by the LORD and who also swear by Molech." While "Molech" is the name used in most English translations, this word could be rendered "Milkom" (as indicated in a footnote in the New International Version for example). If this is the case, "Milkom" would parallel "starry hosts" in the structure of this verse, indicating that Milkom worship was indeed connected with astral worship of some kind. This text, combined with the iconography of our Baalis seal, would therefore suggest the possibility that Milkom was an astral deity.

As one final thought, it is interesting to consider that if these symbols were intended to depict a lunar deity solely, and if Yadin is correct that this lunar deity should be identified with the Phoenician god Baal Hammon (whom many scholars believe was equivalent to the Canaanite El), then Milkom can be seen as the Ammonite version of this same deity.

Acknowledgments. I would like to thank Larry Geraty, William Shea, and Larry Herr for looking over the manuscript of this article and making many helpful suggestions.
NOTES

Although G. Lankester Harding described this four-winged scarab as "royal" (correctly we believe in this case), we would not want to suggest that the four-winged scarab was used only as a royal emblem. This motif appears on many seals of individuals who most likely had little or nothing to do with the royal court, just as the American eagle is used as a motif by many Americans who have nothing to do with the American government. We are suggesting that the four-winged scarab was recognized as a royal motif by at least Israel, Judah, and Ammon.

'Of interest in this connection is a seal that was found recently in a tomb in Amman. Although it is unpublished as yet, Larry Herr has had a look at it and informs me that the script dates to the mid-eighth century and appears to be Hebrew—the forms being similar to those of the Samaria ostraca. Also, the seal appears to belong to someone with unofficial title. Thus, this seal could possibly represent influence of the northern kingdom of Israel in the Ammonite court.

'M. Cogan argues convincingly that Ahaz' adoption of this altar was voluntary and not the result of Assyrian imperial demands. See his work, Imperialism and Religion.

It is interesting that all the four-winged scarabs depicted in Tushingham's article show the lower wing sweeping upwards. Perhaps this was unique to the northern kingdom.

For example, see the drawing that appears in Sabatino Moscati's The World of the Phoenicians on page 79, which is identical to the 'Miksap' seal in every respect save the inscription, a transliteration of which reads, "Ib ybl." In his description of this seal, Moscati clearly describes the symbol above the staff as a crescent moon (Moscati 1968: 76).

See Fig. 21.2. The impression of the Baalis seal from Tell el-'Umeiri. In its upper and lower register, it bears an inscription identifying Milkom'ur, the servant of Baalis, an Ammonite ruler previously known only through a reference in Jer 40:14. In the center of the seal, a four-winged scarab beetle pushing a solar disk stands between two standards, each topped with a lunar crescent and a single letter.

REFERENCES


<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Title</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1983</td>
<td>Excavations at Tel Lachish.</td>
<td>Tel Aviv 10: 160-64.</td>
</tr>
</tbody>
</table>
Two Cylinder Seals from "Umeiri, Nos. 49 and 363

Edith Porada  Columbia University

Cylinder Seal No. 49 (Fig. 23.1)

Description

Cylinder seal is soft dark brown stone.
Height: 1.47 mm.
Diameter: .30 mm.
Diameter of Stringhole: .27 mm.

Discussion

It is not certain how the scene is to be read, whether in sequence from tree to worshiper, or whether one pair consists of worshiper and winged bull and the second of sacred tree and wingless bull with the scorpion providing a divider of the scenes.

No parallels are known for this composition, nor for the posture of the bulls, who are placed in the field as if they were at right angles to the base line instead of standing on the hind legs in the age-old Mesopotamian "rampant" posture. However, the manner in which the bulls' heads are turned back and their forelegs are stretched in front, forming an angle, corresponds to postures of bulls on Neo-Babylonian cylinders.

The garment of the worshiper, however, which appears to consist of trousers, whether having multiple folds or a design indicated by oblique hatching, points to the garments of Asian tribesmen.

In the same direction points the belt, which may have been slung twice around the man's waist and from which seems to hang a strap resembling the belt worn by the weapon bærer in the Treasury reliefs of Persepolis.

The indications for a date of the cylinder provided by the garment of the worshiper point to the sixth to fifth century B.C. The unusual composition and postures of the bulls indicate that the engraver did not belong to the Neo-Babylonianor Persian sphere of glyphic art, but that he was a local craftsman, who may have taken some of his inspirations from contemporary foreign cylinders, but who created his designs according to local concepts and to his own manner of representing them.

Cylinder Seal No. 363 (Fig. 23.2)

Description

Cylinder Seal is soft dark brown stone (black?).
Height: 1.56 mm.
Diameter: .31 mm.
Diameter of Stringhole: .035 mm.

Perhaps a sun standard next to crescent-moon standard with pendants on a stand indicated by four drillings. Beside the supposed standards are a six pointed star and a drilling above an animal turned at a right angle to the ground. Between the animal's legs may be its suckling young.
Discussion

The cylinder is so badly worn that description is very tentative. Sun and moon-crescent standard occur frequently on Late Assyrian cylinders in Syrian collections. The cow or goat with a suckling young are seen on Late Assyrian stamp seals from various excavations such as Tarsus and Nimrud.

The manner in which the animal is at right angles to the groundline is exceptional. The unusual placing of an element of the design may be a distinctive feature of the local style, perhaps the style of the engraver of the first cylinder, with which the second cylinder shares the frequent use of drillings, often showing a small circle within the larger drilling. This would imply the cylinders share local origin and a date in the sixth to fifth century B.C.

REFERENCES


Moorey, R. 1953 Persepolis I, Structures, Reliefs, Inscriptions (Oriental Institute Publications LXVIII, pls. 119-123.


TWO CYLINDER SEALS FROM UMEIRI, NOS. 49 AND 363

Fig. 23.1. Cylinder seal no. 49 from 'Umeiri.

Fig. 23.1. Cylinder seal no. 49 from 'Umeiri.
Fig. 23.1. Cylinder seal no. 363 from 'Umeiri.
APPENDICES
Appendix A

Archaeological Excavation Data Management System

James K. Brower  
Andrews University, Berrien Springs, MI

Introduction

The AEDMS—What Is It?

The Archaeological Excavation Data Management System (AEDMS) is a computerized system created for the Madaba Plains Project to facilitate the recording, storage, and retrieval of the various types of information generated during an archaeological excavation. It was designed with two rules in mind: (1) The only thing more important to archaeological excavations than digging is Paperwork; and (2) Never, under any circumstance, forget Rule No. 1.

The Rationale Behind Its Design and Use

The reason for this is simple. Archaeological excavation is a destructive process. Once a site is dug, it can never be dug again. If what is found there is not recorded accurately, consistently, and in detail, that information is lost forever, and no amount of research, study, or further excavation will recover it. In other words, if we do not keep good records, we had better not dig at all.

But what, you ask, does this have to do with computers? Would not our obligation to record our dig be met by simply keeping a journal with all the pertinent data? After all, a notebook is far less expensive than a computer.

Yes and no. Ideally, the Perfect Archaeologist would indeed record all the data produced by his dig that would be necessary to give future archaeologists an accurate and complete picture of What Was There. But think about it. How many Perfect Archaeologists do you know? Being human, even archaeologists have the sad tendency to leave information out, to record data less than accurately, and to use terms that would leave anyone but him (and sometimes even him!) in the dark as to just what he is talking about.

Thus the three magic words which give life and meaning to the AEDMS are Completeness, Accuracy, and Consistency. By supplying the archaeologist with pre-printed forms on which to record his data, Completeness is encouraged (a blank space on the form screams "Fill me, fill me!"). By quantifying as much of the data as possible, Accuracy is increased (just what is a "big" rock, anyway?). And, by pre-defining terms and giving the archaeologist detailed instructions on filling out these forms, Consistency is made possible, not only for one archaeologist from one day to the next, but even—and especially—between two archaeologists (now a "small boulder" means the same size rock, no matter who recorded it).

But still, you ask, what does this have to do with computers? Won’t the use of these custom-designed forms ensure the Completeness, Accuracy, and Consistency that we are looking for?

Yes and no. First, it was the prospect of computer entry that inspired the form and content of the forms in the first place. Not that this is in itself any reason for using expensive equipment, but because of this the com-
puter can be used to do something which we humans are not too good at—checking up on ourselves. While the forms may inspire Completeness, Accuracy, and Consistency, they do not guarantee it. We might leave it for humans to edit them after they have been filled out, but as it turns out, machines are much better suited for this than are humans. The very process of entering the data into the computer kicks our Completeness, Accuracy, and Consistency level up another notch (a rather large notch, actually).

But the computer goes further than just editing and checking. Now that it has a whole bunch of information in its electronic head, it can start doing things with it, like summarizing, analyzing, doing statistical studies, and other fun things. All much faster than a human with a handful (or a file cabinet-full) of filled-out forms. This, however, is getting into Step 2; the AEDMS system deals only with Step 1: the recording, storage, and retrieval of the raw data. Stay tuned for further developments.

System Components

The AEDMS consists of three basic parts: (1) Data Forms; (2) Hardware; and (3) Software.

The Data Forms are the actual paperwork: pre-printed forms which the archaeologist or his assistant fills out while he is digging.

The Hardware includes a computer, a printer, a transformer (for changing Middle East 220 volts to US 110 volts), and a line current filter (to help keep the sometimes-sloppy Middle East current from blowing up the equipment).

The Software tells the computer how to receive data from the person who wants to enter it, and what to do with it after it is entered. The Software includes programs related to data entry, programs related to the printing of partly- or completely-filled Data Sheets, programs related to the production of summary reports, and various system utilities (for doing things like formatting new disks, making copies of disks, editing text files, etc.).

Each of these system components will be described in detail in the sections that follow.

Basic Assumptions

This article covers only the AEDMS itself. That means that the reader is assumed to be conversant with such things as basic computer and archaeological terminology, how to turn the computer and printer on, booting the system, formatting new disks, making copies of disks, and the proper care and handling of floppy disks. Not that these matters are of lesser importance, but they are dealt with in detail elsewhere.

Data Sheets

General Description

At the core of the AEDMS are the Data Sheets. These are pre-printed forms that are filled out in the field by the archaeologist, recording the required information as that information is being generated. This is the key to the value of using the AEDMS: all relevant data are recorded completely, accurately, and consistently as they are being dug. This avoids the problems that can arise when records are updated by forgetful archaeologists or assistants sometime after the fact, when the entity which the information describes no longer exists (i.e., has been dug, and thus destroyed).

There are four different kinds of Data Sheet, each designed to describe a different kind of archaeological feature. These are: (1) the Soil Locus Sheet, which describes an isolatable feature (i.e., a locus) that has the characteristics of soil (a soil layer, a surface, etc.); (2) the Architectural Locus Sheet, which describes a feature which is architectural in nature (building walls, terrace walls, etc.); (3) the Installation Locus Sheet, which is a kind of catch-all for features which do not fit either the Soil or Architectural categories (pits, cisterns, trenches, etc.); and (4) the Burial Sheet, which describes the skeletal remains and related artifacts associated with a burial.

In this section, the general strategy for using these sheets in the field will be outlined first, with suggestions as to how to make the recording process as effective and efficient as possible. Then the general strategy for processing them back at headquarters will be presented, with a view to streamlining the data entry process as much as possible. Figs. A.1, A.2, A.3, and A.4 present samples of each data sheet; the detailed descriptions of each data sheet and its data can be found in the Umeiri Excavation Manual.

It should be stressed that it is the purpose of this section to describe the recording process, not the digging process or archaeological theory and terminology. This means that explanation will be limited to detailing how the data sheets are used. Interpretation of the archaeological terms used on the sheets, and the rationale behind the content of the sheets, are left to the Umeiri Excavation Manual.

Filling Them Out—Field Strategy

The importance of paperwork to an archaeological excavation cannot be overstressed. The key to the successful keeping of records is the realization—even the conviction—that records are not kept as an afterthought when digging is slow, or perhaps in quiet evenings back
at base; rather, information is recorded \textit{as it is being generated}. The primary task of an square supervisor is to keep accurate, detailed, and up-to-the-minute records. Otherwise there is no point in even the most careful and expert digging.

A few suggestions regarding recording methodology in general, and field use of the data sheets in particular, are presented here. However, always keep in mind that the idea is to treat records-keeping as of equal importance as digging, and to do both at the same time. Practice this, and you will avoid 98\% of the problems related to the keeping of archaeological records.

1. If you find that you have too much digging to keep up with the paperwork, \textit{you are digging too fast}. Don't even think about saving the paperwork till later. Rather, slow down on your digging. If you find yourself way behind on your records, stop the digging completely if necessary and set your team to work on whatever it takes to get the records up to date. Then keep them that way.

2. Assign locus numbers and prepare the new locus sheet as soon as the locus is identified. Do not wait until you actually start digging it. This may mean assigning locus numbers to loci which you may never dig, but this is necessary to give you something to refer to, particularly in the Stratigraphy sections of the loci you are digging that relate to the undug one.

3. When you start a new locus, record as much information as possible on the sheet before you start digging. This will often include almost all of the identification section, much of the description section, some of the stratigraphy section, and top levels. If this is done, you will find that, more often than not, the only records you will need to keep while you are actually digging are the pottery, objects, and photo records.

4. On the data sheets, the idea is to leave as few blanks as possible. This does not mean trying to fill in things that do not apply—just do not leave unfilled things that do.

5. Be as quantitative as possible. Something that can be described by a number or as an option chosen from a list is far less subject to later misinterpretation than is something described by rambling remarks. Don't overdo it, though. There are times when a locus just does not fit into any of the preconceived categories. That is what the Remarks sections were provided for—but at the same time, don't get too literary. Be as concise as completeness will allow.

6. If you see a blank line on the data sheet, it means that words, letters, or numbers are \textit{required}—check marks will \textit{not} do. Only where you see a box ("[ ]") are check marks required.

7. In rare instances it may seem appropriate to check more than one box when only one choice is allowed. If this is the case, check the one that most applies, and note the other(s) in the REMARKS section.

8. Keep accurate track of sequentially numbered things, such as loci and pottery pail numbers. It is a mortal sin to assign the same number to two different loci, or to two different pottery pails. Keep a separate log of assigned locus numbers, and another one of assigned pottery pail numbers, so that you can tell at a glance what the next number in the sequence is when it comes time to assign a new one.

\section*{Entering the Data—Base Strategy}

It is the purpose of this section to lay out the steps of getting the data sheets from the archaeologists in the field to the data processor back at base, and from there back to the archaeologists. The process sounds simple enough, but in practice it is anything but.

The problem is threefold. First, a single data sheet may be used in the field for days, even weeks, at a time. If data are entered before that locus is completed, some method needs to be developed to let the data processor know just what data appearing on the sheet in his hand have already been entered in days past, and what data have been added in the field since the last entry. On the other hand, if no data are entered until the locus is completed, one finds that the data processor has nothing to do until the last two days of the season, since most loci are never quite completed until excavation of the entire square is complete. Thus the data processor is swamped with most of the season's data in the last few days.

Secondly, the data entry process takes time, and every minute the data processor is in possession of the data sheets is a minute that the archaeologists are deprived of them. And since these sheets contain most of the information about his excavation, if he does not have them he is limited as to the work he can do until he gets them back. Further, it is mandatory that all the data sheets go with the archaeologist into the field daily, so the turnaround time of data entry needs to be as short as possible.

And finally, archaeologists tend to be very protective of their records, and getting them to give them up, even for just a couple of hours, is like pulling teeth. Simply asking them to "Please give me your data sheets" rarely, if ever, results in much action.

The following section outlines the steps in a process that will hopefully minimize these problems. Every dig, however, is different (even every season of the same dig), and this procedure will undoubtedly have to be modified with use to adapt to individual archaeologist's and data processor's quirks. First, a somewhat idealistic procedure will be outlined to give the general ideal, and
then minor modifications will be presented to create a more practical process.

1. The archaeologist is provided with a supply of blank data sheets (some of each of the four different kinds).
2. The archaeologist works on filling them out as he digs in the field.
3. When the archaeologist returns from the field at the end of the day, he gives all data sheets which he has written on to the data processor. As incentive, the archaeologist is not fed until this is done.
4. While the archaeologist is taking a nap, the data processor enters the data into the computer.
5. As the data are being entered, the data processor notes any problems, omissions, missing data, etc. in red on the data sheet.
6. After the day's data have all been entered, the data processor prints out a new set of data sheets which has all of the data entered to date printed in the appropriate blanks.
7. After the archaeologist wakes up from his nap, both sets of data sheets are returned to him (the old ones with the archaeologist's hand-written entries and the data processor's notes in red, and the new, cleanly printed sheets with no hand-written anything on them).
8. That evening, the archaeologist reads the data processor's notes and corrects any errors, adds any missing data, or whatever the notes require. All corrections and additions are made on the new printed sheets, and the old sheets are discarded. No new information is ever written on old sheets—if it is, these addition will never be entered (the data processor never sees them again), and will be forever lost.
9. The next day the archaeologist takes the new data sheets to the field, to begin a new day of recording, and the process repeats itself until the locus is completed, the season ends, or, for whatever reason, no new information is written on the data sheet.

Following this basic method, problem 1 above is avoided, since anything on a data sheet which is hand-written has not yet been entered. Problem 2 is made less painful by depriving the archaeologist of his beloved data sheets only when he is eating and/or asleep. And problem 3, while not any less painful, is eliminated by making the surrender of data sheets a requirement, not a request. (If only it worked so well in practice!)

The main problem with this is that the actual process of data entry takes a lot of time. With anything but a very small-scale dig, there will simply be too much data to enter in the time allotted. But, there are two ways to help alleviate the overabundance of yet-to-be-entered data.

First, all data do not need to be entered every day. The site can be split up into sections, each section handing their data sheets in on a rotating basis. This way data from each section is entered every three days (or however many sections there are), cutting down considerably on the data processor's daily load. How many sections the site is divided into depends on the amount of data being generated. The more sections, the lighter the data processor's daily load, but the longer period between entering for each section. Either extreme (too much data, or too long an interval) is to be avoided—a happy medium will have to be arrived at through some trial and error.

Secondly, when all else fails, the data processor can do his work at night, while the archaeologists are asleep. This will probably wreak havoc with the data processor's social life, but it will get the job done nicely.

Software

General Description

The AEDMS software is what tells the computer what to do with the data that it is fed. It consists of three parts, each of which takes care of a separate portion of the data management process: (1) data entry; (2) data sheet printing; and (3) data summary printing.

As described in the previous section, when the archaeologist hands in the filled-in data sheets, the data processor enters the data into the computer. This is done with the Data Entry System software. After the data have been entered, new data sheets are printed using the Data Sheet Printing System software. Finally, at the end of the digging season, a concise summary of each data sheet is printed using the Data Summary Printing System software.

Data Entry

The purpose of the Data Entry System is simply to get the data off of the data sheets and into the computer, and to provide the means to edit the data once it is there. What is then done with the stored data is of no concern to this part of the AEDMS software—that is the job of the other parts described below.

Data Sheet Printing

Once the data have been entered for a day's dig, it is the job of the Data Sheet Printing System to print new, clean data sheets for each locus which has received additional data since its sheet was last printed. On this new
ARCHAEOLOGICAL EXCAVATION DATA MANAGEMENT SYSTEM

sheet are all the data which have been entered for the locus to date, printed in their proper spaces. It is this sheet that the archaeologist takes to the field and uses on the next day of digging.

Summary Report Printing

At the end of the digging season, after each locus is finished and all data are entered, the Summary Report Printing System prints all the data for each locus in a concise, easy to read format. These printouts can be used for further study and analysis back home, and can be published as is (see Appendix D).

Hardware

Overview

The hardware needed for the field operation of the AEDMS consists of (1) a microcomputer with either dual floppy disks or a hard disk; (2) a printer; (3) a transformer; (4) a surge protector; and (5) miscellaneous cables to string it all together. When using the AEDMS back in the States, the transformer is not necessary (but the surge protector is definitely still recommended).

This section deals only with the what of the hardware. It is assumed that the user is already familiar with the how (that is, how to turn it on, how to put paper and ribbons in the printer, etc.). This latter information is found in the manuals which come with the hardware.

Computer

The AEDMS was designed for use on an IBM-compatible microcomputer running the MS-DOS operating system. Hardware requirements include 640K RAM, dual 360K (or more) floppy disk drives or a hard disk, and a printer port (either serial or parallel, depending on which interface your printer has).

Though any desktop computer will do the job, a laptop is considerably easier to transport, and will do the job every bit as well as its larger and heavier sibling. The laptop also has the distinct advantage of being designed to run off batteries. This is important, not because this is how you would generally run the system, but because, in the event of a blackout or brownout, the battery will take over without any loss of data, temper, or sanity.

Although many microcomputers can be switched to run directly off a 220 volt supply, it has been found to be easier to leave it set at 110 volts, and use a transformer to step the Middle East 220 volts down to the US 110 volts.

A Zenith 181 laptop microcomputer, with two 720K micro floppy disk drives, was used during the development of the AEDMS. It is small, rugged, and runs about four hours on a single battery charge. A similar system with a hard disk would be preferable (hard disks are faster than floppy disks—a quality which the data enterer will come to appreciate deeply—and can store much more data), but is more expensive, less sturdy, and runs far less time on a battery charge.

Printer

Almost any printer can be used with the AEDMS, as long as it has the following capabilities:

1. Pin or tractor feed, for standard 9-1/2 x 11 fanfold paper.
2. Standard and compressed print modes (10 or 12 characters per inch standard, and approximately 17 characters per inch compressed).
3. 6 and 8 lines per inch modes.
4. A serial or parallel interface, to match whatever your computer has. Parallel interfaces are generally faster and easier to manage.
5. Capable of operating on 50 cycle current (in addition to the standard US 60 cycle). There is no need for the printer to be able to run on 220 volts (the transformer, below, will take care of that), but no transformer will change the Middle East 50 cycle current into US 60 cycle. Most printers, however, can handle this.
6. The faster the speed, the better. A printer slower than about 120 characters per second is not recommended—too much time will be spent on printing Data Sheets and Summary Reports.
7. The sturdier it is, the better. Airport baggage handlers can be pretty rough, and this thing needs to be shipped a third of the way around the world and back once a year or so. But then this also applies to all the hardware.

An old Okidata Microline 82A printer was used throughout the earlier stages of the development of the AEDMS. This printer is about as simple and cheap as you can get (though no longer available, similar models can be had for around $225), is quite sturdy (it has survived three round trips to the Middle East and five hard years of use back home), and is moderately fast (it is rated at 120 characters per second). This model was later replaced by an Okidata 192 which, though less solid than the 82A, is smaller, faster, and more versatile, and still relatively inexpensive.

Transformer

A step-down transformer is used to cut the Middle East 220 volts down to US standard 110 volts. The power...
rating of the transformer used should be at least enough to run both computer and printer plus a little more just to be on the safe side. A good rule of thumb is to add the power requirements of your computer and printer (this information can be found in the manuals accompanying this equipment), then tack on another 100 watts, and get a transformer of that power rating or higher. (A word to the wise: Use a transformer that can handle enough power to include a small tape player—data entry can at times be a very tedious and boring process.)

The best kind of transformer to use is one which was designed specifically for this purpose. It has a grounded Middle East style plug on one end (the 220 volt side), and a standard US grounded socket on the other end (the 110 volt side).

Do not, under any circumstances, use a small voltage converter, like those sold by Radio Shack for hair dryers, electric razors, and such. To do so will almost guarantee the destruction of printer, or computer, or both. Pay the extra money for a proper transformer, not a converter.

Surge Protector

Power sources in the Middle East are notoriously flaky. While theoretically the wall sockets provide 220 volt 50 cycle current, in actuality this can vary considerably. While not much can be done about brownouts and blackouts (short of running the entire system off batteries), high voltage spikes (which can blow your equipment before you can blink) can be guarded against with a decent line current filtering device.

The device used during the development of the AEDMS is the ISO-3 Super Isolator, manufactured by Electronic Specialists, Inc. of Natick, MA. This provides three outlets of filtered, isolated current, which is perfect for computer, printer, and the all-important tape player.

Any similar device can be used. Just be sure that it has a high enough power rating (the same rules apply as to the transformer), and that it has at least three power outlets.

Electrical Connections

The hardware is connected in the following manner, starting from the wall outlet and progressing outward:

1. The transformer’s Middle East style plug is plugged into the wall socket.
2. The surge protector’s plug is plugged into the transformer’s 110 volt socket.
3. The computer and printer (and tape player) are plugged into the isolator’s filtered sockets.
4. The printer cable is plugged into the appropriate sockets, one end into the printer, the other into the computer’s printer port. If your computer uses the serial interface, make sure the communication protocol is set up to match that of the printer. This may require the aid of someone who knows what they are doing. Sorry, but no detailed instructions can be given here—requirements vary for different computers and for different printers. Just refer to the computer’s and printer’s user’s manuals—you will find all the necessary information there if you look hard and long enough.
5. If the computer’s keyboard is separate from the computer, the keyboard cable is plugged into the appropriate sockets, one end into the keyboard, the other into the computer’s keyboard port.
6. The headphones are plugged into the tape player.
7. The knee bone is connected to the leg bone.

In Case of Emergency . . .

No matter how well planned and executed a project is, there will always be problems, large and small. With the AEDMS problems can crop up under two different categories: Equipment failure, and data loss. Since the possibility of these problems occurring can never be completely eliminated, steps must be taken to make them as unlikely as possible or, if they must happen, make them as painless and most easily fixable as possible.

Redundancy—Hardware and Software

The best way to avoid problems in an out-of-the-way place like the Middle East (where one may be hard put to find a "friendly neighborhood computer repair store") is redundancy. This means simply to take two of everything. Computer break down? Pull out the spare. Spare computer break down? It's unlikely that both will have the same problem, so use parts from each and construct a hybrid that works. Data disk go bad? Use a backup.

Unfortunately, it is not always possible (and rarely within budget) to take two of everything, especially when it comes to computers and printers. So, if you can only swing one of each, there is a thing or two that can be done to ease the pain of a minor breakdown.

Minor Hardware Breakdowns and Repairs

The best way to fix a breakdown is to avoid it. With electronic equipment, this is done by (1) using the proper equipment, and (2) connecting it properly. As mentioned above, this includes always using a good line current filter and a proper transformer (never a voltage converter). Following these simple instructions will go a long way toward avoiding major hardware problems.
Another good idea is to take a supply of appropriate fuses, for both computer and printer. Replacing a fuse sounds minor, but Amman is not a very good place for finding one when you need it. Best determine what kind you need before you leave home, and take a handful with you.

If you or someone with whom you will be working is somewhat handy with electronics, it might be worth taking a few tools to allow the possibility of minor repairs. If things blow in a big way, it is unlikely that these will be of much use, but it is better to be armed with them than to be without when simple, minor repairs are all that is needed. Helpful tools include phillips and regular screwdrivers, needle nose pliers, wire cutters, small soldering iron, solder, some wire, and electrical tape. A small multi-meter can come in handy as well.

Data Loss Problems

Avoiding data loss can be done in two ways. First, keep your disk drive heads clean. The air in the Middle East is very dusty, and the heads generally need cleaning more frequently than they do in your air conditioned office back home. Once a week is recommended, so be sure to bring a head-cleaning diskette and a bottle of cleaning solution. Depending on how large your dig is, and how long you will be there, you may want to take more than one. Check the manufacturer's directions as to how many cleanings the diskette is good for, and plan accordingly.

The second way to avoid data loss is to keep regular backups of all of your working disks, both program and data. How often should you make backups? How much work do you want to risk losing? If you make backups weekly, you could lose as much as a week's work with one crash. Due especially to the dusty, disk-destroying air of the Middle East, it is recommended that backups be made daily—at least of the disks that have been altered during the past 24 hours. Make it a habit, as the first thing you do when you set up shop at the start of the day, to make your backups. You won't regret it.

A word about the transporting of program and data disks is appropriate. According to the airport folks, their detection machines should not have any effect on magnetic media (i.e., your floppy disks). This may or may not be so, so don't take any chances. Before you leave home, make three or four copies of everything, and pack them each in a different suitcase. For good measure, hand-carry one set and hand it around the metal detectors and X-ray machines. Then do the same for the return trip back home. This may seem a bit like overkill, but isn't it better to waste a little time in prevention than lose your whole summer's work to a faulty airport detector?

Catastrophic Breakdown

If it should happen that hardware or software breaks down but good, there is still hope (not much, but some). In case of hardware breakdown, you may be able to find a computer store that will at least make an attempt at repairs. If this is to work, you should at least be armed with the technical and service manuals for the sick machine.

The better option is to find a place that will rent you an IBM-compatible computer (or a compatible printer, or whatever broke down) for the duration of the dig. This may be somewhat expensive, but it will solve the problem. A few years ago this was not even an option—a microcomputer in the Middle East was then a rare and wonderful thing. Nowadays, however, you should have no trouble finding one.

If your software is irretrievably lost, the best path to follow is to remove your data processor's hat and put on your editor's hat. Have your field crew fill out all data forms as usual, and spend your time manually checking them for Completeness, Accuracy, and Consistency. When you get home (where, of course, you left more backup copies of your program disks), you can then enter all the data at once. A word to the wise: Enter everything as soon as you get home. It is too easy to keep putting it off, and the project that started out to facilitate the recording process rapidly becomes as slow or slower than the old manual method. Do not procrastinate.

"Copyright (c) 1988 by James K. Brower."
ARCHAEOLOGICAL EXCAVATION DATA MANAGEMENT SYSTEM

1. SOIL LOCUS IDENTIFICATION
   A. SITE
   B. SEASON
   C. FIELD
   D. SQUARE
   E. LOCUS
   F. DATES
   G. PAGE

   H. SUPERVISION
   I. BALK
   J. INSTALLATION SUPPLEMENT
   K. INCLUSION
   M. Complete (Fid Sup)

   ---------------
   2. A REASON
   B. SEPARABILITY: Top: [ ]Very Clear [ ]Clean [ ]Average [ ]Unclear [ ]Very Unclear [ ]Arbitrary
   Bottom: [ ]Very Clear [ ]Clean [ ]Average [ ]Unclear [ ]Very Unclear [ ]Arbitrary

   ---------------
   3. DESCRIPTION
   A. COLOR: 1. Munsell Number
              2. Verbal
   B. TEXTURE:
      1. Clay (<1/256m) % 4. Fine (1/16-1/4mm) %
      2. Silt (1/256-1/16mm) % 5. Med (1/4-1/2mm) %
      3. Sand (1/12mm) % 6. Crs (1/2-2mm) %
   C. PARTICLE SHAPE:
      2. SA % 4. R % [ ] J6. Horizontal
   D. CONSISTENCY:
      1. Hardness (circle one): 0 1 2 3 4 5
      2. Compactness (use S, M or V):
         a. Loose ___ e. Gravelly ___ a. Dry
         b. Crumbly ___ f. Rubbly ___ b. Moist
         c. Fine ___ g. Plastics ___ c. Wet
         d. Firm ___ h. Plasticity ___ d. Firm
   E. INCLUSIONS:
      3. Structure (check one):
         Water: [ ] a. Puddling [] b. Chanelling [] c. Sheet Wash
         Other: [ ] d. Wind [] e. Talus [] f. Random
   F. MEASUREMENTS:
      1. Length ___ m 4. Direction of Slope ___ deg
      2. Width ___ m 5. Degree of Slope ___ deg
      3. Depth ___ m
   G. NON-NATURAL SURFACE MATERIAL (check one):
      [ ] J9. Laminated Surface: Greatest # Observable:
   H. REMARKS:

   ---------------
   4. STRATIGRAPHY (This locus is . . .)
   A. UNDER
   B. OVER
   C. EQUALS
   D. CONTIGUOUS TO
   E. SEALS AGAINST

   ---------------
   5. LEVELS (Continued on Page ___)
      A. Loc | B. Top | C. Bottom | D. T
      ---------------------
      Location: 1 2 3 4 5 6
      7 8 9 10 11 12
      13 14 15 16 17 18
      19 20 21 22 23 24
      25 26 27 28 29 30
      31 32 33 34 35 36

   ---------------

Fig. A.1a. Soil Locus Identification sheet (front).
6. SOIL LOCUS IDENTIFICATION
A. SITE _________ B. SEASON _________ C. FIELD _________ D. SQUARE _________ E. LOCUS _________ G. PAGE _________

7. POTTERY (Continued on Page)

Pub | Date | Pail | Diag/Tot | Bskts | Loc | Preserv | Comments | Reading
--- | ---- | ---- | ------- | ----- | --- | ------- | -------- | ------

8. OBJECTS (Continued on Page)

Date | Pail | Fid# | Loc | Level | Tot | Description | Reg. #
--- | ---- | ---- | --- | ----- | --- | ---------- | ------

9. PHOTOGRAPHS (Continued on Page)

Date | Photo No. | Subject | A: Date | B: Photo No. | C: Subject
--- | -------- | ------- | ----- | ---------- | -------

10. BIODETA SAMPLES
[ ] A. Pollen  [ ] C. Soil (Reason: _________)
[ ] B. Flotation  [ ] D. Chronometric (Type: _________)
[ ] E. _________  [ ] F. Remarks: _________

11. DRAWINGS
A. Top Plan _________ B. Balks _________ C. Sub-balks _________ D. Arch.

12. INTERPRETATION
A. Function:

B. Stratigraphy:

C. Food System:

D. [ ] Clean Locus  E. Locus Date: _________

Fig. A.1b. Soil Locus Identification sheet (back).
### ARCHITECTURAL LOCUS IDENTIFICATION

<table>
<thead>
<tr>
<th>No.</th>
<th>Material</th>
<th>Qualifiers:</th>
<th>B. Masonry:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Limestone</td>
<td>% a. None</td>
<td>1. Wall Stones:</td>
</tr>
<tr>
<td>2</td>
<td>Chert</td>
<td>b. Hard</td>
<td>b. Cobble (6-25cm)</td>
</tr>
<tr>
<td>3</td>
<td>Basalt</td>
<td>c. Soft</td>
<td>b. Sm Boulder (25-50cm)</td>
</tr>
<tr>
<td>4</td>
<td>Nari</td>
<td>d. Cherty</td>
<td>c. Med Boulder (50-75cm)</td>
</tr>
<tr>
<td>5</td>
<td>Mudbrick(s)</td>
<td>e. Fossiliferous</td>
<td>d. Lg Boulder (75-100cm)</td>
</tr>
<tr>
<td>6</td>
<td>Arch Fags</td>
<td>f. Decayed</td>
<td>e. Vlg Boulder (&gt;1m)</td>
</tr>
<tr>
<td>7</td>
<td>Origin: Quarry</td>
<td>g. Freshly</td>
<td>f. Vlg Boulder (&gt;1m)</td>
</tr>
<tr>
<td>8</td>
<td>Reused</td>
<td>h. Reused</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Sun-Baked</td>
<td>i. Oven-Baked</td>
<td></td>
</tr>
</tbody>
</table>

### DESCRIPTION

<table>
<thead>
<tr>
<th>E. Mortar</th>
<th>F. Facing</th>
<th>G. Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dry-laid</td>
<td>% (1) Unfaced</td>
<td>1. Style (check one):</td>
</tr>
<tr>
<td>2. Clay (S)</td>
<td>% (1) Plaster (S,1)</td>
<td>[ ] a. Boulder &amp; Chink</td>
</tr>
<tr>
<td>3. Mud (S)</td>
<td>% (1) Plaster (S,1)</td>
<td>[ ] b. Ashlar Fit</td>
</tr>
<tr>
<td>4. Paint (S)</td>
<td>[14. Paint (draw)]</td>
<td>[ ] c. Header-stretcher</td>
</tr>
<tr>
<td>5. Plaster (S)</td>
<td>Color:</td>
<td>[ ] d. Rubble-filled</td>
</tr>
<tr>
<td>6. Lime (S)</td>
<td>% (1) Plaster (S,1)</td>
<td>[ ] e. Rubble</td>
</tr>
<tr>
<td>7. Avg Thickness cm</td>
<td></td>
<td>[ ] f. Stacked Bricks</td>
</tr>
</tbody>
</table>

### MEASUREMENTS

<table>
<thead>
<tr>
<th>J. Measurements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Length (greatest) m</td>
<td>4. Orient. deg</td>
</tr>
<tr>
<td>2. Width m</td>
<td>5. Dip deg</td>
</tr>
<tr>
<td>3. Height m</td>
<td></td>
</tr>
</tbody>
</table>

### PRESERVATION

<table>
<thead>
<tr>
<th>K. Preservation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Foundation Only: Complete</td>
<td>Degree deg</td>
</tr>
<tr>
<td>16. Foundation Only: Partial</td>
<td></td>
</tr>
<tr>
<td>17. Partial Superstructure: Half</td>
<td></td>
</tr>
</tbody>
</table>

### REMARKS

<table>
<thead>
<tr>
<th>L. Remarks:</th>
</tr>
</thead>
</table>

### STRATIGRAPHY

<table>
<thead>
<tr>
<th>A. Under:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>B. Over:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>C. Equals:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>D. Ft:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>E. Cuts:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>F. Cut By:</th>
</tr>
</thead>
</table>

### LEVELS (Continued on Page)

<table>
<thead>
<tr>
<th>A. Loc</th>
<th>B. Top</th>
<th>C. Bottom</th>
<th>D. T</th>
<th>A. Loc</th>
<th>B. Top</th>
<th>C. Bottom</th>
<th>D. T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### LOCATION

<table>
<thead>
<tr>
<th>Location:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34</td>
<td>35</td>
<td>36</td>
</tr>
</tbody>
</table>

---

**Fig. A.2a. Architectural Locus Identification sheet (front).**
### 18. ARCHITECTURAL LOCUS IDENTIFICATION

<table>
<thead>
<tr>
<th>A. SITE</th>
<th>B. SEASON</th>
<th>C. FIELD</th>
<th>D. SQUARE</th>
<th>E. LOCUS</th>
<th>G. PAGE</th>
</tr>
</thead>
</table>

### 19. POTTERY (Continued on Page)

<table>
<thead>
<tr>
<th>Pub Date</th>
<th>Pail</th>
<th>Diag/Tot</th>
<th>Bsks</th>
<th>Loc</th>
<th>Preserv.</th>
<th>Comments</th>
<th>I: Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 20. OBJECTS (Continued on Page)

<table>
<thead>
<tr>
<th>Date</th>
<th>Pail</th>
<th>Fld#</th>
<th>Loc</th>
<th>Level</th>
<th>Tot</th>
<th>Description</th>
<th>Reg. #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 21. PHOTOGRAPHS (Continued on Page)

<table>
<thead>
<tr>
<th>Date</th>
<th>Photo No.</th>
<th>Subject</th>
<th>Date</th>
<th>Photo No.</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 22. BIODATA SAMPLES

- [ ] A. Pollen
- [ ] B. Flotation
- [ ] C. Flint
- [ ] D. Soil
- [ ] E. Chronometric
- [ ] F. Remarks

### 23. DRAWINGS

- A. Top Plan
- B. Balks
- C. Sub-balks
- D. Arch.

### 24. INTERPRETATION

- A. Function:
- B. Stratigraphy:
- C. Food System:
- D. [ ] Clean Locus

**E. Locus Date: ________**

---

Fig. A.2b. Architectural Locus Identification sheet (back).
ARCHAEOLOGICAL EXCAVATION DATA MANAGEMENT SYSTEM

25. INSTALLATION LOCUS IDENTIFICATION
A. SITE _______ B. SEASON _______ C. FIELD _______ D. SQUARE _______ E. LOCUS _______ F. DATES _______ G. PAGE _______
H. SUPERVISOR _______ I. BALK _______ J. WALL FACING _______ K. FLOOR SUPPLEMENT _______
L. Designation _______ M. Complete (Fid Sup) _______

26. A. REASON ___________________________________________________________________________________________________________________________________________

27. TYPE (Qualifiers: CERT = Certain, PROB = Probable, POSS = Possible)
   A. Pit _______ B. Silo _______ C. Bin _______ D. Kiln _______ E. Tabun _______ F. Cistern _______ G. Reservoir _______ H. Burial _______ I. Pavilion _______ J. Foundation Trench _______ K. Robber Trench _______ L. Designation ___________________________________________________________________________________________________________________________________________

28. DESCRIPTION
   A. MATERIAL:
       2. Ceramic (S) _______ 6. Plaster (S,A) _______ 13. Clay (S) _______ 18. Brick (S,A) _______
       3. Mud (S) _______ 7. Soil (S) _______ 14. Ceramic (S) _______ 17. Clay (S,A) _______
   B. PLAN:
       1. Length (greatest) _______ 3. Height _______ 5. Circumference _______ 7. Oval _______
       M. Complete (Fid Sup) _______
   C. LINING:
       1. None _______ 5. Plaster (S) _______ 15. Plaster (S,A) _______ 19. Brick _______
       e. Fossiliferous _______ f. Decayed _______ g. Freshly-weathered _______ h. Reused _______
   D. MEASUREMENTS:
       1. Length (greatest) _______ 3. Height _______ 5. Circumference _______ 7. Oval _______

29. STRATIGRAPHY (This locus [is] ...)
   A. UNDER _______ H. BONDED TO _______
   B. OVER _______ I. FT _______
   C. EQUALS _______ J. FILL LOCI _______
   D. CUTS _______ K. REMARKS _______
   E. CUT BY _______ L. REMARKS _______
   F. SEALS AGAINST (ABUTS) _______ M. COMPLETE (FID SUP) _______
   G. SEALED AGAINST BY _______ N. COMPLETE (FID SUP) _______

30. LEVELS (Continued on Page 9)
   Location: 1 2 3 4 5 6
   Location: 7 8 9 10 11 12
   Location: 13 14 15 16 17 18
   Location: 19 20 21 22 23 24
   Location: 25 26 27 28 29 30
   Location: 31 32 33 34 35 36

Fig. A.3a. Installation Locus Identification sheet (front).
### 31. Installation Locus Identification

<table>
<thead>
<tr>
<th>A. Site</th>
<th>B. Season</th>
<th>C. Field</th>
<th>D. Square</th>
<th>E. Locus</th>
<th>G. Page</th>
</tr>
</thead>
</table>

### 32. Pottery (Continued on Page)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 33. Objects (Continued on Page)

<table>
<thead>
<tr>
<th>A: Date</th>
<th>B: Pail</th>
<th>C: Fid#</th>
<th>D: Loc</th>
<th>E: Level</th>
<th>F: Tot</th>
<th>G: Description</th>
<th>H: Reg. #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 34. Photographs (Continued on Page)

<table>
<thead>
<tr>
<th>A: Date</th>
<th>B: Photo No.</th>
<th>C: Subject</th>
<th>A: Date</th>
<th>B: Photo No.</th>
<th>C: Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 35. BioData Samples

- [ ] A. Pollen
- [ ] B. Flotation
- [ ] C. Flint

<table>
<thead>
<tr>
<th>D. Soil (Reason:</th>
<th>E. Chronometric (Type:</th>
<th>F. Remarks:</th>
<th>G. Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 36. Drawings

A. Top Plan
B. Balks
C. Sub-balks
D. Arch.

### 37. Interpretation

#### A. Function:

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

#### B. Stratigraphy:

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

#### C. Food System:

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

#### D. [ ] Clean Locus

<table>
<thead>
<tr>
<th>E. Locus Date:</th>
</tr>
</thead>
</table>

Fig. A.3b. Installation Locus Identification sheet (back).
**ARCHAEOLOGICAL EXCAVATION DATA MANAGEMENT SYSTEM**

### 38. BURIAL IDENTIFICATION

<table>
<thead>
<tr>
<th>A. SITE</th>
<th>B. SEASON</th>
<th>C. FIELD</th>
<th>D. SQUARE</th>
<th>E. BURIAL NO.</th>
<th>F. DATES</th>
<th>G. PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**H. SUPERVISOR**

<table>
<thead>
<tr>
<th>1. BALK</th>
<th>J. ASSOCIATED INST LOCUS</th>
<th>K. OSTEOLIST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**L. Designation**

<table>
<thead>
<tr>
<th>M. Complete (Fld Sup)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

---

### 39. A. REASON

|-----------------------|--------------|--------|----------|----------|---------------|------------|

---

### 40. CONTAINER

<table>
<thead>
<tr>
<th>A. TYPE</th>
<th>B. MEASUREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### 41. SKELETAL REMAINS

<table>
<thead>
<tr>
<th>B. TYPE:</th>
<th>[ ] 1. Human</th>
<th>[ ] 2. Animal</th>
</tr>
</thead>
</table>

**A. ACCESSIBILITY (check one):**

<table>
<thead>
<tr>
<th>[ ] 1. Totally Is Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] 2. Head in Balk</td>
</tr>
<tr>
<td>[ ] 4. Sarcophagus</td>
</tr>
<tr>
<td>[ ] 7. Tomb Loculus</td>
</tr>
<tr>
<td>[ ] 2. Width: m</td>
</tr>
</tbody>
</table>

**C. DISPOSAL:**

| [ ] 1. Primary Inhumation |
| [ ] 2. Secondary Inhumation |
| [ ] 3. Cremation; situ |
| [ ] 4. Multiple Burials (B); |
| [ ] 5. Completely Disarticulated |

**D. ARTICULATION:**

| [ ] 1. Completely Articulated |
| [ ] 2. Articulated |
| [ ] 3. Semi-articulated |
| [ ] 4. Disarticulated |
| [ ] 5. Completely Disarticulated |

**E. POSITION:**


<table>
<thead>
<tr>
<th>a. Unknown</th>
<th>b. Back</th>
<th>c. Axial Flexion</th>
</tr>
</thead>
<tbody>
<tr>
<td>d. Right Side</td>
<td>e. Left Side</td>
<td></td>
</tr>
<tr>
<td>f. Medial Rotation</td>
<td>g. Lateral Rotation</td>
<td></td>
</tr>
<tr>
<td>h. Ankle Crossed Over (Top)</td>
<td>i. Leg Crossed Over (Top)</td>
<td></td>
</tr>
</tbody>
</table>

**F. MEASUREMENTS:**

<table>
<thead>
<tr>
<th>mW</th>
<th>m</th>
<th>h</th>
<th>M</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>UD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**G. AGE:**

| [ ] 1. Undetermined | [ ] 6. 4-6 Yrs. | [ ] 11. Young Adult |
| [ ] 2. 0-6 Mos. | [ ] 7. 6-8 Yrs. | [ ] 12. Mid-aged Adult |
| [ ] 3. 8-10 Yrs. | [ ] 13. Old Adult |
| [ ] 4. 10 Yrs.+ | [ ] 9. 10-12 Yrs. |
| [ ] 5. 12-14 Yrs. | [ ] 10. 12-17 Yrs. |

**H. SEX:**

| [ ] 1. Male |
| [ ] 2. Female |
| [ ] 3. Undetermined |

**I. ORIENTATION:**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>deg</td>
<td>deg</td>
<td>deg</td>
<td>deg</td>
</tr>
</tbody>
</table>

**J. LOCATION IN TOMB:**

| [ ] 1. Photo |
| [ ] 2. Sketch Plan |
| [ ] 3. None |

**K. GRAVE GOODS:**

| [ ] 1. Photo |
| [ ] 2. Sketch Plan |
| [ ] 3. None |

**L. PATHOLOGY:**

**M. REMARKS:**

---

### 42. STRATIGRAPHY (For Multiple Burials Only, except E; This Burial is )

<table>
<thead>
<tr>
<th>A. UNDER BURIAL NO(S)</th>
<th>E. WITHIN SOIL LOCUS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. OVER BURIAL NO(S)</th>
<th>F. REMARKS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. CUTS BURIAL NO(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D. CUT BY BURIAL NO(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

---

### 43. LEVELS (Continued on Page )

<table>
<thead>
<tr>
<th>Location</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Loc</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. B.Top</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. C.Bot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. D.T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. A.Loc</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. B.Top</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. C.Bot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. D.T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Fig. A.4a. Burial Identification sheet (front).
### 44. Burial Identification

<table>
<thead>
<tr>
<th>A: Site</th>
<th>B: Season</th>
<th>C: Field</th>
<th>D: Square</th>
<th>E: Burial No.</th>
<th>G: Page</th>
</tr>
</thead>
</table>

---

#### 45. Pottery (Continued on Page _____)

<table>
<thead>
<tr>
<th>A: Date</th>
<th>B: Pail</th>
<th>C: Comments</th>
<th>D: Reading</th>
</tr>
</thead>
</table>

---

#### 46. Objects (Continued on Page _____)

<table>
<thead>
<tr>
<th>A: Date</th>
<th>B: Pail</th>
<th>C: FldW</th>
<th>D: Loc</th>
<th>E: Level</th>
<th>F: Tot</th>
<th>G: Description</th>
<th>H: Reg. #</th>
</tr>
</thead>
</table>

---

#### 47. Photographs (Continued on Page _____)

<table>
<thead>
<tr>
<th>A: Date</th>
<th>B: Photo No.</th>
<th>C: Subject</th>
<th>A: Date</th>
<th>B: Photo No.</th>
<th>C: Subject</th>
</tr>
</thead>
</table>

---

#### 48. Biodata Samples

[ ] A. Chronometric (Type: ____________________________________________________________________________________________]

[ ] B. [ ] C. Remarks: ________________________________________________________________________________________________

---

#### 49. Drawings

A. Top Plan: __________________________________________ B. Balks: __________________________________________ C. Sub-balks: __________________________________________ D. Arch: __________________________________________

---

#### 50. Interpretation

A. Context: __________________________________________

---

B. Burial Date: ________

---

Fig. A.4b. Burial Identification sheet (back).
APPENDIX B

Use of Video

Robert L. Artman  Carmel, IN

Introduction

A feasibility study of the use of video recordings during the 1984 Madaba Plains Project was a preplanned yet part-time operation. The application of video recording equipment during the dig season, mostly in the field, was viewed as an acceptable operation during such a project. Procedures and equipment were arranged for visualized conditions and therefore little field innovation was required.

The objectives for the video experiment were:

1. feasibility of the application;
2. documentation value;
3. data retrieval feature; and
4. educational value.

Following is an analysis of our experimental use of video in archaeological application.

Feasibility

The first concern under the feasibility aspect was equipment. Equipment already on hand by this video-grapher was a Sony Beta System consisting of the following:

1. HVC2200 camera;
2. SL-2000 portable VCR;
3. AC-F1E power adaptor/charger;
4. high grade 0.5 in tapes;
5. VCR and camera carrying cases;
6. two Nicad rechargeable batteries;
7. plastic bag field protection; and
8. regular camera cleaning tools.

This minimum equipment was adequate for the season activity, however, a small TV set would be an asset for end-of-the-day viewing of results. Otherwise, the camera viewfinder could serve as a playback monitor.

With no prior guidance for such an undertaking, the actual camera applications needed a few considerations as:

1. The ultimate in scene planning would be a series requiring little tape reassembly for continuity.
2. Overlaps and redundancy in scenes will be unavoidable. Make use of the best scenes.
3. Use available light only.
4. In estimating tape requirements, it was assumed that short scenes run from 10 to 60 seconds. Long scenes could run for one minute and longer. Indirectly, this assigns some weight to scene lengths with respect to over-all scene objectives. Hours and hours of such scenes are not practical for any end use. This exercise provides an awareness of how much intelligence can be packed into a valuable visual scene with time limitation.

The estimates of a total season video recording was
USE OF VIDEO

tried with a simple chart of only three headers: (a) CHECK; (b) SCENE-TOPIC; and (c) EST TIME. Here the season's video planning takes place with a listing of all desired scenes and the amount of time to be allotted to each. The total time would then dictate the amount of cassette stock required. For this first feasibility sampling process, 395 min were estimated and only about half of this time was actually used due to the part-time nature of the project. Nearly all sampling categories were included in the recordings.

Early in the feasibility considerations a few thoughts were anticipated and dispensed with these contrapoints:

1. Video would cost too much!
   Not as much as data processors and storage or other special duty electronics.
2. Equipment would be awkward!
   No more so than other field equipment.
3. Video will compete with regular photography.
   Video will not replace photographic needs, especially pictures for publication. Video will complement, enhance, and provide a new dimension.
4. Video will require special training!
   Not so, probably less than commercial photography, data processing, or other analytical techniques. A good photographer is already prepared to become a videographer.
5. Video end-results are too complicated.
   Only as complex as the equipment budget permits. It does take at least two VCRs to edit and assemble a final tape.

The foregoing thoughts then constitute the start-up feasibility views. The feasibility of end-use of video recordings will lie primarily in application considerations to follow in other subtopics.

Documentation

In this broad application, the video effort would be very much in parallel to that of the usual photographic results. Although videography may never eliminate the need of notebook record keeping and reporting form methods, video could supplement documentation, since it would be adding color, motion, and an almost 3-D effect to a given subject. In fact, the video camera may even see and record subtle events that may escape other observation methods. Documentation aspects could be amplified in many ways when applied to dig areas where degree of change is impossible or illogical to record, such as:

1. Square development with time elapse;
2. Stratigraphic views and important features;
3. Probes during the process and results;
4. Balk development as Squares are dug deeper;
5. Balk removal along with additional finds;
6. Object removals, especially if quite large;
7. Special digging techniques;
8. Indications of remedial procedures.

Documentation would be the most used end application and would require more tape storage. The video recording could be managed in parallel with the still picture process, and selected slides could be inserted in a taped series to augment important points.

One feature of video documentation will always stand out. The work is complete except for playback on the monitor as required. There is not further processing with video, no dark rooms, no chemical stocks and processing, no developing, no enlarging, no multiple printing, and identification.

The sound track of the video tapes provide yet another dimension to documentation in that any sound effects, voice formal narration, or verbal note-taking will augment the views being recorded by video. For especially important finds or analysis, the voice narration should be considered another valuable asset to documentation. With the flexibility afforded by a final editing process, the voice path features will bear further discussion under editing and assembly of final tapes.

General information on the topics may be drawn from the documentation recordings to fit most any general requirement. These may be for the general public interest, church conferences, service club programs, administrative group enlightenment, and fund raising to support archaeological expeditions.

Many of the same scenes recorded in the day-by-day documentation would also be valuable for both general information and educational purposes. This may be especially so in revealing key finds and field progress with respect to time. The cross-use of these similar materials is limitless. The general information tapes could be the eye-grabbers to instill interest and support, and probably would include the most startling scenes, special finds, before and after scenes, and field development with respect to time during season or for a series of season accomplishments.

Data Retrieval Features

Information data retrieval becomes a fast and easy operation with video recordings for whatever purpose. Regardless of the end-use of the final tapes in any objective, the retrieval feature is the same. This, in turn, means the adoption of some simplified cataloging system for the video tapes. Data or video retrieval is only as good as its guide or index of topics and the addresses within the system. A simple matrix of topics versus equip-
ment counter readings is all that is required. The fast forwarding and backup of VCRs makes topic search extremely fast, as compared to manual search in notebooks, tab runs, or previously published reports. How fast do you want the data, how long do you want the data, and to whom is it to be presented would become further considerations in video applications. Any poor or incomplete approach to video/index records could only lead to lost-time disasters and ineffective video system investments.

Educational Value

Education and general information end use may become the same effort in the earlier periods of applying video recordings. Time and experience may be required in separation of these two objectives, but, perhaps this is resolved by more definitive planning for each effort than relegating it to the final editing and tape assembly.

For education value, detailed planning would be required to assure good coverage from the recorded field scenes to provide training of new volunteers. Refreshing the experienced worker and up-dating the staff on new techniques or changes would be another end use. The detailed planning for training could cover all skills required of a staff. This is especially accomplished where close-ups and verbal commentary are easily done in video, even to the filling out of reports and identification tags. Here, the motion and voice instruction would be giving double input to the novice or advanced students. The ability to reverse a tape and play it over "until you get it right" is one of the better teaching methods. The ultimate combination could be a training tape with workbook.

There is no limit to the range of education applications. One good educational tape would be good for more than one season. If advancements or modifications are necessary, then insertions or changes in the tape assembly are easy.

Equipment Considerations

It would be extremely unwise for anyone to try to discuss video systems and peripheral equipment with any objective of preparing recommendations. It is now a veritable equipment "jungle out there." There are many video systems on the market ranging from the home application to the middle road of education and industrial lines through the highly sophisticated commercial TV systems. There is a continual emergence of new features and often these are just gimmicks. Any recommendations then would be biased to one's experience or a salesman's eager efforts. Only a few general suggestions are in order at this point:

1. Anyone trying to make an equipment selection should take their time!
2. Window shop only for specific information, brochures of value, equipment lists and descriptions.
3. Shop for a knowledgeable salesperson and use your own good insight based on camera experience and any electronics experience.
4. Decide what the real objectives are to be.
5. Consult with someone who envisions both sides (planning and end use) of the anticipated project.
6. Then, make a careful decision.

Operational Considerations

After equipment has been selected and all peripheral arrangements have been made, the most exciting part of video application comes with the field application. A few of the more important operational points bear review now.

The power supply or local source, the voltage and frequency, must interface correctly for the shop setup. Then, most important of all, is the correct operation of the rechargeable nicad batteries. The battery instructions must be followed closely or field power problems will come before the season is over.

Orientation of dig personnel is suggested to establish the reasons for video, its place in the procedures, and anticipated values. This orientation should establish that video documentation is the objective, not screen or beauty contests, and the on-camera personnel should be as natural as usual in their conduct. More often than not, the recording camera will be watching the hands as the prime target along with intended object results.

Available light capabilities of the camera may lead to recording at the crack of dawn. Wait a little if possible. The camera may see enough light to not give a warning, but the lower level of light will not give a good color balance until a more complete spectrum of light is available. Reflectors and photoshades may be a part of one's regular photo equipment, and these will be helpful as well in the video scenes.

Scene planning will bear continual adjusting for the early periods at least, deciding frequency of takes, and establishment of continuity. Where plans call for documenting the changing nature of a square of a whole Field, the dedication of separate tapes of each Field may be very useful in assembly of final tapes. Under any approach to assigning tapes, the daily log is logical and is best compiled at the end of the day while reviewing the recordings.

Camera-composition-operation requires the utmost attention. Camera position, high, low, light level, to pan or not, to zoom or not, color balance, focus, machro, audio, manual over-ride or automatic, and the desired story of the scene are all immediate decisions for each
USE OF VIDEO

take. Practice and experience makes most of these points fall into place rapidly. Operational hints and kinks come in as much variety as there are sources, so here are a few more to consider until the points become second nature:

1. Points of reference include scales, arrows, objects, and people.
2. Avoid dead space in the view.
3. Keep the recorded scenes as simple as possible.
4. Pan, tilt, and zoom with a smooth slow movement.
5. Do not over-use pan, tilt, and zoom.
6. Concentrate on the best wide, to medium, to close-up lens settings in order.
7. For hand-held shots, the close views emphasize any camera movement.
8. Don’t walk on hand-held shots; there is little or no use for dollying in the Square recordings.
9. Consider the size proportion emphasis on scenes resulting from high or low camera angles.
10. Apply the basic triangular or elliptical format to scene composition.
11. Be very watchful for juxtaposition errors.
12. The tripod is the best place for the camera, but it does reduce mobility.
13. The final tape presentations are the resulting decisions on all of the foregoing points and anything else one can think about.

Temperature could be a problem in the field. Most such equipment was designed to operate to 40° C. Use a sunshade if necessary.

Protection and maintenance of the camera and VCR are very important and continuous. Consider these simple steps every day:

1. Fine dust and coarse blowing sands are the number one problem. Use a heavy plastic bag protection when traveling. As conditions and appearance warrant, damp clean these bags inside and out.
2. Place the camera and VCR back in the plastic bags when laying the equipment aside for tea or other breaks in field actions; lay the equipment in shade.
3. At the end of each day in the field, clean off all surface dust with the brushes or pressure can.
4. Use the lens cleaning kit each day just as should be done with 35 mm cameras.
5. Keep equipment in plastic bags when not in service any time, any place.
6. Before leaving on any expedition season, one good VCR head cleaning and service adjustment should be done at a service facility.

Final tape production discussion could become a long and detailed dissertation within itself. This final process is as variable as the continuing objectives and operating budget for the equipment. The routes to follow can be simply demonstrated in two sketches A and B that follow here.

Finalized and edited tapes make the best presentations. Many frills may be dropped from consideration if the tapes are to be used for analysis only. When good attention-holding video is dropped from consideration if the tapes are to be used for analysis only. When good attention-holding video is dropped from consideration if the tapes are to be used for analysis only. When good attention-holding video is dropped from consideration if the tapes are to be used for analysis only. When good attention-holding video is dropped from consideration if the tapes are to be used for analysis only.

Conclusions and Recommendations

1. Excellent video results are not picked up in casual experience with a video camera. A few hours of pains taking effort is required to record and then assemble a final tape.
2. Some field tapes will not need editing other than a reduction in footage or running time.
3. Video recording in the field should be a team project with the 35 mm photographer.
4. Ingenuity is the only limiting factor at any stage.
5. Video will be a practical project at a reasonable price and effort only for those willing to work at it and then use the end product over and over.
6. One return from a video library could be problem-solving.
7. The objective of fast information retrieval will prove itself every time a tape is plugged into a VCR. The speed of scene location and the quality of played back scenes will be continually portrayed.
8. Second or third generation tapes dubbed from the original recordings will provide much superior quality IF:
   —the original was recorded in good light and white balance correctly set;
   —the camera focus and f-stop settings were correct;
   —lens was clean;
   —high grade tapes were used at highest speed;
   —good sound levels were recorded;
   —battery supplies were in healthy condition.
9. A wider angle lens would be an asset.
10. High ladder work with the camera could be safely done with an extension control cable to the portable VCR.

Vision into the Future

With long-term vision and imagination, video may become another valuable step in archaeology. In almost any medium of study, research, analysis, and just plain digging for more answers, there are individuals and groups always on the alert for new and improved tools and methods. Usually this has meant progress! Those with the "we never did that before" attitude are always left behind! In this feasibility study on video, the search was for another method of documentation with lasting as well as easily applied processing.

As dig seasons go by, there could be a growing library of video tapes documenting the highlights and accomplishments of each season. As in any well organized library, it is a simple step to find a desired topic for review or just casual showing to those interested in archaeology. Whatever the subject or objective, the fast retrieval feature provides access to locations in cataloged tapes. Retrieval time is in seconds. Year after year as playbacks unfold, the scenes will present the same good original color and motion, all providing the sense of being there again! Reading the mass words for reports, looking at black and white photos and trying to associate descriptions will always occupy much time. This will not produce the same live setting as that portrayed on the video screen! The video feasibility study of the 1984 Madaba Plains Project has shown that the video technology is ready for another valuable application.
APPENDIX C

YADOUDEH: The History of a Land*

Henk J. Franken  Archaeologisch Centrum, Leiden, Netherlands
Raouf Sa'd Abujaber  Amman, Jordan

This article has been adapted from an independent manuscript written in 1979 which had a limited circulation. We thank the authors for making it available to us for this publication. —eds.

Recent History of Yadoudeh

Yadoudeh (ca. 10 kms south of Amman) is a village of about 500 people. Its lands, nearly 24000 dunums (2400 hectares) stretch in the four directions around the old village. On its southern edge lies the junction that joins the Desert Highway coming from Petra and Aqaba with the old Sultani (Imperial in Roman times) Road that comes from Shobak, Kerak, and Madaba. Tell el-'Umeiri and Ain 'Umeiri, both of which were the main subjects for study in this report, lie on the western edge of Yadoudeh's lands, possibly 4 km from the old village.

Having been populated all through known historical periods, Yadoudeh and its environs may have been deserted towards the start of Ottoman rule, in the mid-sixteenth century, probably because its land was open to Bedouin raids from the east and the heavy taxes of the Ottoman Turkish Tax Collectors were unbearable. Towards the year 1860, however, a pioneering dignitary of the city of es-Salt, ca. 25 km west of Amman, by the name of Sheikh Saleh Nasser Abujaber ventured into this wild and uninhabited area and struck a close friendship with a leading horseman and warrior of the Beni-Sakhr tribe, Sheikh Rumaih Abu-Jnieb. He developed a farming system, that employed around 400 farm-workers at its peak. A few years later the partnership came to an end but Yadoudeh, completely owned by Saleh and his sons Farhan, Frieh, and Farah, continued to prosper and became famous for its owner's hospitality and the production of large quantities of cereals that were sold to visiting bedouin tribes and cities like Jerusalem and Bethlehem.

Although the old farming system was completely neglected towards the fifth decade of this century, the Abujabers are still farming the land they still own in a more modern manner through the use of tractors and harvester combines. However the fifth generation of Abujabers is finding it more and more difficult to maintain the old way of life, not to mention the more difficult task of holding the lands of their grandfathers. Prices, as a result of Yadoudeh's proximity to Amman, have soared and the younger Abujabers are sometimes selling parcels of land at rising prices. To complicate matters further, changes on the ground are taking place every day as a result of housing and road developments. This study was thus necessary before it became too late.1

A Short Cultural History of Yadoudeh

In this section an attempt is made to give some background information about antiquities that were found in the region of Yadoudeh. From the archaeological remains, Tell el-'Umeiri and its immediate surroundings
seem to reflect nearly the entire cultural history of the country. The state of preservation of these antiquities is discussed below. Here, the various cultural periods will be described, and the rise and fall of the civilizations will be illustrated from the general historical and economic information which is available at present. Our knowledge of what caused the rise and fall of civilizations in the past is still very defective. Nevertheless a concept is developed here which differs in some respects from the traditional views. The history of Yadoudeh can be described as consisting of four cycles, each with its own inner logic, the following one being shorter than the previous one. The idea of four cycles may be debatable, but at least at Tell el-Umeiri and Yadoudeh one can point to very different archaeological situations for each.

The First Cycle: Neolithic-Early Bronze Age (ca. 8000-2300 B.C.)

It can be reasonably expected that one day tools from the Paleolithic period (prior to 14000 B.C.) will be found on the land. We did not discover any, but they were found, for instance, near the junction of the airport highway and the 6th circle SW of Amman. The Mesolithic period (14000?-8000 B.C.) is also still absent but in the Neolithic period (8000-4500 B.C.) people began to live near Ain ‘Umeiri. Their flint tools can be found on the slopes of the tell and in the long stretches west and east of it. Some of these flints seem to belong to the beginning of the Neolithic period. They are found mixed with later material on the ash-stained gray topsoil, which is on all sides surrounded by the nearly archaeologically sterile red soil.

Generally the Mesolithic period is considered as the time in which the first successful attempts were made by man to produce his food by primitive agriculture and probably also by breeding animals. This did not entirely replace the old way (the Paleolithic way) of collecting food by hunting and gathering seasonal wild plants and fruits. But by the end of the period some groups of people were capable of living in one spot, instead of moving with the seasons.

We know from the excavations at Tell es-Sultan that Neolithic man, almost from the beginning, was capable not only of making houses with plastered and painted floors and walls, but also of organizing and building a town. However, not every Neolithic family or group of families lived in permanent settlements. The restricted findspots of their flint tools at Tell el-Umeiri points to the possibility that there was a Neolithic village partly beneath the new highway.

The distinction between Mesolithic and Neolithic (Natufian and Tahunian) is based on the different flints and bone tools. Mesolithic flints were usually very small. They were designed for hunting rodents and birds. They also made bone harpoons for fishing. Neolithic flints were larger and more attractive, including very regular arrowheads, harvest knives, and sickles. As proof that they were used for harvesting, one points to the sheen on the blade which was caused by juices from the plants. Such flints were found in our survey.

The distinction which is made between the flint tools of the two periods should not suggest that we are dealing with two different worlds. For one thing, there were transitional stages of flint tools between the two groups. Also, other aspects, like hunting and breeding sheep, have their transitional stages. Some groups living in what we call the Neolithic period may still have had the quality of life of the Mesolithic period. But all the time there was a slow, steady development of techniques to subject nature to the needs of human life. This is also what links the Neolithic with the following Chalcolithic period.

One aspect must be mentioned in view of the physical appearance of the land itself. Mesolithic man still lived in a fairly wet and probably cooler climate, because then the ice caps of the last Ice Age (Würm) still covered large parts of northern Europe. It was at the end of the so-called Pleistocene Age in which giraffes, rhinoceroses, giant deer, tigers and bison lived in this country. Their bones were found in a deep hole in the rock near Bethlehem before World War II. All the land and the rock which is now barren was covered with thick humus soils from the forests. When the ice retreated to the north the climate started to become drier.

Chalcolithic Period (c. 4500-3200 B.C.)

The period is called Chalco (copper) and lithic (stone) because after 4500 B.C. man discovered how to extract copper from the rock. People still had stone tools for daily use but they learned to work copper which they used, for instance, for ceremonial objects. This is but one step in the long chain of developments, discoveries, and inventions. More characteristic of this period was the rise of villages and their specific agricultural nature.

In Neolithic times man was by no means numerous. But once he succeeded in growing his own food he had a better chance of survival. The earth was large, with plenty of room to live in peace, and, if they killed each other, it was for different reasons, such as cannibalism. In Chalcolithic times man quickly became more numerous which shows how successful the series of developments had been. In the Jordan Valley were very extensive settlements along the rivers, which are now wadis but which in those days obviously were permanent streams. They can be as long as two kilometers and about 300-500 m wide. One finds them along the Wadi Qelt and Wadi Far'a on the West Bank of the Ghor and along the old bed of the Wadi Zerqa, (now practically dry near Deir 'Alla), and the Wadi el-Kafrein on the East
YADOUDEH: THE HISTORY OF A LAND

Bank.

In the Chalcolithic period people started to make different groups of pottery. For example, the pottery from Teleilat Ghassuli in the Ghor differs from the Chalcolithic pottery found at Tell el-'Umeiri which looks very much like that found at Tell es-Sultan. The art of pottery making was invented in the latter part of the Neolithic Age, and, from that moment on, potters continued to experiment with techniques and forms. In the Chalcolithic period they were already making jars as big as the modern zir or water container, and they were making pottery on a kind of wheel as well as firing it in a kiln. Their villages must have been rather prosperous.

Apparently they did not feel the need to build strong walls around their villages for defensive purposes. There was still plenty of water, while land and forests on the slopes prevented soil erosion. It seems that these villages, including the one at Tell el-'Umeiri (figs. C.1a and C.8), were independent of each other.

Early Bronze Age (c. 3200-2300 B.C.)

A major change took place when, near the end of the Chalcolithic period of roughly one and a half thousand years, people started to create larger units which became economic and military powers. The first kingdoms appeared, of which the ones in Egypt and Mesopotamia are the best known. We do not know exactly what caused this development, but part of the cause must have been the steady increase in population and the steady decrease of natural supplies that accompanied the onset of a drier climate. A number of villages became united under one leader who became a king, and whose god or goddess became the head of the local gods.

A number of new cultural aspects were created. Writing was invented, defence walls were built, towns were created where temples and palaces could be constructed, and urban domestic areas were built where the people who were associated with these institutions could live and store capital goods safely behind strong walls. At Tell el-'Umeiri the Early Bronze Age was found in the same large area as the Chalcolithic remains. This would mean that in those days 'Umeiri was still a village (figs. C.7A, C.9).

While the kings and gods became more and more demanding and often lost through war what had been brought together by their subjects, the forests began to disappear and with it large scale erosion of the land began. As a result, permanent streams became seasonal wadis. This was obviously too big a challenge for EB civilization, which may also in other ways have spoiled its chances. Invasions by nomadic warriors, who are often associated with the Amorites, put an end to the first cycle. As far as we know every town in Palestine and Jordan was destroyed and abandoned for centuries at about 2300 B.C.

Between the first and second cycles there was an intermediate period: the “Amorites” (ca. 2300-1900 B.C.). What happened in Jordan in this period is by no means clear. Pottery from this period has been found and it is practically certain that there are tombs from this period near Yadoudeh. These Amorites are often called semi-nomads. They may, however, have developed ordinary farming communities. What is more, they may have existed in Jordan for a much longer period than is generally estimated. The point seems to be that, contrary to the Early Bronze Age people, they developed a successful way of life which was not dependent on the presence of defence walls. A few sherds were found in the region which may come from this period but they were much too worn to be identified with certainty.

Megalithic Tombs—Dolmens

On the rocks east of Yadoudeh in the olive orchard east of the Amman-Madaba road, were the remains of dolmens. On the eastern slopes of the Ghor well preserved dolmens occur in large quantities, from Irbid in the north to near the Dead Sea in the south. They have also been found in Jerash, Amman, and near Hesban. All that is left of the ones we found were the round stone platforms on which the chambers once stood.

Archaeologists have given many different dates to the dolmens but conclusive evidence has yet to be found. They cannot be associated with settlements, and supposedly they were built by nomads. Judging from the weathering of the stone slabs they may easily be 5000-6000 years old. At the dolmen field near Damia one can see that the rock was already denuded when the stone slabs were cut. In the cracks in the rock one can find the flint and quartz hammers which were used in the manufacture of these slabs. If our observations are right, this denudation of the rock took place in the 3rd millennium B.C. It seems unlikely that they were earlier or later than the Early Bronze Age, and they may have preceded the “Amorites”.

The Second Cycle

Middle Bronze-Iron Age (ca. 1900-550 B.C.)

Middle Bronze Age (1900-1600 or 1550 B.C.)

Middle Bronze Age pottery was found on Tell el-'Umeiri, but only near the summit of the hill (fig. C.10). This is a sure indication that the town wall which can be traced for long stretches along the edge of the summit originated from the Middle Bronze Age (figs. C.4a and C.4b). It is a very strong wall probably retaining significant amounts of later occupation. It seems that
only on the north side (field 21 on the sketch map, fig. C.2) a stretch of this wall collapsed. Below that area (fields 9, 10, and 11), and somewhat farther east, we found pottery from this period.

The Middle Bronze Age originated under the cultural influence of northern Syria. Yet we do not know whether Jordan was influenced directly by invasions of tribes from the north or indirectly by cultural and technological knowledge. Nor do we know whether the Hyksos, who in this period conquered Palestine and Egypt, extended their domination over Jordan, as well.

Tell el-Umeiri has preserved a complete town from this period to which, in this area, Amman and probably the higher tell of Jalul also belonged. However, Middle Bronze Amman was totally destroyed in Roman times, while Jalul (ca. 5 km east of Madaba) is used by the Beni-Sakhr as a cemetery. The archaeological and historical importance, therefore, of Tell el-Umeiri is very obvious.

Judging from the strength of the defensive wall Umeiri must have been a very important place and probably was the seat of a king or governor in this and in the following Late Bronze Age. One is inclined, however, to think that the town owned a wide area of its hinterland, which was cultivated by farmers living in small communities on the land. Their products went to the town and were partly used for trade. It is likely that there were economic relations with Egypt and surrounding countries, in this and in the next period.

Late Bronze Age (ca. 1550-1200 B.C.)

The pottery found on the slopes of Tell el-Umeiri indicates that the MB town continued to be inhabited during the Late Bronze Age. The pottery is different from the MB pottery, but this does not necessarily mean that there was a change of population. It seems that this town was also largely preserved within the MB defence walls.

Iron Age (ca. 1200-550 B.C.)

On the summit and on the slopes of Umeiri we found pottery which indicates that the town also existed in this period (figs. C.5, C.6, C.11-C.13, C.22b). In popular views the "Kingdom of Ammon" was invaded and the western slopes of the mountains conquered by Israelite tribes at the beginning of the Iron Age. This, however, never resulted in a real annexation of territory east of the Jordan by ancient Israel. When for instance King David conquered Rabbat Ammon about 995 B.C. he left the Ammonite Dynasty on the throne, presumably for payment of tribute. His son, King Solomon, however, lost the income from this and other Jordanian Kingdoms. Consequently, we do not necessarily have to assume that the population of the Iron Age town was unrelated to the Late Bronze population or that they did not speak the same language. In general, we know only that, since the Late Bronze Age, all the petty kings in the Near East tried to improve their income by attacking and defeating their neighbors and demanding tribute.

Tell el-Umeiri was probably the seat of the king or governor and the Iron Age settlement at Yadoudeh may have been subject to this administrative center. There were also some Iron Age farms on Tell Jazo'h.

Beginning in 745 B.C. Ammon had to pay tribute to Assyria. About 600 the Babylonians took over the political power in Jordan from the Neo-Assyrians, soon to be followed by the Persians. The town survived during these military invasions but some time during the Persian administration it was abandoned. The same happened to the settlements of Hesban, Deir 'Alla, and other sites, including probably Amman itself. This was a dramatic change for which there is as yet no historical explanation. But it marks the end of the second cycle which had lasted for more than a thousand years. Although there are quite a number of historical facts known about Ammon in the Iron Age, the archaeological history is still largely unknown and can only be studied from a well preserved site such as Umeiri.

Shortly before the end came, a small military out-post (Tell Lehmani) was constructed on a hill top, about 8 km to the east, and outside the Yadoudeh border. It was built from very large stones and was probably one of a chain of such outposts constructed by one of the three "superpowers" which controlled the land during the second half of the Iron Age.

Between the second and third cycles there was also an intermediate period (ca. 550-100 B.C.). We did not find traces of human life in the area for this period (that is, the later Persian and Hellenistic periods) covering approximately 500 years.

For the second time the lands of Yadoudeh were open to the desert nomads. Again, new ideas had to be developed before people began to understand the real problems of agriculture. It is very likely that the knowledge of what was really needed came this time from the south, from the Nabateans.

The Third Cycle

Roman-Byzantine Periods (ca. 100 B.C.-A.D. 600)

During the first century B.C. an outburst of agricultural activity began which lasted for more than 600 years. It may have been developed by Nabatean rulers who expanded their territory to include the Amman region.

Most conspicuous was the construction of a great number of terrace walls which ran across the valleys at right angles (figs. C.7a, C.7b). They were found in the
entire area wherever there was red soil. Often rectangular stones were hewn from bedrock which borders the fertile fields in the wadis. Surprisingly, flint hammers were used for the dressing of these stones, and some were found during our survey near the quarries. The walls were so well constructed that they still mark considerable differences in height between the terraced fields. Originally they were, of course, higher than they are now. A clear example is the wall near the well, north of Tell el-Umeiri (fig. C.7b). The valley which comes down from the west toward the well was closed by a wall only a few meters in front of the well. The remains of this wall can still be seen running up the slopes on both sides of the valley (to the north and south). This shows that originally the wall must have been at least 4 m higher. Another indication that this was the case is the well house, which was constructed as a small room with a vaulted stone roof ca. 6 m above ground level. On the west an arched passage gave access to the chamber (fig. C.14a). Once the retaining wall west of this installation began to collapse the winter rains washed down the red earth from the terrace. Today the water can only be reached through the broken roof. The room and the passage were probably built for the same purpose as the concrete top which now covers the well: to prevent people from unauthorized access to the well. They might be part also of a larger installation now buried. It must have been in this period that Tell el-Umeiri was "reshaped" by the construction of a number of terraces (figs. C.3, C.7a). The sketch map, fig. C.2, shows a number of those terraces of which the best are visible on the south side. Nearly everywhere on the slopes one can see the stone-built retaining walls. In order to construct these terraces, earth from the tell had to be removed from its stratigraphic position to fill the space behind the walls. This must have caused considerable damage to the stratigraphic evidence for the material cultures of the first cycle. On the other hand, if it were not for these terraces, erosion would have continued unhindered for another two thousand years. We have seen that the summit of the tell suffered least from erosion since there were strong defence walls from the second cycle to protect the accumulation of town debris. There were other stone walls running up the slope of the tell which may date from this time. In field 14 on fig. C.2, we found traces of a Roman building. To the East of this field a wall runs down in a NE direction. There is yet another running south-north which joins the retaining wall to the west of the well. These walls were probably constructed along the borders of the property to protect it against animals. The tell was under cultivation because the ashy soil of the occupation levels is very fertile. Villages in this period were built on bedrock and hill tops. The nearest settlement to Tell el-Umeiri in Roman-Byzantine times was on a hill to the northeast. All the stones used to build the fence around the modern building were taken from the ruins of this village and from the retaining walls. Part of what was left of the ruins has been destroyed recently with the construction of the new highway (figs. C.14b, C.15a, C.15b). On the top of this hill, in the fenced-in garden and around it to the north and east we found traces of buildings. The hill was honeycombed with cisterns. Also, there were many caves which were certainly all used. One of them, which is now destroyed, was obviously used as a cellar (figs. C.16a, C.17). When we saw the cave, the entrance was already destroyed and access was through a hole in the roof. The roof was supported by a row of square pillars and two round ones. An arch gave access to two rooms. Probably it was a wine cellar. To the north of this hill was another one, separated from the southern hill by a "saddle." This second hill has a cemetery (fig. C.16b). Tombs cut into the rock were abundant and they showed a variety of lay-outs and dimensions. There was another cemetery of this period on the southern slopes of the hill NW of Tell el-Umeiri. Some of these tombs have been recently discovered and robbed, but the majority were discovered a long time ago. Stray pottery and building stones from this period indicate that several hilltops in the area had been occupied, including Tell Jazo'h and Yadoudeh. East of Yadoudeh, behind the new community house, an installation has been uncovered which was probably used for oil pressing and storage. Further to the east, ca. 1.5 km from Yadoudeh, is Tell er-Rufeisa (fig. C.23a), an area with a great number of ruins, huge caves with collapsed roofs (probably due to earthquakes), cisterns, and many installations. The cisterns often had a thick coat of plaster. Apart from the bedrock areas all showed traces of quarrying for building stones and for stone coffins or sarcophagi. The installations were also cut into the bedrock. Some may have been wine and oil presses, but others were very elaborate and their purpose was not easy to determine. The widespread agricultural enterprise was entirely based on clever and elaborate systems of storing rainwater. The retaining walls not only prevented erosion of the soil, they also stored the rainwater in the red soils. At the same time, practically all water that fell on the bedrock was collected and stored in cisterns. Both the retaining walls and the cisterns were of high quality workmanship. This could only be achieved if there was a strong central authority which could organize large areas of the fertile and barren lands. Under the Byzantines this agricultural enterprise was probably already declining when Islam manifested itself in the area. It is remarkable that though Iron Age and Roman-Byzantine sherds are found near the terraces, there are hardly ever sherds from the Early Islamic period. Again, it was the end of
a cycle of rising and declining agriculture.

On Tell Lehmani (el-Luban) was a partially collapsed cave with thick wall plaster in which symbols were scratched depicting hunting scenes and probably some Saphaitic letters (figs. C.18b, C.23b).

Medieval period (ca. A.D. 600-1500)

Early Islamic pottery was found at Tell Jazo'h (fig. C.24). This must have been a village with mudbrick houses which may have been inhabited until Mamluk times. There was another Medieval village at Tell Yadoudeh with a stone building incorporated in the modern farm, which was probably a small Arab fortress guarding the pilgrim road to Mecca. It was probably later than the Jazo'h village.

It is strange that the Medieval village was not located near the well of Umeiri. Instead, the Byzantine settlement near the well was abandoned before the Medieval period. There is no evidence that the Islamic armies destroyed the Byzantine agricultural communities. Rather, it looks as if, for various reasons, they had already declined in their own time. One of the reasons may have been an increasing shortage of people who could work on the land. An earthquake may have been another reason. At any rate, it seems that the Early Islamic village of Jazo'h had very little connection with the agricultural traditions of the previous period and it is not clear whether the cisterns and retaining walls around Jazo'h were kept in order in this period.

Between the third and fourth cycles there was yet another intermediate period (ca. A.D. 1300-1850). The Medieval village of Jazo'h was probably one of the easternmost settlements lying on the edge of the desert. Once the system of cisterns and retaining walls fell into disrepair, the desert encroached and the land became the property of bedouin tribes.

The Fourth Cycle

Modern period (ca. A.D. 1850-present)

It was only in the middle of the 19th century that, at the cost of enormous energy and labor, the land was revived for the fourth time and a new tradition established on which the country could build for a prosperous future. The history of the rise of peaceful civilization for the fourth time in the modern period is not the subject of this report on the archaeology of the lands of Yadoudeh.

This report is written at one of the many critical moments which Yadoudeh has witnessed during a history of human occupation of at least 10,000 years. The lands are very much in danger of being taken over by the expanding metropolis of Amman. Will the end of the fourth cycle also be the definitive end of the agricultural history of Yadoudeh?

Excavation and Research Prospectus

In the present situation at Yadoudeh it is necessary to estimate the value of the many antiquities in relation to what they can contribute to our knowledge of the past. We shall discuss the tell sites first.

Tell el-Umeiri

In fact, there are two tells at this site, one on top of the other. The oldest tell belongs to the first cycle. We are not sure whether there is still anything left of the original stratigraphic build-up in the area of the terraces. There may indeed be an accumulation from this period within the city wall of the second cycle on the summit. To the East this early tell still exists in the valley. It is the stretch of grey earth with red soil against it on the north and the south side. The eastern part of the tell was not covered by the modern road and may offer a good opportunity for excavation. (The deposition of the red soil was later than the tell.)

For information about the second cycle one has to excavate on the summit in the area that is enclosed by the defence wall. Without any shadow of a doubt this will be very rewarding.

Yadoudeh

Yadoudeh will not have any undisturbed stratigraphic sequence of cultures, because large quantities of earth, which contained pottery fragments, have been moved out of their original position.

However, there are two areas of research which are in need of work but do not require demolition. First, the original layout of the village should be recorded on a plan with a description of the walls. This should include a catalogue of all tools, harnesses, saddles, and implements that are still stored in the village. Each item should be photographed, drawn, and recorded with names of the different parts, type of wood used, etc. The second area is a study of the remains of an Arabic (or Roman?) building which is incorporated in the layout of the farm near the entrance and which is built with large bossed stones.

Tell Jazo'h

It would be worthwhile making one or two soundings in carefully selected locations to collect information about the importance of the three settlements that were here.
Tell el-Omeiri was a place where people have lived for at least 5000 years, taking into account the possibility of gaps in occupation during the main cultural periods represented.

The Roman-Byzantine tell to the NE clearly goes with the cemetery that we found north of it. The inhabitants of tell el-Omeiri buried their dead in tombs on the slopes around the tell. These tombs have not been robbed in antiquity, contrary to the tombs from the Roman-Byzantine period, which often were rich tombs (fig. C.16b). The earlier tombs were sometimes been opened in antiquity and the contents removed, but only for the purpose of using the tombs again for burials.

Around ‘Omeiri we may expect to find tombs of many periods, and at Jazo’h and near Yadoudeh Iron Age tombs should be present. Tombs from the Iron Age may have been cut away when Roman-Byzantine tombs were made. On the whole, however, one may reasonably expect that a systematic search for tombs will bring to light a great number of them, many undisturbed. It is possible that the terraces which were made in Roman times around ‘Omeiri covered the earlier tombs so that they were well protected.

It is perfectly clear that tombs dating from the Roman-Byzantine period can be found nearly everywhere in the bedrock and also in small areas of the red soil. Since the more expensive tombs were marked by monuments above ground, they were easy prey for invading armies. Many of the tombs must have been robbed in antiquity.

It is a fairly easy task to make plans of the layout of those tombs that have been opened and robbed in the past. It may or may not be worth the expense to excavate the loose soil and to put it through sieves to find the small objects overlooked by the robbers.

In addition to the tombs there were natural caves which were enlarged in Roman-Byzantine times. It would be worthwhile making soundings in some of the caves around Tell el-Omeiri, particularly as there may have been some which were used as shelters in prehistoric times. Traces of such habitations might well be found in the lower part of the fill.

Cisterns, Installations, etc.

Next, there are rock cut installations (figs. C.20, C.21, C.22a), cisterns (figs. C.1b, C.19), stone coffins, small and large artificial holes in the rock surface (fig. C.18a), and traces of stone cutting. It would be instructive to investigate these bedrock features. The installations should be cleaned and mapped. A map of such an area is most necessary in order to interpret these installations. Since this area is particularly rich in such features an attempt should be made to record them.

Retaining Walls

Work on the rock-cut installations should go with a proper study of the retaining walls. This study requires that soundings be made in a few places to bedrock to see how the walls were constructed and to date them. It also includes mapping them, perhaps best done from air photographs. Special attention should be given to the well near ‘Omeiri. Excavating the Roman building around the well is not recommended, at least not as long as the location of the water source is unknown. A sounding along the east side of the retaining wall west of the well would probably be very helpful in tracing the water source.

When making these soundings, soil samples should be taken along with measurements of the humidity of the soil at various depths in order to judge how useful these retaining walls have been, how much water they could store, and for how long.

Minor Objective

There are also a certain number of minor objectives, one of which is the excavation of the platforms on which the dolmen stood.

Further Research

The purpose of the survey was not only to make an inventory of the antiquities but also to formulate proposals for further archaeological research.

The description of the antiquities is sufficient to show that the areas for further research must be chosen very carefully.

Something must be said about the criteria to be used when choosing the objectives. The history of Yadoudeh is rural history, and research into the past should focus on this theme. Attention should be given to farming, cultivation of the soils, crops, plants, woods, water supply, and the domestication of animals etc. Together with this should be a study of farms and houses.

This type of research would include the study of the landscape and the changes that took place during the ages. The landscape is at the moment in danger of losing its rural character.

No study of a community can be complete without an investigation into their burial customs. A study, therefore, of the many tombs in the area would be essential.

Tell el-Omeiri is the most important objective. A sounding in the grey soil in the valley next to the new
YADOUDEH: THE HISTORY OF A LAND

Because the remains represent many different periods as well as different disciplines, such as post-Pleistocene geology and the study of present day flora and fauna, there are possibilities of dividing the project into units that can be dealt with by an interdisciplinary team with specialists in such subjects.

NOTES

'This study of Yadoudeh was produced in close cooperation with one of its owners, Dr. Raouf Sa'd Abujaber, Honorary Consul-General of the Netherlands, Dr. Henk Franken, archaeologist; Mrs. K. Franken-Burggraaff, technical assistant; Mr. Hugo de Reede, draughtsman, photographer and cook; Mrs. L. de Reede-Dumas, technical assistant.

The group lived at the site between August 16th and October 15th, 1979, and was assisted by Mr. M. Jamra, representative of the Department of Antiquities.

The team wishes to thank Mr. Raouf Abujaber and the members of his family for their generous help and interest in the undertaking. Thanks are also due to the Director of the Department of Antiquities, Dr. Adnan Hadidi, for his official help and personal interest in the survey, and to Mrs. Crystal-M. Bennett, Director of the British Institute in Amman for Archaeology and History who corrected the English.

The expedition was financed by the State University of Leiden. The Netherlands Organization for the Advancement of Pure Research (Z.W.O.) supported the expedition by lending a Landrover and other equipment.

'Mr. Raouf Sa'd Farhan Saleh Nasser Abujaber, the great-grandson of the pioneer farmer Saleh and one of the authors of this report, hopes that through such work an important part of Yadoudeh's history will be preserved. He also hopes that this and other future reports— insha'allah—will be valuable documents to keep at the Hall of the Municipal Council that was being built during the writing of this report in Yadoudeh or Khirbet Abujaber in the Balqa District of the Hashemite Kingdom of Jordan.
Fig. C.1a. Tell el-'Umeiri looking west. From roughly where the picture was taken, a wide stretch of grey soil runs up to the tell. This is the Prehistoric site. The area covered by the new airport highway stretches from the wadi (center of the picture) to the road where the Landrover is standing. Trees on the right are at the foot of the Roman tell.

Fig. C.1b. The second part of a Greek inscription, reading isidor p. Probably a Byzantine Greek name derived from the Egyptian goddess Isis (compare Theodorus). The rock with the inscription has fallen but probably marked the entrance to an industrial cave.
Fig. C.2. A sketch map of Tell el-'Umeiri. The terraces can be clearly seen. The numbers indicate the location of fields where pottery fragments and other objects were found. Measurements were taken along the dotted lines. The results are projected in fig. C.4.

Fig. C.3. The top section runs E-W. The location of S-N sections is indicated by the letters B-E. They are also marked on fig. C.2.
Fig. C.4a. Tell el-'Umeiri looking SW from the Roman tell. The characteristic shape of the skyline at the summit is caused by a stone defense wall from the Middle Bronze Age.

Fig. C.4b. Tell el-'Umeiri; a section of the Middle Bronze Age defence wall, looking east.
Fig. C.5. Fragments of pottery figurines found at Tell el-'Umeiri. Middle right, a fragment of a mold for pottery figurines.
Fig. C.6. Fragments of animal figurines and of other decorated objects of pottery.
Fig. C.7a: Searching for pottery fragments on Terrace 4 immediately west of Tell el-'Umeiri. The finds consisted mainly of Chalcolithic-Early Bronze Age pottery.

Fig. C.7b: The well to the North of Tell el-'Umeiri. To the left of the concrete cover of the well a line of stones indicates the partly collapsed Nabatean retaining wall. In the background, a light strip of earth marks the presence of the heavy building equipment for the new airport highway. Here the strip stops just in front of the Roman tell.
Fig. C.8. Chalcolithic Period.
Fig. C.9. Early Bronze Age.
Fig. C.10. Middle Bronze Age.
Fig. C.11. Iron Age.
Fig. C.12. Iron Age (continued).
Fig. C.13. Iron Age (continued).
Fig. C.14a. The well house at Tell el-Umeiri. Beneath the concrete top shown on fig A.7b are the remains of the collapsed vault. The entrance to the arched room is seen at the bottom, ca. 6.50 m below the present concrete cover. The picture was taken by G. van der Kooij, whose shadow is seen bottom right.

Fig. C.14b. The modern airport highway under construction. The photograph is taken from the Roman tell. The stones on which the photographer stood have since been bulldozed into the valley below.
Fig. C.15a. A massive stone wall on the Roman tell of 'Umeiri. This whole wall, from where the picture was taken to close to the trees in the
background, is now gone.

Fig. C.15b. The cave in which this structure was found was already so much damaged by the bulldozer working on the new airport highway that it
became partly inaccessible. It probably was a Roman wine cellar, with pillars and arches to support the thin roof.
The remains of rock installations were found in nearly every piece of exposed bedrock. This one resembles the one shown in fig. C.17.

One would not expect these tombs to have belonged to rich people. They were more likely the tombs of families of administrators and minor officials in the Roman-Byzantine periods. Nevertheless, these tombs, as far as they are now open, should be surveyed and recorded because of the wide range of variation of layout.
Fig. C.17. A very remarkable rock-cut installation. It was found, excavated, and protected by Mr. Fayek Abujaber. Both ends were covered by rock. The hole in the north side was only found when stone cutters reached that end. It was carefully repaired with dressed stones and some large slabs of stone set over the top. The artist's drawing shows a stone coffin which stood on the rock cover over the south end. These coffins and the places where they were found deserve a thorough study.
Fig. C.18a. One puzzling feature of the region are the small round and square rock-cut holes found everywhere in the exposed bedrock. They should probably be dated to the third cycle but in order to attempt an interpretation, they need to be recorded on a map first. The arrow and meter stick point to the north.

Fig. C.18b. One of the many caves in which the roof had partly collapsed. There are many more in which the roofs are still intact. Some of these caves, like this one, were used as cisterns. The walls were covered with thick layers of plaster, sometimes renewed more than ten times. Fig. C.23b shows the plaster layers from this cave. Many roofs of caves collapsed during earthquakes. A study of carefully selected caves at Yadoudeh is now an especially urgent research subject for an archaeological project.
Fig. C.19. Two inscriptions impressed in the plaster of a cistern. The decoration is finger wide, very regularly impressed. The longer of the two inscriptions received a special decorative border and reads: *ERODES DOMINTIO CHRESIMOS*, OR "Herod Domintios Chresimos," either the owner of the cistern or the craftsman who made it. On the opposite side is another inscription: *ERODES DOMINTIOU*, perhaps indicating that a second person, called Herod, the son of Domintios was also involved. There is no reason to think that this is the only cistern with names preserved for us. There are literally hundreds of cisterns, both in use and silted up on the lands of Yadoudeh.
Fig. C.20. There are many shallow, rock-cut installations that seem to be connected with caves and cisterns. See fig. C.21 for a sketch.

Fig. C.21. Sketch of the rock-cut installation shown in fig. C.20. Before such shallow installations disappear in the process of building, they should be recorded and studied. We may not be able to save them, but to record them should not be a big or expensive operation. It can be done any time before the bedrock has been built over.
Fig. C.22a. Some of the flint hammers used in Roman-Byzantine times to cut building stones from the limestone bedrock. One can recognize them by looking at the point. On the photograph the point is downward. These points show many small fractures in contrast to the upper broad side of the hammer.

Fig. C.22b. Some of the Iron Age flint sling stones. They show the same fractures as the hammers shown in fig. C.22a. In this case the fractures show up on the entire surface. These Iron Age "bullets" are found on many sites and may indeed have been used by armies as projectiles.
Fig. C.23a. The Iron Age "watch tower" at Tell er-Rufcisa. By chance someone dug two small holes next to this tower, leaving the potsherds for us to determine a date: possibly 7th-6th century B.C.

Fig. C.23b. Figure C.18b shows the entrance to this cave. Scratched into the plaster coating of the walls were Saphaitic inscriptions and hunting scenes. This is one of the caves threatened with destruction by modern civilization.
Fig. C.24. Potsherds from Tell Jazo'h. Similar sherds occurred at Yadoudeh. They are examples of the very artistic and attractive pottery of the Medieval period, handmade and elaborately decorated. This pottery has been described by the present author in *Potters of a Medieval Village in the Jordan Valley*. It would be worthwhile collecting as many sherds of this period from Yadoudeh as possible and submitting them to archaeological study.
APPENDIX D

Introduction to the Locus Summaries

James K. Brower  Andrews University  Lorita E. Hubbard  Andrews University

The locus summary sheets which follow this reference manual provide, in a summary form, the information contained in the 1984 field locus sheets. The Madaba Plains Project uses four types of locus sheets: soil, architectural, installation, and burial. The soil locus sheet was used for every locus composed of soil (or archaeological sediment); architectural locus sheets were used for walls and wall-like loci; the installation locus sheets were used for all non-soil and non-architectural loci; and the burial sheet was filled out when burials were excavated.

All of the locus summaries which follow contain the following general information:

Type of Locus: Soil, Architectural, Installation, or Burial. This is centered at the beginning of each locus sheet.

Date of most recent update: This is found at the top left hand corner.

Identification: U84 Field B, Square 7K90, Locus 1. The "U" stands for "Umeiri", "84" the 1984 season. Fields A through D were excavated during the 1984 season. The grid designation is used for the square number. See the topographical map of the tell on p. 217 for the location of each square. The fifth entry "Locus" is an Arabic numeral beginning with 1 and running in sequence. This numerical sequence was followed for each square regardless of locus type or change of season. The numbers are never repeated. Debris from clean-up and balk trim receives no locus number—it is identified in this space as "Clean-up A" or "Clean-up B."

Dates refer to when the locus was excavated during the summer of 1984.

Installation supplement indicates that a secondary description may be found on an installation locus sheet.

Inclusion indicates that the Soil Locus Sheet was used to describe small pockets of soil or inclusions which occurred in larger loci such as walls. These supplementary sheets are found immediately following the original locus sheet to which they refer.

Reason: This is a verbal account of the reason for designating this a separate locus. Separability indicates the degree of ease with which the present locus was separable from the loci above and beneath.

Description: The largest and most variable section of the locus sheet is the "Description" section. It is here that the various aspects of the soil locus are described as accurately and completely as possible. Because it is difficult to think of everything when a supervisor composes a prose description, each of the locus sheets breaks the section down into several parts and asks for specific information.

Stratigraphy: The following relationships may be indicated on the locus summary sheet.

Under. Followed by the number(s) of the locus or loci which the present locus is immediately under, either in total or in part.

Over. Includes the locus or loci which the present locus is immediately over, either in total or in part.

All listings are exhaustive for these two entries. As mentioned above, if the present locus is "Under" a
second locus, the present locus number will appear in the "Over" line on the corresponding locus sheet.

_Equals._ Indicates the relationship both within the Square and in the adjoining Square. If two layers in a single Square, excavated and recorded as two separate loci, are later found to be one locus in reality, the equal locus number will be listed here. If an adjoining Square contains a locus identical in both description and stratigraphic relationship, that locus will also be listed, preceded by the Square number, for example; 5B12:43.

_Contiguous To._ At times two soil layers with identical stratigraphic relationships but different descriptions are found. If such a situation is observed and it cannot be decided stratigraphically which layer was laid before the other, the locus number will be found in the "Contiguous to" entry. Contiguous loci are considered contemporary.

One locus "Seals against" another when the former (usually a soil locus) has been laid up against the latter (usually an architectural or installation locus) in such a way that they clearly touch each other, and no other material intervenes. The soil locus involved will also be listed in the "Sealed Against By" line of the corresponding Architectural or Installation Locus Sheets.

Soil loci never cut other loci (if they appear to do so, a pit, or installation, is present; even a brick, cobble, or flagstone surface should have a foundation trench [a pit]). However, when architectural and installation loci cut soil loci they are listed in the "Cut by" entry. The discussed locus is also listed in the "Cuts" line of the corresponding Architectural or Installation Locus Sheets.

_Levels:_ This is taken from datum points established at the beginning of the season and refer to meters above sea level.

_Pottery:_ All pottery sherds found in the locus are processed and read. See chapter 19 for further details.

_Photographs:_ This section identifies the date, photo number (which includes the identifying number of the photographer who shot the picture), and the subject.

_Drawings:_ The dates on which the locus was included in the top plan, balk drawing(s), sub-balk drawing(s), and the architectural phase drawing are indicated here.

Soil Locus Sheets

_Description:_

_Color._ Munsell soil color charts are used so that descriptions are as uniform as possible. The Munsell color description is followed by the Munsell color code. If more than one color applies to the Locus, they are listed one after the other.

_Texture._ This is a description of the composition of the soil matrix, excluding the inclusions which are handled in a separate section of the locus sheet. Soils are made up of several groups of particle sizes, therefore, the relative proportions of the various size groups of individual soil particles are described in this section for the matrix of every soil locus. _Clay_ particles are those less than .004 or 1/256 mm in diameter.

_Silt_ particles are .004 or 1/256-0.6 or 1/16 mm. When the particles become visible individually to the naked eye, they are considered "sand" (.06 or 1/16-2.00 mm); further sub-divisions of sands are made based on the Wentworth Scale: "Fine" indicates grains .06 or 1/16-.25 or 1/4 mm, "Med" is .25 or 1/4-.5 mm, and "Crs" sand is .5-2 mm. All entries give the approximate percentage of each particle group. The percentages of these three size groups (clay, silt, and sand [including all its sub-divisions]) are compared by the computer with a soil designation pyramid in use by soil scientists to compute the correct designation for the soil matrix. For example, 10% clay, 70% silt and 20% sand would be designated "silt loam."

In rare instances, layers may be excavated which contain almost no soil, but are composed almost exclusively of stones. The matrix minus the stones is described as above, with a note in the "REMARKS" section that the mass of the layer seemed to have been made up primarily of stones; the entries in the "INCLUSIONS" section quantify this observation.

_Particle Shape._ A comparator was used to examine the individual particles in the sample. If all edges were sharp and unrounded, they were termed "angular" (A); if 1/3 of the edges were rounded, they were termed "sub-angular" (SA); if 2/3 of the edges were rounded, they were termed sub-rounded (SR); and if all edges were rounded, they were termed "rounded" (R). The percentage of each class of particle equals 100%.

Needless to say, these series of percentages in III.B and III.C cannot be absolutely accurate, but a certain amount of inaccuracy is tolerable and indeed expected by those who do the interpretive process. The purpose of this section of the locus sheet is not to give laboratory-tight counts, but rougher estimates as an aid to establishing categories useful in the later interpretation of the locus.

_Consistency:_ This is a measure of the various qualities of the soil which may have affected the preservation and/or distribution of data in the layer.

_Hardness._ A numerical designation in the range of 0-5 indicates the degree of hardness based on the following scale: 0 (zero) designates soil that is as loose as dry sand at the beach and 5 is soil that is as hard as plaster; 2 is an average, uncompacted soil layer and 3 is an average beaten earth surface. 1 is thus a loose soil layer and 4 is a very firm earth surface.

_Compressibility._ This is a measure of the ability of the soil matrix to resist deformation or rupture. It was tested by crushing a clod of soil in the hand. _Loose_ indicates
that the soil matrix easily crushed to powder or single grains. It was considered *crumbly* if it easily crushed to smaller clods but not single grains. If it crushed under gentle to moderate pressure, it was termed *Firm*. If it crushed only under moderate to strong pressure, it was listed as *Friable*. Some soil layers have so many inclusions that a compactness test of the soil matrix is difficult or impossible; in such cases, *Gravelly* was marked when the particles turned up pebble-size (2.00 mm-6 cm) and *Rubbly* if they were a combined pebble- and cobble-size (2 mm-25 cm). All entries used one of three modifiers: V for very, S for slightly, and M for moderately.

**Wetness.** The same three modifiers were again used for marking the amount of moisture which was observable in the soil. *Dry* was indicated if the soil was almost bone dry. *Moist* was used if the soil was damp. *Wet* was used if the soil was more than merely damp; layers with a high clay content can hold a large amount of water, and layers above impermeable plaster are often wet.

**Soil Structure.** This category provides information on the form in which the soil has been preserved, reflecting the method of its ancient deposition. It is a description of the relation of the soil particles to each other and helps suggest an origin for the soil in the layer. The entries included here are somewhat interpretive. Sorting and laminated bedding are identified through a comparator.

*Wind*-sorted material, often called *loess*, is generally a homogeneous layer of silt between .03 and .08 mm in size often lacking diagnostic occupational signs, such as charcoal flecks, nari chips and the normal amount of clay found in the field soil of the region. Stones, although not frequent, can be found at any level of the layer and pottery can also work its way up into wind-sorted material. The presence of wind-sorted material could indicate abandonment or disuse of that area of the site.

*Water*-sorted debris usually has many visible micro-lines in the soil and lenses of sorted granules more or less parallel in a graded bedding. There are three types of water-sorted material. The first, called *Puddling*, is soil deposited as sediments in a puddle, usually by rainstorms. It is normally observed as a series of very small horizontal micro-layers with the largest particles at the bottom and the smallest at the top of each layer. The sediments are fine-grained and may alternate between dark- and light-colored bands, from less than one to several mm in thickness. With each flooding of the puddle a similar series of layers is deposited. Theoretically one should be able to count these layers much like tree rings. If puddling episodes can be observed, the number is generally given in the REMARKS section. The second type of water-sorted material, *Channeling*, is that deposited by flowing water in a channel. Because the size of particles left behind depends on the rate of flow and because silt and clay are usually carried away with water moving at even moderate speeds, the soil left behind has a high percentage of sand content. The particles are again arranged in horizontal micro-layers, but the finer particles are distinctly missing. The layers need not be horizontal, but can be in a kind of dune formation, that is, with micro-layers cascading over each other. *Sheet Wash* is the third type of water-deposited debris resulting from downs-layers cascading over each other. *Talus.* To be safe, if there was a question, the layer is credited as talus, because it is less interpretive than sheet wash. If there was no apparent sorting of the types defined above, the entry labeled *Random*, was checked.

**INCLUSIONS:** This refers to any items found within the soil layer that are not part of the matrix.

*Soil inclusions* are pockets of soil that have a different description than the matrix. They can include pockets of crushed limestone or chalk called "Nari Pockets;" "Brick Material" includes decayed brick material; *Pebble Pockets* are isolated pockets of gravelly material within a significantly less stony matrix; *Ash Pockets* are small concentrations of ashly soil in a non-ash matrix and may indicate the presence of small fires. Soil inclusions are described on a supplementary Soil Locus Sheet. If there are inclusions in the locus, the *Inclusion* entry in the IDENTIFICATION section of the supplementary sheet will be checked and the "DESCRIPTION" section (Section III) completed.

For each type of soil inclusion an estimate of frequency per m² should be made. This was done by counting the number of times the same type of soil inclusion occurs within an average square meter of balk face or horizontally exposed soil. If they occur less than once per m², a decimal was given. The average size of the inclusions is also provided if they are similar in size; if they differ greatly in size, the range is given; all measurements round the inclusion into a circle and give the diameter.

**Distribution** of the soil inclusions is either *Random* if there is no apparent pattern; or if there is some kind of pattern discernable, either horizontally or vertically, is termed *Patterned* and the pattern is explained in the REMARKS section; if layering was apparent in vertical section, *Layered* was checked.

*Stone* inclusions include stone materials from pebbles to boulders if they are not part of the soil matrix. *Pebbles* (2 mm-6 cm) and *Cobbles* (6-25 cm) were analyzed in terms of three subsizes; and *Boulders* (25 cm and up) have four subsizes. $S$[all pebbles] are 2 mm-1 cm; $M$[edium pebbles] are 1-3 cm; $L$[arge pebbles] are 3-
INTRODUCTION TO THE LOCUS SUMMARIES

6 cm. Sm[all cobbles] are 6-12 cm; Med[ium cobbles] are 12-18 cm; L[arge cobbles] are 18-25 cm. Sm[all boulders] are 25-50 cm; Med[ium boulders] are 50-75 cm; L[arge boulders] are 75-100 cm; Very L[arge boulders] are 1.00 m and up. Each size is judged by a projected diameter. As with soil inclusions, an accurate estimate of frequency per m² was given.

Artifact inclusions include only the following items:

1) Pottery, which occurs regularly in most soil layers, was marked only if sherds were extremely and remarkably Frequent or Rare. (2) Glass, Tesserae, Tabun Fragments, Flints, Brick Fragments, Roof Tiles, Worked Stones, (simple stones which show signs of cutting or facing) and Burned Stones were all recorded by total number found. (3) Architectural Fragments (cut stones which show definite signs of chiseled decoration) have the total quantity given along with a very short description of the type of architectural fragment involved, such as Capital, Entablature, etc., only if the fragment is not sent in as an object.

Organic inclusions include all finds of organic origin. Bones regularly occur in almost every locus; as with pottery, a notation was made only if they were extremely and remarkably frequent or rare. Total counts for all loci are found in Appendix E. A total number of Shells was given.

Most other organic inclusions appear as ash flecks or Carbonized Bits and can stem from bits of burned wood, olive seeds or even feces (especially the pellets of sheep and goat). If burned wood or Charcoal was identified the frequency per m² was given along with the average size of the pieces. Likewise if olive pits were identified, their frequency per m² was also entered. If other types of carbonized bits were identified, that identification was recorded and frequency and average size given. If the bits were not identifiable, the entry labeled "UD" was marked and the frequency and average size given.

Organic Pockets. Periodically pockets of decomposed organic garbage remains are included in soil layers. If so, the frequency of the pocket(s) is given and the average size.

Where carbonized organic remains were frequently found, or even slightly more than average, a large percentage of the soil was floated. All materials from organic pockets was sent in, specially marked, to the botanist for possible analysis before floating. Preliminary results of the paleobotanical remains may be found in Appendix F.

Measurements: This section places a three-dimensional description on the locus and, together with the top plan, fixes it spatially relative to other features.

Length. This measurement is the greatest length of the locus.

Width. This measurement is likewise the greatest width at 90 degrees to the length.

Depth. This is a representative thickness of deposit. The range is of the least to greatest depth.

Direction of Slope. This reading is taken by compass in the direction of the downward slope (as accurately as could be estimated). The reading is recorded in compass degrees.

Degree of Slope. This is measured using the compass clinometer.

Surface materials: If the soil locus was interpreted as a surface, the section was also completed. This section was NOT completed for normal soil layers.

Lime. This type of surface is a finely crushed limestone with particles seldom larger than sand grains, and is not cemented into plaster.

Plaster. This is a surface composed of lime which has been cemented into a fairly hard material.

Crushed Nari. This surface originates from soft limestone and is the easiest limestone surface to make and maintain. It is often impossible to separate these layers in any coherent stratigraphic fashion while digging. Crushed nari can have many particle sizes in its texture, including pebble-sized grains.

Bricks, Cobbles and Flagstones, while usually considered to be architectural materials, are also occasionally used for surfaces and may be indicated on the locus sheet. A flagstone surface is constructed of large stones, most of boulder size, cut or chosen to fit fairly tightly. Installation Locus Sheets are completed for brick, cobble and flagstone surfaces, since they need other descriptive entries not included on the Soil Locus Sheet. The parenthetical "I" will be indicated if an Installation sheet has been filled out for this surface. For bricks and flagstones, an Architectural Locus Sheet may also be used.

Because these types of loci are surfaces and are stratigraphically identical to soil surfaces, they are also included as soil layers even those they are not specifically soil composed of soil. Therefore, their main recording entry is on a Soil Locus Sheet. Appropriate descriptions are possible by attaching information from the supplementary Installation (and Architectural) Locus Sheet(s).

Laminated Surface. If the surface was laminated, the entry labeled "Laminated Surface" was marked and an accurate count of the greatest number of visible laminates recorded under the entry Greatest # Observable. This entry is not a part of the above list of surface types; a laminated surface can be made up of any of the non-
INTRODUCTION TO THE LOCUS SUMMARIES

installation materials (nos. 1-4) listed above. Remarks: When the descriptive sections do not completely describe the layer under discussion, or if various qualifications were necessary to correct apparent misrepresentations, a remarks section has been provided.

This section only refers to Remarks concerning the DESCRIPTION section.

For further information on the database see Appendix A. Locus summary sheets for Fields A-D may be found on pp. 442-584.
IDENTIFICATION
U84 Field A, Square T6K, Locus 1

REASON
Dates: 6/28 to 7/4
Remarks:
Separability: Top - Very Clear
Bottom - Unclear

DESCRIPTION
Colors:
Texture:
Particle Shape:
Consistence:
Inclusions:

STRATIGRAPHY
Over:
Contiguous to:

LEVELS
Topsoil.
Top--Very Clear
Yellowish brown
Clay ...... 30%
Angular ___ 10%
Hardness ..............
Wetness ...............
Pebble Pockets .........
Small Pebbles ..........
Large Pebbles ..........
Medium Cobbles .........
Small Boulders ........
Bone..................

Bottom--Unclear
Sub-angular 10%
Slightly Moist
Sand ...... 25%
Round ...... 40%
Compactness ............
Structure............... Random

Pottery
Reading pub
1 12 DOM, POSS1, MB2
2 12, FEW MB2, UD
3 1 MOD BD, BR2
4 1 ROM BD, 182 DOM, IR2
5 1 POSS ROM BD, IR2, IR1, POSS MB2
6 182 DOM, PH1, IR1, 2 UD
7 182 DOM, IR1, 1 EB, UD

Objects
Reg no. Description
FLINTS
1 06/28
2 06/29
3 07/02
4 07/02
5 07/03
6 07/02
7 07/02
8 07/03
9 07/03
10 07/03

PHOTOGRAPHS
Number Date Subject
01/07/28 06/28 PRE-EXCAVATION
02/02/29 PROGRESS OF EXCAVATION

DRAWINGS
Top Plans:
Balks:

INTERPRETATION
Function:
Topsoil in N and W and NE part of square.

Stratigraphy:
Top soil uppermost part was hard, dry and crumbly, SW part of square was gravelly and contained a lot of sherds, NE part contained far less stones/pebbles, S part (Locus 2) contained a lot of stones, some seemed worked. No clear architectural traces, just rubble, origin of rubble unknown.
### North Balk Removal

#### IDENTIFICATION

**USA Field A, Square 7X40, Locus 1 (Supplement)**

**Supervisor:** AL  **Dates:** 7/31 to 8/3

#### DESCRIPTION

**POTTERY**

<table>
<thead>
<tr>
<th>Pail Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>70/31</td>
<td>7/53</td>
<td>E Balk</td>
<td>Late IR2, early IR2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71/8</td>
<td>27/150</td>
<td>N Balk</td>
<td>Late IR2, early IR2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73/8</td>
<td>33/142</td>
<td>N Balk</td>
<td>Late IR2, few early IR2, 1 UD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96/8</td>
<td>23/390</td>
<td>Balk stub</td>
<td>Late IR2, pub IR2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### OBJECTS

<table>
<thead>
<tr>
<th>Field no</th>
<th>Date</th>
<th>Loc</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>69/31</td>
<td>7/53</td>
<td>E Balk</td>
<td>Late IR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71/8</td>
<td>27/150</td>
<td>N Balk</td>
<td>Late IR2, early IR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73/8</td>
<td>33/142</td>
<td>N Balk</td>
<td>Late IR2, few early IR2, 1 UD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96/8</td>
<td>23/390</td>
<td>Balk stub</td>
<td>Late IR2, pub IR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### DRAWINGS

- **Top Plans:** Final Top Plan

- **Function:** Topsoil material as found in square.

- **Stratigraphy:** N Balk locus 1 corresponds with locus 1 in 7X41.

---

### East Balk Removal

#### IDENTIFICATION

**USA Field A, Square 7X40, Locus 1 (Supplement)**

**Supervisor:** AL  **Dates:** 7/31 to 8/3

#### DESCRIPTION

**POTTERY**

<table>
<thead>
<tr>
<th>Pail Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>69/31</td>
<td>7/53</td>
<td>E Balk</td>
<td>Late IR2, early IR2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71/8</td>
<td>27/150</td>
<td>N Balk</td>
<td>Late IR2, early IR2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73/8</td>
<td>33/142</td>
<td>N Balk</td>
<td>Late IR2, few early IR2, 1 UD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96/8</td>
<td>23/390</td>
<td>Balk stub</td>
<td>Late IR2, pub IR2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### OBJECTS

<table>
<thead>
<tr>
<th>Field no</th>
<th>Date</th>
<th>Loc</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>69/31</td>
<td>7/53</td>
<td>E Balk</td>
<td>Late IR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71/8</td>
<td>27/150</td>
<td>N Balk</td>
<td>Late IR2, early IR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73/8</td>
<td>33/142</td>
<td>N Balk</td>
<td>Late IR2, few early IR2, 1 UD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96/8</td>
<td>23/390</td>
<td>Balk stub</td>
<td>Late IR2, pub IR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### DRAWINGS

- **Top Plans:** Final Top Plan

- **Function:** Topsoil material as found in square.

- **Stratigraphy:** E Balk locus 1 corresponds with locus 1 in 7X41.
SOIL LOCUS SHEET

IDENTIFICATION
US Field A, Square 7K40, Locus 2

REASON
Remarks: Visible rock tumble on surface.
Separability: Top—Clear Bottom—Unclear

DESCRIPTION
Color: Dark yellowish brown 10YR4/4
Texture: Clay........ 30% Silt......... 45% Sand........ 30%
Particle Shape: Angular.... 20% Sub-angular 30% Round...... 20%
Consistency: Hardness........ 2 Slightly Moist Structure........ Random
Inclusions: Stone: Small Pebbles......... 30/m2 Medium Pebbles......... 25/m2
Size: Large Pebbles......... 15/m2 Small Cobbles......... 0/m2
Medium Cobbles......... 15/m2 Large Cobbles......... 7/m2
Distribution........ Random
Artifact: Pottery............ Frequent Distribution........ Random
Organic: Bone............... Rare Distribution........ Many

Measurements:
Length........................ 3.000 m Width............. 2.500 m
Depth................... 0.100 to 0.500 m Direction of Slope... 240 deg
Degree of Slope........ 16 deg

STRATIGRAPHY
Over: 3
Contiguous to: 1

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
36 914.11 X 20 913.02 X 16 913.71
25 913.77 913.27 X 14 912.80 27 913.30 912.99
31 912.25 912.13 X 22 913.76

POTTERY
Pail Date Count Baskets Loc Preservation Comments Reading
12 7/3 20/83 12 IR2
13 7/4 34/262 26 IR2, POSS IR1
14 7/4 49/275 13 IR2 DOM, IR1, POSS MB2
15 7/4 43/250 10 IR2 DOM, 1 EB
16 7/4 15/98 IR2, EB

OBJECTS
Reg. no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
SHELL 1 07/03 12 7
FLINT 2 07/03 12 3
BONE 3 07/03 12 1
CLAY FIGURE (1) 4 07/04 16 1
SHELL 5 07/04 13 6
FLINT 6 07/04 13 8

PHOTOGRAPHS
Number Date Subject
09/08/03 07/03 CLEANED LOC 2 & LOC 1
12/02/04 07/04 PROGRESS OF EXCAVATION

DRAWINGS
Baiks: S,E,W

INTERPRETATION
Function: Rock tumble consisting of stones and soil surrounding the stones.
Stratigraphy: Not clear yet, probably fragments of tumbled walls.
**IDENTIFICATION**

Locus 2, Square 7K40, Locus 2 (Supplement)

**DESCRIPTION**

East Balk Removal

**STRATIGRAPHY**

Over: 3, A.7K41:2

**CONTIGUOUS TO:** Y

**POTTERY**

<table>
<thead>
<tr>
<th>Field Date</th>
<th>Count</th>
<th>Basket</th>
<th>Loc Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 8/1</td>
<td>56/278</td>
<td>E balk (topsoil)</td>
<td>Late IR2, few early IR2</td>
<td>E balk</td>
<td>Late IR2</td>
</tr>
<tr>
<td>77 8/1</td>
<td>25/171</td>
<td>E balk (topsoil)</td>
<td>1 WBM, late IR2</td>
<td>E balk</td>
<td>Late IR2</td>
</tr>
<tr>
<td>79 8/1</td>
<td>8/76</td>
<td>NE Balk stub</td>
<td>Late IR2, early IR2</td>
<td>NE Balk stub</td>
<td>IR2</td>
</tr>
<tr>
<td>97 8/3</td>
<td>28/72</td>
<td>NE Balk stub</td>
<td>IR2</td>
<td>NE Balk stub</td>
<td>IR2</td>
</tr>
<tr>
<td>99 8/3</td>
<td>2/29</td>
<td>NE Balk stub</td>
<td>IR2</td>
<td>NE Balk stub</td>
<td>IR2</td>
</tr>
<tr>
<td>100 8/3</td>
<td>5/42</td>
<td>NE Balk stub</td>
<td>IR2</td>
<td>NE Balk stub</td>
<td>IR2</td>
</tr>
</tbody>
</table>

**OBJECTS**

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
<th>Field no.</th>
<th>Date</th>
<th>Pail</th>
<th>Loc</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flints, shells, bones</td>
<td>7</td>
<td>8/3</td>
<td>100</td>
<td>Flints, shells, bones</td>
<td>9</td>
<td>8/1</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flints, shells, bones</td>
<td>10</td>
<td>8/1</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flints, shells, bones</td>
<td>11</td>
<td>8/1</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flints, shells, bones</td>
<td>12</td>
<td>8/3</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flints, shells, bones</td>
<td>13</td>
<td>8/3</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flints, shells, bones</td>
<td>14</td>
<td>8/3</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INTERPRETATION**

Rubble topsoil layer with lot of cobbles & boulders. Same material as found in the square.

Stratigraphy: Locus 2 starts at E end of E balk as the S balk of 7K40 shows and is therefore not present in 7K41.
IDENTIFICATION

U84 Field A, Square 7K40, Locus 3

REASON

Remarks: Arbitrary change after removing topsoil (locl 1 and 2).

Separability: Top—Unclear  Bottom—Unclear

DESCRIPTION

Color: Yellowish brown 10YR5/4

Texture: Clay 30%  Silt 45%  Sand 25%

Particle Shape: Angular 15%  Sub-angular 40%  Sub-rounded 30%  Round 15%

Consistence: Wetness: Moderately Moist

Surface:  Structure: Random

Inclusions:

- Stones: Small Pebbles: 150/m²  Medium Pebbles: 50/m²
- Large Pebbles: 30/m²  Smalls Sediments: 4/m²
- Small Boulders: 3/m²  Medium Boulders: 6/m²

Artifacts: Pottery: Frequent

Organic: Bone: Rare

Measurements:

- Length: 5.000 m
- Width: 5.000 m
- Depth: 0.100 to 0.500 m
- Degree of Slope: 275 deg

Remarks: In E part of square (near balk) big boulders appeared, possibly belonging to a wall; this was one of the reasons to change locus.

STRATIGRAPHY

Under: 1, 2

Over: 4, 9

LEVELS

Loc Top  Bottom  Transit

10 915.31 913.10  X
29 915.27 912.76

POTTERY

Date  Count  Bks:  Loc  Preservation  Reading

17 7/4  20/165  36  1 BR 2 D2, 1 IR 2 DOM, 1 BR 2
18 7/4  29/175  39  1 BR 2
19 7/5  35/279  32  1 BR 2, PROB ROM BOD, 1 IR 2 DOM, 1 IR 2
20 7/5  24/205  38  1 BR 2
21 7/6  40/286  31  1 IR 2, ROM 181
22 7/6  24/123  182
23 7/6  20/203  182
24 7/6  34/182  182
25 7/6  60/273  23  1 IR 2, ROM 181
26 7/6  29/92  30  1 IR 2 DOM
27 7/6  32/107  35  1 IR 2 DOM
28 7/6  20/183  25  1 ROM BOD, 1 IR 2
29 7/6  31/162  1 IR 2
30 7/6  31/162  1 IR 2
31 7/6  31/162  1 IR 2
32 7/9  5/11  11  BALK TRIM
33 7/9  26/248  48  SW CORNER OF SQUARE
34 7/9  5/11  11  BALK TRIM
35 7/9  26/248  48  SW CORNER OF SQUARE

OBJECTS

Reg no.  Description  Field no.  Date  Loc  Level  Total  Period  Material  Photo  Drawing

1  FLINT  1  07/04  17  1
2  GRINDING STONE  2  07/04  18  1
3  SHELL  3  07/04  18  1
4  FLINT  4  07/04  18  1
5  SHELL  5  07/04  17  1
6  FLINT  6  07/05  19  1
7  SHELL  7  07/05  19  1
8  BONES  8  07/05  19  1
9  SHELL  9  07/06  20  1
10  BONES  10  07/06  25  1
11  SHELL  11  07/06  25  1
12  STONE (SLINGERSTONE?)  12  07/06  25  1
13  POSS CONTAMINATED  13  07/06  26  1
14  BONES, 15 SHELLS, 3 FLINTS  14  07/09  28  1
15  4 BONES, 3 SHELLS, 1 METAL NEEDLE?  15  07/19  55  1

PHOTOGRAPHS

Date  Subject  Number  Date  Subject  Number  Date  Subject

02/08/05  07/05  PROGRESS OF EXCAVATION  10/02/05  07/05  ROCK TUMBLE BFR REMOVAL  12/02/06  07/06  PROGRESS OF EXCAVATION

DRAWINGS

Balks: N.E.W.

INTERPRETATION

Fallen material from a stone wall, consisting of broken stone blocks and rubble, no difference visible between Loci 2 and Loci 3.
IDENTIFICATION

U84 Field A, Square 7K40, Locus 3 (Supplement)

North Balk Removal

DESCRIPTION

Stratigraphy

Under: 1, 2

Over: 4, 5, 6, 9

Equation: A.7X41:2, A.7X41:3, A.7X51:2, A.7X51:3

POTTERY

<table>
<thead>
<tr>
<th>Field no</th>
<th>Date</th>
<th>Pail</th>
<th>Loc</th>
<th>Level</th>
<th>Total</th>
<th>Material</th>
<th>Period</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>8/1</td>
<td>1</td>
<td>13</td>
<td>75</td>
<td>13</td>
<td>Late IR2</td>
<td>early IR2, 1 IR1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>83</td>
<td>8/1</td>
<td>2</td>
<td>21</td>
<td>156</td>
<td>21</td>
<td>Late IR2</td>
<td>early IR2, 1 IR2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>87</td>
<td>8/2</td>
<td>2</td>
<td>25</td>
<td>13</td>
<td>25</td>
<td>Late IR2</td>
<td>early IR2, 1 IR2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>8/2</td>
<td>2</td>
<td>25</td>
<td>21</td>
<td>25</td>
<td>Late IR2</td>
<td>early IR2, 1 IR2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>8/2</td>
<td>2</td>
<td>23</td>
<td>41</td>
<td>23</td>
<td>Late IR2</td>
<td>early IR2, 1 IR2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>8/2</td>
<td>2</td>
<td>31</td>
<td>169</td>
<td>31</td>
<td>Late IR2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>8/2</td>
<td>2</td>
<td>31</td>
<td>169</td>
<td>31</td>
<td>Late IR2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>8/2</td>
<td>2</td>
<td>6</td>
<td>28</td>
<td>6</td>
<td>Late IR2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>8/3</td>
<td>3</td>
<td>23</td>
<td>5</td>
<td>23</td>
<td>Late IR2</td>
<td>few early IR2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>8/3</td>
<td>3</td>
<td>16</td>
<td>51</td>
<td>16</td>
<td>Late IR2</td>
<td>early IR2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OBJECTS

Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

4 8/1 1 Flint
7 8/2 2 Flint
8 8/2 2 Flint
9 8/2 2 Flint
10 8/2 2 Flint
11 8/2 2 Flint
12 8/2 2 Flint
13 8/2 2 Flint
14 8/2 2 Flint
15 8/3 3 Flint

PHOTOGRAPHS

Number Date Subject

29/11/83 08/03 W SIDE, CENTRAL BALK STUB

INTERPRETATION

Function: Same rubble material as found in square.

Stratigraphy: Rubble layer situated on top of floor Locus 6 (7K40) in E balk, containing big sized sherds (possible nubbies).
IDENTIFICATION
Field A, Square 7K40, Locus 4

REMARKS:
Finding of possible wall line, soil covering this wall top.

SEPARABILITY:
Top-Clear Bottom-Clear

DESCRIPTION

COLOR:
Dark yellowish brown 10YR 4/4

TEXTURE:
Clay... 30% Silt... 40% Sand... 30% Fine Sand... 35%

PARTICLE SHAPE:
Angular... 30% Sub-angular 20% Sub-rounded... 20% Round... 30%

CONSISTENCY:
Hardness... 3 Cohesiveness... Moderately friable

WETNESS:
Moderate Moist

STRUCTURE:
Random

INCLUSIONS:

STONE:
Small Pebbles... 20/m2 Medium Pebbles... 40/m2

LARGE PEBBLES... 10/m2 Smal Cobbles... 4/m2

MEDIUM COBBLES... 7/m2 Small Boulders... 2/m2

ARTIFACT:
Pottery... Rare

ORGANIC:

SHells... Rare

DISTRIBUTION:
Random

MEASUREMENTS:
Length... 5.000 m Width... 2.000 m

DEPTH...
0.100 to 0.500 m Direction of Slope... 0 deg

Remarks:
Some spots seem to consist of clayish, quite compact (firm), hard (3)

SOIL COVERING:

STRATIGRAPHY

LEVELS
Loc Top  Bottom Transit Loc Top  Bottom Transit Loc Top  Bottom Transit

33... 913.35 912.91 10 913.42 912.96 16 913.35 912.97

POTTERY

PAILO Date Count Baskets Loc Level Preservation Comments Reading Pub
29 7/9 28/263 75 IR2
32 7/10 6/53 23 IR2

OBJECTS

REG no. Description Field no. Date PAILO Loc Level Total Period Material Photo Drawing
1 Shells, bones... 1 7/9 29

PHOTOGRAPHS

Number Date Subject Number Date Subject
17/08/09 07/09 12/02/10 07/10 PROGRESS OF EXCAVATION

DRAWINGS

BAULKS:

N, E, S

INTERPRETATION

FUNCTION:
Soil covering top of wall.

STRATIGRAPHY:
Soil on top of wall 5, dating from phase when wall was not used any wall (= decay phase of wall 5).
IDENTIFICATION
U84 Field A, Square 7X40, Locus 5

REASON
Remarks: Visible wall line. Separability: Top--Clear Bottom--Average

DESCRIPTION
Material: Limestone 100%
Wall Stones: Small Boulder 10% Medium Boulder 40%
Large Boulder 50%
Chinkstones: Cobble 100%
Dressing: Semi-hewn 100%
Mortar: Dry-laid 100%
Facing: Unfaced Support: Free-standing
Tendencies: Heavy, monumental, care for stability.

Courses: 1 to 3
Rows: 1 to 2
Measurements: Length 5.200 m Height 0.460 to 1.400 m
Dip 0 deg Lean 320 deg
Preservation: Partial Superstructure: Little
Lean Degree 8 deg Top Foundation Level 912.05 m

Remarks: A. Material: top of wall contained some limestone (cobbles-sized); slightly decayed.
X. Preservation: 5.

STRATIGRAPHY
Under:

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
10 913.62 912.20 21 912.71 911.94 34 913.00 912.18
11 912.97 912.15 33 912.91 912.29 23 913.71 912.02

POTTERY

PHOTOGRAPHS
Number Date Subject

DRAWINGS
Top Plans:

INTERPRETATION
Function:
Massive walls forming part of building room belonging to wall situated E: In 7X41 a parallel-running wall was found. Function of building not with certainty known.

Stratigraphy:
Loc 5 was (partly) founded on top of Loc 8, 14, 15, using these loci probably as foundation. Only the E face has been completely uncovered down to foundation level. Bottom of W face not reached during this season. Against the W face of wall 5 a small wall 17 was built. The situation is not completely clean yet but the excavated soil loci W of wall 5 seem to be mostly rubble layers (Locus 3, Locus 9 seems to be rubble layer, Locus 11 is possible surface, Locus 12 & 13 seem rubble layers, Locus 18 possible surface, Locus 16/19 rubble layers).

04/19/86
ARCHITECTURAL LOCUS SHEET

SOIL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7X40, Locus 5 (Supplement)

DESCRIPTION

STRATIGRAPHY
Under: 3, 4
Over: 8, 14, 15
Equals: 4.7X51:44
Continuens to: 6, 7, 9, 11, 12, 15, 18, 19, 20

DRAWINGS
Top Plans: Final Top Plan

INTERPRETATION
Function: Wall of building.
Stratigraphy: Under NE stub balk the end of wall 5 (7X42) was found (small part of cornerstones was uncovered in 7X50), wall 5 continues as wall 6A in 7X51 running here in NW-SE direction.
IDENTIFICATION
U84 Field A, Square 7K40, Locus 6

Supervisor: AL Dates: 7/10 to 7/12

REASONS
Remarks: Presence of wall E of wall.

DESCRIPTION
Color: Dark brown

Texture:
- Clay: 10%
- Silt: 15%
- Medium Sand: 25%
- Course Sand: 15%

Particle Shape:
- Angular: 20%
- Sub-angular: 30%
- Sub-rounded: 30%
- Round: 20%

Consistency:
- Hardness: 1
- Compactness: Moderately Loose
- Moderately Moist

Depth: 0.600 to 0.640 m

Structure: Random

Inclusions:
- Stone: Small Pebbles: 30/m2
- Medium Pebbles: 15/m2
- Large Pebbles: 10/m2
- Medium Cobbles: 4/m2
- Large Cobbles: 1/m2

Distribution: Random

Artifacts:
- Burned Stones: 5

Organic:
- Bone: Medium Pebbles: 15/m2
- Charcoal: 6/m2, avg. 1.0 cm

Measurements:
- Length: 5,000 m
- Width: 2,000 m
- Depth: 0.600 to 0.640 m
- Direction of Slope: 0 deg

Remarks: Bones more frequent than normal. Soil filled with pebbles, cobbles, burned stones, bones and some tabun fragments. Tabun mostly found in S side Locus 6. In soil were small fragments of charcoal.

PROGRESS OF EXCAVATION
04/19/86

BIOLOGICAL SAMPLES

Photographs:

Number Date Subject

10/02/12 PROGRESS OF EXCAVATION

DRAWINGS

Top Plans: Locus 7

INTERPRETATION

Function: Filling E of Locus 5, possibly regardable as surface layer. Consisting of gravelly layer and (deeper down) a cobbled layer. Cobbled layer possibly to be considered as filling to get a higher level (or accidental rubble?). Consisting of layer of big cobbles laying on Locus 7 (= floor level of Locus 5), covered by layer with smaller pebbles, tabun fragments, etc. Locus number should have been changed at 912.54 m. That is at level of change of stone size.

04/19/86

SOIL LOCUS SHEET

Page 1
IDENTIFICATION

US Field A, Square 7K40, Locus 7

REASON

Remarks: Change in soil structure and end of stone rubble.

Separability: Top-Average Bottom-Average

DESCRIPTION

Color: Dark brown
Texture: Clay: 50% Sand: 20% Fine Sand: 75%

Particle Shape: Angular: 15% Sub-angular: 15% Sub-rounded: 35% Round: 35%

Consistency: hardness: 2 Vetchness: Moderately Loose

Inclusions: Soil: Nari Pockets: 1/m², 15.0 cm

Stone: Small Pebbles: 80/m² Medium Pebbles: 10/m² Large Cobbles: 2/m²

Small Boulders: 6/m² Medium Boulders: 1/m²

Artifact: Tabun Fragments: 7

Organic: Charcoal: 7/m², avg. 1.5 cm

Measurements: Length: 5.000 m Width: 1.000 m

Depth: 0.110 to 0.120 m Direction of Slope: 0 deg

Surface Mater: Beaten Earth

Remarks: Soil firm after using trowel resembles compact surface. But use of pick shows that soil is loose. Soil contains very small white and yellowing spots. Particles very small and hard to see. Only 1 real nari pocket partly in E balk.

STRATIGRAPHY

Under: 0

Over: 0, 14, 15

CONTIGUOUS TO: 5

LEVELS

Loc Top Bottom TransitLoc Top Bottom Transit

23 912.12 912.01 35 912.19 912.07

POTTERY

Pail Date Count Bskts Loc Preservation Comments Reading

39 7/12 5/44 16 182, FEW EB

40 7/13 18/202 53 182

OBJECTS

Reg no. Description Field no. Date Loc Level Total Period Material Photo Drawing

BONES, SHELLS

1 07/12 39

GRINDING SEAS

2 07/12 39

BONES, SHELLS, FLINTS

3 07/13 40

PHOTOGRAPHS

Number Date Subject

11/02/13 07/13 PROGRESS OF EXCAVATION

DRAWINGS

Top Plans: Locus 6

Balks: E, S

INTERPRETATION

Function: Floor level of Locus 5 (phase B).

Stratigraphy: On top of older wall structure a floor level was created belonging to Locus 5. This floor got covered up by cobbles.
Identification

UN Field A, Square 7X40, Locus 8

Remarks:
Appearance of big horizontal-lying worked stones.

Separability:
Top - Clear

Description

Material:
Limestone 100%

History:
Wall Stones:
Cobble 50%
Small Boulder 10%
Medium Boulder 40%

Dressing:
Unhewn 10%
Semi-hewn 90%

Mortar:
Dry-laid 100%

Facing:
Unfaced

Construction:
Style: Boulder & Chink

Tendencies:
Looks massive.

Remarks:
Too little removed to fill out Support.

Rows:
2 to 3

Measurements:

Length: 3.800 m
Width: 2.500 m

Orientation: 23 deg
Dip: 0 deg
Lean Direction: 84 deg
Lean Degree: 12 deg

Remarks:
Only top of 8 was uncovered during 1984 season; some dates are therefore not yet available. Wall 8 is partly covered by Wall 9. Top shows only slightly decayed stones. B. Masonry: cobbles counted as wall stones but are possibly chinkstones (uncertain yet).

Stratigraphy

Under:
5, 7

Remarks:
Contemporary with Locis 14 and 15.

Levels

Loc Top Bottom Transit
11 912.15

Loc Top Bottom Transit

17 912.05

Drawings:

Ex

Interpretation

Function:
Locus 14 was originally called Locus 8. Forms probably S limit of building extending to W and E. N of wall 14 is a door opening (Locus 15) giving access in E - W direction to building. Possibly Locus 21 belongs to the same phase forming W limit of the building.

Stratigraphy:
At a later phase wall 8 seems to have been used (at least partly) as foundation of wall 9. Wall 9 has more or less the same orientation but is placed more to the W. Possibly belonging to same phase as Locus 21.
IDENTIFICATION

Loci Field A, Square 7K40, Locus 9

Supervisor: AL Dates: 7/13 to 7/20

REASON

Remarks: Excavation of wall 5 after removing topsoil (Loci 1 & 2) and rubble layer (Locus 3).

DESCRIPTION

Color: Dark brown 10YR4/3

Texture:
- Clay: 35%
- Silt: 35%
- Medium Sand: 30%
- Fine Sand: 30%
- Course Sand: 40%
- Medium Sand: 30%
- Large Sand: 30%
- Course Sand: 40%

Particle Shape:
- Angular: 20%
- Sub-angular: 20%
- Sub-rounded: 30%
- Round: 30%

Consistence:
- Hardness: 2
- Compactness: Slightly Loose
- Slightly Moist
- Slightly Moist

Wetness:
- Slightly Moist
- Slightly Moist

Structure:
- Random
- Random
- Random

Inclusions:
- Stone: Small Pebbles: 3000/m², Medium Pebbles: 30/m², Large Pebbles: 10/m², Medium Cobbles: 4/m², Large Cobbles: 7/m²
- Distribution: Random

Artifact:
- Pottery: Frequent
- Distribution: Random

Measurements:
- Length: 3.500 m
- Width: 5.000 m
- Depth: 0.090 to 0.260 m
- Direction of Slope: 18 deg
- Degree of Slope: 80 deg

Remarks:
- Nr. 25, 26, 31, 32 contain more cobbles than W part of Locus 9.

STRATIGRAPHY

Under:
- 3

Over:
- 10, 11, 17, 18, 19

Contiguous to:
- 5

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
- 31 911.90 911.66 9 912.58 912.47 26 912.26
- 19 912.72 912.46 32 912.17

POTTERY

Reg no. Date Pail Count Baskets Loc Level Total Period Material Photo Drawing
-Bone, shells, flints 1 7/13 41
- Bone, shells, flints 2 7/13 42
- Bone, shells, flints 3 7/16 43
- Bone, shells, flints 4 7/16 44
- Bone, shells 5 7/16 45
- Bone, shells 6 7/16 46
- Bone, shells, flints 7 7/16 47
- Bone, shells 8 7/16 48
- Bone, shells, flints 9 7/16 49
- Bone, shells, flints 10 7/16 67
- Spindle whorl 11 7/16 67
- Grinding slab 12 7/16 67

PHOTOGRAPHS

Number Date Subject Number Date Subject
- 11/08/16 07/16 PROGRESS OF EXCAVATION 08/08/20 07/20

DRAWINGS

Scales: N, W, S

FUNCTION:
- Rubble layer covering area W of Locus 5. To the S Locus 9 contains more (and bigger) stones.

STRATIGRAPHY:
- Locus 9 seems to belong to the decay phase of walls 5 & 17, covering earlier possible decay phase (loci 10, 16) and possible surface (Loci 11).
Identification
UBA Field A, Square 7K40, Locus 9 (Supplement)

North balk removal:

Description
Stratigraphy
Under:
Over:
Equals:
Snails against:

Pottery
Pail Date Count Baskets Loc Preservation Comments Reading

Photographs
Number Date Subject

Drawings
Top Plans:

Interpretation
Function:
Stratigraphy:

Layer containing fallen stones in 4 balk; to the S of W balk are less stones. On S part of square stone material again reappearing.

Stones are lying parallel to wall 7 in 7K51 and seem to have fallen down from this wall in S direction. Preserved top of wall 5 follows present slope. Bottom of Locus 9 (= Locus 11) was not reached.

Supervisor: Al
Dates: 8/2 to

Page 1
IDENTIFICATION

U84 Field A, Square 7K40, Locus 10

REASONS

Remarks:

Separability: Difference in soil. Bottom-Average

DESCRIPTION

Color: Dark brown

Texture: Clay........ 20% Sand........ 45%

Particle Shape: Angular ..... 15% Sub-angular 25%

Concentration: Hardness........ 2 Wetness........ Slightly Moist

Inclusions:

Silt........ 35%

Soil:

Brick Material........ 1/m², 20.0 cm

Pebble Pockets........ 1/m², 20.0 cm

Large Pebbles........ 10/m²

Medium Pebbles........ 10/m²

Small Pebbles........ 10/m²

Medium Sand 10%

Angular __ 10%

Hardness ..........

Wetness ..........

Large Pebbles.. 

Medium Cobbles....

Small Boulders...

Silt ....

Sand ...... 45%

Fine Sand.. 80%

Course Sand 10%

Sub-angular 25%

Sub-round.. 30%

Round ..... 30%

Structure........

Direction of Slope... 0 deg

Degree of Slope....

W of wall 17 directly next to wall 12 a pebbly spot was found containing ca. 500 sm pebbles, 150 med pebbles, 75 lg pebbles, and ca. 10 sm cobbles. W of this spot (near the W balk) a lot of cobbles were found (ca. 5 sm, 12 med, 4 lg). These spots seem divided by 1 sm boulder. This spot was considered as part of Locus 10 but could also perhaps be considered part of Locus 16.

LEVELS

Loc Top Bottom Transit

Top

Loc 9 10 92.46

Bottom Transit

7 912.20

Loc 13 10 92.02

POTTERY

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
<th>Field no. Date</th>
<th>Loc Level</th>
<th>Total Period Material Photo Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>Flints, bones, shells</td>
<td>7/17</td>
<td>46</td>
<td>Y2</td>
</tr>
<tr>
<td>69</td>
<td>Metal pin (?).</td>
<td>7/17</td>
<td>40</td>
<td>Y2</td>
</tr>
<tr>
<td>58</td>
<td>Flints, bones, shells</td>
<td>7/17</td>
<td>58</td>
<td>Y2</td>
</tr>
<tr>
<td>59</td>
<td>Flints, bones, shells</td>
<td>7/17</td>
<td>59</td>
<td>Y2</td>
</tr>
<tr>
<td>60</td>
<td>Flints, bones, shells</td>
<td>7/17</td>
<td>60</td>
<td>Y2</td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/09/77</td>
<td>07/07 PROGRESS OF EXCAVATION</td>
<td>07/24</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/02/25</td>
</tr>
</tbody>
</table>

DRAWINGS

<table>
<thead>
<tr>
<th>Basis</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>N, W</td>
<td></td>
</tr>
</tbody>
</table>

INTERPRETATION

Function:

Rubble layer containing a lot of stone and loose soil then adjoining Locl 11, 12, 13. Locus 10 was situated on top of wall 17 and is possibly the eroded top of wall 21.

Stratigraphy:

Locus 12 and 13 is partly situated under Locus 10 while both also seem to run against Locus 10. It is not clear what the sequence of Loci 13, 12 and 10 is (see also Locus Sheet 12, IV. Stratigraphy Remarks). Locus 11 seems to run against Locus 10.
IDENTIFICATION
Field A, Square 7640, Locus 11

REASON
Remarks:
Separability: Top-Clear Bottom-Clear

DESCRIPTION
Color: Yellowish brown 10YR5/4
Texture: Clay...... 45% Silt....... 20% Sand....... 35% Fine Sand... 30%
Medium Sand 35% Coarse Sand 35% Sub-rounded. 40% Round...... 30%
Particle Shape: Angular... 15% Sub-angular 25%
Consistency: Hardness...... 4 Slightly Moist
Wetness................. Structure............. Random
Compactness: Slightly Firm

Inclusions:
1. Small Pebbles........ 100/m2 Medium Pebbles........ 15/m2
2. Large Pebbles......... 10/m2 Small Cobble........ 2/m2
3. Large Cobble........ 1/m2 Small Boulder........ 1/m2
Distribution............. Random

Measurements:
- Length................ 2.500 m Width............... 2.000 m
- Depth.................. 0.080 to 0.130 m Direction of Slope..... 0 deg

STRATIGRAPHY
Under: 9
Over: 12
Seals against: 5, 10, 17

LEVELS
Loc Top Bottom Transit
9 912.47 912.39
8 912.48 912.38

POTTERY
Reg no. Description Field no. Date Pail Level Total Period Material Photo Drawing

OBJECTS
Reg no. Description Field no. Date Pail Level Total Period Material Photo Drawing

PHOTOGRAPHS
Subject:

INTERPRETATION
Function: Possibly an exposed surface; soil seemed clayish, containing little white spots (ca. 1 mm) and orange spots (ca. 0.5-1 cm). Rather an exposed surface than a floor because of presence of rubble in W part (Locus 10).

Stratigraphy: Covering a layer with stones and hard clayish material (Locus 12). The orange spots are characteristic for Loci 12 & 13. Locus 11 might be considered as the top of the filling E of Locus 10, while Locus 9 covers both Loci 10 & 11.
IDENTIFICATION

USE: Field A, Square 7K40, Locus 12

Supervisor: AL

Dates: 7/18 to 7/27

DESCRIPTION

REASON

Remarks:

Change of soil and inclinations.

Separability:

Top--Unclear

Bottom--Unclear

Color:

Dark brown

Texture:

Clay........ 40%

Silt........ 20%

Sand........ 40%

Particle Size:

Sub-angular 30%

Sub-rounded 25%

Round 20%

Consistency:

Hardness........ 3

Compactness........ Moderately Prismatic

Wetness........ Slightly Moist

Structure........ Random

Inclusions:

Soil:

Nari Pockets........ 5/m2, 3.0 cm

Brick Material.... 2/m2, 25.0 cm

Ash Pockets........ 2/m2, 25.0 cm

Stone:

Small Pebbles....... 60/m2

Medium Pebbles.... 40/m2

Large Pebbles..... 10/m2

Medium Cobble.... 6/m2

Large Cobble.... 3/m2

Small Boulders.... 6/m2

Medium Boulders... 4/m2

Large Boulders... 3/m2

Measurements:

Length........ 2.500 m

Width........ 2.000 m

Depth........ 0.120 to 0.230 m

Degree of Slope...... 0 deg

Remarks:

Ash pocket situated in irresponsible location plan. The soil inclusions are called Brick Material but it has not been established with certainty if these are indeed bricks (see also Locus Sheet 13 Remarks, and XII Interpretation).

LEVELS

Loc Top Bottom Transit

4 912.39 912.16 15 912.39 912.13

5 912.36 912.16 20 912.39

POTTERY

Date Count Baskets Loc Preservation Comments Reading

51 7/18 16 88 20 IR2

52 7/27 7 92 34 Late IR2

OBJECTS

Reg. no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

Grinding slab 1 7/18 51

Flints, bones 2 7/18 51

BIODATA SAMPLES

Soil Sample........... Doubt concerning hard clay lumps being mudbricks.

DRAWINGS

n

INTERPRETATION

Function:

The function is unclear: Locus 12 contains a lot of stones and some hard clay lumps: the stones seem to be rubble, the function of the clay lumps is uncertain (mudbricks, wall filling, terre pisee in order to level area?).

Stratigraphy:

A subsidiary balk was left between N balk and wall 17. After removing the subsidiary balk a possible N-S oriented wall line was found: Locus 12 would in this case cover and run against this wall (excavation season ceased so no time was left to investigate possible wall). Distinction between Loci 12 & 13 seems arbitrary. Clay material seems concentrated against N face of wall 17. Some big flat-lying sherds were found placed on stone covered by clay, top of sherds were covered by a stone.
IDENTIFICATION

U84 Field A, Squan, Locus 13

Remarks:

Change in compactness of soil.

DESCRIPTION

Color:

Yellowish brown

Texture:

Clay....... 50%
Silt....... 20%
Sand ...... 30%

Particle Shape:

Angular ___
Sub-angular 15%
Sub-round.. 40%
Round ..... 35%

Consistency:

Hardness ............

3

Texture:

Fine Sand.. 60%
Course Sand 10%

Compaction:

Very Firm

Moisture:

Slightly Moist

Structure:

Random

Inclusions:

Soil:

Clay Spots............ 2/m², 25.0 cm
Distribution............

Random

Stone:

Small Pebbles ......... 2000/m²
Medium Pebbles ....... 50/m²
Large Pebbles .......... 5/m²
Small Cobbles .......... 5/m²
Large Cobbles ......... 9/m²

Distribution............

Random

Organic:

Charcoal ...............

5/m², evg. 1.0 cm

Measurements:

Length................

2.250 m

Depth.................

0.260 to 0.320 m

Width.................

2.700 m

Degree of Slope........

0 deg

Inclusions:

Soil:

Clay Spots: mudbrick, terre pisee?

Sands against:

10, 12

LEVELS

Loc Top Bottom Transit

Loc Top Bottom Transit

Loc Top Bottom Transit

12 912.26 911.94 9 912.16 911.94 15 912.13 911.08

POTTERY

Date Count Bskts Loc Level Total Period Material Photo Drawing

Pail Date Count Bskts Loc Level Total Period Material Photo Drawing

Date Subject

Subject

Date Subject

10/02/19 07/19 PROGRESS OF EXCAVATION

06/02/19 07/26 PROGRESS OF EXCAVATION

OBJECTS

Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

Bones, flints, shells

1 7/25 61

Bones, flints, shells

2 7/25 62

Bones, flints, shells

3 7/25 63

Bones, flints, shells

4 7/26 84

Bones, flints, shells

5 7/26 65

PHOTOGRAPHS

Number Date Subject

06/02/19 07/19 PROGRESS OF EXCAVATION

06/02/19 07/26 PROGRESS OF EXCAVATION

Soil Sample:

Identification of clay spots: mudbrick, terre pisee?

Flotation Sample:

BIOLOGICAL SAMPLES

Soil Sample:

Identification of clay spots: mudbrick, terre pisee?

Flotation Sample:

DRAWING

Scale:

N

INTERPRETATION

Function:

Function of clay spots unclear. Possibilities are: mudbricks (fallen because of mixture with stone rubble),

wall filling of wall 17 (but stone face of wall 17 was not distinguishable in the square), lime plaster.

Some spots appeared to be square-formed. Against N face of wall 17 a concentration of these clay spots was

found together with some big-sized horizontal-lying sherds and clay inclusions.

Stratigraphy:

Laying on Locus 22. Locus 22 is according to me a possible surface (and in any case a different soil). Locus

13 runs partly under Locus 13 but seals also against Locus 10 (see Locus Sheets 10 & 12). Distinction between

Locus 12 & 13 seems arbitrary.
ARCHITECTURAL LOCUS SHEET

04/19/86

IDENTIFICATION

USA Field A, Square 7K40, Locus 14

REASON

Remarks: Stones forming wall line.
Separability: Top--Clear

DESCRIPTION

Material: Limestone .............. 100%
Masonry: Wall Stones: Small Boulder .......... 85%
Chinkstones: Cobble ................. 100%
Dressing: Unhewn ................. 5%
Semi-hewn .................. 95%
Mortar: Dry-laid ............... 100%
Facing: Unfaced .................
Construction: Style ................. Boulder & Chink
Courses: 2
Rows: ....
Measurements: Length .............. 1.720 m Width .............. 0.500 to 1.000 m
Height .............. 0.170 to 0.420 m Orientation .............. 74 deg
Dip .............. 0 deg
Lean Direction ......... 0 deg
Lean Degree .............. 0 deg

STRATIGRAPHY

Under:unner:

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit

34 912.18 35 912.02
35 912.32 35 912.34

DRAWINGS

Balks: E, S

INTERPRETATION

Function: Wall of building, ending in door opening. Locus 15. Only top of wall 14 uncovered. Exact extent of wall therefore not known but wall 14 seems to continue in 7K41 continuing therefore in SW-NE direction.

Stratigraphy: Partly used as foundation of wall 5. W extent of building not excavated. Locus 21 could belong to the same phase regarding level of Locus 21.

Data reflect information available after excavating only top of wall 14; changes are possible after uncovering more of the locus. Locus 14 was originally called Locus 8.

Contemporary with Loci 14 and 15.
IDENTIFICATION
UBA Field A, Square 7K40, Locus 15

REASON
Soil-door opening.

Separability: Top-Average.

DESCRIPTION

Color:
- Dark brown 10YR 5/3

Texture:
- Clay: 20%
- Silt: 50%
- Sand: 30%

Particle Shape:
- Angular: 15%
- Sub-angular: 20%
- Sub-rounded: 35%
- Round: 30%

Consistence:
- Hardness: 2
- Compactness: Moderately Loose
- Wetness: Slightly Dry
- Structure: Random

Inclusions:
- Stones:
  - Small Pebbles: 75/m²
  - Medium Pebbles: 30/m²
  - Large Pebbles: 10/m²
  - Medium Cobbles: 4/m²
  - Large Cobbles: 5/m²
  - Small Boulders: 3/m²
  - Medium Boulders: 4/m²
  - Large Boulders: 4/m²

Artifacts:
- Tabun Fragments: 3
- Distribution: Random

Measurements:
- Length: 1.620 m
- Depth: 0.160 to 0.370 m
- Width: 0.900 m
- Degree of Slope: 6 deg

Remarks:
Locus 15 was originally called Locus 8. Tabun fragments were found in location plan number 29 near E bank.

STRATIGRAPH

Under:
- 7

Continuous to:
- 8, 14

LEVELS
- Lec Top
- Bottom Transit
- 2B 912.07

DRAWINGS
- E

INTERPRETATION

Function:
Locus 15 is identifiable as door opening in between walls 14 and 8, giving access in E-W direction. Only top has been exposed.

Stratigraphy:
Partly situated under wall 5, causing disturbance of wall stones of 5: stones of 5 are at this spot slanted/tumbled down in N direction.
SOIL LOCUS SHEET

IDENTIFICATION

U84 Field A. Square 7K40, Locus 16

REASONS

Remarks: Soil S of wall 17: rubble layer.

DESCRIPTION

Color: Dark brown
Texture: Clay: 20%, silt: 40%, sand: 40%
Particle Shape: Angular: 30%, sub-angular: 33%
Consistency: Hardness: 5, moisture: Moderately moist

INCLUSIONS

Soil: Hari Pockets: 5/m2, 5.0 cm
Pebble Pockets: 1/m2, 10.0 cm
Ash Pockets: 20/m2
Pebbles: 200/m2
Large Pebbles: 75/m2
Medium Pebbles: 35/m2
Small Pebbles: 1/m2
Distribution: Random
Artifact: Pottery: Frequent
Flint: Few
Organic: Bone: Frequent
Measurements: Length: 2.500 m
Width: 2.500 m
Depth: 0.025 to 0.230 m

INCLUSIONS

Soil: Mari Pockets: 5/m2, 5.0 cm
Pebble Pockets: 1/m2, 10.0 cm
Ash Pockets: 200/m2
Pebbles: 20/m2
Large Pebbles: 75/m2
Medium Pebbles: 35/m2
Small Pebbles: 1/m2
Distribution: Random
Artifact: Pottery: Frequent
Flint: Few
Organic: Bone: Frequent
Measurements: Length: 2.500 m
Width: 2.500 m
Depth: 0.025 to 0.230 m

STRATIGRAPHY

Under: 9
Over:
Contiguous to: 5, 10, 12, 13, 17

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
26 912.26 912.14 32 912.17 912.11 20 912.37 912.14
31 911.86 911.81 20 912.21 912.08

POTTERY

Pail Date Count Bskts Loc Preservation Comments Reading
55 7/20 14/112 38 182
56 7/20 5/ 20 26 182, poss earlier

OBJECTS

Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
Sheels, flints, bones 1 7/20 55
Sheels, flints, bones 2 7/20 56

PHOTOGRAPHS

Number Date Subject
06/08/23 07/23 PROGRESS OF EXCAVATION

DRAWS

Bells: S, W

INTERPRETATION

Function: Rubble layer, possibly lying on a surface or different soil (e Locus 19 & 18). Surrounding a big boulder and following more or less slope of the tell.

Stratigraphy: Locus 18 seems to represent the decay phase of walls 17 & 5 (e possibly the origin of the rubble). Locus 16 is contiguous to Locus 10 and therefore also to loci 12 and 13 and possibly 11.
<table>
<thead>
<tr>
<th>IDENTIFICATION</th>
<th>ARCHITECTURAL LOCUS SHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBA Field A, Square 7640, Locus 17</td>
<td>Supervisor: AI Dates: 7/20</td>
</tr>
</tbody>
</table>

**REASON**
- Separability: Top-Average Bottom-Average

**DESCRIPTION**
- Material: Decayed Limestone........ 100%
- Remarks: One corner stone rather soft.
- Masonry: Wall Stones: Small Boulder........ 100%
- Chinkstones: Cobble........ 100%
- Dressing: Unknown........ 13%
- Mortar: Dry-laid........ 100%
- Facing: Unfaced
- Construction: Style........ Boulde & Chink
- Tendencies: Unstable, though with some care built.

**Measurements:**
- Length: 1.310 m
- Width: 0.320 to 0.460 m
- Height: 0.580 to 0.610 m
- Dip: 2 deg
- Orientation: 240 deg
- Lean Degree: 8 deg
- Lean Direction: 10 deg
- Remarks: Tooling: no real traces visible of use of tools.

**Stratigraphy**
- Under: 3
- Over: 200
- Sealed Against: 11, 12, 13, 18
- Remarks: Contiguous to Loc 9, 10, 16.

**Levels**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>912.59</td>
<td></td>
<td>20</td>
<td>912.54</td>
<td>911.00</td>
<td>19</td>
<td>912.53</td>
<td></td>
</tr>
</tbody>
</table>

**Interpretation**
- Function: Small wall, function not certain. On last excavation day a possible N-S oriented wall was found possibly connectable with wall 17. Further investigation is however needed. Locus 17 seems to be a secondary wall of bad construction, built as a later phase against wall 3. Reason is however uncertain. S of wall 17 a pebble spot was found (see Locus Sheet 10).
- Stratigraphy: Against the N face of wall a large amount of the clayish material characteristic of Loc 12 & 13 was found together with large sized sherd and a piece of dark clay lump. Function of clay spot uncertain (see Locus Sheets 12 & 13).
SOIL LOCUS SHEET

IDENTIFICATION

UFL Field A, Square 7K40, Locus 18

REASON

Remarks: Ashy layer of soil; soil change.

DESCRIPTION

Color: Dark brown

Texture: Clay ....... 20% Silts ....... 55% Sand ....... 25% Fine Sand ....... 55%

Particle Shape: Angular ....... 20% Sub-angular ....... 20%

Consistency: Hardness ....... 2

Moistness ....... Moderately Moist

Sub-rounded ....... 30% Round ....... 30%

Compactedness ....... Moderately Loose/ Slightly Rubby

Structure ....... Random

DESIGN OF SOIL

Under: Dark brown Clay ...... 20%

Medium Sand 25% Course Sand 20%

Over: Medium Sand 25% Coarse Sand 20%

Contiguous to: Seals against:

LEVELS

- Pebble Pockets ......... 1/1 m, 50.0 cm
- Ash Pockets ......... 1/1 m, 75.0 cm

STONE

- Small Pebbles ......... 1000/m2
- Medium Pebbles ......... 500/m2
- Large Pebbles ......... 100/m2
- Small Cobblecs ......... 50/m2
- Large Cobblecs ......... 10/m2

PEBBLE Pockets ......... 1/m2, 50.0 cm

Distribution ......... Random

Measurements:

- Length ......... 1.250 m
- Depth ......... 0.070 m
- Degree of Slope ......... 0 deg

Stratigraphy:

Under: 16

Over: 20

Continuous to: 22

Seals against: 5, 17

POTTERY

- Pail Date: 912.08
- Count: 912.01
- Baskets: 26
- Location: Locus 18
- Preservation: Moderately Loose/ Slightly Rubby
- Comments: Late IR2

OBJECTS

- Reg no. Description: Flint, bones, shells
- Field no. Date: 7/23
- Location: Locus 18
- Period: 57

INTERPRETATION

Function:

- Ashy spot/layer in S inner corner formed by walls S & 17, indicating possible surface. The S continuation of Locus 18 would be Locus 19, Locus 19 however seems to slope down to the West, while Locus 18 doesn't. Possibly Locus 18 is considerable as a small ash spot on top of exposed surface (Locus 19).

- Locus 18 could correspond with Locus 22 (N of wall 17). Locus 22 Iowa in my opinion also considerable as a possible surface.
**IDENTIFICATION**
- UBA Field A, Square 7440, Locus 19

**REASON**
- Remarks: Soil change; hard, clayish layer.
- Separability: Top - Average

**DESCRIPTION**
- Color: Dark yellowish brown
- Texture: Clay, 65%; Silty, 25%; Sand, 10%; Fine Sand, 5%
- Particle Shape: Angular, 10%; Sub-rounded, 10%; Round, 25%
- Consistency: Hardness, 3; Compactness, Very Firm
- Wetness: Slightly Moist
- Inclusions: Small Pebbles, 75/m2; Medium Pebbles, 75/m2; Large Pebbles, 50/m2; Medium Cobbles, 10/m2; Small Cobbles, 25/m2; Small Boulders, 3/m2; Medium Boulders, 5/m2; Large Boulders, 5/m2; Tabun Fragments, 0/m2
- Artifacts: 750/m2; 50/m2; 50/m2; 10/m2; 25/m2; 3/m2; 10/m2; 2/m2; 2/m2; 2/m2

**LEVELS**
- Top: 911.96
- Bottom: 912.11

**DRAWINGS**
- Balks: S, U

**INTERPRETATION**
- Function: Possibly top of new rubble layer (exposed surface); the layer is distinguishable because of change of soil.
- Stratigraphy: The surface is sloping to the west and there are some stones sticking out of the surface. Change of soil corresponds approx. with the bottom of big S cornerstone-shaped boulder of wall 5. The surface follows the slope of the tell; possibly it represents only an erosion layer caused by the slope of the tell. Containing rubble from the E (from wall 5?)
IDENTIFICATION
UDL Field A, Square 7K40, Locus 20
REASON
Remarks: Layer under ashy/pebblish Locus 18.
Separability: Top--Average
DESCRIPTION
Color:
- Dark brown
Texture:
- Clay: 30%
- Silt: 65%
- Sand: 5%
Particle Shape:
- Angular: 15%
- Sub-angular: 20%
Consistency:
- Hardness: 2
- Wetness: Moderately Moist
Inclusions:
- Stones: Small Pebbles: 100/2
- Medium Pebbles: 50/2
- Large Pebbles: 10/2
- Small Cobbles: 10/2
- Medium Cobbles: 20/2
- Large Cobbles: 5/2
- Small Boulders: 1/m2
- Medium Boulders: 2/m2
- Large Boulders: 1/m2
- Small Boulders: 1/m2
Measurements:
- Length: 1.250 m
- Width: 0.500 m
- Direction of Slope: 0 deg
- Slope: 0 deg
Remarks: Only part of top uncovered during 1984 season.
STRATIGRAPHY
Under: 17, 18
Contiguous to: 10
LEVELS
Loc Top Botten Transit

<table>
<thead>
<tr>
<th>Level</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>912.01</td>
<td>911.89</td>
<td>911.89</td>
</tr>
</tbody>
</table>

INTERPRETATION
Function:
- Only part of the top was uncovered; too little is known to fill out this section of the locus sheet.

IDENTIFICATION
UDL Field A, Square 7K40, Locus 21
REASON
Remarks: Visible wall line.
Separability: Top-Clear
DESCRIPTION
Material:
- Limestone: 100%
Masonry:
- Wall Stones: Cobble: 5%
- Cobble: 50%
Chimney Stones: Cobble: 100%
Dressing:
- Unhewn: 5%
- Hewn: 95%
Mortar:
- Dry-laid: 100%
Facing:
- Unhewn: 100%
Construction:
- Style: Boulder & Chink
- Support: Free-standing
Courses:
- 1
Rows:
- 1
Measurements:
- Length: 3.750 m
- Width: 0.350 to 0.500 m
- Dip: 14 deg
Remarks:
- Only 1 row and course visible, but possibly more present; wall 21 is not completely uncovered. All data represent only information available from uncovered part of wall.
STRATIGRAPHY
Under: 10, 19, 20
LEVELS
Loc Top Botten Transit

<table>
<thead>
<tr>
<th>Level</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>911.79</td>
<td>911.79</td>
<td>911.79</td>
</tr>
</tbody>
</table>

DRAWINGS
- Wall built of big boulders. Not yet completely uncovered.
INTERPRETATION
Function:
- Wall built of big boulders. Not yet completely uncovered.
- Only 1 row and course visible, but possibly more present; wall 21 is not completely uncovered. All data represent only information available from uncovered part of wall.
- Locus 21 could belong to phase of Loci 14, 15, 8. This means that door opening in Locus 15 gave access to a second room situated W. Further investigation is however needed to prove this. The rubble visible in Locus 19 seems to be laying in line with Locus 15 possibly forming a western continuation of wall 15 forming a corner to the N as wall 21.
IDENTIFICATION
USA Field A, Square 7X40, Locus 22
Reasons: Charge of soil (ashy).
Separability: Top-Average

Description
Color: Brown 10YS/3
Texture: Clay........ 50% Silt.......... 35% Sand........ 15% Fine Sand.. 10%
Particle Shape: Angular... 20% Sub-angular 30% Sub-rounded 30% Round...... 20%
Consistency: Hardness........ 2
Moisture........ Slightly Moist
Particle Shape: Medium Sand 35X Sub-angular 25X Sub-rounded 30X Round...... 20X

Inclusions: Hart Pockets........ 20 X 2, 2.0 cm Ash Pockets........... 3 X 2, 10.0 cm
Stone: Small Pebbles... 300 X 2 Medium Pebbles... 40 X 2
Large Pebbles..... 10 X 2 Small Cobbles..... 4 X 2
Medium Cobbles.... 3 X 2 Large Cobbles..... 3 X 2
Small Boulders.... 2 X 2 Distribution...... Random

Measurements:
Surface Mat11: Crushed Hart

Stratigraphy
Remarks: Only part of top uncovered during 1984 season.
Under: 13
Remarks: Too little information available to fill out this part of locus sheet.

Levels
Loc Top Bottom Transit Loc Top Bottom Transit

9 911,94 21 911,88

Pottery
Field Date Count Bskts Loc Preservation Comments Reading
66 7/27 05/19 3

Photographs
Number Date Subject Number Date Subject Number Date Subject
14/08/27 07/27 PROGRESS OF EXCAVATION 06/03/31 7/31 Progress of excavation 26/11/03 08/03 Stub Balk (East Balk)
14/02/30 07/30 PROGRESS OF EXCAVATION 11/11/03 08/03

Interpretation
Function: Change of soil containing ash-pockets. Soil resembles surface. In E part of Locus 22 there is possibly a new wall (N-S oriented); further investigation is however needed in order to establish a plausible interpretation.
IDENTIFICATION
URG Field A, Square 7K40, Locus 23

REASON
Afterwards distinguish in layers of Locus 6 visible in E balk.

DESCRIPTION

- **Color:** Dark yellowish brown 10YR4/4
- **Texture:**
  - Clay: 25%
  - Silt: 33%
  - Medium Sand: 25%
  - Course Sand: 35%
- **Particle Shape:**
  - Angular: 40%
  - Sub-angular: 40%
  - Sub-rounded: 10%
  - Round: 10%
- **Consistency:**
  - Hardness: 2
  - Compactness: Modestly Loose
  - Wetness: Moderately Dry
  - Structure: Random
- **Inclusions:**
  - Small Pebbles: 50/m2
  - Large Pebbles: 40/m2
  - Medium Cobble: 25/m2
  - Large Cobble: 20/m2
  - Small Boulder: 1/m2
- **Measurements:**
  - Length: 5.000 m
  - Width: 1.650 m
  - Depth: 0.270 to 0.280 m
  - Degree of Slope: 0 deg
  - Direction of Slope: 0 deg

- **Remarks:**
  Locus 23 was distinguished as a separate locus in the E balk but formed originally part of Locus 6. Levels are taken from drawing of E balk.

STRATIGRAPHY

- **Under:**
  - Field A: 7K40: 22-23
- **Contiguous to:**
  - 5

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>912.65</td>
<td>912.37</td>
</tr>
<tr>
<td>23</td>
<td>912.55</td>
<td>912.35</td>
</tr>
<tr>
<td>17</td>
<td>912.50</td>
<td>912.30</td>
</tr>
</tbody>
</table>

DRAWINGS

- Balks: N, E, S

INTERPRETATION

- **Function:**
  - Layer of cobbles laying on top of floor of wall 5. Possibly considerable as rubble or as leveling of area.
- **Stratigraphy:**
  - Laying on top of Locus 7 (= floor belonging to wall 5).
IDENTIFICATION

U84 Field A, Square 7K41, Locus 1

REASON

Remarks:

DESCRIPTION

Color:

Yellowish brown

Texture:

Clay.... 30%
Silt...... 45%
Sand...... 25%

Consistency:

Moderately Moist

Soil:

Hori. Pockets.... 1/m2

Inclusions:

Artifacts:

Soil:

Stone:

Tesserae:

Artifact:

Bones:

Measurments:

Depth:

0.150 m

Remarks:

First 5 cm greatest proportion of pebbles, rubble. Lower 15 cm stones infrequent, soil crumbly.

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit

35 913.65 913.35 X

31 913.62 913.50 X

POTTERY

Fall Date Count Baskets Loc Level Total Period Material Comments Reading

PHOTOGRAPHS

Remarks:

INTERPRETATION

Function:

Legends:

OBJECTS

Reg no. Description

LOOM WEIGHTS

1 06/29 6 19 BEAD

TASSERA

3 07/02 15 22

PHOTOGRAFPHS

Remarks:

BIODATA SAMPLES

Remarks:

Sedimentary samples... 1%

INTERPRETATION

Function:

Topsoil.
IDENTIFICATION
USA Field A, Square 7K41, Locus 1 (Supplement)
North Balk Removal

REASON
Remarks: Balk removal.
Separability: Top—Very Clear, Bottom—Very Unclear

DESCRIPTION
Remarks:
Separability:
Top—Very Clear, Bottom—Very Unclear

Color:
Yellowish brown
Texture:
Clay........ 30%
Silt......... 45%
Sand........ 25%
Particle Shape:
Round....... 100%

Consistency:
Hardness: 2
Compactness: Moderately Loose
Wetness: Very Dry
Structure: Wind

Inclusions:
Soil:
Nari Pockets: 1/m2, 2.0 cm
Distribution: Random
stone:
Small Pebbles: 40/m2
Large Pebbles: 32/m2
Small Boulders: 2/m2
Artifact:
Distribution: Frequent
Flint: 7
Organic:
Bone: Rare
Shells: 4
Inclusions:
Measurement:
Length: 5.000 m
Width: 1.000 m
Depth: 0.250 to 0.280 m
Remarks:
Soil very dry due to long exposure of balk to hot air, sun, wind.

STRATIGRAPHY
Levels:

LOCATION
Date: 7/31

POTTERY

INTERPRETATION
Function: Wind deposited topsoil.
**IDENTIFICATION**

L84 Field A, Square 7K41, Locus 2

**REASON**

Remarks:

Separability: Arbitrary decision to commence new locus.

**DESCRIPTION**

<table>
<thead>
<tr>
<th>Color</th>
<th>Texture</th>
<th>Consistence</th>
<th>Hardness</th>
<th>Compactness</th>
<th>Wetness</th>
<th>Moderately Moist</th>
<th>Structure</th>
<th>Wind</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>Clay</td>
<td>10/15/3</td>
<td>30%</td>
<td>Sand</td>
<td>25%</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Measurements:**

- Length: 5,000 m
- Width: 5,000 m
- Depth: 0.150 to 0.250 m

**Remarks:**

- Topsoil with protruding rock at N balk.
- Large quantities of sherds at N end of square.
- Less stones, rubble overall, soil moderately compacted.

**STRATIGRAPHY**

- Architectural Loci 4 and 5 cut into this locus.

**LEVELS**

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>913.47</td>
<td>913.26</td>
<td>X</td>
<td>35</td>
<td>913.35</td>
<td>913.12</td>
<td>X</td>
</tr>
<tr>
<td>7</td>
<td>913.36</td>
<td>913.13</td>
<td>X</td>
<td>31</td>
<td>913.50</td>
<td>913.25</td>
<td>X</td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Bskts</th>
<th>Loc Preserv</th>
<th>Comments</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Pub</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/03</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OBJECTS**

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
<th>Field no. Date</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CARVED BONE</td>
<td>07/03 7 19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Date</th>
<th>Number</th>
<th>07/03 07/05</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROGRESS OF EXCAVATION</td>
<td>01/03/05 07/05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BIDATA SAMPLES**

<table>
<thead>
<tr>
<th>Flotation Sample</th>
<th>1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remarks:</td>
<td>1 flotation sample sent in.</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

- Wind deposited topsoil.
IDENTIFICATION
U84 Field A, Square 7K41, Locus 2
North Balk Removal

REASON
Remarks: To match previous levels for Locus 2.

DESCRIPTION
Texture:
- Clay: 30%
- Silt: 45%
- Sand: 25%

Particle Shape:
- Round: 100%

Consistence:
- Hardness: 2
- Moisture: Moderately Moist
- Compactness: 2%
- Structure: Moderately Loose
- Wetness: Moderately Moist

Inclusions:
- Soils: Nari Pockets: 1/m², 2.0 cm
  - Distribution: Random
- Stones:
  - Small Pebbles: 240/m²
  - Medium Pebbles: 128/m²
  - Large Pebbles: 144/m²
  - Small Cobbles: 6/m²
  - Medium Boulders: 1/m²
  - Large Boulders: 1/m²
  - Distribution: Random
- Artifacts:
  - Pottery: Frequent
  - Flint: 6
  - Worked Stones: 4
- Organic:
  - Bone: Rare

Measurements:
- Length: 5.000 m
- Width: 1.000 m
- Depth: 0.150 to 0.250 m

Remarks: Wind deposited topsoil.

STRATIGRAPHY
Under: 1
Over: 20
Seals against: A-7K51:2

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit

POTTERY
Date Count Bskts Loc Preservation Comments Reading Pub

PHOTOGRAPHS
Number Date Subject

INTERPRETATION
Function: Wind deposited topsoil.
### Identification

**Field:** 7K41, Locus 3  
**Remarks:** Arbitrary decision—still in topsoil, no color change.

### Description

**Color:** Brown  
**Texture:** Clay  
**Consistency:** Hardness  
**Wetness:** 

**Inclusions:**  
- **Soil:** Sandy, 30%  
- **Stone:** Medium Pebbles, 125/2

**Artifact:**  
- **Pottery:** Fragments  
- **Worked Stones:**  
- **Bone:**  
- **Disturbed:**  

**Organic:**  
- **Measurements:**  
- **Remarks:** Compacted topsoil.

### Stratigraphy

**Under:**  
**Over:**  
**Remarks:** Wind deposited topsoil.

### Levels

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>913.26</td>
<td>913.05</td>
<td>X</td>
</tr>
<tr>
<td>11</td>
<td>913.13</td>
<td>912.91</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>5.000 m Width</td>
<td>5.000 m</td>
<td></td>
</tr>
</tbody>
</table>

### Pottery

<table>
<thead>
<tr>
<th>Shell Date</th>
<th>Count</th>
<th>Bakts</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
<th>Pub</th>
</tr>
</thead>
</table>

### Photographs

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/09</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

### Interpretation

- Wind deposited topsoil.
ARCHITECTURAL LOCUS SHEET

04/19/86

IDENTIFICATION
USA Field A, Square 7K41, Locus 4 (Phase A)  Supervisor: JH  Dates: 7/7 to 7/19

REASON
Remarks: Represents a wall dividing Loci 2/3.
Separability: Top - Very Clear  Bottom - Very Clear

DESCRIPTION
Material: Fresh-quarried Limestone 60%  Hard Chert ............... 30%
    Soft Marl ........... 10%
    Remarks: Limestone is hard, decayed and freshly-quarried.

Masonry:
    Wall Stones: Medium Boulder ...... 45%  Large Boulder .......... 45%
                  Very Large Boulder ...... 10%
    Chinkstones: Cobble ................ 100%
    Fill Stones: Cobble ............... 100%
    Dressing: Unhewn .................. 20%
               Semi-hewn ............. 80%
    Mortar: Dry-laid .................. 80%
               Mud ...................... 20%
    Average Thickness ............... 3.0 cm

Facing:
Construction: Unfaced
Remarks: Rubble-filled also appears to have been used in places.

Courses: 1
Rows: 2
Measurements:
    Length .................. 3.000 m  Width .................. 1.000 to 1.100 m
    Height .................. 0.700 to 0.800 m  Orientation .......... 200 deg

Preservation: Foundation Only: Partial
Remarks: Since this phase is placed over an earlier phase, questions concerning foundation level will be answered at excavation of northern face.

STRATIGRAPHY
Under: 2
Over: 4B
Abuts: 5
Abutted By: 22
Sealed Agent By: 11
Bonded To: 6A

LEVELS

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>913.27</td>
<td>912.78 X</td>
</tr>
<tr>
<td>2</td>
<td>913.30</td>
<td>912.61 X</td>
</tr>
</tbody>
</table>

INTERPRETATION
Function: Foundation stones placed over earlier phase (4B).

SOIL LOCUS SHEET

04/19/86

IDENTIFICATION
USA Field A, Square 7K41, Locus 4 (Supplement)  Supervisor: JH  Dates: 7/5 to 7/19

REASON
Remarks: Mortar in wall 4A.
Separability: Top - Very Clear  Bottom - Very Clear

DESCRIPTION
Color: Yellowish brown 10YR5/4
Texture: Clay .......... 30%  Silt .......... 45%  Sand .......... 25%
Particle Shape: Round ....... 100%
Consistency: Hardness .... 2
    Compaction ........ Very Loose
    Moisture .......... Moderately Moist
    Remarks: Not excavated therefore no pottery count, etc.
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
UBA Field A, Square 7K41, Locus 4 (Phase B)
Supervisor: JH Dates: 7/13 to 7/22

REASON
Remarks: Offset and under wall 4A.
Separability: Top- Very Clear Bottom-Very Clear

DESCRIPTION
Material:
- Limestone ........... 70%
- Chert ............... 20%

- Marble ............. 10%

Masonry:
- Wall Stones:
  - Small Boulder ...... 60%
  - Medium Boulder ..... 40%
- Chinkstones:
  - Cobble ............. 100%
- Dressing:
  - Unhewn ............ 40%
- Mortar:
  - Dry-laid .......... 30%
  - Semi-hewn .......... 60%
- Facing:
  - Unfaced

Construction:
- Style: Boulder & Chink
Courses: 6 to 7
Rows: 2

Measurements:
- Length .................. 2.900 m
- Height .................. 1.800 m
- Orientation ............ 280 deg

Preservation:
- Partial Superstructure: Most
Remarks: No north face to establish full width.

STRATIGRAPHY
Under: 4A. 7
Abutted By: 14
Sealed Against: 15, 25
Bonded To: 89

LEVELS
Loc Top/Bottom Transit
9 913.05/910.76 X
32 912.73/914.80 X

INTERPRETATION
Function: IR2 wall. Too heavy to be domestic only.

SOIL LOCUS SHEET

IDENTIFICATION
UBA Field A, Square 7K41, Locus 4 (Supplement)
Installation Supplement
Supervisor: JH Dates: 7/13 to 7/22

REASON
Remarks: Mortar in wall 4B.
Separability: Top-Clear Bottom-Clear

DESCRIPTION
Color:
- Yellowish brown 10YR5/4
Texture:
- Clay ........... 50%
- Silt ........... 55%
- Sand ........... 5%

- Particle Shape: Round ...... 100%
- Cohesion:
  - Hardness .......... 2
  - Stickiness ......... 2

- Consistency:
  - Moist ............ Moderately Moist
  - Dry .............. Moderately Dry

Remarks: Not excavated. See wall 4B.
04/19/86 ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7K41, Locus 5

REASON
Remarks: Six stones in a row.
Separability: Top-Average  Bottom-Average

DESCRIPTION
Material: Limestone.............. 100%
Wall Stones: Cobble................ 75%  Small Boulder........... 25%
Mortar: Dry-laid.................... 100%
Remarks: Future excavation will inform.

MEASUREMENTS
Courses: 1
Rows: 2
Length: 1.500 m
Width: 0.150 to 0.250 m
Height: 0.150 to 0.250 m
Orientation: 25 deg

STRAIGHTRAPHY
Under: 1
Above: 23

LEVELS
Loc Top  Bottom  Transit  Loc Top  Bottom  Transit
1  913.32  912.89  X  17  913.35  912.78  X

04/19/86 ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7K41, Locus 6 (Phase A)

REASON
Remarks: Five boulders (medium, large, to very large) found in a row.
Separability: Top-Clear  Bottom-Very Clear

DESCRIPTION
Material: Limestone.............. 100%
Wall Stones: Large Boulder........... 80%  Very Large Boulder...... 20%
Chinkstones: Pebble................ 20%  Cobble................... 80%
Dressing: Unhewn................... 50%  Semi-hewn .............. 50%
Mortar: Dry-laid.................... 100%
Remarks: These stones consistent with wall 22 fill stones in a larger construction.

MEASUREMENTS
Courses: 1
Rows: 2
Width: 1.000 to 1.100 m
Orientation: 25 deg

STRAIGHTRAPHY
Under: 2
Over: 60
Sealed Against By: 11

LEVELS
Loc Top  Bottom  Transit  Loc Top  Bottom  Transit  Loc Top  Bottom  Transit
4A, 18  912.84  912.34  X  21  912.88  912.51  X  9  912.98  912.67  X

04/19/86 SOIL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7K41, Locus 6 (Supplement)

INSTALLMENT SUPPLEMENT

REASON
Remarks: Mortar fill in wall 6A.

DESCRIPTION
Color: Yellowish brown............. 10YR5/4
Texture: Clay.................. 50%  Silt.................. 45%  Sand........... 25%
Particle Shape: Round............. 100%
Consistency: Handiness......... 2  Compactness........ Very Loose
Remarks: See wall 6 phase A.
04/19/86 ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
LBA Field A, Square 7X41, Locus 6 (Phase B)
Supervisor: JH Dates: 7/13 to 7/22

REASON
Remarks: Offset under wall 6A.
Separability: Top—Very Clear Bottom—Very Clear

DESCRIPTION
Material:
- Limestone: 70%
- Chert: 20%
- Nari: 10%

Masonry:
- Wall Stones: Cobble: 45%
- Cobble: 100%
- Chinkstones: Cobble: 100%

Dressing:
- Anhewn: 40%
- Semi-hewn: 60%

Remarks: West face only visible.

Mortar:
- Dry-laid: 30%
- Clay: 50%
- Mud: 20%

Average Thickness: 10.0 cm

Facing:
- Unfaced

Construction:
- Style: Boulder & Chink

Courses:
- 6 to 7

Measurements:
- Length: 3.500 m
- Height: 1.800 m

Orientation: 25 deg
Dip: 5 deg

Preservation:
- Partial Superstructure: Most

Remarks:
- No east face to establish full width. Further excavation will define.

STRATIGRAPHY
Under:
- 6A, 7

Abutted By:
- 14

Sealed Against:
- 15, 25

Bonded To:
- 4B, 12

LEVELS
Loc Top: 913.05
Loc Bottom: 910.76
Transit: X

INTERPRETATION
Function: Phase B wall. Too heavy to be domestic only.
Locus Date: IR2

04/19/86 SOIL LOCUS SHEET

IDENTIFICATION
LBA Field A, Square 7X41, Locus 6 (Supplement)
Supervisor: JH Dates: 7/13 to 7/22

REASON
Remarks: Mortar in wall 6B.
Separability: Top—Clear Bottom—Clear

DESCRIPTION
Color:
- Yellowish brown 10YR5/4

Texture:
- Clay: 45%
- Silty: 55%

Particle Shape: Round: 100%

Consistency:
- Hardness: 2
- Moistness: Moderately Moist

Remarks: Not excavated. See wall 6A.
IDENTIFICATION
USA Field A, Square 7K41, Locus 7

REASON
Remarks: This locus is bounded by walls 4 and 6.

DESCRIPTION
Color: Yellowish brown 10YR5/4
Texture: Clay 30%, Silt 45%
Consistency: Moderately Moist

Inclusions:
- Hard Pockets: 1/m2, 2.0 cm
- Small Pebbles: 40/m2
- Large Pebbles: 40/m2
- Small Boulders: 1/m2

Artifacts:
- Pottery: Frequent
- Worked Stones: 2

Organic:
- Bone: Frequent
- Charcoal: 1/m2, avg. 0.

Measurements:
- Length: 5.000 m
- Width: 2.900 m
- Depth: 0.032 to 0.353 m
- Degree of Slope: 0 deg

Remarks: Depth of this locus averages .793 m.

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
7 913.05 X 31 913.05 X 32 912.70 X
8 912.75 X 9 912.70 X

POTTERY
Reg no. Description Field no. Date Rail Loc Level Total Period Material Photo Drawing
76 7/10 12/394 100 SMALL 181, 100
77 7/11 3/143 100 SMALL 182
78 7/11 8/73 100 SMALL 182
79 7/11 16/106 100 SMALL 182
80 7/11 15/107 100 SMALL 182
81 7/12 8/28 100 SMALL 182
82 7/12 24/264 100 SMALL 182, 100
83 7/12 30/331 100 SMALL 182, FEW 181
84 7/13 11/216 100 SMALL 182
85 7/13 14/224 100 SMALL 182, 181
86 7/13 30/289 37 SMALL 182
87 7/13 7/42 8 SMALL 182

OBJECTS
Reg no. Description Field no. Date Rail Loc Level Total Period Material Photo Drawing

PHOTOGRAPHS
Number Date Subject Number Date Subject Number Date Subject
05/02/11 07/11 PROGRESS OF EXCAVATION 10/02/13 07/13 PROGRESS OF EXCAVATION
09/08/12 07/12 PROGRESS OF EXCAVATION

SAMPLING
Flotation Sample: 1%

INTERPRETATION
Function: Soil fill covering walls 4 and 6 phase B.
IDENTIFICATION
U84 Field A, Square 7K41, Locus 8

REMARKS:
Separability:
Remarks:
Ash Layer visible in west balk.
Top--Clear
Yellowish brown
Clay...... 30X
Hardness............. 2
Wetness............. Moderately Loose
Random

DESCRIPTION
Color:
Texture:
Consistency:
Wetness:
Inclusions:
Supervisor: JH Date: 7/16

Soil:
Clay...... 30X

Organic:

Stone:
Small Pebbles.. 60/m2
Large Pebbles.. 20/m2
Small Boulders.. 9/m2
Large Boulders.. 2/m2

Artifact:

Organic:

Measurements:

Depth.................. 0.150 to 0.270 m
This locus roughly corresponds to the ash layer and contained few large boulders. See diagram of boulders before removal. Ash does not touch walls 4 and 6 phase B.

STRATIGRAPHY
Under: 7
Over: 9
Seals against: 4, 6B

LEVELS
Loc Top Bottom Transit
7 912.26 911.99 X 31
9 912.12 911.99 X 32

POTTERY
Pail Date Count Bskts Loc Level Total Period Material Photo Drawing
88 7/16 30/225 56 SMALL 182, 182, 1 UD
89 7/16 32/225 56 SMALL 182

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
BALLISTIC, GRINDER, WORKED STONES 1
BONE PENNY? NEEDLE? 2 07/16 20 1
SHELL, DRILLED, WITH IRON INSERT? 3 07/16 26 1

PHOTOGRAPHS
Number Date Subject Number Date Subject
10/08/16 PROGRESS OF EXCAVATION 07/16 PROGRESS OF EXCAVATION

BIODATA SAMPLES
Flotation Sample........ 1%

INTERPRETATION
Function: Since ash layer was mixed with organic remains, bones, charcoal and assorted inclusions--suggest it represents fire of destruction layer of phase A of walls 4 and 6. Note * Ash layer DOES NOT seal against walls 4 and/or 6 but is in circle in center.
IDENTIFICATION
US4 Field A, Square 7K41, Locus 9
Supervisor: JH Dates: 7/17 to 7/19

REASON
Remarks: Ash layer (Locus 8) completely removed; n start

DESCRIPTION

Color: Brown 10YR5/3
Texture: Clay ...... 30X Silt ...... 45X Sand ...... 25X
Consistency: Moderately Wet
Compaction: Moderately Loose

Inclusions:
Soil: Pebble Pockets.... 1/m2, 20.0 cm
Ash: Pocketed Pockets.... 30/m2, 4.0 cm

Stone:
Small Pebbles.... 140/m2
Medium Pebbles.... 150/m2
Large Pebbles.... 25/m2

Structure:
Wind

Measurements:
Depth ....... 0.640 m
Width ....... 2.900 m

Remarks: Soil west of wall 6 phase B.

STRATIGRAPHY
Under: 8
Over: 10
Remarks: Mixed tumble, soft soil.

LEVELS
Loc Top Bottom Transit
7 911.94 911.37 X
9 911.99 911.35 X

POTTERY

<table>
<thead>
<tr>
<th>Pail</th>
<th>Date</th>
<th>Count</th>
<th>Basket</th>
<th>Loc</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>7/17</td>
<td>1/60</td>
<td>SMALL</td>
<td>33</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>7/17</td>
<td>9/245</td>
<td>SMALL</td>
<td>28</td>
<td>182,EB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>7/17</td>
<td>29/187</td>
<td>SMALL</td>
<td>19</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>7/17</td>
<td>5/244</td>
<td>SMALL</td>
<td>24</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>7/17</td>
<td>1/35</td>
<td>SMALL</td>
<td>7</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>7/18</td>
<td>27/217</td>
<td>SMALL</td>
<td>23</td>
<td>182,1MR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>7/18</td>
<td>37/17</td>
<td>SMALL</td>
<td>30</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>7/18</td>
<td>29/322</td>
<td>SMALL</td>
<td>22</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>7/19</td>
<td>12/127</td>
<td>SMALL</td>
<td>12</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>7/19</td>
<td>4/32</td>
<td>SMALL</td>
<td>2</td>
<td>182,20DS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>7/19</td>
<td>16/24</td>
<td>LARGE</td>
<td>7</td>
<td>182,52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>7/19</td>
<td>18/165</td>
<td>LARGE</td>
<td>61</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>7/19</td>
<td>9/190</td>
<td>LARGE</td>
<td>20</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>7/19</td>
<td>17/1</td>
<td>LARGE</td>
<td>1</td>
<td>182,20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OBJECTS

<table>
<thead>
<tr>
<th>Reg No.</th>
<th>Description</th>
<th>Field No. Date</th>
<th>Pail</th>
<th>Loc</th>
<th>Level</th>
<th>Period</th>
<th>Total</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>CERAMIC FIGURINE 1</td>
<td>07/17</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CERAMIC OBJECT 2</td>
<td>07/18</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BALLISTICS (STONES) 3</td>
<td>07/19</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STONE OBJECTS 4</td>
<td>07/18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLASS REMANT OF JUG/VASE 5</td>
<td>07/18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POTTERY VESSEL (INCOMPLETE) 6</td>
<td>07/19</td>
<td>20</td>
<td>911.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BALLISTICS 7</td>
<td>07/19</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CERAMIC OBJECT 8</td>
<td>07/19</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRON REMAINS 10</td>
<td>07/19</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number Date Subject</th>
<th>Number Date Subject</th>
<th>Number Date Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/02/17 07/17 PROGRESS OF EXCAVATION</td>
<td>06/02/17 07/17 PROGRESS OF EXCAVATION</td>
<td>06/02/17 07/17 PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

BIOOATA SAMPLES

| Flotation Sample | 12 |

INTERPRETATION

Function: (a) Wind deposited silt amidst tumble and destruction. (b) Could also represent a surface to phase B since many ballistics at this level (7). This is under soil.
IDENTIFICATION

U84 Field A, Square 7K41, Locus 10

REASONS
Remarks: To maintain control. Bottom--Unclear

DESCRIPTION

Color: Yellowish brown
Texture: Clay........ 30% Silt........ 45% Sand........ 25%
Particle Shape: Round........ 100%
Consistence:
Hardness........ 2
Wetness
Moderately Moist

Inclusions:
Soil: Marl Pockets........ 160/m2, 1.0 cm
Distribution: Ronden
Stone: Small Pebbles........ 900/m2
Small Cobble........ 16/m2
Medium Boulders........ 2/m2
Artificial: Pottery........ frequent
Flint........ 4
Distribution: Ronden
Organic: Bone........ frequent
Charcoal........ 55/m2, avg. 1.0 cm

Measurements:
Length........ 5,000 m
Width........ 2,900 m
Depth........ 0.386 to 0.405 m

Remarks:
This locus constituted boulder tumble and silt. West side of wall 6 phase B.

STRATIGRAPHY

Under:

121 Yellowish brown Clay ...... 30X
122 Texture:
123 Particle Shape:
124 Consistence:
125 Hardness........ 2
126 Wetness
127 Moderate Moist
128

Over:

Seals against:

LEVELS

Loc Top Bottom Transit

Loc Top Bottom Transit

Loc Top Bottom Transit

7 911.37 910.97 x 31 911.37 910.97 x 8 911.35 910.96 x

POTTERY

<table>
<thead>
<tr>
<th>Pail Date</th>
<th>Count</th>
<th>Bskts</th>
<th>Loc Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>103 7/19</td>
<td>7/162</td>
<td>11</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>104 7/19</td>
<td>6/46</td>
<td>9</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>105 7/19</td>
<td>13/178</td>
<td>9</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>107 7/20</td>
<td>25/170</td>
<td>17</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>109 7/20</td>
<td>15/178</td>
<td>17</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>110 7/20</td>
<td>12/132</td>
<td>16</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>111 7/23</td>
<td>18/142</td>
<td>14</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>112 7/23</td>
<td>10/137</td>
<td>11</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>113 7/23</td>
<td>9/197</td>
<td>10</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>114 7/23</td>
<td>11/162</td>
<td>16</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>115 7/23</td>
<td>13/150</td>
<td>7</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>116 7/23</td>
<td>25/146</td>
<td>11</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>117 7/23</td>
<td>17/130</td>
<td>16</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>118 7/23</td>
<td>4/42</td>
<td>4</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>119 7/24</td>
<td>10/119</td>
<td>15</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>124 7/23</td>
<td>11/125</td>
<td>15</td>
<td>LARGE</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

OBJECTS

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
<th>Field no.</th>
<th>Date</th>
<th>Pail</th>
<th>Loc</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>A128</td>
<td>ALABASTER OBJECT FRAG</td>
<td>07/19</td>
<td>26</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A129</td>
<td>BRONZE OBJECT</td>
<td>07/23</td>
<td>19</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A130</td>
<td>IRON FIBULA</td>
<td>07/23</td>
<td>19</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A131</td>
<td>GREEN GRANITE BUTTON/BEAD</td>
<td>07/23</td>
<td>19</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A132</td>
<td>LARGE BASALT WORKED STONE</td>
<td>07/23</td>
<td>19</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/26/0</td>
<td>07/20</td>
<td>PROGRESS OF EXCAVATION</td>
<td>05/08/23</td>
<td>07/23</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/08/24</td>
<td>07/24</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>
4/19/86

SOIL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7K41, Locus 11

REASON
Evidence for a surface sighted in west balk.

DESCRIPTION
Color: Yellowish brown
Texture: Clay...... 30% Silt...... 45% Sand...... 25%
Particle Shape: Round...... 100%
Consistency: Hardness 2
Compactness: Moderately Firm
Measurements: Length Boulder 2.000 m Depth 0.040 to 0.130 m Width 1.000 m

Remarks:
Surface Mat'l: Beaten Earth
Remarks: This locus was assigned after noting (1) boulders & cobbles form a line in the balk, resting on this surface; (2) the surface (Locus 11) is moderately firm & contains multi and pebble pockets; (3) the surface roughly corresponds with the top of wall 6 phase B.

STRATIGRAPHY
Under: 7
Over: 15
Remarks: This locus was assigned after studying balk only. No inclusion information available.

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
3 912.70 X 912.57 912.66 X 912.70 912.59 X

INTERPRETATION
Function: This surface roughly corresponds with the top of phase B of Locus 6 wall. Therefore Locus 11 corresponds with the destruction level of phase A, Loci 6 and 4.

4/19/86

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7K41, Locus 12

REASON
Southern wall set in south balk. Courses visible only in elevation.

DESCRIPTION
Material: Limestone
Masonry:
Wall Stones: Cobble...... 20% Medium Boulder...... 40% Small Boulder...... 20%
Dressing: Unhewn...... 20% Semi-hewn...... 30%
Mortar: Dry-laid...... 80% Mud...... 10%
Finishing: Unfaced
Constructions: Style: Boulder & Chink Support: Free-standing
Measurements: Length 1.000 m Height 1.000 m Orientation 290 deg
Preservation: Partial Superstructure: Little

STRATIGRAPHY
Under: 11
Over: 15
Blended To: 60

LEVELS
Loc Top Bottom Transit
3 912.70 X 901.80 X

PHOTOGRAPHS
Number Date Subject
08/25/82 07/25 PROGRESS OF EXCAVATION

INTERPRETATION
Function: Southern wall to IR2 room.
IDENTIFICATION
USL Field A, Square 7K41, Locus 13
Supervisor: JH
Dates: 7/24 to 7/26

REASON
Remarks for purposes of control.
Separability: Top-Unclear Bottom-Very Clear

DESCRIPTION
Color: Dark yellowish brown 10YR4/4
Texture: Clay........ 30% Silt......... 45% Sand....... 25%
Particle Shape: Round........ 100%
Consistence: Hardness.............. 3 Compactness............. Moderately Firm
Wetness................. Moderately Moist Structure................. Wind

Inclusions:
Soil: Nari Pockets .......... 150/m2, 1.0 cm Ash Pockets .......... 200/m2, 5.0 cm
Stone: Small Pebbles.......... 800/m2 Medium Pebbles........ 50/m2 Small Cobbles........... 25/m2 Medium Cobbles........ 5/m2 Small Boulders.......... 6/m2 Medium Boulders........ 4/m2

Distribution: Top--Unclear Bottom--Very Clear

Artifacts:
Pottery................. Frequent Tabun Fragments........ 7
Flint.......................... 14
Beads.......................... 3

Organics:
Bone.......................... 140 Frequent Shells............. 3
Charcoal................. 50/m2, avg. 1.0 cm Distribution: Layered

Measurements:
Length................. 5.000 m Width............. 2.900 m Depth............. 0.162 to 0.208 m

Remarks: Loose material above surface for walls 4 and 6 phase B. organic pockets: a layer of gray material (possibly decayed straw) was discovered in Locus 13.

STRATIGRAPHY
Under: 10
Over: 15
Seals against: 4, 6, 12, 14

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
910.97 910.76 x 14 910.96 910.78 x 31 910.97 910.80 x

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading Pub
120 7/24 13/220 17 LATE IR2, EARLY IR2
121 7/24 4/44 15 LATE IR2
122 7/24 13/122 22 LATE IR2
123 7/24 NEAR COMPLETE STORAGE JAR LATE IR2
124 7/25 23/147 23 LATE IR2, FEW EARLY IR2
125 7/25 25/142 19 LATE/EARLY IR2
126 7/25 20/129 25 LATE IR2
127 7/25 20/129 25 LATE IR2
128 7/26 10/105 29 LATE IR2

PHOTOGRAPHS
Number Date Subject
30/09/24 07/24 POTTERY IN SITU
08/02/25 07/25 PROGRESS OF EXCAVATION
05/02/26 07/26 PROGRESS OF EXCAVATION

BIODATA SAMPLES
Remarks: Pottery pail 123; soil inside vessel color reading 10YR4/2 dark grayish brown.
INSTALLATION LOCUS SHEET

IDENTIFICATION
U84 field A, Square 7K41, Locus 14

REASON
Remarks: Four stones in a row across the surface.

DESCRIPTION
TYPE
Probable Room Divider

Material:
Hard Stone

Length: 2.500 m
Width: 0.200 m
Height: 0.350 m

Measurements:
Orientation: 280 deg

Remarks: Four stones set on the surface dividing Locus 13. Apparently possibly serving as a dividing row for the area where the storage jar was located.

STRATIGRAPHY
Under: 13
Over: 15
Seals Against: 68

LEVELS
Loc Top Bottom Transit

PHOTOGRAPHS
Number Date Subject
30/29/24 07/24 POTTERY IN SITU

INTERPRETATION
Function: These stones served as a room divider.

04/19/86

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 field A, Square 7K41, Locus 14 (Supplement)

REASON
Remarks: Four stones as room divider on surface.

DESCRIPTION
Material:
Limestone

Wall Stones: Cobble

Dressing: Unhewn

Mortar: Dry-laid

Facing: Unfaced

Construction: Support

Courses: 1

Rows: 1

Measurements:
Length: 1.400 m
Width: 0.400 to 0.550 m
Height: 0.120 to 0.150 m

Orientation: 280 deg

Preservation: Complete

STRATIGRAPHY
Under: 13
Over: 15
IDENTIFICATION

U84 Field A, Square 7K41, Locus 15
Supervisor: JH Date: 7/25

REASON

Remarks: A well-defined floor or surface.

DESCRIPTION

Color: Dark yellowish-brown 10YR4/4
Consistence: Hardness: Top--Very Clear
Wetness: Moderate Moist

Measurements: Length: 5,000 m Width: 2,000 m

Remarks: Final stage of excavation within this area of the square.

Surface Mat'l: Beaten Earth
Remarks: An excellent beaten earth surface. Excavations concluded at this surface (except from the pit, Locus 16).

STRAITOGRAPHY

Under: 13, 14
Over: 16
Seals against: 4, 6, 12
Cut by: 16

LEVELS

Loc Top Bottom Transit
13 910.76
14 910.78
31 910.00

PHOTOGRAPHS

Number Date Subject
21/02/26 07/26 END OF EXCAVATION
22/02/26 07/26 PROG AND COMPL OF EXC
23/02/26 07/26 PROG AND COMPL OF STAGE
INSTALLATION LOCUS SHEET

IDENTIFICATION
UBA Field A, Square 7K41, Locus 16

REASON
Remarks: This is a pit below the floor/surface (Locus 15).

TYPE
DESCRIPTION
Material: Decayed Soil........ 100%
Format: Irregular
Lining: None
Measurements: Length........... 0.520 m
Width............. 0.500 to 0.520 m
Height.................. 0.400 to 0.450 m
Remarks: Pit in corner of walls 6 and 8. This pit is located in the corner of the intersection of walls 6 and 8. It contained carbonized remains, stones, many different colored soils, and potsherds. Its base appeared to be a disused wall from an earlier phase than B.

STRATIGRAPHY
Cuts: 15
Sealed By: 4, 68

LEVELS
Loc Top
Bottom Transit

14 . 910.78 910.31 X

POTTERY

Pail Date Count Bskts Loc Preservation Comments Reading Pub
130 7/26 3 33 15

INTERPRETATION
Function: My impression is that this served as a fireplace or refuse disposal since large carbonized remains were evident as well as several colors of soil.

04/19/86

SOIL LOCUS SHEET

IDENTIFICATION
UBA Field A, Square 7K41, Locus 16 (Supplement)

REASON
Remarks: To describe soil removed.

DESCRIPTION
Color: Yellowish brown 10YR5/4
Texture: Clay........ 30% Silt........ 40% Sand........ 25%
Particle Shape: Round .... 100%
Consistence: Hardness ........ 1
Wetness ............. Moderately Moist

Measurements: Length ........... 0.800 m
Width ............... 0.700 m
Depth ............. 0.300 to 0.350 m

STRATIGRAPHY
Remarks: See pit 16.

04/19/86
IDENTIFICATION
USO Field A, Square 7K41, Locus 17

REASON
Separability: Top—Unclear Bottom—Very Clear

DESCRIPTION
Color: Brown
Texture: Clay 30% Silt 45% Sand 25%
Particle Shape: Round 100%
Consistence: Hardness 2
Wetness: Moderately Moist

Inclusions:
Silt: 1/m2
Stone: Large Pebbles 32/m2 Small Boulders 32/m2
Artifact: Pottery 16
Organic: Bone Rare

Soil:
Nari Pockets 1/m2

Stone:
Smalt Pebbles 40/m2 Medium Pebbles 128/m2
Large Pebbles 32/m2 Small Pebbles 40/m2

Artifact:
Pottery Frequent
Flint 14

Soil:
Nari Pockets 1/m2

Stone:
Smalt Pebbles 40/m2 Medium Pebbles 128/m2
Large Pebbles 32/m2 Small Pebbles 40/m2

Artifact:
Pottery Frequent
Flint 14

Organic:
Bone Rare

Soil:
Nari Pockets 1/m2

Stone:
Smalt Pebbles 40/m2 Medium Pebbles 128/m2
Large Pebbles 32/m2 Small Pebbles 40/m2

Artifact:
Pottery Frequent
Flint 14

Organic:
Bone Rare

Remarks: Locus 17 is the soil east of wall 6A. Bottom of locus equals very large boulders, therefore excavation ceased.

STRATIGRAPHY
Under:
Seals against: 4, 6A

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
16 912.93 X 35 912.86 X 29 912.56 X
33 912.77 X 16 912.33 X 28 912.17 X
17 913.08 X

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading Pub
131 7/27 15/142 32 Late 1R2, early 1R2
152 7/27 10/092 29 Late 1R2, early 1R2
133 7/27 8/101 20 Late 1R2
134 7/27 10/114 16 Late 1R2, early 1R2, few EB bods
135 7/27 23/ 89 13 Late 1R2, early 1R2
136 7/27 25/107 25 Late 1R2, early 1R2
137 7/27 32/ 85 20 Late 1R2, early 1R2, few EB1
138 7/30 14/155 17 Late 1R2, early 1R2
139 7/30 16/165 24 Late 1R2, early 1R2
140 7/30 21/187 27 Late 1R2, early 1R2, MB2 bod, 1 EB1
141 7/30 18/156 40 Late 1R2, early 1R2 don

PHOTOGRAPHS
Number Date Subject Number Date Subject
13/05/27 07/27 PROGRESS OF EXCAVATION 02/02/50 07/30 WEST BALK
01/02/50 07/30 WEST BALK 15/02/50 07/30 PROGRESS OF EXCAVATION
04/08/51 07/31 PROGRESS OF EXCAVATION
04/19/86
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7X41, Locus 18
Supervisor: JH Dates: 7/30 to 7/31

REASON
Remarks: Five very large boulders in a row with clear face.
Separability: Top- Very Clear Bottom- Very Clear

DESCRIPTION
Material: Limestone........... 80%
Chert............ 20%

Masonry:
Wall Stones: Small Boulder........... 20%
Medium Boulder........... 80%

Dressing:
Unhewn .................. 20%
Semi-hewn ....... 80%

Mortar:
Dry-laid................ 100%

Facing:
Unfaced -

Construction: Style: Boulder & Chink
Remarks: Full definition must wait for further excavation.

Courses: 1 to 2
Rows: 1 to 2

Measurements:
Length.................. 3.600 m
Width........... 1.000 m
Height: 0.400 to 0.600 m Orientation: 280°

Preservation: Partial Superstructure: Little
Remarks: One course only excavated. Located in southeast corner of square.

STRAITIGRAPHY
Under: 17
Above: 6A

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
10 912.81 912.38 x 25 912.79 912.38 x 31 912.63 912.33 x

PHOTOGRAPHS
Number Date Subject
04/08/31 07/31 PROGRESS OF EXCAVATION

INTERPRETATION
Function: Appears to be built roughly over an earlier phase. Coincides with phase A in rest of square. Full interpretation must await future excavation.

04/19/86
SOIL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7X41, Locus 19
Supervisor: JH Dates: 7/27 to

REASON
Remarks: Arbitrary.
Separability: Top-Clear Bottom-Very Unclear

DESCRIPTION
Color: Yellowish brown
Texture: Clay...... 30%
Silt....... 45%
Sand.......

Particle Shape: Round...... 100%

Consistence:
Hardness.............. 2

Wetness........... Moderately Moist

Inclusions:
Soil:
Nari Pockets........ 1/m2, 2.0 cm
Ash Pockets........ 1/m2, 1.0 cm

Stone:
Distribution: Random

Small Pebbles........ 40/m2
Medium Pebbles........ 128/m2
Large Pebbles........ 40/m2
Small Boulders........ 1/m2

Organic:
Charcoal ........ 10/m2, avg. 0.5 cm

Measurements:
Length.................. 5.000 m
Width........... 0.400 to 0.700 m

Depth........... 0.600 to 0.700 m

Remarks: Locus 19 was originally included in Locus 7, but the designation of Locus 11 made this necessary to avoid confusion.

STRAITIGRAPHY
Under: 11
Over: 8
Scale against: 4, 6

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
7 912.66 912.26 32 912.95 912.25
8 912.50 912.12 31 912.57 912.26
IDENTIFICATION
U84 Field A, Square 7X41, Locus 20 (Supplement) Supervisor: JH Date: 8/1
North Balk Removal
REASON
Remarks:
Separability: Very tightly packed layer. Top—Very Clear Bottom—Very Clear
DESCRIPTION
Texture: Silt... 50% Sand... 10%
Particle Shape: Round... 100% Compactness... Very Firm
Consistence: Hardness... 4 Wetness... Moderately Dry
Inclusions:
Soil: Large Pebbles... 50/m2. 2.0 cm Distribution... Random
Stone: Small Pebbles... 50/m2 Medium Pebbles... 100/m2
Artifacts: Pottery... Frequent
Organic: Bone... Rare
Measurements:
Depth... 0.200 to 0.210 m Width... 0.500 m
Remarks:
Very tightly compacted fill above two large boulders.
STRATIGRAPHY
Under: 20
Equi: A.7X51:9
Seals against: 44, 22
LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
1 913.26 912.89 X 2 913.27 912.68 X
POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading
150 8/1 11/84 10 Small Late IR2

04/19/86
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
USA Field A, Square 7K41, Locus 22 (Supplement) North Balk Removal

REASON
Remarks: Continuation of 7K51 Locus 7.
Separability: Top--Very Clear

DESCRIPTION
Material: Limestone...................... 100%
Masonry:
Wall Stones: Cobble .................. 100%
Dressing: Unhewn .................. 100X
Mortar: Dry-laid ................ 100%
Facing: Unfaced

Construction: Support............... Free-standing
Courses: 1
Rows: 2
Measurements: Length.................. 0.200 m Width............. 0.200 m Height........... 0.200 m
Orientation........... 228 deg

Preservation: Partial Superstructure: Little

Remarks: Continuation of 7K51 Locus 7.

STRATIGRAPHY
Under: 2
Equals: A.7X51:7
Abuts: 5A

Remarks: Stones confined to location 3 in north balk.

LEVELS
Loc Top Bottom Transit

3 913.34 012.89 x

INTERPRETATION
Function: Appears to be fill stones only linking 7K51:7 with 7K41:4A north side.

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
USA Field A, Square 7K41, Locus 23 (Supplement) North Balk Removal

REASON
Remarks: Seven very large boulders together in east corner of north balk.
Separability: Top--Unclear Bottom--Unclear

DESCRIPTION
Material: Limestone...................... 100%
Masonry:
Wall Stones: Small Boulder ........... 50% Medium Boulder........ 50%
Dressing: Unhewn .................. 80% Semi-hewn ............... 20%
Mortar: Dry-laid ................ 100%
Facing: Unfaced

Construction: Support............... Free-standing
Remarks: No clear facing yet. Seven stones well fitted together.
Courses: 2
Rows: Random
Measurements: Length.................. 1.500 m Width............. 1.500 m Height........... 0.150 to 0.300 m

Preservation: Partial Superstructure: Little

Remarks: No clear face visible, therefore orientation is uncertain. But excavation of adjoining squares may reveal that these represent part of a wall.

STRATIGRAPHY
Under: 2
Abuts: 5

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit

A 913.44 913.31 x 5 913.43 913.19 x

INTERPRETATION
Function: Yet to be determined.
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
UNH Field A, Square 7K41, Locus 24

SUPERVISOR: JH
DATES: 7/30 to 7/31

REASONS
Remarks: Six large boulders with fillstones (in sequence).

DESCRIPTION
Material:
- Limestone ............ 80%
- Chert ................ 20%

Masonry:
- Wall Stones: Small Boulder .......... 25%
  Medium Boulder .......... 75%
- Chinkstones: Cobble ............. 100%

Dressing:
- Unhewn ................. 80%
- Semi-hewn .............. 20%

Construction:
- Style ...................... Boulder & Chink

Courses:
- 1

Rows:
- 2

Measurements:
- Length .................. 1.220 m
- Width ................. 1.170 to 1.100 m
- Orientation .......... 25 deg

Remarks:
- Excavation ceased when this locus was uncovered. Therefore most details will need to wait till further excavation.

STRATIGRAPHY

UNDERS

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>912.45</td>
<td>X</td>
</tr>
<tr>
<td>28</td>
<td>912.46</td>
<td>X</td>
</tr>
<tr>
<td>23</td>
<td>912.43</td>
<td>X</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function: Yet to be determined.
IDENTIFICATION
USA Field A, Square 7K50, Locus 1

REASON
Remarks:
Topsoil—beginning of excavation.

DESCRIPTION
Color:
Yellowish brown 10YR5/4
Texture:
Clay ...... 30X
Silt ...... 4SX
Sand...... 25X
Fine Sand.. 100X

Particle Shape:
Angular.... 10X
Sub-angular 10%
Sub-round.. 40X
Round .... 40X

Consistence:
Hardness.... 2
Compactness.......... Very Firm

Wetness .............. Very Dry

Structure ........ Random

Stone:
Small Pebbles....... 50/m2
Medium Pebbles..... 16/m2
Large Pebbles....... 5/m2
Small Cobbles ...... 2/m2

Distribution ........ Random

Artifact:
Flint ................ 122

Worked Stones ....... 9

Distribution ........ Random

Organic:
Shells............ 13

Distribution ........ Random

Measurements:
Length ............ 5.000 m
Width .............. 5.000 m
Depth ................ 0.100 to 0.290 m
Degree of Slope .... 10 deg
Direction of Slope .... 220 deg

Remarks:
Small piles of large cobbles removed from grid squares 14, 20. Topsoil became increasingly cobbly as excavation proceeded to the W and SW over Locus 2.

STRATIGRAPHY
Over:

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
7 914.06 914.06 914.91 913.61 x 21 913.91 913.62 913.91 913.62 x
11 913.80 913.62 913.60 913.50 913.91 913.62 913.91 913.62 913.91 913.62 x

STATEMENTS
POTTER
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
1 POSSIBLE BASALT GRINDER 1 06/20 2 9 2
2 TESSERAE 2 06/20 2 9 2
3 POSSIBLE BASALT GRINDER 3 06/20 3 23 1
4 BEAK 4 06/20 4 28 1
5 BROKEN POTTERY WEIGHT 5 06/20 1 11 1
6 BROKEN RIM OF STONE BOWL 6 06/20 1 11 1
7 NONE 7 07/02 5 34 1
8 SLING STONE 8 07/02 5 22 1
9 POSSIBLE PORTION OF BEAD 9 07/02 5 51 1
10 POSS SLING STN OR GRINDING STN 10 07/02 6 33 1
11 RIMENT OBJECT (SQUARE) 11 07/02 6 31 1
12 1/4 OF GRINDING STONE 12 07/02 7 91 1
13 SLING STONE 13 07/03 9 25 1
14 POSS BEAD 14 07/03 9 32 1

PHOTOGRAPHS
Number Date Subject Number Date Subject Number Date Subject
03/07/28 06/28 PRE-EXCAVATION 02/08/28 07/02 PROGRESS OF EXCAVATION 12/02/30 07/30 EAST BALK
11/07/29 06/29 PROGRESS OF EXCAVATION 03/08/29 07/02 PROGRESS OF EXCAVATION 08/02/30 07/30 SOUTH BALK

INTERPRETATION
Function:
Locus 1, being topsoil, served to partially conceal the amount of rock tumble associated with Locus 2 in the W and SW portion of the square.

Stratigraphy:
Locus 1 covered Locus 2 (topsoil) and of the stones associated with it except for those rocks protruding through Locus 1 and visible on the surface. Locus 1 also covered Locus 3 in the E and NE portions of the square. Locus 3 was separated in this section from Locus 1 arbitrarily for purposes of control and to begin a new locus covering the entire square beneath both Loci 1 and 2.

Locus Date: 1842
IDENTIFICATION
LS6 Field A, Square 7K50, Locus 1  (Supplement) Supervisor: JRF  Date: 7/31

East Balk Removal

REASON
Remarks: East Balk removal of topsoil.

Separability: Top-Very Clear  Bottom-Average

DESCRIPTION

Color: Yellowish brown 10YR5/4

Texture: Clay...... 30%  Silt....... 45%  Sand....... 25%  Fine Sand.. 10%

Particle Shape: Angular.... 10%  Sub-angular 10%  Sub-rounded.. 40%  Round..... 40%

Consistence: Hardness............. 2  Compactness ........ Moderately Firm

Weatness...................... Very Dry  Structure........... Random

Separability: Top-Very Clear  Bottom-Average

Inclusions:

Stone: Small Pebbles....... 50/m2  Medium Pebbles....... 16/m2

Artifact:  Tesserae.......... 3

Measurements:

Length......................... 1.650 m -  Width......................... 1.000 m

Depth......................... 0.200 m

Remarks: Equals portion of original 5x5 m locus.

STRATIGRAPHY

Over: 3, 46

Equals: A.9521:1

LEVELS

Loc Top Bottom Transit

1  913.00  913.00

POTTERY

Pail Date Count Baits Loc Preservation Comments  Reading  Pub

116  7/31  47/238  90  Late IR2, early IR2

117  7/31  62/249  79  Late IR2, few early IR2

OBJECTS

Reg no. Description  Field no. Date Pail Loc Level Total Period Material Photo Drawing

Tesserae  1  7/31  3

PHOTOGRAPHS

Number Date Subject

30/11/03 08/03 EAST STUB ON SOUTH BALK

INTERPRETATION

Function: See Locus 1 (soil in square).

Locus Date: IR2
IDENTIFICATION
U6 Field A, Square 7K50, Locus 2
Supervisor: JRF
Dates: 6/28 to 7/3

REASON
Remarks: Topsoil/rock tumble mix visible at beginning of excavation.
Separability: Top - Clear, Bottom - Average

DESCRIPTION
Color: Gray
Texture: Clay........ 30% Silt....... 45% Sand....... 25% Fine Sand.. 10%
Particle Shape: Angular..... 10% Sub-angular 10% Sub-round.. 40% Round..... 40%
Consistency: Hardness...... 2 Wetness...... Very Dry Structure...... Very Firm

Inclusions:
Stone: Small Pebbles...... 10/m2 Large Pebbles...... 25/m2 Medium Pebbles........ 15/m2 Small Boulders 4/m2

Medium Pebbles........ 25/m2 Large Boulders........ 1/m2

Distribution..... Random

Artifact: Pottery............. Frequent Flint............. 5

Worked Stones......... 4 Distribution..... Random

Organic: Bone.......... Rare Shells.......... 10

Inclusions:
Artifact:
Ground Worked Stones..... 4 Distribution..... Random

Organic:
Shells............ 19

Measurements:
Length.................. 5.000 m Width............. 3.000 m
Depth.............. 0.135 to 0.140 m
Degree of Slope....... 10 deg

Remarks:
Width at N 2.0 m, at S 4.0 m.

Remarks:
Stones and underlying soil comprise Locus 2. The stones protruded through the surface of Locus 1 (topsoil). As
per the top plan of Locus 2, this locus was located in the W section of the square, 2 m in width at N, 4 m at
S.

STRATIGRAPHY
Under:
Over:

LEVELS
Loc Top Bot Trans Loc Top Bot Trans
7 913.91 913.77 31 913.50 913.36

POTTERY
Pail Date Count Bskts Loc Preservation Comments Plb

10 7/3 33/175 17 DIRTY LARGE PIECES 1R2 DOM, FEW IR1, FEW MB2

1 7/3 33/113 41 LARGE PIECES 1R2

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

PHOTOGRAPHS
Number Date Subject Number Date Subject Number Date Subject

INTERPRETATION
Function: Locus 2 contained the rock tumble which partially protruded through Locus 1 as well as the soil associated
with the rock tumble. The true function is discernable other than that outlined above.

Stratigraphy:
Locus 2 is beneath topsoil of Locus 1 except for those portions of rock which protrude to the surface. The
soil of Locus 2 is still topsoil as with Locus 1 and Locus 3 which lies beneath Locus 2.

Locus Date: 1R2
IDENTIFICATION
U84 Field A, Square 7K50, Locus 3

REASON

DESCRIPTION
Color: Yellowish brown
Texture: Clay...... 30% Silt...... 45% Sand...... 25%
Particle Shape: Angular ___ 10% Round........ 80%
Consistency: Hardness............... 2 Wetness............... Very Firm

Inclusions:
Soil: Harl Pockets...... 2/m2, 0.5-2.0 cm Distribution....... Random
Stone: Large Pebbles...... 25/m2 Medium Pebbles...... 15/m2
Small Pebbles...... 5/m2 Small Cobbles...... 1/m2
Small Boulders...... 1/m2 Distribution....... Random
Artifact: Pottery........ Frequent Tabun Fragments.... 3
Flint................ Worked Stones....... 5
Bone ................ Shells.............. 91
Charcoal............. 1/m2, avg. 1.0 cm Distribution....... Random

Measurements:
Length............ 5,000 m Width............... 5,000 m
Depth................ 0.250 to 0.670 m Direction of Slope. 220 deg

Remarks: Two (5 cm) nari pockets in grid #35. Moderate number of large cobbles & small boulders removed f rom general area (Lo (Locus 3, beneath) of rock tumble associated with Locus 2. Many small bone fragments (a few large) along 1st & 2nd m strip at E balk (from N to S).

STRATIGRAPHY
Under: 1, 2
Over: 4, 5, 6

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
1 913.62 913.12 X 31 913.36 913.11 X 21 913.62 913.12 X
2 913.77 913.09 X 35 913.61 913.10 X 37 913.62 913.12 X
3 913.62 913.12 X 31 913.36 913.11 X 21 913.62 913.12 X

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading Pub
12 7/3 31/266 44 DIRTY 182 10
13 7/3 18/124 14 IRREGULARLY BROKEN 182 2
16 7/6 6/29 34 IRREGULARLY BROKEN 182 2
17 7/4 4/521 20 IRREGULARLY BROKEN 182 2
18 7/4 24/173 28 IRREGULARLY BROKEN 182 2
19 7/5 128 5 IRREGULARLY BROKEN 182 2
20 7/5 26/66 11 IRREGULARLY BROKEN 182 2
21 7/5 35/118 12 IRREGULARLY BROKEN 182, PROB IR1
22 7/5 26/152 12 DIRTY LARGE PIECES 182
23 7/5 6/182 22 SMALLER PIECES 182
24 7/5 6/182 22 SMALLER PIECES 182
25 7/5 6/182 22 SMALLER PIECES 182
26 7/5 6/182 22 SMALLER PIECES 182
27 7/5 6/182 22 SMALLER PIECES 182
28 7/5 6/182 22 SMALLER PIECES 182
29 7/5 6/182 22 SMALLER PIECES 182
30 7/5 6/182 22 SMALLER PIECES 182
31 7/5 6/182 22 SMALLER PIECES 182
32 7/5 6/182 22 SMALLER PIECES 182
33 7/5 6/182 22 SMALLER PIECES 182
34 7/5 6/182 22 SMALLER PIECES 182
35 7/5 6/182 22 SMALLER PIECES 182
36 7/5 6/182 22 SMALLER PIECES 182
37 7/5 6/182 22 SMALLER PIECES 182
38 7/5 6/182 22 SMALLER PIECES 182
39 7/5 6/182 22 SMALLER PIECES 182
40 7/5 6/182 22 SMALLER PIECES 182
41 7/5 6/182 22 SMALLER PIECES 182
42 7/5 6/182 22 SMALLER PIECES 182
43 7/5 6/182 22 SMALLER PIECES 182
44 7/5 6/182 22 SMALLER PIECES 182
45 7/5 6/182 22 SMALLER PIECES 182
46 7/5 6/182 22 SMALLER PIECES 182

OBJECTS

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
<th>Field no.</th>
<th>Date</th>
<th>Pail</th>
<th>Loc</th>
<th>Level</th>
<th>Total Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DRILLED POTTERY?</td>
<td>10704</td>
<td>14</td>
<td>33</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
POSSIBLE WEIGHT STONE
WORKED BONE OR STONE?
HALF OF STONE WEIGHT
METAL RING FRAG
STONE COSMETIC PALLETTE FRAG
SMALL GLASS FRAG
JEWELRY SETTING FRAG
INCISED POTTERY RIM
PORTION OF STONE BOWL RIM
LOOM WEIGHT
CERAMIC OBJECT
FRAG OF HUMAN TORSO OF FIGURINE

PHOTOGRAPHS
Number Date Subject Number
07/04 15
07/05 21
07/05 24
07/05 27
07/05 27
07/06 32
07/06 33
07/05 32
07/05 32
07/05 32
07/05 32
07/09 34
07/06 34
07/09 34
07/10 36
07/10 44
07/10 42

INTERPRETATION
Function: Locus 3 was the soil layer beneath the rock table of Locus 2 and was also below the area of Locus 1 in the E half of the square which did not contain any rock table. Basically it appears to be a continuation of topsoil for a depth of another 50-65 cm.

Stratigraphy: Locus 3 lies beneath both Loci 1 & 2 and above Locus 5 from which it was separated because of the appearance in the latter of bricky material seemingly indicative of possible destruction material. Locus 3 also lies above and between walls 4 and 6.

Locus Date: 18/02/06
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7K50, Locus 4 (Phase A) Supervisor: JRF Oates: 7/6 to

REASON
Remarks: Two rows of stones in obvious alignment and lower courses subsequently visible.

DESCRIPTION
Material: Limestone............ 100%
Masonry:
Wall Stones: Cobble.................. 10% Medium Boulder.......... 10%
Chinkstones: Cobble............... 100% Large Boulder.......... 10%
Dressing: Unhewn.................. 50% Semi-hewn............ 50%
Mortar: Dry-laid................ 100% Facing: Unfaced

Courses: 1 to 2
Rows: 1 to 2
Measurements:
Length: 3.800 m Width: 1.200 m Height: 0.400 to 0.900 m Orientation: 22 deg

Preservation:
Partial Superstructure: Dust
Remarks: E Balk obscures the E face and therefore measurements not precise. Obviously of inferior workmanship compared to phase B wall below, see top plan for detailed levels. Courses and height are based on the depth of Locus 14.

STRATIGRAPHY
Under: 3
Over: 1, 10
Sealed Agst By: 5
Bonded To: 7, 16

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
11 913.46 17 913.49 23 913.51

PHOTOGRAPHS

INTERPRETATION
Function: Of sufficient size for defense purposes. May be blockage of entry/passageway to S of lower phase B wall.
Stratigraphy: Appears to bond with wall 7 and thus change an original exterior angle turning to the E into an interior angle (made with wall 7) turning to the W. Or may be blocking of door/passage in wall 48 which may possibly extend into square 7K40.

Locus Date: 182
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION

U84 Field A, Square 7K50, Locus 4 (Phase B)

SUPERVISOR: JRF

DESCRIPTION

Material:
- Limestone: 100%

Masonry:
- Medium Boulder: 75%
- Large Boulder: 5%
- Small Boulder: 20%
- Cobble: 83%
- Pebble: 13%
- Mortar: Dry-laid: 100%
- Sawn: 20%

Facing:
- Unfaced: 100%

Construction:
- Style: Boulder & Chink

Courses: 4

Rows: 2 to 3

Measurements:
- Length: 2.450 m
- Height: 1.000 to 1.250 m

Preservation: Complete

Remarks:
- East face within E balk.
- Courses and height are based on the depth of Locus 14.

STRATIGRAPHY

Under:
- 44

Abutted By:
- 11, 12, 17

Sealed Against By:
- 8, 9, 10, 13, 15

Bonded To:
- 16

PHOTOS

Number Date Subject

PHOTGRAPHS

Number Date Subject

INTERPRETATION

Function:
- Possible defense quality or at least substantial public edifice.

Stratigraphy:
- Phase B is an earlier phase covered and extended S by phase A. A possible door/passageway existed S of the 2 probable cornerstones in phase B. Clearest in courses 2 and 4.

Locus Date:

1R2
IDENTIFICATION

USA Field A, Square 7K50, Locus 5

Remarks:
Detection of bricky material (in grid #35) similar to destruction layer in adjacent square 7K51.

DESCRIPTION

Color:
Yellowish brown 10YR5/4

Texture:
Silt... 45% Sand... 25% Fine Sand... 100%

Particle Shape:
Sub-angular 10% Sub-rounded... 40% Round... 40%

Consistency:
Compactness... Moderately Friable

Inclusions:
Soil: Nari Pockets... 1/m2, 2.0cm Brick Material... 1/m2, 3.0cm

Measurements:
Depth... 0.350 to 0.520 m

Remarks:
Burnt limestone fragments appear in Locus 5, particularly in N half of square. Significant tumble in corners of walls. Bricky like material in grid #11 & 35 with small pieces of charcoal and nari/plaster-like substance.

STRAITERY

Under:
3

Over:
7, 8

Levels:

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
7 913.09 912.68 35 913.10 912.67 21 913.12 912.65

POTTERY

Field Date Count Baskets Loc Preservation Comments Rendering Pub
47 7/11 27/157 18 182
48 7/11 42/166 17 EARLY & ATYPICAL LATE 12 1 R2,1 DOM 182
49 7/11 29/125 17 WEAK ON LATE FORMS 182
50 7/11 25/149 42 182,1 PROB IR1
51 7/12 27/157 39 182,1 EB IR0
52 7/12 37/217 33 182
53 7/12 29/135 25 WHOLE MOUTH W/HANDLE 182
54 7/12 31/155 18 182,1 M2,1 PROB EB
55 7/12 14 182,1 M2,1 PROB EB
56 7/12 23/135 20 182,1 M2,1 PROB EB
57 7/13 31/168 23 182,1 EB IR1
58 7/13 44/201 20 182
59 7/13 43/160 30 182,1 UD
60 7/13 33/159 24 182
61 7/13 53/151 21 182
62 7/13 20/148 22 182
63 7/16 44/170 16 GOOD CONDITION 182
64 7/16 31/169 27 GOOD CONDITION 182
65 7/16 40/153 24 GOOD CONDITION 182
66 7/16 40/175 22 182
67 7/16 22/149 19 182,1 UD
68 7/17 10/ 93 19 182,1 UD

PHOTOGRAPHS

Number Date Subject Number Date Subject Number Date Subject
05/03/11 07/11 PROGRESS OF EXCAVATION 12/02/13 07/13 PROGRESS OF EXCAVATION 08/02/30 07/30 SOUTH BALK
11/02/12 07/12 PROGRESS OF EXCAVATION 12/08/16 07/16 PROGRESS OF EXCAVATION

INTERPRETATION

Function:
Combination of topsoil and destruction material. Some rubble and cobbly areas show continuation
Stratigraphy:
Located beneath Locus 3 whose general characteristics it continues to exhibit and between walls 4 and 6. It also covered wall 7 along the S balk and lies above Locus 8 from which it was arbitrarily separated due to the fact that Locus 5 had been excavated to a depth of 34 cm. This locus contained unusual occurrence of 2 Mamluk sherds.

Locus Data:
182

Identification
UBI Field A, Square 7K50, Locus 5 (Supplement)
Inclusion: Brick Material

Description
Color: Yellow
Texture: Clay... 40% Silt..... 35% Sand..... 15% Fine Sand... 10%
Particle Shape: Angular.... 10% Sub-angular 10% Sub-round.. 40% Round..... 40%
Consistence: Hardness.............. 3 Compactness............... Moderately Friable
Wetness: Moderately Moist
Structure: Random

Remarks:
Brick-like material of a more clay-type texture.

Remarks:
Yellow bricky material scattered in Locus 5; particularly in grid locations 11 and 35.
**IDENTIFICATION**

**U84 Field A, Square 7K50, Locus 5 (Supplement)**

Supervisor: JRF
Dates: 8/1 to 8/2

**REASON**

East Balk Removal

**REMARKS**

East balk removal.

**DESCRIPTION**

- **Texture:** Clay: 30%, Silt: 45%, Sand: 25%, Fine Sand: 100%
- **Consistency:** Moderately Friable
- **Wetness:** Moderately Moist
- **Inclusions:** Flint: 50
- **Organic:** Bone: Frequent, Shells: 6
- **Measurements:** Length: 2,000 m, Width: 1,250 m, Depth: 0.340 m

**Remarks:**

Equals Locus 10 south of wall 3 in square 7K51. Discovery of a nearly entire krater at juncture of walls 16 & 4 (top elevations = 912.703 E & 912.672 W; bottom elev. = 912.443). Along side was a portion of a pointed base upside down.

**STRATIGRAPHY**

Under: 3
Over: 16
Equals: 7K51:10

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>913.10</td>
<td>912.44</td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Pail Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/1</td>
<td>32</td>
<td>SI1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8/2</td>
<td>1</td>
<td>SI1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OBJECTS**

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
<th>Field no.</th>
<th>Date</th>
<th>Pail</th>
<th>Loc</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stone grinder</td>
<td>1</td>
<td>8/1</td>
<td>SI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sling stone</td>
<td>2</td>
<td>8/1</td>
<td>SI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Portion of grind stone</td>
<td>3</td>
<td>8/1</td>
<td>SI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Worked stone</td>
<td>4</td>
<td>8/1</td>
<td>SI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Grind stone</td>
<td>5</td>
<td>8/2</td>
<td>SI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Worked stone</td>
<td>6</td>
<td>8/2</td>
<td>SI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>SI1</td>
<td>7</td>
<td>8/2</td>
<td>SI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/11/01</td>
<td>08/01</td>
<td>PROG OF EXC (BALK REM)</td>
</tr>
<tr>
<td>10/11/01</td>
<td>08/03</td>
<td>PROG OF EXC, E BALK REM</td>
</tr>
<tr>
<td>10/11/01</td>
<td>09/02</td>
<td>CLOSE UP OF PLASTER</td>
</tr>
<tr>
<td>10/11/01</td>
<td>09/03</td>
<td>EAST STUB ON SOUTH BALK</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

Function: See Locus 5 (soil in square).

Locus Date: IR2
Architectural Locus Sheet

Identification

US4 Field A, Square 7K50, Locus 6

Supervisor: JRF

Dates: 7/11 to

Reason

In excavation of Locus 3 in NW corner, portion on NE to SW diagonal wall was clearly evident.

Remarks:

Seemingly partly buttressed near N balk.

Description

Material:

- Limestone: 100%

Masonry:

- Wall Stones: Cobble: 20%, Small Boulder: 30%
- Chinkstones: Pebble: 10%, Cobble: 90%
- Marter: Dry-laid: 100%
- Facing: Unfaced

Construction:

- Style: Boulder & Chink

Support: Free-standing

Remarks:

Seemingly partly buttressed near N balk.

Courses: 6 to 7

Measurements:

- Length: 2.700 m
- Width: 0.700 m
- Height: 1.450 to 1.600 m
- Orientation: 18 deg

Preservation:

Partial Superstructure: Most

Remarks:

Surface hidden in W balk. Courses and height based on the depth of Locus 14.

Stratigraphy

Under:

- 3

Sealed Area by: 5, 6

Photographs

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/08/12</td>
<td>07/12</td>
<td>PROGRESS OF EXCAVATION</td>
<td>08/02/25</td>
<td>07/25</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>12/02/13</td>
<td>07/13</td>
<td>PROGRESS OF EXCAVATION</td>
<td>08/02/26</td>
<td>07/26</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>12/02/16</td>
<td>07/16</td>
<td>PROGRESS OF EXCAVATION</td>
<td>18/02/26</td>
<td>07/26</td>
<td>REL OF SR 10 TO WALL 12</td>
</tr>
<tr>
<td>12/06/17</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
<td>18/02/26</td>
<td>07/26</td>
<td>REL OF SR 10 TO WALL 12</td>
</tr>
<tr>
<td>24/02/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
<td>18/02/26</td>
<td>07/26</td>
<td>REL OF SR 10 TO WALL 12</td>
</tr>
<tr>
<td>25/02/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
<td>09/04/24</td>
<td>07/24</td>
<td>Progress of excavation</td>
</tr>
<tr>
<td>11/08/18</td>
<td>07/18</td>
<td>PROGRESS OF EXCAVATION</td>
<td>16/02/27</td>
<td>07/27</td>
<td>WALL 12 BEFORE REMOVAL</td>
</tr>
</tbody>
</table>

Interpretation

Function:

Poor quality of construction. Lower courses of S portion fallen away or loose. Reason for apparent "buttressing" near N balk not clear.

Stratigraphy:

Seems to abut wall 7 and thus be later. Surfaces 9 and 10 were difficult to trace to wall 6. Relation to flat stones at junction of wall 6 and 7 not clear.

Locus Date: IR2?
IDENTIFICATION

U84 Field A, Square 7K50, Locus 7

REASON

Remarks: Numerous rocks with large flat surfaces and in line from west balk.

DESCRIPTION

Material: Limestone

Wall stones: Small Boulder 10%, Medium Boulder 15%, Large Boulder 75%

Chinkstones: Cobble 100%

Dressing: Unhewn 30%, Semi-hewn 70%

Mortar: Dry-laid 100%

Facing: Unfaced

Construction: Style: Boulder & Chink, Support: Free-standing

Courses: 3

Measurements:

Length: 4.500 m

Width: 1.650 m

Height: 0.900 to 1.000 m

Preservation: Partial superstructure; half

Remarks: Height and number of courses based on excavation to Locus 14.

STRATIGRAPHY

Under: 5

Abutted By: 6, 11

Sealed Against: 8, 9, 10, 14

Bonded To: 4A

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/02/17</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/08/16</td>
<td>07/16</td>
<td>PROGRESS OF EXCAVATION</td>
<td>08/19/17</td>
<td>07/19</td>
<td>REL OF 10 TO 9 &amp; 4, 6, 7</td>
</tr>
<tr>
<td>08/02/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
<td>07/08/16</td>
<td>07/16</td>
<td>REL OF 10 TO 9 &amp; 4, 6, 7</td>
<td>09/06/17</td>
<td>07/25</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
</tr>
<tr>
<td>08/02/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
<td>09/06/17</td>
<td>07/20</td>
<td>REL OF 10 TO 9 &amp; 4, 6, 7</td>
<td>09/06/17</td>
<td>07/25</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
</tr>
<tr>
<td>08/02/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
<td>09/06/17</td>
<td>07/20</td>
<td>REL OF 10 TO 9 &amp; 4, 6, 7</td>
<td>10/06/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
</tr>
<tr>
<td>08/02/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
<td>09/06/17</td>
<td>07/20</td>
<td>REL OF 10 TO 9 &amp; 4, 6, 7</td>
<td>10/06/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
</tr>
<tr>
<td>08/02/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
<td>09/06/17</td>
<td>07/20</td>
<td>REL OF 10 TO 9 &amp; 4, 6, 7</td>
<td>10/06/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
</tr>
<tr>
<td>08/02/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
<td>09/06/17</td>
<td>07/20</td>
<td>REL OF 10 TO 9 &amp; 4, 6, 7</td>
<td>10/06/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
</tr>
<tr>
<td>08/02/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
<td>09/06/17</td>
<td>07/20</td>
<td>REL OF 10 TO 9 &amp; 4, 6, 7</td>
<td>10/06/17</td>
<td>07/17</td>
<td>REL OF 9 TO WALLS 4, 6, 7</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function: Large flat stones originally thought to be possible threshold, but level is uneven. If a true wall it is of massive construction (1.65 m wide) but of crudely placed stones with large intervening spaces.

Stratigraphy: Seemingly contemporary with wall 4A (stones of similarly crude nature). Relation to wall 18 is unclear. Corners seem to abut.

Locus Date: 102
IDENTIFICATION
U84 Field A, Square 7K50, Locus 8

REASON
Remarks: Because Locus 5 excavated to a depth of 0.54 m (arbitrary for control).

DESCRIPTION
Color: Yellowish brown
Texture: Clay........ 30% Silt........ 45% Sand........ 25%
Particle Shape: Angular...... 10% Sub-angular 10%
Consistence: Hardness................. 2 Moderate Moist

Measurements:
Length.................. 4.000 m
Depth................... 0.020 m
Width................... 4.000 m

Remarks: Thin layer scraped from top of 9. Depth is for grid #19.

LEVELS

POTTERY

PHOTOGRAPHS

INTERPRETATION
Locus Dates: 1R2
IDENTIFICATION
Locus A, Square 75G, Locus 9
Supervisor: JRF Dates: 7/17 to 7/20

REMARKS
Remarks:
Discovery of probable compacted beaten earth at approximate level of flat stones of wall 7.

DESCRIPTION
Yellowish brown 10YR5/4 Sand....... 25% Fine Sand. . 100%
Texture: Clay....... 30% Silt....... 45% Round...... 40%
Particle Shape: Angular... 10% Sub-angular 10% Sub-rounded. 40%
Consistency: Hardness........ 3 Compaction.... Moderately Firm
Wettness........ Slightly Moist Structure...... Random

Inclusions:
Soil:
Marl Pockets........ 3/m2, 1.0-3.0 cm Brick Material........ 1/m2, 3.0 cm
Pebble Pockets........ 1/m2, 2.0 cm Ash Pockets 1/m2, 10.0 cm

Organic:
Bone........... Frequent Distribution...... Random

Measurements:
Length................ 3.000 m Width............. 2.000 m
Depth................ 0.120 to 0.200 m

Remarks:
Soil between 3 walls & balk taken up with Locus 9.

Surface Mat.: Beat Earth

Remarks:
Surface appears to seal against wall 7 and possibly seal against wall 4. Surface noticed after Locus 5 was excavated to a somewhat lower depth in locations adjacent to walls 4 and 6, which may thus indicate surface was taken up with Locus 5 in those areas. Surface clearly evident in grid locations 14 & 20. Small portions of mud brick in grid location 28. Gravelly area concentrated in grid locations 22 & 16.

STRATIGRAPHY
Under: 10, 11, 12
Over: 8, 7

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
20 912.70 912.50 22 912.65 912.53

POTTERY
Reg no. Description Field no. Date Level Total Period Material Photo Drawing

PHOTOGRAPHS
Number Date Subject

INTERPRETATION
Function:
Difficult to trace this surface to wall 6. Its number of inclusions and variation in compactness particularly near walls may indicate it was not a well worn surface and may have been made of fill.

Stratigraphy:
Possibility surface used in connection with and contemporaneously with walls 6 and 7.

Locus Date: IR2 Clean Locus
### Red Clay-Like Inclusions

**Color:** Red

**Texture:**
- Clay: 50%
- Silt: 35%
- Sand: 15%

**Particle Shape:**
- Angular: 10%
- Sub-angular: 10%
- Sub-rounded: 40%
- Round: 40%

**Consistency:**
- Hardness: 2
- Structure: Moderately Friable
- Wetness: Moderately Moist

**Remarks:**
Red clay-like inclusions in soil related to surface 9.

**Date:** 04/25/86

---

### Brick Material

**Color:** White

**Texture:**
- Clay: 70%
- Silt: 20%
- Sand: 10%
- Fine Sand: 100%

**Particle Shape:**
- Angular: 10%
- Sub-angular: 10%
- Sub-rounded: 40%
- Round: 40%

**Consistency:**
- Hardness: 2
- Structure: Moderately Friable
- Wetness: Moderately Moist

**Remarks:**
White bricky clay-like inclusions in soil related to surface 9.

**Date:** 04/25/86

---

### Ash Pockets

**Color:** Very dark gray

**Texture:**
- Clay: 25%
- Silt: 60%
- Sand: 15%
- Fine Sand: 100%

**Particle Shape:**
- Angular: 10%
- Sub-angular: 10%
- Sub-rounded: 40%
- Round: 40%

**Consistency:**
- Hardness: 2
- Structure: Very Friable
- Wetness: Moderately Moist

**Remarks:**
White clays in soil related to surface 9.

**Date:** 04/25/86

---

### Brown Brick Material

**Color:** Very pale brown

**Texture:**
- Clay: 55%
- Silt: 30%
- Sand: 15%
- Fine Sand: 100%

**Particle Shape:**
- Angular: 10%
- Sub-angular: 10%
- Sub-rounded: 40%
- Round: 40%

**Consistency:**
- Hardness: 2
- Structure: Moderately Friable
- Wetness: Moderately Moist
SOIL LOCUS SHEET

IDENTIFICATION
04/25/86

U84 Field A, Square 7K50, Locus 10

Remarks:
Separability: Top-Very Clear Bottom-Average

DESCRIPTION
U84 Field A, Square 7K50, Locus 10

REASON
Remarks:
Separability:
DESCRIPTION
Color: Dark yellowish brown
Texture: Clay..... 30% Silt...... 45% Sand..... 25%
Particle Shape: Angular..... 10% Sub-angular 10% Sub-rounded 40% Round..... 40%
Consistence: Compactness: Very Firm Wetness: Moderately Moist

Inclusions:
Soil: Muli Pockets......... 3/m2, 1.5 cm

Artifacts:
Pottery: Frequent
Shells: 3

Measurements:
Length: 3.500 m
Depth: 0.290 to 0.725 m
Degree of Slope: 12 deg

STRATIGRAPHY
Under:
Top- -Very Cle
Bottom--Average
Dark yellowish brown 10YR4/4
Clay ...... 30% Silt ....... 45% Sand..... 25%
Angular ___ 10% Sub-angular
Compactness.............Very Firm
Consistence: Wetness: Moderately Moist

Inclusions:
Distribution........... Random

Organic:
Bone .................... Rare
Charcoal ................ 6/m2, avg. 1.0 cm

POTTERY

Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

100 7/25 71 7/20 81 19 1 128
101 7/25 71 7/20 81 19 1 128
102 7/25 71 7/20 81 19 1 128
103 7/25 71 7/20 81 19 1 128
104 7/25 71 7/20 81 19 1 128
105 7/25 71 7/20 81 19 1 128
106 7/25 71 7/20 81 19 1 128
107 7/25 71 7/20 81 19 1 128
108 7/25 71 7/20 81 19 1 128
109 7/25 71 7/20 81 19 1 128

PHOTOGRAPHS

•
<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/02/19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21/02/19</td>
<td>REL OF 10 TO 9 &amp; 4,6,7</td>
<td></td>
</tr>
<tr>
<td>22/02/19</td>
<td>REL OF 10 TO 9 &amp; 4,6,7</td>
<td></td>
</tr>
<tr>
<td>23/02/19</td>
<td>REL OF 10 TO 9 &amp; 4,6,7</td>
<td></td>
</tr>
<tr>
<td>07/08/23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/08/24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06/02/25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29/08/24</td>
<td>2 VESSELS, SHERDS IN SITU</td>
<td></td>
</tr>
<tr>
<td>33/08/24</td>
<td>2 JUGS, LAMP IN SITU</td>
<td></td>
</tr>
<tr>
<td>34/08/24</td>
<td>2 JUGS, LAMP IN SITU</td>
<td></td>
</tr>
<tr>
<td>09/08/24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19/02/26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18/08/27</td>
<td></td>
<td>WALL 12 BEFORE REMOVAL</td>
</tr>
</tbody>
</table>

**Interpretation**

Function:

Stratigraphy:

Uneven surface with some protruding rocks, not consistently of same hardness and not clearly traceable to wall 6 in west balk. Relations to walls 6 & 7 remain unclear. For descriptive purposes Locus 10 equals Locus 13, although 10 lies above 13, from which it was arbitrarily separated in the NW quadrant of 10 and in the area north of wall 12.

**Locus Date:**

LOCUS SUMMARIES

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>04/25/86</td>
<td>LOCUS A.7K50: 10</td>
<td></td>
</tr>
</tbody>
</table>

**Soil Locus Sheet**

**Identification**

UBS Field A, Square 7K50, Locus 10 (Supplement)

**Inclusion—Brick Material**

**Description**

Color: Reddish yellow 7.5YR6/6
Texture: Clay... 42% Silt... 35% Sand... 20% Fine Sand... 10%
Particle Shape: Angular... 10% Sub-angular... 10%
Compactness: 3 Slightly Moist
Wetness: Slightly Firm
Structure: Random

**Soil Locus Sheet**

**Identification**

UBS Field A, Square 7K50, Locus 10 (Supplement)

**Inclusion—Ash Pockets**

**Description**

Color: Very dark gray 10YR3/1
Texture: Clay... 25% Silt... 60% Sand... 15% Fine Sand... 10%
Particle Shape: Angular... 10% Sub-angular... 10%
Compactness: Very Friable
Wetness: Moderately Moist
Structure: Random
 Probable Line of Stones

**DESCRIPTION**

**Material:** Stone .................. 100%

**Plan:** Squared Rectangular

**Measurments:** Length ........... 1.750 m

**Remarks:** See Installation Supplement.

**INTERPRETATION**

The ephemeral nature of this "wall" indicates that it was only of temporary significance, perhaps to mark off an area for some domesticated animals.

Lying upon surface 10 indicates it must have been used contemporaneously with it.
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION

U84 Field A, Square 7K50, Locus 12

REASON

Remarks: Stones in line and perpendicular to wall 4.
Separability: Top - Very Clear Bottom - Very Clear

DESCRIPTION

Material: Limestone: 100%
Masonry: Wall Stones: Small Boulder: 100%
Chinkstones: Cobble: 100%
Dressing: Semi-hewn: 100%
Mortar: Dry-laid: 100%

Construction: Style: Boulder & Chink Support: Free-standing
Courses: 1
Rows: 1 to 2

Measurements: Length: 2.550 m Width: 0.600 to 0.650 m
Height: 0.170 to 0.250 m Orientation: 105 deg

Preservation: Partial Superstructure: Mostly
Remarks: Top Plan for detailed levels, immediately above and beside the stones of this wall soil was compacted to a high degree, very difficult to pick and loosen, even "encrusted" on the rock surface.

STRATIGRAPHY

Under: 9
Over: 13
Sealed Agnst By: 10

LEVELS

Loc Top Bottom Transit

PHOTOGRAPHS

Number Date Subject

07/05/23 07/23 PROGRESS OF EXCAVATION
07/05/24 07/24 PROGRESS OF EXCAVATION
07/05/25 07/25 PROGRESS OF EXCAVATION
07/05/26 07/26 REL OF SUR 10 TO WALL 12

INTERPRETATION

Function: The southern row has been robbed evidently in the E portion near wall 4B. Since it is only one course, its function must have been of some temporary nature.

Stratigraphy: At approximately the same level as Locus 11 but obviously of better worked stones. Since it abuts wall 4B it is obviously later, but since its W portion runs into rock tumble it is difficult to determine its western terminal point.
IDENTIFICATION
USA Field A, Square 7KS0, Locus 13

REASON
Excavation of 15 cm of surface 10.

SEPARABILITY
Top-Average

DESCRIPTION

COLOR:
Yellowish brown

TEXTURE:
Clay........ 30%
Silt........ 45%
Sand........ 25%
Fine Sand.... 100%

PARTICLE SHAPE:
Angular ___ 10%
Sub-angular 10%
Sub-round... 40%
Round ...... 40%

CONSISTENCY:
Hardness... 1
Compactness Moderately Friable

SEPARABILITY:
Wetness... Moderately Moist

STRUCTURE:
Random

INCLUSIONS:

Soil:
Nari Pockets .... 8/m², 0.5-2.0 cm
Brick Material .... 6/m², 1.0-2.5 cm

Stone:
Small Pebbles .... 40/m²
Medium Pebbles .... 20/m²
Large Pebbles .... 10/m²

Organic:
Bone ........ Frequent
Charcoal ........ 10/m², avg. 1.5 cm

ARTIFACTS:
Pottery ........ Frequent
Tabun fragments .... 5

FLINT:
Flint ........ 10

DISTRIBUTION:
Random

MEASUREMENTS:
Length ........ 2.500 m
Width .......... 1.500 m
Depth .......... 0.187 to 0.195 m

REMARKS:
Lump of clay-like substance found in grid 16 of mixed colors (5Y5/2 olive gray and 7.5YR5/8 strong brown) along with charcoal. Two entire vessels found: 1 cypriot/phonecian? ware juglet at bottom level 911.874 m and 1 small vessel at bottom level of 911.917. Other vessels found adjacent in lower section of SE quad of Locus 10. Locus 13 is located under NE quadrant (see daily journal) of Locus 10 and area of Locus 10 north of wall 12.

STRATIGRAPHY
Under: 10, 12
Over: 14
Seals against: 4B

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
1 912.02 911.83 X 17 912.10 911.91 X 22 912.05 911.87 x

POTTERY

Date Count Baskets Loc Preservation Comments Reading Pub
86 7/24 21 80 28 Late IR2, early IR2 passing mendable bowl
87 7/24 10 93 20 Late IR2, few early IR2 Cuprit/Stone jug Early IR2
88 7/24 10 93 20 Late IR2, few early IR2
90 7/24 3/28 6 Late IR2, few early IR2
91 7/24 10 93 20 Late IR2, few early IR2
92 7/24 10 93 20 Late IR2, few early IR2
93 7/24 10 93 20 Late IR2, few early IR2
94 7/24 10 93 20 Late IR2, few early IR2
95 7/24 10 93 20 Late IR2, few early IR2
96 7/24 10 93 20 Late IR2, few early IR2
97 7/24 10 93 20 Late IR2, few early IR2
98 7/24 10 93 20 Late IR2, few early IR2
99 7/24 10 93 20 Late IR2, few early IR2
100 7/24 10 93 20 Late IR2, few early IR2
101 7/24 10 93 20 Late IR2, few early IR2
102 7/24 3/28 6 Late IR2, few early IR2
103 7/24 3/28 6 Late IR2, few early IR2
104 7/24 3/28 6 Late IR2, few early IR2
105 7/24 3/28 6 Late IR2, few early IR2

OBJECTS

Rg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
1 Chain link--iron 1 7/24 16 1
2 Sling stone 2 7/24 16 2
3 Basalt stone (grinder?) 3 7/24 16 1
4 Grinding stones--rectangular 4 7/24 16 3
5 Grinding stones 5 7/30 11 2
6 Sling stones 6 7/30 11 2
7 Stone with hole in center 7 7/30 11 1

PHOTOGRAPHS

Number Date Subject
09/08/24 07:24 PROGRESS OF EXCAVATION
33/08/24 07:24 2 JUGS, LAMP IN SITU
15/08/27 07:27 PROGRESS OF EXCAVATION
29/08/24 07:24 2 VESSELS, SHARDS IN SITU
34/08/24 07:24 2 JUGS, LAMP IN SITU
16/08/27 07:27 WALL 12 BEFORE REMOVAL

INTERPRETATION

Function:
Much of the broken pottery (in abundance) along with numerous inclusions indicates Locus 13 may have been fill material below Locus 10.

Stratigraphy:
Early IR2 pottery (whole mendable vessels) does not seem consistent with late IR2 nature of architecture. Again, this may indicate fill.

Locus Date: 102
IDENTIFICATION
US Field A, Square 7K50, Locus 13 (Supplement)
Supervisor: JRF Dates: 7/24 to 7/30

DESCRIPTION
Color: Strong brown 7.5YR4/6
Texture: Clay .... 40% Silt .... 45% Sand .... 15% Fine Sand .. 100%
Particle Shape: Angular ... 10% Sub-angular 5% Sub-round... 45% Round ... 40%
Consistency: Hardness ... 2 Wetness .... Slightly Dry Structure .... Random

IDENTIFICATION
US Field A, Square 7K50, Locus 13 (Supplement)
Supervisor: JRF Dates: 7/24 to 7/30

DESCRIPTION
Color: Very pale brown 10YR5/4
Texture: Clay .... 30% Silt .... 45% Sand .... 25% Fine Sand .. 100%
Particle Shape: Angular ... 10% Sub-angular 10% Sub-round... 45% Round ... 40%
Consistency: Hardness ... 3 Wetness .... Moderately Moist Structure .... Slightly Firm

INTERPRETATION
Function: Surface on which several clusters of early & late IR2 pottery were discovered.
Stratigraphy: Awaits further excavation to determine this.
SOIL LOCUS SHEET

IDENTIFICATION
USA Field A, Square 7K50, Locus 15 (Supplement)
East Balk Removal

REASON
Remarks: Soil with clay/bricky texture as in square 7K51.
Separability: Top-Clear

DESCRIPTION
Color: Light yellowish brown 10YR6/4
Texture: Sand ....... 10% Fine Sand .... 100%
Particle Shape: Angular ... 10% Sub-angular 10%
Consistence: Slight Moist
Measurements: Length ........... 1.650 m Width ................. 0.610 m

STRATIGRAPHY
Under: 
Equals: A.7X51:12, A.7K51:13

LEVELS
Loc Top Bottom Transit
15 912.71 X 18 913.10

PHOTOGRAPHS
Number Date Subject
27/11/03 08/03 PROG OF EXC, E BALK REM

INTERPRETATION
Function: Possibly threshold with door stop?
Stratigraphy: Contemporaneous with wall 4 since the two are bonded.
Locus Date: 1R2

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
USA Field A, Square 7K50, Locus 16

REASON
Remarks: Portion of wall 3 in square 7K51 which extends into E balk of 7K50.
Separability: Top- Very Clear

DESCRIPTION
Material: Limestone .............. 100%
Masonry: Wall Stones: Small Boulder ....... 60%
Cheimstones: Cobble .............. 100%
Dressing: Seal-Hewn .............. 100%
Mortar: Dry-laid .............. 100%
Facing: Unfaced
Construction: Style .............. Boulder & Chink
Support: Support .............. Free-standing
Courses: 2 to 3
Rows: 2
Measurements: Length ........... 1.450 m Width ............. 1.050 m
Preservation: Partial Superstructure: Most

STRATIGRAPHY
Under: 5
Equals: A.7K51:13
Sealed At: By: 15
Bounded By: 4

PHOTOGRAPHS
Number Date Subject
27/11/02 08/02 PROG OF EXC, E BALK REM

INTERPRETATION
Function: Possibly threshold with door stop?
Stratigraphy: Contemporaneous with wall 4 since the two are bonded.
Locus Date: 1R2
**ARCHITECTURAL LOCUS SHEET**

**IDENTIFICATION**

U84 Field A, Square 7K50, Locus 17

Supervisor: JRF  Dates: 8/1 to

**REASON**

Remarks: Portion of wall 5 in square 7K51 which extends into E balk of 7K50.

**DESCRIPTION**

Material: Limestone .................. 100%

Masonry:

Wall Stones: Small Boulder .............. 100%

Dressing: Semi-hewn .................. 100%

Mortar: Dry-laid ................... 100%

Facing: Unfaced ........................


Courses: 2

Rows: 1

Measurements: Length: 0.400 m  Width: 0.350 m

Orientation: 118 deg

Preservation: Partial Suprastructure: Most

Remarks: Continuation of wall 5 of square 7K51 (7 courses and 2 rows) of which bottom courses are hidden in E balk and a row obscured in N balk.

**STRATIGRAPHY**

Under: 3

Equals: A.7K51:15

Abuts: 48

Sealed Against By: 15

**PHOTOGRAPHS**

Number Date Subject

44/11/02 08/02 PROG OF EXC, E BALK REM

27/11/03 08/03 PROG OF EXC, E BALK REM

**INTERPRETATION**

Function: Small construction in relation to other walls indicates possible use other than defense purposes.

Stratigraphy: Later than wall 4 and perhaps related to some structure to the NE of square 7K50.

Locus Date: 182

---

**ARCHITECTURAL LOCUS SHEET**

**IDENTIFICATION**

U84 Field A, Square 7K50, Locus 18

Supervisor: JRF  Dates: 8/1 to

**REASON**

Remarks: Exposure of wall in east stub of S balk.

**DESCRIPTION**

Material: Limestone .................. 100%

Masonry:

Wall Stones: Small Boulder .............. 20%

Medium Boulder .................. 60%

Large Boulder .................. 20%

Chinkstones: Pebble ............ 10%

Cobble .................. 90%

Dressing: Unknown ............... 15%

Semi-hewn ............. 85%

Mortar: Dry-laid ........... 100%

Facing: Unfaced ........................


Courses: 4

Rows: 1

Measurements: Length: 2.000 m  Width: 0.100 to 0.350 m

Orientation: 95 deg

Preservation: Partial Suprastructure: Most

Remarks: Only the N face of wall protrudes into square 7K50, wall corners in grid location 35, running S into square 7K40 and east into square 7K51. It is not clear regarding relation to walls 4A and 7 in square 7K50. It seems to touch corners but which abuts which is not clear. Orientation slightly offset in comparison to wall 4 in square 7K41.

**STRATIGRAPHY**

Under: 3

Equals: A.7K40:5, A.7K41:4

Sealed Against By: 5

**LEVELS**

Loc Top  Bottom Transit

S 913.54

**PHOTOGRAPHS**

Number Date Subject

44/11/02 08/02 PROG OF EXC, E BALK REM

30/11/03 08/03 EAST STUB ON SOUTH BALK

**INTERPRETATION**

Function: Large enough for defense purposes or use in public structure but corner stones not well worked.

Stratigraphy: Possible relation to walls 4A and 7.

Locus Date: 182
04/25/86

SOIL LOCUS SHEET

IDENTIFICATION
UBS Field A, Square 7K50, Locus 19 (Supplement)

East Balk Removal

REASON
Remarks:
Soil at base of krater found in balk removal; because of end of excavation, locus not analyzed.

Separability:
Top-Average

DESCRIPTION
Measurements:
Length: 2.000 m
Width: 1.000 m

Remarks:
Located in E balk between walls 16 and 18.

STRATIGRAPHY
Under:
5

Levels against:
48, 7, 16, 18

LEVELS
Loc Top Bottom Transit

Level at which Locus 13 ended in adjacent square 7K51.

Dates: 8/5 to 30 912.45

04/25/86

SOIL LOCUS SHEET

IDENTIFICATION
UBS Field A, Square 7K50, Locus 20 (Supplement)

East Balk Removal

REASON
Remarks:
Excavation to level at which Locus 13 ended in adjacent square 7K51.

Separability:
Top-Clear

DESCRIPTION
Measurements:
Length: 1.700 m
Width: 1.000 m

Remarks:
Located in E balk between walls 16 and 17. Excavation ends at this level, therefore soil not analyzed.

STRATIGRAPHY
Under:
15

Levels against:
48, 16, 17

LEVELS
Loc Top Bottom Transit

Locus unexcavated.

Dates: 8/5 to 18 912.71
IDENTIFICATION
U84 Field A, Square 7K51, Locus 1
Remain: Topsoil,
Separability: Bottom-Very Clear

DESCRIPTION
Color: Yellowish brown
Texture: Clay
Particle Shape: Angular
Consistence: Hardness
Wetness: Moderate
Inclusions:
Stone: 10YR5/4
Silt: 3X
Sub-angular: 10X
1
Moderately Dry
Soil:
Stone:
Artifact:
Organic:
Measurements:
Remarks:

STRATIGRAPHY
Remarks:
LEVELS
Loc Top Bottom Transit
31 913.82 913.67
21 913.72
11 913.66
35 913.56
27 913.50

POTTERY
No Date Count Baskets Loc Preservation Comments Reading
1 6/28 54/482 59
1 6/29 55/482 59
1 6/29 56/482 59
1 6/29 57/482 59
1 6/29 58/482 59
1 6/29 59/482 59
1 6/29 60/482 59
1 6/29 61/482 59
1 6/29 62/482 59
1 6/29 63/482 59
1 6/29 64/482 59
1 6/29 65/482 59
1 6/29 66/482 59
1 6/29 67/482 59
1 6/29 68/482 59
1 6/29 69/482 59
1 6/29 70/482 59

PHOTOGRAPHS
Number Date Subject
04/07/28 06/28 PRE-EXCAVATION
05/07/28 06/28 PROGRESS OF EXCAVATION
06/07/28 07/02 PROGRESS OF EXCAVATION
07/07/28 07/04 PROGRESS OF EXCAVATION
08/07/28 07/06 PROGRESS OF EXCAVATION
09/07/28 07/09 PROGRESS OF EXCAVATION
10/07/28 07/12 PROGRESS OF EXCAVATION

DRAWING
Balks: N,S,E,W

Interpretation:
Function: Topsoil,
IDENTIFICATION

U84 Field A, Square 7K51, Locus 2

IDENTIFICATION

U84 Field A, Square 7K51, Locus 2

REMARKS:

Remarks:

Separability:

Top-Very Clear

Bottom-Clear

DESCRIPTION

Color:

Yellowish brown 10YR5/4

Texture:

Clay...... 30% Sand...... 45% Round...... 15%

Sub-angular 30% Sub-rounded 45% Round...... 15%

Particle Shape:

Angular ___ 10% Sub-angular 30%

Compactness: ......... Very Crumbly

Consistence:

Hardness: .......... 1

Wetness: .......... Moderately Dry

Inclusions:

Small Pebbles: 700/m2 Medium Pebbles: 10/m2

Small Cobble: 6/m2 Medium Cobble: 10/m2

stone:

Artifacts:

Interpretation:... Frequent Tabun Fragments: 4

Distribution:...... Random

Organic:

Bone:.............. Rare

Distribution:...... Random

Measurements:

Length: ......... 1.800 m

Width: ......... 1.600 m

Depth: ......... 0.360 to 0.490 m

Remarks:

May be a continuation of topsoil-pottery in preserved in large sherds. 3 different soil colors are present, mainly 10YR5/4 with 10YR3/3 spotted and 10YR4/6.

STRATIGRAPHY

LEVELS

Loc Top Under

Date 913.43 913.07 10

Baskets 182 X

Comments

Eleven sherds. 3 different soil colors are present, mainly 10YR5/4 with 10YR3/3 spotted and 10YR4/6.

OBJECTS

Reg. no. Description

Field no. Date Pail Loc Total Period Material Photo Drawing

EARLY GLASS

1 07/04

GRINDING STONE

2 07/05

PHOTOGRAPHS

Number Date Subject

Number Date Subject

10/02/04 07/04 PROGRESS OF EXCAVATION 05/02/30 07/30 WEST BALK

BIOGRAPHY

10/02/04 07/04 PROGRESS OF EXCAVATION 05/02/30 07/30 SOUTH BALK

DRAWINGS

Top Plans: Locus 3.

Balks: S,W

INTERPRETATION

Function: Topsoil.

Stratigraphy: Under topsoil, frequent pottery.
IDENTIFICATION
UN Field A, Square 7K51, Locus 3

REASON
Remarks: Evident wall. Separability: Top--Very Clear

DESCRIPTION
Material: Cherty Limestone .......... 100%
Masonry:
Wall Stones: Cobble ................. 10%
Medium Boulder ............ 35%
Chinkstones: Pebble ................. 5%
Dressing: Unhewn ..................... 25%
Mortar: Dry laid ............... 100%
Facing: Unfaced
Construction: Style ................... Boulder & Chink
Courses: 1 to 6
Rows: 2
Measurements: Length .................. 5.880 m
Height .................. 0.780 to 2.090 m
Orientation ............. 118 deg
Lean Degree............. 0 deg

STRATIGRAPHY
Under: 1
Sealed Against By: 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
26 912.79 21 913.24 11 913.14
16 912.93 16 913.44

PHOTOGRAPHS
Number Date Subject Number Date Subject
10/02/04 07/04 PROGRESS OF EXCAVATION 13/02/15 07/19 PROGRESS OF EXCAVATION 07/02/26 07/26 PROGRESS OF EXCAVATION
10/02/04 07/04 PROGRESS OF EXCAVATION 13/02/16 07/16 PROGRESS OF EXCAVATION 07/02/26 07/26 PROGRESS OF EXCAVATION
17/02/04 07/04 PROGRESS OF EXCAVATION 07/02/17 07/17 PROGRESS OF EXCAVATION 05/08/31 07/31 PROGRESS OF EXCAVATION
04/02/05 07/05 PROGRESS OF EXCAVATION 10/02/18 07/18 PROGRESS OF EXCAVATION 07/11/01 08/01 PROGRESS OF EXCAVATION
10/02/06 07/06 PROGRESS OF EXCAVATION 07/02/19 07/19 PROGRESS OF EXCAVATION 04/02/50 07/50 WEST BALK
10/02/09 07/09 PROGRESS OF EXCAVATION 06/02/20 07/20 PROGRESS OF EXCAVATION 05/02/50 07/50 WEST BALK
10/02/10 07/10 PROGRESS OF EXCAVATION 08/02/23 07/23 PROGRESS OF EXCAVATION 06/02/30 07/30 SOUTH BALK
17/02/11 07/11 PROGRESS OF EXCAVATION 10/02/24 07/24 PROGRESS OF EXCAVATION 07/02/50 07/50 SOUTH BALK
10/02/12 07/12 PROGRESS OF EXCAVATION 09/02/25 07/25 PROGRESS OF EXCAVATION 03/02/50 07/50 WEST BALK

DRAWINGS
Top Plans: Loc 7, 15, 17, 18, 20.
Balks: S, E, W

INTERPRETATION
Function: Possibly part of a gate house system in the Iron Age. Not enough of this complex has been revealed to make even an intelligent guess.
Stratigraphy: Found under Locus 1, the topsoil, continuing through to the final level, the base not as of yet reached.
SOIL LOCUS SHEET

04/26/86

IDENTIFICATION
US Field A, Square 7K51, Locus 4
Supervisor: MS Dates: 7/3 to 7/13

REASON
Remarks: Soil fill between Loci 3 & 5 (parallel walls).
Separability: Top--Very Clear Bottom--Average

DESCRIPTION
Color: Yellowish brown 10YR5/4
Texture: Clay........ 20% Silt........ 40% Sand....... 30%
Particle Shape: Sub-rounded 20% Sub-rounded 40% Sub-rounded 30%
Consistence: Hardness...... 1 Width...... Slightly Dry Structure...... Random

Inclusions: Soil: None pockets........... 5/m2, 0.2-1.0 cm Brick Material.... 3/m2, 2.0 cm
Stone: Medium Pebbles...... 200/m2 Medium Pebbles...... 200/m2
Large Pebbles...... 500/m2 Large Pebbles...... 10/m2
Medium Cobble........ 5/m2 Medium Cobble........ 5/m2
Artifacts: None...........
Organic: None............... 10/m2, avg. 0.6 cm

Measurements:
Length........ 3.250 m
Width....... 2.430 m
Depth...... 0.160 to 0.330 m

Remarks:
Topsoil. The first 5 cm was removed before the locus was begun. Yellowish 5-1.5 m. One of these clay patches was cut through for the E balk of this locus.

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>915.38</td>
<td>913.45</td>
<td>913.20</td>
<td>912.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>913.26</td>
<td>913.08</td>
<td>913.17</td>
<td>913.01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>7/12</td>
<td>28/96</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>7/12</td>
<td>13/141</td>
<td>6</td>
<td></td>
<td>IR2, PEBB 18</td>
</tr>
<tr>
<td>47</td>
<td>7/12</td>
<td>26/190</td>
<td>8</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>48</td>
<td>7/12</td>
<td>27/347</td>
<td>12</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>49</td>
<td>7/12</td>
<td>21/143</td>
<td>6</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>50</td>
<td>7/13</td>
<td>26/143</td>
<td>9</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>51</td>
<td>7/13</td>
<td>31/121</td>
<td>12</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>52</td>
<td>7/13</td>
<td>33/122</td>
<td>15</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>53</td>
<td>7/13</td>
<td>22/102</td>
<td>12</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>54</td>
<td>7/13</td>
<td>21/170</td>
<td>11</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>55</td>
<td>7/13</td>
<td>20/161</td>
<td>15</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>56</td>
<td>7/13</td>
<td>14/125</td>
<td>6</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>57</td>
<td>7/17</td>
<td>23/179</td>
<td>16</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>58</td>
<td>7/17</td>
<td>17/139</td>
<td>9</td>
<td></td>
<td>IR2, UD</td>
</tr>
<tr>
<td>59</td>
<td>7/17</td>
<td>10/167</td>
<td>5</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>62</td>
<td>7/17</td>
<td>7/133</td>
<td>9</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>74</td>
<td>7/17</td>
<td>32/131</td>
<td>12</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>75</td>
<td>7/17</td>
<td>27/114</td>
<td>6</td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>76</td>
<td>7/17</td>
<td>20/116</td>
<td>5</td>
<td></td>
<td>IR2, UD</td>
</tr>
<tr>
<td>77</td>
<td>7/18</td>
<td>14/140</td>
<td>45</td>
<td></td>
<td>IR2</td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Number Date Subject</th>
<th>Number Date Subject</th>
<th>Number Date Subject</th>
<th>Number Date Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/02/04</td>
<td>07/04</td>
<td>PROGRESS OF EXCAVATION</td>
<td>09/09/09</td>
<td>07/09</td>
<td>Locus 4 BEFORE REMOVAL</td>
</tr>
<tr>
<td>10/02/04</td>
<td>07/04</td>
<td>PROGRESS OF EXCAVATION</td>
<td>10/01/10</td>
<td>07/10</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>10/02/04</td>
<td>07/04</td>
<td>PROGRESS OF EXCAVATION</td>
<td>13/02/13</td>
<td>07/13</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>04/02/05</td>
<td>07/05</td>
<td>PROGRESS OF EXCAVATION</td>
<td>13/02/16</td>
<td>07/16</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>10/02/06</td>
<td>07/06</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/02/17</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

DRAWINGS

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Number Date Subject</th>
<th>Number Date Subject</th>
<th>Number Date Subject</th>
<th>Number Date Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/02/04</td>
<td>07/04</td>
<td>PROGRESS OF EXCAVATION</td>
<td>09/09/09</td>
<td>07/09</td>
<td>Locus 4 BEFORE REMOVAL</td>
</tr>
<tr>
<td>10/02/04</td>
<td>07/04</td>
<td>PROGRESS OF EXCAVATION</td>
<td>10/01/10</td>
<td>07/10</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>13/02/13</td>
<td>07/13</td>
<td>PROGRESS OF EXCAVATION</td>
<td>04/02/30</td>
<td>07/30</td>
<td>WEST BALK</td>
</tr>
<tr>
<td>07/02/17</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/02/17</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function:
Unit: Locus 3, 4
Baskets: E, W

Stratigraphy:
Related to Locus 2, above 12. A patchy compacted clay material, under Locus 1.
04/26/86

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION

U64 Field A, Square 7K51, Locus 5

REASON

Remarks: Clear wall face. Separability: Top-Very Clear

DESCRIPTION

Material: Cherty Limestone .......... 100%

Masonry:

Wall Stones: Cobble ........... 20%

Chinkstones: Pebble ............. SX

Oressing: Semi-hewn ............... 100X

Mortar: Dry-laid .................. 100X

Facing: Unfaced

Construction: Style....................... Boulder & Chink

Courses: 2 to 8

Rows: 2

Measurements: Length .......1 ........... 5.350 m

Width: ................. 0.300 to 0.690 m

Height: ................. 1.550 m

Orientation: ................. 117 deg

Lean Degree ............. 0 deg

Remarks: A smaller much more finely built wall than

STRATIGRAPHY

Under: 1

Sealed Aanut By: 1, 4, 6, 12, 13, 14, 16, 17, 18

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit

7 913.15 16 913.48 17 913.53

PHOTOGRAPHS

Number Date Subject

10/02/04 07/04 PROGRESS OF EXCAVATION

18/02/04 07/04 PROGRESS OF EXCAVATION

17/02/04 07/04 PROGRESS OF EXCAVATION

06/08/05 07/05 PROGRESS OF EXCAVATION

10/02/06 07/06 PROGRESS OF EXCAVATION

19/02/06 07/06 PROGRESS OF EXCAVATION

10/02/10 07/10 PROGRESS OF EXCAVATION

13/02/16 07/15 PROGRESS OF EXCAVATION

DRAINGS

Top Plans: Loc 6, 17, 18

Balks: N, E, W

INTERPRETATION

Function: No idea.

Found under Locus 1 and continuing on as far as the excavation did with no end in sight.

04/26/86

SOIL LOCUS SHEET

IDENTIFICATION

U64 Field A, Square 7K51, Locus 6

DESCRIPTION

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit

11 913.43 10 913.41

PHOTOGRAPHS

Number Date Subject

10/02/04 07/04 PROGRESS OF EXCAVATION

10/02/06 07/06 PROGRESS OF EXCAVATION

19/02/06 07/06 PROGRESS OF EXCAVATION

10/02/04 07/04 PROGRESS OF EXCAVATION

10/02/10 07/10 PROGRESS OF EXCAVATION

08/02/19 07/19 PROGRESS OF EXCAVATION

06/08/20 07/20 PROGRESS OF EXCAVATION

09/02/25 07/25 PROGRESS OF EXCAVATION

04/02/30 07/30 WEST BALK

04/08/05 07/05 PROGRESS OF EXCAVATION

04/08/23 07/23 PROGRESS OF EXCAVATION

10/08/18 07/18 PROGRESS OF EXCAVATION

07/11/01 08/01 PROGRESS OF EXCAVATION

03/02/13 07/13 PROGRESS OF EXCAVATION

03/02/26 07/26 PROGRESS OF EXCAVATION

05/02/31 07/31 PROGRESS OF EXCAVATION

05/08/31 07/31 PROGRESS OF EXCAVATION

10/08/24 07/24 PROGRESS OF EXCAVATION

10/08/24 07/24 PROGRESS OF EXCAVATION

07/02/19 07/19 PROGRESS OF EXCAVATION

07/11/01 08/01 PROGRESS OF EXCAVATION

04/02/30 07/30 WEST BALK

07/02/26 07/26 PROGRESS OF EXCAVATION

04/02/30 07/30 WEST BALK

07/02/19 07/19 PROGRESS OF EXCAVATION

07/25/01 07/25 PROGRESS OF EXCAVATION
**IDENTIFICATION**

U84 Field A, Square 7K51, Locus 7

**REASON**

Remarks: Subsidiary wall.

**DESCRIPTION**

Material: Cherty limestone ........ 100%

Masonry:

Wall Stones: Cobble ................. 10%

Chinkstones: Cobble ................. 100%

Dressing: Semi-hewn ................. 100%

Mortar: Dry-laid ..................... 100%

Facing: Unfaced

Construction: Style .................. Boulder & Chink

Courses: 2 to 8

Rows: 3

Measurements: Length.................. 1.230 m

Height .................... 0.200 to 1.680 m

Preservation: Partial Superstructure: Most

Lean Degree ............ 0 deg

Remarks: A subsidiary wall running west from wall 3.

**STRATIGRAPHY**

Sealed Aganst By: 1, 2, 5, 9, 10, 11, 15

**LEVELS**

Loc Top - Bottom Transit

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>913.39</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>913.37</td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/08/09</td>
<td>07/09</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>13/02/13</td>
<td>07/13</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>05/08/20</td>
<td>07/20</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/02/13</td>
<td>07/16</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/02/17</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/02/23</td>
<td>07/23</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/02/25</td>
<td>07/25</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

**DRAWINGS**

Top Plans: Loc 3, 15, 20

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INTERPRETATION**

Function: Support for wall 3 perhaps, put in at a later date.

Stratigraphy: Found under Locus 1, continues 7 courses to the base of the pit where further excavation was impossible.
SOIL LOCUS SHEET

FIELD A: Square 7K31, Locus 8

IDENTIFICATION
US Field A, Square 7K31, Locus 8

REASON
Remarks: Soil color change.

DESCRIPTION
Soil Color:
Top - Clear
Bottom - Very Clear

Texture:
Clay .......... 5%
Silt .......... 75%
Sand .......... 20%

Particle Shape:
Angular .......... 5%
Sub-angular ....... 20%
Sub-round ........ 45%
Round .......... 30%

Consistency:
Hardness .......... 0
Wetness .......... Very Dry
Compactness .......... Very Loose
Structure ........ Wind

Inclusions:
Stone:
Small Pebbles .......... 400/m2
Large Pebbles .......... 10/m2
Medium Pebbles ....... 3/m2
Small Cobbles .......... 2/m2
Large Pebbles .......... 10/m2
Small Boulders .......... 1/m2

Organic:
Bone .......... Frequent
Charcoal .......... 6/m2, avg. 0.6 cm

Seeds .......... 2/m2

Measurements:
Length .......... 1.800 m
Width .......... 1.770 m
Depth .......... 0.050 to 0.110 m

Remarks:
Thin ash layer seemingly covering the whole area but concentrated in the SW side.

LEVELS
Loc Top Bottom Transit
33 913.07 912.96
31 913.06 913.01
19 913.03 913.02

POTTERY
Pail Date Count Baskets Location Comments Reading Pub
32 7/6 7/38 IR2

PHOTOGRAPHS
Number Date Subject
10/02/06 07/06 PROGRESS OF EXCAVATION 05/02/30 07/30 WEST BALK
06/02/30 07/30 SOUTH BALK

BIOLOGICAL SAMPLES
Flotation sample

DRAWINGS
Top Plans:
Loc 3, 7.

Balks:
S, W

INTERPRETATION
Function:
Destruction? Hearth? or merely ash pockets in soil or tumble.

Stratigraphy:
It continues in Locus 9, it is under Locus 2, and is in the SW corner directly over the possible surface of Locus 10.
IDENTIFICATION

U84 Field A, Square 7K51, Locus 9

Supervisor: MS

Dates: 7/6 to 7/9

REASON

Remarks:
End of soil with ash pockets, obvious clay debris.

Separability:

Top--Very Clear
Bottom--Clear

DESCRIPTION

Color:
Yellowish brown

Texture:
Silt........... 25%
Sub-angular 30%
Sand........... 25%
Sub-rounded 45%
Round........... 10%

Consistency:
Hardness........... 2
Compactness........... Moderately Friable

Inclusions:

Soil:

10YR5/4
Matrix Pockets........... 6/m2, 1.0-6.0 cm
Brick Material ........... 2/m2, 1.0-3.0 cm

Stone:

Small Pebbles........... 400/m2
Medium Pebbles........... 30/m2
Large Pebbles........... 10/m2
Medium Cobble........... 5/m2
Large Cobble........... 2/m2

Artifacts:

Tabun Fragments........... 5
Flint........... 2

Organic:

Charcoal........... 2/m2, avg. 1.0 cm

Inclusions:

Soil:

Clay........... 4/m2, 6.0 cm

Stone:

Small Pebbles........... 400/m2
Medium Pebbles........... 30/m2
Large Pebbles........... 10/m2
Medium Cobble........... 5/m2
Large Cobble........... 2/m2

Artifacts:

Tabun Fragments........... 5
Flint........... 2

Organic:

Charcoal........... 2/m2, avg. 1.0 cm

Surface Mat'l:

Random

Measurements:

Length........... 1.000 m
Width........... 1.400 m

Surface Mat'l:

Beaten Earth

Remarks:
A large amount of tumble. A hard yellowish clay w/scattered pottery sherds very frequent. No observance of these lying flat. This clay runs up against Locus 8, seems to have been compacted by rock tumble.

STRATIGRAPHY

Under:
8

Over:
11

Equal:
10

Levels

Loc Top: 33
Loc Bottom: 912.96
Transit: 912.96

Loc Top: 34
Loc Bottom: 912.96
Transit: 912.96

Loc Top: 35
Loc Bottom: 912.96
Transit: 912.96

POTTERY

No. Date: 7/6
Pail: 21/133

No. Date: 7/6
Pail: 16/96

No. Date: 7/6
Pail: 11/69

No. Date: 7/6
Pail: 382

No. Date: 7/6
Pail: 382

OBJECTS

Reg no. Description

Interpretation:
Possibly a destruction phase, fallen debris above a surface. Maybe the roof of the building, or the floor, if this is a basement.

Stratigraphy:
Under Locus 8 and still containing large pockets (10 cm) of ash. Equals 10 which it was distinguished from earlier due to the compactness of the clay. Above 11 which is a clear color and compactness distinction apparently under a surface.
IDENTIFICATION

LBA Field A, Square 7K51, Locus 10

REASON

Remarks: Separability:

DESCRIPTION

Color: Light yellowish brown 10YR6/4
Texture: Clay... 90% Silt... 5% Sand... 5%
Particle Shape: Angular... 15% Sub-angular... 35% Sub-rounded... 35% Round... 15%
Consistencies: Hardness... 3
Wetness... Slightly Dry

Surface: Top--Clear

Sub-angular 35X

Supervisor: MS

Supervisor: MS

Measurements:

Length: 0.980 m
Width: 0.870 m
Depth: 0.510 to 0.860 m

Surface Mat'l: Broken Earth

Remarks: This locus seems to be fallen compacted surface material. Its concentration in one area (SW corner) has caused assignment of this new locus. May have been encircled concentrated here, frequent bones but rare pottery. This locus absorbs locus 9.

STRATIGRAPHY

Under: 8
Over: 11
Equals: 9
Seals against: 3

LEVELS

LOCUS SUMMARYES FIELD A: 7K51: 9-10

PHOTOGRAPHS

Number Date Subject Number Date Subject
19/08/09 07/09 PROGRESS OF EXCAVATION
10/02/10 07/10 PROGRESS OF EXCAVATION

DRAWINGS

Top Plans: Loci 3, 7, 9.

Balks: 5, W

INTERPRETATION

Function: Possible surface, could be tumble from roof or floor above.

Stratigraphy: This locus is abruptly ended by a clear line of red clay, above is a soil layer that is much softer, ashier, darker colored soil that extended deeper in the SW corner. Under this layer (the deeper section 9) the compact clay was again found so that 10-9 only it slopes downward in an easterly direction.
SOIL LOCUS SHEET

IDENTIFICATION
Lab: Field 8, Square 7K51, Locus 11

REASON
Remarks:
Separability: Top: Clear Bottom: Very Clear

DESCRIPTION
Color:
- Dark brown
- 10YR4/3

Texture:
- Clay...... 75%
- Silt...... 20%
- Sand...... 5%

Particle Shape:
- Angular.... 10%
- Sub-angular 20%
- Sub-rounded 60%
- Round...... 10%

Consistency:
- Hardness...........
- Structure.........
- Wedge.............
- Slightly Moist

Inclusions:
- Stone:
  - Small Pebbles..... 250/m²
  - Medium Pebbles..... 1/m²

- Large Boulders...... 1/m²

- Artifact:
  - Pottery............ Rare
  - Worked Stone...... 8

- Distribution:
  - Random

- Organic:
  - Bone................ Frequent
  - Charcoal......... 30/m², avg. 0.6 cm

Measurements:
- Length.............. 1.800 m
- Width................ 1.600 m
- Depth...............
  - 0.080 to 0.450 m

Degree of Slope:
- 0 deg

Inclusions:
- Stone:
  - Small Pebbles.....
  - Medium Pebbles.....
  - Large Boulders......

- Artifact:
  - Pottery............
  - Worked Stone......

- Distribution:
  - Random

- Organic:
  - Bone................
  - Charcoal.........

Measurements:
- Length..............
- Width................
- Depth...............
- Degree of Slope:

Inclusions:
- Stone:
  - Small Pebbles.....
  - Medium Pebbles.....

- Artifact:
  - Pottery............

- Distribution:
  - Random

- Organic:
  - Bone................

Remarks:
The soil is homogeneous throughout the locus. It runs up against the wall in some places, not all. Soil color
is diverse: dark brown, red-brown to orangish; color P is 7.5YR4/6 strong brown; 10YR4/3 dark brown; 10YR3/3
brown. 7/5 4/4 color of soil was found predominantly in the SW corner. A frequent scatter of burnt material
(stone or nari) in SW also.

PHOTOGRAPHS
Number Date Subject
IR2 17/02/11 07/11

DRAWINGS
Top Plans:
- Loc 3, 7.

Balk:
- W, S

INTERPRETATION
Function:
Possible surface, a clear layer of red clay. Possibly a layer of collapsed mud brick. It is also possible that
this is a layer between occupational phases.

Stratigraphy:
This locus is above what is considered a surface. There is a clear line at its base that can be followed in
the S & W balks. Above it is a layer of clay, yellowish brown which could be a surface of what is below or
just occupational debris.
IDENTIFICATION
ULS Field A, Square 7K51, Locus 12

REASON
Compacted clay, possible exposure surface.

DESCRIPTION
Color: Dark brown 7.5YR 4/4
Texture: Clay........ 75% Silt........ 15% Sub-rounded 40% Round....... 15%
Consistence: Hardness............. 3
Appearance: Slightly Moist
Inclusions: Small Pebbles........... 70/m2 Medium Pebbles............ 10/m2
Large Pebbles............. 3/m2 Medium Cobbles............. 3/m2
Large Cobbles............. 2/m2 Small Boulders............. 1/m2
Artifacts: Tabun Fragments........... Random
Organics: charcoal............. 25/m2, avg. 1.0 cm
Measurements: Length............. 5.500 m Width.................. 1.800 m
Depth.................. 0.210 to 0.240 m Direction of Slope.............. 0 deg
Remarks: This is compacted clay appearing in patches but not traceable due to large cobbles scattered randomly.

INTERPRETATION
Function: Possibly tumble from a room above, a surface or a ceiling. It could also be phases of surface or occupational debris.
Stratigraphy: This locus is over the surface (13), rough and untraceable. Once the largest part of the rock tumble was removed, 13 was traced. It appears under Locus 4, clearly for 4 is very soft, rubble & pottery filled layer.

PHOTOGRAPHS
13/02/30 07/30 WEST BALK
15/05/16 07/16 PROGRESS OF EXCAVATION
03/26/86 07/16 PROGRESS OF EXCAVATION
IDENTIFICATION

Field A, Square 7K1, Locus 13

REASON

Remarks: Possible surface.

DESCRIPTION

Color: Dark brown

Texture: Clay 90% Silt 5% Sand 5%

Particle Shape: Angular 5% Sub-angular 25%

Consistency: Hardness 6 Compactness Moderately Firm

Wetness: Slightly Moist

Inclusions:

Stone: Swail Pebbles 50% Medium Pebbles 20%

Large Pebbles 15% Small Pebbles 5%

Medium Cobble 2% Distribution Random

Artifact: Pottery Rare Films 10 Tabun Fragments 1

Organic: Bone Rare Charcoal 20%, avg. 0.6 cm

Measurements:

Length 1.80 m Width 1.60 m

Depth 0.260 to 0.510 m

Degree of Slope 0 deg

Remarks: Length=1.67 at S end; Width=1.60 at E; 1.69 at W.

Surface Material: Beaten Earth

Remarks: The pottery appears less and less frequently as the surface is taken down. The larger rocks were on the surface; the small to large pebbles in 2 distinct areas occurred directly under the 5 cm surface layer. Soil is a hard-packed clay with spots of brick material, nasi flakes, charcoal chips, burnt nasi, and burnt clay.

STRATIGRAPHY

Under: 12

Over: 14, 16

Seals against: 3, 5

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit

10 912.84 912.25 912.53 7 912.81 912.55

27 912.77 912.33 29 912.80 912.29 25 912.81 912.50

23 912.77 912.51

POSSIBLE SURFACE

Pail Date Count Baskets Loc Preservation Comments Reading

65 7/16 21/290 18 12 182 18 182 X

66 7/16 21/132 15 192 X

67 7/16 49 5 182 X

78 7/16 900 35 182 X

79 7/16 900 51 182, 1 pass 181 X

80 7/16 17/105 48 182 X

94 7/27 7/ 40 14 Late 182, 182 X

PHOTOGRAPHS

Number Date Subject

07/02/17 7/31 IR2, 1 poss IR1

07/19 7/17 07/18 PROGRESS OF EXCAVATION

RADIOISOTOPES

Flotationsample......

DRAWINGS

Top Plans: Loc1 3, 5

Balks: W, E

Sub-balks: S, E 14, 12

INTERPRETATION

Function: Possibly a surface, maybe just an exposure surface made through seasonal use. Does not seem to be the surface that could be called a floor. Probably a walkway between the two walls. Maybe a dead end street (accounting for a large amount of pottery and cobbles found at the west end) which had a dump at the end.

Stratigraphy: The locus is equal to Locus 10 in the probe. The same kind of hard-packed, mostly clay consistence soil is found. Under this locus on the west side is Locus 14 which is a softer, darker soil filled with sherds, bones, and tumble, and over Locus 16 on the 8 (assigned arbitrarily, for the soil has not really changed).
SOIL LOCUS SHEET

IDENTIFICATION
U84 Field A, Square 7K51, Locus 14

REASON
Dates: 7/16 to 7/27
Remarks:
Separability: This locus is clearly separable from Locus 13. Under Locus 13, this locus begins on the west side, it is a kind of soil that is much looser, containing more pottery of a different color. It appears of pit, containing only rubble) as is evident in the drawing of the subsidiary balk. The slope measurements are the base of this pit. Thus recorded in Locus 16.

DESCRIPTION
Color: Dark brown
Texture: Very Cle and texture difference and compistic
Particle Shape: Angular... 5% Sub-angular... 5%
Consistency: Hardness: 1 Compaction: Moderately Loose

Measurements:
Top--Very Clear
Bottom--Very Clear

Inclusions:
Stone:
- Small Pebbles (80/m2)
- Medium Pebbles (6/m2)
- Medium Cobbles (4/m2)

Artifacts:
- Pottery: Frequent
- Flint: 1
- Bone: Frequent

Organic:
- Taphonomic: Random

Distribution:
- Tabun Fragments (2)
- Charcoal (12/m2, avg. 0.6 cm)

Weights:
- Sand: 20%
- Sub-rounded: 40%
- Round: 50%

Bone:
- Distribution: Random

Charcoal:
- Width: 1.900 m
- Direction of Slope: 0 deg

Level:
- Loc Top: 3.480 m
- Depth: 0.370 to 0.590 m

Soils against:
- 3, 5

LEVELS
Loc
Top
Bottom
Transit

Loc Top
13 912.81 912.44 14 912.85 912.26 15 912.80 912.30
19 912.80 912.30

POTTERY

Pail Date Count Baskets Loc Preservation Comments Reading

Photographs:

Number Date Subject Number Date Subject
07/02/17 PROGRESS OF EXCAVATION 08/08/10 07/20 10/08/18 PROGRESS OF EXCAVATION 08/08/23 07/23 PROGRESS OF EXCAVATION

Biodata Samples:

Flistation Sample

Drawings:

Top Plans:
- Loci 3, 5
- Baskets: 13, 14, 16

Interpretation:
- Possibly an Iron Age toilet. This locus contains many broken sherds, none of which have any relation to one another besides the pit they belong to. This section of the square is a dead end street, perfect for people who used runs for bathrooms and sherds for cleaning. Maybe it is just a dump.

Stratigraphy:
- This locus is under Locus 13 which is approx. 5-10 cm deep on the west side, being interrupted by this waste. The clay of Locus 13 was traceable in a sloping direction and assigned Locus 16 which is the locus under 14, its base.
IDENTIFICATION
LBA Field A, Square 7531, Locus 15

REASON

Remarks: Distinct soil color change, possible surface.
Separability: Top—Very Clear

DESCRIPTION

Color: Brown 10YR5/3

Texture: Clay........ 60% Silt........ 30% Sand........ 10%

Particle Shape: Angular..... 10% Sub-angular 30% Sub-rounded. 45% Round..... 15%

Consistence: Hardness........ 3 Compactness......... Very Firm

Wetness............... Slightly Dry

Inclusions:

Stone: Small Pebbles........ 70/m2 Medium Pebbles......... 10/m2
Large Pebbles........... 4/m2 Small Boulders........ 1/m2
Medium Boulders........... 1/m2 Distribution........ Random

Artifacts:

Pottery.................. Rare Flint.................. 1

Organics:

Bone.................. Rare Charcoal.................. 30/m2, avg. 0.6 cm

Distribution........ Random

Measurements:

Length.................. 1.000 m Width.............. 1.600 m

Depth.................. 0.280 to 0.410 m Degree of Slope........ 0 deg

Surface Mat'l: Beaten Earth

Remarks: This locus is under a clear red clay line as seen from the balk. It was not traced due to its very patchy appearance when the soil color had changed.

STRATIGRAPHY

Under: 11
Seals against: 3, 7

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
31 912.02 911.61 25 912.96 911.79 32 911.98 911.70

PHOTOGRAPHS

Number Date Subject Number Date Subject Number Date Subject

07/11/01 08/01 PROGRESS OF ESCAVATION 05/02/30 07/030 WEST BALK 06/02/30 07/30 SOUTH BALK

DRAWINGS

Top Plans: Loci 3, 7

Sculptures: N, S

INTERPRETATION

Function: Possible surface.

Stratigraphy: Locus 15 is under locus 11 which is a red clay layer, the bottom of which is a clear horizontal line. This is the top of Locus 15, clearly distinguishable. This locus was completed upon reaching a layer of large boulders (tumble) thus was impossible to remove in such a small space.
IDENTIFICATION

U84 Field A, Square 7K51, Locus 16

REASON

Remarks: Under surface (arbitrary locus assignment), Separebility: Top--Average

DESCRIPTION

Color: Yellowish brown 10YR5/4
Texture: Clay ...... SOX Silt ...... 10% particle Shape: Angular ___ 10% Sub-angular 30% Consistence: .  Hardness ................ 2 Wetness ................. Slightly Moist Sand ...... 10% Sub-round.. 40% Compactness ....... Moderately Firm Round...... 20% Structure ....... Random

Inclusions: Soil: Ash Pockets........................ 4/m2, 5.0-30.0 cm Distribution ....... Random Small Pebbles ............... 500/m2 Medium Pebbles ............. 200/m2 Large Pebbles ............... 70/m2 Large Cobbles .............. 3/m2 Small Boulders .............. 1/m2 Distribution ....... Random Small Stones .......... Rare Large Pebbles .............. 70/m2 Large Cobbles .............. 2/m2 Burned Stones .......... Rare Distribution ....... Random Large Pebbles .............. 400/m2 Medium Pebbles ............. 2/m2 Small Pebbles ............... 4/m2 Distribution ....... Random Charcoal ............... 30/m2, avg. 0.6 cm Measurements: Length ............ 1.870 m Width ............... 1.690 m Depth ............. 0.170 to 0.390 m Degree of Slope ......... 118 deg

Remarks: Contains pockets of softer, darker soil (15 cm) 10YR4/3, 10YR3/6, 10YR5/4. In the NE corner of the locus ash pockets occur (see inclusion sheet).

STRATIGRAPHY

Under: 13, 14
Contiguous to: 14
Seals against: 3, 5

LEVELS

Loc Top Bottom Transit
13 912.44 912.05 20 913.33 912.09 23 912.29 912.19
14 912.26 912.12 22 912.53 912.27

POTTERY

Pail Date Count Bskts Loc Preservation Comments Reading P.B.
86 7/24 29/162 10 Late IR2, few early IR2, 1 IR1 X
87 7/24 13/92 15 Late IR2, few early IR2, 1 IR1
88 7/24 6/95 20 Late IR2, early IR2
89 7/25 35/244 60 Late IR2, early IR2, 1 IR1
90 7/25 15/87 9 Late IR2, early IR2
91 7/26 14/81 22 Late IR2, early IR2
92 7/27 16/81 36 Late IR2, early IR2
93 7/27 11/81 19 Late IR2, early IR2
94 7/27 4/19 19 Late IR2, early IR2

OBJECTS

Reg no Description Field no Date Pail Loc Level Total Period Material Photo Drawing
Pendant 1 7/26 99

PHOTOGRAPHS

Number Date Subject Number Date Subject Number Date Subject
10/08/24 07/24 PROGRESS OF EXCAVATION 09/02/25 07/25 PROGRESS OF EXCAVATION 05/02/30 07/30 WEST BALK

DRAWINGS

Top Plans: Loci 3, 5, 7
Balks: W, 6 Sub-balks: 5, 13, 14

INTERPRETATION

Functions: Base of the debris "pit" Locus 14. Otherwise arbitrarily assigned.

Stratigraphy: Under Locus 14, the base of the sloping debris fill under Locus 13, the possible surface. A return to the rock rubble.
IDENTIFICATION
USA Field A, Square 7K51, Locus 16  (Supplement)
Inclusion-Ash packets

REASON
Remarks: Different color and consistence.
Separability: Top-Clear Bottom-Clear

DESCRIPTION
Color: Dark brown 10YR 3/3
Texture: Clay...... 5% Silt...... 90% Sand....... 5%
Consistence: Moderately Loose
Structure: Random
Inclusions: Artifacts...... Rare Organic...... Rare
Measurements:
Length: 0.300 m
Depth: 0.060 to 0.090 m

LEVELS
Loc Top Bottom Transit
34 912.79 912.49
33 912.64 912.49
32 912.44 912.39

Supervisor: MS  Dates: 7/13 to 7/16
IDENTIFICATION

U84 Field A, Square 7K51, Locus 17

REASON

Remarks:

Arbitrary locus assignment.

Separability:

Top-Average

DESCRIPTION

Color:

Dark brown 10YR4/3

Texture:

Clay........... 60% Silt........... 30% Sand........... 10%

Particle Shape:

Angular......... 13% Sub-angular....... 25% Sub-round...... 60% Round........ 2%

Consistence:

Hardness........ 1

Compressibility....... Moderately Loose

Wetness............. Slightly Moist

Structure............ Random

Inclusions:

Soil:

Hari Pockets......... 30/m2, 0.2-2.0 cm

Brick Material........ 2/m2, 5.0 cm

Stone:

Large Pebbles............ 10/m2

Medium Pebbles......... 20/m2

Small Pebbles............ 100/m2

Ash Pockets............. 8/m2, 2.0-3.0 cm

Large Cobbles............ 1/m2

Small Coils.............. 1/m2

Small Boulders......... 1/m2

Medium Pebbles......... 10/m2

Artificial Inclusions:

Pottery.............. Rare

Organic:

Bone.............. Rare

Charcoal............. 10/m2

Distribution........... Random

Measurements:

Length.............. 2.450 m

Width................ 1.000 m

Remarks:

It is a soft, dark soil accompanying large amounts of tumble. There is a recurring of clay (Locus 18) which makes it difficult to trace. 10YR4/4 (dark yellowish brown), 7.5YR4/2 (dark brown-brown) spots of possible mud brick, ash, and nari occurring in spots. This locus has not been completed.

STRATIGRAPHY

Under:

Contiguous to:

Seals against:

3, 5

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>912.05</td>
<td>20</td>
<td>912.09</td>
</tr>
<tr>
<td>10</td>
<td>912.04</td>
<td>15</td>
<td>912.07</td>
</tr>
</tbody>
</table>

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Preservation</th>
<th>Comments</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>92</td>
<td>7/26</td>
<td>9</td>
<td>56</td>
<td>22</td>
<td>Reading</td>
<td>Pub</td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>7/27</td>
<td>5</td>
<td>32</td>
<td></td>
<td>Late 182</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>13/02/30</td>
<td>07/30</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>09/08/31</td>
<td>07/31</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>03/02/30</td>
<td>07/30</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

DRAWINGS

<table>
<thead>
<tr>
<th>Top Plans</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loci 5, 18</td>
<td>W</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function:

Believe that this locus is caused by tumble. It was possibly used as dump or fill.

Stratigraphy:

Locus 16 is a thin, concave layer of clay. Immediately afterwards a soft, dark soil found in tumble, largely against the S face of locus 5.
SOIL LOCUS SHEET

IDENTIFICATION

U84 Field A, Square 7K51, Locus 18

REMARKS:

Arbitrary division.

DESCRIPTION

Color:

Yellowish brown

Texture:

Clay...... 80%
Silt....... 10%
Sand....... 10%

Particle Shape:

Angular.... 10%
Sub-angular 30%

Consistence:

Hardness........ 2
Compactness........ Slightly firm

Wetness........ Slightly moist

Inclusions:

Stone: Small Pebbles........ 500/m²
      Large Pebbles........ 70/m²
      Large Cobbles........ 2/m²

Artifacts: Worked stones........ 2
          Buried stones........ 3

Organic:

Charcoal........ 30/m², avg. 0.6 cm

Measurements:

Length........ 3,000 m
Width........ 1,700 m

Remarks:

Same soil as Locus 16. This locus has not been excavated completely.

STRATIGRAPHY

Under:

Seals against:

LEVELS

Loc Top Bottom Transit

15 912.12 22 912.17 29 912.23
21 912.16 23 912.19

POTTERY

Pail Date Count Bskts Loc Preservation Comments

98 7/27 11/122 35 Late IR2, UD
99 7/31 15/116 55 Late IR2, early IR2, 1 IR1

PHOTOGRAPHS

Number Date Subject

13/02/30 07/30 PROGRESS OF EXCAVATION
05/03/31 07/31 PROGRESS OF EXCAVATION
07/11/01 08/01 PROGRESS OF EXCAVATION

DRAWINGS

Top Plans: Locus 17
### Architectural Locus Sheet

**Identification:** U84 Field A, Square 7K51, Locus 19

**Reason:** Orderly tumble.

**Separability:** Top-Clear

**Measurements:**

<table>
<thead>
<tr>
<th>Levels</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>913.54</td>
<td></td>
<td>9</td>
<td>913.61</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>913.54</td>
<td></td>
<td>913.54</td>
</tr>
</tbody>
</table>

**Soil Locus Sheet**

**Identification:** U84 Field A, Square 7K51, Locus 20

**Reason:** Soil between walls 3 and 7 on the south side.

**Separability:** Top-Clear

**Measurements:**

<table>
<thead>
<tr>
<th>Levels</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>913.24</td>
<td></td>
<td>33</td>
<td>913.15</td>
</tr>
</tbody>
</table>
IDENTIFICATION
U84 Field 8, Square 7J87, Locus 1

REASON
Remarks: Removal of E balk sectors 12, 18 to show connections with square 7J88.

DESCRIPTION

POTTERY

PHOTOGRAPHS

INTERPRETATION
Function: Apparent rock fall (locus 2) from a wall(?) covers the entire square, which is largely covered by the topsoil, i.e., locus 1.
Stratigraphy: This locus was above and surrounding the rock fall of Locus 2.
Locus Date: IR

04/27/86
SOIL LOCUS SHEET
Page 1

IDENTIFICATION
U84 Field 8, Square 7J87, Locus 1 (Supplement)

REASON
Remarks: Removal of E balk sectors 12, 18 to show connections with square 7J88.

DESCRIPTION

POTTERY

PHOTOGRAPHS

INTERPRETATION
Function: Apparent rock fall (locus 2) from a wall(?) covers the entire square, which is largely covered by the topsoil, i.e., locus 1.
Stratigraphy: This locus was above and surrounding the rock fall of Locus 2.
Locus Date: IR

04/27/86
SOIL LOCUS SHEET
Page 1

IDENTIFICATION
U84 Field 8, Square 7J87, Locus 1

REASON
Remarks: Removal of E balk sectors 12, 18 to show connections with square 7J88.

DESCRIPTION

POTTERY

PHOTOGRAPHS
SOIL LOCUS SHEET

IDENTIFICATION
UB8 Field B, Square 7J87, Locus 2
Supervisor: LAU
Dates: 7/3 to 7/5

REASON
Remarks:
Topsoil and rocks were identified to distinguish topsoil from rockfall and surrounding rocks.

DESCRIPTION
\begin{itemize}
  \item Color: Dark brown
  \item Texture: Clay 40%, Silt 40%, Sand 20%
  \item Particle Shape: Angular
  \item Consistency: Hardness: 1, Compactness: Moderately Crumbly/Moderately Rubby
  \item Wetness: Moderately Dry
\end{itemize}

Inclusions:
\begin{itemize}
  \item Small Pebbles: 240/m2
  \item Medium Pebbles: 50/m2
  \item Large Pebbles: 8/m2
  \item Small Cobbles: 1/m2
  \item Medium Cobbles: 1/m2
  \item Large Cobbles: 1/m2
  \item Small Boulders: 1/m2
\end{itemize}

Measurements:
\begin{itemize}
  \item Depth: 0.0.95 to 0.450 m
  \item Width: 5.000 m
  \item Direction of Slope: S 30° E
\end{itemize}

STRATIGRAPHY
Under:
1
Over:
3

LEVELS
<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>910.22</td>
<td>909.70</td>
<td></td>
<td>21</td>
<td>909.31</td>
<td>909.00</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>908.47</td>
<td>908.38</td>
<td>1</td>
<td>1</td>
<td>908.36</td>
<td>908.36</td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

INTERPRETATION
Function:
This locus contained a significant rock fall rather evenly distributed over the square but with a larger percentage of boulders in the area about halfway down the slope of the square.

Stratigraphy:
The rock fall was apparently haphazard and an apparent ridge/hump in the upper or central part of the square was interpreted as inconsequential or artificial in that it contained no special feature or distinct stratification. The pottery readings seem to suggest Iron 2 destruction.

Locus Date: 182

04/27/86

IDENTIFICATION
UB8 Field B, Square 7J87, Locus 2 (Supplement)
Supervisor: LAU
Dates: 8/3 to 8/6

REASON
Remarks:
Removal of E balk, sectors 11, 18 to show connection with square 7J88.

DESCRIPTION
Remarks:
Pottery pail includes sherds from Locus 3 E balk removal.

POTTERY

INTERPRETATION

LOCATION SUMMARIES

FIELD B: 7J87. 12
### SOIL LOCUS SHEET

#### LEVELS

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>nets</th>
<th>Loc</th>
<th>Level</th>
<th>Total</th>
<th>Material</th>
<th>Photo</th>
<th>Orawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/5</td>
<td>12</td>
<td>2/7</td>
<td>16</td>
<td>6</td>
<td>AVERAGE</td>
<td>TAG LOST?</td>
<td>182, EB, BDS</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>13</td>
<td>2/7</td>
<td>25/75</td>
<td>55</td>
<td>MIXED</td>
<td>IR2,181,MB2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/7</td>
<td>14</td>
<td>2/7</td>
<td>24/15</td>
<td>32</td>
<td>MIXED</td>
<td>IR2,181,MB2,EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8</td>
<td>15</td>
<td>2/7</td>
<td>13/16</td>
<td>25</td>
<td>MIXED</td>
<td>IR2,181,EB,1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/9</td>
<td>16</td>
<td>2/7</td>
<td>7/27</td>
<td>62</td>
<td>MIXED</td>
<td>IR2,181,MB2,EB,EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>17</td>
<td>2/7</td>
<td>35/268</td>
<td>44</td>
<td>MIXED</td>
<td>IR2,181,MB2,EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/11</td>
<td>18</td>
<td>2/7</td>
<td>12/161</td>
<td>48</td>
<td>MIXED</td>
<td>IR2,181,MB2,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/12</td>
<td>19</td>
<td>2/7</td>
<td>3/3</td>
<td>10</td>
<td>MIXED</td>
<td>IR2,181,MB2,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/13</td>
<td>20</td>
<td>2/7</td>
<td>1/10</td>
<td>78</td>
<td>MIXED</td>
<td>IR2,181,EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/14</td>
<td>21</td>
<td>2/7</td>
<td>5/58</td>
<td>45</td>
<td>MIXED</td>
<td>IR2,181</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/15</td>
<td>22</td>
<td>2/7</td>
<td>26/34</td>
<td>60</td>
<td>MIXED</td>
<td>IR2,181,EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/16</td>
<td>23</td>
<td>2/7</td>
<td>2/7</td>
<td>50</td>
<td>MIXED</td>
<td>IR2,181,EB,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/17</td>
<td>24</td>
<td>2/7</td>
<td>25/271</td>
<td>47</td>
<td>MIXED</td>
<td>IR2,181,EB,EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/18</td>
<td>25</td>
<td>2/7</td>
<td>26/27</td>
<td>37</td>
<td>MIXED</td>
<td>IR2,181,EB,EB BDS,EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/19</td>
<td>26</td>
<td>2/7</td>
<td>1/164</td>
<td>40</td>
<td>MIXED</td>
<td>IR2,181,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/20</td>
<td>27</td>
<td>2/7</td>
<td>1/18</td>
<td>73</td>
<td>MIXED</td>
<td>IR2,181,MB2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/21</td>
<td>28</td>
<td>2/7</td>
<td>19/123</td>
<td>67</td>
<td>MIXED</td>
<td>FEW EARLY IR2,181,DOM,EB,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/22</td>
<td>29</td>
<td>2/7</td>
<td>19/210</td>
<td>100</td>
<td>MIXED</td>
<td>IR2,181,EB,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>30</td>
<td>2/7</td>
<td>38/166</td>
<td>05</td>
<td>MIXED</td>
<td>LATE IR2,EARLY IR2,181,MB2,EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/24</td>
<td>31</td>
<td>2/7</td>
<td>15/125</td>
<td>20</td>
<td>MIXED</td>
<td>IR2,181,EB,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/25</td>
<td>32</td>
<td>2/7</td>
<td>24/154</td>
<td>36</td>
<td>MIXED</td>
<td>LATE IR2,EARLY IR2,181,MB2,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td>33</td>
<td>2/7</td>
<td>12/252</td>
<td>50</td>
<td>MIXED</td>
<td>LATE IR2,181,MB2,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>34</td>
<td>2/7</td>
<td>16/135</td>
<td>34</td>
<td>MIXED</td>
<td>LATE IR2,EARLY IR2,181,MB2,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/28</td>
<td>35</td>
<td>2/7</td>
<td>25/273</td>
<td>68</td>
<td>MIXED</td>
<td>LATE IR2,EARLY IR2,181,MB2,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/29</td>
<td>36</td>
<td>2/7</td>
<td>26/272</td>
<td>53</td>
<td>MIXED</td>
<td>LATE IR2,EARLY IR2,181,MB2,EB BDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td>37</td>
<td>2/7</td>
<td>25/357</td>
<td>49</td>
<td>MIXED</td>
<td>LATE IR2,EARLY IR2,181,MB2,EB BDS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### OBJECTS

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
<th>Field no.</th>
<th>Date</th>
<th>Loc</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S35</td>
<td>907.99</td>
<td>907.27</td>
<td>11</td>
<td>909.36, 909.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>908.36</td>
<td>907.92</td>
<td>7</td>
<td>907.94, 907.10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### POTTERY

<table>
<thead>
<tr>
<th>Material</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR2,181,EB BDS</td>
<td>IR2,181,EB BDS</td>
</tr>
<tr>
<td>IR2,181,EB</td>
<td>IR2,181,EB BDS</td>
</tr>
<tr>
<td>IR2,181,MB2</td>
<td>IR2,181,EB</td>
</tr>
<tr>
<td>IR2,181,EB BDS</td>
<td>IR2,181,EB BDS</td>
</tr>
<tr>
<td>IR2,181,MB2</td>
<td>IR2,181,EB,EB BDS</td>
</tr>
<tr>
<td>IR2,181,EB</td>
<td>IR2,181,EB BDS</td>
</tr>
<tr>
<td>IR2,181,EB BDS</td>
<td>IR2,181,EB BDS</td>
</tr>
</tbody>
</table>

#### DATE COUNT

<table>
<thead>
<tr>
<th>Date Count</th>
<th>Pub</th>
</tr>
</thead>
<tbody>
<tr>
<td>908.38</td>
<td>907.94</td>
</tr>
<tr>
<td>909.79</td>
<td>907.10</td>
</tr>
</tbody>
</table>

#### STRATIGRAPHY

**Level 2**

**Level Over:**

4, 5

**Degree of Slope:**

... 301 deg

**Depth:**

... 5.000 m

**Transit:**

... Random

**Width:**

... 50/m2

**Remarks:**

Moderate number of bones, a few of them burned. Ash, charcoal or small pieces of lime/nari occur regularly in the terre pisee sections which are frequent in parts of the E and N sections of the square.

**Stratigraphy:**

Virtually indistinguishable from higher elevation. Loucs 5. But lies over the clear sheetwash of 4 and terre pisee proper of Locus 3, but lies over the clear sheetwash of 4 and terre pisee proper of Locus 4.

**Remarks:**

TAG LOST? IR2,IR1,MB2.

Locus 2, but lies over the clear sheetwash of 4 and terre pisee proper of Locus 3.
**IDENTIFICATION**

U84 Field B, Square 7J87, Locus 3 (Supplement)

**REASON**

Distinct section of nari, plus section of soil with considerable nari.

**DESCRIPTION**

- **Color:** 5YR8/1
- **Consistence:** Slightly Friable
- **Measurements:**
  - Length: 1.000 m
  - Depth: 0.100 to 0.200 m
- **Remarks:**
  - The nari was mixed with soil in part of the area. It was located on the north side of the square mainly in sec. 8.
  - This pocket of nari was more consistent on the N & W of sec. 8 and more scattered to the S & E. It was sitting on loose soil of Locus 3, which in fact surrounded it.
  - This material appears to be man-laid except for the fact that it rests not on the terre pisée, but on loose soil a few cm above the terre pisée.

---

**IDENTIFICATION**

U84 Field B, Square 7J87, Locus 3 (Supplement)

**REASON**

Removal of E balk, sectors 12, 15 to show connection with square 7J88.

**DESCRIPTION**

- **Remarks:** See Locus 2 E balk removal for pottery.
IDENTIFICATION

Ale Field B, Square 7087, Locus 4

Supervisor: LAW  Dates: 7/13 to 8/1

REASON

Remarks: Change of soil to hardpacked bricky layer with chalk and charcoal mixed in, and stones as part of sheetwash.

DESCRIPTION

Remarks: Separability: Top-Clear

CONSISTENCE

Dark yellowish brown 10YR3/6

STONE: Measurements:

Depth: 0.220 to 0.870 m

Remarks: Separability: Bottom-Average

INCLUSIONS:

Very Firm

Wetness: Moderately Moist

Structure: Water (Channeling)

EXCAVATION

Locus 4:

Under: 3

Over: 5

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit

35 909.27 908.97 7 907.10 906.85 26 907.74

31 907.92 907.35 13 907.57 907.13 25 907.65 906.78

PHOTOGRAPHS

Mixed

Mixed

Mixed

Mixed

Mixed

Mixed

Mixed

Mixed

Notes:

04/27/86 SOIL LOCUS SHEET  Page 1

INTERPRETATION

Function: Apparently sheetwash probably including tumble, thus consisting of a wedge of hard terre pisee material which became thicker toward the west. The terre pisee was not consistent, containing pockets of softer soil and rocks up to small boulders in size forming a distinguishable layer over the regular terre pisee of Locus 5. This locus is irregular in thickness but seems to have originated from washed out material of Locus 5 which had been higher up the slope.

Locus Date: 7/13

POTTERY

Pail Date Count Baskets Locus Preservation Subject

Comments Reading Pub

PROGRESS OF EXCAVATION

Locus Date:

07/19

07/25

07/30

08/01

07/13

07/18

07/23

07/28

08/03

08/08

07/12

07/17

07/22

07/27

08/02

07/07

07/12

07/17

07/22

07/27
IDENTIFICATION

U84 Field B, Square 7J87, Locus 5

REMARKS

Remarks: Continued terre pisee but now in a compact layer with virtually no stones enclosed.

DESCRIPTION

Color: Dark yellowish brown 10YR3/6
Consistency: Hardness: 5
Wetness: Moderately Moist
Measurements: Length: 5,000 m
Width: Direction of Slope: 33 deg
Degree of Slope: 33 deg
Remarks: Terre pisee: apparently man made, hard packed layer. Direction of slope varies from about 300 to 310 deg.

STRATIGRAPHY

Under: 3, 4
Over:

LEVELS

<table>
<thead>
<tr>
<th>LOC</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>906.85</td>
<td>906.17</td>
<td></td>
<td>31</td>
<td>907.35</td>
<td>906.87</td>
</tr>
<tr>
<td>11</td>
<td>908.72</td>
<td></td>
<td></td>
<td>35</td>
<td>908.07</td>
<td>908.67</td>
</tr>
</tbody>
</table>

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc Preservation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>7/19</td>
<td>12/132</td>
<td>47</td>
<td>Mixed</td>
</tr>
<tr>
<td>34</td>
<td>7/20</td>
<td>22/164</td>
<td>117</td>
<td>Mixed</td>
</tr>
<tr>
<td>35</td>
<td>7/20</td>
<td>21/202</td>
<td>53</td>
<td>Mixed</td>
</tr>
<tr>
<td>36</td>
<td>7/20</td>
<td>13/281</td>
<td>79</td>
<td>Mixed</td>
</tr>
<tr>
<td>51</td>
<td>7/20</td>
<td>5/753</td>
<td>30</td>
<td>Mixed</td>
</tr>
<tr>
<td>52</td>
<td>7/20</td>
<td>14/386</td>
<td>130</td>
<td>Mixed</td>
</tr>
<tr>
<td>53</td>
<td>7/20</td>
<td>1/41</td>
<td>44</td>
<td>Mixed</td>
</tr>
<tr>
<td>54</td>
<td>7/20</td>
<td>5/76</td>
<td>53</td>
<td>Mixed</td>
</tr>
<tr>
<td>55</td>
<td>7/20</td>
<td>2/130</td>
<td>120</td>
<td>Mixed</td>
</tr>
<tr>
<td>56</td>
<td>8/ 2</td>
<td>14/119</td>
<td>90</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/02/12</td>
<td>07/12</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>17/02/13</td>
<td>07/13</td>
<td>END OF LOC 3, START OF 4</td>
</tr>
<tr>
<td>18/02/14</td>
<td>07/14</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>19/02/15</td>
<td>07/15</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>20/02/16</td>
<td>07/16</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>21/02/17</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>22/02/18</td>
<td>07/18</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function: Terre pisee material laid down at a more or less consistent angle and tamped to a very hard surface with a 33 deg slope. Apparently this was man made as a lower part of a complex defense system. Some stones were incorporated in the layer, but they were scarce when compared with those in the sheetwash (Locus 4) found above this layer.

Stratigraphy: The layer was rather consistent in every way in its relationship to Locus 3 (and 4 where present) above, and Locus 6 beneath, except in the SE corner where erosion had apparently removed much of the material of this layer.

Locus Date: 1R1-2
IDENTIFICATION
UB4 Field B, Square 7J87, Locus 5 (Supplement) Supervisor: LAW Dates: 7/17 to 8/3
Inclusion-Terre pisee lens

REASON
Remarks: Change of color and makeup.
Separability: Top-Clear Bottom-Clear

DESCRIPTION
Inclusion-Terre pisee lens

Color: Red
Consistence: Moderate
Hardness: 2.5 YR 4/6
Wetness: Moderately Moist
Measurements: Length: 0.700 m Width: 0.200 m Depth: 0.100 to 0.120 m
Remarks: This distinctively colored material formed a simple lens of terre pisee type material and was probably natural-that is, non deliberative within the man made terre pisee. In sector 11, 83 cm W of the E balk where the inclusion emerged from the W balk.

LEVELS
Loc: Top Bottom Transit
Transit
11 908.45 908.35

INTERPRETATION
Function: Probably a natural phenomenon within the man-made terre pisee layer. It was virtually on the bottom of the layer.

04/27/86 SOIL LOCUS SHEET
Page 1

IDENTIFICATION
UB4 Field B, Square 7J87, Locus 5 (Supplement) Supervisor: LAW Date: 8/6
Test Balk Removal

DESCRIPTION

POTTERY
Fall Date Count Baskets Loc Preservation Comments Reading Pub

65 8/6 10/113 82 Poss contain. (Locus 3) IR1
SOIL LOCUS SHEET

IDENTIFICATION
USA Field B, Square 7J87, Locus 6

REASON
Remarks: Change of color and texture of soil.

Seperability: Top-Clear

DESCRIPTION
Color: Dark brown 10YR4/3

Measurements: Length: 5.000 m Width: 5.000 m

Direction of Slope: 305 deg Degree of Slope: 33 deg

Remarks: Direction of slope varies from about 300 to 310 deg. This locus has not yet been excavated.

LEVELS

<table>
<thead>
<tr>
<th>Level</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>906.72</td>
<td>906.72</td>
<td>906.72</td>
</tr>
<tr>
<td>7</td>
<td>906.17</td>
<td>906.17</td>
<td>906.17</td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/08/13</td>
<td>07/12</td>
<td>PROGRESS OF EXCAVATION</td>
<td>12/02/13</td>
<td>07/12</td>
<td>PROGRESS OF EXCAVATION</td>
<td>40/02/30</td>
<td>07/30</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>17/02/17</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
<td>12/02/19</td>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
<td>40/02/30</td>
<td>07/30</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>12/02/20</td>
<td>07/20</td>
<td>PROGRESS OF EXCAVATION</td>
<td>15/02/31</td>
<td>07/31</td>
<td>PROGRESS OF EXCAVATION</td>
<td>15/02/31</td>
<td>07/31</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>04/08/12</td>
<td>07/08</td>
<td>PROGRESS OF EXCAVATION</td>
<td>11/02/23</td>
<td>07/23</td>
<td>PROGRESS OF EXCAVATION</td>
<td>15/11/01</td>
<td>08/01</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>10/08/15</td>
<td>07/15</td>
<td>PROGRESS OF EXCAVATION</td>
<td>13/02/24</td>
<td>07/24</td>
<td>PROGRESS OF EXCAVATION</td>
<td>20/11/02</td>
<td>08/02</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>13/02/26</td>
<td>07/26</td>
<td>PROGRESS OF EXCAVATION</td>
<td>20/11/02</td>
<td>08/02</td>
<td>PROGRESS OF EXCAVATION</td>
<td>25/11/02</td>
<td>08/02</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>12/02/26</td>
<td>07/27</td>
<td>PROGRESS OF EXCAVATION</td>
<td>40/11/02</td>
<td>08/02</td>
<td>PROGRESS OF EXCAVATION</td>
<td>40/11/02</td>
<td>08/02</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>20/02/27</td>
<td>07/28</td>
<td>PROGRESS OF EXCAVATION</td>
<td>21/11/02</td>
<td>08/03</td>
<td>PROGRESS OF EXCAVATION</td>
<td>21/11/03</td>
<td>08/03</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>25/02/30</td>
<td>07/30</td>
<td>PROGRESS OF EXCAVATION</td>
<td>21/11/02</td>
<td>08/03</td>
<td>PROGRESS OF EXCAVATION</td>
<td>21/11/03</td>
<td>08/03</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

END OF LOC 3, START OF 4

04/27/86

SOIL LOCUS SHEET

IDENTIFICATION
USA Field B, Square 7J87, Locus 7

REASON
Remarks: Distinctive whitish layer noted below Locus 6 where 6 had been cut through in the SE corner.

Seperability: Top-Clear

DESCRIPTION
Remarks: This locus has not yet been excavated.
IDENTIFICATION
UB4 Field B, Square 7J88, Locus 1 (Supplement)

REASON
Supervisor: KC
Dates: 7/24 to 7/25

DESCRIPTION

SEPARABILITY
Top: Average
Bottom: Unclear

COLOR
Very dark brown 10YR2/2

CONSISTENCE
Hardness: 2

WETNESS
Moderately Moist

INCLUSIONS

STONES
- Small Cobbles: 10/m2
- Large Cobbles: 5/m2
- Medium Boulders: 3/m2

ARTIFACTS
- Pottery: Frequent
- Flint: Few

ORGANICS
- Bone: Rare

MEASUREMENTS
- Length: 5.000 m
- Width: 2.000 m
- Depth: 0.150 to 0.200 m
- Degree of Slope: 30 deg

NOTES
- Surface depth arbitrary between 15 & 20 cm due to rock fall.
- Topsoil with rock fall inclusion sloping 30 deg.

STRATIGRAPHY

OVER: 2

LEVELS
Loc Top  Bottom Transit
11 912.92 912.91 X
17 913.30 913.29 X

POTTERY

Pail Date  Count Bskts Loc Preservation Comments Reading
1 7/24 4 57 15 MIXED Late 1R2, Early 1R1, EB BODS
2 7/25 14/162 45 MIXED 1R2
3 7/25 7/117 32 MIXED Late 1R2, Early 1R2, 1 UD
4 7/25 3/85 53 MIXED 1R2, Few MB2 BODS, Few EB BODS

PHOTOGRAPHS

Number Date Subject
14/02/25 07/25 PROGRESS OF EXCAVATION

BIOLOGICAL SAMPLES

Function: Topsoil layer with general plant growth.

DATE: 04/27/86

IDENTIFICATION
UB4 Field B, Square 7J88, Locus 1

REASON
Supervisor: KC
Dates: 8/2 to 8/3

DESCRIPTION

SEPARABILITY
Top: Unclear
Bottom: Unclear

COLOR
Very dark brown 10YR2/2

NOTES
- Topsoil See Locus 1 sheets.

POTTERY

Pail Date  Count Bskts Loc Preservation Comments Reading
16 8/2 10/64 22 Mixed Late 1R2
SOIL LOCUS SHEET

IDENTIFICATION
USA Field B, Square 7J88, Locus 2

Supervisor: KC
Dates: 7/26 to 7/30

DESCRIPTION

Color: Very dark brown
Texture: Clay... 60%
Particle Shape: Angular... 100%
Consistency: Hardness.... 2
Moistness: Moderately Dry

Separability: Top--Unclear
Bottom--Very Clear

Reason: Dates: 7/26 to 7/30
Separability: Top--Unclear
Bottom--Very Clear

INCLUSIONS:

Soil:
- Nari Pockets... 1/m2, 5.0-15.0 cm
- Distribution: Random
- Size: 1/m2
- Medium Boulders... 1/m2
- Distribution: Random
- Size: 1/m2

Stone:
- Small Cobble.... 2/m2
- Medium Cobble... 2/m2
- Large Cobble... 3/m2
- Medium Boulder... 1/m2
- Large Boulder... 1/m2
- Small Boulders... 1/m2
- Medium Boulders... 1/m2
- Distribution: Random
- Size: 1/m2

Artifact:
- Pottery.... Rare
- Flint... Rare
- Distribution: Random
- Size: 1/m2

Organic:
- Bone.... Rare
- Shells... Rare
- Distribution: Random
- Size: 1/m2

Measurements:
- Length: 5.000 m
- Width: 2.000 m
- Depth: 0.420 to 0.900 m
- Direction of Slope: 305 deg
- Degree of Slope: 32 deg

Soil:
- Nari Pockets.... 1/m2, 5.0-15.0 cm
- Distribution: Random

Stone:
- Small Cobble... 2/m2
- Medium Cobble... 5/m2
- Large Cobble... 3/m2
- Medium Boulder... 1/m2
- Large Boulder... 1/m2
- Small Boulders... 1/m2
- Distribution: Random
- Size: 1/m2

Artifact:
- Pottery.... Rare
- Flint... Rare
- Distribution: Random
- Size: 1/m2

Organic:
- Bone.... Rare
- Shells... Rare
- Distribution: Random
- Size: 1/m2

Remarks:
Loose earth and rock tumble--very random. Mudbrick submitted in good condition--labeled MB35. In good state of preservation. Unusual in that it is Munsell 10YR8/4 very pale brown.

STRATIGRAPHY

Under: 1
Over: 3

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit
1 912.91 912.07 7 912.79 910.37
7 912.29 912.38 13 911.18 910.28

DESCRIPTION

POTTERY

Pail Date Count Bskts Loc Level Total Period Material Photo Drawing
1 07/26 6 1
2 07/27 8 1

PHOTOGRAPHS

Number Date Subject Number Date Subject
1/11/26 07/26 PROGRESS OF EXCAVATION 1/22/27 07/27 PROGRESS OF EXCAVATION

BIOGRAF SAMPLES

Remarks: No sample sent in same as Locus 1.

INTERPRETATION

Function: Topsoil, between surface plant growth and sheet wash loci.
Stratigraphy: Topsoil layer varying in depth to almost 1 meter over loci.

Locus Date: L192
04/27/86

**IDENTIFICATION**
U84 Field 8, Square 7J88, Locus 3

**Supervisor:** KC  
**Dates:** 7/10 to 8/1

**REASONS:**
Separability: Top - Very Clear  
Bottom - Clear

**DESCRIPTION**

**Color:** Yellowish brown
**Texture:** Moderately Firm
**Moistness:** Slightly Moist

**Inclusions:**
- Soil Pockets: 5/m2, 5.0-10.0 cm  
- Medium Pebbles: 2/m2  
- Large Pebbles: 2/m2  
- Large Cables: 1/m2  
- Large Boulders: 1/m2  
- Medium Boulders: 1/m2  
- Very Large Boulders: 1/m2

**Artifacts:**
- Pottery: Frequent  
- Flints: 43

**Organic:**
- Bone: Frequent

**Measurements:**
- Length: 5.000 m  
- Width: 2.000 m  
- Depth: 0.710 to 0.900 m  
- Direction of Slope: 305 deg

**Remarks:**
- Degree of slope varies but overall angle remains 32 deg.
- Hori pockets more frequent at east end of square; predominantly NE. But some along S cutting NE to SU about 1.5 m E of west balk, crossing locations 8 & 15.

**LEVELS**

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>912.07</td>
<td>911.36</td>
<td>7, 900.37, 909.53</td>
</tr>
<tr>
<td>17</td>
<td>912.38</td>
<td>911.48</td>
<td>13, 902.38, 909.39</td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/30</td>
<td>12/</td>
<td>85</td>
<td>MIXED</td>
<td>IR1, LB/IR1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>18/356</td>
<td>206</td>
<td>MIXED</td>
<td>FEW LATE IR2, IR1, MB2, EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>3/61</td>
<td>43</td>
<td>MIXED</td>
<td>IR1, MB2, EB</td>
<td>BOS, 1 UD</td>
<td></td>
</tr>
<tr>
<td>8/1</td>
<td>12/163</td>
<td>84</td>
<td>MIXED</td>
<td>IR1, MB2, EB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OBJECTS**

<table>
<thead>
<tr>
<th>Field no.</th>
<th>Date</th>
<th>Mail No.</th>
<th>Loc</th>
<th>Level</th>
<th>Total Period</th>
<th>Material</th>
<th>Photo Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSSIBLE GRINDING STONE</td>
<td>1</td>
<td>07/30</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8/30</td>
<td>PROGRESS OF EXCAVATION</td>
<td>13/11/01</td>
</tr>
<tr>
<td>1/30/31</td>
<td>PROGRESS OF EXCAVATION</td>
<td>21/11/01</td>
</tr>
</tbody>
</table>

**BIDATA SAMPLES**

<table>
<thead>
<tr>
<th>Soil Sample</th>
<th>Size, shape, new locus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INTERPRETATION**

Function: Soft-hard clay and sand layer with charcoal and broken sherds interspersed with small pebbles probably built up from short wash from upper defenses.

Stratigraphy: If 3 is sheetwash we likely will see remnants of rampart construction below.

Loca Date: 18

04/27/86

**IDENTIFICATION**
U84 Field 8, Square 7J88, Locus 3 (Supplement)

**Supervisor:** KC  
**Date:** 8/5

**DESCRIPTION**

**POTTERY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/3</td>
<td>4/59</td>
<td>16</td>
<td>Mixed</td>
<td>Late IR2, early IR2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8/3</td>
<td>5/44</td>
<td>37</td>
<td>Mixed</td>
<td>Late IR1, few IR2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
IDENTIFICATION
U84 Field B, Square 7J88, Locus 4

REASON
Remarks: New layer ••loose soil. Bottom-Clear

DESCRIPTION
Color: Dark yellowish brown 10YR3/6
Consistence: Moderately Loose

Inclusions:
- Marl Pockets: 10/m2, 5.0-10.0 cm
- Small Pebbles: 83/m2
- Large Pebbles: 2/m2
- Medium Pebbles: 1/m2
- Large Cobbles: 1/m2
- Small Boulders: 1/m2
- Large Boulders: 1/m2
- Distribution: Rare

Artifact: Pottery: Rare
- Flint: 65

Organic: Bone: Rare

Measurements:
- Length: 5.000 m
- Depth: 0.49 to 0.60 m
- Width: 2.000 m
- Direction of Slope: 30 deg

Remarks: Loose soil layer—more compact near rock tumblue between bricky surface of Locus 3 and marl layer Locus 5.

STRATIGRAPHY
Under: 3
Over: 5

LEVELS
Loc Top Bottom
13 910.00 909.59
17 911.36 910.76

POTTERY

Pail Date Count Bskts Loc Preservation Comments Reading
14/11/03 08/02 Prob IR2 bods, MB2
15/11/03 08/03 Early IR2, MB2
17/11/03 08/03 IR1, MB2, LB

PHOTOGRAPHS
Date Subject
37/11/02 08/02 PROGRESS OF EXCAVATION
13/11/03 08/03 WEST BALK BEFORE REMOVAL
5/11/03 08/03 EAST BALK BEFORE REMOVAL

INTERPRETATION
Function: Layer of rampart construction? Repair?

Stratigraphy: Soil layer of between two harder layers—Loci 3 & 5, both of which were probably put in place.
04/27/86 SOIL LOCUS SHEET

**IDENTIFICATION**
U84 Field B, Square 7J88, Locus 5

**REASON**
Remarks: New surface-material.
Separability: Top—Very Clear

**DESCRIPTION**

<table>
<thead>
<tr>
<th>Inclusions:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artifacts:</td>
<td>Layer appears to be continuation of nori placis Locus 4 in square 7J88. Surface not penetrated. Disappears under Locus 7.1 m from balk. Excavation not complete.</td>
</tr>
<tr>
<td>Organic:</td>
<td></td>
</tr>
</tbody>
</table>

**STRATIGRAPHY**

<table>
<thead>
<tr>
<th>Under:</th>
<th>Equals:</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>8.7/08/4</td>
<td></td>
</tr>
</tbody>
</table>

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>911.33</td>
</tr>
<tr>
<td>16</td>
<td>909.60</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

Function: Layer of rampart construction.

04/27/86 ARCHITECTURAL LOCUS SHEET

**IDENTIFICATION**
U84 Field B, Square 7J88, Locus 6 (Supplement)

**REASON**
Remarks: Wall found during removal of east balk.
Separability: Top—Very Clear Bottom—Unclear

**DESCRIPTION**

<table>
<thead>
<tr>
<th>Material:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masonry:</td>
</tr>
<tr>
<td>Wall Stones: Cobble........... 5%</td>
</tr>
<tr>
<td>Medium Boulder........... 65%</td>
</tr>
<tr>
<td>Large Boulder........... 25%</td>
</tr>
<tr>
<td>Fill Stones: Cobble........... 40%</td>
</tr>
<tr>
<td>Dressing: Unhewn........... 100%</td>
</tr>
<tr>
<td>Facing: Unfaced</td>
</tr>
<tr>
<td>Construction: Style Boulder &amp; Chink</td>
</tr>
<tr>
<td>Courses: 4 to 5</td>
</tr>
<tr>
<td>Rows: 4 to 5</td>
</tr>
<tr>
<td>Measurements: Length........... 1.920 m Width........... 1.620 to 1.560 m Height........... 0.770 to 1.530 m Orientation........... 25 deg Lean Direction........... 10 deg</td>
</tr>
</tbody>
</table>

**STRATIGRAPHY**

<table>
<thead>
<tr>
<th>Under:</th>
<th>Equals:</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>8.7/08/4</td>
<td>Wall in E balk</td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Number Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>32/03/06</td>
<td>08/06</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

Function: Possible retaining, defense, or dwelling wall.

**Stratigraphy:**
Locus 6 is sealed against by Locus 5 and was used in conjunction with Locus 5.
IDENTIFICATION
US Field B, square 7J98, Locus 7

DESCRIPTION
Type: Linear

Material:
- Stone: 100%

Measurements:
- Length: 2.000 m
- Width: 0.280 to 0.420 m
- Height: 0.200 to 0.300 m

Orientation: 45 deg

Remarks:
A line or lines of stone appearing to be a continuation of the line in 7J98 commencing in location 7 & 8 and running NE to SW, ending in west balk and south balk. The nari layer, Locus 5, disappears beneath these stones and the bricky layer, Locus 4, washed over them, leaving pockets of loose earth around them.

Excavation incomplete.

STRATIGRAPHY
Under: 4
Over: 5

Remarks:
Appearance to be free standing.

LEVELS

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>909.20</td>
<td>13</td>
<td>909.59</td>
</tr>
</tbody>
</table>

INTERPRETATION
Function:
If this is continuation of Locus 5 in square 7J98 it is probably part of pyramidal support wall for the defense glacis made up of large nari chunks and designated Locus 5.

Stratigraphy:
Over Locus 5 and apparently under Locus 3, surrounded by Locus 4.

Locus Date: 18
IDENTIFICATION
U84 Field 8, Square 7J89, Locus 1

REASON
Remarks: Surface.
Separability: Top--Very Clear Bottom--Very Unclear

DESCRIPTION
Color: Very dark grayish brown 10YR3/2
Texture: Clay....... 20% Silt....... 40% Sand....... 40% Fine Sand.. 9%
Particle Shape: Angular___ 10OX
Consistence: Hardness............... 1
Inclusions:
Stone: Small Pebbles........... 700/m2 Large Pebbles........... 150/m2 Medium Pebbles........... 6/m2 Medium Cobbles........... 5/m2 Medium Boulders........... Rare
Organic:
Stone:
Measurements:
Length........ 5.000 m Width........ 9.000 m Depth... 0.02 to 0.430 m
Degree of Slope........ 20 deg
Remarks: Sorting: Also wind and talus.

STRATIGRAPHY

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
35 914.96 7 912.89 912.87
31 913.43 913.05 11 913.55

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Bskts</th>
<th>Comments</th>
<th>Pottery</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/29</td>
<td>25/252</td>
<td>44</td>
<td>POSS MEND</td>
<td>IR2, IR1, PROB EB</td>
</tr>
<tr>
<td>06/29</td>
<td>1/13</td>
<td></td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>06/29</td>
<td>0/5</td>
<td></td>
<td></td>
<td>IR2</td>
</tr>
<tr>
<td>05/02</td>
<td>22/59</td>
<td>28</td>
<td></td>
<td>IR2, IR1, POSS MB2, UD</td>
</tr>
<tr>
<td>07/02</td>
<td>5/21</td>
<td></td>
<td></td>
<td>IR2, IR1</td>
</tr>
<tr>
<td>07/02</td>
<td>4/14</td>
<td></td>
<td></td>
<td>IR2, FEW MB2, PROB EB BOD</td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/98</td>
<td>06/28</td>
<td>PRE-EXCAVATION</td>
<td>05/01/99</td>
<td>06/29</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>06/04/99</td>
<td>06/29</td>
<td>PROGRESS OF EXCAVATION</td>
<td>06/29</td>
<td>07/01/99</td>
<td>ROCK TUMBLE BFD REMOVAL</td>
</tr>
</tbody>
</table>

INTERPRETATION

Stratigraphy: Overlies all other loci in square.
Locus Date: IR2
IDENTIFICATION
US Field 8, Square 7W9, Locus 2

REASON
Remarks: Stonefall.
Separability: Top-Unclear
Bottom-Unclear

DESCRIPTION
Color:
Texture:
Particle Shape:
Consistency:
Inclusions:
Measurements:

Top--Unclear
Very dark grayish brown
Clay... 20% Sand... 40%
Silt... 40%
Course Sand 1%
Angular... 100%

Hardness... 1
Wetness... Very Dry

Small Pebbles... 700/m2
Large Pebbles... 150/m2
Medium Pebbles... 4/m2

Length... 5,000 m
Depth... 0.050 to 0.150 m

10YR3/2
Silt... 40%
Course Sand 1%

Very Dry

Small Pebbles... 400/m2
Medium Pebbles... 10/m2
Large Pebbles... 1/m2

Random

Width... 5,000 m
Direction of Slope... 290 deg

Topsoil and rockfall.

More rockfall exposed than assigned to walls.

Locus Date:

INTERPRETATION
Function:
Stratigraphy:

Topsoil and rockfall,
More rockfall exposed than in Locus 1. Removal of tumble revealed definite and possible wall lines. New loci assigned to walls.

Locus Date: 7W9
04/27/86

IDENTIFICATION
USA Field 8, Square 7J89, Locus 3

REASON
Remarks: Loci 4 & 5 separate locus 3 from the rest of the square.

DESCRIPTION
Color: Very dark grayish brown 10YR3/2
Texture: Clay...... 20% Silt...... 40% Sand...... 40% Fine Sand.. 98%
Medium Sand 1% Course Sand 1%
Particle Shape: Angular... 100%
Consistency: Hardness................. 1
Wetness......................... Slightly Moist
Compactness............... Very Crumbly/Very Rubbly
Structure...................... Talus

Inclusions:
Stone:
Small Pebbles............. 1000/m² Medium Pebbles........ 50/m²
Large Pebbles............. 10/m² Small Cobbles........... 5/m²
Medium Pebbles........... 2/m² Large Cobbles........... 1/m²
Large Pebbles........... 1/m² Small Cobbles........... 6/m²
Distribution............... Random
Depth......................... 0.150 to 0.200 m
Degree of Slope........... 20 deg

Remarks:

LEVELS
Loc Top Bottom Transit
-------------------------------
35 914.35 914.13

POTTERY

PHOTOGRAPHS

DRAWINGS
Top Plans: Locus 1

INTERPRETATION
Function:
Stratigraphy:
Same as Locus 2; rock tumble. May be within a storage room due to the number of mailable pottery sherd found in Locus 2 and Locus 3.
Walls 4 & 5 constitute two of the walls of a room which bound 3. Loci 2 and 6 may be equal to Locus 3. Locus 7 may equal Locus 3; pottery reading should help determine this.

Locus Date: 1/92

Supervisor: RAL
IDENTIFICATION

U64 Field 8, Square 7J89, Locus 4

Supervisor: RAL
Dates: 6/29 to 7/25

REASON

Remarks:

Wall line.

Separability:

Top--Clear
Bottom--Unclear

DESCRIPTION

Material:

Limestone............. 100%

Masonry:

Wall Stones:

Small Boulder............. 98%
Medium Boulder............ 1%

Very Large Boulder........... 1%

Chinkstones:

Cobble..................... 100%

Dressing:

Semi-hewn.............. 100%

Mortar:

Dry-laid............... 100%

Facing:

Unfaced

Construction:

Style........... Boulder & Chink Support........ Free-standing

Tendencies:

Somewhat crude.

Remarks:

Built on rubble.

Courses:

4 to 5

Rows:

1 to 2

Measurements:

Length................... 2.460 m
Width................... 0.500 to 1.622 m

Height................... 0.760 to 0.850 m

Preservation:

Partial Superstructure: Little

Remarks:

Built on tumble. No FT. Difficult to determine if it abuts or borders wall 5.

LEVELS

Loc Top Loc Bottom Transit Loc Top Loc Bottom Transit Loc Top Loc Bottom Transit

33 914.26 913.58 X

11 914.34 913.59 X

15 914.30 913.45 X

POTTERY

Pail Date Count Baskets Loc Preservation Comments Reading Pub

52 7/24 2/ 35 15 Mixed Early IR2

PHOTOGRAPHS

Number Date Subject

04/02/02 04/29 PROGRESS OF EXCAVATION

05/01/29 06/29 WALL BEFORE FURTHER EXCAV.

06/02/02 07/02 PROGRESS OF EXCAVATION

11/02/02 07/02 ROCK TUMBLE REMOVAL

12/02/02 07/02 ROCK TUMBLE REMOVAL

06/02/04 07/06 PROGRESS OF EXCAVATION

06/02/04 07/06 PROGRESS OF EXCAVATION

07/02/04 07/06 PROGRESS OF EXCAVATION

06/02/04 07/06 PROGRESS OF EXCAVATION

07/08/24 07/24 STORAGE PIT W/O SO STONE

07/02/04 07/06 PROGRESS OF EXCAVATION

07/08/24 07/24 END OF 13, START OF 14

09/02/05 07/05 CLOSE-UP OF BONE IN SITU

07/02/04 07/24 END OF 13, START OF 14

BIO DATA SAMPLES

Soil Sample

DRAWINGS

Top Plans: Locus 1

INTERPRETATION

Function:

Defense wall? Tower? The store jar #1 of locus 14 rested against wall 4. If wall 4 is a defense structure, it also served as a wall for a storeroom during one period of time.

Stratigraphy:

Although wall 4 does not bond with or abut wall 5, it appears 4 was at one time connected with 5. 4 appears to be built on tumble of wall 11.

Locus Date:

IR2
**IDENTIFICATION**

UBB Field B, Square 7J89, Locus 5

**REASON**

Remarks: Wall. Separability: Top--Very Clear Bottom--Average

**DESCRIPTION**

Material: Limestone .............. 100%

Masonry: Wall Stones: Small Boulder .......... 1%

Large Boulder .......... 1%

Chinkstones: Cobble ................. 100%

Mortar: Dry-laid ................ 100%

Facades: Unfaced


Courses: 4 to 5

Rows: 1

Measurements: Length .................. 1.350 m Width .................. 0.915 to 1.146 m

Height .................. 0.87 to 1.05 m

Preservation: Partial Superstructure: Little

Remarks: Built on tuckle. Seems to end suddenly. Satt color in wall 5 is 10YR1/4 dark yellowish brown. Appears to extend into the tell. Difficult to demonstrate if it abuts or bonds with 4.

**STRATIGRAPHY**

Under: 1, 2

Over: 11, 16, 19

**LEVELS**

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit

12 914.64 913.59 23 914.34 913.42 21 914.20 913.33

**POTTERY**

Pail Date Count Baskets Loc Preservation Comments Reading

54 7/24 0/ 13 9 1R DDS

**OBJECTS**

Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

**PHOTOGRAPHS**

Number Date Subject ........ Number Date Subject ........ Number Date Subjects

04/27/86 ARCHITECTURAL LOCUS SHEET Page 1

**INTERPRETATION**

Function: Possible defense wall. Its one row and foundation on tuckle make it a very poor wall for defense. The pillars found in the square to the NW may be contemporaneuous with wall 5. 4; so this could explain the crude construction of wall 5. Wall 5 being built on tuckle may indicate that wall 5 was constructed in a rush. Wall 5 seems to be contemporaneous with the store room of locus 13 or 14; the destruction layer of ash sealed against wall 5. There were some fire-blackened stones in wall 5 at the level of 13--the destruction layer. Thus wall 5 could serve as a defense wall, a wall for a store room, or both.

Wall 5 appears to have once been connected with wall 4. Wall 4 may be built on the tuckle of walls 11 and 9. Wall 4 contains fire-blackened stones at the level of 13--the destruction layer.

**STRATIGRAPHY**:

Locus Date: 182
IDENTIFICATION
U84 Field B, Square 7J89, Locus 6

REASON
Remarks: Soil color, flat lying pottery, firmer soil.

DESCRIPTION
Color: Dark brown
Texture: Clay: 20%, Silt: 40%
Particle Shape: Sub-angular: 20%
Consistency: Hardness: 2, Compaction: Very Crumbly

Soil:
Brick Material: 1/m2, 2.5 cm
Ash Pockets: 1/m2, 10.0 cm

Stone:
Small Pebbles: 700/m2
Medium Pebbles: 500/m2
Large Pebbles: 120/m2
Small Cobble: 1/m2

Organic:
Charcoal: 3/m2, avg. 0.4 cm

Wetness: Slightly Moist

Inclusions:
Distribution: Random

PHOTOTORY

LEVELS
Loc Top Bottom Transit
1 12, 13, 14, 15
2 914.16 913.66

POTTERY

OBJECTS

FLINT BLADE? 1 07/17 32 35 1
METAL HOOK? 2 07/17 32 35 1
WHEEL POT 3 07/17 36 34 913,69 1
PART OF GRINDER 4 07/18 37 34 1
SLINGSTONE 5 07/18 37 29 1
GLASS 6 07/19 1

PHOTOGRAPHS

DRAWSNGS

SOIL LOCUS SHEET

SUPERVISOR: RAL
DATEs: 7/3 to 7/10

Supervisor: RAL

DEPTH
Degree of Slope: Uneven slope, but average 10 deg.

FUNCTION:
Tumble and fill in store room? The top of Locus 6 is easily broken, it thus seems unlikely as a surface of much use. Rather it would be more likely that the room bounded by walls 4 and 5 was filled with tumble and the top of Locus 6 was exposed for a period and then 6 was covered.

LOCATION:
Locus 6 appears to be the top of tumble which followed the destruction of a storage room

Loc: 62
IDENTIFICATION

USA Field B, Square 7J89, Locus 7  Supervisor: RAL  Dates: 7/3 to

REASON
Remarks: Wall lines. Locs 4 and 5 divide from rest of square.

SEPARABILITY
Top: Unclear  Bottom: Unclear

DESCRIPTION

Color:
Very dark grayish brown 10YR3/2

Texture:
Clay .......... 40X  
Silt .......... 40X  
Sand .......... 20X

Particle Shape:
Angular ....... 100X

Consistence:
Hardness ..........  
Compactness .......

Hetness ......: 
Slightly Moist

Structure ........
.... Random

Inclusions:
Soil:
Brick Material.... 3/m2
Distribution ......
.... Random

Stone:
Small Pebbles .... 1000/m2
Medium Pebbles .... 400/m2
Large Pebbles .... 100/m2
Small Cobbles .... 60/m2
Medium Cobbles .....
.... Random
Large Cobbles .... 5/m2

Organic:
Bone ............  

Distribution ......
.... Random

Measurements:
Length ...........
.... 2.000 m

Width..............
.... 3.000 m

Depth ............
.... 0.876 to 1.360 m

Degree of Slope ..
.... 15 deg

Remarks:
Mendable portions of pottery found in a number of spots. Several flat worked stones, worked average size, .270 x .160 x .80 in turle. Unfinished excavation.

STRATIGRAPHY

6 faces:
Under: 1, 2
Equals: 8?
Top
Bottom Transit
Loc
Top Bottom Transit
Loc
Top Bottom Transit
31 914.05 913.01 10 913.24 912.20 26 913.67 912.80
32 913.26 912.90 20 913.87 912.87

POTTERY

Date
Count
Bskts
Loc
Preservatio
Corrments
Reading
12 7/3 2 6 2 LROM,IR2
13 7/4 19 16 IR2
14 7/4 24 16 IR2
15 7/4 44 EARLY IR2
16 7/5 13 PROB IR2
17 7/5 30 IR2,IR1
18 7/5 46 IR2,IR1
19 7/5 87 IR2,IR1
20 7/6 37 IR2,IR1
21 7/6 35 IR2,IR1
22 7/6 10 IR2,IR1
23 7/10 7 IIR,IR1
24 7/16 7 2 IR,IR2
25 7/27 7 2 IR,IR2
26 7/30 7 2 IR,IR2
27 7/31 7 2 IR,IR2

OBJECTS

Reg no.
Description
Field no.
Date
Pail
Loc
Level
Total Period
Material
Photo
Drawing

METAL PIN, NAIL?

LOOM WEIGHT

GRINDING STONE?

STOPPER

LOOM HEIGHT

PHOTOGRAPHS

Date Subject
Number
06/02/04 07/04 PROGRESS OF EXCAVATION
09/02/11 07/11 PROGRESS OF EXCAVATION
13/02/18 07/24 PROGRESS OF EXCAVATION
07/02/25 07/25 PROGRESS OF EXCAVATION
07/11/01 07/11 PROGRESS OF EXCAVATION
07/03/16 07/16 PROGRESS OF EXCAVATION
07/06/19 07/16 PROGRESS OF EXCAVATION
07/04/23 07/23 PROGRESS OF EXCAVATION

BIDATA SAMPLES

Soil Sample

Interpretation

Function:
Turtle probably from walls 4 & 5, and possibly, at lower level, turtle from walls 11 and 19. The mendable portions of pottery may indicate that wall 4 extended west and formed part of a casemate wall, as the possible casemate of walls 9, 11, 22, and 15, and 7 was part of a storeroom. Since the bottom of 7 has not been found except at Locus 21 (sector 26), the cobbled surface, and no jars have been found on that surface, to say this locus is anything else than turtle is premature.

Stratigraphy:
Wall 5 may have continued west and divided from the rest of the square.
between the two loci. Locus 21 may be the bottom of 7 in sector 26.

US Field B, Square 7J89, Locus 7 (Supplement)
Inclusion-Ash Pockets

Supervisor: RAL  Dates: 7/3 to 18/02

PHOTOGRAPHS
Number Date Subject
10/22/05 07/06 WALL BEFORE FURTHER EXCAVATION

BIODATA SAMPLES
Soil Sample............. Inclusion.

INTERPRETATION
Stratigraphy: The inclusions seem to have formed themselves to the topography sitting on the surface of stones and extending into the cracks between stones. May result from deterioration of mud brick, may indicate destruction level.
SOIL LOCUS SHEET

IDENTIFICATION

U84 Field 0, Square 7J9, Locus 8

REASON

Remarks: Possible wall line E-W. Extension of wall S.

Separability: Top--Average

DESCRIPTION

Texture: Clay .......... 40% Silt .......... 40% Sand .......... 20%

Particle Shape: Angular ....... 100%

Consistency: Hardness ................ 1

Wetness.................Very Dry

Compactness ............ Very Crumbly

Structure............... Random

Inclusions:

Soil:

Nari Pockets ........... 16/m2,

Ash Pockets............. 2/m2,

Small Pebbles........... 1000/m2

Large Pebbles........... 200/m2

Medium Cobbles .......... 50/m2

Small Boulders ......... 2/m2

Sand ...... 20%

Medium Pebbles ......... 400/m2

Large Cobble........... 75/m2

Medium Boulders......... 1/m2

Structure............... Random

Measurements:

Length .................. 5.000 m

Direction of slope ..... 295 deg

Width ................... 1.500 m

Degree of slope ........ 18 deg

Distribution............ Random

Remarks:


STRATIGRAPHY

Under: 1 , 2

Over: 22

LEVELS

Loc   Top   Bottom   Transit

POTTERY

Pail Date Count - Bskts Loc Preservation Comments Reading Pub

OBJECTS

Reg no. Description Field no. Date Pail Loc Level Total Period Material Photc

PHOTOGRAPHS

Number Date Subject Number Date Subject Number Date Subject

DRAWINGS

Top Plans: Locus 1

INTERPRETATION

Function: Locus 8 may be the same as 7; turtle from walls 4 and 5 and possibly walls 11 and 9.

Stratigraphy: Wall 5 may have been continued from its pressure point westward, thus dividing 7 from 8; this could explain the difference in pottery in Loci 7 and 8.
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U6 Field B, Square 7J89, Locus 9

REASON
Remarks: Wall line.

DESCRIPTION
Material: Limestone

Masonry:
Wall Stones: Cobble
Chinkstones: Pebble

Dressing: Semi-hewn

Mortar: Dry-laid

Facing: Unfaced

Construction: Style: Boulder & Chink Support: Free-standing

Tendencies: Tight fitting stones.

Courses: 5 to 6
Rows: 2 to 3

Measurements:
Length: 2.450 m
Width: 0.300 to 0.450 m
Height: 0.405 to 1.580 m

Dip: 0 deg

Preservation: Partial Superstructure: Half

Remarks: N face in balk. Incomplete excavation.

STRATIGRAPHY
Under: 1, 2, 6

LEVELS

PHOTOGRAPHS

09/02/16 07/16 PROGRESS OF EXCAVATION
11/02/16 07/17 PROGRESS OF EXCAVATION

INTERPRETATION

Function: Cross wall of casemate system with walls 11 and 22? A defense wall of some type.

Stratigraphy: Earliest phase found this season. Bonds with wall 11. After its disuse, from destruction or whatever, appears forgotten or ignored. In later loci wall 9 may have been robbed out. Wall 9 appears to connect with wall 22. Tumble in 8 appears to come partially, at least, from wall 9: the 6-sided warded stones may have been 9’s facing.

Locus Date: IR2 (?)
04/27/86

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION

U84 Field B, Square 7J89, Locus 10

REASON

Remarks:
Separability: Top-Average

DESCRIPTION

Material:
Remarks: Decayed Mudbrick...... 100%
Not a wall. Not mudbrick. Possible remains of mud brick wallfall.

STRATIGRAPHY

Equals: 8

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>15/03/13</td>
<td>07/13</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/08/16</td>
<td>07/16</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>11/02/17</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function: Not a mudbrick wall.

Stratigraphy: Equals Locus 8.

Supervisor: RAL
Dates: 7/12 to 7/25
**IDENTIFICATION**

**U84 Field 0, Square 7J89, Locus 11**

**REASON**

Remarks: Wall line. Separability: Top--Ctear

**DESCRIPTION**

**Material:** Limestone ..........

**Masonry:**

- **Wall Stones:** Cobble............
- **Chinkstones:** Pebble............

**Dressing:** Semi-hewn,..........

**Mortar:** Dry-laid,.............

**Facing:** Unfaced

**Construction:** Style,............ Boulder & Chink

- **Supervisor:** RAL

**Oressing:**

- Semi-hewn............ 100%

**Mortar:**

- Dry-laid................ 100%

**Faring-**

- Unfaced

**Construction:**

- **Style:** Boulder & Chink

- **Supervisor:** RAL

**Courses:** 2 to 5  

- **Rows:** 1 to 2

**Measurements:**

- **Length:** 2.440 m
- **Width:** 0.294 to 0.958 m

- **Dip:** 8 deg

- **Orientation:** 260 deg

**Preservation:**

- **Partial Superstructure:** Half  

- **Lean Degree:** 12 deg

**Remarks:**

- Partial in balk, E face in balk. May continue across square. Excavation incomplete.

**STRATIGRAPHY**

- **Under:** 1, 2, 5, 8, 16, 19

**Bonded To:** 9

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>913.12</td>
<td>912.99</td>
<td>17</td>
<td>913.29</td>
<td>913.65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Number</th>
<th>Date Date Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/28/16</td>
<td>07/16 PROGRESS OF EXCAVATION 10/08/23</td>
</tr>
<tr>
<td>15/10/17</td>
<td>07/17 PROGRESS OF EXCAVATION 13/08/24</td>
</tr>
<tr>
<td>08/01/11</td>
<td>07/18 PROGRESS OF EXCAVATION 11/02/25</td>
</tr>
<tr>
<td>11/02/19</td>
<td>07/19 PROGRESS OF EXCAVATION 10/02/26</td>
</tr>
<tr>
<td>06/02/23</td>
<td>07/20 10/02/20 PROGRESS OF EXCAVATION 07/27</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

**Function:**

Wall 11 bonds with 9, 11 may connect with wall 22--which nearly parallels 11--and possibly with walls 20 or 15, although 20 and 15 do not have the depth to connect with 11 as 11 now appears to run across the square. 11 may be a part of a casemate wall for the western defense.

**Stratigraphy:**

Wall 11 appears to be the earliest phase this season with wall 9 and maybe wall 22. All loci seem to be at a later time than wall 11. Wall 11 seems to have been forgotten or ignored after its disuse—disuse by destruction or whatever. Wall 22 may have indications of destruction. Walls and surfaces were built on wall 11 without taking advantage of wall 11 as a foundation or divider. 19 seems to seal against the E face of wall 11. Locus 19 is oven- and sun-baked mudbrick which might be tumble, but it also may be some type of extension of wall 11 or serve a function directly related to wall 11.

**Locus Date:** 11/82 (7)
IDENTIFICATION
USA Field B, Square 7J89, Locus 12

REASON
Remarks: Darker color--ashey layer.
Separability: Top--Average Bottom--Average

DESCRIPTION
Color: Very dark grayish brown 2.5Y3/2
Texture: Clay ....... 10% Silt ....... 70% Sand ....... 20%
Particle Shape: Sub-angular 40% Sub-round .... 30% Round .... 30%
Consistence: Hardness ........ 0
Wetness ........ Slightly Moist
Inclusions: Soil: Brick Material ........ 1/m2, 0.4 cm Distribution ........ Random
Stone: Small Pebbles ........ 5/m2 Medium Pebbles ........ 15/m2
Large Pebbles ........ 10/m2 Small Cobblels ....... 2/m2
Medium Cobblels ....... 10/m2 Large Cobblels ....... 1/m2
Small Boulders ....... 1/m2 Distribution ........ Random
Consistence: Width .... 3.000 m Depth .... 0.030 m Direction of Slope .... 0 deg

LEVELS
Loc Top Button Transit Loc Top Button Transit
20 913.69 193.66 35 913.67 193.66

POTTERY
Pail Date Count Bskts Loc Preservation Comments Pub
44 7/19 6 Mixed Early IR2

OBJECTS
Reg no. Description Field no Date Pail Loc Level Total Period Material Photo Drawing
STONE (SLINGSTONE) 07/19 44 28

PHOTOGRAPHS
Number Date Subject Number Date Subject
11/02/19 07/19 PROGRESS OF EXCAVATION

BIDATA SAMPLES
Flotation Sample
Remarks: Ash/charcoal bits.

DRAWINGS
Top Plans: Loc 1, 4

INTERPRETATION
Function: Destruction level associated with fire.
Stratigraphy: 12 may be continued in Locus 13. 12 is a destruction level. 6 appears to be tumble over 12. All of this is within room bounded by walls 4 and 5.
Locus Date: EIR2
IDENTIFICATION
UN Field B, Square 7J89, Locus 13
Supervisor: RAL
Dates: 7/19 to 7/23

REASON
Remarks: Some flat-lying stones. Soil packed more firmly than 12.

DESCRIPTION
U84 F Field 8, Square 7J89, Locus 13
Supervisor: RAL
Remarks: Some flat-lying stones. Soil packed more firmly than 12.

Some flat-lying stones. Soil packed more firmly than 12. If 12 and 13 are equal then the flat-lying stones could be serving as a counter to place small jars upon--reducing the chance of kicking over the jars and making it easy to place/remove the vessels.

STRATIGRAPHY
Under: 14
Over: 1, 2, 3, 6, 12

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
29 913.66 913.66 35 913.64 913.67

POTTERY
Pail Date Count Bskts Loc Level Total Period Material Photo Drawing
45 7/19 2 65 7 MIXED PROB EARLY IR2
46 7/20 6 56 MIND POT #1 EARLY IR2
47 7/20 5 77 MIND POT #2 EARLY IR2
48 7/20 1 14 MIND POT #3 EARLY IR2
49 7/20 1 53 12 MIND SIFT EARLY IR2
50 7/23 6 13 MIND SIFT IR BOOS
53 7/2 0 13 MIND

OBJECTS
Reg No. Description Field no. Date Pail Loc Level Total Period Photo Drawing
SLINGSTONE 1 07/19 45 26 1
GRINDING STONE 2 07/20 49 21 2

PHOTOGRAPHS
Number Date Subject Number Date Subject Number Date Subject
09/08/20 07/20 PROGRESS OF EXCAVATION 22/08/20 07/20 SURF & JARS BEF REMOVAL 10/08/23 07/23 PROGRESS OF EXCAVATION

SILICATA SAMPLES
Soil Sample Regular check.
Flotation Sample

INTERPRETATION
Function:

Several flat-lying stones may indicate a two-phase use of the storeroom, Locus 14 being one prior to destruction level of 12; and 13 possibly being a cobbled floor room with the jars set into the prior floor. If 12 and 13 are equal then the flat-lying stones could be serving as a counter to place small jars--reducing the chance of kicking over the jars and making it easy to place/remove the vessels.

Stratigraphy:

13 may be a continuation of 12, 12 being an ash layer and 13 a dark layer of soil. Thus 12 and 13 could be a destruction level. Or 13 could be a surface used for the storage room and 12, the destruction level ash, has leached down into 13. The many slingstones found at this level ties 12 and 13 together as one destruction level.

Locus Date:
E 1V2
IDENTIFICATION
U94 Field B, Square 7J89, Locus 14
Supervisor: RAl
Dates: 7/25 to 7/26

REASON

DESCRIPTION
Color: Dark brown 10YR4/3
Consistence: Hardness............. 3
Wetness.................. Slightly Moist
Compaction........... Moderately Crumbly
Structure.............. Tonal

Inclusions:
Soil: Mari Pockets........... 1/m2, 2.0 cm
Ash Pockets............. 3/m2, 2.0 cm
Brick Material........... 1/m2, 1.0 cm

Stone: Small Pebbles........ 8/m2
Medium Pebbles.......... 4/m2
Large Pebbles........... 4/m2
Small Cobbles........... 1/m2

Measurements:
Length.................. 4.000 m
Depth............... 0.021 to 0.023 m
Width................ 2.250 m
Direction of Slope..... 190 deg
Degree of Slope........ 2 deg

Surface Mat'l: Beaten Earth
Remarks: Sorting: random; Some leaching of sandy layer into locus. Part of Locus 17 was sifted with 14 (July 26, pail 57).

STRATIGRAPHY
Under: 1, 2, 3, 6, 12, 13
Over: 17, 18, 19
Seals against: 15, 20

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
29 913.45 914.44 28 913.44 27 913.53 913.48
35 913.47 913.42 34 913.47 913.37

POTTERY
Pail Date Count Bkts Lsc Preservation Comments Pub
56 7/25 2/ 44 13 Mixed IR2, IR1
57 7/26 3/ 23 5 Mixed Burnt pieces Early IR2

PHOTOGRAPHS
Number Date Subject Number Date Subject Number Date Subject
10/05/23 07/23 PROGRESS OF EXCAVATION 26/05/24 07/24 END OF 13, START OF 14 11/02/25 07/25 PROGRESS OF EXCAVATION
15/05/24 07/24 STORAGE PIT W/O SO STONE 27/05/24 07/24 END OF 13, START OF 14 10/02/26 07/25 PROGRESS OF EXCAVATION

BIODATA SAMPLES
Soil Sample............. Regular.
Flotation Sample........

INTERPRETATION
Function: Store room. Contemporary with the pots #1, #2, #3.
Stratigraphy: Very likely equals Locus 18. Both Loculi 14 and 10 may be built up—either intentional or not—of dirt on Locus 17.
Locus Date: EIR2
IDENTIFICATION

U84 Field B: 7J89, Locus 15

REASON

Remarks:

Separability:

DESCRIPTION

Material:

Masonry:

Wall Stones:

All Stones

Medium Boulder

Chinkstones

Dressing:

Mortar:

Facing:

Construction:

Remarks:

Description:

Material:

Masonry:

Wall Stones:

All Stones

Medium Boulder

Chinkstones

Dressing:

Mortar:

Facing:

Construction:

Remarks:

Courses:

Rows:

Measurements:

Length:

Width:

Height:

Orientation:

Dip:

Preservation:

Remarks:

Partial Superstructure: Half

Stratigraphy:

Under:

Over:

Levels:

Loc Top

Bottom Transit

Loc Top

Bottom Transit

Loc Top

Bottom Transit

POTTERY

Pail Date

Count

Baskets

Loc

Preservation

Comments

Reading

PUBLICATIONS

Number

Date

Subject

Number

Date

Subject

Number

Date

Subject

PROJECT:

Photographs

Number

Date

Subject

Number

Date

Subject

Number

Date

Subject

DRAWINGS

Top Plans:

Locus 14

Interpretation:

Function:

Stratigraphy:

June 1, 2, and 3 rested against wall 15, 18 was part of a storehouse.

Wall 15 is founded on rubble, wall 20 and soil. Wall 15 is not built directly on 20; it looks as if, when 15 was built, both wall 20 and 17 were no longer known to have existed. 15 may have once abutted wall 4, in sector 35 wall 4 is disturbed and out of alignment.

Locus Date:

ARCHITECTURAL LOCUS SHEET

Supervisor: RAL

Dates: 7/20 to

Page 1

ARCHITECTURAL LOCUS SHEET

Supervisor: RAL

Dates: 7/20 to

Page 1
IDENTIFICATION

U84 Field 8, Square 7189, Locus 16

REMARKS:

Separebility:
Top: Clear
Bottom: Unclear

DESCRIPTION

Color:
Dark brown

Consistence:

Hardness: 1

Moisture: Slightly Dry

Inclusions:
Small Pebbles: 8/m2
Large Pebbles: 10/m2
Medium Pebbles: 1/m2
Small Cobbles: 1/m2
Large Cobbles: 1/m2
Medium Boulders: 6/m2

Distribution: Random

10YR4/3
Dark brown

10/m2

1/m2

1/m2

1/m2

6/m2

Measurements:
Length: 2,400 m
Width: 0.650 m
Depth: 0.560 to 0.900 m

Degree of Slope: 190 deg

Measurements:

Remarks:

STRATIGRAPHY

Under:
Loc Top
33

Bottom Transit
913.58

Over:
Loc Top

912.78

Level

Loc Top

Bottom Transit

Locus Date:

913.58

913.44

913.59

913.03

POTTERY

Pail

Date

9/13

58

912.

9/25

Comments

Preservation

IR

Reading

22

913.59

913.03

IR

Bskts Lot

28

55

5/16

19

IR

7/25

27/9

Under wall 4

1/12

2/16

Under wall 5

20/12

Shear in

1EB, MB bods, EB bods

PHOTOGRAPHS

Number

Date

Subject

PROGRESS OF EXCAVATION

20/08/31

07/31

PROGRESS OF EXCAVATION

8/02/25

07/25

PROGRESS OF EXCAVATION

11/02/25

07/25

NUMBER

SOIL SAMPLE

Date

Subject

Function:
Tumble

Stratigraphy:
Walls 4 and 5 are built on tumble, perhaps of walls 9 and 11 of which 16 may largely consist.

Locus Date:
IR
### SOIL LOCUS SHEET

#### IDENTIFICATION

**U84 Field B, Square 7J89, Locus 17**

**Remarks:** Flat lying cobble stones.

**Separability:** Top-Clear

**Description**

**Measurements:**
- Length: 1.700 m
- Width: 1.370 m
- Depth: 0.040 to 0.120 m

**Surface Mat'l:** Cobble

**Remarks:** Locus 23 for pottery beneath 17. Limestone. Uncut. Partially robbed or destroyed on W and N.

**Stratigraphy**

**Under:** 1, 2, 3, 4, 6, 12, 13, 14, 18

**Over:** 11, 19, 23

**Levels**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>913.37</td>
</tr>
<tr>
<td>29</td>
<td>913.35</td>
</tr>
</tbody>
</table>

**Measurements**

- Length: 3.000 m
- Width: 2.400 m
- Depth: 0.003 to 0.016 m

**Surface Mat'l:** Beaten Earth

**Photographs**

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>07/30</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>38</td>
<td>07/25</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>39</td>
<td>07/30</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

**Interpretation**

**Function:**

The debris from 17 on up-18, 14, 13, 12, 6, and maybe 3-appears to be more or less limited by the line cut by walls 4 and 5. This may indicate the actual borders of these loci, or only that when walls 4 and 5 were built, the loci below were disturbed. Locus 17 may be contemporary with Locus 21, a cobbed surface. Locus 17 is contemporary with wall 20.

**Stratigraphy:**

Locus 18 may equal Locus 14, 14 being built up of 18. Locus 18 may have been purposely laid on 17, or just a gradual buildup of dirt.

---

### SOIL LOCUS SHEET

#### IDENTIFICATION

**U84 Field B, Square 7J89, Locus 18**

**Remarks:** Fire packed earth surface.

**Separability:** Top-Clear

**Description**

**Color:** Dark brown

**Consistence:** Hardness: 4

**Measurements:**
- Length: 3.000 m
- Width: 2.400 m
- Depth: 0.003 to 0.016 m

**Surface Mat'l:** Beaten Earth

**Stratigraphy**

**Under:** 1, 2, 3, 6, 12, 13, 14

**Over:** 17

**Seals against:** 20

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>913.45</td>
</tr>
<tr>
<td>35</td>
<td>913.45</td>
</tr>
</tbody>
</table>

**Photographs**

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>7/26</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>59</td>
<td>7/26</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

**Interpretation**

**Function:**

May be the same as Locus 13 or 14; surface in store room. No clear evidence of occupation.

**Stratigraphy:**

Locus 18 may equal Locus 14, 14 being built up of 18. Locus 18 may have been purposely laid on 17, or just a gradual buildup of dirt.

**Locus Date:** 1R
IDENTIFICATION
UM Field 8, Square 7B9, Locus 19

REASON
Remarks: Brick layer.
Separability: Top-Clear

DESCRIPTION
Material: Oven-baked Mudbrick.... 100%
Remarks: Both oven- and sun-baked mudbrick used.
Construction: Style: Tied-in Bricks Support: Free-standing
Measurements: Length: 3.200 m Height: 0.270 to 0.300 m
Remarks: Incomplete excavation. Color: 2.5YR4/6 red; 2.5YR4/8 red; 7.5YR strong brown; 10YR2/1 black.

STRATIGRAPHY
Under: 1, 2, 3, 4, 5, 6, 8, 12, 13, 14, 17, 18
Abuts: 11

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
23 915.05 20 913.12 912.00 35 915.20 912.05

POTTERY
Pail Date Count Baskets Loc Preservation Comments Reading Pub.
68 8/1 30 No pottery

PHOTOGRAPHS
Number Date Subject Number Date Subject Number Date Subject
12/08/31 07/31 PROGRESS OF EXCAVATION 20/08/27 07/27 PROGRESS OF EXCAVATION 37/02/30 07/30 PROGRESS OF EXCAVATION

INTERPRETATION
Function: Addition to wall 11 as final defense works? Possible walkway for guard on the wall? Very thick wall of structure set against wall 11? Tumble has been suggested, but the regularity of bricks and the parallel lines of the mortar makes this seem unlikely.
Stratigraphy: 19 at a later date may have been utilized as the foundation for 17. 19 is set against wall 11; 11 seems to continue on into the NE part of the square, where mudbrick—both sun-baked and fire-baked— is set against the wall. 19 may have been added on later to wall 11, rather than wall 11 to 19.

Locus Date: 16
IDENTIFICATION

UB4 Field 8, Square 7J89, Locus 20

REASON

Remarks: Wall line, different orientation than 15.

Separability: Top-Clear

Bottom-Clear

DESCRIPTION

Material: Limestone .......... 100%

Masonry:

Wall Stones: Small Boulder ........ 100%

Chinkstones: Pebble .......... 100%

Dressing: Semi-hewn .......... 100%

Mortar: Dry-laid .......... 100%

Facing: Unfaced

Construction: Style ........ Boulder & Chink

Courses: 1

Rows: 1

Measurements: Length .......... 1.200 m

Width .......... 0.600 to 0.660 m

Height .......... 0.250 to 0.300 m

Ori ........ 270 deg

Preservation: Partial Superstructure: Little

Remarks: If this is curbing, preservation is complete.

Remarks: Incomplete excavation. Stone in sector 34 fell, no level given.

STRATIGRAPHY

Under: 1, 2, 3, 5, 6, 12, 13, 14, 15

Sealed At Top By: 18

INTERPRETATION

Function: Perhaps a wall to a cobbled room or courtyard. Maybe a curbing to a stair or walkway.

Stratigraphy: Contemporary with Locus 17. Perhaps Locus 18 was added as a layer for leveling. Wall 20 may be contemporary with Locus 21. Wall 20 seems to be forgotten or ignored by the time wall 15 was constructed.

04/27/86

ARCHITECTURAL LOCUS SHEET

Page 1

04/27/86

SOIL LOCUS SHEET

Page 1

IDENTIFICATION

UB4 Field 8, Square 7J89, Locus 21

REASON

Remarks: Cobble surface.

Separability: Top-Clear

DESCRIPTION

Surface Matte: Argillities

Measures: Width .......... 1.160 m

Length .......... 1.250 m

Surface: Cobbles

Surface Matte: Decreased with exposure. 1 medium broken quern. Incomplete excavation. Soil around 21 is hard packed and seems to seal against 21, a possible layer of soil which 21 was laid in or soil which was packed around 21.

INTERPRETATION

Function: Floor to courtyard or room. May be a stairway or walkway contemporary with walls 17 and 20 leading to possible clusters below, or other area.

Stratigraphy: May be bottom of 7.

Locus Date: IR
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION

U84 Field 8, Square 7J89, Locus 22

REASON

Remarks: Wall line, inner face.
Separability: Top--Clear

DESCRIPTION

Material: Limestone................. 100%
Aspants:
Wall Stones: Cobble................... 80%
Chinkstones: Pebble ................... 20%
Fill Stones: Cobble ................... 70%
Semi-hewn ................ 100%
Dry-laid ..............  100%
Style ................... Boulder & Chink
Dressing:
Tendencies: Tight fitting stone.
Courses: 1 to 3
Rows: 3 w/rubble
Measurements: Length.................. 2.400 m
Width.................. 2.000 m
Height.................. 0.407 to 0.463 m
Dip..................... 2 deg
Orientation................ 210 deg
Preservation:
Partial Superstructure: Half
Remarks: Within probe in E. Fire-blackened soil against wall on E face in sector 8. Probe abandoned for season. West face of 22 in W balk. Sectors 12 and 18 removed to W.

STRATIGRAPHY

Under:
1, 2, 8

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>912.83</td>
<td>912.42</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>912.68</td>
<td>912.24</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>912.67</td>
<td>912.20</td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INTERPRETATION

Function: Defense wall, possible casemate along with walls 9 and 11.
Stratigraphy: 22 seems to belong to the earliest phase, along with walls 9 and 11, which has been excavated to this point. No surface (s) has been discovered yet which would relate these walls together in usage.

Locus Date: 18
### IDENTIFICATION

**FIELD B, SQUARE 7J89, Locus 23**

**SUPERVISOR:** RAL  **DATES:** 7/23 to 7/31

### REASON

- **Remarks:** Soil beneath 17.
- **Separability:** Top—Clear, Bottom—Clear

### DESCRIPTION

- **Consistence:** Moderately Crumbly
- **Wetness:** Slightly Moist
- **Compactness:** Moderately
- **Structure:** Random
- **Stone:**
  - Small Pebbles: 20/m²
  - Medium Pebbles: 20/m²
  - Large Pebbles: 15/m²
  - Small Cobbles: 10/m²
- **Distribution:** Random
- **Measurements:**
  - **Length:** 1.700 m
  - **Width:** 1.370 m
  - **Depth:** 0.080 to 0.150 m

### STRATIGRAPHY

- **Under:** 1, 2, 3, 6, 12, 13, 14, 17, 18
- **Over:** 11, 19

### LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>913.20</td>
<td>913.12</td>
<td>913.25</td>
</tr>
<tr>
<td>34</td>
<td>913.25</td>
<td>913.10</td>
<td>913.23</td>
</tr>
</tbody>
</table>

### POTTERY

<table>
<thead>
<tr>
<th>Pail Date</th>
<th>Count Baskets</th>
<th>Loc Preservation</th>
<th>Remarks</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>67 7/31</td>
<td>9/175</td>
<td>11</td>
<td>IR1, MB2, few EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70 7/31</td>
<td>/</td>
<td>8</td>
<td>IR, MB, EB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>13/08/24 07/24</td>
<td>STORAGE PIT W/O SO STONE</td>
<td></td>
</tr>
<tr>
<td>10/02/26 07/26</td>
<td>PROGRESS OF EXCAVATION</td>
<td></td>
</tr>
<tr>
<td>11/02/25 07/25</td>
<td>PROGRESS OF EXCAVATION</td>
<td></td>
</tr>
<tr>
<td>10/02/26 07/26</td>
<td>PROGRESS OF EXCAVATION</td>
<td></td>
</tr>
<tr>
<td>12/02/25 07/27</td>
<td>COBBLED FLOOR</td>
<td></td>
</tr>
<tr>
<td>12/02/30 07/30</td>
<td>PROGRESS OF EXCAVATION</td>
<td></td>
</tr>
<tr>
<td>12/02/31 07/31</td>
<td>PROGRESS OF EXCAVATION</td>
<td></td>
</tr>
</tbody>
</table>

### INTERPRETATION

- **Function:** Bedding for 17?
- **Stratigraphy:** If wall 11 continues across the square as 19 does, then the turbe of wall 11 and 19 may have been leveled to provide the foundation for 17.
- **Locus Date:** IR1
04/28/86

SOIL LOCUS SHEET

IDENTIFICATION

Area: Field B, Square 7J98, Locus 1

Supervisor: DM

Dates: 6/28 to 7/31

REASON

Remarks: Topsoil on the first day of excavation.

Separability:

Top—Very Clear

Bottom—Clear

DESCRIPTION

COLOR:

Dark brown

Texture:

Clay.............. 40%

Silts............. 40%

Sand............... 20%

Particle Shape:

Angular............. 100%

Con sistence:

Hardness............. 3

Compactness........ Moderately Crumbly

Wetness............. Moderately Dry

Structure........... Random

Inclusions:

Stone: Medium Pebbles........... 75/m2

Medium Cobbles.......... 35/m2

Artifact: Pottery................. Rare

Bone................. Rare

Organic: Bone................. Rare

Measurements:

Length................... 5.000 m

Width................... 5.000 m

Depth.................. 0.16 to 0.350 m

Degree of Slope........ 27 deg

Remarks:

Sorting: Because of the nature of the tell, certainly wind, talus, and random elements all played a part in the deposition of Locus 1.

STRATIGRAPHY

Over:

2

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit

35 911.06 911.61

21 910.39 910.17

7 910.15 910.09

31 909.94 909.66

11 911.03 910.78

POTTERY

Pail Date Count Baskets Loc Preservation Comments Reading

1 06/28 1/94 40 Mixed

182, prob IR1, MB2 bod

2 06/29 12/125 100 Mixed

Few 182, IR1, prob MB2, EB

4 07/02 26/460 201 Mixed

182, IR1, MB2, EB

5 07/03 19/300 72 Mixed

182, IR1

PHOTOGRAPHS

Number Date Subject

Number Date Subject

02/01/28 06/28 PRE-EXCAVATION

07/02/02 07/02 PROGRESS OF EXCAVATION

03/01/28 06/29 PROGRESS OF EXCAVATION

09/02/03 07/03 PROGRESS OF EXCAVATION

INTERPRETATION

Function:

Locus 1 was a topsoil layer which had accumulated over the destruction layer(s) below. This soil accumulation showed no signs of human plan (such as fill or other contrived activities). Its presence was due to the elements and the natural features of the site, such as rock and the tell form, which collected random dirt and debris.

Stratigraphy:

Locus 1 covered wall turtle locus 2 and appeared to continue in all directions as part of a general collection of topsoil that had accumulated through the centuries since the last destruction of Tell el-Hawa'i.
IDENTIFICATION
UB: Field B, Square 7J98, Locus 2

REASON
Remarks: Rock tumble within and below Locus 1.
Separability: Top—Very Clear Bottom—Clear

DESCRIPTION
Color: Dark brown 10YR3/3
Texture: Clay....... 20% Silt....... 40% Sand....... 40%
Particle Shape: Angular.... 100%
Consistence: Hardness................. 2
Voidness................. Moderately Dry
Compactness................. Moderately Crumbly
Structure................. Wind

Inclusions:
- Stone:

Measurements:
- Length: 5,000 m
- Width: 5,000 m
- Depth: 0.13 to 0.26 m
- Direction of Slope: 30°
- Degree of Slope: 27°

Remarks:
Sorting: Locus 2 developed from a variety of means.

STRATIGRAPHY
- Small Cobbles .... 65/m²
- Medium Cobbles ........ 25/m²
- Large Cobbles........ 10/m²
- Medium Boulders .... 1/m²
- Small Boulders ........ 2/m²
- Length: 5,000 m
- Width: 5,000 m
- Depth: 0.13 to 0.26 m
- Direction of Slope: 30°
- Degree of Slope: 27°

LEVELS
- Loc Top: 911.61
- Bottom: 911.35
- Transit: 910.17
- Loc Top: 909.94
- Bottom: 909.54
- Transit: 909.29
- Loc Top: 910.78
- Bottom: 910.64

POTTERY

PHOTOGRAPHS
- Number Date Subject
- 1 07/16 10 SI

INTERPRETATION
- Locus 2, in contrast to locus 1, was part of the rock tumble and dirt that resulted at the destruction of the western city wall. The large stones that helped make up this locus were generally rough cut, which makes their origin difficult to interpret. Probably these stones were part of the outer wall which tumbled outward as a result of an earthquake during the Iron 2 period.

Locus 1 was the accumulated topsoil. Locus 2 was the soil from the walls and its associated rock. Locus 2 is the latest of the destructions of the outer walls. Locus 2 was the major tumble. Locus 3 was the soil immediately under this tumble.

Locus Date: IR2
IDENTIFICATION

U84 Field 8, Square 7/28, Locus 3

REMARKS:

Separability: Changed soil--lack of large inclusions.

DESCRIPTION

Color:

Top--Clear

Bottom--Very Clear

Texture:

Top: Dark yellowish brown 10YR/4

Bottom: Deep yellowish brown 10YR4/4

Consistence:

Top: Clayey 40%

Bottom: Silt 40%

Structure:

Top: Moderately Cl 40%

Bottom: Moderately Crumbly

Inclusions:

Small Pebbles: 25/m2

Large Pebbles: 10/m2

Medium Pebbles: 5/m2

Large Cobbles: 2/m2

Medium Cobbles: 8/m2

Small Cobbles: 3/m2

Organic: Frequent

Measurements:

Length: 5.000 m

Width: 5.000 m

Degree of Slope: 26 deg

Direction of Slope: 30 deg

Remarks:

An irregular row of stones (9-34 cm) cuts across this row was approximately 1 m with a distribution of 6/sq m small boulders (25-50 cm) and 20/sq m small cobbles (6-12 cm). After the removal of later loci those stones were found to be a three-course revetment wall (locus 5).

POTTERY

<table>
<thead>
<tr>
<th>Pail</th>
<th>Date</th>
<th>Count</th>
<th>Bucks L</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
<th>Pub</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7/6</td>
<td>16/266</td>
<td>125</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7/9</td>
<td>23/238</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>7/10</td>
<td>17/217</td>
<td>55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>7/10</td>
<td>17/112</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>7/10</td>
<td>14/175</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7/11</td>
<td>25/125</td>
<td>125</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7/11</td>
<td>9/270</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7/12</td>
<td>24/251</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>7/12</td>
<td>8/ 90</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>7/12</td>
<td>10/105</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>7/13</td>
<td>12/157</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>7/16</td>
<td>6/ 39</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>7/17</td>
<td>5/115</td>
<td>116</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>7/18</td>
<td>1/ 28</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>7/19</td>
<td>5/ 45</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>7/20</td>
<td>16/165</td>
<td>165</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>7/21</td>
<td>10/195</td>
<td>81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>07/02/04</td>
<td>07/04 PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>2</td>
<td>07/02/04</td>
<td>07/04 PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>3</td>
<td>07/02/10</td>
<td>07/10 PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>4</td>
<td>07/02/10</td>
<td>07/10 PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>5</td>
<td>07/02/11</td>
<td>07/11 PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>6</td>
<td>05/08/16</td>
<td>07/16 PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>7</td>
<td>05/08/16</td>
<td>07/16 PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>8</td>
<td>15/08/09</td>
<td>07/13 PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function: Locus 3 was an irregular soil layer under the rock tumble and its associated soil layer Locus 2. This distinct layer covered the entire square and because it was (as Locus 2) fallout from the walls-it is possible--this soil layer resulted from the same or closely related earthquake or battle destruction.

Stratigraphy: This locus because of its location on a steep slope and also because of the wide variety of inclusions was not easily separated from Locus 2, but because of the definite nail layer below, it could easily be distinguished from Locus 4.

Locus Date: 1R2
IDENTIFICATION

UZA Field B, Square 7J98, Locus 4

Supervisor: DM

Dates: 7/10 to 7/25

REASON

Remarks: Visible nari layer at top and large pottery and large number of bones.

DESCRIPTION

Color:
Brownish yellow 10YR6/8

Consistence:
Hardness............ 4

Wetness................ Slightly Moist

Inclusions:
Stone:
Small Pebbles............. 75/m2
Large Pebbles............ 110/m2
Medium Pebbles.......... 25/m2
Large Cobbles........... 5/m2

Organic:
Bone..................... Rare

Measurements:
Length.................. 5,000 m

Width............. 2,100 m

Distribution..........
Random

Remarks:
Locus 4 is the layer east of the Locus 5.

SURFACE PREP:
Crushed nari

Remarks:
Geological report PL08 16 July 7498. "Nari sample. The material sent in has two main components: a very pure clay of greenish-brown color with some limestone grains (30%), 3-5 mm in size; and a lime which coats coherent chunks of the clay. This sample does not contain a representative percent of the lime material, which in the field comprises up to 50% of the nari.

STRATIGRAPHY

Under:
3

Over:
7

Equals: 6

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit

35 910.99 910.72 X 7 910.44 21 909.72

29 910.99 910.62 X 11 910.62

POTTERY

Pail Date Count Baskets Loc Preservation Comments

Reading

Pub

07/24 1/16

1 M32 bod., EB

07/25 0/3

1 M32 bod., EB

PHOTOGRAPHS

Number Date Subject

07/02/10 07/10 PROGRESS OF EXCAVATION

10/02/11 07/11 PROGRESS OF EXCAVATION

05/08/18 07/18 PROGRESS OF EXCAVATION

16/02/13 07/13 PROGRESS OF EXCAVATION

05/08/16 07/16 PROGRESS OF EXCAVATION

11/08/20 07/20 PROGRESS OF EXCAVATION

INTERPRETATION

Function:
Locus 4 was a clay/nari layer of soil which was the top layer in a series of nari/soil layers that made up the glacis on the west side of the tell. Its consistency was more of nari than soil and there was very little pottery.

Stratigraphy:
Above locus 4 were two soil layers: loci 1, 2, 3. Other nari soil loci were 6, 7, 8 which were distinguishable by location (e.g., Locus 6 was the uppermost nari layer west of locus 5) and the type of soil change mixed with the nari. The surface of locus 4 was rough and uneven which showed its use over a relatively long period of time.

Locus Date: 10/1
LOCATION LOCUS SHEET

IDENTIFICATION

Field B, Square 7/J98, Locus 5

REMARKS

Stone support wall on and above the nari layers.

TYPE

Probable stone retaining wall

DESCRIPTION

Materials: Stone

Plan: Linear

Lining: None

Measurements:

Length: 5.750 m

Width: 1.00 to 1.250 m

Height: 0.56 to 0.733 m

Orient. 20 deg

STRATIGRAPHY

Under: 3

Over: 8

LEVELS

Loc Top Bottom Transit

Loc Top Bottom Transit

Levels:

15 909.68 909.12
21 909.72 20 909.31 908.58

POTTERY

Pail Date Count Bskts Loc Preservation Comments Reading Pub

PHOTOGRAPHS

Number Date Subject Number Date Subject

Number Date Subject

INTERPRETATION

Function:

Locus 5 is a retaining installation that was built on top of the nari layers 4, 6, 7, 8, and 9. It sits immediately above and on loci 4 and 6. Its function was to act as a retaining wall and support for the glacis. This wall helped prevent erosion and wash of the nari layers.

Stratigraphy:

Locus 5 was found immediately under locus 3 and, as mentioned above, was placed directly on loci 4 and 6. The loci above 5 (1, 2, and 3) were rubble and collected over time. Under locus 5 were the nari layers which helped make up the glacis. A few Iron Age sherds fit the evidence from other squares within the field that this structure was constructed during the late Iron I period.

Loca Dates: 7/16 to 8/6
IDENTIFICATION

U84 Field B, Square 7J98, Locus 6

REMARKS:
Nari below Locus 5 west of revetment wall.

DESCRIPTION

Color:
- Very pale brown 10YR7/3

Consistence:
- Hardness: 4
- Moistness: Moderately Dry

Inclusions:
- Small Pebbles: 210/m²
- Large Pebbles: 42/m²
- Medium Cobbles: 55/m²
- Organic: Rare

Measurements:
- Depth: 0.28 to 0.21 m
- Direction of Slope: 30 deg

Remarks:
- Locus 6 layer west of Locus 5.
- Other nari soil loci were 4, 7, 8, 9, which were distinguished by location (e.g. Locus 6 was the uppermost nari layer west of the Locus 5) and the type of soil changed mixed with the nari. Locus 6's surface was rough and uneven which showed its use over a relatively long period of time.

Locus Date: 04/23/86

IDENTIFICATION

U84 Field B, Square 7J98, Locus 7

REMARKS:
Change of soil layer - clay/nari to dry-crumbly

DESCRIPTION

Color:
- Yellow 10YR7/6

Consistence:
- Compaction: Moderately Crumbly

Inclusions:
- Stone: Small Pebbles: 200/m²
- Large Pebbles: 50/m²

Measurements:
- Length: 3.000 m
- Depth: 0.305 to 0.414 m
- Degree of Slope: 30 deg

Remarks:
- Locus 7 was a sandy/nari layer of soil which was one of the middle layers in a series of nari/soil layers that made up the glacis on the west side of the tell. Its consistency was more of nari than soil and there was very little pottery found.

Locus Date: 07/24/86
IDENTIFICATION
U84 Field 8, Square 7J98, Locus 8

REASON
Remarks: Changed soil from dry crumbly to clay layer.
Separability: Top-Clear
Bottom-Clear

DESCRIPTION
Color: Brownish yellow
10YR6/8
Consistency: Moderately Crumbly
Measurements:
Depth: 0.010 to 0.991 m
Direction of Slope: 30 deg

Inclusions:
Medium Pebbles: 160/m2
Medium Cobbles: 40/m2

Stone: 10YR4/6 (dark yellowish brown) layer of soil was found within Locus 8 under Locus 5. Also bits of 7.5R3/4 (dusky red) clay inclusions were sparingly scattered among Locus 8.

STRATIGRAPHY
Under: 7
Over: 9

LEVELS
Loc. Top Bottom Transit Loc. Top Bottom Transit

POTTERY

PHOTOGRAPHS

INTERPRETATION
Locus 8 was a clay/nari layer of soil similar to Locus 4. It was one of the lower layers of nari which helped make up the nari portion of the glacis on the west side of the tell. Its consistency was more of nari than clay and little pottery was found.

Stratigraphy:
Above Locus 8 was Locus 7. Locus 9 was below. Locus 8 was distinctive from Locus 9 because the soil portion of nari was clay rather than sandy. Locus 9 below was made up of large nari rocks. The layering of Locus 8 was accomplished in a short period, all during one construction phase.

Locus Date: L.84
IDENTIFICATION
Identification: Large loose rocks and their associated soil under clay nari.

REASON
Reason: 10YR6/8

DESCRIPTION
Description:

| Inclusions: | 
| Small Pebbles: | 231/m² |
| Medium Pebbles: | 164/m² |
| Large Pebbles: | 110/m² |
| Small Cobbles: | 4/m² |
| Medium Cobbles: | 12/m² |
| Large Cobbles: | 3/m² |
| Small Boulders: | 8/m² |

Measurements:

| Measurements: | 
| Length: | 5.000 m |
| Width: | 2.000 m |
| Depth: | 0.25 to 0.41 m |
| Degree of Slope: | 20 deg |

Surface Material:

Stratigraphy

| Under: | 
| 10 |

| Over: | 
| 5 |

LEVELS

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>906.12</td>
<td>27</td>
<td>808.39</td>
</tr>
<tr>
<td>34</td>
<td>907.87</td>
<td>27</td>
<td>907.98</td>
</tr>
</tbody>
</table>

POTTERY

<table>
<thead>
<tr>
<th>Pail Date</th>
<th>Count Baskets</th>
<th>Loc Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 8/1</td>
<td>0/37</td>
<td>Few prob MB2, EB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Number Date Subject</th>
<th>Number Date Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>40/04/87</td>
<td>12/05/30 PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td></td>
<td>3/30/31 PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

INTERPRETATION

Interpretation:

Stratigraphy: Locus 9 was under the clay/nari Locus 8 and a smooth surface was below. The distinctive feature of Locus 9 was the extra large nari rocks. These rocks would make a perfect final layer in that they would allow for drainage and create stability for the nari portion of the glacis. See interpretation for Locus 5.

Locus Date: 8/31
**IDENTIFICATION**

U84 Field C, Square BL53, Locus 1

**REASON**

Remarks: Topsoil removal

**DESCRIPTION**

Date: 04/01/86

SOIL LOCUS SHEET

- **Supervisor:** RLM
- **Dates:** 6/28 to 7/5

**Topsoil removal**

**Remarks:**

- **Top--Very Clear**
- **Bottom--Very Unclear**

**Identification**

- **Square 8L63, Locus 1**

**Color:**

1. Light brownish gray

2. Light brown gray

3. Light brown gray

**Texture:**

1. Clay 30%

2. Silty 35%

3. Sand 15%

4. Fine Sand 30%

5. Medium Sand 60%

6. Course Sand 10%

**Particle Shape:**

1. Sub-angular 45%

2. Sub-rounded 55%

**Compaction:**

1. Moderately Crumbly

2. Structure: Random

**Soil Inclusions:**

1. Small Pebbles 1000/m2

2. Medium Pebbles 2000/m2

3. Large Pebbles 500/m2

4. Small Cobble 10/m2

5. Large Cobble 500/m2

6. Distribution: Random

**Soil Organic:**

1. Pottery: Frequent

2. Distribution: Random

3. Bone: Frequent

4. Distribution: Random

**Soil Measurements:**

1. Length: 5.000 m

2. Depth: 0.018 to 1.040 m

3. Width: 5.000 m

4. Degree of Slope: 17 deg

5. Direction of Slope: Random

6. Remarks:

   - There were a few beaten earth lenses north of the SW corner of bedrock locus 2

**LEVELS**

- **Over:**

- **2, 3, 4, 5, 6**

**POTTERY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/28</td>
<td>12,122</td>
<td>31</td>
</tr>
<tr>
<td>06/29</td>
<td>34,348</td>
<td>51</td>
</tr>
<tr>
<td>06/30</td>
<td>30,195</td>
<td>51</td>
</tr>
<tr>
<td>07/02</td>
<td>60,409</td>
<td>62</td>
</tr>
<tr>
<td>07/03</td>
<td>27,319</td>
<td>48</td>
</tr>
<tr>
<td>07/04</td>
<td>44,352</td>
<td>64</td>
</tr>
<tr>
<td>07/05</td>
<td>44,198</td>
<td>61</td>
</tr>
<tr>
<td>07/06</td>
<td>38,212</td>
<td>81</td>
</tr>
<tr>
<td>07/07</td>
<td>30,135</td>
<td>29</td>
</tr>
<tr>
<td>07/08</td>
<td>29,204</td>
<td>56</td>
</tr>
<tr>
<td>07/09</td>
<td>37,372</td>
<td>55</td>
</tr>
<tr>
<td>07/10</td>
<td>35,311</td>
<td>62</td>
</tr>
<tr>
<td>07/11</td>
<td>20,189</td>
<td>39</td>
</tr>
<tr>
<td>07/12</td>
<td>41,365</td>
<td>57</td>
</tr>
<tr>
<td>07/13</td>
<td>19,172</td>
<td>40</td>
</tr>
<tr>
<td>07/14</td>
<td>42,293</td>
<td>27</td>
</tr>
<tr>
<td>07/15</td>
<td>27,290</td>
<td>51</td>
</tr>
<tr>
<td>07/16</td>
<td>39,755</td>
<td>49</td>
</tr>
<tr>
<td>07/17</td>
<td>28,250</td>
<td>65</td>
</tr>
<tr>
<td>07/18</td>
<td>35,205</td>
<td>43</td>
</tr>
<tr>
<td>07/19</td>
<td>31,357</td>
<td>62</td>
</tr>
<tr>
<td>07/20</td>
<td>28,860</td>
<td>21</td>
</tr>
<tr>
<td>07/21</td>
<td>20,330</td>
<td>21</td>
</tr>
<tr>
<td>07/22</td>
<td>38,420</td>
<td>21</td>
</tr>
<tr>
<td>07/23</td>
<td>32,334</td>
<td>22</td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/28</td>
<td>02/02/02</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/04</td>
<td>02/02/04</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

**DRAWING**

- **N.W.E.S**
- **Sub-banks:** E

**OBJECTS**

- **Reg no. Description**

<table>
<thead>
<tr>
<th>Field no.</th>
<th>Date</th>
<th>Pail</th>
<th>Location</th>
<th>Level</th>
<th>Total Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>07/04</td>
<td>15</td>
<td>SI</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>07/04</td>
<td>15</td>
<td>SI</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>07/05</td>
<td>17</td>
<td>SI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>07/04</td>
<td>13</td>
<td>PR</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>07/05</td>
<td>17</td>
<td>PR</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHERS**

- **Date | Number | Subject |
| 06/29 | 07/01/29 | PROGRESS OF EXCAVATION |
| 07/04 | 02/02/02 | PROGRESS OF EXCAVATION |
| 07/04 | 02/02/04 | PROGRESS OF EXCAVATION |

**DRAWING**

- **Rebels:** N.W.E.S
- **Sub-banks:** E
04/01/86  

SOIL LOCUS SHEET  

IDENTIFICATION  
U84 Field C, Square 8L63, Locus 1 (Supplement)  

East Balk Removal  

Supervisor: RLM  
Dates: 7/30 to  

REASON  
Remarks:  
Securability:  
Top-very Clear  

DESCRIPTION  

POTTERY  

INTERPRETATION  

FUNCTION  

Stratigraphy:  
Topsoil  
Locus 1 covered the entire square except where bedrock (locus 2) was exposed. After the discovery of loci 3, 4, and 5 and 50 cm of excavation a new locus number (6) was given to the topsoil.  

LOCUS DATE:  
Mod  

04/01/86  

INSTALLATION LOCUS SHEET  

IDENTIFICATION  
U84 Field C, Square 8L63, Locus 2  

Supervisor: RLM  
Dates: 6/28 to 7/20  

REASON  
Remarks:  

DESCRIPTION  

Material:  
Hard Bedrock ........... 100%  

Position:  
Slightly Irregular  

Lining:  
None  

Measurements:  
Length.................... 5.000 m  
Height .................... 2.000 m  
Width...................... 5.000 m  
Orientation.............. 106 deg  

Remarks:  
Bedrock included a sharp terrace face. At the lowest shelf there were many features carved into the bedrock—channel, cup mark, drains, steps, and a circular feature. Part of bedrock was exposed prior to excavation.  

STRATIGRAPHY  

Under:  
LEVEL  
Loc Top Bottom Transit  
29 894.49 7 892.56  
29 894.54 15 892.46  

PHOTOGRAPHS  

Date Number Subject Date Number Subject  
06/28 07/01/28 prog of excavation 07/09 04/03/91 prog of excavation 07/18 06/08/18 PROGRESS OF EXCAVATION  
06/29 07/01/29 prog of excavation 07/10 02/02/19 prog of excavation 07/19 03/02/19 PROGRESS OF EXCAVATION  
07/02 02/02/20 prog of excavation 07/11 02/03/11 prog of excavation 07/20 03/12/20 PROGRESS OF EXCAVATION  
07/03 02/03/12 prog of excavation 07/12 06/02/12 prog of excavation 07/21 01/02/21 PROGRESS OF EXCAVATION  
07/04 02/03/13 prog of excavation 07/13 01/02/13 prog of excavation 07/22 01/03/22 PROGRESS OF EXCAVATION  
07/05 02/03/14 prog of excavation 07/14 01/02/14 prog of excavation 07/23 02/03/23 PROGRESS OF EXCAVATION  
07/06 02/03/15 prog of excavation 07/15 01/02/15 prog of excavation 07/24 02/08/24 PROGRESS OF EXCAVATION  
07/07 02/03/16 prog of excavation 07/16 01/02/16 prog of excavation 07/25 02/08/25 PROGRESS OF EXCAVATION  
07/08 02/03/17 prog of excavation 07/17 01/02/17 prog of excavation 07/26 02/08/26 PROGRESS OF EXCAVATION  

DRAWINGS  
Top Plans:  
All Top Plans for square 8L63  
Balks:  
N, W, S  
Sub-balks:  
E  

INTERPRETATION  

Function:  
One hypothesis has been that the bedrock terrace was formed by a quarry in ancient times. It probably was also used as a living surface due to the many features carved into the bedrock.  

Stratigraphy:  
Bedrock was exposed for some time to allow as many features as were found to be made.
IDENTIFICATION
L04 Field C, Square 8L63, Locus 3

REMARKS
Remarks: Change in hardness
Separability: Top--Clear
Bottom--Very Clear

DESCRIPTION
Color: Brown
Texture: Clay........ 30% Sand........ 10%
Silt........ 60% Fine Sand.. 20%
Medium Sand 70% Course Sand 10%
Particle Shape: Angular... 10% Sub-rounded 35%
Consistency: Hardness........ 4 Sub-rounded... 45%
Wetness.............. Very Dry Round........ 10%

Inclusions:
Stone:
Larger Pebbles...... 25/m2 Small Cobbles....... 10/m2
Medium Cobbles... 5/m2 Large Cobbles...... 3/m2
Small Boulders... 1/m2 Distribution........ Random

Artifact:
Pottery................. Rare
Bone..................... Rare

Organic:
Bone..................... Rare

Distribution........ Random

Measurements:
Length................ 1.100 m Direction of slope..... 360 deg
Width.................... 0.400 m Degree of slope....... 3 deg
Depth................... 0.260 m

STRATIGRAPHY
Under: 1
Over: 2
LEVELS
Loc Top Bottom Transit
.......................................................... 1 895.79 894.79
.......................................................... 2

POTTERY
Pail Oate Count Bslcts Loc Preservation Comments Reading Pub
.......................................................... 31 7/10 2/2.1 6

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
.......................................................... 07/02 02/02/02 PROGRESS OF EXCAVATION 07/05 02/02/05 PROGRESS OF EXCAVATION 07/10 02/22/10 PROGRESS OF EXCAVATION
.......................................................... 07/03 02/02/03 PROGRESS OF EXCAVATION 07/06 02/02/06 PROGRESS OF EXCAVATION
.......................................................... 07/04 02/02/04 PROGRESS OF EXCAVATION

DRAWINGS
Balks: B

INTERPRETATION
Function: Surface or deposit of beaten earth
Locus Date: Late Iron 2
SOIL LOCUS SHEET

IDENTIFICATION

Locus: Field C, Square B63, Locus 4

REASON

Remarks: Many cobble-sized rocks appearing to be rock tumble along with mud brick disintegration.

DESCRIPTION

Color: Brown

Texture: Clay 25% Blite 50% Medium Sand 75% Course Sand 5%

Particle Shape: Angular 20% Sub-angular 40%

Consistency: Hardness 3 Moisture Moderately Moist

Inclusions: Stones: Large Pebbles 40/m² Small Cobbles 20/m² Medium Cobbles 1/m² Distribution Random

Artifacts: Pottery: Frequent Distribution Random

Organics: Bone: Frequent Distribution Random

Measurements: Length 0.900 m Width 0.700 m Depth 0.210 m

Remarks: Soil matrix appears to be mudbrick detritus.

STRATIGRAPHY

Linder: 1

Over: 2

LEVELS

Loc Top Bottom Transit

25 894.00 893.79

POTTERY

Fall Date Count Baskets Loc Preservation Comments Reading

31 7/10 17/ 60 10

PHOTOGRAPHS

Date Number Subject Date Number Subject Date Number Subject

07/06 02/06/06 PROGRESS OF EXCAVATION 07/09 06/09/09 PROGRESS OF EXCAVATION 07/10 02/10/10 PROGRESS OF EXCAVATION

DRAWINGS

Balks: W

INTERPRETATION

Function: Tumble from a wall with a superstructure of mudbrick.

Stratigraphy: Because the tumble was on bedrock, it may have been from a wall founded on bedrock and used when bedrock was still clear.

Locus Date: Post-Late Iron 2

LOCUS SUMMARIES
SOIL LOCUS SHEET

IDENTIFICATION

USA Field C, Square 8L63, Locus 5

REASON

Remarks: Different soil color- more burnt pottery and stones.

Separability: Top-Clear Bottom- very unclear

DESCRIPTION

Color: Dark gray brown 10YR6/1

Texture: Clay...... 20% Silt...... 50% Sand...... 30% Fine Sand.. 20%

Particle Shape: Angular.... 5% Sub-angular 10%

Consistency: Hardness........ 1 Compactness........ Moderately Loose

Wetness........ Moderately Dry

Inclusions:

- Soil: Brick Material........ 2/m2, Silt 5-10.0 cm
- Stones: Large Pebbles ..... 20/m2
- Medium Cobbles .... 3/m2
- Artifacts: Pottery.......... Frequent
- Burned Stones......... 50
- Bones........ Frequent

Measurements: Length........ 1.500 m

Depth............... 0.100 m

Remarks:

- Lots of burned pottery lying flat: Separation of 5 and 6 was arbitrary.

STRATIGRAPHY

Under:

Over:

LEVELS

Loc Top Bottom Transit

15 394.12 394.22

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Loc Preservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>77</td>
<td>5</td>
</tr>
<tr>
<td>27</td>
<td>77</td>
<td>0</td>
</tr>
<tr>
<td>28</td>
<td>77</td>
<td>9</td>
</tr>
</tbody>
</table>

OBJECTS

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
<th>Field no.</th>
<th>Date</th>
<th>Loc Level</th>
<th>Material Photo Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CHOPPING BLOCK</td>
<td>1</td>
<td>07/09</td>
<td>27</td>
<td>16</td>
</tr>
</tbody>
</table>

BIODATA SAMPLES

<table>
<thead>
<tr>
<th>Field no.</th>
<th>Date</th>
<th>Loc Level</th>
<th>Total Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>07/09</td>
<td>27</td>
<td>16</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function: Locus 5 was probably at one time a hearth or campfire area.

Stratigraphy: The pottery suggests it came from the Early Bronze period.
IDENTIFICATION
U84 Field C, Square 8L63, Locus 6

REASON
Remarks: Arbitrarily changed
Separability: Top--Very Unclear
Sub-separability: Random

DESCRIPTION
Color: Brown
Texture: Clay........ 20%
Medium Sand 50%
Particle Shape: Angular... 10%
Consistence: Slightly Loosely Slightly Rubbly
Wetness: Moderately Dry

Inclusions:
Stone: Small Pebbles ...........
Large Pebbles ........
Medium Cobbles ........
Artifact: Pottery ................
Organic: Bone ....................

Measurements: Length ..................
Width ...................
Depth ...................

Remarks: Beaten earth deposits w
from bedrock above.

STRATIGRAPHY
Under: 1, 5
Over: 2, 7, 8, 10, 11, 12, 13

LEVELS
Loc Top Bottom Transit

POTTERY
Pail Date Count Bskts Loc Preservation Comments Rawling Pub
23 7/ 6 20/405 66
24 7/ 6 31/302 38
25 7/ 9 23/340 41
26 7/ 9 6/120 13
27 7/10 20/375 48
28 7/10 28/234 22
29 7/10 8/ 95 22
30 7/11 24/222 24
31 7/11 12/239 30
32 7/11 11/253 48
33 7/11 26/185 30
34 7/12 36/430 60
35 7/12 19/295 52
36 7/12 8/ 94 33
37 7/13 9/131 30
38 7/13 5/ 75 30
39 7/13 16/155 29
40 7/16 22/205 53
41 7/16 37/53 14
42 7/17 19/295 45
43 7/18 2/ 63 13
44 7/18 19/310 35
45 7/18 1/35 1
46 7/31 12/133 18

PHOTOGRAPHS
Date Number Subject Date Number Subject
07/06 02/02/06 PROGRESS OF EXCAVATION 07/12 04/08/12 PROGRESS OF EXCAVATION
07/09 04/08/09 PROGRESS OF EXCAVATION 07/15 01/02/13 PROGRESS OF EXCAVATION
07/15 05/02/13 PROGRESS OF EXCAVATION 05/07/01 CRUSHED JAR IN SITU
07/16 07/02/11 PROGRESS OF EXCAVATION 07/17 07/02/17 PROGRESS OF EXCAVATION
07/18 07/02/18 PROGRESS OF EXCAVATION

DRAWINGS
Belts: W,M,E,S
Sub-belts: E
Identification:

UBA Field C, Locus 6

Supplement:

Soil Locus Sheet

Interpretation:

Function: Sub-topsoil containing rock tumble.

Locus Date: Post-late Iron 2

Architectural Locus Sheet

Interpretation:

Function: Perhaps a threshold to a house.

Locus Date: EB

Stratigraphy:

Properly used with wall/bench 10, surface 11, and wall 12.

Levels:

Loc Top

Bottom

Transit

Preservation:

Complete

Support:

Free-standing

Materials:

Masonry:

Wall Stones: Cobbles

Dressing: Unheated

Mortar: Dry-laid

Construction: Style: Boulder & rubble

Rows:

1 to 2

Measurements:

Length: 1.700 m

Orientation: 18 deg

Width: 0.500 to 0.600 m

Dip: 5 deg

Lean Direction: 0 deg

Preservation:

Complete

Support:

Free-standing

Materials:

Masonry:

Wall Stones: Cobbles

Dressing: Unheated

Mortar: Dry-laid

Construction: Style: Boulder & rubble

Rows:

1 to 2

Measurements:

Length: 1.700 m

Orientation: 18 deg

Width: 0.500 to 0.600 m

Dip: 5 deg

Lean Direction: 0 deg

Preservation:

Complete

Support:

Free-standing
IDENTIFICATION
U84 Field C, Square 8L63, Locus 8

REASON
Remarks: Texture different--material from a depression in bedrock.
Separability: Top--Unclear Bottom--Very Clear

DESCRIPTION
Color: Brown
Texture: Clay 30% Silt 30% Sand 40% Fine Sand 25%
Medium Sand 50% Course Sand 25%
Particle Shape: Angular 20% Sub-angular 30% Sub-rounded 50% Round 25%
Consistency: Hardness 4
Wetness Slightly Dry
Inclusions:
Soil: Brick Material 2/m2, 5.0 cm Distribution Random
Stone: Medium Pebbles 500/m2 Distribution Random
Small Pebbles 25/m2 Medium Cobbles 10/m2
Large Cobbles 15/m2 Distribution Random
Artifact: Pottery Rare Distribution Random
Organic: Bone Rare Distribution Random
Measurements:
Length 1.500 m Width 0.90 m
Depth 0.390 to 0.600 m

STRATIGRAPHY
Under: 6
Over: 9

LEVELS
Top: 6
Bottom: 9

POTTERY
Pail Date Count Baskets Location Preservation Comments
Pail Date Count Baskets Location Preservation Comments
Pail Date Count Baskets Location Preservation Comments
Pail Date Count Baskets Location Preservation Comments
Pail Date Count Baskets Location Preservation Comments
Pail Date Count Baskets Location Preservation Comments
Pail Date Count Baskets Location Preservation Comments

PHOTOGRAPHS
Date Number Subject
07/18 04/08/18 PROGRESS OF EXCAVATION

DRAWINGS
Balks: E

INTERPRETATION
Function: Probably a natural depression, or perhaps dug as part of an IR. 1 pit.
Locus Date: Late Iron 2

04/01/86
SOIL LOCUS SHEET
Page 1

FIELD C: 8L63: 6-8

LOCUS SUMMARIES
### INSTALLATION LOCUS SHEET

**IDENTIFICATION**

U84 Field C, Square B65, Locus 9  
**Supervisor:** RLM  
**Date:** 7/17

**REASON**

Remarks: Bedrock is cut in an obviously man-made configuration.

**DESCRIPTION**

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft Bedrock</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Plan</td>
<td>Nearly Oval</td>
<td></td>
</tr>
<tr>
<td>Lining</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Measurements:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>1.300 m</td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>0.400 to 0.600 m</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>0.390 to 0.600 m</td>
<td></td>
</tr>
<tr>
<td>Orientation</td>
<td>75°</td>
<td></td>
</tr>
</tbody>
</table>

**STRATIGRAPHY**

<table>
<thead>
<tr>
<th>Under</th>
<th>Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loc Top</td>
<td>23</td>
<td>802.37</td>
</tr>
<tr>
<td>Bottom Transit</td>
<td>22</td>
<td>891.91</td>
</tr>
</tbody>
</table>

**LEVELS**

<table>
<thead>
<tr>
<th>Date/Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/18</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/18</td>
<td>ACTUAL STRUCTURE</td>
</tr>
<tr>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/22</td>
<td>PHOTOGRAPHY</td>
</tr>
</tbody>
</table>

**PHOTOGRAPHY**

<table>
<thead>
<tr>
<th>Date Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/23</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/26</td>
<td>FINAL EXCAVATION PHOTO</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

Function: Perhaps this was used as a storage bin.

Locus Date: Late Iron II

---

### ARCHITECTURAL LOCUS SHEET

**IDENTIFICATION**

U84 Field C, Square B65, Locus 10  
**Supervisor:** RLM  
**Dates:** 7/18 to 7/19

**REASON**

Remarks: Stone wall built along the base of the vertical face of bedrock terrace.

**DESCRIPTION**

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Limestone</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Soft Nari</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Sun-baked Mudbrick</td>
<td></td>
<td>5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Masonry</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Stones:</td>
<td>Cobble: 95%</td>
</tr>
<tr>
<td></td>
<td>Medium Boulder: 5%</td>
</tr>
<tr>
<td></td>
<td>Small Boulder: 10%</td>
</tr>
<tr>
<td></td>
<td>Unhewn: 50%</td>
</tr>
<tr>
<td></td>
<td>Semi-hewn: 5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dressing</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortar:</td>
<td>Dry-laid: 100%</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PREPARATION**

<table>
<thead>
<tr>
<th>Foundation Only</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lean Degree</td>
<td>0°</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LEVELS**

<table>
<thead>
<tr>
<th>Date/Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/18</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/18</td>
<td>ACTUAL STRUCTURE</td>
</tr>
<tr>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/22</td>
<td>PHOTOGRAPHY</td>
</tr>
</tbody>
</table>

**PHOTOGRAPHY**

<table>
<thead>
<tr>
<th>Date Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/19</td>
<td>PHOTOGRAPHY</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

Function: Wall support/foundations for a room; or a bench against the vertical bedrock.

Locus Date: EB
SOIL LOCUS SHEET

IDENTIFICATION
USA Field C, Square BL63, Locus 11

REMARKS:
Supervisor: RLM Oates: 7/18 to 7/19
Remarks: Very hard in comparison to locus above it.

DESCRIPTION
Color: Light gray
Texture: Clay: 20% Silt: 45%
Medium Sand: 35%
Particle Shape: Angular: 70%
Consistence: Hardness: 4

Very Clear
Moderately Dry

Inclusions:
Stone: Small Pebbles: 20/m2
Small Cobbles: 1/m2
Artificial: Pottery: Rare
Burned Stones: 1
Organic: Bone: Rare

Measurements:
Length: 2 m
Width: 2.500 m
Depth: 0.200 to 0.800 m

STRATIGRAPHY
Under: 6
Over: 2
Seals against: 7, 10

LEVELS
Loc Top Bottom Transit
Loc Top Bottom Transit
Loc Top Bottom Transit

21 892.75 892.74 15 892.46 892.47 9 892.54 892.52

POTTERY
Date Count Baskets Loc Preservation Comments Reading Pub
49 7/18 0/ 26 12
50 7/19 5/ 74 9

PHOTOGRAPHS
Date Number Subject
07/19 01/02/19 PROGRESS OF EXCAVATION

BIODATA SAMPLES
Floation Sample

DRAWINGS
Balks: N

INTERPRETATION
Function: Surface in entrance of house.
Stratigraphy: Surface 11 was used with wall or bench 10 and wall 12.
Locus Date: EB

FIELD C: 8L63: 9-11
IDENTIFICATION
US Field C, Square 8L63, Locus 12

REASON:

Remarks:
4 rocks in alignment.
Separability:
Top-Clear
Bottom-Very Clear

DESCRIPTION

Material:
Hard Limestone

Masonry:
Wall Stones: Cobble: 75% Small Boulder: 25%
Chinkstones: Cobble: 100%

Dressing:
Unhewn: 100%

Mortar:
Dry-laid: 100%

Facing:
Unfaced

Construction:
Style: Boulder & Chink
Support: free-standing
Remarks:
$ face of wall might possibly be buttressed against bedrock.

Courses:
1 to 2
Rows:
1 to 2

Measurements:
Length: 1.600 m
Width: 0.650 to 0.750 m

Preservation:
Partial Superstructure: Little
Lean Degree: 0 deg

STRATIGRAPHY

Under:

Over:

Abutted By:

LEVELS

Loc Top Bottom Transit

PHOTOGRAPHS

Date Number Subject
07/20 01/08/20 RELATIONSHIP WITH 7
07/23 01/08/23 PROGRESS OF EXCAVATION
07/24 02/08/24 FINAL EXCAVATION PHOTO

DRAWINGS

Balks:

INTERPRETATION

Function:
Wall for a room.

Stratigraphy:
Used with surface 11, wall/bench 10, and threshold 7.

Locus Date:
EB
IDENTIFICATION

U84 Field C, Square 8L63, Locus 13

READER

Remarks: Surrounded by two walls (loci 7 and 12).
Separability: Top—Very Unclear  Bottom—Very Clear

DESCRIPTION

Color: Dark brown 10YR4/3
Texture: Clay........ 40%  Silt........ 50%  Medium Sand 80%  Course Sand 15%
Particle Shape: Angular... 10%  Sub-angular 10%
Consistency: Hardness........ S  Wetness........ Moderately Moist

Inclusions:

Soil: Nari Pockets............... 1/m2, 30.0 cm
Stone: Small Pebbles............... 1000/m2
Artifact: Pottery............... Rare
Organic: Bone............... Rare

Measurements:

Length............... 2.400 m  Width............... 1.900 m  Depth............... 0.200 to 0.350 m

STRATIGRAPHY

Under: 6, 7, 12
Over:

LEVELS

Loc Top Bottom transit

POTTERY

<table>
<thead>
<tr>
<th>Field</th>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>52</td>
<td>7/19</td>
<td>1/60</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>7/20</td>
<td>0/67</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>7/21</td>
<td>5/161</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>7/26</td>
<td>2/41</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CHARCOAL

<table>
<thead>
<tr>
<th>Field</th>
<th>Date</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>7/20</td>
<td>1</td>
</tr>
</tbody>
</table>

OBJECTS

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EARLY EB</td>
</tr>
</tbody>
</table>

PHOTOS

<table>
<thead>
<tr>
<th>Field</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>7/20</td>
</tr>
</tbody>
</table>

DRAWINGS

<table>
<thead>
<tr>
<th>Field</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>7/20</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function: Probably illness that fell into and around a house.
Stratigraphy: Probable contamination with pit debris to the east.
Locus Date: EB
IDENTIFICATION

U84 Field C, Square 8L64, Locus 1

REASON

Remarks: Topsoil excavation.

DESCRIPTION

Color: Light brownish gray
Texture: Clay... 20% Silt... 35% Sand... 35% Fine Sand... 10%
Particle Shape: Sub-angular 45% Sub-rounded... 55%
Consistence: Hardness........... Very Dry

Inclusions:

Stone: Small Pebbles........ 200/m2
Large Pebbles............. 100/m2
Medium Cobble............ 5/m2
Artifact: Pottery............ Frequent
Burned Stones............ 5
Organic: Bone.............. Rare
Distribution............. Random

Measurements:

Length... 3.000 m
Width... 2.000 m
Depth... 0.030 to 0.630 m

LEVELS

Top: 2, 3
Bottom: 1

Transit: 20 893.73 892.70 X

DRAWS

Balks: N, E, W

INTERPRETATION

Function: Topsoil excavation.

ORGAN: Supervisor: RLM Dates: 07/23 to 07/24

PHOTOGRAPHS

Date Number Subject

07/23 18/08/23 Pre-excavation photo
07/24 01/08/24 Progress of excavation

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Pail</th>
<th>Count</th>
<th>Est.</th>
<th>Loc.</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>07/23</td>
<td>25/497</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td>Late 12, 11, MB2, EB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>07/23</td>
<td>40/133</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td>12 die, few 11, few MB2, 1 EB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>07/23</td>
<td>35/425</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>EB, 11, 12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>07/23</td>
<td>9/832</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td>1 LR bod, 12, 1 UD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>07/24</td>
<td>29/430</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td>EB, MB2, 11, 12, 1 UD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>07/24</td>
<td>14/184</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td>EB, MB2, 12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>07/24</td>
<td>23/284</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
<td>EB bods, MB2, 11, 12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OBJECTS

Reg no. Description

<table>
<thead>
<tr>
<th>Field no.</th>
<th>Date</th>
<th>Pail</th>
<th>Loc.</th>
<th>Level</th>
<th>Total</th>
<th>Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>07/23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>07/23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

Date Number Subject

07/23 18/08/23 Pre-excavation photo
07/24 01/08/24 Progress of excavation
### INSTALLATION LOCUS SHEET

**IDENTIFICATION**

**U84 Field C, Square 8L64, Locus 2**

**Supervisor:** RLM  
**Dates:** 07/23 to 07/26

**REASON**

**Remarks:** Visible bedrock on surface.

**DESCRIPTION**

**Material:** Hard Bedrock  
**Plan:** Slightly Irregular  
**Lining:** None  
**Measurements:**
- **Length:** 3.000 m  
- **Width:** 2.000 m  
- **Height:** 2.310 m  
**Orientation:** 106 deg

**Remarks:** At first bedrock was visible from the south balk 1.5 m into the square.

**STRATIGRAPHY**

Under: 1, 4  
**LEVELS**

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/23</td>
<td>18/08/23</td>
<td>Pre-excavation photo</td>
</tr>
<tr>
<td>07/24</td>
<td>01/02/25</td>
<td>Progress of excavation</td>
</tr>
<tr>
<td>07/26</td>
<td>01/02/26</td>
<td>Progress of excavation</td>
</tr>
<tr>
<td>07/27</td>
<td>01/02/27</td>
<td>Final excavation photo</td>
</tr>
<tr>
<td>07/28</td>
<td>01/08/27</td>
<td>Final excavation photo</td>
</tr>
</tbody>
</table>

**DRAWINGS**

- Balks: N, E, W

**INTERPRETATION**

**Function:** It was at one time a quarry and probably also a living surface.

---

### SOIL LOCUS SHEET

**IDENTIFICATION**

**U84 Field C, Square 8L64, Locus 3**  
**Dates:** 07/24 to 07/25

**REASON**

**Remarks:** After finding an ash lens about a meter down from surface an arbitrary locus number was assigned.

**DESCRIPTION**

**Texture:** Dark brown 10YR4/3  
**Particle Shape:** Angular  
**Particle Consistency:** Hardness 2  
**Particle Wetness:** Moist  
**Inclusions:** Stone: Small Pebbles 2000/m2  
**Artifact:** Pottery Frequent  
**Organic:** Bone: Rare  
**Measurements:**
- **Length:** 2.000 m  
- **Width:** 1.850 m  
- **Depth:** 0.240 m

**STRATIGRAPHY**

**Under:** 1  
**Over:** 4  
**LEVELS**

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
<th>Pub</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/24</td>
<td>8.61</td>
<td>12</td>
<td>20</td>
<td>092.73</td>
<td>892.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/25</td>
<td>6/155</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/25</td>
<td>01/02/25</td>
<td>Progress of excavation</td>
</tr>
</tbody>
</table>

**DRAWINGS**

- Balks: N, E, W

**INTERPRETATION**

**Function:** Probably fill with a campfire on top.

**Locus Date:** Post-Late Iron 2
IDENTIFICATION

U84 Field C, Square 8L64, Locus 4

REASON

Remarks:
Sherds lying flat.
Separability:
Top--Clear
Bottom--Very Clear

DESCRIPTION

Color:
Dark brown
10YR3/3
Texture:
Clay........ 45%
Silt....... 40%
Sand...... 15%
Fine Sand.. 70%
Medium Sand 25%
Course Sand 5%
Particle Shape:
Angular.... 10%
Sub-angular 20%
Sub-round.. 50%
Round ..... 20%
Consistence:
Hardness............ 3
Compactness.......... Moderately Firm
STRUCTURE
Random
Inclusions:
Stone:
Small Pebbles........ 100/m2
Large Pebbles....... 100/m2
Medium Pebbles..... 50/m2
Large Pebbles....... 10/m2
Small Cobble......... 2/m2
Artifacts:
Pottery............. Frequent
Bone................ Rare
Distribution........ Random
Organic:
Bone............. Rare
Bone............. Rare
Distribution........ Random
Inclusions:
Stone:
Small Pebbles........ 100/m2
Large Pebbles....... 100/m2
Medium Pebbles..... 50/m2
Large Pebbles....... 10/m2
Small Cobble......... 2/m2
Artifacts:
Pottery............. Frequent
Bone................ Rare
Bone............. Rare
Distribution........ Random
Organic:
Bone............. Rare
Bone............. Rare
Distribution........ Random

Measurements:
Length............. 2.000 m
Width............. 1.050 m
Depth............... 0.180 m
Surface Mat'l: Flat Pottery

STRATIGRAPHY

Under: 3
Over: 2

LEVELS

Loc Top: Bottom Transit:

10 892.51 892.33

POTTERY

Fall Date Count Bskts Loc Preservation. Comments Reading Pub

10 07/25 18/ 8 8 Flat-lying pottery Late EB
11 07/25 10/ 94 Flat-lying pottery Late EB
12 07/26 3/113 26

PHOTOGRAPHS

Date Number Subject Date Number Subject

07/25 21/02/25 Pottery lying flat 07/25 01/02/26 Progress of excavation

DRAWINGS

Scale: N, E, W

INTERPRETATION

Function: Probably a surface.
Stratigraphy: Associated structures are unknown.
Locus Date: EB?
IDENTIFICATION

U84 Field C, Square 8L72, Locus 1

Supervisor: CP
Dates: 6/28 to 7/5

REASON
Remarks:
Silt.
Sub-angular 25%
Moderately dry

DESCRIPTION
Color:
Texture:
Clay...... 25%
Silt...... 45%
Sand ...... 30%
Fine Sand..... 20%
Medium Sand 70%
Coarse Sand 10%

Inclusions:
Marl Pockets ........ 6/m2, 1.0-15.0 cm
Distribution..... Random

Stone:
Skull PEBBLES... 1000/m2
Large Pebbles..... 1000/m2
Medium Pebbles.... 7/m2

Artifacts:
Flint ........... 165
Worked Bone .... 5

Organics:
Bone, RARE

Measurements:
Length..... 5,000 m
Width....... 5,000 m
Depth...... 0.100 to 0.400 m

Remarks:
Very few rocks on the surface; no visible structures, depressions, etc. The surface slopes downward to the north.

STRATIGRAPHY

Over:

= 2

LEVELS

Loc Top Bottom Transit

Loc Top Bottom Transit

Notes:

POTTERY

Reg no. Description Field no. Date Pail loc Level Total Period Material Photo Drawing

FLINT
1
06/28
1

FLINT
2
06/29
2

FLINT
3
07/02
3

FLINT
4
07/03
4

BASELINE GRINDING STONE FRAG?
5
07/03
4

BONE BEAD/PENDANT
6
07/04
6

PIECES OF POLISHED/WORKED BONE
7
07/04
7

FLINT
8
07/06
6

BASEL WEIGHT FRAG
9
07/03
4

RED SILTSTONE FRAG, POSS WORKED
10
07/03
4

GLAZED,DECORATED CERAMIC
11
07/05
8

GLAZED,DECORATED CERAMIC
12
07/04
7

PHOTOGRAPHS

Date Number Subject

06/28 09/01/28 PRE-EXCAVATION
06/29 08/01/29 PROGRESS OF EXCAVATION
07/03 03/02/03 PROGRESS OF EXCAVATION
07/03 03/02/02 PROGRESS OF EXCAVATION
07/03 03/02/05 PROGRESS OF EXCAVATION
07/05 03/02/06 PROGRESS OF EXCAVATION

INTERPRETATION

Funct:
Topsoil.

Loc Date:
Mod

LOCUS SUMMARIES
IDENTIFICATION

Ub Field C, Square B72, Locus 2

REMARKS

Dates: 7/5 to 7/11

DESCRIPTION

Color: Light brownish gray 2.5Y 6/2
Texture: Clay........ 25% Silt....... 45% Sand........ 30%
Particle Shape: Angular........ 10% Sub-angular...... 25% Sub-rounded.... 50% Round........ 15%

Consistency: Coarse........ Moderately Crumbly/Moderately Rubbly
Wetness............ Moderately Dry

Inclusions:

Soil: Hori Pockets............ 10/m², 1-0.15.0 cm Distribution............ Random

Stone:
Large Pebbles............ 100/m² Small Cobbles............ 200/m²

Medium Pebbles............ 800/m²

Medium Cobbles............ 3/m²

Fine Sand............. 20X

Medium Sand............ 70X

Course Sand............ 10X

Particle Shape:

Angular___........ 10X Sub-rounded.... 50X

Sub-angular 25X Round...... 15X

Consistency:

Compactness ............ Moderately Crumbly/Moderately Rubbly

Wetness............ Moderately Dry

Measurements:

Length................ 5.000 m Direction of Slope............ 34 deg

Width................ 5.000 m Degree of Slope............ 17 deg

Depth................ 0.060 to 0.380 m

Remarks:

Soil covers entire square except SW corner near wall locus 3.

Stratigraphy:

Arbitrary change of locus number after 10-40 cm of topsoil (Loc 1) removed. Coming down on occupation debris, so a good deal of pottery and bones were found. There was a concentration of artifacts in the SW corner.

PHOTOGRAPHS

Date Number Subject Date Number Subject

07/06 03/02/06 PROGRESS OF EXCAVATION 07/11 04/02/11 PROGRESS OF EXCAVATION

07/09 02/08/09 PROGRESS OF EXCAVATION 07/11 15/02/11 BOTTOM OF LOCUS 2

07/09 02/08/09 PROGRESS OF EXCAVATION 07/11 15/02/11 BOTTOM OF LOCUS 2

BIODATA SAMPLES

Charcoal sample

INTERPRETATION

Function:

This is simply an arbitrary locus, created to allow more control during excavation. It is a loess, or wind-blown soil cover. As the area is on a relatively steep slope, it undoubtedly includes much washed and fallen debris from above.

Locus Date:

Post-Late Iron 2
**ARCHITECTURAL LOCUS SHEET**

**IDENTIFICATION**

U84 Field C, Square 8L72, Locus 3

**REASON**

Remarks: Wall in SW corner of square.

**DESCRIPTION**

- **Material:**
  - Hard Limestone: 100%

- **Masonry:**
  - Wall Stones: Small Boulder: 100%
  - Chinkstones: Pebble: 50%
  - Cobble: 70%

- **Dressing:**
  - Unhewn: 20%
  - Semi-hewn: 80%

- **Facing:** Unfaced

- **Construction:**
  - Style: Boulder & Chink
  - Support: Free-standing

- **Courses:**
  - 1

- **Measurements:**
  - Length: 1.050 m
  - Width: 0.820 to 0.840 m
  - Height: 0.200 to 0.260 m
  - Orientation: 91 deg
  - Slope: 0 deg

- **Preservation:**
  - Foundation Only: Partial
  - Lean Degree: 0 deg

- **Remarks:**
  - Seems to be only a remnant of a wall; perhaps robbed out or fallen down. Consists of 7 stones (plus chinkstones) only.

**STRATIGRAPHY**

**LEVELS**

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>893.46</td>
<td>893.24</td>
<td>X</td>
</tr>
<tr>
<td>25</td>
<td>893.44</td>
<td>893.24</td>
<td>X</td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>28/7/18</td>
<td>2/15</td>
<td>3</td>
<td>1</td>
<td>POSS IR, EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29/7/19</td>
<td>0/14</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/04</td>
<td>PROGRESS OF EXCAVATION</td>
<td>03/02/04</td>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
<td>02/05/17</td>
</tr>
<tr>
<td>07/05</td>
<td>PROGRESS OF EXCAVATION</td>
<td>03/02/05</td>
<td>07/18</td>
<td>PROGRESS OF EXCAVATION</td>
<td>02/05/18</td>
</tr>
<tr>
<td>07/06</td>
<td>PROGRESS OF EXCAVATION</td>
<td>03/02/06</td>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
<td>02/08/18</td>
</tr>
<tr>
<td>07/06</td>
<td>PROGRESS OF EXCAVATION</td>
<td>03/02/06</td>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
<td>02/08/18</td>
</tr>
<tr>
<td>07/10</td>
<td>PROGRESS OF EXCAVATION</td>
<td>03/08/10</td>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
<td>02/08/18</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

**Function:**

As only a small remnant of this wall remained, it is difficult to say what it might have been used for, if a complete structure ever did exist. There has been much speculation as to its being part of a "stairway to the spring," as it was aligned roughly NW-SE along with 2 other wall fragments (7 & 12), all 3 sitting on different levels in a tiered fashion.

**Stratigraphy:**

The wall remnant was very close to the surface, so no occupation surfaces were found associated with it. It sits on top of Surface 21 so was probably not used contemporarily with it; Surface 21 may have been used as its founding base.

**Loca Date:**

Late Iron 2
SOIL LOCUS SHEET

IDENTIFICATION
Site: Field C, Square B.T2, Locus 4

REMARKS
Layer of rock tumble and reworked occupation debris (mixed with topsoils).

SEASON
Remarks:
Layer of rock tumble and reworked occupation debris (mixed with topsoils).

DESCRIPTION
COLOR
Brown

TEXTURE
Clay: 35%
Silt: 40%
Sand: 25%

PARTICLE SHAPE
Angular: 10%
Sub-angular: 30%
Sub-rounded: 45%
Round: 15%

CONSISTENCY
Hardness: 2

INCLUSIONS
Soil: Nari Pockets: 100/2 m2, 0.2 - 0.5 cm Rir rir Hatop I 1/m2; 15.0 cm
Ash Pockets: 1/m2, 10.0 cm

STONE
Small Pebbles: 2000/m2
Medium Pebbles: 100/m2
Large Pebbles: 20/m2
Small Cobbles: 200/m2
Medium Cobbles: 10/m2

SHELLS
Shells: 1/m2, avg. 4.0 cm

METAL FRAGS
Metal Frags: 1/m2, avg. 4.0 cm

MEASUREMENTS
Length: 5.000 m
Width: 5.000 m
Depth: 0.050 to 0.310 m

REMARKS
Extends irregularly throughout square; slope = that of topsoil surface. The compact occupation/surface debris (see supplement) in places covers the tumble, and in places occurs as lumps and lenses; it is very irregular.

STRATIGRAPHY
Under:
Over:
5, 6, 7, 8, 9, 10, 13, 16, 17, 18, 19, 20, 21, 26
Equals:
14

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
7 892.70 892.25 892.30 X 33 893.46 893.30 X 31 893.25 893.20 X
10 892.56 892.25 X 17 892.62 892.51 X 35 893.04 893.03 X
11 892.42 892.42 X 21 892.44 X
16 892.77 892.56 X 26 893.15 X

POTTERY
Pail Date Count Bskts Loc Preservati Reading
17 7/11 0/ 95 1 POSS UMAY BOD, 1 IR2 BOD, EB 1B BOD
19 7/12 6/40 1 FEW IR 2, IR 1, BOD
20 7/13 20/27 1 FEW IR 2, IR 1, EB
21 7/13 9/35 1 FEW IR 2, IR 1, EB
22 7/16 25/31 1 FEW IR 2, IR 1, EB
23 7/17 1/ 33 1 FEW IR 2, EB
24 7/17 13/55 1 FEW IR 2, IR 1, EB
25 7/18 2/ 4 1
26 7/20 1/ 15 1 EB
27 7/20 7/ 8 1
45 7/25 0/ 19 5 Becom. MB2 platter? EB BOD
70 7/31 6/125 31 Publishable MB2 frags MB lamp frag with spout EB BOD

OBJECTS
Reg. No. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
BASALT GRINDING STONE FRAG 1 07/12 18 14 892.87
SMALL ROUND BASALT PESTLE 2 07/13 21 8 2
BASALT GRINDER 3 07/13 21 15 892.77
BASALT GRINDER 4 07/13 21 10
BASALT GRINDER 5 07/13 21 10
BASALT GRINDER 6 07/13 21 17 892.51
BASALT GRINDER 7 07/16 21 17 892.62
BASALT GRINDER 8 07/16 22 20
SHARDSTONE GRINDING STONE 9 07/16 22
SHARDSTONE GRINDING STONE 10 07/16 22
METAL FRAG 11 07/20 36 1

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
07/10 01/02/10 PROGRESS OF EXCAVATION 07/18 02/08/18 PROGRESS OF EXCAVATION 07/30 04/02/30 PROGRESS OF EXCAVATION
07/11 04/02/11 PROGRESS OF EXCAVATION 07/19 19/08/18 SURF & SEAL AG WALL 5 07/31 04/08/31 PROGRESS OF EXCAVATION
07/09 03/02/09 PROGRESS OF EXCAVATION 07/17 02/08/17 PROGRESS OF EXCAVATION 07/25 02/08/25 PROGRESS OF EXCAVATION
07/06 03/02/06 PROGRESS OF EXCAVATION 07/16 02/08/16 PROGRESS OF EXCAVATION 07/25 04/02/30 PROGRESS OF EXCAVATION
IDENTIFICATION
USE Field C, Square BL72, Locus 4 (Supplement)
Inclusion: Surface Debris

IDENTIFICATION
USE Field C, Square BL72, Locus 4 (Supplement)
Inclusion: Surface Debris

REMARKS
Lenses and lumps of compact material throughout tumble layer

DESCRIPTION
Color: Light gray
Texture: 2.5Y7/2
Medium Sand 40% Course Sand 30% Sub-angular 30%
Consistency: Hardness 3

Inclusions:
Soil: Wari Pockets 60/m², 1.0-2.0 cm Pottery Flecks 500/m², 0.2 cm
Stone: Small Pebbles 1000/m² Medium Pebbles 200/m²
Large Pebbles 10/m² Distribution Random

Organic: Charcoal 500/m², avg. 0.4 cm Distribution Random

Measurements:
Direction of Slope 0 deg Degree of Slope 0 deg

Remarks:
The lenses and pockets of this compact material make the definition of locus 4 difficult—it is very irregular and uneven, and contaminated with topsoil. The high percentage of carbon and pottery flecks is a good indication of human occupation debris.

INTERPRETATION
Function: This seems to be a disturbed, reworked (naturally) surface material. It could be eroded and reworked mudbrick debris, but it is a very light grey color, as opposed to the brown color of mudbrick debris.

LOCATION SUMMARIES
04/01/86
Soil Sample 1 Silt, 1 disturbed surface material
Botany & Geo: Residue attached to large potsherd, with seed encrusted within. Geo sample: Bitumen.

INTERPRETATION
Function: Rock tumble and reworked occupation debris mixed with topsoil. This is immediately below the topsoil layers, and was probably deposited naturally with time and rain. Buildings degenerate and material gets moved around and redeposited, and mixed with material washing and falling down the slope. The great variety of pottery dates shows that this material has undergone much mixing.

Stratigraphy: This covers most of the square and is a good indication that architecture lies below. Three well-preserved surfaces are directly below, and five walls are surrounded by this material in different parts of the square.
Identification
Project: Field C, Square B72, Locus 5

Reason
Remarks: E-W wall in northern third of square.
Separability: Top—Very Clear Bottom—Very Clear

Description
Material: Hard Limestone 100%
Masonry:
Wall Stones: Cobble 100%
Dressing: Unhewn 70% Semi-hewn 30%
Mortar: Dry-laid 100%
Facing: Unseed
Construction: Style Boulder & Chink Support free-standing

Courses: 1 to 2
Rows: 1
Measurements:
Length: 2.630 m Width: 0.320 to 0.350 m
Height: 0.350 to 0.480 m Orientation: 106 deg
Dip: 5 deg Lean Degree: 0 deg

Remarks: Single row wall; perhaps chinkstones have fallen out.
The length may be shorter than recorded because the rocks at the western end were looser and not certainly in alignment with the eastern part of the wall.

Stratigraphy
Under: 2, 4
Over: 9
Abutted By: 8
Sealed Against: 6

Levels
Loc: Top 892.80 892.53 X
Bottom 892.51 892.38 X
Transit 16 17

Pottery
Paste Date Count Baskets Loc Preservation Comments Reading
80 07/17 08/21 5 MB2 BOOS EB EBO EBS
86 08/17 04/23 08/21 EB

Photographers
Date Number Subject Date Number Subject Date Number Subject
07/17 02/02/17 PROGRESS OF EXCAVATION 07/23 03/08/23 PROGRESS OF EXCAVATION 07/31 02/08/31 PROGRESS OF EXCAVATION
07/18 02/02/18 PROGRESS OF EXCAVATION 07/24 04/08/24 PROGRESS OF EXCAVATION 07/31 16/08/31 WALL 7 & OTHER, VIEW N
07/18 09/08/18 SURF 6 IN NE, TO WALL 5 07/25 02/02/25 PROGRESS OF EXCAVATION 07/31 17/08/31 WALL 7 & OTHER, VIEW NNE
07/19 02/02/19 PROGRESS OF EXCAVATION 07/28 03/02/28 PROGRESS OF EXCAVATION 07/31 18/08/31 WALL 7 & OTHER, VIEW ESE
07/20 03/08/20 PROGRESS OF EXCAVATION 07/30 41/02/30 PROGRESS OF EXCAVATION 08/01 03/11/01 PROGRESS OF EXCAVATION

Interpretation
Function: One wall of the 3-sided structure formed by Walls 5, 7, & 8. This may have been a domestic structure, since many domestic artifacts were found in the square. The walls probably enclosed an interior space, and Surfaces 6, 16, and Installation 15 were probably outside surfaces.

Stratigraphy: Wall 5 was sealed against by Surface 6, and there is a possibility that these two were laid down at the same time, because the compact material just beneath the upper surface of 6 (excavated with the surface) continued beneath the stones of 5. At the eastern end of 5, however, the dark fill of 26 (and 25) is under the easternmost stone. Wall 8 abuts 5 on the south, so may be a later addition.

Locus Date: A-M82; stratigraphy suggests Late Iron 2.
IDENTIFICATION
U84 Field C, Squai
Remarks:

DESCRIPTION
Color:
Texture:
Particle Shape:
Consistency:
Weath:
Inclusions:

Organic:
Measurements:

Remarks:

STRATIGRAPHY
Under:

LEVELS
Loc Top Button Transit

POETRY
Pail Date Count Basket Location Comments

PHOTOGRAPHS
Date Number Subject

DATA SAMPLES
Flotation Sample

INTERPRETATION
Function:

Stratigraphy:

Locus Date:

Late Iron 2
IDENTIFICATION
U84 Field C, Square BL2, Locus 7 (Phase A)

REASON
Remarks: E-W wall running through middle of square.

DESCRIPTION
Material: Hard Limestone          100%
Masonry:
Wall Stones: Cobble.................. 35%
Small Boulder.................. 65%
Chinkstones: Cobble.................. 100%
Dressing: Unhewn .................. 100%
Mortar: Dry-laid .................. 100%
Facing:
Construction:
Style: Support.................. Free-standing
Supervisor: CP Dates: 7/31 to

SEPARABILITY
Top--Unclear
Bottom--Very Clef

MEASUREMENTS
Length............. 3.200 m
Width............. 0.450 to 0.500 m
Height............. 0.120 to 0.180 m
Orientation........ 115 deg
Dip.................. 0 deg

Preservation:
Foundation Only: Partial
Lean Direction..... 37 deg

Remarks:
7A is of a completely different construction than 7B, and although some stones of 7A's eastern end are beneath stones of 7B, 7A must be later; the problem is discussed with 7B.

STRATIGRAPHY
Under:
2, 4, 12
Over:
23, 24
Cuts: 23
Soaked Agaist By: 15, 21?, 22?
Bonded To: 8

LEVELS
Loc Top Bottom Transit
19 893.08 092.91 x
19 893.02 x

POTTERY
Pail Date Count Bskts Loc Preservation
Pub
68 7/31 10/ 46 8 Publish 6 indicators LATE EB X

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
07/15 20/08/18 SURFACE 10 & S BALK 07/24 06/08/24 WST 15 & SURFACE 16 07/31 16/08/31 WALL 7 & OTHER, VIEW NW
07/19 03/03/19 PROGRESS OF EXCAVATION 07/25 02/03/25 PROGRESS OF EXCAVATION 07/31 17/08/31 WALL 7 & OTHER, VIEW WNE
07/20 03/03/20 PROGRESS OF EXCAVATION 07/26 03/03/20 PROGRESS OF EXCAVATION 07/31 18/08/31 WALL 7 & OTHER, VIEW ESE
07/23 03/03/23 PROGRESS OF EXCAVATION 07/30 41/03/30 PROGRESS OF EXCAVATION
07/24 04/03/24 PROGRESS OF EXCAVATION 07/31 02/03/31 PROGRESS OF EXCAVATION

INTERPRETATION
Function:
One wall of the 3-sided structure formed by walls 6, 7 & 8. Wall 7A is of different construction than 7B, and as Wall 7 is the only wall with more than one row of stones, 7A must be a different (later) phase. It is possible that this was in fact not a wall, but a bench of some sort incorporated into the south wall (7B), in which case they would probably be of the same phase.

Stratigraphy:
Wall 7A (and soil locus 24) directly beneath its sit on top of EB Surface 23, but were sealed against by Locus 22, placing it between EB and MB2 or Iron ages. The eastern end is bonded to Wall 8 and it is here that some problems arise regarding the separation of phases A & B of wall 7. See 7B for discussion.

Locus Date: =>MB2; Stratigraphy suggests Late Iron 2.
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field C, Square 8L72, Locus 7 (Phase B)

REASON
Remarks: E-W wall running through middle of square
Separability: Top--Unclear Bottom--Very Clear

DESCRIPTION
Material: Hard Limestone........ 100%
Masonry:
Wall Stones:
Small Boulder........ 100%
Chinkstones:
Cobble................ 100%
Mortar: Dry-laid............ 100%
Facing: Unfaced
Construction: Style........ Boulder & Chink Support........ Free-standing

Courses: 3 to 4
Rows: 1

Measurements:
Length................ 3.800 m
Width................. 0.370 to 0.490 m
Height................ 0.200 to 0.500 m
Dip............... 0 deg
Orientation.......... 115 deg
Lean Degree.......... 2 deg

Preservation:
Foundation Only: Partial

STRATIGRAPHY
Under: 2, 4
Over: 9
Banded To: 8

LEVELS
Loc Top
Loc Bottom Transit
Loc Top
Loc Bottom Transit
19 892.97 892.97
21 892.13 892.45
x 26 892.96 892.95
x

POTTERY
Date 71 8/1 3/26 16
Comments L8, MB2, EB BOOS

PHOTOGRAPHS
Date 07/19 02/02/19
Number Subject PROGRESS OF EXCAVATION
07/24 06/06/24 INST 15 & SURFACE 16
07/25 06/02/25 PROGRESS OF EXCAVATION
07/26 06/02/26 PROGRESS OF EXCAVATION
07/26 01/02/30 PROGRESS OF EXCAVATION
07/27 01/02/31 PROGRESS OF EXCAVATION
07/28 02/02/31 PROGRESS OF EXCAVATION
07/29 02/02/31 PROGRESS OF EXCAVATION
07/30 02/02/31 PROGRESS OF EXCAVATION
07/31 02/02/31 PROGRESS OF EXCAVATION
07/31 02/02/31 PROGRESS OF EXCAVATION
08/01 03/11/01 PROGRESS OF EXCAVATION

INTERPRETATION
Function: One wall of the 3-sided structure formed by Walls 3, 7 & 8. Wall 7B is of a different construction than 7A, and as Wall 7 is the only wall with more than one row of stones, 7A and 7B must be of different phases.

Stratigraphy: Wall 7B cuts EB Surface 23 and sits on top of LB, MB2 & EB fill over bedrock, according to the pottery. Wall 7 is bonded to Wall 8, but there are problems regarding the separation of phases A & B of 7, and determining which phase is that is bonded to 8. Since 7A sits on top of Surface 23 and on top of the foundation trench for 7B which cuts 23, 7A must post-date 7B. However, some of the stones from 7A, at its eastern end, are slightly beneath the corners of some stones from 7B, which seems to reverse the chronology. Also, the last two stones at the eastern end of 7A are small boulders, much larger than the cobbles of the rest of the wall; these seem to belong more to 7B. The cornerstone shared by Walls 7A & 8 must belong to 7A rather than 7B, indicating that 7A & 8 are contemporary rather than 7B & 8, even though these latter two are more similar in construction to each other. At least two possibilities exist for the sequence of construction: 7B was built at sometime after MB2 times (and after the use of 23), and at the same time as Wall 8; later perhaps for extra support or as a repair, 7A was added, and there must have been some rearranging of the cornerstones in order to bond 7A to Wall 8. Another possibility is that any walls associated with 7B were destroyed, and Walls 8 and 7A are contemporary. The former possibility seems more likely.

LOCUS SUMMARY

Locus Date: 892.83 07/24

Comments PROGRESS OF EXCAVATION of a different i
**ARCHITECTURAL LOCUS SHEET**

**IDENTIFICATION**
USA Field C, Square B, Locus 8  

**REASON**
K-S wall joining walls 5 and 7.  

**DESCRIPTION**

- **Material:** Hard Limestone ............ 100%  
- **Masonry:**  
  - Wall Stones: Cobble .................. 20%  
  - Chinkstones: Pebble .................. 100%  
- **Dressing:**  
  - Unhewn .................. 60%  
  - Semi-hewn ..............  
- **Mortar:**  
  - Dry-laid............ 100%  
- **Construction:** Style: .......... Boulder & Chink  
  - Support: .......... Free-standing  
  - Courses: .......... 1 to 2  
  - Rows: .......... 1 to 2  
  - Measurements: Length: .......... 2,000 m  
    - Width: .......... 0.390 to 0.450 m  
  - Orientation: .......... 20 deg  
- **Preservation:**  
  - Foundation Only: Partial  
    - Lean Degree: .......... 0 deg  

**STRATIGRAPHY**

- **Under:** 2, 4  
- **Over:** 9, 22  
- **Cuts:** 23  
- **Abuts:** 5  
- **Sealed Against:** 151, 16  
- **Bounded By:** 7A, 7B  

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>892.76</td>
<td>892.48</td>
<td>X</td>
<td>29</td>
<td>892.91</td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
<th>Pub</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>09/20</td>
<td>6</td>
<td>EB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/15</td>
<td>03/08/18</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/16</td>
<td>03/08/18</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/17</td>
<td>03/08/18</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/18</td>
<td>03/08/18</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/19</td>
<td>03/08/19</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/20</td>
<td>03/08/19</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/21</td>
<td>03/08/20</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/22</td>
<td>03/08/21</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/23</td>
<td>03/08/22</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/24</td>
<td>03/08/23</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/25</td>
<td>03/08/24</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/26</td>
<td>03/08/25</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/27</td>
<td>03/08/26</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/28</td>
<td>03/08/27</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/29</td>
<td>03/08/28</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/30</td>
<td>03/08/29</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

- **Function:** One wall of the 3-sided structure formed by Walls 5, 7 & 8. This may have been a domestic structure, since many domestic artifacts were found in the square. The walls probably enclosed an interior space, while Surfaces 16, 6 and Installation 15 were probably outside surfaces. No surface was found inside the "room"; it was filled with Locus 4 tumble.  
- **Stratigraphy:** Wall 8 abuts Wall 5 at 5's northern end, so may have been a later addition to 5, or simply may not have been bonded to 5 when built. No foundation trench was found for 8, but it sits almost directly on bedrock at its northern end; it may have been laid on existing surfaces at its southern end, though no clear evidence for this was found. Surface 16 and probably Installation 15 sealed against 8, so were probably in use with the structure formed by walls 5, 7 & 8. Wall 8 is bonded to 7 at 8's southern end. There are some problems with the phasing of Wall 7 and it is not clear if it was bonded to the early phase of 7 (B), or the later phase (A). There may have been some rearranging of stones when phase A of 7 was built. See Locus 7b for more discussion.  

**Stratigraphy:**  
One wall of the 3 sided structure formed by Walls 5, 7 & 8. This may have been a domestic structure, since many domestic artifacts were found in the square. The walls probably enclosed an interior space, while Surfaces 16, 6 and Installation 15 were probably outside surfaces. No surface was found inside the "room"; it was filled with Locus 4 tumble.  

**Locus Date:** 04/08/24
INSTALLATION LOCUS SHEET

IDENTIFICATION
U84 Field C, Square 8L72, Locus 9

REASON
Remarks: Bedrock, Certain Bedrock

TYPE
DESCRIPTION
Material: Hard Bedrock.......... ROCK
Plan: Irregular
Lining: None

LEVELS

Bedrock was encountered throughout the square, except along the western end of the north balk where excavation was not completed; it was reached at the eastern end, however. The surface is irregular, with cup-shaped depressions and channel-like features which are probably natural. It is rounded and smooth for the most part. Except 1.25 m from the N balk where the terrace drops, it then smooths out again and slopes down to its greatest depth.

Bottom Transit

<table>
<thead>
<tr>
<th>Date</th>
<th>Loc</th>
<th>Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>092.87</td>
<td>X</td>
<td>23 892.36</td>
</tr>
<tr>
<td>25</td>
<td>092.84</td>
<td>X</td>
<td>29 892.53</td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/13</td>
<td>PROGRESS OF EXCAVATION</td>
<td>02/02/13</td>
</tr>
<tr>
<td>07/16</td>
<td>PROGRESS OF EXCAVATION</td>
<td>03/08/16</td>
</tr>
<tr>
<td>07/17</td>
<td>PROGRESS OF EXCAVATION</td>
<td>03/02/17</td>
</tr>
<tr>
<td>07/18</td>
<td>PROGRESS OF EXCAVATION</td>
<td>02/02/18</td>
</tr>
<tr>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
<td>02/02/19</td>
</tr>
<tr>
<td>07/20</td>
<td>PROGRESS OF EXCAVATION</td>
<td>08/08/20</td>
</tr>
<tr>
<td>07/21</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/21/21</td>
</tr>
<tr>
<td>07/22</td>
<td>PROGRESS OF EXCAVATION</td>
<td>08/08/22</td>
</tr>
<tr>
<td>07/23</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/21/23</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function: Used as a base for occupation surfaces and construction; surfaces and walls were founded just a few cm above bedrock. It is possible that ledges were used to support roofs. Along the S balk, occupation material is found immediately over bedrock, and a series of at least five surfaces are superimposed here, indicating resurfacing and leveling off of the irregular bedrock surface. This could represent a number of occupation phases, or frequent resurfacing over a shorter period of time.

 Supervisor: CP
 Dates: 7/11 to 04/01/86

LOCUS SUMMARIES
FIELD C: 8L72: 8-9
SOIL LOCUS SHEET

IDENTIFICATION

U84 Field C, Square 8L72, Locus 10

REASON

Remarks: Compact earth surface fragment along S balk.

DESCRIPTION

Color: Light gray 10YR7/2
Texture: Clay...... 20% Silt...... 40% Sand...... 40%
Medium Sand 40% Course Sand 40%

Particle Shape: Angular... 15% Sub-angular 40%

Consistencies: Hardness...... 4

Wetness..... Modestly Dry

Compactness..... Very Firm

SEPARABILITY

Top--Very Clear Bottom--Clear

Inclusions:

Soil:
Har Pockets......... 30/m2, 2.0 cm Pebble Pockets......... 5/m2, 5.0-10.0 cm
Red-orange soil...... 15/m2, 2.0-5.0 cm Distribution...... Random
Small Pebbles......... 700/m2 Medium Pebbles...... 100/m2
Large Pebbles........ 5/m2 Small Cobble...... 4/m2

Distribution...... Patterned

Organic:

Charcoal.............. 100/m2, avg. 2.0 cm

Distribution...... Random

Measurements:

Length.............. 0.900 m Direction of Slope...... 0 deg

Width.............. 0.650 m Degree of Slope...... 0 deg

Depth................ 0.050 to 0.100 m

Remarks: 1.65 m visible in S balk.

Surface Mat'l:

Beaten Earth

Remarks: Cut on three sides by later activities. At first it was not recognized as a surface; its color and texture is like that of the "disturbed surface debris" of the Locus 4 (inclusion supplement). Sand was mostly at the top.

STRATIGRAPHY

Under: 4

Over: 11

Contiguous to: 159, 167

Cut by: 179, 207

Remarks: Remnant only-eroded? cut?

LEVELS

Loc Top Bottom Transit

35 893.30 893.20 X

POTTERY

Pail Date Count Bskts Loc Preservation Comments Reading

26 7/18 11/185 5

PHOTOGRAHS

Date Number Subject Date Number Subject

07/18 20/08/18 SURF REMNANT & S BALK 07/18 02/08/18 PROGRESS OF EXCAVATION

INTERPRETATION

Function: Occupation surface. So little remaining it is impossible to tell what other material is may have been associated with. It may have served to level off the area to the same level as the bedrock shelf in square 8162 to the south.

Stratigraphy: Surface 10 is above the fill Locus 13 which is interpreted as a late (Iron age or Later) disturbance, so must be also Iron or later. As it is cut on three sides, it is difficult to make connections, but it may have been contemporary with Wall 3 which is itself only a remnant. There is a possibility that it was part of Surface 16 and installation 15, thus contemporary with Walls 7 and 8.

Locum Date: Post-late Iron 2
IDENTIFICATION
LBS Field C, Square 8L72, Locus 11

DESCRIPTION
Top: Arbitrary
Bottom: Clear

Texture:
- Clay: 40%
- Silt: 40%
- Sand: 20%
- Fine Sand: 10%
- Course Sand: 10%

Particle Shape:
- Angular: 15%
- Sub-angular: 40%
- Sub-rounded: 30%
- Round: 15%

Consistency:
- Slightly friable

Structure:
- Random

Inclusions:
- Soil pockets: 20/nm, 2.0 cm

Stone:
- Shell Pebbles: 100/nm
- Large Pebbles: 5/nm

Organic:
- Charcoal: 100/nm, avg. 2.0 cm

Measurements:
- Length: 0.900 m
- Width: 0.650 m
- Depth: 0.050 to 0.100 m

Stratigraphy
Under: 10
Over: 13
Cut by: 171, 207

Levels
Loc: Top: Bottom: Transit

\[ \begin{align*}
\text{Loc} & \quad \text{Top} & \quad \text{Bottom Transit} \\
33 & \quad 893.20 & \quad 893.10 & \quad X
\end{align*} \]

Pottery

<table>
<thead>
<tr>
<th>Date</th>
<th>Pail No.</th>
<th>Count</th>
<th>Bskts</th>
<th>Loc Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>27/7/8</td>
<td>7/23</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>EB</td>
</tr>
<tr>
<td>31/7/9</td>
<td>5/63</td>
<td></td>
<td></td>
<td></td>
<td>1 KOM 800.8B</td>
<td></td>
</tr>
</tbody>
</table>

Photographs

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/19 02/08/18</td>
<td>SURF 10 SML AT S BALK</td>
<td>07/19 02/02/19</td>
<td>PROGRESS OF EXCAVATION</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INTERPRETATION

Function:
- Makeup material for Surface 10, or occupation buildup from the phase preceding Surface 10.

Stratigraphy:
- As with Surface 10, too little of this material remains to be able to make any stratigraphic correlations with other features in the square. It is preserved within the same limits as is Surface 10 (though it extends 30-40 cm further to the north) so is probably contemporaneous makeup material. It is curious that its pottery is dominantly EB, when Locus 13 below contains Iron, MS & EB pottery.

Loca: Date: Post-Late Iron 2
IDENTIFICATION

U84 Field C, Square B8L72, Locus 12

Supervisor: CP
Dates: 7/19 to 7/24

REMARKS

Remarks:
- Wall fragment north of wall locus 3, near west balk.

DESCRIPTION

Material:
- Soft Limestone: 100%

Masonry:
- Wall stones: Small Boulder: 100%
- Dressing: Unhewn: 20%, Semi-hewn: 80%

Mortar:
- Dry-laid: 100%

Construction:
- Style: Bld w/o chsktn
- Support: Free-standing

Remarks:
- 2 rows of sm boulders w/1 row of smaller boulders in center.

Rows:
- 1

Measurements:
- Length: 0.520 m
- Height: 0.110 to 0.200 m
- Dip: 4 deg

Preservation:
- Foundation Only: Partial

Remarks:
- 2 rows of small boulders w/1 row of smaller boulders in center.

Measurements:
- Length: 0.520 m
- Height: 0.110 to 0.200 m
- Dip: 4 deg

Preservation:
- Foundation Only: Partial

Remarks:
- The wall consists of only 6 stones, but they are too well oriented to be tumble. Like Wall 3, it is a small remnant with no apparent contemporaneous relations with the surrounding architecture or soil loci.

STRATIGRAPHY

Under:
- 2

Over:
- 7, 219

Cuts:
- 217

LEVELS

Loc Top Bottom Transit
2 893.29 893.18 X

POTTERY

Reading
Pub

Photographs

Date Number Subject
07/11 04/22/11 PROGRESS OF EXCAVATION
07/11 16/02/11 END OF ARCHAEOLOGICAL WORK

INTERPRETATION

Function:
- If this remnant was ever part of a complete structure, no traces of it remain and no indication of its function can be determined. It is the most convincing section of the speculated "stairway to the spring" as it appears to have no other purpose; it would thus be the middle row of three wall fragments (3, 12 & 7) aligned roughly NW-SE, all sitting on different levels in a tiered fashion.

Stratigraphy:
- The wall remnant was very close to the surface and no occupation surfaces were found associated with it. It is unclear whether it sits on top of Surface 21 (which would then be a surface sloping to the north) or cuts Surface 21. Along with Wall 3, it is probably the latest element in the square.

Locus Date:
- Late Iron II
SOIL LOCUS SHEET
IDENTIFICATION
U84 Field C, Square 8L72, Locus 13

REASON
Remarks:
Separability:

DESCRIPTION
Inclusions:
Soil:
Stone:
Arti fact:
Organic:
Measurements:

STRATIGRAPHY
Under:
Over:
Equals:
Seals against:

LEVELS
34 892.06 892.97 X
33 893.10 893.00
27 893.06 892.98 X

POTTERY
Fall Date Count Bskts Loc Preservation Comments Reading
32 7/19 8/ 74 EB
35 7/20 0/ 26 3
41 7/24 7/ 98 12
54 7/24 0/ 7 2
64 7/30 1/ 17 BALK TREN EB

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
1 EB POLISHED BONE FRAG 1 07/19 32 SI
2 BASALT WEIGHT? 2 07/24 41 SI

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
07/18 02/03/18 PROGRESS OF EXCAVATION 07/25 03/06/23 PROGRESS OF EXCAVATION 07/24 06/08/24 INST 15 WITH SURF 16

INTERPRETATION
Function:
Seems to be a fill that either washed or was dumped into this area; it does not contain significant organic remains, so it would not have been a garbage dump (as is Locus 25). It may have been used as a fill to level the area for Surface 10, since much of the pottery was lying flat, and Surface 22 beneath was very irregular and stony.

Stratigraphy:
This material is close to the ground surface, as are all of the occupation features in the southern part of the square; but part of it is sealed under loci 10 & 11, making it clear that it is not topsoil or other contaminated erosional debris. It sealed against the later phase of Wall 7 and possibly against 13, so again, may have been the leveling fill or buildup material for surfaces used with Wall 7. It does not seal against the full length of Wall 7 but is disturbed at the western end by Wall 12 and layer 21, Locus 12 is probably a later feature; but 13 appears to seal against 21, thus post-dating 21. It may be equal to Locus (probe) 17 which is also a soft, late-dating fill, but 17 may be a later disturbance since it appears at a higher level than does 13. It may also be equal to Locus (probe) 20, but there is no clear continuity between the two; 20 may simply be a pocket of topsoil.

Locus Date: Late Iron 2
**SOIL LOCUS SHEET**

**IDENTIFICATION**

UBS Field C, Square B/72, Locus 14

**REASON**

Material directly above surface 16, along E balk.

**DESCRIPTION**

**Color:**
- Brown

**Texture:**
- Clay: 60%
- Silt: 40%
- Sand: 20%
- Course Sand: 30%
- Fine Sand: 40%

**Particle Shape:**
- Angular: 10%
- Sub-angular: 50%
- Round: 40%
- Sub-round: 30%
- Sub-rounded: 20%

**Consistence:**
- Hardness: 1
- Compactness: Slightly Crumbly
- Structure: Moderately Rubbly

**Inclusions:**
- Pebble Pockets: 4/m², 10.0-30.0 cm
- Small Pebbles: 1000/m²
- Medium Pebbles: 300/m²
- Large Pebbles: 1/m²
- Medium Cobbles: 1/m²
- Small Cobbles: 15/m²
- Artifact: Pottery: Frequent

**Measurements:**
- Length: 1.150 m
- Width: 1.050 m
- Depth: 0.020 to 0.070 m

**Remarks:**
- Additional slope: 5 deg at 280 deg E.
- Pebble pockets and sherds were immediately on top of surface 16, and loosely incorporated into irregularities in the surface.

**STRATIGRAPHY**

<table>
<thead>
<tr>
<th>Under</th>
<th>Over</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>892.81</td>
<td>892.79</td>
<td>X</td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/20</td>
<td>2/05</td>
<td>4</td>
<td>1R2 sod, POSS LB, MB2 SOD, EB</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Date</th>
<th>Subject</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/18</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/19</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/20</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

This is the same material as tumble Locus 6, but as it was directly over Surface 16 (part of which was already exposed), it was given a separate locus number in case it contained any special inclusions or artifacts.

**Locus Date:**
Post-Late Iron 3

Supervisor: CP  Dates: 7/20 to
IDENTIFICATION
UM Field C, Square 8L72, Locus 15

TYPE
Description: Plaster installation adjoined to Surface 16 (see two Installation Supplements).
Possible future prep. area

DESCRIPTION
Material: Hard Plaster............ 40X
Overview: Slightly Rectangular
Remarks: Was probably originally surrounded on all sides by surface.

Measurements:
Length: 1.000 m
Width: 0.500 to 0.600 m
Height: 0.190 to 0.290 m
Orientation: 20 deg

Remarks: When first uncovered, this installation appeared to be a compact earth surface, like Surfaces 6, 10, & 16 in other parts of the square. It was only a remnant of a surface, as 11 edges seem to be broken off. The possibility exists that it was connected to Surface 16 (which runs along the east balk) at the installation's east point and Surface 16's south-westernmost point; however, the connection was not clear, and it also could have been a later resurfacing of Surface 16. Installation 15 is at a higher level than any of the surrounding Locs. In the northern half of the installation is a cup-like depression whose surface is continuous with the rest of the installation surface. It is 10 cm deep and 30 cm in diameter. It may have been support for a jar or used for holding or preparing liquid or food, when the installation was sectioned, it became clear that it was made of plaster and stone; beneath 1 cm of the compact earth surface was a layer of crushed limestone plaster with a sandy texture, which cannot be broken into lumps. Beneath and throughout the plaster are smaller and then (deeper down) larger limestone cobbles (5-10 cm). These in turn are set into the hard compact material of Locus 22. The section clearly showed that the installation was part of Surface 16, the separation being a vertical line; the surfaces are coplanar. A cross-section through the installation would have a concave shape.

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
4 893.06 892.00 X 20 892.96 892.69 X 29 892.88 892.69

POTTERY
Date Number Count Bats Loc Preservation Comments Reading Pub
37 7/23 0 30 2 EB BDS5 EB
62 7/24 2/26 13 EB
65 7/24 2/67 7 EB

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject

INTERPRETATION
Function: Uncertain. May have been an area for the preparation or storage of food or liquid. Its function must have required some harder (and perhaps liquid-retaining) foundation than the compact earth of most surfaces. Though its shape is ideal as a grinding cup, the earth surface covering it was probably not strong enough to withstand such kind of abrasion.
The most important information gained by sectioning the installation was that it was set into Surface 16, and probably coexisted with it. A vertical line separating the plaster of 15 on the south from the earth makeup of 16 on the north showed that 15 was set into the ground as intended to be on the same level as 16. Although 15 did not seal against Wall 8 cornerstore next to which it was located, Surface 16 did seal against 8, so 15 probably did also, but that part of the surface may have been broken away. The south and east edges of the installation were also broken away, as was the south edge of Surface 16; there may have been a continuous earth surface here which was later cut away. The fill of Locus 17 now occupies this area, so this is a feasible hypothesis. It is curious that all the pottery found within 15 is EB; this may be because it is set into the EB layers below. One possibility is that this feature was built in EB, and because of its strength and usefulness was preserved and reused in later times in association with Surface 16 and wall 8.

Locus Date: Later Iron 2
This very pure plaster of crushed limestone; not finely crushed and processed, but rather roughly crushed. An irregular lining of randomly arranged white cobblestones, set into the hard-packed soil below, is covered by a layer of this crushed plaster which contains many pebbles. The finer fraction surrounds and compacts the larger cobbles and pebbles. A compact earth surface covers all of this.

This earth surface covers and evens out the plaster portion of the installation. The cup or bowl of the installation is also covered with this continuous surface. The surface is continuous with Surface 16, and only in section can the vertical division between Surface 16 and the plaster of 15 be seen. Otherwise, the two surfaces are coplanar.
IDENTIFICATION

U84 Field C, Square 8L72, Locus 16

REASON
Remarks:
Separability:

DESCRIPTION
Oates: 7/25 to... Hard earth surface between E balk and Wall 8.
Top--Very Clear
Bottom--Clear

Particle Shape:
Angular... 10%
Sub-angular 60%

Consistency:
Hardness... 6
Compactness... Very Firm

INCLUSIONS:

COLOR:
Light gray

TEXTURE:
Clay...... 25%
Silt...... 50%
Sand........ 25%

Particle Shape:
Angular... 30%
Sub-angular 40%

Particle Size:
Sand........ 25%
Fine Sand... 40%

Artifact:
Pottery... Frequent
Charcoal... 10Q/m2, av

Organic:
Measurements:
Length......... 1.150 m
Width........... 1.050 m
Depth........... 0.040 to 0.150 m

Remarks:
A lower surface protruded beneath the upper at the southern end, but tracing this lower surface showed that only the southern half had been resurfaced. Installation 15 was sealed against by the upper surface.

STRATIGRAPHY
Under:

LARGE
Seals against:

Cut Dgy:

LEVELS
Loc Top
Loc Top

Botm Transit
Botm Transit

POTTERY
Pail Date
Comments
Pub

PHOTOGRAPHS
Date Number Subject
Date Number Subject
Date Number Subject

BIODATA SAMPLES
Surface Material:

INTERPRETATION
Function:
Occupation surface, probably outdoors  (since Walls 7, 8, & 5 probably enclose an indoor space).

Stratigraphy:
Seals against Wall 8, so contemporary with it and 15 and probably with the building formed by Walls 5, 7 & 8. Probably contemporary with Surface 6 also, and may have been continuous with it. May have been continuous with Surface 10 at one time, but later cut by Locus 17. The material directly above the bedrock below 16 contains MB2 and EB pottery, so 16 must postdate MB. Cut at northern end by Locus 19.

Locus Date:
Late Iron
IDENTIFICATION
U84 Field C, Square 8L72, Locus 17
Supervisor: CP  Dates: 7/23 to 7/25

REASON
Remarks: Probe in the SE corner-arbitrary.
Separability: Top-Unclear  Bottom-Average

DESCRIPTION
Color: Brown  10YR5/3
Texture: Clay  40%  Silt  40%  Medium Sand  10%  Course Sand  10%
Particle Shape: Angular  10%  Sub-angular  30%  Sub-rounded  30%  Round  10%
Consistence: Hardness  1
Compactness  Moderately Crumbly
Wetness: Moderately Dry

Inclusions:
Soil: Brick Material  1/m², 5.0 cm  Red-orange soil  1/m², 25.0 cm
Distribution: Random

Stone: Small Pebbles  1000/m²  Medium Pebbles  75/m²  Large Pebbles  15/m²
Distribution: Random

Organic: charcoal  5/m², avg. 5.0 cm  Distribution: Random

Measurements:
Length: 1.600 m  Direction of Slope: 0 deg
Width: 1.000 m  Degree of Slope: 0 deg
Depth: 0.160 to 0.230 m

Remarks:
One inclusion of burned brick material within the red-orange soil inclusion. Arbitrary probe through soft dark fill to try to find continuity or some visible relationship with surrounding loci.

STRATIGRAPHY
Under: 4
Over: 22
Equals: 13, 207
Remarks: Possibly cuts 13, 16.

LEVELS
Loc Top  Bottom  Transit
35  893.03  892.87  X
29  893.04  892.81

POTTERY
Pail Date  Count  Baskets  Loc.  Preservation  Comments  Reading  Pub
38  7/23  12  60  FEW IR2, MB2  BOOS
40  7/24  12  60  FEW IR2, MB2  BOOS
42  7/25  1  41  2

OBJECTS
Reg no. Description  Field no. Date  Pail  Loc  Level  Total  Period  Material  Photo  Drawing
WORKED CHERT OBJECT  1  07/23  38  35

PHOTOGRAPHS
Date  Number  Subject  Date  Number  Subject
07/18  02/08/18  PROGRESS OF EXCAVATION
07/19  02/02/19  PROGRESS OF EXCAVATION

INTERPRETATION
Function: Possible pit fill, or eroded area that later filled with late material. The probe in this corner had arbitrary limits, bounded on the north and northwest by 16 and 15, and unclearly on the west. It may have been continuous with 13, but extended deeper than did 13.

Stratigraphy: The material all along the south balk, in the upper levels, is highly contaminate with late fill and topsoil; the area of Probe 17 seems to be one of these pitted or eroded areas. It may be the same as Locus 13, but as it was not sealed under any surface, this is not certain. It may somehow be associated with the cutting of Surface 10 and 16 and Instillation 15, as it extends to the broken edges of these loci.

Locus: Late Iron 2
IDENTIFICATION

U84 Field C, Square 8L72, Locus 18

REASON

Remarks:

Separability:

DESCRIPTION

Color:

Texture:

Particle Shape:

Consistence:

Wetness:

Includes:

Inclusions:

Stone:

Measurements:

Remarks:

This material comes from only directly below surface 16, though the same kind of material is present beyond the northern edge of surface 16 at the same level; these were separated to get a sealed pottery reading from below the surface. This material was present only beneath the northern half of 16; 22 beneath the northern half.

STRATIGRAPHY

Under:

Over:

Equals:

Beneath:

Cut by:

LEVELS

Loc Top Bottom Transit

POTTERY

Date Count Bskts Loc Preservation Comments Reading Pub

INTERPRETATION

Remarks:

Stratigraphy:

It is unclear whether Locus 19 cut through Surface 16 and Locus 18, or if Locus 19 was below a once existent Surface 16 sealing up to Wall 5's eastern extension (beyond its corner with Wall 8). Locus 18 may thus be equal to 19, or it may have been cut into at the same time that Surface 16 was cut or broken (thus would predate 19). There is a possibility that Loci 18, 19, 25 & 26 are all equal, because: they are all of the same soft consistency and dark color, though 18 and 19 are not ashy as are 25 and 26; they all occur on the same sloping stratigraphy level; and this same material was found beneath the one stone which represents the eastern extension of Wall 5, thus providing the continuum from south to north along the east balk. If this was the case, then Surface 16 would have sealed against Wall 5, covering Locus 19 as well as 18. Since Surface 16 is cut, however, there is no way to confirm this.

Locus Date: Late Iron 2
IDENTIFICATION
U84 Field C, Square 8L72, Locus 19
Supervisor: CP Dates: 7/25 to

REASON
Remarks: Soft material between N end of Surface 16 and eastern extension of Wall 5.
Separability: Top-Average
Bottom-Very Cleer

DESCRIPTION
Color: Grayish brown
Texture: Clay........ 30% Silt........ 40% Sand........ 30% Fine Sand... 30%
Medium Sand 40%
Course Sand 30%
Particle Shape: Angular... 10% Sub-angular 40% Sub-rounded 30% Round........ 20%
Consistency: Hardness........... 1 Conspackness............ Moderately Crumbly
Wetness.................... Moderately Dry
Structure................... Random
Inclusions:
Stone: Small Pebbles........ 1000/m2 Medium Pebbles........ 800/m2
Measurements:
Length.................. 0.750 m Direction of Slope........ 0 deg
Width.................... 0.500 m Depth.................... 0.220 m
Remarks: This was an arbitrary locus to excavate the material on the same stratigraphic level as Locus 18, but not directly beneath Surface 16, to avoid contamination.

STRATIGRAPHY
Under: 4
Over: 0
Equates: 187
Remarks: Cuts 16 and 187

LEVELS
Loc Top Bottom Transit

23 892.40 892.38

POVER
Pail Date Count Bskts Loc Preservation Comments Reading Pub

49 7/25 0/ 32 5 POST-EB 800,EB 800

INTERPRETATION
Function: If this locus is equal to Locus 18, then it may have served as a leveling fill for Surface 16 (as 18 probably did). But if 19 cuts Surface 16 then it is a later fill.
Stratigraphy: Locus 19 is on the same stratigraphic level as 18, and may be equal to it. But since Surface 16 was cut and did not extend to cover 19, 19 may be a later fill. If it is equal to 18, it seals against Wall 8, as 18 does, and probably Wall 5 also (Wall 5's eastern extension). See Locus 18 for other stratigraphic possibilities.

Locus Date: Late Iron
IDENTIFICATION

UBC Field C, Square B/L2, Locus 20

Supervisor: CP  Dates: 7/25 to

REMARKS

Remarks: Arbitrary probe in SW corner to clear out soft fill above hard material (22), to prevent contamination.

DESCRIPTION

Color: Brown  10YR5/3

Texture: Clay........... 40%  Silt........... 40%  Sand........... 20%  Fine Sand... 40%

Medium Sand 40%  Course Sand 20%

Particle Shape: Angular... 10%  Sub-angular 30%  Sub-rounded.. 40%  Round...... 20%

Consistency: Hardness............... 1

Compactness............. Moderately Crumbly/Moderately Rubbly

Wetness............... Moderately Dry

Structure............... Random

Inclusions:

Soil: Marl Pockets......... 1/2, 2.0-5.0 cm

Stone: Small Pebbles......... 800/m2  Medium Pebbles......... 200/m2

Large Pebbles........... 80/m2

Measurements:

Length.................. 1.250 m  Direction of Slope........ 95 deg

Width................... 0.470 m  Degree of Slope........ 2 deg

Depth................... 0.140 to 0.180 m

STRATIGRAPHY

Under: 4

Over: 25

Equals: 137, 179

Remarks: Possibly cuts 21, 22 & 23.

LEVELS

Loc Top  Bottom Transit  Loc Top  Bottom Transit

31  893.24  893.06  X  32  893.20  893.06

POTTERY

Pail Date  Count  Baskets  Loc Preservation  Comments  Pub

50  7/25  3/14  14  13  IR2 R06,68

PHOTOGRAPHS

Date  Number  Subject

07/26  03/02/26

PROGRESS OF EXCAVATION

INTERPRETATION

Function: Arbitrary probe to clear out possible late fill.

Stratigraphy: As this locus is so close to the topsoil, it is impossible to tell if this was once a sealed locus, or is a late disturbance or pocket of remaining topsoil (or locus 4). It cuts loci 21 & 22, and is limited on the west by a shelf of Locus 23. It may be the same late fill as Loci 13 & 17.

Locus Date: Late Iron 2
IDENTIFICATION

U84 Field C, Square 8L72, Locus 21

REASON

Remarks: Compact material in SW corner, upon which sits Wall 3 was founded.

DESCRIPTION

Color:

Light brownish gray 2.5Y6/2

Texture:

Clay......... 40%
Medium Sand 40%
Course Sand 20%

Particle Shape:

Angular........ 15%
Sub-angular 30%
Sub-rounded 35%
Round.......... 20%

Consistency:

Hardness........... 3
Compactionness Moderately Firm

Wetness........... Moderately Dry

Structure.......... Random

Inclusions:

Soil:

Nari Pockets ........... 100/m2, 2.0 cm
Distribution ........... Random

Stone:

Small Pebbles............ 1000/m2
Medium Pebbles........... 200/m2
Large Pebbles............ 50/m2
Small Cobbles............ 2/m2
Medium Cobbles........... 1/m2

Organic:

Charcoal ............. 10/m2, avg. 2.0 cm
Distribution ........... Random

Measurements:

Length.................. 2.000 m
Width.................... 1.000 m
Depth................... 0.060 to 0.220 m

Remarks:

The top of this Locus was not distinguished from the underlying material--both were the same material so were excavated together.

STRATIGRAPHY

Under: 3, 4, 12?
Over: 22, 23
Cut by: 127, 131, 207
Remarks: Sealed against by 131

LEVELS

Loc Top Bottom Transit

Loc Top Bottom

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Pail</th>
<th>Date</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>7/25</td>
<td>52</td>
<td>7/26</td>
<td>6/100</td>
<td>43</td>
</tr>
<tr>
<td>53</td>
<td>7/25</td>
<td>54</td>
<td>7/26</td>
<td>0/25</td>
<td>4</td>
</tr>
<tr>
<td>55</td>
<td>7/26</td>
<td>56</td>
<td>7/27</td>
<td>0/14</td>
<td>6</td>
</tr>
<tr>
<td>57</td>
<td>7/27</td>
<td>58</td>
<td>7/27</td>
<td>6/40</td>
<td>9</td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

Date | Number | Subject |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>07/18</td>
<td>02/06/18</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/18</td>
<td>02/07/18</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/18</td>
<td>03/06/18</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/18</td>
<td>03/07/18</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

INTERPRETATION

Function:

Possibly an occupation surface which has been cut, and later used as a foundation surface for Wall 3. It is very similar in texture to the EB surfaces below, but its pottery and the pottery below it indicate it is late Iron 2.

Stratigraphy:

The material has been disturbed on all sides, possibly by 20, 13 & 12. It does not extend eastward beyond the western limit of 13; here it is replaced by the stony part of Locus 22. It may have been the buildup or leveling material for a surface continuous with Surface 10. Very unclear context.

Locus Date:

Late Iron 2
IDENTIFICATION

U84 Field C, Square 8L72, Locus 22

REASON


SEPARABILITY

Top - Clear

DESCRIPTION

Color: Brown

Texture: Clay........ 40X

Medium Sand 30%

Particle Shape: Angular.... 15X

Consistence: Hardness........... 2

Moderately Crumbly

Compactness: Shoddy

Structure........... Random

Inclusions:

Small Pebbles............ 2000/a2

Large Pebbles............ 20/a2

Medium Cobbles........... 10/a2

Smaller Pebbles........... 500/a2

Measurements:

Length.................. 1.100 m

Width................... 0.800 m

Depth.................... 0.100 to 0.150 m

Remarks: Average slope recorded; surface very irregular.

Remarks: Below Loci 21 only near Wall 7's westernmost end; there is a break in the material where the surface is hard to trace, becoming a rubbly compact material below 13. More precisely defined as the material above Surface 23 along south balk.

STRATIGRAPHY

Under:

Seals against:

Cut By:

Remarks:

LOCUS SUMMARY

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit

29 892.76 892.81 X 34 692.97 692.80 X 32 692.09 692.37 X

POTTERY

Date Count Baskets \\

Loc Preservatic Comments

Reading

PUBLICATION

PHOTOGRAPHS

DATE

SUBJECT

INTERPRETATION

Function:

In the area below 21, 22 seems to be a leveling layer (surface) to seal against the later (southern) phase of Wall 7. Here it is wedge-shaped, having its greatest thickness in the north, against the wall. To the east it is very rubbly and irregular, but was possibly an occupation surface.

Stratigraphy:

Locus 22 seals against the later phase of wall 7. It sits directly on top of EB surface 23 (and on bedrock in places), but contains a considerable amount of late pottery. The area may have been cleared down to this compact surface (23) before 22 and later material was laid down.

Locus Date:

Late Iron 2
IDENTIFICATION
Oates Field C, Square 0L72, Locus 23

REASON
Remarks:
Separability

DESCRIPTION
Texture:
Clay: 40%
Silts: 40%
Sands: 20%

Particle Shape:
Angular: 10%
Sub-angular: 30%

Consistency:
Hardness: 4
Compactness: Very Firm
Wetness: Slightly Moist

Inclusions:
Soil: Marl Pockets 500/m2, 2.0 cm
Stone: Small Pebbles 1000/m2
Medium Pebbles 800/m2
Large Pebbles 150/m2
Medium Cobbles 150/m2
Small Cobble 2/m2

Artifact:
worked bone: 3

Organic:
Shell: 5

Distribution:
Random

Measurements:
Length: 5.009 m
Width: 2.009 m
Depth: 0.040 to 0.200 m

Remarks:
Another slope: 12 deg at 98 deg east.

2 pieces of worked bone were found with a juglet (pail 89). All the surfaces were considered one locus,
though some were excavated in different pottery pails. There seemed to be patches of resurfacing and
leveling—the surfaces were not all directly one on top of the other. The EB juglet and partially restorable
EB hole-mouth jar were found on different surfaces. One surface had a continuous layer of plaster, another
only remnants. Most of the cobbles and small boulders were concentrated in the extreme SW corner as a pile
of tumble sitting on one of the surfaces. This may have been a wall but was not recognized as such; the
boulders remaining in the balk look very well organized and wall-like, however.

STRATIGRAPHY
Under:
Cut by:

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
34 892.66 X 31 892.09 X 35 892.66 X
27 892.79 X 33 892.66 X 31 893.06 X
25 892.89 X 32 892.20 X

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Pail</th>
<th>Count</th>
<th>Baits</th>
<th>Loc</th>
<th>Preservation</th>
<th>Remarks</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/01</td>
<td>27/19</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/02</td>
<td>4/25</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/02</td>
<td>1/40</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/02</td>
<td>5/26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/02</td>
<td>0/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/02</td>
<td>4/32</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/02</td>
<td>15/23</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OBJECTS

<table>
<thead>
<tr>
<th>Reg no.</th>
<th>Description</th>
<th>Field no.</th>
<th>Date</th>
<th>Pail</th>
<th>Loc</th>
<th>Level</th>
<th>Total Period</th>
<th>Material</th>
<th>Photo</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASALT WEIGHT</td>
<td>1</td>
<td>08/01</td>
<td>20</td>
<td></td>
<td></td>
<td>82.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORKED BONE</td>
<td>2</td>
<td>08/02</td>
<td>85</td>
<td>s1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORKED BONE</td>
<td>3</td>
<td>08/02</td>
<td>85</td>
<td>s1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORKED BONE - POINT</td>
<td>4</td>
<td>08/03</td>
<td>93</td>
<td>s1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
<th>Date</th>
<th>Subject</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/10</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/31</td>
<td>15/08/31</td>
<td>WALL 7 &amp; OTHER, VIEW</td>
<td>ESE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/10</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/31</td>
<td>15/08/31</td>
<td>WALL 7 &amp; OTHER, VIEW</td>
<td>ESE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/31</td>
<td>PROGRESS OF EXCAVATION</td>
<td>07/31</td>
<td>15/08/31</td>
<td>WALL 7 &amp; OTHER, VIEW</td>
<td>ESE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/31</td>
<td>EB JUGLET IN SITU</td>
<td>07/31</td>
<td>15/08/31</td>
<td>WALL 7 &amp; OTHER, VIEW</td>
<td>ESE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/31</td>
<td>TUMBLE (2) IN SW CORNER</td>
<td>07/31</td>
<td>15/08/31</td>
<td>WALL 7 &amp; OTHER, VIEW</td>
<td>ESE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/05</td>
<td>02/11/03</td>
<td>32/11/03</td>
<td>TUMBLE (23) IN SW CORNER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BIODATA SAMPLES

Geo: Plaster

INTERPRETATION

Function:
At least 2 surfaces are present, at least 2 of which were plastered. These surfaces were
laid over Surface 12 (a thin layer of very compact earth sitting directly on bedrock); this
layer contained very little pottery and may represent a natural earth buildup.

Stratigraphy:
These are probably the earliest occupation levels in the square, laid down directly on
bedrock. Any structures associated with them are no longer preserved and were cut in MB or
later times by Walls 7 (early phase) and 8. The whole area may have been cleared of debris
before later occupation levels were laid down. These surfaces may represent a long span of
time, or simply a series of resurfacing events.

Locus Date: EB
SOIL LOCUS SHEET

IDENTIFICATION
U84 Field C, Square 8L72, Locus 24

REASON
Material below Wall 7 (later phase), above Surface 23.

Separability:
Top: Average
Bottom: Very Clear

DESCRIPTION
Color:
Brown 10YR 3/5

Texture:
Clay........ 40%
Medium Sand 20%
Course Sand 20%
Fine Sand... 10%

Particle Shape:
Angular.... 10%
Sub-angular 35%
Sub-rounded. 20%
Round....... 35%

Consistency:
Hardness......... 3
Compactness...... Moderately Firm

Wetness:
Moderately Dry

Structure:
Random

Inclusions:
Nari Pockets..... 50/m², 2.0 cm

Stone:
Small Pebbles.... 1000/m²
Large Pebbles..... 50/m²
Medium Cobble.... 30/m²

Measurements:
Length........ 2.600 m
Width........ 0.430 m
Depth......... 0.030 to 0.080 m

STRATIGRAPHY
Under:
7A

Over:
23

LEVELS
Loc Top Bottom Transit

27 892.86 892.79

POTTERY

Date Number Subject

69 7/31 4/36 4 EB spout EB

PHOTOGRAPHS

Date Number Subject

07/31 02/08/31 PROGRESS OF EXCAVATION

INTERPRETATION

Function:
May have been the surface upon which the late phase of Wall 7 was built, but it was not continuous with any occupation surface, nor a continuous surface itself; it was more likely a fill below the wall stones, that had been compacted by the wall.

Stratigraphy:
This thin layer of soil sat beneath the stones of Wall 7 (late phase) and on top of Surface 23. It partially filled the foundation trench of the early phase of Wall 7, thus may have been used to level this small area before laying the stones of the late phase of 7.

Locus Date:
Late Iron 2
IDENTIFICATION

**Locus:** E8L72, Locus 25

**Supervisor:** CP

**Dates:** 8/1 to 8/3

**Remarks:** Ashy material under Surface 6, to bedrock.

**Separability:** Top-Clear, Bottom-Very Clear

**DESCRIPTION**

**Date:** 4/01/86

**Color:**
- Grayish brown 2.5YS/2

**Texture:**
- Clay: 30%
- Silt: 40%
- Sand: 30%

**Particle Shape:**
- Angular: 20%
- Sub-angular: 30%
- Sub-rounded: 30%
- Round: 20%

**Consistency:** Moderately Crumbly/Very Rubbly

**Wetness:** Slightly Wet

**Structure:** Random

**Inclusions:**
- Compact soil: 4/62, 10.0-50.0 cm

**Stones:**
- Small Pebbles: 1500/m2
- Medium Pebbles: 1500/m2
- Large Pebbles: 800/m2
- Small Cobbles: 600/m2
- Medium Cobbles: 5/m2
- Large Cobbles: 800/m2
- Small Boulders: 3/m2
- Medium Boulders: 5/m2

**Artifacts:**
- Pottery: Frequent

**Organics:**
- Bone: Frequent

**Measurements:**
- Length: 1.850 m
- Width: 1.350 m
- Depth: 0.850 to 0.970 m
- Slope: 6 deg at 0 deg north

**Remarks:**
- One slope, along E balk: 6 deg at 0 deg north.
- E.1.31: A few large lenses of compact and light colored material. Is very irregular and discontinuous.

**STRATIGRAPHY**

**Under:**
- Locus Date: 6, 27

**Over:**
- Level: 9

**LEVELS**

**Loc Top**
- 11

**Botto m Transit**
- 892.22

**Transit Loc**
- 891.25

**Bottom Transit**
- 10

**POTTERY**

**Fall Date**
- 98/02

**Count**
- 75

**Baskets**
- 5/46

**Loc Preservation**
- MB2, EB

**Comments**
- X

**Reading**
- HB2, EB

**INTERPRETATION**

**Function:**
- Dump area for ash and other garbage, possibly specifically from cooking debris. Material was probably pushed over the edge of the bedrock where it takes a sharp drop over a ledge; perhaps some kind of retaining wall will be found in the balk or in B8L2.

**Stratigraphy:**
- This ashy pit (1) is sealed by Surface 6, which itself sealed up to Wall 5. Since the pottery is homogeneously MB and EB, it has been significant help in dating the walls and other features to MB2 or later. There is a possible stratification within the pit, with all MB2 pottery coming out of the deepest part, predominantly MB2 from the upper part. This could mean that it was used during both these periods as a dump or garbage pit and is an in-situ, continuously used feature.

**PHOTOGRAPHS**

**Date**
- 02/13/02

**Number**
- 98

**Subject**
- 27

**Date**
- 02/13/02

**Number**
- 27

**Subject**
- WAll 27

**Biodata Samples**

**Flotation Sample**
- 04/01/86

**Supervisor:** CP

**Dates:** 8/1 to 8/3
IDENTIFICATION

U84 Field C, Square 8L72, Locus 26

REMARKS:
Ashy pocket in NE corner, N of Wall 5, below Surface 6.

DESCRIPTION

Color:
Grayish brown

Texture:
Clay........ 30%
Silt........ 40%
Sand......... 30%
Fine Sand... 30%

Particle Shape:
Angular... 20%
Sub-angular... 30%
Sub-rounded... 30%
Round...... 20%

Consistency:
Slightly Crumbly/Moderately Rubbly

Inclusions:
Small Pebbles........ 1000/m2
Medium Pebbles...... 500/m2
Large Pebbles........ 200/m2
Small Cobbles........ 5/m2

Measurements:
Length........ 0.750 m
Width.......... 0.800 m

Remarks:
After Wall 27 was discovered, the area between Walls 27 and 5 was set apart as a new locus. It is the first place that the ashy material below Surface 6 was found; then it was found to continue beneath all of Surface 6 (but Locus 25 had already been assigned to it).

STRATIGRAPHY

Under:
6

Over:
9

Equals:
25

LEVELS

Loc Top Bottom Transit

POTTERY

Pail Date Count Bskts Loc Preservation Comments Reading

77 8/1 12/93 13 POSS UMAY, EB

BIODATA SAMPLES

Function:
Flotation Sample

INTERPRETATION

Function:
See Locus 25.

Locus Date:
Late Iron 2
4/1/86

ARCHITECTURAL LOCUS SHEET

Page 1

IDENTIFICATION

Field C, Square BL72, Locus 27

Supervisor: CP

Field: U84

Dates: 8/2 to

REASON

Remarks: Wall in NE corner, below Surface 6.

Separability: Top--Very Clear

Bottom--Clear

DESCRIPTION

Material: Hard Limestone

100%

Masonry:

Wall Stones: Cobble

100%

Fill Stones: Cobble

100%

Dressing: Unhewn

100%

Mortar: Ory-laid

100X

Facing: Unfaced

Construction: Style

Rubble-filled

Support

Free-standing

Remarks: See general remarks, below.

Courses:

Rows: 2 w/rubble

Measurements:

Length: 1.150 m

Width: 0.150 to 0.650 m

Height: 0.100 to 0.250 m

Orientation: 26 deg

Preservation: Foundation Only

Partial Lean Direction: 0 deg

Remarks: The wall ran diagonally into the NE corner, so it is difficult to determine its relationship to other structures. It was irregularly protruding through Surface 6, probably due to slumping or sinking of that surface. It is in the same line as Wall 8, but of different construction, and also sealed under Surface 6. Construction remark: The wall is not very wide, so rubble-filled may not be appropriate. The rubble stones are not much smaller than the wall stones.

STRATIGRAPHY

Under: 6

Over: 25

LEVELS

Loc Top Bottom Transit

Loc Top Bottom Transit

6 892.44 892.22

17 892.44 892.26

OBJECT

Reg no. Description Field no. Date Pail Loc level Total Period Material Photo Drawing

REUSED LIMESTONE MORTAR FRAG 1 08/02

PHOTOGRAPHS

Date Number Subject

08/02 49/11/02

INTERPRETATION

Function:

As so little of the wall extends into the Square it is not possible to determine its function, nor its relationship to other structures contemporary with it. The other structures in the Square are probably larger than this wall, since they seem to be contemporary with Surface 6, which seals over Wall 27.

Stratigraphy:

Wall 27 was sealed under Surface 6, although the surface was disturbed and broken in this area by wall tumble above it and the rocks of the wall itself. The wall may be simply a remnant of a structure that was no longer in use, so covered by the surface. The wall sits directly on top of Locus 25, without a foundation trench. More information may be gained by excavation of the Square BL83 (if the wall continues into that square).

Locus Date:

Late Iron II
IDENTIFICATION
UBS Field C, Square 8L72, Locus 28
Supervisor: CP  Dates: 8/3 to
REASON
Remarks: Material between dip in bedrock and W balk.
Separability: Top-Arbitrary
DESCRIPTION
Color: Light brownish gray 2.5Y6/2
Texture: Clay ...... 20% Silt ...... 40% Sand ...... 40% Fine Sand ...... 10% Medium Sand 30% Course Sand 40% Particle Shape: Angular 15% Sub-angular 35% Sub-rounded 35% Round ...... 15%
Consistency: Compactness...... Moderately Crumbly Very Rubbly Wetness........ Very Dry Structure........ Random
Inclusions: Soil: Marl Pockets............... 20/m2, 5.0 cm Orange soil................. 1/m2, 20.0-25.0 cm Distribution........ Patterned Stone: Small Pebbles.......... 200/m2 Medium Pebbles......... 800/m2 Large Pebbles........ 3000/m2 Medium Cobbles...... 100/m2 Large Cobbles........ 400/m2 Small Cobbles..... 30/m2 Medium Cobbles........ 10/m2 Large Cobbles........ 4/m2 Distribution........ Random Artifacts: Pottery............... Frequent Distribution........ Random Measurements: Length.................. 3.250 m Width................... 1.500 m Depth,.................. 0.180 m Consistence: Compactness...... Moderately Crumbly Very Rubbly Wetness........ Very Dry Structure........ Random
Soil: Nari Pockets........... 10/m2, 5.0 cm Orange soil................. 1/m2, 20.0-25.0 cm Distribution........ Patterned Stone: Small Pebbles.......... 200/m2 Medium Pebbles......... 800/m2 Large Pebbles........ 3000/m2 Medium Cobbles...... 100/m2 Large Cobbles........ 400/m2 Small Cobbles..... 30/m2 Medium Cobbles........ 10/m2 Large Cobbles........ 4/m2 Distribution........ Random Artifacts: Pottery............... Frequent Distribution........ Random Measurements: Length.................. 3.250 m Width................... 1.500 m Depth,.................. 0.180 m Consistence: Compactness...... Moderately Crumbly Very Rubbly Wetness........ Very Dry Structure........ Random
Remarks: This is the depth excavated so far--excavation is not complete.
Remarks: This locus was started, but time did not allow its completion. It is an arbitrary locus in that the bottom of Locus 4 was not clearly defined here. It is on the same level as Locus 6, but the surface did not extend this far west.

STRATIGRAPHY
Under: 4
Locus: Locus not completely excavated. Possible cuts 6.

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit

POTTERY
Fall Date Count Dates Loc Preservation Comments Reading
92 8/3 1/24 45 2 INT, M2, 1B X
94 8/3 3/33 20 M2, 1B X

PHOTOGRAPHS
Date Number Subject Date Number Subject
07/31 02/01 PROGRESS OF EXCAVATION 07/31 02/01 WALL 7 & OTHER, VIEW SE 08/05 02/11/01 PROGRESS OF EXCAVATION 07/31 02/01 WALL 7 & OTHER, VIEW NW 08/01 02/11/01 PROGRESS OF EXCAVATION 07/31 16/08/01 WALL 7 & OTHER, VIEW NE 08/05 02/11/01 PROGRESS OF EXCAVATION 07/31 17/08/01 WALL 7 & OTHER, VIEW NW 08/05 02/11/01 PROGRESS OF EXCAVATION

INTERPRETATION
Function: It is probably a late fill, at least in its upper levels where it may contain tumble from Locus 4.

Stratigraphy: The top of Locus 28 is approximately the same level as Surface 6, but that surface did not extend to this western part of the Square. The ashy material (25) may be below the upper levels of 28. Surface 6 may have been destroyed or cut through in this area. Locus not fully excavated.

Locus Date: Late Iron 2
IDENTIFICATION

FIELD C, SQUARE B/73, LOCUS 1

REASON

Remarks: Top soil removal.
Separability: Top - Very Clear

DESCRIPTION

Color: Light brownish gray

Texture:
Clay: 25%
Silt: 45%
Sand: 30%
Fine Sand: 20%

Particle Shape:
Angular: 10%
Sub-angular: 25%

Consistency:
Hardness: 3

Wetness: Very Dry

Inclusions:
Small Pebbles: 1000/m2
Large Pebbles: 300/m2

Artifact:
Pottery: Frequent
Flint: 250

Organic:
Bone: Rare

Measurements:
Length: 5.000 m
Width: 5.000 m
Depth: 0.400 m

STRATIGRAPHY

Over:

LEVELS

Loc Top Bottom Transit
31 893.53 893.13 7 892.36 892.11
35 892.95 892.65 1 1 892.07 891.89

POTTERY

Date Count Bats Level Total Period Material Reading Pub
1 6/28 0/250 MIXED IR2, MB2, EB
2 6/29 24/424 123 MIXED IR2, MB2, EB BOS
3 7/2 25/425 216 MIXED BOWL BASE IR2, MB2, EB
4 7/2 31/336 MIXED IR2, MB2, EB
5 7/2 33/134 MIXED IR2, MB2, EB
6 7/3 44/276 356 MIXED IR2, MB2, EB
7 7/3 16/276 MIXED IR2, MB2, EB
8 7/3 29/279 MIXED IR2, MB2, EB
9 7/4 32/457 420 MIXED IR2, MB2, EB
10 7/4 28/356 MIXED IR2, MB2, EB

OBJECTS

Reg no. Description Field no. Date Pei Loc Level Total Period Material Photo Drawing
GRINDING STONE
2 07/02 6 19 1
STOPPERS
2 07/03 8 3 2

PHOTOGRAPHS

Date Subject Date Subject Date Subject
06/28 10/01/28 PRE-EXCAVATION 07/02 04/02/02 PROGRESS OF EXCAVATION
07/02 04/02/02 PROGRESS OF EXCAVATION
07/03 05/02/03 PROGRESS OF EXCAVATION

BIO DATA SAMPLES

Flotation Sample.....

INTERPRETATION

Function: Locus 1 is: top soil which accumulated through the centuries since antiquity by erosion from above (south), wind erosion, being carried by the high winds and deposited arbitrarily, etc.

Locus Date: Modern
IDENTIFICATION

FIELD C, Square 8L73, Locus 2

Supervisor: ZS

Dates: 7/5 to 7/11

REASON

Remarks: Arbitrary locus (topsoil 40 cm in depth).

Separability:

Top--Clear
Bottom--Average

DESCRIPTION

Color:
Light brownish gray

Texture:
Clay...... 25%
Silt...... 45%
Sand ...... 30%
Fine Sand.. 20%

Particle Shape:
Angular.... 10%
Sub-angular
Sub-round.. 50%
Round ..... 15%

Consistency:
Hardness.............. 3
Compactness ............. Slightly Crumbly
Wetness............ Very Dry

Structure ............. Random

Inclusions:
Soil:
Nan Pockets ............. 3/m2, 14.0 cm
Ash Pockets .......... 1/m2, 10.0 cm

Terra Rosa ............ 3/m2, 5.0 cm

Distribution ............. Random

Stone:
Small Pebbles .......... 1000/m2
Medium Pebbles ....... 2000/m2
Large Pebbles .......... 500/m2
Small Cobbles ........ 10/m2

Artifacts:
Pottery ............ Frequent

Glass .................. 2

Flint.................. 50

Inclusions:
Bone .................. Frequent

Measurements:
Length................ 5.000 m
Direction of Slope.... 39 deg

Width ................ 5.000 m
Degree of Slope ...... 17 deg

Depth ................ 0.400 to 0.800 m

STRATIGRAPHY

Under:

Over:

Seals against:

LEVELS

Loc Top Bottom Transit

1 4 8 9 2 6 8 10

LEVELS

Loc Top Bottom Transit

16 892.04 891.91

16 892.04 891.91

POZZTTERY

Date Count Site Loc Preservation Comments Reading Pub

19 11/19 34 MIXED BONES (MED SIZE) 162,182,POS ?,182,EB

19 11/19 34 MIXED BONES (MED SIZE) 162,EB

20 11/19 34 MIXED BONES (MED SIZE) 162,EB

21 11/19 34 MIXED BONES (MED SIZE) 162,EB

22 11/19 34 MIXED BONES (MED SIZE) 162,EB

23 11/19 34 MIXED BONES (MED SIZE) 162,EB

24 11/19 34 MIXED BONES (MED SIZE) 162,EB

25 11/19 34 MIXED BONES (MED SIZE) 162,EB

26 11/19 34 MIXED BONES (MED SIZE) 162,EB

27 11/19 34 MIXED BONES (MED SIZE) 162,EB

28 11/19 34 MIXED BONES (MED SIZE) 162,EB

29 11/19 34 MIXED BONES (MED SIZE) 162,EB

30 11/19 34 MIXED BONES (MED SIZE) 162,EB

OBJECTS

Reg no. Description Field no. Date Loc Level Total Period Material Photo Drawing

PIECE OF METAL WIRE 1/05 11 19 1

SPINDEL STONE 2/05 11 13 1

BOARD STONE STOPPER 3/05 12 8 1

BROKEN PIECE OF GLASS 4/05 13 25 1

SMALL CERAMIC HANDLE 5/05 13 25 1

PETRIFIED SHELL 6/05 14 17 1

GRINDING STONE BASE 7/05 14 17 1

GRINDING STONE BASE 8/05 14 17 1

PHOTOGRAPHS

Date Number Subject Date Number Subject Date Number Subject

BIODATA SAMPLES

07/05 09/05 PROGRESS OF EXCAVATION 07/09 03/05/09 PROGRESS OF EXCAVATION 07/10 02/05/10 PROGRESS OF EXCAVATION

INTERPRETATION

Locus 2 is characterized by mixed deposits in which a significant amount of rock tumble is evident. It probably accumulated in much the same way as locus 1, through erosion processes.

Stratigraphy: Locus 2 seals against the semi-circular structure (wall) in the south-central area of the Square.

Locus Date: Post-Late Iron 2
IDENTIFICATION
U84 Field C, Square BL73, Locus 2 (Supplement)  Supervisor: ZS  Dates: 7/5 to
Inclusion--Nari Pockets

REASON
Remarks: Color and compactness change.
Separability: Top--Very Clear  Bottom--Very Clear

DESCRIPTION
Color: Light gray  2.5Y7/2
Texture: Clay...... 30%  Silt...... 50%  Sand...... 20%  Fine Sand... 15%
Medium Sand 70%  Course Sand 15%
Particle Shape: Angular.... 5%  Sub-angular 20%
Consistence: Hardness 4  Slightly Firm
Wetness................. Slightly Dry  Structure.............. Random
Measurements: Direction of Slope..... 0 deg  Degree of Slope..... 0 deg

Remarks: Often found near the grinding stone bases.
SOIL LOCUS SHEET
IDENTIFICATION
U84 Field C, Square 8L73, Locus 3
REASON
Dates: 7/12 to 7/19
Remarks:
SEPARABILITY:
DESCRIPTION
STRATIGRAPHY
Under:
LEVELS
Loc Top Bottom Transit
Loc Top Bottom Transit
Loc Top Bottom Transit
POTTERY
Reg no. Description Field no. Date Place Loc Level Total Period Material Photo Drawing
OBJECTS
Reg. no. Description Field no. Date Place Loc Level Total Period Material Photo Drawing
PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
INTERPRETATION
Function:
Locus 3 is a compact soil layer under locus 2, its compactness and texture may possibly suggest debris from early quarrying procedures carried out on bedrock to the south (8L63).
Another possible cause is that it was compacted by the weight of the upper soil and rock tumble.
### IDENTIFICATION

U84 Field C, Square 8L73, Locus 3 (Supplement)

**REASON**

**Inclusion--Brownish clump**

**DESCRIPTION**

**Color:** Dark reddish brown 5YR 3/3

**Texture:** Clay ........ 40% Sand ...... 35%

**Particle Shape:** Angular .... 5% Sub-angular 35%

**Consistency:** Slightly Dry

**Measurements:** Length ............ 0.400 m

Remarks: Color and texture change.

Supervisor: 25 Dates: 7/17 to 7/25

### IDENTIFICATION

U84 Field C, Square 8L73, Locus 4

**REASON**

**TYPE** Bedrock

**DESCRIPTION**

**Material:** Bedrock ............ 100%

**Plan:** Irregular

**Sealed By:** 12, 13, 15

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3, 8, 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

Date Number Subject

07/23 07/25 PROGRESS OF EXCAVATION

**INTERPRETATION**

**Function:** The bedrock slopes down from south to north. Bedrock seems to have been used as a surface at one point, evidenced by 2 cup holes (mortars). It slopes down toward the north, ending at what seems to be a pit, located in F #7,8,9, and possibly further, filled with very fine soil (locus 12).

Stratigraphy: It covers the entire bottom of the 5 x 5 m square, the northern half being under Locus 13 with a portion under 15.

---

### IDENTIFICATION

U84 Field C, Square 8L73, Locus 3

**REASON**

**Inclusion--Brownish clump**

**DESCRIPTION**

**Color:** Brownish clump

**Texture:** Clear

**Particle Shape:** Clear

**Measurements:** To 1.150 m

Remarks: Some bones and flint found within.

Supervisor: 25 Dates: 7/17 to 7/25

### IDENTIFICATION

U84 Field C, Square 8L73, Locus 4

**REASON**

**DESCRIPTION**

**Material:** Bedrock ............ 100%

**Plan:** Irregular

**Sealed By:** 12, 13, 15

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3, 8, 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

Date Number Subject

07/23 07/25 PROGRESS OF EXCAVATION

**INTERPRETATION**

**Function:** The bedrock slopes down from south to north. Bedrock seems to have been used as a surface at one point, evidenced by 2 cup holes (mortars). It slopes down toward the north, ending at what seems to be a pit, located in F #7,8,9, and possibly further, filled with very fine soil (locus 12).

Stratigraphy: It covers the entire bottom of the 5 x 5 m square, the northern half being under Locus 13 with a portion under 15.
SOIL LOCUS SHEET

IDENTIFICATION
USA Field C, Square BL73, Locus 5
Supervisor: ZS

REASON
Remarks: Assigned new locus number to the contents inside Wall 6.

DESCRIPTION
Color: Grayish brown 10YR 5/2
Texture: Clay........ 25% Silt........ 30% Sand........ 45% Fine Sand...... 25%
Particle Shape: Angular..... 5% Sub-angular 25% Sub-round.. 40% Round ....... 30%
Consistency: Hardness......... 2 Wetness........ Moderately Dry Structure......... Random

Inclusions:
Stone: Small Pebbles........ 500/m2 Medium Pebbles....... 300/m2
Artifact: Pottery............... Frequent Flint................. 10
Organic: Bone................ Rare

Measurements:
Length................ 2.000 m Direction of Slope........ 16 deg
Width................ 3.000 m Degree of Slope........ 26 deg
Depth................ 0.640 to 0.725 m
Remarks: Covering layer of semi-circular wall-like installation.

STRATIGRAPHY
Under: 2
Over: 7, 9
Seals against: 6

LEVELS
Loc Top Bottom Transit
22 892.30 892.29

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading Pub
52 7/19 12/10 17 MIXED 1 IR 2.5 EB
57 7/23 0/35 5 MIXED EB

INTERPRETATION
Function: This layer is a mixed deposit immediately below topsoil.
Stratigraphy: It is over Locus 7, and sealed against Locus 6 (wall), giving it a later date than both.
Loca Date: Post-Late Iron 2

FIELD C: 8L73: 35
IDENTIFICATION
USA Field C, Square 073, Locus 6
Supervisor: ZS
Dates: 7/19 to 7/24

REASON
Separability: Top-Clear Bottom-Clear

DESCRIPTION
Material: Hard Limestone........100%

Masonry:
- Wall Stones: Cobble...........20%
  Medium Boulder.............40%
  Small Boulder...............40%

- Chinkstones: Pebble...........40%
  Cobble........................60%

Dressing:
- Mortar: Dry-laid...............100%

Facing: Unfaced
Construction:
- Style: Boulder & Chink
- Support: Free-standing

Tendencies: No pattern.

Courses:
- Random

Rows:
- Random

Measurements:
- Length..................3.000 m
- Width...................0.050 to 0.400 m
- Height..................0.170 to 0.450 m
- Orientation.............19 deg

Preservation:
- Partial Superstructure: Most
  Top Foundation Level....892.60 m

Remarks: Unfaced wall, not intended to be vertical.

STRATIGRAPHY
Under: 2
Over: 3
Sealed Against By: 2, 5, 7, 8, 9

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
1 092.57 892.37 092.43 891.95

INTERPRETATION
Function: When the first stones of the wall were uncovered, the structure was believed to be circular. However, as excavation continued, it curved east, connecting, with a small opening, to stones along the east balk. Little pottery, but significant amounts of bones within the structure indicate that it may have been used as an animal pen or slaughtering area.

Stratigraphy: Wall 6 was placed, over a thin layer of compact soil, Locus 8. This soil was probably laid even out the bedrock, and then the stones laid on them. Layers 5, 7, and 9, which are all soil layers within the structure, sealed against Wall 6, thus giving them a later date.

Locus Date: Late Iron 2
SOIL LOCUS SHEET

IDENTIFICATION
Field C, Square 8L73, Locus 7

REASON
Remarks: Change in color and compactness.
Separability: Top--Average Bottom--Average

DESCRIPTION
Color: Pinkish gray 7.5YR6/2
Texture: Clay.... 35% Silt.... 45% Sand.... 20% Fine Sand... 20%
Particle Shape: Angular.... 5% Subangular 30% Sub-rounded. 45% Round..... 20%
Consistence: Hardness............. 3 Wetness.................. Moderately Dry

Inclusions:
Stone: Small Pebbles......... 450/m2 Medium Pebbles......... 250/m2
Artifact: Pottery............... Frequent
Organic: Bone.................. Rare
Measurements:
Length.......................... 1.300 m
Width......................... 2.000 m
Depths....................... 0.800 to 0.850 m

STRATIGRAPHY
Under: 7
Over: 8
Seals against: 6

LEVELS
Loc Top Bottom Transit
33 892.60 892.15

LEVELS
Loc Top Bottom Transit

POTTERY
Field Date Count Bskts Loc Preservation Comments Reading Pub

56 7/23 0 33 16 MIXED 1 POS FROM 800.88 BOWS

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

GRINDING STONE
1 07/23 34 892.30 1

INTERPRETATION
Function: This Locus is a compact soil layer inside the enclosure of Wall 6. A grinding stone and several bones were found floating in this layer.

Stratigraphy: The layer is under Locus 5, and over Locus 8. It seals against Wall 6, giving it a later date than the construction of the wall.

Locus Date: Late Iron 2
IDENTIFICATION

**SOIL LOcus SHEET**

**USG Field C, Square 8L73, Locus 8**

**Remarks:** Change in color and compactness (compact layer).

**DESCRIPTION**

- **Color:** Pale brown 10YR6/3
- **Texture:** Clay... 40% Silt... 35% Sand... 25%
- **Particle Shape:** Angular... 5% Sub-angular 35%
- **Consistency:** Hardness... 3 Wetness... Moderately Dry
- **Inclusions:** Small Pebbles... 600/m2
- **Artifact:** Pottery... Frequent
- **Organic:** Bone... Frequent
- **Measurements:** Length... 5.000 m Width... 1.000 m Depth... 0.850 to 0.930 m

**STRATIGRAPHY**

- Under: 6, 7
- Over: 4, 12

**LEVELS**

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Pail Date</th>
<th>Count</th>
<th>Bskts</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 07/23</td>
<td>0/ 9</td>
<td>Mixed</td>
<td>18</td>
<td>18 bod, EB bod</td>
<td>Some bones</td>
<td>182, EB don</td>
</tr>
<tr>
<td>59 07/24</td>
<td>0/30</td>
<td>Mixed</td>
<td>11</td>
<td>182, EB don</td>
<td>Some bones</td>
<td>EB</td>
</tr>
<tr>
<td>62 07/25</td>
<td>3/11</td>
<td>Mixed</td>
<td>7</td>
<td>EB</td>
<td>Bones</td>
<td>EB</td>
</tr>
<tr>
<td>62 07/27</td>
<td>3/45</td>
<td>Mixed</td>
<td>10</td>
<td>EB</td>
<td>Bones</td>
<td>EB</td>
</tr>
<tr>
<td>62 07/27</td>
<td>3/45</td>
<td>Mixed</td>
<td>10</td>
<td>EB</td>
<td>Bones</td>
<td>EB</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

- **Function:** Locus 8 is a compact soil layer which probably served to level bedrock, for the construction of Wall 6. It extends north, outside the wall, and may have been a surface layer at one point.
- **Stratigraphy:** The layer is over Locus 4 (bedrock) Locus 12, but is under Locus 7, which is another compact layer, and Locus 6 (wall).
- **Locus Date:** Late Iron II
IDENTIFICATION
US Field C, Square 8L73, Locus 9
Supervisor: ZS Dates: 7/19 to 7/23

REASON
Remarks: Change in color and compactness.
Separability: Top-Average Bottom-Average

DESCRIPTION
Color: Light brown 7.5YR6/4
Texture: Clay...... 10% Silt...... 50%
Medium Sand...... 30% Course Sand...... 20%
Particle Shape: Angular...... 10% Sub-angular...... 50%
Consistency: Hardness...... 2
Wetness...... Moderately Loose
Compactness...... Moderately Loose
Structure...... Random

Inclusions:
Stone: Small Pebbles...... 50/m2
Artifact: Pottery...... Rare
Organic: Bone...... Rare

Measurements:
Length...... 0.700 m
Width...... 1.200 m
Depth...... 0.930 to 1.000 m

Wetness: Moderately Dry
Structure: Random

STRAITRAPHY
Under: 4
Seals against: 6

LEVELS
Loc Top Bottom Transit
27 891,50 891,43

POTTERY
Date Count Bskts Loc Preservation Comments Reading Pub
53 7/20 2/ 55 14 MIXED SOME BONES 1 142 800,EB
54 7/23 1/ 21 4 MIXED
59 7/23 19/168 5 MIXED VERY LITTLE BONE 182,EB DOM

INTERPRETATION
Function: Locus 9 consists of fine soil, possibly filling irregularities in compact layers 7 & 8. The area may have been used for storage and later filled after use was discontinued.
Stratigraphy: It is under Locus 5 and over Locus 4 (bedrock). It seals against Wall 6 giving it a date later than the wall's construction.
Locus Date: Late Iron 2
IDENTIFICATION
USM Field C, Square 8473, Locus 10

REASON
Remarks: A red layer
Separability: Top-Clear Bottom-Clear

DESCRIPTION
Color: Clay 50% Silt 33% Sand 20% Fine Sand 40%
Texture: 2.5YR 4/6 Medium Sand 35% Course Sand 25%
Particle Shape: Angular 5% Sub-angular 35%
Consistence: Hardness 3 Slightly Moist

Inclusions:
Stones: Small Pebbles 50/m2
Artifacts: Pottery Frequent
Organic: Bone Frequent

Measurements:
Length 1.100 m
Width 0.900 m
Depth 0.650 to 0.950 m

STRATIGRAPHY
Under: 11, 12
Over: 11
Contiguous to: 8
Seals against: 11

LEVELS
Loc Top Bottom Transit
6 891.96 891.81

POTTERY
Pail Date Count Bskts Loc Preservation Comment Pub
60 07/24 5/24 11 Mixed Some bones EB don, 1M82 bod, 1 IR1 x
61 07/25 5/98 18 Mixed Many bones EB

PHOTGRAPHS
Date Number Subject Date Number Subject
07/24 03/08/24 Progress of Excavation 07/25 03/02/25 Progress of Excavation

INTERPRETATION
Locus 10 is a compact, red soil layer made up of mostly clay material. It seems to have been used to support Locus 11, a stone installation.

Stratigraphy: This layer is contiguous to 8. Locus 12 is directly under about 2 cm of 10.

Loc Date: Late Iron 2
IDENTIFICATION
U84 Field C, Square BL73, Locus 11

REASON
Remarks: Stone installation.

TYPE
Unknown

DESCRIPTION
Stone.......................... 100%
Width................... 0.400 to 0.750 m
Length.................. 1.250 m
Orientation............. 28 deg
Height.................... 0.300 to 0.400 m

Stratigraphy:
Under: 10
Over: 10
Sealed By: 8, 10

LEVELS
Top Bottom Transit

PHOTOGRAPHS
Date Number Subject
07/25 891.74 20/02/25 Stone installation

BIO DATA SAMPLES
Soil Sample............... Flotation Sample.......

INTERPRETATION
This installation is made up of 3 large, flat-lying stones laid over approximately 2 cm of Locus 10 (red soil), and 3 vertical stones along the east side. It had the appearance of a cyst tomb. It is at the same level as 8, and therefore most likely used at the same time, possibly as some type of flooring, though its use is still uncertain.

Stratigraphy:
The installation cut into 8 and 10.

Locus Date: Late Iron 2
IDENTIFICATION
SOIL LOCUS SHEET
Page 1

IDENTIFICATION
USF Field C, Square 8173, Locus 12
Supervisor: ZS

REASON
Remarks: Change in color and compactness (loose layer).

DESCRIPTION
Color: Grayish brown 10YR5/2
Texture: Clay........ 30% Silt........ 30% Sand....... 50% Fine Sand... 60%
Particle Shape: Angular.... 5% Sub-angular 40% Sub-rounded 45% Round..... 10%
Consis tence: Hardness........ 2 Compactness....... Very Loose
Wetness............ Moderately Dry Structure........... Random

Inclusions:
Soil: Ash Pockets........ 4/m2, 10.0 cm
Stone: Small Pebbles..... 2500/m2 Medium Pebbles..... 2000/m2 Large Pebbles....... 10/m2
Medium Cobbles..... 20/m2 Large Cobbles....... 10/m2
Small Boulders........ 2/m2 Medium Cobbles..... 2S/m2 Large Cobbles....... 10/m2
Organic:
Bone................ Frequent Distribution........ Random

Measurements:
Length............ 2,000 m Width................ 5,000 m Depth............ 1.100 to 1.490 m

INCLUSIONS
Under: 3, 8, 10
Over: 13
Seals against: 4

LEVELS
Loc Top Bottom Transit

POTTERY
<table>
<thead>
<tr>
<th>Date</th>
<th>Bags</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>45</td>
<td></td>
<td>Good</td>
<td>Bones and flints</td>
<td>EB, few MB2, 1 LB, few IR</td>
</tr>
<tr>
<td>64</td>
<td>28</td>
<td></td>
<td>Mixed</td>
<td>Bones and flints</td>
<td>EB, MB2</td>
</tr>
<tr>
<td>65</td>
<td>32</td>
<td></td>
<td>Mixed</td>
<td>Many bones and flints</td>
<td>Late EB, 1 poss MB1</td>
</tr>
<tr>
<td>66</td>
<td>15/570</td>
<td>28</td>
<td>Mixed</td>
<td>Bones and flints</td>
<td>EB</td>
</tr>
<tr>
<td>67</td>
<td>22/127</td>
<td>11</td>
<td>Mixed</td>
<td>Bones and flints</td>
<td>EB</td>
</tr>
<tr>
<td>68</td>
<td>19/390</td>
<td>29</td>
<td>Mixed</td>
<td>Some bones</td>
<td>EB, few MB2</td>
</tr>
<tr>
<td>69</td>
<td>11/351</td>
<td>28</td>
<td>Mixed</td>
<td>Some bones</td>
<td>EB, MB2, 1 poss MB2</td>
</tr>
<tr>
<td>70</td>
<td>17/252</td>
<td>28</td>
<td>Mixed</td>
<td>Some bones</td>
<td>EB, few MB2</td>
</tr>
<tr>
<td>71</td>
<td>42/260</td>
<td>40</td>
<td>Mixed</td>
<td>Contaminated</td>
<td>EB, MB2, 1 late IR2</td>
</tr>
</tbody>
</table>

PHOTOGRAPHS
<table>
<thead>
<tr>
<th>Date Number</th>
<th>Subject</th>
<th>Date Number</th>
<th>Subject</th>
<th>Date Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/26 02/02/26</td>
<td>Progress of Excavation</td>
<td>07/27 02/08/27</td>
<td>Progress of Excavation</td>
<td>07/30 44/02/30</td>
<td>Progress of Excavation</td>
</tr>
</tbody>
</table>

INTERPRETATION
Function: This layer is a loose soil layer containing a significant amount of rubble. It is probably a fill layer having accumulated after 13 ceased to be used. The large amount of rubble, and the existence of ash pockets randomly placed indicate that it was either dumped or simply accumulated over time.

Locus Date: Late Iron II
IDENTIFICATION
UB Field C, Square BL73, Locus 13

REASON
Remarks:
Separability:
Top-Clear
Bottom-Clear

DESCRIPTION
Colors:
Very pale brown 10YR 7/4
Medium Sand 60%
Course Sand 20%
Particle Shape:
Angular 5%
Sub-angular 45%
Consistency:
Hardness
Weathness
Moderately Dry
Inclusions:
Soil:
Ash Pockets 1/m2, 40.0 cm
Small Pebbles 2000/m2
Large Pebbles 500/m2
Stone:
Small Pebbles 2000/m2
Medium Pebbles 1500/m2
Small Cobble 250/m2
Artifacts:
Pottery Frequent
DISTRIBUTION:
Random
Organic:
Bone Frequent
Distribution:
Random
Measurements:
Length 1.500 m
Width 5.000 m
Depth 1.400 to 1.600 m
Surface Matl:
Beaten Earth

STRATIGRAPHY
Under:
4, 14, 15
Above:
12

LEVELS
Loc Top Bottom Transit
1 891.33 891.09 16 891.23 890.07
11 890.85 890.30 17 890.97 890.60

POTTERY
Field Date Count Baskets Loc Preservation Comments
Reading
75 07/31 6/100 17 Mixed Some bones EB
79 08/01 6/62 32 Mixed Some bones EB

PHOTOGRAPHS
Date Number Subject Date Number Subject
07/31 01/08/31 Progress of Excavation 02/01/ 02/01/ 01 Progress of Excavation 08/01 05/11/01 A South West Balk

INTERPRETATION
Function:
Locus 13 is a hard surface probably used in connection with bedrock.

Locus Date:
EB
**INSTALLATION LOCUS SHEET**

**IDENTIFICATION**
U84 Field C, Square BL73, Locus 14

**REASON**
Remarks: Installation (stone).

**TYPE**
Possible Grinding Stones

**DESCRIPTION**
- Material: Basalt Stone
- Plan: Irregular
- Measurements: Length: 0.53 m, Width: 0.41 m to 0.52 m

**STRATIGRAPHY**
- Under: 13
- Over: 15
- Sealed By: 15

**LEVELS**
- Top: 16
- Bottom: 890.80

**INTERPRETATION**
Locus 14 is a large stone installation made of basalt stones. Due to its location (within an oval-shaped indentation in the bedrock), a possible use for the stones seems to be grinding. The area (oval-shaped) would have served as base, and the stones themselves for grinding. It could also have been a hearth.

Locus Date: EB

**SOIL LOCUS SHEET**

**IDENTIFICATION**
U84 Field C, Square BL73, Locus 15

**REASON**

**DESCRIPTION**
- Color: Brown 10YR5/3
- Texture: Clay 15%, Silt 35%, Sand 50%, Fine Sand 60%
- Particle Shape: Angular 5%, Sub-angular 30%, Sub-rounded 50%, Round 15%
- Consistency: Wetness: Moderately Moist
- Hardness: Structure: Random
- Inclusions: Stone: Small Pebbles: 1500/m², Medium Pebbles: 150/m², Large Pebbles: 10/m²
- Artifact: Pottery: Rare
- Measurements: Length: 0.800 m, Width: 1.400 m, Depth: 1.840 to 1.940 m

**STRATIGRAPHY**
- Under: 13, 14
- Over: 4
- Seals against: 4, 14

**LEVELS**
- Top: 16
- Bottom: 890.61

**POTTERY**
- Pail Date: 08/01
- Comments: Reading
- Preservation: Mixed

**PHOTOGRAPHY**
- Date: 08/03
- Subject: Final Excavation Photo

**INTERPRETATION**
Locus 15 is a relatively loose soil layer sealing against and running under Locus 14. The soil probably accumulated, or was deposited, after the stone installation became idle.

Locus Date: EB
IDENTIFICATION
USA Field C, Squre 8L82, Locus 1

REMARKS
Supervisor: RMD Dates: 07/06 to 07/13

DESCRIPTION
Color: Light brownish gray 2.5Y6/2
Texture: Clay....... 25% Silt........ 45% Mud 30%

Particle Shape: Angular....... 10% Sub-angular 25%

Consistency: Hardness................ 1 Compacted
Wetness ................. Very Dry

Inclusions:
Soil: Nari Pockets.................1/m2, 4.0- 8.0 cm
Pebble Pockets ......... 1/m2, 2.5 cm

Stone: Small Pebbles ........... 1000/m2
Large Pebbles .......... 10/m2

Distribution ........... Random

Artifact: Pottery ................. Frequent
Worked Stones .......... 2

Organic: Bone..................... Rare

Measurements: Length .................. 6.000 m
Width ................... 6.000 m
Depth ................... 0.550 m

Remarks: Surface has slight rounding in center of square.

STRATIGRAPHY

Supervisor: RMD Dates: 07/06 to 07/13

Sand ...... 30%
Fine Sand.. 20%

Sub-round.. 50% Round ..... 15%

Compactness............. Moderately Rubbty

Structure ............... Random

Brick Material ......... 1/m2, 3.0 cm
Distribution ........... Random

Medium Pebbles ......... 9Q/m2
Small Cobbles........... 4/m2

Flint ................... 850
Distribution ............ Random

Direction of Slope ..... 44 deg
Degree of Slope .......... 15 deg

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
31 893.02 892.14 X 7 892.24 891.94 X 33 892.59 892.22 X
35 892.59 892.22 X 11 891.74 891.27 X 19 892.61 892.38

POTTERY

Reg no.

Field no. Date Pail Level Total Period Material Photo Drawing

Grinder? 1 07/10 19 7
Flower design in pottery 2 07/10 19 31

OBJECTS

Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

PHOTOGRAPHS

Date Number Subject Date Number Subject Date Number Subject

07/09 03/08/09 Pre-excaation photo 07/16 04/04/16 Progress of excavation 07/25 04/08/23 Progress of excavation
07/10 04/02/10 Progress of excavation 07/17 04/12/17 Progress of excavation 07/23 04/08/23 Progress of excavation
07/11 05/08/12 Progress of excavation 07/17 23/02/17 Progress of excavation 07/23 04/08/23 Progress of excavation
07/12 05/08/12 Progress of excavation 07/18 01/08/18 Progress of excavation 07/25 04/08/23 Progress of excavation
07/13 04/02/13 Progress of excavation 07/19 04/02/19 Progress of excavation 07/29 04/08/23 Progress of excavation

BIODATA SAMPLES

Function: Soil Sample, Flotation Sample
Locus Date: Arbitrary Modern

INTERPRETATION

Soil Sample, Flotation Sample

Geology

Terrain--result of water and wind erosion.
Locus Date: Modern
SOIL LOCUS SHEET

IDENTIFICATION

U84 Field C, Square 8182, Locus 2

REASON

Remarks:

SEPARABILITY

DESCRIPTION

Color:

Texture:

Particle Shape:

Consistence:

Wetness:

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.

Color:

Texture:

Particle Shape:

Consistence:

Hardness...

Wetness...

Inclusions:

Stone:

Artifact:

Organic:

Measurements:

Remarks:

Harder consistence with nari chips.
04/01/86
SOIL LOCUS SHEET

IDENTIFICATION
US Field C, Square BL82, Locus 2 (Supplement)
Inclusion: Pebble Pockets

REASON
Remarks: Change of consistence and texture.

DESCRIPTION
Color: Light gray 2.5Y7/2
Texture: Clay........ 25% Silt......... 45% Sand........ 30% Fine Sand... 20%
Median Sand 60% Course Sand 20%
Particle Shape: Angular.... 10% Sub-angular 25%
Consisitence: Hardness........ 2
Wetness........ Very Dry
Measurments: Length........ 2,000 m
Depth........ 0.080 to 0.100 m
Remarks: found in grid # 7, 8, 13, 14.

04/01/86
SOIL LOCUS SHEET

IDENTIFICATION
US Field C, Square BL82, Locus 3

REASON
Remarks: Change of color and harder consistence, pottery and cobbles lying flat on surface.

DESCRIPTION
Color: Light brownish gray 10YR6/2
Texture: Clay........ 25% Silt......... 30% Sand........ 45% Fine Sand.. 20%
Medium Sand 60% Course Sand 20%
Particle Shape: Angular.... 10% Sub-angular 25%
Consisitence: Hardness........ 4
Wetness........ Very Dry
Measurements: Length........ 2,000 m
Depth........ 0.200 to 0.250 m
Remarks: Contains 10-20% nari flakes/chips mixed with soil, making soil color very light in appearance.

STRATIGRAPHY
Under: 8
Over: 14
Seals against: 5, 7
IDENTIFICATION

UNA Field C, Square BL2E, Locus 4

REASON

U84 Field C, Square BL2E, Locus 4

DATES: 07/16 to 07/26

REMARKS:

Change of consistence and color.

DESCRIPTION

COLOR:

Grayish brown 2.5Y5/2

TEXTURE:

Clay ........ 20% Silt ........ 60%

Particle Shape:

Angular .... 10% Sub-angular 25%

CONSISTENCE:

Hardness ........ 8 Wetness ........ Moderately Dry

INCLUSIONS:

Stone: Small Pebbles ........ 15/m2

Distribution ........ Random

Artifact: Pottery ........ Rare

Organic: Bones ........ Rare

Measurements:

Length ........ 2,000 m

Width ........ 1,000 m

Depth ........ 1,000 to 1,500 m

Stratigraphy

Under: 1, 2

Over: 5, 11

EXCAVATION

Level

Loc Top

Loc Bottom

Loc Transit

Loc Top

Loc Bottom

Loc Transit

1

891.55

890.99

X

9

891.63

890.52

X

17

891.35

Pottery

Pail Date

Count

Bskts

Loc

Preservation

Comments

MB2 bods, IR1, 1 Van early IR2

MB2 bods, IR1, 1 Van early IR2

ER bods, IR1

Photographs

Date

Number

Subject

Date

Number

Subject

Date

Number

Subject

07/16

04/08/16

Progress of excavation

07/19

04/02/19

Progress of excavation

07/17

04/02/17

Progress of excavation

07/20

04/08/20

Progress of excavation

07/18

01/06/18

Progress of excavation

07/24

37/08/24

Progress of excavation

Interpretation

Function:

Ash debris thrown over edge of revetment wall

Stratigraphy:

Ash comes from IR1 and/or later.

Locus date:

Iron age

Drawings

Top Plans:

3, 6, and end of excavation.
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION

REASON

Remarks: Appearance of row of stones in line.

Separability: Top: Very Clear Bottom: Unclear

DESCRIPTION

Material: Hard Limestone 100%

Masonry:
- Wall Stones: Cobble 50%
- Bondstones: Pebble 50%
- Small Boulder: 50%
- Cobble: 50%

Dressing: Unfinished 100%

Facing: Unfaced

Construction: Style: Rubble

Remarks: Support uncertain until foundation is excavated.

Courses: Random

Rows: Random

Measurements:
- Length: 2.250 m
- Width: 0.500 to 0.750 m
- Height: 1.300 to 1.530 m
- Orientation: 76 deg
- Dip: 0 deg
- Lean Degree: 70 deg

Preservation: Partial Superstructure: Little

Remarks: This wall is leaning because it is apparently a revetment or retaining wall built against earlier debris layers. The revetment served perhaps to level an area for Surface 3, and later, Surface 6 (also IR1 but later). There is the possibility, however, that at least part of the revetment may be earlier, and surfaces later added to earlier fill.

STRATIGRAPHY

Under:
- 2, 4, 6, 9

Sealed Against By: 3

LEVELS

Loc Top Bottom Transit

Loc Top Bottom Transit

Loc Top Bottom Transit

PHOTOGRAPHS

Oates Number Subject

07/16 04/08/16 Progress of excavation

07/17 04/02/17 Progress of excavation

07/18 04/02/18 Progress of excavation

07/19 04/02/19 Progress of excavation

07/20 04/08/20 Progress of excavation

07/21 04/02/21 Progress of excavation

07/24 37/08/24 Progress of excavation

07/25 04/02/25 Progress of excavation

07/26 05/02/25 Progress of excavation

07/26 05/02/25 Locus 6 before removal

07/29 42/02/30 Progress of excavation

07/30 10/03/30 Progress of excavation

07/31 10/03/30 North balk, left side

DRAGONS

Top Plans: 6, end of excavation.

Interpretation

Function: This wall appears to be a revetment or terrace/retaining wall, built against earlier debris layers. The revetment served perhaps to level an area for Surface 3, and later, 6.

Stratigraphy: The revetment appears to be of IR1 construction, since Surface X (IR1) seals against it, as does Surface 6 (also IR1 but later). There is the possibility, however, that at least part of the revetment may be earlier, and surfaces later added to earlier fill.

Locus Dates: Iron 1
IDENTIFICATION

U84 Field C, Square U82, Locus 6

REASON

Remarks: Sparse area

DESCRIPTION

Change of consistence-hard surface.

Location: Light brownish gray

Texture:
Clay........ 30%
Silt........ 35%
Sand........ 20%

Particle Shape:
Angular....... 10%
Sub-angular.. 25%
Sub-rounded... 50%
Round........ 15%

Consistence:
Hardness...... 4
Compactness.... Moderately Firm

Structure........ Random

Inclusions:

Stone:
Small Pebbles...... 20/m2
Medium Pebbles..... 8/m2
Large Pebbles..... Rare

Organic:
Bone............... Rare

Artifacts:
Pottery........... Rare

Measurements:

Depth............ 0.020 to 0.040 m

Remarks: Thin strip extends length of W balk, with hump in middle.

SOIL LOCUS SHEET

DATES: 07/23 to 08/06

COLOR:

Beaten Earth

LEVELS

Beaten Earth

Remarks:
The surface is almost completely smooth and level in grid #7 and 8, but along the W balk in grid #19 and 25 there is a hump of 30 cm, with a return to lower level SW corner of Square.

STRATIGRAPHY

U84: 2

OVER:

4, 5, 6, 9

SUB:

55

PHOTOGRAPHS

Date Number Subject

07/25 11/206 EB, HB2, few IR1
07/23 04/08/23 EB bods

INTERPRETATION

Function:
The surface was part of the upper terrace, retained by Revetment Wall 5, but the doming effect of Locus 6 in center of Square is not yet clear.

Stratigraphy:

This surface seals against Locus 5 and therefore is later, but it is not yet possible to determine how much.

Locus Date:

Iron I
IDENTIFICATION
USA Field C, Square 8L82, Locus 7

REASON
Remarks: Appearance of stones aligned like wall structure.
Separability: Top--Clear, Bottom--Unclear

DESCRIPTION
Material: Hard Limestone 100%
Masonry:
Wall Stones: Cobble 60%
Dressing: Unhewn 100%
Facing: Unfaced
Construction: Style: Rubble
Courses: Random
Rows: Random
Measurements:
Length: 1.800 m
Width: 0.300 m
Height: 0.300 m
Dip: 0 deg
Preservation: Partial superstructure: Little
Remarks: Excavation of Locus 7 not yet complete so full height cannot yet be ascertained nor foundation clarified.

STRATIGRAPHY
Supervisor: RMD
Dates: 07/13 to 08/06
Levels:
Under:
Sealed Against By:
8

LEVELS
Loc Top Bottom Transit

PHOTOGRAPHS
Date Number Subject
07/17 23/02/17 Progress of excavation
07/23 04/08/23 Progress of excavation
07/24 05/08/24 Progress of excavation
07/25 05/02/25 Locus 6 before removal
07/30 42/02/30 Progress of excavation

DRAWINGS
Top Plans: 6, and end of excavation.

INTERPRETATION
Function: Unclear until further excavation. Rough nature of wall (if it is a wall) may indicate usage as animal pens, storage areas, or the like.
Stratigraphy: Pottery readings surrounding the wall (see Locus 8, pails 70, 73) suggest an early date (M82, EB). Surface 3 (IR1) seals against the wall and therefore appears to come later...
IDENTIFICATION
UB4 Field C, Square E38Z, Locus 8

REASON
Remarks:
Separability: Top--Clear Bottom--Average

DESCRIPTION
Color:
Texture:
Particle Shape:
Consistency:
Wetness:
Inclusions:
Stone:
Large Pebbles:
Medium Pebbles:
Small Pebbles:
Distribution:
Artifact:
Measurements:
Remarks:

STRATIGRAPHY
Under:

Ha..

Over:

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit

POTTERY

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photc

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject

DRAWINGS
Top Plans:

INTERPRETATION

Function:

Stratigraphy:

Locus Date:
IDENTIFICATION

U84 Field C, Square BL82, Locus 9

REASON

Remarks:
Separability;

DESCRIPTION

Color:
Grayish brown 10YR5/2

Texture:
Clay........ 30% Silty........ 40% Sand........ 30% Fine Sand. 20%

Medium Sand 60% Course Sand 20%

Particulate Shape: Angular... 10% Sub-angular 25%

Concavity: Hardness............... 1 Compactness............... Very Loose

Texture: Moderately Dry

Structure: Random

Inclusions:

- Stone:

- Distribution: Random

- Organic:

- Distribution: Random

Measurements:

Length............... 1.500 m

Width.................. 0.250 m

Depth................. 0.350 to 0.400 m

Wetness ................. Moderately Dry

Hardness ................. 1

Structure ................. Random

MEDINA SAND

Clay ...... 30%

Silt ....... 20%

Course Sand 20%

Angular....... 10%

Sub-angular 25%

Iron Oxide 5%

Sand ...... 20%

Clayey Silt 20%

Grayish brown 10YR5/2

Carbonate 5%

Class 10

Loc 9 = 4, so measurements of 9 must be added to 4.

Remarks:
Located in grid #8,9, Locus 9 was first thought to be separate debris from the ash of Locus 4, but no separation between the two was demonstrable, and therefore the two loci are to be considered equal.

STRATIGRAPHY

Under:

2, 6

Over:

5, 11

Equals: 4

LEVELS

Loc Top Bottom Transit

... 9

... 091.63 890.52 X

POTTERY

Pail Date Count Bskts Loc Preservation Comments Reading Pub

57 07/26 3/66 15 Few EB, MB2, LB, 1 R1, 1 L1

40 07/26 3/66 15 MB2, 1 LB, 1 R1

PHOTOGRAPHS

Date Number Subject Date Number Subject

07/24 35/08/24 Locus 6 before removal 07/25 04/02/25 Progress of excavation

BIDO DATA SAMPLES

Flotation Sample.....

DRAWINGS

Top Plans:

6

INTERPRETATION

Function:

See Locus 6.

Stratigraphy:

See Locus 4.

Locus Date:

Iron 1
IDENTIFICATION
US Field C, Square BL82, Locus 10

REMARKS:
Appearance of rock tumble at SE corner of square.

DESCRIPTION
Color: Light brownish gray 2.5Y6/2
Texture: Clay 25% Silt 45% Sand 30% Fine Sand 10%
Particle Shape: Angular 10% Sub-angular 25%
Consistence: Hardness: 2
Wetness: Very Dry
Inclusions:
Stone: Small Pebbles 40/m2 Medium Pebbles 30/m2
Large Pebbles 20/m2 Small Cobbles 20/m2
Medium Pebbles 10/m2 Large Cobbles 10/m2
Small Boulders 4/m2

MEASUREMENTS:
Appearance: 1.0 0 0 m Width: 1.000 m Depth: 0.300 to 0.550 m
Remarks: Excavation not completed, so depth is not final measurement.

STRATIGRAPHY
Under: 2
LEVELS
Loc Top Bottom Transit

PHOTOGRAPHS
Date Number Subject Date Number Subject
07/17 04/02/17 Progress of excavation
07/17 04/02/17 Well-like structure
07/17 04/02/17 Progress of excavation
07/17 04/02/17 Progress of excavation
07/18 01/08/18 Progress of excavation
07/18 01/08/18 Progress of excavation
07/18 01/08/18 Progress of excavation
07/18 01/08/18 Progress of excavation
07/24 05/02/24 Progress of excavation
07/25 04/02/25 Progress of excavation
07/25 04/02/25 Progress of excavation
07/25 04/02/25 Progress of excavation

DRAWINGS
Top Plans: 6, end of excavation.

FUNCTION:
Rock tumble may be from a wall structure that is still to be excavated.
Locus Date: 4/1977
### IDENTIFICATION

**UB4 Field C, Square 8L82, Locus 12**

**REASON**
- Remarks: Locus Cancelled

**DESCRIPTION**
- **Locus Date:** Iron 1

### IDENTIFICATION

**UB4 Field C, Square 8L82, Locus 13**

**REASON**
- Remarks: Appearance of large cobbles and small boulders under Locus 3.

**DESCRIPTION**
- **Area:** Very Clear
- **Further excavation needed before description can be completed.**

### IDENTIFICATION

**UB4 Field C, Square 8L82, Locus 14**

**REASON**
- Remarks: Assigned arbitrarily at end of season.

**DESCRIPTION**
- **Color:** Light brownish gray 2.5Y6/2
- **Texture:** Clay... 25% Silty... 45% Sand... 30% Fine Sand... 20%
- **Particle Shape:** Angular... 10% Sub-angular 25% Sub-round... 50% Round... 15%
- **Consistency:** Hardness... 2 Moderate Rubbly
- **Structure:** Random
- **Measurements:** Length... 5.000 m Width... 5.000 m

**Remarks:** Other measurements not available until next season.
- **Description cannot be completed until further excavation (next season).**

### STRATIGRAPHY

**Under:** 3, 6, 8

**LEVELS**

- **Loc Top:** Bottom Transit
- **Loc Bottom:** Bottom Transit

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/06</td>
<td>34</td>
<td>End of excavation</td>
</tr>
</tbody>
</table>

### PHOTOGRAFIRES

- **Date:** 34/03/06

### DRAWINGS

- **Top Plans:** End of excavation.

### INTERPRETATION

- **Function:** Unclear until further excavation.
- **Strategy:** Unclear until further excavation.

### SOIL LOCUS SHEET

**Page 1**

**IDENTIFICATION**

**UB4 Field C, Square 8L82, Locus 12**

**REASON**
- Remarks: Locus Cancelled

**DESCRIPTION**
- **Locus Date:** Iron 1

**REASON**
- Remarks: Appearance of large cobbles and small boulders under Locus 3.

**DESCRIPTION**
- **Area:** Very Clear
- **Further excavation needed before description can be completed.**

### SOIL LOCUS SHEET

**Page 1**

**IDENTIFICATION**

**UB4 Field C, Square 8L82, Locus 13**

**REASON**
- Remarks: Assigned arbitrarily at end of season.

**DESCRIPTION**
- **Color:** Light brownish gray 2.5Y6/2
- **Texture:** Clay... 25% Silty... 45% Sand... 30% Fine Sand... 20%
- **Particle Shape:** Angular... 10% Sub-angular 25% Sub-round... 50% Round... 15%
- **Consistency:** Hardness... 2 Moderate Rubbly
- **Structure:** Random
- **Measurements:** Length... 5.000 m Width... 5.000 m

**Remarks:** Other measurements not available until next season.
- **Description cannot be completed until further excavation (next season).**

### STRATIGRAPHY

**Under:** 3, 6, 8

**LEVELS**

- **Loc Top:** Bottom Transit
- **Loc Bottom:** Bottom Transit

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/06</td>
<td>34</td>
<td>End of excavation</td>
</tr>
</tbody>
</table>

### PHOTOGRAFIRES

- **Date:** 34/03/06

### DRAWINGS

- **Top Plans:** End of excavation.

### INTERPRETATION

- **Function:** Unclear until further excavation.
- **Strategy:** Unclear until further excavation.

### SOIL LOCUS SHEET

**Page 1**

**IDENTIFICATION**

**UB4 Field C, Square 8L82, Locus 14**

**REASON**
- Remarks: Assigned arbitrarily at end of season.

**DESCRIPTION**
- **Color:** Light brownish gray 2.5Y6/2
- **Texture:** Clay... 25% Silty... 45% Sand... 30% Fine Sand... 20%
- **Particle Shape:** Angular... 10% Sub-angular 25% Sub-round... 50% Round... 15%
- **Consistency:** Hardness... 2 Moderate Rubbly
- **Structure:** Random
- **Measurements:** Length... 5.000 m Width... 5.000 m

**Remarks:** Other measurements not available until next season.
- **Description cannot be completed until further excavation (next season).**

### STRATIGRAPHY

**Under:** 3, 6, 8

**LEVELS**

- **Loc Top:** Bottom Transit
- **Loc Bottom:** Bottom Transit

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/06</td>
<td>34</td>
<td>End of excavation</td>
</tr>
</tbody>
</table>

### PHOTOGRAFIRES

- **Date:** 34/03/06

### DRAWINGS

- **Top Plans:** End of excavation.

### INTERPRETATION

- **Function:** Unclear until further excavation.
- **Strategy:** Unclear until further excavation.

### SOIL LOCUS SHEET

**Page 1**

**IDENTIFICATION**

**UB4 Field C, Square 8L82, Locus 15**

**REASON**
- Remarks: Assigned arbitrarily at end of season.

**DESCRIPTION**
- **Color:** Light brownish gray 2.5Y6/2
- **Texture:** Clay... 25% Silty... 45% Sand... 30% Fine Sand... 20%
- **Particle Shape:** Angular... 10% Sub-angular 25% Sub-round... 50% Round... 15%
- **Consistency:** Hardness... 2 Moderate Rubbly
- **Structure:** Random
- **Measurements:** Length... 5.000 m Width... 5.000 m

**Remarks:** Other measurements not available until next season.
- **Description cannot be completed until further excavation (next season).**

### STRATIGRAPHY

**Under:** 3, 6, 8

**LEVELS**

- **Loc Top:** Bottom Transit
- **Loc Bottom:** Bottom Transit

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/06</td>
<td>34</td>
<td>End of excavation</td>
</tr>
</tbody>
</table>

### PHOTOGRAFIRES

- **Date:** 34/03/06

### DRAWINGS

- **Top Plans:** End of excavation.

### INTERPRETATION

- **Function:** Unclear until further excavation.
- **Strategy:** Unclear until further excavation.

### SOIL LOCUS SHEET

**Page 1**

**IDENTIFICATION**

**UB4 Field C, Square 8L82, Locus 16**

**REASON**
- Remarks: Assigned arbitrarily at end of season.

**DESCRIPTION**
- **Color:** Light brownish gray 2.5Y6/2
- **Texture:** Clay... 25% Silty... 45% Sand... 30% Fine Sand... 20%
- **Particle Shape:** Angular... 10% Sub-angular 25% Sub-round... 50% Round... 15%
- **Consistency:** Hardness... 2 Moderate Rubbly
- **Structure:** Random
- **Measurements:** Length... 5.000 m Width... 5.000 m

**Remarks:** Other measurements not available until next season.
- **Description cannot be completed until further excavation (next season).**

### STRATIGRAPHY

**Under:** 3, 6, 8

**LEVELS**

- **Loc Top:** Bottom Transit
- **Loc Bottom:** Bottom Transit

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/06</td>
<td>34</td>
<td>End of excavation</td>
</tr>
</tbody>
</table>

### PHOTOGRAFIRES

- **Date:** 34/03/06

### DRAWINGS

- **Top Plans:** End of excavation.

### INTERPRETATION

- **Function:** Unclear until further excavation.
- **Strategy:** Unclear until further excavation.
IDENTIFICATION

US Field D, Square 5K76, Locus 1

REMARKS

Separability: Top-Very Clear
Bottom-Average

DESCRIPTION

Color: Grayish brown
Texture: Clay, 40%
Silt, 40%
Sand, 20%

Particle Shape: Round, 100%

Con sistency: Hardness: 2
Compaction: Moderately Crumbly
Structure: Moderately Dry

Inclusions:

Marl Pockets: 1/m2

Measurements:

Length: 5.000 m
Width: 5.000 m
Depth: 0.090 to 0.500 m

Width of Slope: 240 deg
Direction of Slope: 14 deg


The rubble layer (locus 5) was most dense in NE corner of square and especially in SW corner.

STRATIGRAPHY

Over: 2, 3, 4, 5, 7, 10

Equivalents: 0.5626-1, 0.5686-10

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit

1 097.45 096.95 X 7 097.01 096.63 X

POTTERY

Reg no. Date Field Date Pail Loc Total Period Material Photo Drawing

1 07/03 16/07/30 FOUND BY "STEPS" 4 51
2 07/06 8/28 FOUND AFTER IT WAS PICKED 6 16 25

PHOTOGRAPHS

Date Number Subject Date Number Subject Date Number Subject

06/28 07/02/06 BEGINNING EXCAVATION 07/06 07/02/06 INITIAL PHOTO OF THE DAY 07/10 07/02/06 INITIAL PHOTO OF THE DAY
07/02 07/02/06 INITIAL PHOTO OF THE DAY 07/06 07/02/06 INITIAL PHOTO OF THE DAY
07/07/07 07/07/07 INITIAL PHOTO OF THE DAY

BIO DATA SAMPLES

Soil Sample: Charcoal

DRAWN

Balks: N, E, S, W

INTERPRETATION

Stratigraphy: The decision to change locus was quite arbitrary.
IDENTIFICATION
U84 Field D, Square 5K76, Locus 2

REASON
Remarks: Several stones in alignment (set like steps).

DESCRIPTION
Material: Reused Limestone
Masonry: Wall Stones: Cobble: 70% Small Boulder: 30%
Chinkstones: Cobble: 100% Mortar: Dry-laid.
Dressing: Unhewn: 90% Semi-hewn: 10%
Construction: Support: Free-standing
Remarks: All floating.

Measurements: Length: 2.600 m Width: 0.400 to 0.500 m
Height: 0.250 to 0.300 m Orientation: 290 deg
Remarks: Secondary use of one stone door "socket". Two courses here. The top one was set back (2 not overlapping) making them appear like shallow steps.

STRATIGRAPHY
Under: 1 Remarks: Wall 2 may be within Locus 1.
Over: 5

LEVELS
Loc Top Bottom Transit
Loc Top Bottom Transit
28 896.72 896.55 X 36 896.39 896.27 X
34 896.49 896.40 X

PHOTOGRAPHS
Date Number Subject
07/10 17/02/10 WALL 2 FROM THE NORTH
07/10 18/02/10 WALL 2 FROM SW CORNER

BIO DATA SAMPLES
Soil Sample
Flotation Sample

DRAWINGS
Balks: E
Sub-balks: Photo 18/02/76

INTERPRETATION
Function: Were these steps? They appear too shallow, and had no "flagstones" above them on the slope at the "correct angle." However, the "correct angle" of the walkway could have been at a lesser angle at the time of use. They were all floating. If they were a terrace wall, 5K77 should have picked them up in the SW corner of that square. It did not. Thus a terrace wall only 3 m long at most? It seems unlikely.

Stratigraphy: Locus 1 (possibly) was excavated in such a way that Wall 2 was both below and above Locus 1. The soil removed from the wall and immediately behind and below it is however separated by pale-pale 17.
04/01/86  ARCHITECTURAL LOCUS SHEET  Page 1

IDENTIFICATION
U84 Field D, Square 5K76, Locus 3

REASON

Remarks: Double row of stones.
Separability: Top--Very Clear

DESCRIPTION

Material: Limestone ............... 100%
Masonry:
Wall Stones: Cobble .................. 30%
Chinkstones: Cobble .................. 10%
Dressing: Unhewn .................. 100%
Remarks: Some secondary use of stones.
Mortar: Dry-laid ................ 100%
Facing: Unfaced
Construction: Style ................... Boulder & Chink
Remarks: Built on top of wall 17 but offset 20 cm to the east.
Rows: 2
Measurements: Length .................. 2.000 m Width ................... 0.750 m
Orientations: Lean Direction ...... 230 deg Orientation ...... 230 deg
Remarks: Orientation (cf. also wall 4) needs to be verified (or corrected) during the 1986 season.

STRATIGRAPHY
Under: 1 Equates: 0.5456:330
Over: 9, 17 Sealed Against By: 7, 10 Remarks: Partly over 9 to level up new wall.

LEVELS
Loc Top Bottom Transit
9 896.80 9
DRAWINGS
Balks: N

INTERPRETATION
Function: The 1.2 m between walls 3 and 4 could be a street.
Stratigraphy: Wall 3 was built over wall 17 but only part of the top stones of 17 are exposed by a soil layer. Wall 3 is offset over wall 17 20 cm to the east.

04/01/86  ARCHITECTURAL LOCUS SHEET  Page 1

IDENTIFICATION
U84 Field D, Square 5K76, Locus 4

REASON

Remarks: 6+ stones in a row.
Separability: Top--Very Clear

DESCRIPTION

Material: Limestone ............... 100%
Masonry:
Wall Stones: Cobble .................. 60%
Small Boulder ............. 40%
Chinkstones: Pebble ................... 20%
Cobble................... 80%
Dressing:
Remarks: Some secondary use of stones.
Mortar: Dry-laid ................ 100%
Facing: Unfaced
Construction: Style ............... Boulder & Chink Support: Free-standing
Courses: 4
Rows: 2
Measurements: Length .................. 2.300 m Width ................... 0.700 m
Orientations: Lean Direction ...... 110 deg Orientation ...... 12 deg
Remarks: Orientation (cf. Locus 3) needs to be verified (or corrected) during the 1986 season. Very sophisticated construction. Use of many types and sizes of stones. Same for walls 21 and 22.

STRATIGRAPHY
Under: 1 Equates: 0.5456:377
Over: Unexcavated Sealed Against By: 5, 6, 7, 9
Bonded To: 87

LEVELS
Loc Top Bottom Transit
9 897.07 9
DRAWINGS
Balks: N

INTERPRETATION
Function: The 1.2 m between walls 3 and 4 make it a candidate for a street.
Stratigraphy: Wall 21 is probably contemporary with wall 4, but Wall 22 could be a later construction.
IDENTIFICATION
LOU Field 0, Square 5K76, Locus 5

REASON
Remarks: Soil is filled with small rubble.
Separability: Top-Average
Bottom-Clear

DESCRIPTION
Color: Drayish brown 10YR5/2
Texture: Clay........... 40% Silt....... 40% Sand....... 20%
Particle Shape: Round....... 10%
Roundness: Hardness......... 3
Wettens........... 10YR5/2
Compactness........... Moderately Rubbly
Structure........... Random

Inclusions:
Soil: Nari Pockets........... 2/m2, 2.0-8.0 cm
Distribution........... Random
Small Pebbles........... 60/m2
Medium Pebbles......... 80/m2
Large Pebbles......... 5/m2
Small Cobbles........... 2/m2
Medium Cobbles........... 1/m1

Measurements:
Length................... 5,000 m
Width................... 5,000 m
Depth................... 0.000 to 0.240 m

STRATIGRAPHY
Under: 1, 2
Equals: 25, 26
Seals against: 4
Remarks: May equal 7 and 10.

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
11 896.82 896.68 X 32 895.89 895.89 X

POTTERY
Pail Date Count Baskets Loc Level Total Period Material
15 07/11 1/39 6 MB2,EB
18 07/13 4/145 62 EB, POSS IRON
19 07/16 20/152 71 ROM, MB2, EB
22 07/16 2/4 1 MORE IN PAIL 15 & 16 EB
48 7/30 0/12 1 MORE IN LOCUS 20 LATE EB
51 7/31 7/55 90 NORTH BALK
54 8/3 7/55 90 69 POSS IRON BODS, MB2, EB

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Drawing
BASE REMOVED--MORE IN LOCUS 20 1 07/11 15 34 896.18

PHOTOGRAPHS
Date Number Subject Date Number Subject
07/12 14/08/12 INITIAL PHOTO OF THE DAY
08/02/13 INITIAL PHOTO OF THE DAY
07/16 16/05/16 INITIAL PHOTO OF THE DAY

BIOOATA SAMPLES
Soil Sample...........

DRAWINGS
Balks: N,E,S

INTERPRETATION
Function: Perhaps a "garbage dump" behind and beneath Locus 5 covered 8 and went underneath 2.
04/01/86

SOIL LOCUS SHEET

IDENTIFICATION

UFA Field D, Square SK76, Locus 6

Remarks:
Ash and mud brick deposits showing.

Descriptive:

Top-Clear
Bottom-Average

DESCRIPTION

Remarks:
Separability

Remarks:
Ash and mud brick deposits showing.

Remarks:
Separability

Remarks:
Light yellowish brown

Texture:
Clay.... 40%
Silt.... 40%
Sand.... 20%

Particle Shape:
Round.... 100%

Consistency:
Hardness........ 2
Wetness......... Moderately Dry

Inclusions:

- Top: 2.0-15.0 cm
- Bottom: 2-15.0 cm

Soils:

- Top:
  - 10YR6/4
  - 7.4% Ash
  - Light yellowish brown
  - Clay: 40%, Silt: 40%, Sand: 20%

- Bottom:
  - Silt: 40%
  - Hardness: 2
  - Wetness: Moderately Dry

Measurements:

- Length: 2.40 m
- Width: 1.60 m
- Depth: 0.160 m to 0.140 m

Remarks:
Surface has ash and mud brick small deposits.

STRATIGRAPHY

Under:
5

Over:
12

Units against:
4, 8

LEVELS

Loc Top Button Transit
Loc Top Button Transit
11 896.71 896.57 X 22 896.58 896.52 X
11 896.68 896.57 X 23 896.61 896.49 X

 Comments

POTTERY

Date: 7/16

BIOOATA SAMPLES

Soil Sample: Charcoal

DRAWINGS

N, E

INTERPRETATION

Stratigraphy: Locus 6 is equal to Locus 9 in depth. Locus 6 surface contains ash deposits; Locus 9 surface does not. Perhaps one is inside and the other is outside.
IDENTIFICATION
US Field D, Square 5K76, Locus 7
Supervisor: MPM
Dates: 7/16 to 7/18

REASON
Remarks: Between Loci 3 and 4.
Separability: Top--Average, Bottom--Clear

DESCRIPTION
Color: Grayish brown 10YR5/2
Texture: Clay................ 40% Silt........... 40% Sand........... 20%
Particle Shape: Round.......... 100%
Consistency: Hardness................ 3
Wetness................ Moderately Dry
Sediment: 20%
Consistence:
Compactness................ Moderately Rubbly
Structure................ Random
Wetness ............... Moderately Dry
Structure ............. Random
Soil:
Nari Pockets .......... 2/m2, 2.0-10.0 cm
Distribution .......... Random
Stone:
Small Pebbles .......... 216/m2
Large Pebbles .......... 12/m2
Medium Pebbles .......... 4/m2
Large Pebbles .......... 1/m2
Medium Cobble ............ 1/m2
Small Cobble .......... 1/m2
Organic:
Bone................ Frequent
Soil:
Nari Pockets .......... 2/m2, 2.0-10.0 cm
Distribution .......... Random

LEVELS
Loc Top Bottom Transit
9 896.79 896.42 X
10 896.83 896.63 X

POTTERY
Date Count Bskts Loc Preservation Comments Reading
21 07/16 11/91 12 MB2,EB
25 07/17 24/312 99 BYZ.LR.ER.I2.MB2,EB
24 07/17 41/180 34 MB2,EB
25 07/18 15/183 34 ROM,MB2,EB

OBJECTS
Reg no. Description Field no. Date Loc Level Total Period, Material Photo Drawing
1 07/18 25 31 899.86

PHOTOGRAPHS
Date Number Subject
07/17 15/02/17 INITIAL PHOTO OF THE DAY

BIOLOGICAL SAMPLES
Soil Sample

DRAWINGS
Name:

INTERPRETATION
Stratigraphy:
Loc 7 began as a probe at N balk between loci 3 and 4. After 1 m it was divided into Locus 7 and Locus 9.
IDENTIFICATION
USA Field D, Square S76, Locus 8

REASONS
Remarks: Four rows of stones varying from 20 cm to 40 cm.
Separability: Top-Clear

DESCRIPTION
Material: Limestone: 100%
Masonry:
Wall Stones: Cobble: 40% Small Boulder: 60%
Chinkstones: Pebble: 10% Cobble: 90%
Dressing: Unhewn: 100%
Mortar: Dry-laid: 100%
Facing: Unfaced
Construction: Stone: Boulder & Chink
Row: 2
Measurements: Length: 3.400 m Width: 0.650 m
Orientation: 302 deg
Remarks: Cannot yet be determined if walls 4 and 8 are bonded.

STRATIGRAPHY
Under: 5
Over: Unexcavated
Abutted By: 21
Sealed Against: 6
Bonded To: 4

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
23 896.65 X 23 896.83 X 29 896.52 X

DRAWINGS
Scale: E

INTERPRETATION
Function: Wall 8 is probably bonded to Wall 4. These could be house walls with a street between walls 4 and 3.
IDENTIFICATION

U84 Field 0, Square 5K76, Locus 9
Supervisor: MPM  Dates: 7/18 to 7/20

REASON

Remarks: Fairly easy separability between Loci 7 and 9.

DESCRIPTION

Color: Pate brown
Texture: Clay........ 10YR6/3
Particle Shape: Round....... 100%
Consistence: Hardness......... 2

Silt...... 40%
Sandy........ 20%
Clay.. 40%

Inclusions:

Soil: Near Pockets........ 1/m2, 4.0 cm

Stone:

Small Pebbles........ 1/m2

Medium Pebbles........ 1/m2

Large Pebbles........ 1/m2

Medium Cobbles........ 1/m2

Large Cobbles........ 1/m2

Measurements:

Length........ 5.200 m
Width.......... 1.200 m

Soil:  Nari Pockets ....... 1/m2, 4.0 cm

Distribution ....... Random

Stone:

Small Pebbles .....

Medium Pebbles.......

Large Pebbles .......

Small Cobbles ...... 1/m2

Medium Cobbles...... 1/m2

Large Cobbles ...... 1/m2

Distribution ....... Random

Object:

Reg no. Description Field no. Date Pail Loc Level Total Period Material Phot:

1 07/19 31 13 896.15

PHOTOGRAHS

Date Subject

PHOTOGRAPHS

Date Subject

07/19 07/19 INTIAL PHOTO OF THE DAY

SHEET:

5K76: 8-9

FIELD D: 5K76: 8-9; LOCUS SUMMARIES

INTERPRETATION:

Stratigraphy: Locus 9 partly covered wall 17 so that only the western stones were visible. Wall 3 was constructed on this combination of stone and soil.
IDENTIFICATION
U84 Field D, Square 5K76, Locus 10

REASON
Remarks: Change in soil color and easy separability between layers.
Separability: Top-Clear Bottom-Clear

DESCRIPTION
Remarks: Difference in soil color.

REASON
Remarks: Unexcavated.

DESCRIPTION
Remarks: Unexcavated.

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
9 896.42 X 14 896.32 X
10 896.44 X 21 896.38 X

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading
26 7/18 14/221 43
BYZ, IR2, MB2, EB
27 7/18 13/180 23
YM, ROM, IR2, MB2, EB

PHOTOGRAPHS
Date Number Subject
07/20 19/08/20 INITIAL PHOTO OF THE DAY
07/30 35/02/30 PROGRESS OF EXCAVATION
04/01/86

SOIL LOCUS SHEET

IDENTIFICATION

U84 Field D, Square 5K76, Locus 12

REASON


DESCRIPTION

Remarks: Unexcavated.

STRATIGRAPHY

Under: 6

Over: 8

Equals: D.5K77.15?

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>896.57</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>896.52</td>
<td>x</td>
</tr>
</tbody>
</table>

04/01/86

SOIL LOCUS SHEET

IDENTIFICATION

U84 Field D, Square 5K76, Locus 13

REASON

Remarks: Change in soil color.

DESCRIPTION

Color: 10YR5/3

Texture: Clay........ 60% Silt........ 40%

Particle Shape: Round.... 100%

Consistency: Very Crumbly

Structure: Random

Inclusions:

- Soil Pockets: 1/m2, 2.0 cm
- Small Pebbles: 13/sq m
- Large Pebbles: 11/sq m
- Medium Cobbles: 2/sq m
- Large Cobbles: 1/sq m

Measurements:

- Length: 1.350 m
- Width: 1.340 m
- Depth: 0.080 to 0.180 m

Remarks:

This was begun as a probe in the NW corner of the square. A large stone in the N balk right by the wall ended this as an effective locus.

STRATIGRAPHY

Under: 8

Over: 14

Seals against: 17

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>896.47</td>
<td>896.29</td>
<td>896.21</td>
</tr>
<tr>
<td>8</td>
<td>896.51</td>
<td>896.38</td>
<td>896.27</td>
</tr>
</tbody>
</table>

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/20</td>
<td>12/170</td>
<td>42</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DRAWINGS

<table>
<thead>
<tr>
<th>Baskets</th>
<th>N,W</th>
</tr>
</thead>
</table>

INTERPRETATION

N,W
IDENTIFICATION
UBA Field D, Square 3K76, Locus 14

REASON
Remarks:
This was made a separate locus because of the large stone in the N balk by wall 3.

DESCRIPTION
Color: Brown
Texture: Clay........ 40% Silt........ 40% Sand........ 20%
Particle Shape: Round....... 100%
Consistence:
Hardness........ 1
Wetness........ Moderately Dry
Inclusions:
Soil:
Harl Pockets........ 1/m2, 2.0 cm Distribution........ Random
Small Pebbles........ 135/m2 Medium Pebbles........ 106/m2
Large Pebbles........ 14/m2 Small Cobbles........ 12/m2
Distribution........ Random
Measurements:
Length................ 1.300 m Direction of Slope........ 6 deg
Width................ 1.200 m Degree of Slope........ 6 deg
Depth................ 0.130 to 0.210 m

STRATIGRAPHY
Under:

Over:

Soil against:

Remarks:
Sub balk left in N corner perpendicular from 3 to N corner.

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading

PHOTOGRAPHS
Date Number Subject

INTERPRETATION

07/24 10/03/24 PROGRESS OF EXCAVATION
IDENTIFICATION

U84 Field D, Square 5K76, Locus 15

REASON

DESCRIPTION

Color: Brown

Texture: Clay........ 40% Silt........ 40% Sand........ 20%

Grain Size:
- Consistency: Very loose
- Structure: Random

Inclusions:
- Soil: Harl Pockets........ 2/m2, 2.0-11.0 cm
- Stones: Small Pebbles........ 252/m2
- Large Pebbles........ 12/m2
- Medium Pebbles........ 234/m2
- Medium Cobbles........ 2/m2
- Large Cobbles........ 12/m2

Artifact: Glass...........

Measurements:
- Length................ 5,000 m
- Width................ 2,000 m
- Depth................ 0.170 to 0.650 m

STRAIGHT

Under: 10

Remarks: Burrows run from this locus in most directions. Dirt fall into these as we excavate so contamination may be possible in lower levels.

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit

13 896.29 895.73 X 14 896.32 895.63 X 31 895.34 895.37 X
16 896.10 X 21 896.35 895.73 X 32 895.70 895.43 X

POTTERY

Date Count Date Count Date Count

36 7/24 36/380 94 BYU, ERON, IERON, MB2, EB DOM
37 7/24 7/12 IERON, IERON, MB2, EB
38 7/23 4/264 74 IR0, IERON, MB2, EB
39 7/22 7/109 51 ERON, MB2, EB
40 7/22 25/265 50 IR0, IERON, MB2, EB
41 7/22 24/225 55 ERON, MB2, EB
42 7/22 35/360 46 ERON, MB2, EB
43 7/22 24/210 24 EB
44 7/22 3/345 82 MB2, MB2, EB
45 7/22 4/270 37 MB2, MB2, EB
46 7/22 4/47 44 MB2, MB2, EB

PHOTOGRAPHS

Date Subject Date Subject Date Subject


BIO DATA SAMPLES

Date Sample

07/25 Soil sample

INTERPRETATION

LOCUS SUMMARIES
04/01/86
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field 0, Square 5K76, Locus 16

REASON
Remarks: Several stones in a row on same line as wall 3.
Separability: Top—Very Clear

DESCRIPTION
Material: Limestone.............. 100%
Masonry: Wall Stones: Cobble................. 80%
Chinkstones: Pebble................. 20%
Dressing: Unhewn................. 75%
Semi-hewn................. 25%

Facing: Unfaced
Construction: Style................. Boulder & Chink

Courses: 2
Rows: 2
Measurements: Length................. 2.000 m
Orientation................. 230 deg

STRATIGRAPHY
Under: 14
Over: Unexcavated
Equals: 17
Sealed Agst By: 15

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
18 895.98 x 19 895.70 x

DRAWINGS
Balks: W

INTERPRETATION
Function: Wall 16 is probably the same wall as 17, with a 70 cm doorway separating the two.

04/01/86
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field 0, Square 5K76, Locus 17

REASON
Remarks: Several stones in a row.
Separability: Top—Very Clear

DESCRIPTION
Material: Limestone.............. 100%
Masonry: Wall Stones: Cobble................. 80%
Chinkstones: Pebble................. 20%
Dressing: Unhewn................. 75%
Semi-hewn................. 25%

Facing: Unfaced
Construction: Style................. Boulder & Chink

Measurements: Length................. 1.100 m
Orientation................. 230 deg

STRATIGRAPHY
Under: 3
Over: Unexcavated
Equals: 16
Sealed Agst By: 18, 13, 14, 15

LEVELS
Loc Top Bottom Transit
8 890.14 x

DRAWINGS
Balks: W

INTERPRETATION
Function: Wall 17 is probably the same wall as 16, with a 70 cm doorway separating the two.

Stratigraphy: This wall is under wall 3 but "offset" to the west 20 cm.
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K76, Locus 18

REASON
Remarks: Several stones in a row perpendicular to wall 17.
Separability: Top—Very Clear

DESCRIPTION
Material: Limestone............ 100%

Remarks:
Wall Stones: Cobble............. 100%
Chinkstones: Pebble............. 20%
Dressing: Unhewn............... 100%
Mortar: Dry-laid............... 20%
Construction: Style........... Boulder & Chink
Row: 2
Measurements: Length........... 1.200 m

STRATIGRAPHY
Under: 14
Over: Unexcavated
Abuts: 17
Sealed Against: 15

LEVELS
Loc Top Bottom Transit

04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K76, Locus 19

REASON
Remarks: Change in soil color.
Separability: Top—Average

DESCRIPTION
Remarks: Unexcavated.

STRATIGRAPHY
Under: 15
Over: Unexcavated

LEVELS
Loc Top Bottom Transit

04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K76, Locus 20

REASON
Remarks: Change in soil consistency.
Separability: Top—Unclear

DESCRIPTION
Remarks: Unexcavated. See Locus 5 because this was originally going to be further excavated as Locus 5.

STRATIGRAPHY
Under: 5
Over: Unexcavated
Sealed Against: 21

LEVELS
Loc Top Bottom Transit

04/01/86
### ARCHITECTURAL LOCUS SHEET

#### 04/01/86

**IDENTIFICATION**
- **U84 Field 0, Square 5X76, Locus 21**
- **Supervisor:** MPM
- **Date:**

**REASON**
- **Remarks:** Several stones in a row.
- **Separability:** Top--Clear

**DESCRIPTION**
- **Material:** Limestone ............... 100%
- **Masonry:**
  - **Wall Stones:** Cobble .................. 40%
  - **Chinkstones:** Pebble .................. 10%
  - **Dressing:** Unhewn .................. 100%
  - **Facing:** Unfaced
  - **Rows:** 2
- **Measurements:**
  - **Length:** 1.800 m
  - **Orientation:** 302 deg

**STRATIGRAPHY**
- **Under:**
- **Over:** Unexcavated
- **Abuts:** 8
- **Sealed Against By:** 22

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>895.40 X</td>
<td>20</td>
<td>896.54 X</td>
</tr>
</tbody>
</table>

**INTERPRETATION**
- Viewing wall 21 from the west end, it was added to the southern face of wall 8. It "lies" up against wall 8 for its entire length of 1.8 m.

---

#### 04/01/86

**IDENTIFICATION**
- **U84 Field 0, Square 5X76, Locus 22**
- **Supervisor:** MPM
- **Date:**

**REASON**
- **Remarks:** Several stones in a row.
- **Separability:** Top--Very Clear

**DESCRIPTION**
- **Material:** Limestone..................... 100%
- **Masonry:**
  - **Wall Stones:** Cobble ................. 20%
  - **Chinkstones:** Pebble ................. 20%
  - **Dressing:** Unhewn .................. 100%
  - **Remarks:** Secondary use of stones seen here.
  - **Rows:** 1
- **Measurements:**
  - **Length:** 1.400 m
  - **Orientation:** 230 deg

**STRATIGRAPHY**
- **Under:** 5, 15
- **Over:** Unexcavated
- **Abuts:** 22

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>806.28 X</td>
<td>27</td>
<td>806.18 X</td>
</tr>
</tbody>
</table>

**INTERPRETATION**
- Wall 22 could be part of a terrace project. It is certainly an extension of walls 3 and 21, although the stones appear to be laid into the side of the hill.
ARCHITECTURAL LOCUS SHEET

06/01/86

IDENTIFICATION
UBA Field D, Square SK76, Locus 23

REASON
Remarks: Several stones in a row uncovered in the NE balk.
Separability: Top - Very Clear

DESCRIPTION
Material: Limestone
Masonry: Wall Stones; Cobble
Chinkstones; Pebble
Dressing; Unhewn
Mortar: Dry-laid
Facing: Unfaced

Courses: 1

Rows: 2
Measurements: Length: 1.200 m; Width: 0.550 m
Remarks: Walls 23 and 24 join at approximately a 75 deg angle.

DRAWINGS

INTERPRETATION
Stratigraphy: These stones are all within Locus 1; probably contemporary with 5X86:2=3=13=14.

LOCUS SUMMARIES

06/01/86

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
UBA Field D, Square SK76, Locus 24

REASON
Separability: Top - Very Clear

DESCRIPTION
Material: Limestone
Masonry: Wall Stones; Cobble
Chinkstones; Pebble
Dressing; Unhewn
Mortar: Dry-laid
Facing: Unfaced

Courses: 2
Rows: 2
Measurements: Length: 1.200 m; Width: 0.550 m
Remarks: Walls 23 and 24 join at approximately a 75 deg angle.

DRAWINGS

INTERPRETATION
Stratigraphy: These stones are all within Locus 1; probably contemporary with 5X86:2=3=13=14.

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
5 897.35 897.15 X 5 897.39 897.18 X 5 897.20 897.15 X

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
12 897.17 897.00 X 18 897.10 896.98 X 18 897.12 896.98 X

INTERPRETATION
Stratigraphy: All stones are within Locus 1.
IDENTIFICATION
U84 Field D, Square 5K76, Locus 25
Supervisor: MPM Date: 8/3
Remarks: Surface found in north balk.
Separability: Top--Unclear Bottom--Clear
REASON
Remarks:
DESCRIPTION
Color: Grayish brown 10YR5/2
Texture: Clay...... 40% Silt...... 40% Sand...... 20%
Particle Shape: Round....... 100%
Consistency: Hardness........ 3
Compaction........ Moderately Crumbly
Wetness........ Moderately Dry
Structure........ Random
Inclusions:
Stone: Small Cobbles.......... 12/m2
Distribution........ Random
Measurements:
Length........... 0.600 m
Width........... 0.350 m
Depth........... 0.030 to 0.080 m
Surface Mat'l: Beaten Earth
Remarks:
STRATIGRAPHY
Under:
Over:
Equal:
Remarks:
LEVELS
Loc Top Bottom Transit

POTTERY
Pail Date Count Baskets Loc Preservation Comments Reading Pub

INTERPRETATION
Function:

IDENTIFICATION
U84 Field D, Square 5K76, Locus 26
Supervisor: MPM Date: 8/3
Remarks: Beneath Locus 2.
Separability: Top--Clear Bottom--Average
REASON
Remarks:
DESCRIPTION
Color: Light yellowish brown 2.5Y6/4
Texture: Clay...... 40% Silt...... 40% Sand...... 20%
Particle Shape: Round....... 100%
Consistency: Hardness........ 3
Compaction........ Slightly Frible
Wetness........ Slightly Moist
Structure........ Random
Inclusions:
Stone: Small Pebbles........ 1600/m2
Medium Pebbles........ 320/m2
Small Cobbles.......... 12/m2
Medium Cobbles........ 2/m2
Small Cobbles.......... 12/m2
Distribution........ Random
Measurements:
Length........... 2.000 m
Width........... 1.000 m
Depth........... 0.140 m
Remarks:
STRATIGRAPHY
Under:
Over:
Equal:
Remarks:
LEVELS
Loc Top Bottom Transit

POTTERY
Pail Date Count Baskets Loc Preservation Comments Reading Pub

OBJECTS
Reg no. Description Field no. Date Pall Loc Level Total Period Material Photo Drawing

04/01/86 SOIL LOCUS SHEET Page 1

04/01/86 SOIL LOCUS SHEET Page 1
SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K76, Locus 27

REASON
Remarks: Beneath surface (Locus 26).
Separability: Top--Average, Bottom--Average

DESCRIPTION
Remarks: Beneath surface (Locus 26).
Texture: Clay...... 40% Silt...... 40%, Sand....... 20%
Particle Shape: Round....... 100%, Hardness................. 3
Consistency: Moderately Crumbly
Wetness: Moderately Dry
Inclusions: Stone: Small Pebbles......... 60/m2, Medium Pebbles........ 80/m2
Large Pebbles........ 80/m2, Distribution........ Random
Measurements: Length........... 2.000 m, Width........... 1.000 m, Depth........... 0.020 to 0.050 m
Surface Matt: Beaten Earth
Remarks: In north balk.

STRATIGRAPHY
Remarks: Beneath surface (Locus 26).
Under: Unexcavated
Over: Unexcavated
Difference: 0.5X86:25

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
5 897.07 897.02 X 5 897.02 897.00 X

POTTERY
Remarks: Beneath surface (Locus 26).
Counts: 1/29 22
Contents: Late EB

04/01/86
SOIL LOCUS SHEET
Page 1

FIELD D: 5K76: 25-28
SOIL LOCUS SHEET

IDENTIFICATION

U84 Field D, Square 5K77, Locus 1

REASON

Remarks: Beginning excavation.

SEPARABILITY

Top--Very Clear

Bottom--Average

DESCRIPTION

Color: Light brownish gray
Texture: Clay...... 40% Sand....... 20%
Particle shape: Sub-angular 40%
Porosity: 1
Consistency: Hardness

SEPARABILITY

Top--Very Clear

Bottom--Average

Inclusions:

Stone: Medium Pebbles....... 156/m2
Small Cobble:........ 10/m2

Measurements:

Length:........ 5,000 m
Width:........ 5,000 m
Height:........ 5,100 to 0.150 m

Remarks:

Topsoil--arbitrary end of locus selected (i.e. approx. 10-15 cm).

STRATIGRAPHY

Over:

Remarks: 3.5X57:1

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit

7 897.40 X 35 897.91 897.45 X
11 897.71 X 3 897.71 897.49 X

POTTERY

Fall Date Count Bskts Loc Preservation Comments Reading

PUBLICATION

BALK REMOVAL

06/29 14/07/29 SURFACE

PHOTOGRAPHS

Date Number Subject Date Number Subject

07/02 05/08/02 PROGRESS OF EXCAVATION

07/03 05/08/03 PROGRESS OF EXCAVATION

DRAWD

Dates: N,S,E,W

INTERPRETATION
IDENTIFICATION

USM Field D, Square 5K77, Locus 2

Remarks: Change of soil color, possible wall to south - probe.

REASON

Supervisor: SLB Oates

DATE

04/01/86

SOIL LOCUS SHEET

Page 1

REMARKS

0.00 to 0.450 m

Separability: Top - Clear

Remarks: Change of soil color, possible wall to south - probe.

DESCRIPTION

Remarks: Change of soil color, possible wall to south - probe.

U84 Field D, Square 5K77, Locus 2

Remarks: Change of soil color, possible wall to south - probe.

REMARKS

Remarks: Change of soil color, possible wall to south - probe.

LESSONS

Remarks: Change of soil color, possible wall to south - probe.

LEVELS

Remarks: Change of soil color, possible wall to south - probe.

LUCUS SUMMARIES

Remarks: Change of soil color, possible wall to south - probe.

LEVELS

Remarks: Change of soil color, possible wall to south - probe.

POTTERY

Remarks: Change of soil color, possible wall to south - probe.

PROJECTS

Remarks: Change of soil color, possible wall to south - probe.

PHOTOGRAPHS

Remarks: Change of soil color, possible wall to south - probe.

OBJECTS

Remarks: Change of soil color, possible wall to south - probe.

INSCRIBED STONE?

Remarks: Change of soil color, possible wall to south - probe.

STONE-LOOM WEIGHT?

Remarks: Change of soil color, possible wall to south - probe.

CERAMIC LOOM WEIGHT

Remarks: Change of soil color, possible wall to south - probe.

CERAMIC BURNISHING TOOL

Remarks: Change of soil color, possible wall to south - probe.

PHOTOGRAPHS

Remarks: Change of soil color, possible wall to south - probe.

DATE NUMBER SUBJECT

Remarks: Change of soil color, possible wall to south - probe.

OBJECTS

Remarks: Change of soil color, possible wall to south - probe.

INSCRIBED STONE?

Remarks: Change of soil color, possible wall to south - probe.

STONE-LOOM WEIGHT?

Remarks: Change of soil color, possible wall to south - probe.

CERAMIC LOOM WEIGHT

Remarks: Change of soil color, possible wall to south - probe.

CERAMIC BURNISHING TOOL

Remarks: Change of soil color, possible wall to south - probe.

PHOTOGRAPHS

Remarks: Change of soil color, possible wall to south - probe.

DATE NUMBER SUBJECT

Remarks: Change of soil color, possible wall to south - probe.

OBJECTS

Remarks: Change of soil color, possible wall to south - probe.

INSCRIBED STONE?

Remarks: Change of soil color, possible wall to south - probe.

STONE-LOOM WEIGHT?

Remarks: Change of soil color, possible wall to south - probe.

CERAMIC LOOM WEIGHT

Remarks: Change of soil color, possible wall to south - probe.

CERAMIC BURNISHING TOOL

Remarks: Change of soil color, possible wall to south - probe.

PHOTOGRAPHS

Remarks: Change of soil color, possible wall to south - probe.

DATE NUMBER SUBJECT

Remarks: Change of soil color, possible wall to south - probe.

OBJECTS

Remarks: Change of soil color, possible wall to south - probe.

INSCRIBED STONE?

Remarks: Change of soil color, possible wall to south - probe.

STONE-LOOM WEIGHT?

Remarks: Change of soil color, possible wall to south - probe.

CERAMIC LOOM WEIGHT

Remarks: Change of soil color, possible wall to south - probe.

CERAMIC BURNISHING TOOL

Remarks: Change of soil color, possible wall to south - probe.

PHOTOGRAPHS

Remarks: Change of soil color, possible wall to south - probe.

DATE NUMBER SUBJECT

Remarks: Change of soil color, possible wall to south - probe.

OBJECTS

Remarks: Change of soil color, possible wall to south - probe.
IDENTIFICATION

U84 Field 0, Square 5K77, Locus 3

Supervisor: SLB Dates: 7/9 to 7/16

REASON

Remarks: Probe--change in soil color and texture.

DESCRIPTION

Color: Light brownish gray 2.5Y6/2

Texture: Clay.......... 40% Silt......... 40% Sand....... 20%

Particle Shape: Sub-angular 10% Sub-rounded 40% Round..... 50%

Consistency: Hardness........ 2 Compactness........ Moderately Crumbly

Wetness................. Moderately Dry Structure............. Windy

Inclusions: Soil: Ash Pockets............... 2/m2, 22.0 cm Distribution........ Random

Stone: Large Pebbles........ 5/m2 Small Cobbles......... 2/m2 

Distribution........ Random

Artifact: Flint............... Few Distribution........ Random

Measurements: Length................ 1.500 m Width............... 1.000 m

Depth.................. 0.100 to 0.200 m

Remarks: A 1 m probe was opened and then stopped when it was determined we had gone too deep.

STRATIGRAPHY

Under: 2, 4, 5

Over: 9, 11

Equals: 7, 8

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit

7 897.04 896.70 X 7 896.99 X 7 896.74 896.58 X

POTTERY

Fall Date Count Bskts Loc Preservation Comments

9 7/9 5/74 36 EB

19 7/10 3/75 23 EB

SAMPLES

Flotation Sample........ 1%

DRAWINGS

Scale: M,W

INTERPRETATION

Stratigraphy: Under Locus 2, running under walls 4 and 5; overlying Locus 9, equalling probes 7 and 8.
IDENTIFICATION
UNIT: Field D, Square SK77, Locus 4
Remarks: Visible wall lines.

REASON
Remarks: Visible wall lines. Separability: Top—Clear, Bottom—Average

DESCRIPTION
Material: Limestone
Masonry: Wall Stones: Cobble
Dressing: Unhewn
Mortar: Dry-laid
Facing: Unfaced
Construction: Style: Boulder & Chink
Tendenciy: Light
Remarks: Very coarse.
Courses: 2
Rows: 2 w/rubble
Measurements: Length 1.460 m
Width 0.440 to 0.520 m
Height 0.080 to 0.170 m
Dip 6 deg
Orientation 118 deg
Preservation: Foundation Only: Partial
Remarks: One clear course with traces of a second appeared during excavation. There was no apparent Pl. laid directly onto rocky rubble.

STRATIGRAPHY
Under: 2
Over: 3, 7, 8, 9
Equals: 5, 6, 0,s702,26

LEVELS
Loc Top Bottom Transit
Loc Top Bottom Transit
13 096.99 096.85 X 14 097.07 X

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading Pub
17/7/16 0/20 11

PHOTOGRAPHS
Date Number Subject
07/11 18/02/11 RECORD SHOT

DRAWINGS
Top Plans: Locus 5

INTERPRETATION
Function: The fragmentary remains of the foundation of a wall.
Stratigraphy: Under Locus 2, perhaps equalling foundation fragments 5 and 6 (for architectural reasons). Apparently overlying probes 5, 7, 8.
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
Locus 5, Square 5677, Locus 5
Supervisor: SLB Dates: 7/11 to 7/16

DESCRIPTION
Material: Limestone 100%
Masonry: Wall Stones: Cobble 100%
Fill Stones: Cobble 100%
Dressing: Unhewn 100%
Mortar: Dry-laid 100%
Finishing: Unfaced
Construction: Style Boulder & Chink Support Free-standing
Tendencives: Light
Courses: 1
Rows: 2 w/rubble
Measurements: Length 0.710 m Width 0.510 to 0.530 m
Height 0.080 to 0.170 m Orientation 212 deg
Dip 6 deg
Preservation: Foundation Only Partial
Lean Degree 0 deg
Top Foundation Level 897.03 m

STRATIGRAPHY
Under: 2
Over: 3, 9
Equals: 4, 6

LEVELS
Loc Top Bottom Transit
9 897.18 897.03 X

POTTERY
Pail Date Count Baskets Loc Preservation Comments Reading Pub
18 7/16 0/ 3

PHOTOGRAPHS
Date Number Subject
07/11 18/02/11 RECORD SHOT

INTERPRETATION
Function: Foundation fragment related to Locus 47
Stratigraphy: Under Locus 3, Equaling Loci 5 and 6 on architectural grounds, Overlying probes 3, 7, 8.
IDENTIFICATION
10% Field D, Square 5K77, Locus 6

REASON
Aments: Short wall lines visible.
Separability: Top-Average Bottom-Average

DESCRIPTION
Material: Limestone........... 100%
Masonry: Wall Stones: Cobble.......... 100%
Fill Stones: Cobble.......... 100%
Dressing: Unhewn.......... 100%
Mortar: Ory-laid.......... 100%
Facing: Unfaced
Construction: Style: Boulder & Chink Support: Free-standing
Tendencies: Light, Remarks: Very coarse.
Courses: 1 to 2
Rows: 2 w/rubble
Measurements: Length.......... 0.750 m Width.......... 0.160 to 0.500 m
Height.......... 0.080 to 0.160 m Orientation.......... 316 deg
Dip: 4 deg
Preservation: Foundation Only: Partial

STRATIGRAPHY
Under: 2
Over: 9
Equals: 4, 5
Abuts: 13

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit

35 896.80 896.75 X 34 896.84 896.75 X

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
BSLT GRINDER FSG--REUSED IN WALL 1 07/23 35 1

PHOTOGRAPHS
Date Number Subject

07/11 20/02/11 RECORD SHOT

DRAWINGS
Bulls: E

INTERPRETATION
Function: Foundation fragment.
IDENTIFICATION
USA Field 0, Square 5X77, Locus 7

REASON
Separability: Top-Arbitrary

DESCRIPTION
- Color: Brown
- Texture: Clay..... 40% Silt..... 40% Sand..... 20%
- Particle Shape: Sub-angular 20% Sub-round.. 40% Round..... 40%
- Consistence: Hardness........... 2 Compaction........ Moderately Crumbly
- Wetness................. Moderately Dry
- Structure............. Wind

Inclusions:
- Soil: Brick Material........... 30/m2, 10.0-12.0 cm Distribution........... Random
- Stone: Small Pebbles........... 10/m2 Medium Pebbles........... 20/m2
- Large Pebbles............. 40/m2 Small Cobble............. 5/m2
- Distribution............. Random
- Artifact: Plaster Lump....... 1 Distribution............. Random

Measurements:
- Length.................. 2.700 m
- Width.................. 1.000 m
- Depth................... 0.180 to 0.220 m

Remarks:
- Strip extended E over southern half of square, in a 1 m probe south of wall 4.
- Ash in middle of strip; perhaps small pocket. Bricky rubble (detritus) in layer. Geological samples sent for analysis.

STRATIGRAPHY
Under: 2, 4
Over: 8, 14
Equals: 3, 7, 8

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>896.65</td>
<td>X</td>
<td>8</td>
<td>897.01</td>
<td>X</td>
<td>32</td>
<td>896.71</td>
</tr>
<tr>
<td>31</td>
<td>896.52</td>
<td>X</td>
<td>8</td>
<td>896.65</td>
<td>X</td>
<td>8</td>
<td>897.01</td>
</tr>
<tr>
<td>52</td>
<td>896.71</td>
<td>X</td>
<td>31</td>
<td>896.52</td>
<td>X</td>
<td>51</td>
<td>896.52</td>
</tr>
</tbody>
</table>

POTTERY

<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>13/7/11</td>
<td>15/109</td>
<td>57</td>
<td>F09.0005,2 MB2,EB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15/7/12</td>
<td>15/295</td>
<td>85</td>
<td>192,MB2,EB DOM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16/7/13</td>
<td>28/275</td>
<td>41</td>
<td>MEBABLE?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Date/Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/15</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
<tr>
<td>07/16</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

INTERPRETATION

### Identification
- **Locus:** Field D, Square 5K77, Locus 8
- **Remarks:** Possible FT for Locus 4 (south face).

### Separability
- **Top:** Arbitrary
- **Bottom:** Average

### Description
- **Color:** Brown 70YR5/3
- **Texture:** Clay 40% Silt 40% Sand 20%
- **Particle Shape:** Sub-angular 20% Sub-rounded 40% Round 40%
- **Consistency:** Hardness 2, Wetness Moderately Moist
- **Inclusions:** Small Pebbles 10/m2 Large Pebbles 45/m2
- **Artifact:** Flint 6
- **Measurements:** Length 1.000 m, Width 0.220 m, Depth 0.180 to 0.220 m

### Remarks
- No FT discovered on south side of Locus 4.

### Stratigraphy
- **Under:** 3, 7, 8
- **Over:** 2, 4
- **Equals:** 3, 7, 8

### Levels
- **Loc Top:** Bottom Transit

### Pottery
<table>
<thead>
<tr>
<th>Date</th>
<th>Count</th>
<th>Bakts</th>
<th>Loc Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/11</td>
<td>0/10</td>
<td>5</td>
<td></td>
<td></td>
<td>EB 8005</td>
</tr>
</tbody>
</table>

### Photographs
- **Date:** 07/05/12
- **Subject:** Progress of Excavation

### Drawings
- **Top Plans:** Locus 7

### Interpretation
- **Function:** Shell 20 cm wide probe just south of Locus 4 in search of FT - none was found.
- **Stratigraphy:** Under 2, overlying 9, equals 7.
IDENTIFICATION

U84 Field D, Square 5K77, Locus 9
Supervisor: SLB
Dates: 7/17 to 7/24

REASON

Remarks: Tracing new layer in probe.

SEPARABILITY:

Top--Average
Bottom--Average

DESCRIPTION

Color:
Light brown
7.5YR6/4

Texture:
Clay ...... 30X
Silt ...... SOX
Sand ...... 20X
Fine Sand.. 50X
Medium Sand 30X
Course Sand 20X

Particle Shape:
Sub-angular 10X
Sub-rounded. 50X
Round ..... 40X

Consistence:
Hardness ..........
Compactness ......

Wetness ..........

Structure ........
Wind

Measurements:

Depth ...........
Length ...........
Direction of Slope

PARTICLE DISTRIBUTION

Top--
Bottom--

SOIL LOCUS SHEET

DEPTH

Loc Top
Bottom
Transit

Loc Top
Bottom
Transit

Loc Top
Bottom
Transit

Loc Top
Bottom
Transit

Loc Top
Bottom
Transit

LEVELS

Loc Top
Bottom
Transit

Loc Top
Bottom
Transit

Loc Top
Bottom
Transit

Loc Top
Bottom
Transit

Loc Top
Bottom
Transit

3 896.70
7
X

2 896.66
X

5 896.66
X

896.69
X

19 896.58
X

11 896.81
X

18 896.59
X

31 896.37
X

21 896.67
X

29 896.25
X

23 896.18
X

25 896.11
X

27 896.04
X

29 895.97
X

39 895.89
X

POTTERY

Field no. Date Pail Date Remarks Reading Pub

20 7/17 7/17 7/17 7/17 EB

21 7/18 5/135 115 EB

22 7/19 5/202 105 EB

23 7/20 22/202 104 EB

24 7/23 1/24 77 EB

25 7/24 6/106 87 EB

35 8/ 1 20/160 94 EB

37 8/ 2 8/195 59 EB

OBJECTS

Field no. Date Pail. Loc Level Period Material Photo Drawing

STONE LOOM WEIGHT

1 07/19 22 896.09

2 07/19 22 896.30

STONE BALL

3 07/19 22 896.09

4 07/19 22 896.30

BASEALT-ROTARY GRINDSTONE FRAG

7 07/19 22 896.91

8 07/19 22 896.30

STONE BALL

9 07/19 22 896.91

10 07/19 22 896.30

BASALT DRUM FRAG

11 08/01 36 1 1

12 08/02 37 1 1

CERAMIC LOOM WEIGHT

PHOTOGRAPHS

Date Number Subject

07/17 14/02/17 PROGRESS OF EXCAVATION

07/18 14/02/18 PROGRESS OF EXCAVATION

07/19 15/02/19 PROGRESS OF EXCAVATION

DRAWINGS

Balks: M, N, E, W

INTERPRETATION

Function:
Rock turtle and soil layer. Apparently, collapse of house for which Locus 15 is the courtyard. Contained much mudbrick detritus.

Stratigraphy:
Completely overlying surface 15 all across the square as well as 10,11,12,13. Under Loci 3, 4, 5, 6. Equal to Loci 7, 8, 14, 17.
04/01/86

FIELD: D

LOCATION: 5K77, Locus 10

IDENTIFICATION

U84 Field D, Square 5K77, Locus 10

Supervisor: SLB

Dates: 7/17 to

REASON

Remarks: Possible "pit" in SU corner of square.

TYPE

Possible Pit

DESCRIPTION

Material: Soft Soil, 100%

Plant: Rounded Oval

Measurements: Length: 0.890 m, Height: 0.300 m, Width: 0.700 m

Remarks: I am less & less sure this is a pit. While excavating, pass well emerged N of this locus. May be simply a jar standing on a surface 5 of wall, which fell over, possibly covered with other garbage, and was later crushed by the collapse of the wall. Or, this may have been a broken store jar that was thrown over this southern wall with other garbage.

The bottom was difficult to establish—there was a thin layer of black ashy material just below the jar fragments; then a "yellowish" soil layer below that; and, finally, a "brick" exposure layer which may have been the surface on which the jar stood.

STRATIGRAPHY

Under: 9

Cuts: 15

FILL: Locus 18

LEVELS

Loc Top Bottom Transit

896.37 896.14 X

PHOTOGRAPHS

Date Number Subject

07/18 14/08/18 PROGRESS OF EXCAVATION
07/27 25/08/27 PROGRESS OF EXCAVATION

DRAWINGS

Top Plans: Locus 9

INTERPRETATION

Function: Hole for store jar/pit 18.

Stratigraphy: May be underlying surface 15, having fallen on to an earlier level. (Exact stratigraphy confused as I was not present during excavation.)

04/01/86

FIELD: D

LOCATION: 5K77, Locus 11

IDENTIFICATION

U84 Field D, Square 5K77, Locus 11

Supervisor: SLB

Date:

REASON

Remarks: Top appeared while peeling off soil.

TYPE

Certain Mortar

DESCRIPTION

Material: Hard Stone, 100%

Plant: Rounded Rectangular

Remarks: Rectangular mortar set into Locus 15. Braced on 3 sides (W, N, E) by series of small flat cobbles (which are also set into surface 15 a 013). Those on S may have been removed during excavation, although no traces could be found of where they might have stood. If nothing was removed, it is possible that the user worked the mortar from the south.

STRATIGRAPHY

Under: 3, 9

Over: 15

LEVELS

Loc Top Bottom Transit

19 896.76 X

DRAWINGS

Top Plans: Locus 9

INTERPRETATION

Function: Reinforced domestic mortar.

Stratigraphy: Set into surface 15, next to hearth surrounded by basalt frags. Under Locus 9.
04/01/36

INSTALLATION LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K77, Locus 12

REASON
Remarks: Flat stones emerged in clearing Locus 9.

TYPE
Unknown

DESCRIPTION
Material: Stone
Plan: Irregular
Lining: None
Measurements: Length 0.670 m, Width 0.250 to 0.310 m
Remarks: Seems to be included completely within Locus 9. At first because this was a pile of flat stones, it seemed to be some sort of installation. On further examination, it became obvious this was merely a natural tumble resting on Loc 15. This locus does not exist separately and is equal to Loc 9.

STRATIGRAPHY
Over: 15
Equals: 9

LEVELS
Loc Top Button Transit
9% 806.82 X

INTERPRETATION
Stratigraphy: Completely contained by Locus 9.

04/31/66

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K77, Locus 13

REASON
Remarks: Wall lines became visible.

DESCRIPTION
Material: Hard Limestone
Masonry: Wall Stones: Cobble, Fill Stones: Cobble, Mortar: Dry-laid
Dressing: Unhewn
Facing: Unfaced
Construction: Style: Boulder & Chink, Courses: 1
Rows: 2 w/rubble
Measurements: Length 0.230 m, Height 0.040 to 0.075 m, Dip 14 deg
Preservation: Foundation Only: Partial
Lean Degree: 0 deg

STRATIGRAPHY
Under: 29, 71, 9
Over: 95
Abutted By: 6

LEVELS
Loc Top Button Transit Loc Top Button Transit
35 896.85 896.77 X 29 897.00 896.81 X

POTTERY
Pail Date Count Vats Loc Preservation Comments Reading
25 7/25 0/ 4 4 POSS IRON BODS, BOD

DRAWING
Top Plans: Locus 6
Scales: E

INTERPRETATION
Function: Foundation Fragment
Stratigraphy: Under 2, Over 9, Abutted by Locus 6. Relationship to earlier phases unknown.
SOIL LOCUS SHEET

IDENTIFICATION
UN4 Field 0, Square 5K77, Locus 14

REASON
Remarks:
Separability:

DESCRIPTION
Color: Brown T015/3
Texture: Clay... 40% Silt... 40% Sand... 20%
Particle Shape: Sub-angular 10% Sub-rounded... 50%
Consistency: Hardness: 2
Regularly Dry
Inclusions:
Stone: Small Pebbles 10/m2
Large Pebbles 0/m2
Medium Pebbles 3/m2
Artifact: Flint: Few
Organic: Bone: Rare
Measurements:
Length: 1,500 m
Width: 0.900 m
Depth: 0.080 m

STRATIGRAPHY
Under:
Over:
Equals:
Soil bound by 6, 13, and E balk.
Top--Average
Clay... 40%
Silt... 20%
Sand... 40%
Compacted... Slightly Friable
Structure... Random
Compactness... Slightly Friable
Wetness... Moderately Dry
Small Pebbles... 20/m2
Medium Pebbles... 2/m2
Large Pebbles... 0/m2
Small Cobbles... 10/m2
Medium Cobbles... 2/m2
Large Cobbles... 1/m2
Bone... Rare
Bone... Rare
Bone... Rare

LEVELS
Loc Top Bottom Transit
35 0896.85 0896.77 X
Loc Top Bottom Transit
29 0897.00 0896.81 X

POTTERY
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
EB 29
EB 29

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

PHOTOGRAPHS
Date Number Subject Date Number Subject

DRAWINGS
Top Plans: LOCUS 6

INTERPRETATION
Function:
Patch of soil found in triangle between Loc 6 and 13 and the east balk. Fill only.
Stratigraphy:
Equal to Locus 9. Under Locus 2 and overlying surface 15.
**IDENTIFICATION**

U84 Field D, Square 5K77, Locus 15

**REASON**

Remarks: Change in color and texture of soil.

**DESCRIPTION**

**Porosity:** Top - Average

**Color:** Dark brown 7.5YR4/4

**Texture:** Clay....... 10% Silt....... 50% Sand....... 40% Fine Sand... 30%

**Particle Shape:** Sub-angular 30% Sub-round... 30% Round....... 40%

**Consistency:** Hardness............ 2 Compaction.... Moderately Firm

**Wetness:** Moderately Dry

**Structure:** Random

**Inclusions:** Soil:

- Ash Pockets............ 4/m2 Distribution........ Random

**Measurements:**

- Length.................. 5.000 m
- Width..................... 5.000 m

**Surface Material:** Beaten Earth

Remarks: Ash scattered in patches over entire surface. This is the final surface in this square this season-the bottom of the locus needs to be defined in 1986 season.

**STRATIGRAPHY**

Under: 9, 11, 14, 15, 20

Over: 18, 20

Equal: 0.5K6.612

Cut by: 10

**LEVELS**

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>896.66</td>
<td>21</td>
<td>896.67</td>
<td>X</td>
<td></td>
<td>35</td>
<td>896.59</td>
</tr>
<tr>
<td>11</td>
<td>896.61</td>
<td>25</td>
<td>896.49</td>
<td>X</td>
<td></td>
<td>7</td>
<td>896.61</td>
</tr>
</tbody>
</table>

**DRAWINGS**

Top Plans: U84 Final Top Plan

**INTERPRETATION**

Function: Surface of (interior?) courtyard and house. It seems to extend over the entire square.

Stratigraphy: Completely underlying Locus 9, which was found on the surface. May be cut by pit 10. Mortar 11 and hearth set into surface. Overlies wall 20. Seals wall 19, which was founded on an earlier level.
IDENTIFICATION
U84 Field 0, Square 5K77, Locus 17

REASON
Remarks: Redefinition of plaster & terra cotta inclusion into separate locus.

DESCRIPTION
Color: Light gray 5Y7/1
Consistency: Hardness: 8
Wetness: Moderately Firm
Compactness: Moderately Dry
Structure: Random

Inclusions:
Soil: Brick Material: Many
Stone: Small Pebbles: 40/m2
Medium Pebbles: 40/m2
Large Pebbles: 10/m2
Distribution: Random

Measurements:
Length: 1,000 m
Width: 1,600 m

Remarks: For more detailed description see geologist's report.

STRATIGRAPHY
Under: 9
Over: 15

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
27 896.75 896.30 X 28 896.05 X

POTTERY
Reading
Pail Date Count Skts Loc Preservation Comments
27 7/25 4/ 62 24 LATE EB

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
07/25 16/02/25 PUBLICATION SHOT 07/26 17/02/26 PUBLICATION SHOT 08/02 44/11/02 PUB SHOT -CLOSE UP

DRAWINGS
Top Plans: U84 Final Top Plan

INTERPRETATION
Function: Plaster and mud brick daub which fell from ceiling or wall onto courtyard. Parts curved--may suggest a domed roof. See geologist's report for details of construction.

Stratigraphy: Seems to be lying on 15 (needs to be clarified next season) and is completely covered by 9.
### Soil Locus Sheet

#### Identification

**UB4 Field D, Square 5K7, Locus 18**

**Remarks:**
- Fill in pit 10.
- Possibly the container tipped over, and was later crushed.

**Description**
- **Color:** Dark brown 10YR 4/3
- **Texture:** Clay........ 40% Silt........ 40% Sand........ 20%
- **Particle Shape:** Sub-round 25% Round 75%
- **Consistence:** Hardness............... 1
- **Wetness:** Moderately Moist
- **Inclusions:**
  - Small Pebbles............ 80/m2
  - Medium Pebbles.......... 80/m2
  - Large Pebbles............ 50/m2
  - Pottery.................. Frequent
- **Measurements:**
  - Length.................. 0.700 m
  - Width................... 0.300 m
  - Depth................... 0.500 m
- **Orientation:**
  - Base to rim.
- **Remarks:**
  - Included within Locus 10. May be covered by surface 15.

**Stratigraphy**
- **Under:** 9, 15?
- **Seals against:** 20
- **Remarks:** Included within 10.

**Levels**
- **Loc Top:**
- **Bottom Transit:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Pottery</th>
<th>Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>096.37</td>
<td>30</td>
<td>7/26</td>
<td>70</td>
<td>14</td>
<td>LATE EB</td>
<td>SAME VESSEL AS PAIL 30</td>
<td>CONTAMINATED?</td>
<td>X</td>
</tr>
<tr>
<td>094.00</td>
<td>31</td>
<td>7/27</td>
<td>6</td>
<td>1</td>
<td>LATE EB</td>
<td>CLEANING SQUARE</td>
<td>CONTAMINATED?</td>
<td>X</td>
</tr>
<tr>
<td>094.00</td>
<td>32</td>
<td>7/30</td>
<td>1/28</td>
<td></td>
<td>EB BDS</td>
<td></td>
<td>CONTAMINATED?</td>
<td></td>
</tr>
</tbody>
</table>

**Photographs**
- **Date Number Subject**
- **Date Number Subject**

**Biocultural Samples**
- **Floatation Sample**

**Drawings**
- **Top Plans:**

**Interpretation**
- **Function:**
- Contents of pit/hole 10. Not convinced this is a pit.
- **Stratigraphy:**
- Contained within Locus 10. May be covered by surface 15.
04/01/86
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field 0, Square 5K77, Locus 19

REASON
Remarks: Lines became distinct while removing balk.
Separability: Top-Average

description
Material: Hard Limestone 100%
Masonry: Wall Stones: Cobble 100%
Chinkstones: Cobble 100%
Fill Stones: Cobble 100%
Dressing: Unknown 100%
Mortar: Dry-laid 100%
Facing: Unfaced
Construction: Style: Boulder & Chink Support: Free-standing
Tendencies: Coarse

rows:
Measurements:
- Length: 0.660 m
- Width: 0.360 to 0.380 m
- Height: 0.060 to 0.240 m
- Orientation: 110 deg
- Dip: 10 deg

Preservation: Foundation Only: Partial

stratigraphy
Under:
- Locus 18
- Locus 19

Over:
- Unexcavated

equals:
- 20

levels
Loc Top Bottom Transit Loc Top Bottom Transit
10 896.04 X 8 896.77 X
10 896.70 X 9 896.92 X

drawings
Top Plans: U84 Final Top Plan

interpretation
Function: Wall.
Stratigraphy: Apparently laid on level 15, which sealed it. May be contemporary with Locus 20.

04/01/86
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field 0, Square 5K77, Locus 20

REASON
Remarks: Wall lines visible while clearing Locus 19.
Separability: Top-Average

description
Material: Hard Limestone 100%
Masonry: Wall Stones: Cobble 100%
Chinkstones: Cobble 100%
Fill Stones: Cobble 100%
Dressing: Unknown 100%
Mortar: Dry-laid 100%
Facing: Unfaced
Construction: Style: Boulder & Chink Support: Free-standing
Tendencies: Coarse

Rows:
Measurements:
- Length: 6.920 m
- Height: 0.150 to 0.230 m
- Orientation: 110 deg
- Dip: 4 deg
- Lean Degree: 0 deg

Preservation: Foundation Only: Partial

Remains: Only part of one row now visible, rest obscured by Locus 15. Partly visible where Locus 10 cleared but clearly continues into west balk.

stratigraphy
Under:
- 9, 15
- Unexcavated

Over:
- Locus 15

equals:
- 18, 9, 9

levels
Loc Top Bottom Transit
10 896.04 X
10 896.70 X

drawings
Top Plans: U84 Final Top Plan

interpretation
Function: Foundation fragment?
Stratigraphy: Under 15. May be contemporary to Locus 18, as both may rest on same unexcavated surface.
IDENTIFICATION

Remarks: Beginning excavation—removal of topsoil.

DESCRIPTION

Color: 10YR5/3

Texture: Clay........ 40% Silt........ 40% Sand........ 20%

Particle Shape: Round...... 100%

Consistency: Hardness ........ 2

Wetness ............. Moderately Dry

Inclusions:

- Stone: Small Pebbles........ 75/m2 Medium Pebbles......... 25/m2 Medium Cobbles........ 1/m2 Medium Boulders ......... 1/m2
- Artifacts: Pottery ................. Frequent

Measurements:

- Length.................. 5.000 m
- Width ................... 5.000 m
- Depth ................... 0.100 to 0.150 m

STRATIGRAPHY

Over:

LEVELS

Loc: Top Bottom Transit Loc: Top Bottom Transit

1 889.08 897.77 31 887.46 897.00
4 897.60 897.90 35 897.39 897.51

POTTERY

Field Date Count Baskets Loc Preservation Comments Reading

1 06/29 19/138 11 1 PRIOR 187-192,M3,E8
2 06/29 19/138 51 182,192,M3,E8
3 07/02 18/142 15 182,192,M3,E8
4 07/02 18/142 84 182,192,M3,E8
5 07/02 19/21 13 182,192,M3,E8
6 07/02 19/21 13 182,192,M3,E8
7 07/04 19/21 156 182,192,M3,E8
8 07/04 19/21 156 182,192,M3,E8
9 07/04 19/21 156 182,192,M3,E8
10 07/04 19/21 156 182,192,M3,E8

OBJECTS

Reg. No. Description Field no. Date Fail Loc Level Total Period Material Photo Drawing

FLINT KNIFE

1 06/29 19/138 11 1 PRIOR 187-192,M3,E8

BASALT STONE

2 06/29 19/138 11 1 PRIOR 187-192,M3,E8

PIECE OF WATERWORN QUARTZ

3 07/02 18/142 15 182,192,M3,E8

PHOTOGRAPHS

Date Number Subject Date Number Subject

06/29 17/07/29 PROGRESS OF EXCAVATION 07/04 06/02/04 PROGRESS OF EXCAVATION

INTERPRETATION

Function: Topsoil

Stratigraphy: Not discernable as yet.
IDENTIFICATION
U84 Field D, Square 5K86, Locus 2

REASON
Remarks: Clear alignment of rocks.
Separability: Top—Very Clear  Bottom—Very Clear

DESCRIPTION
Material: Limestone 100%

Masonry:
Wall Stones: Cobble 95%
Chinkstones: Pebble 10%

Dressing: Unhewn 100%

Mortar: Dry-laid 100%

Facing: Unfaced

Construction: Style: Boulder & Chink

Courses: 2

Measurements:
Length: 10 897.60 897.55 897.50 897.45 897.40 897.35 897.30 897.25 897.20 897.15 897.10 897.05 897.00

Height: 0.200 to 0.250 m

Preservation: Foundation Only: Partial

Remarks: Mortar appears to be replaced with RF material. Foundation appears to be mainly of two rows of cobbles with some small cobbles and large pebbles filling the middle.

LEVELS
Loc. Top Bottom Transit

07/09 15/02/17 PROGRESS OF EXCAVATION
07/12 15/02/17 PROGRESS OF EXCAVATION
07/16 15/02/17 PROGRESS OF EXCAVATION

PHOTOGRAPHS
Date Number Subject
07/17 20/02/17 POSSIBLE PUB PHOTO
07/17 21/02/17 POSSIBLE PUB PHOTO

DRAWINGS
Top Plans: Locus 2.
04/01/86
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5X86, Locus 4

REASON
Remarks: Rock alignment.
Separability: Top- Very Clear Bottom- Very Clear

DESCRIPTION
Material: Limestone............. 100%
Masonry: Wall Stones: Smalt Boulder............. 100%
Dressing: Unhewn ............. 100%
Mortar: Dry-laid ............. 100%
Facing: Unfaced ............. 100%
Construction: Style: Support: Free-standing
Courses: 1
Real: 3
Measurements: Length: 2.500 m Width: 0.150 to 0.200 m
Height: 0.150 to 0.220 m
Orient.: 120 deg
Preservation: Foundation Only: Partial
Remarks: Maybe only a line for demarkation.

STRATIGRAPHY
Under: 1
Over: 2, 3, 6, 8, 9

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
1 9 897.53 397.30 397.30

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
07/09 08/08/09 PROGRESS OF EXCAVATION 07/09 09/08/09 WALL 4 BEFORE REMOVAL 07/09 10/08/09 WALL 4 BEFORE REMOVAL

04/01/86
SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5X86, Locus 5

REASON
Remarks: Lighter color, pebbly hard-packed "surface."
Separability: Top- Very Clear Bottom- Very Clear

DESCRIPTION
Color: Yellowish brown 1QYR5/4
Texture: Clay...... 40% Silt....... 40% Sand....... 20%
Particle Shape: Round..... 100%
Consistence: Hardness........ 3
Wetness............ Moderately Dry
Compaction........... Moderately Firm/Very Gravely
Structure............. Random
Inclusions:
Stone: Small Pebbles........... 1500/m2 Medium Pebbles........... 400/m2
Large Pebbles........... 75/m2 Small Cobbles........... 10/m2
Medium Cobbles........... 2/m2 Large Cobbles........... 1/m2
Distribution............. Random
Measurements: Length: 3.000 m Width: 1.500 m Depth: 0.150 to 0.200 m

STRATIGRAPHY
Under: 1
Over: 6
Course: 16, 22
Cut by: 7

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit Loc Top Bottom Transit
8 9 897.99 897.71 8 9 897.73 897.53
9 897.99 897.69 10 897.05 897.52

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading Pub
8 7/5 17/16 79 M20, P005 MB, ED DOM
9 7/6 43
12 7/8 2/19 22 CAST OF BALK/PROBE
14 7/19 7/24 B005 ONLY WEST OF BALK/PROBE
22 7/11 2/9 10

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
07/09 08/08/09 PROGRESS OF EXCAVATION 07/09 16/02/06 PROGRESS OF EXCAVATION 07/10 13/02/10 PROGRESS OF EXCAVATION
SOIL LOCUS SHEET

IDENTIFICATION

LBA Field D, Square 5K86, Locus 6

Remarks:
Darker color on balk in morning light, less pebbly inclusions.

REASON

Remarks:
Darker color on balk in morning light, less pebbly inclusions.

DESCRIPTION

Color:
Pale brown
10YR 6/3

Particle Shape:
Round..... 100%

Wetness:
Slightly Moist

Compactness:
Moderately Loose

Texture:
Clay...... 40%
Silt...... 40%
Sand...... 20%

Structure:
Wind

Clay:
40%
Silt:
40%
Sand:
20%

Inclusion:

Stone:
Small Pebbles..... 12/5 m2
Large Pebbles..... 75 m2
Medium Pebbles..... 15 m2
Small Cobbles..... 10 m2
Large Cobbles..... 5 m2
Medium Cobble..... 4 m2

Measurements:

Depth: 0.25 to 0.40 m

STRATIGRAPHY

Under:
1, 4, 5, 17

Over:
28

Equals:
8

Cut by:
7

LEVELS

Loc Top Bottom Transit Loc Top Bottom Transit

1 897.71 897.30 14 897.53 897.12

POTTERT

Pail Date Count Baskets Location Preservation Comments Reading

PB

10 7/6 4 44 41 No pottery E8

13 7/8 4 44 41 1 IR2, MB2, EB DM

16 7/13 24/140 102 E8 E8 BDS

19 7/31 4 6 6

21 7/31 2 22 18 E8

33 7/16 9 6 1 POSS MB2 BDS, EB BDS

OBJECTS

Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

PB

POSSIBLE MUD BRICK

1 07/06 10 E8 E8 BDS

BASEALT GRINDER FRAG

2 07/09 13 E8 E8 BDS

SUPERVISOR: CH

Dates: 7/6 to 7/17

LOCUS SUMMARIES

FIELD D. 5K86: 4-6
### INSTALLATION LOCUS SHEET

**IDENTIFICATION**

U84 Field D, Square SK86, Locus 7

**REASON**

Remarks: Clear indications of foundation trench on NW side of walls 2 and 13.

**TYPE**

Plan: Curvilinear

**DESCRIPTION**

Material: Soft Soil

Remarks: Follows 2 and 13 on north side.

**MEASUREMENTS**

Length: 1.800 m

Width: 0.350 to 0.400 m

Height: 0.350 to 0.600 m

Orientation: 230 deg

Remarks:

FT 7 discovered when 1 x 3 m probe began 1.5 m east from west balk, and the probe encountered wall 2. Early morning inspection of the balk indicated clear foundation trench.

**STRATIGRAPHY**

**LEVELS**

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>897.07</td>
<td>10</td>
<td></td>
<td></td>
<td>897.95</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
<td>897.89</td>
<td></td>
<td>15</td>
<td></td>
<td>897.59</td>
</tr>
</tbody>
</table>

**SOIL LOCUS SHEET**

**IDENTIFICATION**

U84 Field D, Square SK86, Locus 7 (Supplement)

**REASON**

Separability: Top-Clear Bottom-Very Clear

**DESCRIPTION**

Color: Grayish brown 40%

Texture: Clay... 40%

Particle Shape: Round... 100%

Consistency: Hardness... 2

Wetness... Slightly Moist

Inclusions:

Stone: Small Pebbles... 750/m2

Larger Pebbles... 50/m2

Measurements:

Length... 1.800 m

Width... 3.500 m

Depth... 0.400 to 0.500 m

Remarks:

FT 7 discovered when 1 x 3 m probe began 1.5 m east from west balk, and the probe encountered wall 2. Early morning inspection of the balk indicated clear foundation trench.
**IDENTIFICATION**

U84 Field D, Square 5K86, Locus 8

**REASON**

Remarks: Excavation of possible foundation trench along with possible topsoil with Locus 6.

**DESCRIPTION**

<table>
<thead>
<tr>
<th>Color</th>
<th>Texture</th>
<th>Particle Shape</th>
<th>Consistence</th>
<th>Separability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pale brown</td>
<td>Clay</td>
<td>Round</td>
<td>1</td>
<td>Top-Very Clear</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inclusions</th>
<th>Stone</th>
<th>Large Pebbles</th>
<th>Medium Pebbles</th>
<th>Small Pebbles</th>
<th>Medium Cobbles</th>
<th>Large Cobbles</th>
<th>Distribution</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small Pebbles</td>
<td>150/m²</td>
<td>25/m²</td>
<td></td>
<td></td>
<td></td>
<td>Random</td>
<td>2.000 m</td>
</tr>
<tr>
<td></td>
<td>Large Pebbles</td>
<td>50/m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Random</td>
<td>Width 1.000 m</td>
</tr>
<tr>
<td></td>
<td>Medium Cobbles</td>
<td>25/m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Random</td>
<td>Depth 0.150 to 0.200 m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stratigraphy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under:       1, 4</td>
</tr>
<tr>
<td>Over:        25, 28</td>
</tr>
<tr>
<td>Equals:      6</td>
</tr>
<tr>
<td>Spots against: 3</td>
</tr>
</tbody>
</table>

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>897.25</td>
<td>25</td>
<td>897.06</td>
<td>20</td>
<td>897.44</td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Pail</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
<th>Comments</th>
<th>Reading</th>
<th>Pub</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/11</td>
<td>15</td>
<td>7/10</td>
<td>1/</td>
<td>22</td>
<td>26</td>
<td></td>
<td>1 POSRCM28 RODS</td>
<td>1/8/78 30H</td>
</tr>
<tr>
<td>7/11</td>
<td>15</td>
<td>7/11</td>
<td>6/</td>
<td>55</td>
<td>30</td>
<td></td>
<td>1 POSRCM28 RODS</td>
<td>1/8/78 30H</td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/11</td>
<td>13/02/11</td>
<td>PROGRESS OF EXCAVATION</td>
</tr>
</tbody>
</table>

**LEVELS SUMMARY**

Under: 1, 4
Over: 25, 28
Equals: 6
Spots against: 3
IDENTIFICATION
U84 Field D, Square 5K86, Locus 9

REASON
Separability:
Top--Very Clear
Bottom--Very Clear

DESCRIPTION
Color:
Top--Dark brown
Bottom--10YR4/3

Texture:
Top--Silt
Bottom--Clay

Particle Shape:
Round

Consistence:
Hardness--100%

Compactness:
Top--Modestly Loose
Bottom--2%

Inclusions:
Small Pebbles

Large Pebbles

Measurements:
Top--Length 2.500 m
Width 0.350 m
Depth 0.350 to 0.650 m

Remarks:
FT 9 was originally 4.5 m in length but where probe 10 discovered wall 14, it was limited to the section on the SE side of wall 2, south of wall 14.

04/01/86
SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K86, Locus 10
Remarks: 1 m probe west of east balk.
Separability: Top-Average Bottom-Very Clear

DESCRIPTION
Color: Dark grayish brown 10YR4/2
Texture: Clay...... 40% Silt....... 40% Sand....... 20%
Particle Shape: Round...... 100%
Consistence: Hardness........... 2
Water........... Moderately Dry

Separability:
Top--Average
Bottom--Very Clear

Inclusions:
Stone:
Small Pebbles............ 125/m2
Large Pebbles............ 15/m2
Medium Pebbles............ 4/m2
Small Boulders............ 1/m2

Small Cobbles............ 3/m2
Medium Cobbles............ 4/m2
Large cobbles............ 4/m2

Small Boulders............ 1/m2

Distribution............ Random

Measurements:
Length................... 2,500 m
Width................... 2,500 m
Depth................... 0.200 to 0.250 m

STRUCTURE
Under: 1
Over: 18, 24, 36
Equal: 17
Cut by: 9, 15

LEVELS
Loc Top Bottom Transit
22 897.90 897.68
35 897.51 897.39

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading
20 7/11 8/29 31
22 7/12 2/34 127
25 7/13 2/2 11
38 8/1 19/280 100
54 8/2 5/82 25
58 8/1 19/280 100
61 8/1 19/280 100

PHOTOGRAPHS
Date Number Subject Date Number Subject
07/13 09/02/13 PROGRESS OF EXCAVATION 08/01 18/11/01 Balk removal

SUPervisor: CH Dates: 7/11 to 8/2

LOCUS SUMMARIES
**INSTALLATION LOCUS SHEET**

**IDENTIFICATION**
U84 Field D, Square 5K86, Locus 11

**REASON**

**DESCRIPTION**
- **Material:** Soft Soil 100%
- **Plan:** Linear
- **Lining:** None
- **Measurements:**
  - Length: 1.500 m
  - Width: 0.300 to 0.350 m
- **Height:** 0.110 to 0.130 m
- **Orientation:** 230 deg

**STRATIGRAPHY**
- Under: 1
- Over: 22
- Equal: 12
- Cuts: 16

**LEVELS**
<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.110</td>
<td>0.130</td>
</tr>
<tr>
<td>2</td>
<td>0.300</td>
<td>0.350</td>
</tr>
</tbody>
</table>

**POTTERY**
- **Date:** 7/12
- **Count:** 7
- **Baskets:** 4
- **Loc Preservation:** EB 8005

---

**SOIL LOCUS SHEET**

**IDENTIFICATION**
U84 Field D, Square 5K86, Locus 11 (Supplement)

**REASON**
Remarks: Foundation trench to north of wall 13, excavated as FT.

**DESCRIPTION**
- **Color:** Dark brown
- **Texture:** Clay 60%, Silt 40%, Sand 10%
- **Particle Shape:** Round 100%
- **Consistency:** Hardness: 2
- **Inclusions:**
  - **Small Pebbles:** 150/m²
  - **Large Pebbles:** 5/m²
- **Measurements:**
  - Length: 1.500 m
  - Width: 0.350 m
  - Depth: 0.110 to 0.130 m
04/01/86

INSTALLATION LOCUS SHEET

IDENTIFICATION
U84 Field 0, Square 5K86, Locus 12

REASON

DESCRIPTION
Type: Foundation Trench

Materials:
Plan: Linear
Lining: None
Measurements: Length 1.500 m, Width 0.300 to 0.350 m

STRATIGRAPHY
Under: 1

Over: 26

Cuts: 16

Founda. Trench: 14

LEVELS
Loc: Top
Bottom Transit: 897.70

POTTERY
Pail Count: 12
Loc: Preservation: 12

POTTERY

04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K86, Locus 12 (Supplement)

Supervisor: CH DATES: 7/17 to 7/17

REASON
Separability: Top-Average, Bottom-Very Clear

DESCRIPTION
Color: Dark brown 10YR4/3

Texture: Clay... 40%, Silt... 40% Sand... 20%

Particle Shape: Round... 100%

Consistency: Hardness... 2 Wetness... Moderately Dry

Compactness... Moderately Loose Structure... Random

Inclusions:
Stone: Small Pebbles... 150/m² Medium Pebbles... 25/m²

Large Pebbles... 5/m² Distribution... Random

Measurements:
Length... 1.500 m Direction of Slope... 130 deg

Width... 0.350 m Degree of Slope... 0 deg

Depth... 0.400 to 0.450 m
**ARCHITECTURAL LOCUS SHEET**

**IDENTIFICATION**
- U84 Field D, Square SK86, Locus 13

**REASON**
- Remarks: Wall to north of Locus 2.
- Separability: Top—Very Clear, Bottom—Very Clear

**DESCRIPTION**
- **Material:** Hard Limestone — 100%
- **Masonry:**
  - Wall Stones: Cobble — 95%
  - Chinkstones: Cobble — 100%
- **Dressing:**
  - Unhewn — 100%
- **Facing:**
  - Unfaced
- **Construction:**
  - Style: Boulder & Chink
- **Courses:**
  - 2 to 3
- **Rows:**
  - 2
- **Measurements:**
  - Length: 1.500 m
  - Width: 0.500 to 0.530 m
  - Height: 0.250 to 0.280 m
  - Dip: 9 deg
- **Preservation:**
  - Foundation Only: Partial
- **Remarks:**
  - Mortar possibly replaced by FT material.

**STRATIGRAPHY**
- Under: 1
- Over: 22
- Equiv.: 2, 3, 14
- Founds, Trench: 7, 11

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>897.94</td>
<td>11</td>
<td>897.51</td>
</tr>
<tr>
<td>35</td>
<td>897.34</td>
<td>23</td>
<td>897.70</td>
</tr>
</tbody>
</table>

**POTTERY**

<table>
<thead>
<tr>
<th>Date Count</th>
<th>Baskets</th>
<th>Loc</th>
<th>Preservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/18</td>
<td>6</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**04/01/86**

**ARCHITECTURAL LOCUS SHEET**

**IDENTIFICATION**
- U84 Field D, Square SK86, Locus 14

**REASON**
- Remarks: Wall foundation discovered.
- Separability: Top—Very Clear, Bottom—Very Clear

**DESCRIPTION**
- **Material:** Hard Limestone — 100%
- **Masonry:**
  - Wall Stones: Cobble — 95%
  - Chinkstones: Cobble — 100%
- **Dressing:**
  - Unhewn — 100%
- **Facing:**
  - Unfaced
- **Construction:**
  - Style: Boulder & Chink
  - Support: Free-standing
- **Courses:**
  - 5 to 6
- **Rows:**
  - 2
- **Measurements:**
  - Length: 2.500 m
  - Width: 0.420 to 0.450 m
  - Height: 0.300 to 0.500 m
  - Dip: 0 deg
- **Preservation:**
  - Foundation Only: Partial
  - Lean Degree: 0 deg
- **Remarks:**
  - Mortar possibly replaced by FT material.

**STRATIGRAPHY**
- Under: 10
- Over: 21
- Equiv.: 2, 3, 13
- Founds, Trench: 12, 15
- Dats: 16, 18

**LEVELS**

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom Transit</th>
<th>Loc Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>897.94</td>
<td>11</td>
<td>897.51</td>
</tr>
<tr>
<td>35</td>
<td>897.34</td>
<td>23</td>
<td>897.70</td>
</tr>
</tbody>
</table>
INSTALLATION LOCUS SHEET

IDENTIFICATION
USA Field D, Square 5K86, Locus 15

TYPE
Certain Foundation Trench

DESCRIPTION
Material: Soft soil
Remarks: Follows wall 14 on SW side.

Measurements:
Length: 2.000 m
Width: 0.350 to 0.400 m

STRATIGRAPHY
Under: 10
Over: 18, 24
Found. Trench: 14

LEVELS
Loc Top: 897.93
Bottom: 897.28

LEVEL Top Bottom Transit
16 897.93 897.28

POTTERY
Pail Date Count Bskts i Loc Preservation Comments
29 7/13 1/8 31

SOIL LOCUS SHEET

IDENTIFICATION
USA Field D, Square 5K86, Locus 15

TYPE
Separability: Top--Very Clear

DESCRIPTION
Color: Dark brown
Texture: Clay
Particle shape: Round
Consistence: Hardness
Wetness
Inclusions: Small Pebbles
Large Pebbles
Medium Pebbles
Measurements:
Length: 2.000 m
Width: 0.350 to 0.650 m

LEVEL Top Bottom Transit
16 897.93 897.28

POTTERY
Pail Date Count Bskts i Loc Preservation Comments
29 7/13 1/8 31

Date: 7/13
IDENTIFICATION
U84 Field 0, Square 5K86, Locus 16

REASON
Supervisor: CH Dates: 7/16 to 8/2

Remarks:
Separate soil formed by triangle at Loci 13, 14 & east balk.

DESCRIPTION
Color: Yellowish brown
Texture: Clay 40% Silt 40% Sand 20%
Particle Shape: Round 100%
Consistence: Hardness 3 Wetness: Slightly Moist
Inclusions: Stone: Small Pebbles 1750/m2 Medium Pebbles 300/m2
Large Pebbles 50/m2 Small Cobble 10/m2
Medium Cobble 1/m2 Distribution: Random

Measurements:
Length: 2.000 m Width: 1.000 m
Depth: 0.280 to 0.300 m

STRATIGRAPHY
Under: 10 Over: 10 Cut By: 11, 12
Loc Top Bottom Transit
17 897.75 897.45

LEVELS
Loc Top Bottom Transit
31 897.04 896.92

POTTERY
Pail Date Count Baskets Loc Preservation Comments Reading Pub
34 7/17 29 14 Early EB
56 8/3 6/54 42 Late EB

IDENTIFICATION
U84 Field D, Square 5K86, Locus 17

REASON
Supervisor: CH Date: 7/16

Remarks:
Topsoil remaining in lower triangle in SW corner.

DESCRIPTION
Color: Brown
Texture: Clay 40% Silt 40% Sand 20%
Particle Shape: Round 100%
Consistence: Hardness 2 Wetness: Slightly Moist
Inclusions: Stone: Small Pebbles 75/m2 Medium Pebbles 25/m2
Large Pebbles 15/m2 Small Cobble 5/m2
Medium Cobble 1/m2 Distribution: Random

Measurements:
Length: 1.250 m Width: 1.250 m
Depth: 0.130 to 0.120 m

STRATIGRAPHY
Under: 1 Over: 10
Loc Top Bottom Transit
31 897.04 896.92

LEVELS
Loc Top Bottom Transit
31 897.04 896.92

POTTERY
Pail Date Count Baskets Loc Preservation Comments Reading
31 7/16 5/98 37 1 UM bod, BY2, IR2, EB
04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
UBS Field D, Square SK66, Locus 18

REASON
Remarks: Change in inclusions, color, and consistence under Locus 10.
Separability: Top--Clear Bottom--Very Clear

DESCRIPTION
Color: Light yellowish brown 10YR6/4
Texture: Clay...... 40% Silt...... 40% Sand...... 20%
Particle Shape: Round...... 100% Consistence: Slightly Friable
Structure: Random

Inclusions:
Soil: Ash Pockets............ 1/m2, 45.0 cm
Distribution........... Random

Small Pebbles........... 1600/m2
Medium Pebbles........... 320/m2
Small Cobbles........... 12/m2
Medium Cobbles........... 2/m2

Measurements:
Length.................. 5,000 m Width.................. 2,000 m

Remarks: Top--Clear Bottom--Very Clear

Pot Date Count Bskts Loc Preservation
39 7/19 3 69 67

04/01/86

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
UBS Field D, Square SK66, Locus 19

REASON
Remarks: Clear line of large masonry in NW corner of square.
Separability: Top--Very Clear Bottom--Unclear

DESCRIPTION
Material: Hard Limestone.......... 100%
Masonry:
Wall Stones: Cobble.................. 40% Small Boulder........... 50%
Medium Boulder........... 10%
Chinkstones: Cobble.................. 100% Support................. Free-standing
Dressing: Unhewn.................. 100% Construction: Style................... Boulder & Chink
Mortar: Dry-laid................ 100% Courses: 3 to 4
Face: Unfaced
Rows: 1 to 2
Measurements:
Length.................. 2.250 m Width............... 0.350 to 0.400 m
Height............... 0.350 to 0.770 m Orientation............... 118 deg
Dip.................. 0 deg Lean Direction........ 0 deg
Preservation: Foundation Only: Partial

STRATIGRAPHY
Under: 6
Over: Unexcavated
Sealed Against By: 20, 28

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
8 897.56 9 897.46
SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K86, Locus 20

REASON

SEPARABILITY
Top—Very Clear Bottom—Unclear

DESCRIPTION
Color: Pale brown 10YR6/3
Texture: Clay........ 40% Silt........ 40% Sand........ 20%
Particle Shape: Round........ 100%
Consistency: Hardness................ 1 Moisture........ Slightly Moist

Inclusions:
Stone:
- Small Pebbles........ 25/m2
- Medium Pebbles...... 15/m2
- Large Pebbles........ Medium Cobble........ 10/m2
- Medium Cobble........ Large Cobble........ 4/m2
- Small Boulders...... 1/m2

Measurements:
- Length........ 5.000 m
- Width........ 2.000 m
- Depth........ 0.150 m
- This locus equals Locus 20.

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K86, Locus 21

REASON
Remarks: Larger masonry under Loci 2 and 14 with Locus 18-24 sealed against it.

SEPARABILITY
Top—Very Clear Bottom—Very Clear

DESCRIPTION
Material: Hard Limestone........ 100%

Masonry:
Wall Stones: Cobble........ 90%
Chinkstones: Pebble........ 10%

Facing:
Style........ Boulder & Chink Support........ Battered

Construction:
Courses: 1 to 5
Rows: 1 to 3

Measurements:
- Orientation........ 128 deg
- Dip............... 0 deg
- Lean Degree......... 0 deg

Remarks: East face of Locus 21 and battered triple row support visible only after balk removal.

STRATIGRAPHY
Under:
- Sealed Against 3

LEVELS
Loc Top Bottom Transit
Loc Top Bottom Transit
23 897.32 16 897.47

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
8/2 47/11/03 Check dam 8/3 38/11/03 Rel. of 21 to other loci 8/3 41/11/03 Wall constr. technique
8/3 37/11/03 Rel. of 21 to other loci 8/3 39/11/03 Align. of pillar bases 8/3 41/11/03 Wall constr. technique
IDENTIFICATION

U84 Field D, Square 5K86, Locus 22

REASON

Remarks: Complete soil locus excavated below wall 13.
Separability: Top--Very Clear Bottom--Average

DESCRIPTION

Color: Brown
Texture: Clay..... 30% Silt..... 50% Sand..... 20%
Particle Shape: Sub-round. 50% Round...... 50%
Consistency: Hardness........... 2
Wetness................. Moderately Moist
Inclusions:
Stone: Small Pebbles......... 10/m² Medium Pebbles...... 5/m²
Large Pebbles.... 2/m²
Measurements:
Length................ 1.400 m Width.............. 0.500 m
Depth................. 0.250 to 0.300 m

Remarks: Fragment isolated by cutting FT's on both sides of wall 13. Probably equals Locus 5.

STRATIGRAPHY

Under: 13
Over: 26
Equals: 5, 16

LEVELS

Loc Top Bottom Transit

11 897.81 897.85

POTTERY

Reading Pub
36 7/18 1/29 14 Stub below wall 13 EB

IDENTIFICATION

U84 Field D, Square 5K86, Locus 23

REASON

Remarks: Remove foundations 2, 3, 14; this soil in interstices.
Separability: Top--Very Clear Bottom--Average

DESCRIPTION

Color: Brown
Texture: Clay..... 40% Silt..... 40% Sand..... 20%
Particle Shape: Round...... 100%
Consistency: Hardness........... 2
Wetness................. Slightly Moist
Inclusions:
Stone: Small Pebbles......... 500/m² Medium Pebbles...... 50/m²
Large Pebbles.... 5/m²
Measurements:
Length................ 0.300 m Width.............. 0.500 m
Depth................. 0.300 to 0.350 m

Remarks: Fragment isolated by cutting FT's on both sides of wall 13. Probably equals Locus 5.

STRATIGRAPHY

Under: 1, 10
Over: 26
Equals 2, 3, 14

LEVELS

Loc Top Bottom Transit

26 897.08 16 897.35 23 897.40

POTTERY

Reading Pub
37 7/18 7/19 6 4 EB ROOS
28 3/6 897.34 EB

PHOTOGRAPHS

Date Number Subject
07/19 17/02/19 Progress of excavation
**IDENTIFICATION**

USA Field D, Square 5856, Locus 24

**REMARKS:** Soil under Locus 10 and Locus 17.

**DESCRIPTION**

- **Color:** Light yellowish brown 2.5Y6/4
- **Texture:** Clay 40%, Silt 40%, Sand 20%
- **Particle Shape:** Round, 100%
- **Structure:** Slightly friable
- **Inclusions:** Ash Pockets 1/m2, 45.0 cm, Medium Pebbles 320/m2, Medium Cobbles 12/m2, Large Cobble 2/m2
- **Measurements:** Length 5.000 m, Width 1.000 m

**STRATIGRAPHY**

Under: Soil under Locus 10 and Locus 17.
Over: Top--Clear Bottom--Cleat

- **Color:** Light yellowish brown 2.5Y6/4
- **Texture:** Clay 40%, Silt 40%
- **Particle Shape:** Round 100%
- **Structure:** Slightly friable
- **Inclusions:** Ash Pockets 1/m2, 45.0 cm, Medium Pebbles 320/m2, Medium Cobbles 12/m2, Large Cobbles 2/m2
- **Measurements:** Length 5.000 m, Width 1.000 m

**LEVELS**

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom Transit</th>
<th>Loc</th>
<th>Top</th>
<th>Bottom Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>897.68</td>
<td>899.77</td>
<td>32</td>
<td>896.87</td>
<td>896.97</td>
</tr>
<tr>
<td>27</td>
<td>896.96</td>
<td>896.87</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOTOP**

<table>
<thead>
<tr>
<th>Pail Date</th>
<th>Count</th>
<th>Baskets</th>
<th>Loc Preservation</th>
<th>Comments</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>7/19</td>
<td>10</td>
<td>See pail #42</td>
<td></td>
<td>EB</td>
</tr>
<tr>
<td>40</td>
<td>6/19</td>
<td>1/81</td>
<td>26</td>
<td></td>
<td>EB</td>
</tr>
<tr>
<td>41</td>
<td>7/20</td>
<td>3/43</td>
<td>19</td>
<td></td>
<td>EB</td>
</tr>
<tr>
<td>42</td>
<td>7/23</td>
<td>16/152</td>
<td>74</td>
<td></td>
<td>EB</td>
</tr>
<tr>
<td>43</td>
<td>7/25</td>
<td>7/87</td>
<td>12</td>
<td></td>
<td>EB</td>
</tr>
<tr>
<td>44</td>
<td>7/26</td>
<td>3/50</td>
<td>19</td>
<td></td>
<td>EB</td>
</tr>
<tr>
<td>45</td>
<td>8/1</td>
<td>4/56</td>
<td>28</td>
<td></td>
<td>EB</td>
</tr>
<tr>
<td>46</td>
<td>8/3</td>
<td>1/69</td>
<td>17</td>
<td></td>
<td>EB</td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>Date Number</th>
<th>Subject</th>
<th>Date Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/25</td>
<td>16/05/25</td>
<td>Progress of excavation</td>
<td>07/24 19/08/25</td>
</tr>
</tbody>
</table>

**BIODATA SAMPLES**

- Flotation Sample: 1%
IDENTIFICATION
Ubir Field D, Square 5K86, Locus 25

REASON
Remarks: Division of material by foundation of Locus 14 and Locus 21.
Separability: Top--Very Clear Bottom--Clear

DESCRIPTION
Color: Dark red
Texture: Clay.......... 40% Silt........ 40% Sand........ 20%
Particle Shape: Round......... 100%
Consistencies: Hardness........ 3
Wetness........ Moderately Dry
Structure........ Random

Inclusions:
Stone:
Small Pebbles .......... 2000/m2
Medium Pebbles........ 500/m2
Large Pebbles......... 150/m2
Small Cobble........... 10/m2
Medium Cobble......... 1/m2

Measurements:
Length................ 2.000 m
Width................ 1.000 m
Depth................ 0.350 to 0.400 m

Remarks: This locus forms the surface sealed against Locus 21.

STRATIGRAPHY
Under: 24
Over: 34
Seals against: 21
Cut by: 9

LEVELS
Loc Top Bottom Transit
21 897.12
16 897.17

POTTERY
Pail Date Count Baskets Location Preservation Comments
Reading
46 7/24 3/108 63 1 MB2, EB
49 7/25 4/ 9 14 1 MR, EB

PHOTOGRAPHS
Date Number Subject
07/20 20/08/20 Progress of excavation
07/25 17/02/25 Progress of excavation

IDENTIFICATION
Ubir Field D, Square 5K86, Locus 26

REASON
Remarks: Material to north of wall 21 and east of wall 19.
Separability: Top--Very Clear Bottom--Clear

DESCRIPTION
Color: Light yellowish brown
Texture: Clay.......... 40% Silt........ 40% Sand........ 20%
Particle Shape: Round......... 100%
Consistencies: Hardness........ 2
Wetness........ Slightly Moist
Structure........ Patterned

Inclusions:
Kills:
Ash Pockets........... 3/m2, 15.0-20.0 cm

Stone:
Small Pebbles......... 1250/m2
Medium Pebbles........ 750/m2
Large Pebbles......... 150/m2
Small Cobble........... 10/m2
Medium Cobble......... 1/m2

Measurements:
Length................ 2.000 m
Width................ 1.500 m
Depth................ 0.350 to 0.400 m

Remarks: Ash pockets appeared to be located north of walls 21 & 19.

STRATIGRAPHY
Under: 5, 12, 16, 22
Over: Unexcavated
Seals against: 29

LEVELS
Loc Top Bottom Transit
897.52

POTTERY
Pail Date Count Baskets Location Preservation Comments Reading
Reading
46 7/23 27 31 LATE EB 897.65
46 7/23 8/190 74 LATE EB X

FIELD D: 5K86: 24-26
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K86, Locus 27

REASON
Separability: Top—Very Clear  Bottom—Unclear

DESCRIPTION
Material: Hard Limestone .......... 100%

Measurements:
Well stones: Cobble ................. 20%
Chinkstones: Pebble .................. 100%
Dressing: Unhewn .................. 100%
Mortar: Dry-laid ................ 100%
Facing: Unfaced .................. 100%

Construction: Style ............ Boulder & Chink
Courses: 4 to 5
Rows: 1 to 2
Measurements:
Length .................... 0.900 m
Width .................... 0.450 to 0.500 m
Height .................... 0.450 to 0.500 m
Dip .................... 0 deg
Orientation ............ 198 deg
Lean Degree .......... 0 deg

Preservation:
Foundation Only: Partial

LEVELS
Loc Top  Bottom  Loc Top  Bottom  Loc Top  Bottom

19  897.25  25  897.18  7  897.00

POTTERY

PHOTOGRAPHS

04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K86, Locus 28

REASON
Separability: Top—Very Clear  Bottom—Unclear

DESCRIPTION
Color: Pale brown 10YR6/3
Texture: Clay ...... 40%  Silt ...... 40%  Sand ...... 20%
Particle Shape: Round ..... 100%
Consistence: Hardness ............ 1  Compactness....... Very Loose
Wetness .................... Slightly Moist
Structure ............ Wind
Inclusions:
Stone: Small Pebbles ............. 125/m2
Large Pebbles .......... 15/m2
Medium Pebbles ........  10/m2
Larger Pebbles .........  5/m2

Measurements:
Length .................... 5.000 m
Depth .................... 0.150 to 0.200 m

Remarks:
Not reached surface as yet (July 25).

LEVELS
Loc Top  Bottom  Loc Top  Bottom  Loc Top  Bottom

14  897.12  28  897.06

POTTERY

PHOTOGRAPHS

04/01/86

POTTERY

PHOTOGRAPHS
04/01/86

IDENTIFICATION
UBI Field D, Square SK86, Locus 29

REASON

Remarks: Wall in NE corner.

Separability: Top--Very Clear

Bottom--Unclear

DESCRIPTION

Material: Reused Limestone

100%

Masonry:

Wall Stones: Cobble

100%

Chinkstones: Pebble

20%

Dressing: Unknown

100%

Facing: Unfaced

100%

Construction: Style: Boulder & Chink

Support: Free-standing

Description:

Length: 2.050 m

Height: 0.400 to 0.550 m

Dip: 3 deg

Preservation: Partial Superstructure: Little

Lean Degree: 12 deg

STRAITIGRAPHY

Under: 16

Equals: 0.5K87

Sealed Against By: 26

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>897.19</td>
<td>12</td>
<td>897.80</td>
</tr>
<tr>
<td>12</td>
<td>896.13</td>
<td>12</td>
<td>897.01</td>
</tr>
<tr>
<td>18</td>
<td>897.80</td>
<td>12</td>
<td>897.01</td>
</tr>
</tbody>
</table>

04/01/86

IDENTIFICATION
UBI Field D, Square SK86, Locus 30

REASON

Remarks: Wall in SW corner of square.

Separability: Top--Very Clear

Bottom--Unclear

DESCRIPTION

Material: Reused Limestone

100%

Masonry:

Wall Stones: Cobble

30%

Chinkstones: Pebble

100%

Dressing: Unknown

100%

Facing: Unfaced

100%

Construction: Style: Boulder & Chink

Support: Free-standing

Description:

Length: 1.500 m

Height: 0.150 to 0.200 m

Dip: 0 deg

Preservation: Partial Superstructure: Little

Lean Degree: 0 deg

STRAITIGRAPHY

Under: 24

Equals: 0.5K76/37

Sealed Against By: 20

LEVELS

<table>
<thead>
<tr>
<th>Loc</th>
<th>Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>897.77</td>
<td>32</td>
<td>896.72</td>
</tr>
</tbody>
</table>

Locus: SK86: 27-30
04/01/86

INSTALLATION LOCUS SHEET

IDENTIFICATION
URN Field D, Square SK66, Locus 31

Supervisor: CH
Dates: 7/24 to 7/28

TYPE
Certain Mortar

DESCRIPTION
Material: Hard Stone............... 100%
Plan: Nearly Circular
Lining: None

Measurements:
Length: 0.400 m
Width: 0.350 m

Remarks: A mortar set into surface 25 with chink stones and apparently used in conjunction with Locus 21. If the wall line of Locus 21 is extended in a SW direction on the west end, it appears that Locus 31 would be set against it.

STRATIGRAPHY
Under: 24
Over: Unexcavated
Cuts: 25

LEVELS
Loc Top: Bottom Transit
27 897.04

06/01/86

SOIL LOCUS SHEET

IDENTIFICATION
URN Field D, Square SK66, Locus 32

Supervisor: CH
Date: 8/ 3

REASON
Rock inclusions.

SEPARABILITY
Top--Very Clear
Bottom--Very Clear

DESCRIPTION
Color: Brown
Texture: Clay...... 40% Silt....... 40% Sand....... 20%
Particle Shape: Round....... 100%
Consistence:
Hardness............... 1
Wetness............... Slightly Moist
Compactness........ Moderately Crumbly
Structure............... Random

Inclusions:
Stone: Small Pebbles 500/m2
Large Pebbles 10/m2
Medium Pebbles 4/m2
Larger Pebbles 1/m2

Measurements:
Length: 1.500 m
Width: 1.000 m
Depth: 0.250 to 0.300 m

DIRECTION
Direction of Slope: 143 dog
Degree of Slope: 12 dog

STRATIGRAPHY
Under: 16
Over: Unexcavated
Cuts: 26

LEVELS
Loc Top: Bottom Transit
Loc Top: Bottom Transit
Loc Top: Bottom Transit

11 897.19
11 897.88
18 897.79 897.32

12 898.13
12 898.83 897.23
18 897.57

POTTERY
Pub Date Count Baskets Loc Preservation Comments Reading

58 8/ 3 21/208 28 Late EB x

Loc Top: Bottom Transit
18 897.96
18 897.88
18 897.66
04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
UNS Field D, Square 5K86, Locus 33

REASON
Remarks: Soil surface in NW corner.

DESCRIPTION
Remarks: Unexcavated.

STRATIGRAPHY
Under: 28

Over: Unexcavated

04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
UNS Field D, Square 5K86, Locus 34

REASON
Remarks: Soil layer south of wall 21.

DESCRIPTION
Remarks: Unexcavated.

STRATIGRAPHY
Under: 25

Over: Unexcavated

04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
UNS Field D, Square 5K86, Locus 35

REASON
Remarks: Soil layer in NE corner, north of wall 21.

DESCRIPTION
Remarks: Unexcavated.

STRATIGRAPHY
Under: 26

Over: Unexcavated

04/01/86

INSTALLATION LOCUS SHEET

IDENTIFICATION
UNS Field D, Square 5K86, Locus 36

TYPE

DESCRIPTION
Remarks: Probable Pit

STRATIGRAPHY
Under: 10

Over: Unexcavated

04/01/86

ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
UNS Field D, Square 5K86, Locus 37

REASON
Remarks: N-S wall in SE corner (at east balk).

DESCRIPTION
Remarks: Unexcavated.

STRATIGRAPHY
Under: 25

Over: Unexcavated

Equals: 0.3676147
IDENTIFICATION
USA Field D, Square 5K87, Locus 1

REASON
Remarks: Topsoil.
Separability: Top-Very Clear
Bottom-Clear

DESCRIPTION
Color: Grayish brown
Texture: Clay...... 40%
Silt...... 40% Sand...... 20%

Consistence: Hardness...... 2
Compactness...... Moderately Crumbly

Wetness...... Slightly Moist
Structure...... Random

Inclusions:
Stone:
Small Pebbles...... 150/m2
Small Cobbles...... 5/m2

Silt...... 40X
2

Organic:
Shells...... 15

Inclusions:
Flint...... 15

Distribution...... Patterned

Measurments:
Length...... 5.000 m
Width...... 5.000 m
Depth...... 0.200 to 0.250 m

Remarks: In NE part of square near balk tentative wall remains became visible, after checking, no clear wall could be seen. SE corner was also left unexcavated because wall remains were suspected.

STRATIGRAPHY
Levels

Equal: D.5K77:1

Loc Top Bottom Transit

POTTERY

Pail Date Count Baskets Loc Preservation Comments Reading

PHOTOGRAPHS

Date Number Subject

DRAWINGS

Interpretation

Stratigraphy: Topsoil.
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
UNA Field D, Square 5K87, Locus 2

REASON
Remarks: Row of rocks in consistent line.

SEPARABILITY
Top-Average Bottom-Clear

DESCRIPTION
Material: Limestone

Masonry:
Wall Stones: Cobble
Dressing: Unknown

Limestone

Mortar:
Facing: Unfaced

Construction:
Style: Boulder & Chink

Courses:
1 to 2

Rows:
Measurements:
Length: 2.300 m
Width: 0.300 m
Height: 0.250 to 0.400 m

Dip: 0 deg
Orientation: 124 deg
Lean Direction: 0 deg

Preservation:
Foundation Only: Partial
Lean Degree: 0 deg

STRAITIGRAPHY
Under:
Sealed Against By:

LEVELS

Loc Top Bottom Transit

Dates: 3, 8, 9

POTTERY

Reading

PUBLICATIONS

TOP PLANS: 1/3, 5

DRAWINGS

Top Plans: 1, 3, 5

INTERPRETATION
Function: A foundation or wall dug into 3 and 9. A clear FT could not be traced. Function is related to 5K86.

Stratigraphy: A relation with wall 14 may be possible, because of a similar orientation. Wall 14 may have been reused.

Represents latest phase in 5K87.
IDENTIFICATION
UN: Field B, Square 5EB, Locus 3
REASON
Remarks: Different color of soil
Separability: Top-Clear Bottom-Clear
DESCRIPTION
Color: Brown 10YR5/3
Texture: Clay........ 40% Silt........ 40% Sand....... 20%
Particle Shape: Angular... 5% Sub-angular 5%
Consistence: Hardness....... 2
Wetness............ Slightly Moist
Inclusions:
Soil: Pebble Pockets......... 2/m2 Ash Pockets............ 1/m2, 99.0 cm
              Virgin soil.......... 1/m2, 10.0-30.0 cm Distribution........ Random
              Large Pebbles........ 280/m2 Medium Pebbles....... 800/m2
              Medium Pebbles........ 280/m2 Small Pebbles........ 13/m2
              Small Boulders....... 2/m2 Large Boulders....... 8/m2
              Large Boulders....... 8/m2 Small Boulders....... 2/m2
              Medium Pebbles........ 5/m2 Small Pebbles........ 13/m2
              Small Pebbles........ 2/m2 Ash Pockets............ 1/m2, 99.0 cm

Stone:
              Small Pebbles........ 280/m2 Medium Pebbles....... 800/m2
              Medium Pebbles........ 280/m2 Small Pebbles........ 13/m2
              Large Pebbles........ 13/m2 Small Pebbles........ 13/m2
              Small Boulders....... 2/m2 Medium Pebbles....... 800/m2
              Medium Pebbles........ 800/m2 Small Pebbles........ 13/m2

Artifact: Flint........... 1 Burned Stones....... 1 Distribution........ Random

Organic:
Bone................ Rare Distribution........ Random

Measurements:
Length................ 4.000 m Width................ 2.000 m

STRATIGRAPHY
Under: 1 Seals Against: 144
Over: 4, 7, 10, 11, 12
Contiguous to: 5, 9
Cut by: 2
LEVELS
Loc Top Bottom Transit

POTTERY
Pot Date Count Bskts Loc Preservation Comments Reading Pub

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject

BIODATA SAMPLES
Remarks: Floatation Sample

DRAWINGS
Top Plans: Locus 1
Deltas: N, E
IDENTIFICATION
U84 Field D, Square SK87, Locus 3 (Supplement) Inclusion--Ash Pockets

REASON
Remarks: Different color.
Separability: Top--Very Clear

DESCRIPTION
Color: Dark reddish brown 5YR3/4
Texture: Clay................. 10% Silt........ 70% Silty........ 20%
Consistence: Moistness.......... Moderately Moist
Measurements: Length........ 0.300 m Width........ 0.100 m

STRAINOGRAPHY
Under: 10

BIO DATA SAMPLES
flotation Sample

DRAWINGS

D 04/01/86
SOIL LOCUS SHEET
Page 1

04/01/86
SUPERVISOR: HHC
Dates: 7/6 to 7/13

IDENTIFICATION
U84 Field D, Square SK87, Locus 3 (Supplement) Inclusion--Ash Pockets

REASON
Remarks: Different color.
Separability: Top--Very Clear
Bottom--Clear

DESCRIPTION
Color: Very dark gray 10YR3/1
Texture: Clay............. 15% Silt........ 80% Silty........ 5%
Consistence: Hardness........ 3 Moistness........ Slightly Moist
Measurements: Length........ 1.500 m Width........ 0.100 m

INCLUSIONS
Soil: Brick Material........ 6/82, 12.0 cm Distribution........ Random
Artifact: Buried Stones........ 10 Mortar Fragment........ 1

DISTRIBUTION
Remarks: Soil inclusions possibly patterned--a heap of material stuck to the line of boulders which formed a boundary around the fire spot.

DRAWINGS

D 04/01/86
SOIL LOCUS SHEET
Page 1

04/01/86
SUPERVISOR: HHC
Dates: 7/6 to 7/13

FIELD D: SK87: 3 LOCUS SUMMARIES
04/01/86  SOIL LOCUS SHEET  Page 1

IDENTIFICATION

U.S. Field 0, Square 5K87, Locust 4

Remarks: Change in color of soil.

DESCRIPTION

Color:
Very dark grayish brown 10YR3/2

Texture: Clay...... 20%  Sand....... 10%
Silt....... 70%  Slightly Friable

Consistency: Hardness............. 5  Compaction............. Random

Wetness............. Moderately Moist

Separability: Top--Very Clear  Bottom--Average

Inclusions:
Marl Pockets............. 3/m2, 5.0 cm

Soil:
Silt...... 10X

Inclusions:
Bottom--Average

Sand...... 10X

Structure............. Random

Brick Material............. 1/m2, 10.0 cm

Average

Gravel...... 2

Direction of Slope............. 0 deg

Collecting:
Brick Material............. 1/m2

Soil:
Silt...... 10X

Medium Gravel............. 2/m2

Compaction............. Slightly Friable

Inclusions:
Small Pebbles............. 6/m2

Flint...................

Distribution............. Random

Measurements:
Length:............. 2.300 m  Height:............. 2.100 m

Width:............. 1.000 m  Depth:............. 0.100 to 0.300 m

Remarks: Max length and width.

Soil:
Silt...... 10X

Occupational surface, temporarily used.

STRATIGRAPHY

Under: 3

Over: 15, 23

Seals against: 144

Cut by: 77

LEVELS

Loc  Top Bottom Transit

11  897.54  897.50  X

POTTERY

Fall Date  Count  Bskts  Loc  Preservation  Comments  Reading  Pub

10/07/73  15/ 59  37

PHOTOGRAPHS

Date  Number  Subject

07/13  06/02/13 LOCUS 4

BIDATA SAMPLES

Flotation Sample......

DRAWINGS

Balks: N, E
IDENTIFICATION
U84 Field D, Square 5K87, Locus 5
Supervisor: HHC
Remarks: Probe, to search south face for 14, along E balk, extended to E balk.

REASON
Separability: Top-Clear
Bottom-Average

DESCRIPTION
Color: Grayish brown 2.5Y5/2
Consist: Hardness.................2
Wetness.................Slightly Moist
Inclusions:
Stone: Small Pebbles.............800/m2
Large Pebbles...........32/m2
Medium Cobbles.............13/m2
Large Cobbles...........3/m2
Stone: Small Cobbles ..........6/m2
Medium Cobbles.............13/m2
Large Cobbles...........2/m2
Distribution.........Random
Artifact: Flint..............1
Distribution.........Random

Measurements:
Length...................5,000 m
Width...................2,000 m
Remarks: Strip along W balk is 4.0 m in width.

STRAITRAPHY
Under:
1
Over: 6, 8, 9, 12, 16, 18
Equals: D.5K77:2

LEVELS
Loc Top  13  897.50
Loc Bottom  897.22
Loc Transit  897.50

POTTERY
Pail   Date   Count   Baskets   Loc     Level  Total Period  Material  Remarks
8 07/06   32   Late EB 31-4  EB
9 07/09   15/113   40   East of Wall 6  EB
10 07/09   21/163  40   West of Wall 6  EB
11 07/10   43/220  174  West of Wall 6  1 HUB, EB, CHAL
12 07/11   21/140  38

OBJECTS
Reg no. Description     Field no. Date  Pail  Loc  Level  Total Period  Material  Photo  Drawing
1 07/09  9  8  Mortar frag between rock tumbler

PHOTOGRAPHS
Date  Number  Subject
07/09  06/08/09  PROBE LOCUS 5
07/11  15/02/11  EXT PROBE 5 & 7 FACES
07/10  15/02/10  EXTENDED PROBE LOCUS 5
07/12  13/08/12  LOCUS 5 CLEARED

DRAWINGS
Top Plan:  Locus 4
Balks:  W, S
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION

U84 Field D, Square 5K87, Locus 6

REASON

Supervisor: HKC Dates: 7/9 to 7/24

DESCRIPTION

Top-Clear

Material: Hard Limestone........... 100%

Masonry:

Wall Stone: Cobble............... 100%

Chinkstone: Pebble............. 100%

Dressing: Unhewn............... 100%

Norton: Dry-laid........... 100%

Facing: Unfaced

Construction: Style: Boulder & Chink

Courses: Random

Rows: 2

Measurements: Length: 1,600 m

Width: 0.350 to 0.400 m

Height: 0.300 to 0.900 m

Orientation: Laid out

STRATIGRAPHY

Under:

Over:

Sealed Against: 12, 16, 18, 20, 24?

LEVELS

Loc Top

Bottom Transit

34 897.43

897.48

17, 24

897.94

OBJECTS

Reg no. Description

PIECED SHERD USED AS WHORL

PHOTOGRAPHS

Date Number Subject

07/12 17/08/12 Walls 6,13,14 & corner

DRAWINGS

Top Plans: Loci 4,5,12,17

INTERPRETATION

Function: West wall of semi-subterranean house

Stratigraphy: Unlike house in 5K86 (contemporary), the W corner of this house is square, and wall 6 abuts wall 13.

INSTALLATION LOCUS SHEET

IDENTIFICATION

U84 Field D, Square 5K87, Locus 7

REASON

Remarks: Ash spot.

TYPE

Probable Pit

DESCRIPTION

Material: Soil............... 100%

Plan: Slightly Circular

Remarks: Remains still in balk (1/2). They may have delimited this fireplace.

Lining: None

Measurements: Length: 1.700 m

Width: 0.900 m

Remarks: Small boulders on both sides suggest the lining of a fire spot. The soil below pit 7 bounded by walls 14B and 23 consists of burnt clay. Probes 12 and 19 contained lots of burnt clay (red-brown).

STRATIGRAPHY

Under:

Over:

Sealed Against: 17?, 24?

LEVELS

Loc Top

Bottom Transit

9 897.75

897.40

897.94

0 deg

0 deg

0 deg

DRAWINGS

Top Plans: Loci 5

INTERPRETATION

Function: Fire place or ash dump.

Stratigraphy: below the ash fill layers, the soil was heavily burned and had a red brown color, ash spots occurred everywhere around the installation. The small boulder forms a limit for ash and stacked sherds, they may have delimited this fireplace. There was no evidence of digging in the pit from Loc 3 or 4. This installation may have been in use during both occupation levels.
04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
UBS Field D, Square SK87, Locus 8

Remarks:
Probe to search foundation trench for Wall 2.

Separability:
Top-Clear
Bottom-Unclear

REASON

DESCRIPTION
Color:
Yellowish brown
10YR5/4

Texture:
Clay........ 40%
Silt........ 40%
Sand........ 20%

Consistency:
Hardness........... 3
Moistness........... Slightly Moist

Inclusions:
Soil:
Clayey:
Small Pebbles:
2000/m2
Large Pebbles:
6/m2

Measurements:
Length............. 2.300 m
Depth................ 0.200 to 0.300 m

STRAIGHTGRAPHY
Under:
3
Equals:
9, 12, 16
Over:
19
Contiguous to:
2
Cut by:
2

LEVELS
Loc Top Bottom Transit
 underscores:
13 397.50 397.40 X

POTTERY
Pail Date: 7/12
Count Baskets Loc Preservation Comments
13 7/12 / 3 18

DRAWINGS
Top Plans:
Locus 5

INTERPRETATION
No clear evidence for FT.

04/01/86

SOIL LOCUS SHEET

IDENTIFICATION
UBS Field D, Square SK87, Locus 9

Remarks:
Decayed mudbrick material below rock tumble, to make sub-balk to W balk.

Separability:
Top-Clear
Bottom-Unclear

REASON

DESCRIPTION
Color:
Yellowish brown
10YR5/4

Texture:
Clay........ 40%
Silt........ 40%
Sand........ 20%

Consistency:
Hardness........... 3
Moistness........... Slightly Moist

Inclusions:
Soil:
Clayey:
Small Pebbles:
2000/m2
Large Pebbles:
6/m2

Measurements:
Length............. 1.200 m
Depth................ 0.140 m

STRAIGHTGRAPHY
Under:
5
Equals:
9, 12, 16
Over:
19

LEVELS
Loc Top Bottom Transit
 underscores:
13 397.50 397.40 X

POTTERY
Pail Date: 7/12
Count Baskets Loc Preservation Comments
14 7/12 / 3 18

DRAWINGS
Top Plans:
Locus 5

INTERPRETATION
No clear evidence for FT.
IDENTIFICATION
U84 Field 0, Square 5K87, Locus 10

REASON
Remarks: Layer in ash pit 7.
Separability: Top-Average

DESCRIPTION
Color: Weak red
Texture: Clay... 20% Silt... 70%
Consistence: Hardness... 2 Moist... Slightly Moist

Inclusions:
Stone: Medium Pebbles... 16/m²
Artifacts: Pottery...
Organic: Bone...

Measurements:
Length... 0.900 m Width... 0.800 m
Depth... 0.300 m

Remarks: Stacked pottery (most body sherds) appeared between most ashy layers and large cobbles lining the pit.

STRATIGRAPHY
Under:
Equals: 77, 23
Seals against: 77, 23

LEVELS
Loc Top Bottom Transit
.........................
0 897.75 897.50 X

POTTERY
Pail Date Count Baskets Loc Preservation Comments Reading Pub
0 7/13 3 No sherds
23 7/16 / 94 2 Pit fill

BIO DATA SAMPLES
Flotation Sample... 90%

DRAWINGS
Top Plans: Locus 5
Balks: N

INTERPRETATION
Stratigraphy: Loci 10 and 11 are hard to separate.
Soil Locus Sheet

Identification

UB 4 Field D, Square 5K87, Locus 12

Remarks:
Probe NS through center of square to gain information about pit 7, and walls 6 and 14.

Separability:
Top - Average
Bottom - Unclear

Description

Color:
Yellowish brown 10YR 5/4

Texture:
Clay ...... 40% Silt ...... 40% Sand ...... 20%

Consistency:
Hardness .......... 2
Slightly Moist

Wetness :
Slightly

Inclusions:
Marl Pockets ............ 2/m2, 6.0 cm
Stone: Medium Pebbles ............ 1200/m2
Large Pebbles ............ 8/m2
Small Pebbles ............ 2000/m2

Artifact:
Flint ............. 1
Mortar frag ............ 1

Measurements:
Length: ...
5.000 m

Width: ...
1.000 m

Remarks:
Wall 6 doesn't reach S balk, at end a section is made (FT?).

Stratigraphy

Unders:
3, 5

Over: 17

Continuous to: 15

Seals against: 14

Cut by: 6, 137

Levels

Loc Top Bottom Transit

7/16 897.45 896.95

Pottery

Date Count Baskets Loc Preservation Comments Reading

Pit Date Number Subject

Photographs

Date Number Subject

Drawings

Top Plans:
Locus 5

Sub-balks:
TP 5

Field: 5K87: 10-12
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION
UBA Field D, Square SK87, Locus 13

REASON
Remarks: To separate phases of wall at E balk.
Separability: Top-Clear

DESCRIPTION
Material: Limestone ............... 100%
Masonry:
Wall Stones: Cobble................ 100%
Chinkstones: Pebble ............... 100%
Dressing: Unhewn .................. 100%
Mortar: Dry-laid.................. 100%
Facing: Unfaced ....................
Construction: Style..................
Support..................
Remarks: E end of wall includes two steps down southward into house.
Courses: Random
Rows: Random
Measurements: Length .............. 2.100 m
Preservation: Partial Superstructure: Half
Lean Degree................. 8 deg

STRATIGRAPHY
Under: 1
Cuts: 12
Abutted By: 6
Sealed Against By: 18, 20

LEVELS
Loc Top Bottom Transit

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
07/12 13/08/12 07/20 13/08/20 08/03 42/11/03 WEAR ON W END 1ST STEP
07/12 17/08/12 07/20 14/08/20 08/03 21/03/06
07/16 15/08/16 07/20 16/08/20 08/06 22/03/06 MED CLOSEUP OF TWO STEPS
07/17 16/02/17 07/30 66/02/30
07/19 14/02/19 08/03 41/11/03

DRAWINGS
Top Plans:
UBA Final Top Plan
Loc! 4, 5, 12, 17

INTERPRETATION
Stratigraphy:
Built on surface 17, against wall 16A together with wall 6, 20/24 was an occupational surface; 18 was a destruction layer with rock tumble of walls 6 and 13, 20/24 is at same level as surface 17. Dug into 16, 12 and 20/24. Builders used wall 14A as a protection wall. Floor may be loci 18 and 20.
IDENIFICATION
U84 Field D, Square SK87, Locus 14 (Phase A)
Reor: To separate phases of wall at E balk.
Sepaability: Top-Clear

DESCRIPTION
Material: Limestone.............. 100%
Arch. Frags: Mortar............... 1
Wall Stones: Cobble................. 100%
Dressing: Unhewn.................. 100%
Mortar: Dry-laid.................. 100%
Facing: Unfaced
Construction: Style.................. Boulder & Chink
Support.................. Free-standing

MEASUREMENTS
Courses: 5 to 6
Rows: 2 to 3
Length: 2.000 m
Width: 0.700 m
Height: 0.650 m
Orientation.................. 112 deg
Dip: .................. 0 deg
Preservation: Partial Superstructure: half
Lean Degree.................. 10 deg

LEVELS
Loc: 17  Top: 897.72  Bottom: 897.38

PHOTOGRAPHS
Date Number Subject
07/11 15/02/11
07/12 16/02/12
07/13 04/02/13
07/17 16/02/17
07/18 15/02/18
07/20 16/02/20

DRAWINGS
Top Plans: Loci 3, 4, 5, 12, 17

INTERPRETATION
Stratigraphy: Wall 14A appears to be rebuilt on 14B in E part of square. Before walls 13 and 6 were built, surface 17 was in use with wall 14A. 15/21 and 9/15 were occupational levels N of 14A. 14A seems to be related chronologically with wall 23.
IDENTIFICATION
Field D, Square 5K87, Locus 14 (Phase B)

REASON
Remarks: E-W wall through entire square. Rocks protruding from N-phase in line with W-remains of wall 14.

DESCRIPTION
Material:
Arch. Frags: Mortar, oval obj. 1
Masonry:
Wall Stones: Cobble 90%
Dressing: Unhewn 100%
Mortar: Dry-laid 100%
Facing: Unfaced
Construction: Style: Boulder & Chink
Course: 1 to 2
Measurements: Length 5.75m Width 0.75m
Height 0.10m Orientation 112deg
Support: Free-standing

STRAITIGRAPHY
Under: 14, 19
Over: Unexcavated
Sealed Against: 17, 21, 22

LEVELS
Loc Top Bottom Transit

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
07/18 15/08/18
07/19 14/08/19
07/20 13/08/20

INTERPRETATION
Stratigraphy: Base of 148 is deduced from 21. After excavation of 21, 22 and below 17 this may be proved. 148 is the earliest architectural phase, excavated in U84 5K87.
IDENTIFICATION
U84 Field D, Square 5K87, Locus 15
Supervisor: HHC Oates: 7/16 to 7/17

REASON
Remarks: Different soil color in probe 12.
Separability: Top–Average

DESCRIPTION
Color: Yellowish brown 10YR5/4
Texture: Clay ........ 40% Silt ........ 40% Sand ........ 20%
Consistency: Hardness ................. 3
Wetness ................. Very Moist
Compactness ................. Moderately Friable
Structure ................. Random

Inclusions:
Stone: Small Pebbles ........... 1600/m2 Medium Pebbles ........... 48/m2 Small Cobbles ........... 2/m2
Artifact: Flint .................. 1

Measurements:
Length .................. 2,000 m Distribution ................. Random
Depth .................. 0.100 to 0.150 m

STRATIGRAPHY
Under: 4
Over: 21
Contiguous to: 127, 16
Seals against: 14A, 14B, 23

LEVELS
Loc Top Bottom Transit
10 897.50 897.25 X

STRATIGRAPHY
Under: 4
Over: 21
Contiguous to: 127, 16
Seals against: 14A, 14B, 23

LEVELS
Loc Top Bottom Transit
10 897.50 897.25 X

POTTERY
Pail Date Count Bskts Loc Preservation Comments Reading Pub
21 7/15 5 5 EE 7/18 1705 X

OBJECTS
Reg no. Description Field no. Date Pail Loc Level Total Period Material Photo Drawing
Rounded Slings Balls (Stone) 1 07/18 27 11 897.55 2

PHOTOGRAPHS
Date Number Subject Date Number Subject Date Number Subject
07/17 16/07/17 07/20 13/08/20 07/20 15/08/20

DRAWINGS
Top Plans: Locus 12
Balks: E

INTERPRETATION
Stratigraphy: This is the earliest occupational layer sealing against 14A, covering the N wall face of 14B. 4/15 is possibly another occupation surface contemporary with 14A.
IDENTIFICATION

U84 Field D, Square 5K87, Locus 16

REASON

Remarks:
Extension of probe 12 to trace pebble surface 17.

DESCRIPTION

Color:
Yellowish brown

Texture:
Clay........ 40%    Silt...... 40%    Sand....... 20%

Consistence:
Compactness..... Slightly Friable    Firmness......... Slightly Moist

Structure:
Random

Inclusions:
Soil:
Nari Pockets ........ 1/m², 15.0 cm

Distribution ....... Random

Stone:
Small Pebbles........ 1600/m²
Small Cobbles......... 20/m²
Large Cobbles......... 1/m²

Artifact:
Basalt Frag.... 3

Measurements:
Length............. 5.500 m

Width............. 2.000 m

Depth............. 0.250 m

STRATIGRAPHY

Under:
5

Over:
17

Equals:
8, 9, 12

LEVELS

Loc Top Bottom Transit

POTTERY

Pail Date  Count Bskts Loc Preservation Comments Reading Pub

PHOTOGRAPHS

Date Number Subject

DRAWINGS

Top Plans: Locus 5

Balks:
W, S

INTERPRETATION

Stratigraphy:
Together with 18 this rock tumble layer represents the period after destruction of walls 14A and 23(1).
### IDENTIFICATION
U84 Field D, Square 5K87, Locus 17

**Reason:** Pebbles, bones, shards indicated surface.

**Sealability:** Top-Clear

### REMARKS
Remarks: Pebbles, bones, shards indicated surface.

### DESCRIPTION

**Color:**
- Yellowish brown
- 10YR5/4

**Texture:**
- Clay: 30%
- Silt: 40%
- Sand: 30%

**Consistency:**
- Hardness: 2
- Slightly Moist

**Inclusions:**
- Small Pebbles: 3200/m²
- Medium Pebbles: 1280/m²
- Large Pebbles: 32/m²
- Small Cobbles: 2/m²

**Measurements:**
- Length: 3.000 m
- Width: 3.600 m

**Stratigraphy**

- Under: 12, 16
- Contiguous to: 6
- Cut by: 24

### LEVELS

<table>
<thead>
<tr>
<th>Loc Top</th>
<th>Bottom</th>
<th>Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 897.07</td>
<td>X</td>
<td>31 897.05</td>
</tr>
<tr>
<td>13 897.22</td>
<td>X</td>
<td>26 897.10</td>
</tr>
</tbody>
</table>

### PHOTOGRAPHS

- 07/18 15/08/18: PROGRESS OF EXCAVATION
- 07/19 14/02/19: ARCHITECTURE
- 07/20 14/08/20: ARCHITECTURE
- 07/24 17/08/24: ARCHITECTURE

### FINAL PHOTO

- 07/19 14/08/20
- 07/20 16/08/20
- 08/05 02/03/05

### Interpretaion

**Stratigraphy:** Surface with pebbles, rocks, shards and bones. Contemporary to wall 14A (building level for walls 6 and 15). Second phase in U84 5K87.

**Artifacts:**
- Flotation Sample

**Drawings:**
- Top Plans: Loci 5, 12, U84 Final Top Plan
- Balks: W, S
Identification
UBA Field D, Square 5K87, Locus 18
Remarks: Bound by walls 13 and 6.
Separability: Top-Average Bottom-Clear

Description
Color: Grayish brown 10YR5/2
Texture: Clay........ 20% Silt........ 60% Sand....... 20%
Consistency: Hardness............... 2 Compressibility........ Moderate
Wetness........... Slightly Moist Structure............ Random
Inclusions: Stone: Small Pebbles: 1500/m2 Medium Pebbles: 450/m2
Small Cobbles: 15/m2 Medium Cobbles: 5/m2
Distribution........ Random
Length........... 2.100 m Direction of Slope........ 0 deg
Width........... 2.000 m Degree of Slope........ 0 deg
Depth........... 0.100 to 0.200 m

Stratigraphy
Under: 5
Over: 20
Seals against: 6, 13

Levels
Loc Top Bottom Transit

35 897.40 897.21

Pottery
Pail Date Count Bkts Loc Preservation Comments Reading Pub
29 7/18 0/150 32 EB
30 7/19 16/129 35 EB

Photographs
Date Number Subject Date Number Subject Date Number Subject
07/16 15/03/16 07/17 16/02/17 07/18 15/03/18

Drawings
Top Plans: Loc 5,12
Sections: 0,5

Interpretation
Stratigraphy: First of two use surfaces associated with house in 5K87.
IDENTIFICATION
US 4 Field D, Square 5K87, Locus 19
Supervisor: HHC
Dates: 7/18 to 7/19

REASON
Remarks: Clear soil hump above 148 in NW corner.
Separability: Top--Average Bottom--Unclear

DESCRIPTION
Color: Yellowish brown
Texture: Clay........ 40% Silt........ 40% Sand........ 20%
Consistence: Hardness.......... 3 Compaction.......... Slightly Friable
Wetness.......... Slightly Moist Structure.......... Random

Inclusions:
Stone:
Small Pebbles........ 1600/m2
Large Pebbles........ 320/m2
Medium Pebbles........ 320/m2
Small Cobbles........ 2/m2
Medium Cobbles........ 2/m2
Small Boulders........ 1/m2
Large Boulders........ 1/m2

Organic:
Olive Pits........ 2/m2

Measurements:
Length........ 1.900 m
Width........ 1.600 m

STRATIGRAPHY
Under: 8, 9
Over: 148, 22
Cut by: 77

LEVELS
Loc Top
Bottom Transit
13 897.76
897.35 X

POTTERY
Pail Date
28
31

Count
6/120
5

Baskets
Loc
Preservation
Reading
EB
EB
Comments
POSS BALK CONTAMINATION 1 IR2.E8

PHOTOGRAPHS
Date
Subject
07/18
15/08/18

DRAWINGS
Top Plans:
None

INTERPRETATION
Stratigraphy: Together with 16 this layer covered wall 148 and 17.

04/01/86
SOIL LOCUS SHEET
Page 1

IDENTIFICATION
US 4 Field D, Square 5K87, Locus 20
Supervisor: HHC
Date: 7/20

REASON
Remarks: Different soil above bounded by walls 13 and 6.
Separability: Top--Clear Bottom--Average

DESCRIPTION
Color: Yellowish brown
Texture: Clay........ 40% Silt........ 40% Sand........ 20%
Consistence: Hardness.......... 3 Compaction.......... Slightly Friable
Wetness.......... Slightly Moist Structure.......... Random

Inclusions:
Stone:
Small Pebbles........ 1600/m2
Large Pebbles........ 320/m2
Medium Pebbles........ 320/m2
Small Cobbles........ 2/m2
Medium Cobbles........ 2/m2
Small Boulders........ 1/m2
Large Boulders........ 1/m2

Organic:
Olive Pits........ 2/m2

Measurements:
Length........ 2.100 m
Width........ 2.000 m
Depth........ 0.150 to 0.200 m

STRATIGRAPHY
Under: 18
Over: 24
Seals against: 6, 13

LEVELS
Loc Top
Bottom Transit
35 897.23
897.03 X

POTTERY
Pail Date
34
36

Count
5/139
47

Baskets
EB
EB

DRAWINGS
Top Plans:
Loc 12, 17

Balks:
6, 5

INTERPRETATION
Stratigraphy: Below 18 this layer represents an occupational layer bound by walls 13 and 6.
SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K87, Locus 21

REASON
Remarks: Probe along north face of wall 14B.
Separability: Top-Clear Bottom-unclear

DESCRIPTION
Color: Yellowish brown 10YR5/4
Consistence: Hardness.............. 2

Inclusions: Artifact: Flint............ 1
Measurements: Length.............. 0.800 m
Width.............. 0.300 m
Depth.............. 0.150 m

Remarks: Probe made for FT evidence-no evidence for FT.

STRATIGRAPHY
Under: 15
Over: Unexcavated

LEVELS
Loc Top Bottom Transit
---------------
7 897.43 897.20

PHOTOGRAPHS
Date Number Subject
07/30 46/02/30
08/03 41/11/03
08/05 02/03/05

PHOTOCOPY

DRAWINGS
Top Plans
- Locus 17, U84 Final Top Plan

INTERPRETATION
Stratigraphy: No clear evidence for FT.

SOIL LOCUS SHEET

IDENTIFICATION
U84 Field D, Square 5K87, Locus 22

REASON
Remarks: Bounded by wall 14B, N balk, and wall 23.
Separability: Top-Clear

DESCRIPTION
Measurements: Length.............. 2.600 m

STRATIGRAPHY
Under: 7, 19

LEVELS
Loc Top Bottom Transit Loc Top Bottom Transit
---------------
7 897.43 X 9 897.31 X

PHOTOGRAPHS
Date Number Subject
07/20 14/08/20
07/20 16/08/20
07/20 17/08/20
07/30 46/02/30
08/05 01/03/05
ARCHITECTURAL LOCUS SHEET

IDENTIFICATION

U84 Field D, Square 5K87, Locus 23

REASON

Remarks: Rocks in line perpendicular to walls 14A and 14B.

SEPARABILITY: Top-Clear

DESCRIPTION

Material: Hard limestone 100%

Masonry:

Wall Stones: Cobble 40%

Mortar: Dry-laid 100%

Facing: Unfaced

Construction: Style: Boulder & Chink Support 60%

Measurements: Length 0.750 m Orientation 30 deg

STRATIGRAPHY

Under: 4

Sealed Against By: 10, 11, 15

Bonded To: 14A, 14B

LEVELS

Loc Top: 35897.20

Bottom: 35897.55

Supervisor: HHC

Photos:

9 897.70 X

FREE-STANDING

INTERPRETATION

- Stratigraphy: Related to 14. Relation to 14A may be possible based on preservation, evidence is not available corner walls 14A-23 is destroyed. Rocks of wall 23 seem bonded into 14A if one imagines a continuation of 14A. 14B-23 relation clear after excavation of 22 and 21.

SUPERVISOR: HHC

D R A W I N G S

Top Plans: Loci 5, 12, 17

INTERPRETATION

- Stratigraphy: Related to 14. Relation to 14A may be possible based on preservation, evidence is not available corner walls 14A-23 is destroyed. Rocks of wall 23 seem bonded into 14A if one imagines a continuation of 14A. 14B-23 relation clear after excavation of 22 and 21.

FIELD: 5K87: 21-24

SOIL LOCUS SHEET

IDENTIFICATION

U84 Field D, Square 5K87, Locus 24

REASON

Remarks: Bounded by walls 13 and .

SEPARABILITY: Top-Clear

DESCRIPTION

Measurements: Length 2.100 m Direction of Slope 0 deg

Width 2.000 m Degree of Slope 0 deg

STRATIGRAPHY

Under: 20

Over: Unexcavated

Continuous to: 17

Seals against: 67, 137

Cut By: 67, 137

Remarks: Only to be solved after excavation or wall removal.

LEVELS

Loc Top: 35897.10

Bottom: X

PHOTOGRAPHS

Date Number Subject Date Number Subject Date Number Subject

07/20 14/08/20 07/20 14/08/20 08/05 07/11/05

07/19 16/08/19 07/20 17/08/20 08/05 07/11/05

07/20 13/08/20 07/30 46/02/30 08/05 07/11/05

D R A W I N G S

Top Plans: Locus 17, U84 Final Top Plan

SUPERVISOR: HHC
APPENDIX E

Field Reading Summaries: Fauna and Flint

On the following pages are the field reading summaries of the faunal material and flints collected during the 1987 season. These readings are given by Field and Square. A typical faunal reading is as follows:

\[\text{U84 A.7K40:1 Pail 21 Date: 7/5 Sheep/Goat 2/15 Dog 1/2}\]

\[\text{U84 = Site/Season: Umeiri 1984}\]
\[\text{A = Field}\]
\[\text{7K40 = Square}\]
\[\text{1 = Locus}\]
\[\text{2/15 = Count/Weight}\]

The flints are merely indicated by Site/Season; Field/Square/Locus; Pail; and Count. These materials are being analyzed and will be presented in a future volume.

09/20/85

UMEIRI BONE LIST (COUNT/WEIGHT): SQUARE A.7K40

\[\text{U84 A.7K40:1 Pail 21 Date: 7/5 Sheep/Goat 2/15 Dog 1/2}\]

\[\text{U84 A.7K40:2 Pail 13 Date: 7/4 Sheep/Goat 1/2}\]

\[\text{U84 A.7K40:3 Pail 19 Date: 7/5 Sheep/Goat 3/17 Sm Mammal 6/3}\]

\[\text{U84 A.7K40:3 Pail 20 Date: 7/5 Sheep/Goat 1/15 Cattle 2/72}\]

\[\text{U84 A.7K40:3 Pail 28 Date: 7/9 Cattle 1/49 Weasel 4/25}\]

\[\text{U84 A.7K40:3 Pail 31 Date: 7/10 Lg Mammal 9/102}\]

\[\text{Cattle 1/50 UD 7/6}\]

\[\text{U84 A.7K40:3 Pail 900 Date: 7/16 Lg Mammal 13/50 Sm Mammal 2/1}\]

\[\text{Donkey 1/60 UD 2/2}\]

\[\text{U84 A.7K40:3 Pail 53 Date: 7/19 Lg Mammal 1/5 Sm Mammal 1/1 UD 11/22}\]

Sheep/Goat 3/12 Cattle 1/5
UMEIRI BONE LIST (COUNT/WEIGHT): SQUARE A.7X40

09/20/85

<table>
<thead>
<tr>
<th>Pail 6</th>
<th>Date: 7/17</th>
<th>Sheep/Goat</th>
<th>1/5</th>
<th>Sm Mamal 1/1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pail 67</td>
<td>Date: 7/27</td>
<td>Sheep/Goat</td>
<td>6/1</td>
<td></td>
</tr>
<tr>
<td>Pail 51</td>
<td>Date: 7/18</td>
<td>Sheep/Goat</td>
<td>2/18</td>
<td>Lg Mamal 1/2</td>
</tr>
<tr>
<td>Pail 68</td>
<td>Date: 7/27</td>
<td>Sheep/Goat</td>
<td>3/6</td>
<td></td>
</tr>
<tr>
<td>Pail 61</td>
<td>Date: 7/25</td>
<td>Sm Mamal 1/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pail 63</td>
<td>Date: 7/25</td>
<td>Sheep/Goat</td>
<td>3/6</td>
<td>Sm Mamal 1/1</td>
</tr>
<tr>
<td>Pail 62</td>
<td>Date: 7/25</td>
<td>Sm Mamal 1/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pail 64</td>
<td>Date: 7/26</td>
<td>Sheep/Goat</td>
<td>6/12</td>
<td></td>
</tr>
<tr>
<td>Pail 65</td>
<td>Date: 7/26</td>
<td>Sheep/Goat</td>
<td>1/1</td>
<td></td>
</tr>
<tr>
<td>Pail 55</td>
<td>Date: 7/20</td>
<td>Sheep/Goat</td>
<td>4/28</td>
<td></td>
</tr>
<tr>
<td>Pail 56</td>
<td>Date: 7/20</td>
<td>Sheep/Goat</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>Pail 57</td>
<td>Date: 7/23</td>
<td>Sheep/Goat</td>
<td>2/9</td>
<td></td>
</tr>
<tr>
<td>Pail 66</td>
<td>Date: 7/27</td>
<td>Sheep/Goat</td>
<td>2/9</td>
<td></td>
</tr>
<tr>
<td>Pail 50</td>
<td>Date: 7/</td>
<td>Sheep/Goat</td>
<td>1/2</td>
<td></td>
</tr>
</tbody>
</table>

09/20/85

UMEIRI BONE LIST (COUNT/WEIGHT): SQUARE A.7X41

<table>
<thead>
<tr>
<th>Pail 21</th>
<th>Date: 7/</th>
<th>Sheep/Goat</th>
<th>1/9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pail 900</td>
<td>Date: 6/28</td>
<td>Sheep/Goat</td>
<td>1/2</td>
</tr>
<tr>
<td>Pail 901</td>
<td>Date: 7/</td>
<td>Sheep/Goat</td>
<td>1/12</td>
</tr>
<tr>
<td>Pail 1</td>
<td>Date: 7/3</td>
<td>Sheep/Goat</td>
<td>3/8</td>
</tr>
<tr>
<td>Pail 2</td>
<td>Date: 7/3</td>
<td>Sheep/Goat</td>
<td>4/18</td>
</tr>
<tr>
<td>Pail 3</td>
<td>Date: 7/3</td>
<td>Sheep/Goat</td>
<td>9/32</td>
</tr>
<tr>
<td>Date</td>
<td>Sheep/Goat</td>
<td>Pig</td>
<td>Lg Mammal 3/60</td>
</tr>
<tr>
<td>--------</td>
<td>------------</td>
<td>-----</td>
<td>----------------</td>
</tr>
<tr>
<td>7/6</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/9</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/3</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/5</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/7</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/9</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/3</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/7</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/11</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/13</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/15</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/17</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/18</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/20</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/22</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/25</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/29</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/32</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/34</td>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/35</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/37</td>
<td>37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/38</td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/40</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9/20</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Sheep/Goat</td>
<td>Cattle</td>
<td>Sm Haimal</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>6/28</td>
<td>1/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/2</td>
<td>7/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/3</td>
<td>1/13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/5</td>
<td>5/15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>1/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>1/5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>16/120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>1/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/18</td>
<td>3/180</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td>4/52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>7/25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>19/34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td>7/50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>7/34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>3/250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td>3/250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/58</td>
<td>1/20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>4/25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/22</td>
<td>5/42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/25</td>
<td>1/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td>4/52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>7/50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>1/1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Cattle</th>
<th>Sm Haimal</th>
<th>Lg Haimal</th>
<th>Gazelle</th>
<th>Lg Mammal</th>
<th>Sm Mammal</th>
<th>UD</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/26</td>
<td>4/52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>7/42</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>7/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>3/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Cattle</th>
<th>Sm Haimal</th>
<th>Lg Haimal</th>
<th>Gazelle</th>
<th>Lg Mammal</th>
<th>Sm Mammal</th>
<th>UD</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/26</td>
<td>4/52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>7/42</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>7/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>3/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Cattle</th>
<th>Sm Haimal</th>
<th>Lg Haimal</th>
<th>Gazelle</th>
<th>Lg Mammal</th>
<th>Sm Mammal</th>
<th>UD</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/26</td>
<td>4/52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>7/42</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>7/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>3/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Cattle</th>
<th>Sm Haimal</th>
<th>Lg Haimal</th>
<th>Gazelle</th>
<th>Lg Mammal</th>
<th>Sm Mammal</th>
<th>UD</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/26</td>
<td>4/52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>7/42</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>7/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>3/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Cattle</th>
<th>Sm Haimal</th>
<th>Lg Haimal</th>
<th>Gazelle</th>
<th>Lg Mammal</th>
<th>Sm Mammal</th>
<th>UD</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/26</td>
<td>4/52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>7/42</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>7/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>3/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Type</td>
<td>Count/Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>--------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6/28</td>
<td>Cattle/1/26</td>
<td>Lg Mammal 1/99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6/29</td>
<td>Cattle/1/26</td>
<td>Lg Mammal 1/99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/26</td>
<td>Sheep/Goat/10/70</td>
<td>Lg Mammal 2/100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/2</td>
<td>Sheep/Goat/7/15</td>
<td>Turtle 2/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/3</td>
<td>Sheep/Goat/7/15</td>
<td>Rodent 2/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/4</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 4/43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/5</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 25/41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/7</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 55/99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 44/99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/9</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 36/43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 67/154</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/11</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 15/178</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/12</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 66/158</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/13</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 2/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/14</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 83/133</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/15</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 5/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/16</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 38/77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/17</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 92/150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/18</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 21/57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/19</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 37/63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/20</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 7/16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/21</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 19/156</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/22</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 4/118</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/24</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 21/32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/25</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 7/16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 48/118</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/28</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 21/32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/29</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Sheep/Goat/7/15</td>
<td>Lg Mammal 21/32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FIELD READING SUMMARIES: FAUNA**

U89 A.7K51:900 Pail 1 Date: 6/28
Sheep/Goat 1/26 Lg Mammal 1/99

U89 A.7K51:901 Pail 900 Date: 7/4
Cattle 1/26 Lg Mammal 1/99

U89 A.7K51:902 Pail 3 Date: 7/5
Sheep/Goat 10/70 Cattle 2/100

09/20/85

**LUMBER BONE LIST (COUNT/WEIGHT): SQUARE B.7J87**

Page 10

U89 A.7K87:1 Pail 900 Date: 6/29
Sheep/Goat 1/26 Lg Mammal 1/99

U89 A.7K87:1 Pail 901 Date: 6/28
Sheep/Goat 1/26 Lg Mammal 1/99

U89 A.7K87:1 Pail 902 Date: 7/2
Sheep/Goat 7/15 Lg Mammal 1/99
Sheep/Goat 1/1

U89 A.7K87:2 Pail 900 Date: 7/3
Sheep/Goat 8/31 Lg Mammal 1/99

U89 A.7K87:2 Pail 901 Date: 7/4
Sheep/Goat 10/70 Cattle 1/26

U89 A.7K87:2 Pail 902 Date: 7/5
Sheep/Goat 2/2 Lg Mammal 4/43

U89 A.7K87:3 Pail 26 Date: 7/13
Sheep/Goat 1/26 Lg Mammal 1/99

U89 A.7K87:3 Pail 900 Date: 7/13
Sheep/Goat 1/31 Lg Mammal 1/99

U89 A.7K87:3 Pail 901 Date: 7/6
Sheep/Goat 5/21 Lg Mammal 1/99

U89 A.7K87:3 Pail 902 Date: 7/9
Sheep/Goat 9/9 Lg Mammal 2/26

U89 B.7J87:1 Pail 903 Date: 7/10
Sheep/Goat 6/32 Pig 1/10

U89 B.7J87:3 Pail 904 Date: 7/11
Sheep/Goat 8/43 Cattle 3/70

U89 B.7J87:3 Pail 905 Date: 7/10
Sheep/Goat 6/35 Lg Mammal 12/209

U89 B.7J87:3 Pail 37 Date: 7/23
Sheep/Goat 14/72 Cattle 2/69

U89 B.7J87:3 Pail 906 Date: 7/24
Sheep/Goat 18/130 Cattle 2/49

U89 B.7J87:3 Pail 907 Date: 7/26
Sheep/Goat 4/6 PIG 1/5

U89 B.7J87:3 Pail 908 Date: 7/25
Sheep/Goat 7/31 Cattle 1/34

U89 B.7J87:4 Pail 900 Date: 7/13
Sheep/Goat 6/32 Lg Mammal 1/35

U89 B.7J87:4 Pail 901 Date: 7/16
Sheep/Goat 6/32 Lg Mammal 1/35

U89 B.7J87:4 Pail 902 Date: 7/17
Sheep/Goat 7/33 Lg Mammal 3/40

U89 B.7J87:4 Pail 903 Date: 7/19
Sheep/Goat 5/40 Lg Mammal 3/40

U89 B.7J87:4 Pail 904 Date: 7/21
Sheep/Goat 3/26 Lg Mammal 3/20

U89 B.7J87:4 Pail 905 Date: 7/27
Sheep/Goat 11/80 Cattle 1/22

U89 B.7J87:5 Pail 900 Date: 7/19
Sheep/Goat 4/25 Lg Mammal 1/20

U89 B.7J87:5 Pail 901 Date: 7/20
Sheep/Goat 29/133 Cattle 3/28

U89 B.7J87:5 Pail 902 Date: 7/21
Sheep/Goat 24/114 Cattle 2/28

U89 B.7J87:5 Pail 903 Date: 7/31
Sheep/Goat 2/3 Cattle 2/60

U89 B.7J87:5 Pail 904 Date: 7/30
Sheep/Goat 3/25 Lg Mammal 3/26

U89 B.7J87:5 Pail 905 Date: 7/30
Sheep/Goat 2/26 Cattle 1/12

08/16/85
09/20/85
UHEIRI BONE LIST (COUNT/WEIGHT): SQUARE B.7J88
Page 1

USA B.7J88:1 Pail 9
Sheep/Goat 1/1
Date: 7/20
UD 16/40

USA B.7J88:2 Pail 900
Sheep/Goat 1/5
Date: 7/27
UD 15/18

USA B.7J88:3
Sheep/Goat 1/2
Date: 7/30
UD 15/33

USA B.7J88:5 Pail 900
Sheep/Goat 1/83
Date: 7/31
UD 103/205

09/20/85
UHEIRI BONE LIST (COUNT/WEIGHT): SQUARE B.7J89
Page 12

USA B.7J89:1 Pail 900
Sheep/Goat 1/1
Date: 6/28

USA B.7J89:3 Pail 900
Sheep/Goat 2/2
Date: 7/3
UD 3/1

USA B.7J89:4 Pail 900
Sheep/Goat 12/5
Date: 7/17

USA B.7J89:5 Pail 901
Date: 7/5
UD 2/22

USA B.7J89:6 Pail 900
Sheep/Goat 1/2
Date: 7/18
UD 2/8

USA B.7J89:7 Pail 43
Sheep/Goat 1/2
Date: 7/9
UD 3/2

USA B.7J89:8 Pail 2
Sheep/Goat 1/2
Date: 7/5
UD 15/22

USA B.7J89:9 Pail 17
Cattle 1/7
Date: 7/5
UD 4/6

USA B.7J89:10 Pail 50
Lg Mammal 1/6
Date: 7/17

USA B.7J89:11 Pail 900
Sheep/Goat 4/13
Date: 7/5

USA B.7J89:12 Pail 62
Date: 7/27

USA B.7J89:13 Pail 900
Date: 7/9

USA B.7J89:14 Pail 901
Date: 7/10

USA B.7J89:15 Pail 900
Lg Mammal 1/15
Date: 7/11

USA B.7J89:16 Pail 900
Lg Mammal 1/26
Date: 7/12

USA B.7J89:17 Pail 904
Date: 7/16

USA B.7J89:18 Pail 904
Date: 7/16

USA B.7J89:19 Pail 905
Date: 7/13

USA B.7J89:20 Pail 905
Date: 7/13

USA B.7J89:21 Pail 61
Date: 7/27

USA B.7J89:22 Pail 906
Date: 7/13

USA B.7J89:23 Pail 907
Date: 7/26

USA B.7J89:24 Pail 44
Date: 7/19

USA B.7J89:25 Pail 45
Date: 7/19

USA B.7J89:26 Pail 900
Lg Mammal 1/33
Date: 7/19

USA B.7J89:27 Pail 50
Date: 7/23

USA B.7J89:28 Pail 52
Date: 7/24
<table>
<thead>
<tr>
<th>Pail</th>
<th>Date</th>
<th>Species</th>
<th>Count</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.7J89:16</td>
<td>7/26</td>
<td>Cattle</td>
<td>50</td>
<td>3/8</td>
</tr>
<tr>
<td>B.7J89:15</td>
<td>7/21</td>
<td>Sheep/Goat</td>
<td>65</td>
<td>8/33</td>
</tr>
<tr>
<td>B.7J89:14</td>
<td>7/25</td>
<td>Sheep/Goat</td>
<td>56</td>
<td>2/2</td>
</tr>
<tr>
<td>B.7J89:13</td>
<td>7/ 6</td>
<td>Sheep/Goat</td>
<td>12/64</td>
<td>15/135</td>
</tr>
<tr>
<td>B.7J89:12</td>
<td>7/ 9</td>
<td>Sheep/Goat</td>
<td>12</td>
<td>7/10</td>
</tr>
<tr>
<td>B.7J89:11</td>
<td>7/16</td>
<td>Sheep/Goat</td>
<td>15</td>
<td>1/27</td>
</tr>
<tr>
<td>B.7J89:10</td>
<td>7/11</td>
<td>Sheep/Goat</td>
<td>16</td>
<td>7/11</td>
</tr>
<tr>
<td>B.7J89:9</td>
<td>7/10</td>
<td>Sheep/Goat</td>
<td>18</td>
<td>1/2</td>
</tr>
<tr>
<td>B.7J89:8</td>
<td>7/ 3</td>
<td>Sheep/Goat</td>
<td>6</td>
<td>6/35</td>
</tr>
<tr>
<td>B.7J89:7</td>
<td>7/ 5</td>
<td>Sheep/Goat</td>
<td>9</td>
<td>3/11</td>
</tr>
<tr>
<td>B.7J89:6</td>
<td>7/ 6</td>
<td>Sheep/Goat</td>
<td>20</td>
<td>1/27</td>
</tr>
<tr>
<td>B.7J89:5</td>
<td>7/10</td>
<td>Sheep/Goat</td>
<td>22</td>
<td>2/8</td>
</tr>
<tr>
<td>B.7J89:4</td>
<td>7/ 3</td>
<td>Sheep/Goat</td>
<td>5</td>
<td>2/7</td>
</tr>
<tr>
<td>B.7J89:3</td>
<td>7/ 4</td>
<td>Sheep/Goat</td>
<td>23</td>
<td>1/15</td>
</tr>
<tr>
<td>B.7J89:2</td>
<td>7/ 6</td>
<td>Sheep/Goat</td>
<td>25</td>
<td>3/18</td>
</tr>
<tr>
<td>B.7J89:1</td>
<td>7/12</td>
<td>Sheep/Goat</td>
<td>29</td>
<td>1/1</td>
</tr>
</tbody>
</table>

**FIELD READING SUMMARIES: FAUNA**
<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Sm Mammal</th>
<th>Cattle</th>
<th>Donkey</th>
<th>Pig</th>
<th>Lg Mammal</th>
<th>UD</th>
<th>UD</th>
<th>UD</th>
<th>UD</th>
<th>UD</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/8</td>
<td>11/80</td>
<td>1/1</td>
<td>4/73</td>
<td>2/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/1</td>
<td>3/30</td>
<td>0/1</td>
<td>2/56</td>
<td>2/2</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/2</td>
<td>1/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/3</td>
<td>19/88</td>
<td>3/28</td>
<td>2/59</td>
<td>1/30</td>
<td>1/6</td>
<td>1/10</td>
<td>68/113</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/4</td>
<td>8/25</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/5</td>
<td>8/25</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/6</td>
<td>8/25</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/7</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/8</td>
<td>8/25</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/9</td>
<td>8/25</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/10</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/11</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/12</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/13</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/14</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/15</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/16</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/17</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/18</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/19</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/20</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/21</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/22</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/23</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/24</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/25</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/26</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/27</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/28</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
<tr>
<td>7/29</td>
<td>3/25</td>
<td>1/12</td>
<td>0/1</td>
<td>0/1</td>
<td></td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
</tbody>
</table>

**OBEIRI BONE LIST (COUNT/WEIGHT): SQUARE B.7X90**

- Sheep/Goat
- Sm Mammal
- Cattle
- Donkey
- Pig
- Lg Mammal

*Page 16*
<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Cattle</th>
<th>Sm Mammal</th>
<th>Lg Mammal</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/2</td>
<td>2</td>
<td>3/6</td>
<td>1/4</td>
<td>10/21</td>
<td></td>
</tr>
<tr>
<td>7/4</td>
<td>4</td>
<td>4/20</td>
<td>2/10</td>
<td>4/51</td>
<td>32/100</td>
</tr>
<tr>
<td>7/4</td>
<td>5</td>
<td>5/19</td>
<td>1/32</td>
<td>16/51</td>
<td>32/100</td>
</tr>
<tr>
<td>7/4</td>
<td>6</td>
<td>6/36</td>
<td>1/9</td>
<td>16/51</td>
<td>32/100</td>
</tr>
<tr>
<td>7/4</td>
<td>7</td>
<td>7/21</td>
<td>1/34</td>
<td>17/340</td>
<td>6/19</td>
</tr>
<tr>
<td>7/4</td>
<td>8</td>
<td>8/2</td>
<td>1/7</td>
<td>17/50</td>
<td>3/2</td>
</tr>
<tr>
<td>7/4</td>
<td>9</td>
<td>9/3</td>
<td>1/3</td>
<td>16/67</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Cattle</th>
<th>Sm Mammal</th>
<th>Lg Mammal</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/28</td>
<td>1</td>
<td>2/3</td>
<td>1/2</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>6/29</td>
<td>2</td>
<td>3/70</td>
<td>1/2</td>
<td>2/11</td>
<td></td>
</tr>
<tr>
<td>7/2</td>
<td>3</td>
<td>7/2</td>
<td>2/11</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/3</td>
<td>4</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/4</td>
<td>5</td>
<td>7/3</td>
<td>1/7</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/4</td>
<td>6</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/4</td>
<td>7</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/4</td>
<td>8</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/4</td>
<td>9</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/5</td>
<td>10</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>11</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>12</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>13</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>14</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>15</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>16</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>17</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>18</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>19</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>20</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>21</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>22</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>23</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>24</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>25</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>26</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>27</td>
<td>7/3</td>
<td>1/3</td>
<td>1/7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Cattle</th>
<th>Sm Mammal</th>
<th>Lg Mammal</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/10</td>
<td>1</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>2</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>3</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>4</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>5</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>6</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>7</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>8</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>9</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>10</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>11</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>12</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>13</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>14</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>15</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>16</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>17</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>18</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>19</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>20</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>21</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>22</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>23</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>24</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>25</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>26</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>27</td>
<td>3/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Sheep/Goat</td>
<td>Gazelle</td>
<td>Lg Mammal</td>
<td>Sm Mammal</td>
<td>UD</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>---------</td>
<td>-----------</td>
<td>-----------</td>
<td>----</td>
</tr>
<tr>
<td>09/20/85</td>
<td>09/20/85</td>
<td>UD 7/1</td>
<td>UD 5/8</td>
<td>UD 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 1</td>
<td>Date: 7/6</td>
<td>Lg Mammal 5/50</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 2</td>
<td>Date: 7/6</td>
<td>Lg Mammal 2/12</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 3</td>
<td>Date: 7/9</td>
<td>Lg Mammal 3/29</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 29</td>
<td>Date: 7/10</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 32</td>
<td>Date: 7/10</td>
<td>Lg Mammal 2/21</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 33</td>
<td>Date: 7/10</td>
<td>Lg Mammal 1/1</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 34</td>
<td>Date: 7/11</td>
<td>Lg Mammal 1/7</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 35</td>
<td>Date: 7/11</td>
<td>Lg Mammal 1/3</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 36</td>
<td>Date: 7/11</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 37</td>
<td>Date: 7/11</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 38</td>
<td>Date: 7/12</td>
<td>Lg Mammal 2/14</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 39</td>
<td>Date: 7/12</td>
<td>Lg Mammal 1/1</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 40</td>
<td>Date: 7/12</td>
<td>Lg Mammal 2/1</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 41</td>
<td>Date: 7/13</td>
<td>Lg Mammal 1/1</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 42</td>
<td>Date: 7/13</td>
<td>Lg Mammal 1/3</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 44</td>
<td>Date: 7/16</td>
<td>Lg Mammal 1/4</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 45</td>
<td>Date: 7/16</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 46</td>
<td>Date: 7/17</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 47</td>
<td>Date: 7/17</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 48</td>
<td>Date: 7/18</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 49</td>
<td>Date: 7/18</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 50</td>
<td>Date: 7/19</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 51</td>
<td>Date: 7/19</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 52</td>
<td>Date: 7/19</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 53</td>
<td>Date: 7/19</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 55</td>
<td>Date: 7/20</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 56</td>
<td>Date: 7/20</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L63:6</td>
<td>Pail 58</td>
<td>Date: 7/20</td>
<td>Lg Mammal 1/2</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L64:1</td>
<td>Pail 2</td>
<td>Date: 7/23</td>
<td>Lg Mammal 1/1</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L64:1</td>
<td>Pail 3</td>
<td>Date: 7/23</td>
<td>Lg Mammal 1/1</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L64:1</td>
<td>Pail 7</td>
<td>Date: 7/24</td>
<td>Lg Mammal 1/1</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L64:1</td>
<td>Pail 6</td>
<td>Date: 7/24</td>
<td>Lg Mammal 1/1</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L64:3</td>
<td>Pail 9</td>
<td>Date: 7/25</td>
<td>Lg Mammal 1/1</td>
<td></td>
</tr>
<tr>
<td>09/20/85</td>
<td>C.8L64:4</td>
<td>Pail 12</td>
<td>Date: 7/26</td>
<td>Lg Mammal 1/1</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Event Description</td>
<td>Count/Weight</td>
<td>Location</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-------------------</td>
<td>--------------</td>
<td>--------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>6/29</td>
<td></td>
<td></td>
<td>v84 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/2</td>
<td></td>
<td></td>
<td>v84 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/3</td>
<td></td>
<td></td>
<td>v84 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/4</td>
<td></td>
<td></td>
<td>v84 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/5</td>
<td></td>
<td></td>
<td>v84 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td></td>
<td></td>
<td>v84 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/7</td>
<td></td>
<td></td>
<td>v84 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8</td>
<td></td>
<td></td>
<td>v84 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/9</td>
<td></td>
<td></td>
<td>v84 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td></td>
<td></td>
<td>v84 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/11</td>
<td></td>
<td></td>
<td>v84 11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/12</td>
<td></td>
<td></td>
<td>v84 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/13</td>
<td></td>
<td></td>
<td>v84 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/14</td>
<td></td>
<td></td>
<td>v84 14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/15</td>
<td></td>
<td></td>
<td>v84 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/16</td>
<td></td>
<td></td>
<td>v84 16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/17</td>
<td></td>
<td></td>
<td>v84 17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/18</td>
<td></td>
<td></td>
<td>v84 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/19</td>
<td></td>
<td></td>
<td>v84 19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/20</td>
<td></td>
<td></td>
<td>v84 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/21</td>
<td></td>
<td></td>
<td>v84 21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/22</td>
<td></td>
<td></td>
<td>v84 22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td></td>
<td></td>
<td>v84 23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/24</td>
<td></td>
<td></td>
<td>v84 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/25</td>
<td></td>
<td></td>
<td>v84 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td></td>
<td></td>
<td>v84 26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td></td>
<td></td>
<td>v84 27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/28</td>
<td></td>
<td></td>
<td>v84 28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/29</td>
<td></td>
<td></td>
<td>v84 29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td></td>
<td></td>
<td>v84 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td></td>
<td></td>
<td>v84 31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Sheep/Goat</td>
<td>Lg Mammal</td>
<td>Sm Mammal</td>
<td>Other</td>
<td>Remarks</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>7/25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9/62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/92</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/33</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/1/16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16/49</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25/90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50/116</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/1/15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15/176</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/5/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2/23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60/176</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/110</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13/60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/5/5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1/29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/6/6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1/27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/3/15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/15/153</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1/14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1/21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1/23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/7/78</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/1/7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Sheep/Goat</td>
<td>Cattle</td>
<td>Lg Manmal</td>
<td>Sm Manmal</td>
<td>Other</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
<td>--------</td>
<td>-----------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>07/12</td>
<td>3/16</td>
<td>Cattle 2/21</td>
<td>Lg Manmal 5/45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/12</td>
<td>3/16</td>
<td>Cattle 2/37</td>
<td>Lg Manmal 11/170</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/12</td>
<td>3/16</td>
<td>Cattle 3/35</td>
<td>Lg Manmal 3/45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/12</td>
<td>3/16</td>
<td>Cattle 2/39</td>
<td>Lg Manmal 6/56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/12</td>
<td>3/16</td>
<td>Cattle 2/85</td>
<td>Lg Manmal 5/74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/17</td>
<td>1/2</td>
<td>Gazelle 1/2</td>
<td>Lg Manmal 6/44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/26</td>
<td>1/8</td>
<td>Sheep/Goat 3/35</td>
<td>Lg Manmal 1/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/31</td>
<td>3/31</td>
<td></td>
<td>Lg Manmal 14/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/26</td>
<td>1/30</td>
<td>Sheep/Goat 2/16</td>
<td>Lg Manmal 6/120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/31</td>
<td>1/16</td>
<td>Sheep/Goat 1/16</td>
<td>Lg Manmal 12/154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/25</td>
<td>2/25</td>
<td></td>
<td>Pig 1/3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/25</td>
<td>1/5</td>
<td></td>
<td>Lg Manmal 10/100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/26</td>
<td>1/8</td>
<td>Sheep/Goat 2/5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/31</td>
<td>1/4</td>
<td>Sheep/Goat 2/12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/25</td>
<td>1/22</td>
<td>Gazelle 1/2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/14</td>
<td>1/11</td>
<td>Sheep/Goat 5/24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/13</td>
<td>1/7</td>
<td>Sheep/Goat 4/39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/11</td>
<td>1/9</td>
<td>Sheep/Goat 2/19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/12</td>
<td>1/7</td>
<td>Sheep/Goat 1/15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIELD READING SUMMARIES: FAUNA
<table>
<thead>
<tr>
<th>Date</th>
<th>Pail Number</th>
<th>Sheep/Goat</th>
<th>Lg Mammal</th>
<th>Sm Mammal</th>
<th>UD</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/13</td>
<td>Pail 16</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/13</td>
<td>Pail 17</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 49</td>
<td>1/2</td>
<td>Lg Mammal 6/25</td>
<td></td>
<td>2/32</td>
</tr>
<tr>
<td>7/13</td>
<td>Pail 50</td>
<td>1/3</td>
<td></td>
<td></td>
<td>7/9</td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 15</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 18</td>
<td>3/9</td>
<td>Lg Mammal 2/6</td>
<td></td>
<td>22/26</td>
</tr>
<tr>
<td>7/15</td>
<td>Pail 19</td>
<td>1/5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/16</td>
<td>Pail 20</td>
<td>6/221</td>
<td></td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>7/16</td>
<td>Pail 21</td>
<td>1/9</td>
<td>Lg Mammal 13/94</td>
<td></td>
<td>71/60</td>
</tr>
<tr>
<td>7/17</td>
<td>Pail 23</td>
<td>1/1</td>
<td>Gazelle 1/7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/17</td>
<td>Pail 24</td>
<td>1/9</td>
<td>Gazelle 2/5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/13</td>
<td>Pail 25</td>
<td>1/5</td>
<td>Cattle 1/5</td>
<td></td>
<td>25/53</td>
</tr>
<tr>
<td>7/14</td>
<td>Pail 26</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/24</td>
<td>Pail 34</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/24</td>
<td>Pail 35</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/25</td>
<td>Pail 36</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/25</td>
<td>Pail 37</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td>Pail 38</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td>Pail 39</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>Pail 40</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>Pail 41</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>Pail 42</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/28</td>
<td>Pail 43</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/28</td>
<td>Pail 44</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/28</td>
<td>Pail 45</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/28</td>
<td>Pail 46</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/29</td>
<td>Pail 47</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/29</td>
<td>Pail 48</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td>Pail 49</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td>Pail 50</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 51</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 52</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 53</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 54</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 55</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 56</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 57</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 58</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 59</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 60</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 61</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 62</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 63</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 64</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 65</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 66</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 67</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 68</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 69</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 70</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>Pail 71</td>
<td>1/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Time</td>
<td>Unit</td>
<td>Count/Weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>------------</td>
<td>--------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/5</td>
<td>7:5</td>
<td>Pig</td>
<td>1/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>8</td>
<td>Sheep/Goat</td>
<td>2/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/9</td>
<td>9</td>
<td>Cattle</td>
<td>2/26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>10</td>
<td>Sheep/Goat</td>
<td>1/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/11</td>
<td>11</td>
<td>Sheep/Goat</td>
<td>1/12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/12</td>
<td>12</td>
<td>Sheep/Goat</td>
<td>1/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/13</td>
<td>13</td>
<td>Sheep/Goat</td>
<td>2/5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/14</td>
<td>14</td>
<td>Sheep/Goat</td>
<td>1/15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/15</td>
<td>15</td>
<td>Sheep/Goat</td>
<td>1/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/16</td>
<td>16</td>
<td>Sheep/Goat</td>
<td>1/19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/17</td>
<td>17</td>
<td>Sheep/Goat</td>
<td>1/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/18</td>
<td>18</td>
<td>Sheep/Goat</td>
<td>1/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/19</td>
<td>19</td>
<td>Sheep/Goat</td>
<td>1/20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/20</td>
<td>20</td>
<td>Sheep/Goat</td>
<td>1/12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/21</td>
<td>21</td>
<td>Sheep/Goat</td>
<td>1/5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/22</td>
<td>22</td>
<td>Sheep/Goat</td>
<td>1/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>23</td>
<td>Sheep/Goat</td>
<td>1/7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/24</td>
<td>24</td>
<td>Sheep/Goat</td>
<td>1/21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/25</td>
<td>25</td>
<td>Sheep/Goat</td>
<td>1/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td>26</td>
<td>Sheep/Goat</td>
<td>1/15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>27</td>
<td>Sheep/Goat</td>
<td>1/19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/28</td>
<td>28</td>
<td>Sheep/Goat</td>
<td>1/20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/29</td>
<td>29</td>
<td>Sheep/Goat</td>
<td>1/14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td>30</td>
<td>Sheep/Goat</td>
<td>2/5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>31</td>
<td>Sheep/Goat</td>
<td>2/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/1</td>
<td>1</td>
<td>Horse</td>
<td>1/50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/2</td>
<td>2</td>
<td>Lg Mammal</td>
<td>4/18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/3</td>
<td>3</td>
<td>Lg Mammal</td>
<td>2/19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/4</td>
<td>4</td>
<td>Lg Mammal</td>
<td>1/20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/5</td>
<td>5</td>
<td>Lg Mammal</td>
<td>1/15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/6</td>
<td>6</td>
<td>Lg Mammal</td>
<td>1/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/7</td>
<td>7</td>
<td>Lg Mammal</td>
<td>1/21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8</td>
<td>8</td>
<td>Lg Mammal</td>
<td>3/0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/9</td>
<td>9</td>
<td>Lg Mammal</td>
<td>2/20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>10</td>
<td>Lg Mammal</td>
<td>3/15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/11</td>
<td>11</td>
<td>Lg Mammal</td>
<td>3/12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/12</td>
<td>12</td>
<td>Lg Mammal</td>
<td>3/21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/13</td>
<td>13</td>
<td>Lg Mammal</td>
<td>2/12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/14</td>
<td>14</td>
<td>Lg Mammal</td>
<td>2/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/15</td>
<td>15</td>
<td>Lg Mammal</td>
<td>2/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/16</td>
<td>16</td>
<td>Lg Mammal</td>
<td>2/19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/17</td>
<td>17</td>
<td>Lg Mammal</td>
<td>2/18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/18</td>
<td>18</td>
<td>Lg Mammal</td>
<td>2/17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/19</td>
<td>19</td>
<td>Lg Mammal</td>
<td>2/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/20</td>
<td>20</td>
<td>Lg Mammal</td>
<td>2/15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/21</td>
<td>21</td>
<td>Lg Mammal</td>
<td>2/14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/22</td>
<td>22</td>
<td>Lg Mammal</td>
<td>2/13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>23</td>
<td>Lg Mammal</td>
<td>2/12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/24</td>
<td>24</td>
<td>Lg Mammal</td>
<td>2/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/25</td>
<td>25</td>
<td>Lg Mammal</td>
<td>2/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/26</td>
<td>26</td>
<td>Lg Mammal</td>
<td>2/05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27</td>
<td>27</td>
<td>Lg Mammal</td>
<td>1/05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/28</td>
<td>28</td>
<td>Lg Mammal</td>
<td>1/00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/29</td>
<td>29</td>
<td>Lg Mammal</td>
<td>1/20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/30</td>
<td>30</td>
<td>Lg Mammal</td>
<td>1/15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/31</td>
<td>31</td>
<td>Lg Mammal</td>
<td>1/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Pail</td>
<td>Code</td>
<td>Species/Count</td>
<td>Code</td>
<td>Species/Count</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>-------</td>
<td>---------------</td>
<td>-------</td>
<td>---------------</td>
</tr>
<tr>
<td>7/9</td>
<td>Pail 11</td>
<td>U84</td>
<td>D.5X86</td>
<td>Date: 7/9</td>
<td>U84 D.5X86:7</td>
</tr>
<tr>
<td></td>
<td>UD 1/5</td>
<td></td>
<td></td>
<td>Date: 7/7/11</td>
<td>U84 D.5X86:7</td>
</tr>
<tr>
<td>7/10</td>
<td>Pail 15</td>
<td>U84</td>
<td>D.5X86:8</td>
<td>Date: 7/10</td>
<td>U84 D.5X86:8</td>
</tr>
<tr>
<td></td>
<td>UD 2/1</td>
<td></td>
<td>Sheep/Goat 1/10</td>
<td>Date: 7/11</td>
<td>U84 D.5X86:8</td>
</tr>
<tr>
<td>7/11</td>
<td>Pail 17</td>
<td>U84</td>
<td>Sheep/Goat 5/53</td>
<td>Date: 7/11</td>
<td>U84 D.5X86:8</td>
</tr>
<tr>
<td></td>
<td>UD 3/51</td>
<td></td>
<td>Lg Mammal 3/31</td>
<td>Date: 7/13</td>
<td>U84 D.5X86:8</td>
</tr>
<tr>
<td>7/12</td>
<td>Pail 28</td>
<td>U84</td>
<td>Lg Mammal 1/13</td>
<td>Date: 7/13</td>
<td>U84 D.5X86:8</td>
</tr>
<tr>
<td></td>
<td>UD 1/2</td>
<td></td>
<td></td>
<td>Date: 7/13</td>
<td>U84 D.5X86:8</td>
</tr>
<tr>
<td>7/13</td>
<td>Pail 20</td>
<td>U84</td>
<td>Lg Mammal 1/15</td>
<td>Date: 7/15</td>
<td>U84 D.5K86:10</td>
</tr>
<tr>
<td></td>
<td>UD 10/15</td>
<td></td>
<td></td>
<td>Date: 7/16</td>
<td>U84 D.5K86:10</td>
</tr>
<tr>
<td>7/12</td>
<td>Pail 38</td>
<td>U84</td>
<td>Sheep/Goat 2/6</td>
<td>Date: 7/19</td>
<td>U84 D.5K86:10</td>
</tr>
<tr>
<td></td>
<td>UD 7/12</td>
<td></td>
<td></td>
<td>Date: 7/19</td>
<td>U84 D.5K86:10</td>
</tr>
<tr>
<td>7/19</td>
<td>Pail 34</td>
<td>U84</td>
<td>Sheep/Goat 1/12</td>
<td>Date: 7/19</td>
<td>U84 D.5K86:16</td>
</tr>
<tr>
<td></td>
<td>UD 2/41</td>
<td></td>
<td></td>
<td>Date: 7/19</td>
<td>U84 D.5K86:16</td>
</tr>
<tr>
<td>7/10</td>
<td>Pail 38</td>
<td>U84</td>
<td>Sheep/Goat 3/10</td>
<td>Date: 7/10</td>
<td>U84 D.5K86:23</td>
</tr>
<tr>
<td></td>
<td>UD 3/10</td>
<td></td>
<td></td>
<td>Date: 7/10</td>
<td>U84 D.5K86:23</td>
</tr>
<tr>
<td>7/16</td>
<td>Pail 39</td>
<td>U84</td>
<td>Sheep/Goat 4/24</td>
<td>Date: 7/16</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td></td>
<td>UD 1/1</td>
<td></td>
<td></td>
<td>Date: 7/20</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td>7/20</td>
<td>Pail 41</td>
<td>U84</td>
<td>Sheep/Goat 10/23</td>
<td>Date: 7/20</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td></td>
<td>UD 3/10</td>
<td></td>
<td></td>
<td>Date: 7/20</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td>7/22</td>
<td>Pail 47</td>
<td>U84</td>
<td>Sheep/Goat 1/2</td>
<td>Date: 7/22</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td></td>
<td>UD 10/22</td>
<td></td>
<td></td>
<td>Date: 7/22</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td>7/23</td>
<td>Pail 42</td>
<td>U84</td>
<td>Sheep/Goat 4/24</td>
<td>Date: 7/23</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td></td>
<td>UD 3/10</td>
<td></td>
<td></td>
<td>Date: 7/23</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td>7/24</td>
<td>Pail 48</td>
<td>U84</td>
<td>Sheep/Goat 1/34</td>
<td>Date: 7/24</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td></td>
<td>UD 3/9</td>
<td></td>
<td></td>
<td>Date: 7/24</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td>7/25</td>
<td>Pail 49</td>
<td>U84</td>
<td>Sheep/Goat 1/2</td>
<td>Date: 7/25</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td></td>
<td>UD 3/2</td>
<td></td>
<td></td>
<td>Date: 7/25</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td>7/26</td>
<td>Pail 44</td>
<td>U84</td>
<td>Sheep/Goat 1/12</td>
<td>Date: 7/26</td>
<td>U84 D.5K86:24</td>
</tr>
<tr>
<td></td>
<td>UD 1/1</td>
<td></td>
<td></td>
<td>Date: 7/26</td>
<td>U84 D.5K86:24</td>
</tr>
</tbody>
</table>

09/20/85  
UMEIRI BONE LIST (COUNT/WEIGHT): SQUARE D.5K86  
Page 30
UMEIRI BONE LIST (COUNT/WEIGHT): SQUARE D.5K87

<table>
<thead>
<tr>
<th>Date</th>
<th>Sheep/Goat</th>
<th>Lg Mammal</th>
<th>Cattle</th>
<th>Gazelle</th>
<th>UD</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/29</td>
<td>7/3</td>
<td>3/29</td>
<td></td>
<td></td>
<td>11/28</td>
</tr>
<tr>
<td>7/5</td>
<td>7/9</td>
<td>1/5</td>
<td></td>
<td>Gazelle 6/13</td>
<td>26/22</td>
</tr>
<tr>
<td>7/13</td>
<td>7/13</td>
<td></td>
<td></td>
<td></td>
<td>1/1</td>
</tr>
<tr>
<td>7/6</td>
<td>7/9</td>
<td>2/10</td>
<td></td>
<td></td>
<td>5/2</td>
</tr>
<tr>
<td>7/13</td>
<td>7/9</td>
<td>1/7</td>
<td></td>
<td>Gazelle 2/4</td>
<td>Lg Mammal 4/35</td>
</tr>
<tr>
<td>7/9</td>
<td>7/14</td>
<td>1/7</td>
<td></td>
<td></td>
<td>1/1</td>
</tr>
<tr>
<td>7/10</td>
<td>7/18</td>
<td>2/2</td>
<td></td>
<td></td>
<td>5/10</td>
</tr>
<tr>
<td>7/13</td>
<td>7/13</td>
<td>3/16</td>
<td></td>
<td>Gazelle 1/8</td>
<td>3/8</td>
</tr>
<tr>
<td>7/17</td>
<td>7/13</td>
<td>2/4</td>
<td></td>
<td>Donkey 1/16</td>
<td>Gazelle 2/11</td>
</tr>
<tr>
<td>7/18</td>
<td>7/18</td>
<td>1/16</td>
<td></td>
<td></td>
<td>6/10</td>
</tr>
<tr>
<td>7/18</td>
<td>7/18</td>
<td>2/18</td>
<td></td>
<td></td>
<td>16/35</td>
</tr>
<tr>
<td>6/16</td>
<td>7/18</td>
<td>4/29</td>
<td></td>
<td></td>
<td>4/5</td>
</tr>
<tr>
<td>7/18</td>
<td>7/18</td>
<td>3/33</td>
<td></td>
<td></td>
<td>16/35</td>
</tr>
<tr>
<td>7/18</td>
<td>7/18</td>
<td>2/15</td>
<td></td>
<td></td>
<td>4/5</td>
</tr>
<tr>
<td>7/18</td>
<td>7/18</td>
<td>9/40</td>
<td></td>
<td></td>
<td>6/10</td>
</tr>
<tr>
<td>7/18</td>
<td>7/18</td>
<td>1/1</td>
<td></td>
<td></td>
<td>18/26</td>
</tr>
<tr>
<td>7/18</td>
<td>7/18</td>
<td>5/14</td>
<td>Sw Mammal 1/1</td>
<td>28/23</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>UFID</td>
<td>Site</td>
<td>Reading</td>
<td>Count</td>
<td>Total for Location</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td>--------------------</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.9</td>
<td>Field A</td>
<td>Fall 12</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.7</td>
<td>Field A</td>
<td>Fall 4</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.8</td>
<td>Field A</td>
<td>Fall 4</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.4</td>
<td>Field A</td>
<td>Fall 2</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.3</td>
<td>Field A</td>
<td>Fall 1</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.2</td>
<td>Field A</td>
<td>Fall 6</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.1</td>
<td>Field A</td>
<td>Fall 3</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.5</td>
<td>Field A</td>
<td>Fall 5</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.6</td>
<td>Field A</td>
<td>Fall 9</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.10</td>
<td>Field A</td>
<td>Fall 10</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.11</td>
<td>Field A</td>
<td>Fall 11</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/20/22</td>
<td>A.7208.12</td>
<td>Field A</td>
<td>Fall 12</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/21/22</td>
<td>A.7208.13</td>
<td>Field B</td>
<td>Fall 2</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/21/22</td>
<td>A.7208.14</td>
<td>Field B</td>
<td>Fall 4</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/21/22</td>
<td>A.7208.15</td>
<td>Field B</td>
<td>Fall 6</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/21/22</td>
<td>A.7208.16</td>
<td>Field B</td>
<td>Fall 8</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/21/22</td>
<td>A.7208.17</td>
<td>Field B</td>
<td>Fall 10</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>09/21/22</td>
<td>A.7208.18</td>
<td>Field B</td>
<td>Fall 12</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

**Note:** The table above represents the reading summaries for Field A and Field B on the specified dates. The columns include the date, UFID, site, reading, count, total for location, and date of the count.
<table>
<thead>
<tr>
<th>Field</th>
<th>Count</th>
<th>Date</th>
<th>Count</th>
<th>Date</th>
<th>Count</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**SUMMARY:**

- Field READING SUMMARIES: FLiNT
- Page 3
<table>
<thead>
<tr>
<th>Field</th>
<th>Count 1</th>
<th>Count 2</th>
<th>Count 3</th>
<th>Count 4</th>
<th>Count 5</th>
<th>Count 6</th>
<th>Count 7</th>
<th>Count 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field A</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Field B</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Field C</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

Field Reading Summaries: Flint

Field A:
- Count 1: 2
- Count 2: 3
- Count 3: 1
- Count 4: 2
- Count 5: 5
- Count 6: 6
- Count 7: 1
- Count 8: 7

Field B:
- Count 1: 4
- Count 2: 3
- Count 3: 2
- Count 4: 1
- Count 5: 7
- Count 6: 1
- Count 7: 2
- Count 8: 4

Field C:
- Count 1: 1
- Count 2: 5
- Count 3: 2
- Count 4: 3
- Count 5: 4
- Count 6: 1
- Count 7: 1
- Count 8: 6
Environmental Aspects of Tell el-Umeiri

As part of the field effort at Tell el-'Umeiri, the Ecology Laboratory was established to study the biophysical factors which may have affected the tension between beduinization and sedentarization in the region. The analysis of seed specimens contributed toward an understanding of how ancient man related to his natural environment.

Materials

It was found that the equipment used and the procedures followed were convenient and adequate to the overall goals perhaps because the work was undertaken comfortably in a large gymnasium which was well ventilated and had the benefit of a clean concrete floor.

Such a facility had ample space for the separated soil samples to be dried and sorted out of the wind and resulting contaminants, at the same time giving the opportunity to use a microscope and spotlight for more delicate work.

The following represents a list of the flotation equipment used during the 1984 season:

1. Two metal tubs measuring approximately 2'6" in diameter by 1'6" deep, each containing suitable handles.
2. Two tub-shaped sieves, again with handles and fitted with two layers of mesh of different grades. One grade was approximately 1/4 in and the other was 1/8 in. The sieves fitted into the tubs and the latter were filled with water.
3. A fine meshed kitchen strainer was used for skimming the fine fraction.
4. Heavy duty brown paper bags were used for drying the fractions.
5. Stick-on labels which contained the square number and designated the fraction as either "light" or "heavy" were adhered to each sample bag.
6. The water supply was provided through a 3/4 in hose outlet, connected to the Amman city water supply.

Methodology

Soil samples were collected each morning at the tell by the square supervisors and were then delivered to the laboratory when the field staff returned at 12:30 pm. These samples were immediately floated and the fractions were then placed on the brown paper bags, labeled according to Field, Square, dated and placed on tables in the gymnasium where they were allowed time to dry.

The soil was tipped into the sieve which was held in the water in the tub. The sieve was then oscillated to permit the light fraction to float to the surface, and this light fraction was then removed using the fine meshed kitchen strainer and placed onto a brown paper bag for drying. The larger sieve was lifted out of the tub and allowed to drain for several minutes before the heavy fraction was turned out onto a brown paper bag. During this process, the second
CARBONIZED SEEDS

tub was filling with water in readiness for the next sample. Before placing another sample in the second tub, the used water from the first tub was emptied down the nearby concrete drain and the remaining silt was emptied into a wheelbarrow, ready for later disposal. At the same time the tub and sieves used in this first process were rinsed in preparation for further use. The rather plentiful water supply made it possible to use fresh water on each occasion.

The flotation equipment was located on a concrete slab just outside the gymnasium doorway and provided a clean area for performing this routine.

To avoid contamination from particles carried by the wind, the fractions were immediately taken indoors to the tables where they were left to dry overnight, to be sorted at 4 a.m. the next morning.

The fractions, having dried overnight, were carried on the paper bags and placed on a table under a spotlight where they were either scanned as a whole or sorted under a microscope. The microscope proved to be most useful in identifying seed remains which had been extracted.

Using fine tipped tweezers, each seed grain was set aside on a sheet of white paper until the whole fraction had been sorted. Remains were recorded according to Field, Square, locus, and pail numbers. Other recorded information included the name of the Square supervisor, the date, cultigen remains, animal or object origin.

The samples were then stored in 2 x 2 in zipper-fastened, clear plastic bags. Adhesive labels which contained the above mentioned information were fastened to the outside of these bags and each bag was then conveniently stored in a plastic fishing lure box which had 12 compartments.

The method used to record the above information was chosen for its simplicity, accuracy and convenience. All details were recorded on an easy-to-follow printed sheet and then filed in a 3-ring binder which further provided a cross reference to the storage file. Under almost ideal circumstances, using relatively inexpensive equipment (apart from the microscope), an average of 5 samples were floated each day. This work together with the recording was easily managed by one person with intermittent time to spare.

Findings

At Tell el-Umeiri, barley remains predominated, followed by wheat and then grape. Most of the seeds, although carbonized, were of good quality for identification purposes.

In one significant find in Field A, pomegranate, grape, barley, and olive seeds were recovered from an Iron Age basin. Certain specific questions remain concerning the production of wheat and barley, since this first season yielded no identifiable evidence of rachis. Preliminary field identifications of all recovered materials follow.
UMEIRI FLOATATION LIST: SQUARE A.7X40

09/05/85

U84 A.7X40:6 Pail 34 Sort Date: 7/12 Fraction: L Pre-sort weight: 4 Sorted by: YH Remarks: SOME PARTS OF POSSIBLE TABUN FOUND
Plant Remains: Under 5 gr.
Grape SM
Other: MILLET?
Shell 8 UD X
Other Remains: None
Remarks: SOME PARTS OF POSSIBLE TABUN FOUND
Plant Remains: None
Shell 10 UD X
Other Remains: Weight: 40
Pottery X

U84 A.7X40:6 Pail 37 Sort Date: 7/13 Fraction: L Pre-sort weight: 2 Sorted by: YH Remarks: FROM A LAYER NEXT TO A WALL CONTAINING COBBLES, BONES, AND SOME TABUN FRAGMENTS AND CHARCOAL.
Plant Remains: Under 5 gr.
Charcoal: FRAGMENTS
Shell X
Other Remains: None
Remarks: FROM A LAYER NEXT TO A WALL CONTAINING COBBLES, BONES, AND SOME TABUN FRAGMENTS AND CHARCOAL
Plant Remains: Olive .5
Other: FINE ROOTS
Shell X
Other Remains: None

U84 A.7X40:13 Pail 64 Sort Date: 7/27 Fraction: L Pre-sort weight: 4 Sorted by: YH Remarks: SAMPLE FROM ABOVE POSSIBLE SURFACE. NO REMAINS IN LIGHT FRACTION.
Plant Remains: None
Other Remains: None
Remarks: SAMPLE FROM ABOVE POSSIBLE SURFACE
Plant Remains: Under 5 gr.
Other Plants: FINE ROOTS
Dung X UD X
Other Remains: None

Sample No. 17A
Sample No. 17B
Sample No. 23A
Sample No. 23B
Sample No. 111A
Sample No. 111B
<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Sort Date</th>
<th>Fraction</th>
<th>Pre-sort weight</th>
<th>Remarks</th>
<th>Plant Remains</th>
<th>Animal Remains</th>
<th>Other Remains</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>16A</td>
<td>7/11</td>
<td>H</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>16A</td>
<td>7/11</td>
<td>L</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14A</td>
<td>7/11</td>
<td>K</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>14A</td>
<td>7/11</td>
<td>L</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24A</td>
<td>7/13</td>
<td>L</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24A</td>
<td>7/13</td>
<td>H</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29A</td>
<td>7/15</td>
<td>L</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29A</td>
<td>7/15</td>
<td>H</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>7/3</td>
<td>L</td>
<td>14</td>
<td></td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:
- TAKEN FROM 30 CM DEPTH. NOTHING FOUND IN HEAVY FRACTION.
- DECEPTIVE ASH-LIKE PAIL. SOME OF THE RUBBLE EVEN LOOKS LIKE ASH AT FIRST GLANCE.
<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Sort Date</th>
<th>Fraction</th>
<th>Pre-sort weight</th>
<th>Sorted by</th>
<th>Remarks</th>
<th>Plant Remains</th>
<th>Animal Remains</th>
<th>Other Remains</th>
</tr>
</thead>
<tbody>
<tr>
<td>33A</td>
<td>7/17</td>
<td>L</td>
<td>7</td>
<td>YH</td>
<td>ASHY SOIL BUT NO PLANT REMAINS</td>
<td>Under 5 gr.</td>
<td>Under 5 gr.</td>
<td>None</td>
</tr>
<tr>
<td>33B</td>
<td>7/17</td>
<td>L</td>
<td>5</td>
<td>YH</td>
<td>ASHY SOIL BUT NO PLANT REMAINS</td>
<td>Under 5 gr.</td>
<td>Under 5 gr.</td>
<td>None</td>
</tr>
<tr>
<td>42A</td>
<td>7/18</td>
<td>L</td>
<td>5</td>
<td>YH</td>
<td>Charcoal: PARTICLES</td>
<td>Under 5 gr.</td>
<td>Under 5 gr.</td>
<td>None</td>
</tr>
<tr>
<td>42B</td>
<td>7/18</td>
<td>L</td>
<td>5</td>
<td>YH</td>
<td>Charcoal: PARTICLES</td>
<td>Under 5 gr.</td>
<td>Under 5 gr.</td>
<td>None</td>
</tr>
<tr>
<td>49</td>
<td>7/18</td>
<td>H</td>
<td>0</td>
<td>YH</td>
<td>Charcoal: PRESENT</td>
<td>Under 5 gr.</td>
<td>Under 5 gr.</td>
<td>None</td>
</tr>
<tr>
<td>73</td>
<td>7/24</td>
<td>L</td>
<td>0</td>
<td>YH</td>
<td>Charcoal: PRESENT</td>
<td>Under 5 gr.</td>
<td>Under 5 gr.</td>
<td>None</td>
</tr>
<tr>
<td>73B</td>
<td>7/24</td>
<td>H</td>
<td>9</td>
<td>YH</td>
<td>Charcoal: PRESENT</td>
<td>Under 5 gr.</td>
<td>Under 5 gr.</td>
<td>None</td>
</tr>
<tr>
<td>Sample No.</td>
<td>Date</td>
<td>Fraction</td>
<td>Pre-sort weight</td>
<td>Sorted by</td>
<td>Remarks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>----------</td>
<td>----------------</td>
<td>-----------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>83A</td>
<td>7/24</td>
<td>L</td>
<td>9</td>
<td>YH</td>
<td>Sample of soil immediately surrounding large pot (sample no. 85A)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82A</td>
<td>7/25</td>
<td>L</td>
<td>38</td>
<td>YH</td>
<td>Contents of large 2-handled vessel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82A</td>
<td>7/25</td>
<td>L</td>
<td>38</td>
<td>YH</td>
<td>Contents of large 2-handled pot</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82A</td>
<td>7/26</td>
<td>L</td>
<td>7</td>
<td>YH</td>
<td>Orange clay-type soil in appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82A</td>
<td>7/26</td>
<td>L</td>
<td>11</td>
<td>YH</td>
<td>Orange clay-type soil in appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82A</td>
<td>7/26</td>
<td>H</td>
<td>7</td>
<td>YH</td>
<td>Orange clay-type soil in appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82A</td>
<td>7/26</td>
<td>H</td>
<td>7</td>
<td>YH</td>
<td>Orange clay-type soil in appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82A</td>
<td>7/26</td>
<td>L</td>
<td>7</td>
<td>YH</td>
<td>Orange clay-type soil in appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82A</td>
<td>7/26</td>
<td>H</td>
<td>7</td>
<td>YH</td>
<td>Orange clay-type soil in appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Plant Remains:**
- Under 5 gr.
- Barley X
- Olive X
- Legume X
- Grape X
- UD X
- Dung X
- Shell X

**Animal Remains:**
- Under 5 gr.
- Rodent X
- Dung X
- Shell X

**Charcoal:**
- Present
- Fragments

**Other Remains:**
- Half pea?
- Flax
- Metal (nail shaped pieces)
<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Date</th>
<th>Fraction</th>
<th>Pre-sort Weight</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1104</td>
<td>7/27</td>
<td>L</td>
<td>2</td>
<td>Plant Remains: None&lt;br&gt;Animal Remains: None&lt;br&gt;Other Remains: None</td>
</tr>
<tr>
<td>1108</td>
<td>7/27</td>
<td>H</td>
<td>2</td>
<td>Plant Remains: Under 5 gr. Grape 1&lt;br&gt;Charcoal: PRESENT&lt;br&gt;Animal Remains: None&lt;br&gt;Other Remains: None</td>
</tr>
<tr>
<td>119</td>
<td>7/30</td>
<td></td>
<td>0</td>
<td>Plant Remains: None&lt;br&gt;Animal Remains: None&lt;br&gt;Other Remains: None</td>
</tr>
<tr>
<td>1098</td>
<td>7/27</td>
<td>H</td>
<td>9</td>
<td>Plant Remains: Under 5 gr. Wheat 1&lt;br&gt;Charcoal: FRAGMENTS&lt;br&gt;Animal Remains: Under 5 gr. Dung X&lt;br&gt;Other: SHEEP OR GOAT FRAGMENTS&lt;br&gt;Other Remains: None</td>
</tr>
</tbody>
</table>
09/05/85

UMEIRI FLOTATION LIST: SQUARE A.7X50

Sample No. 72

USA A.7X50:2 Pail 11 Sort Date: 7/23 Fraction: Pre-sort weight: 0 Sorted by: YH
Remarks: THIS ITEM WAS SUBMITTED INDEPENDENTLY OF ANY SOIL SAMPLE
Plant Remains: None
Other: COCKCH
Other Remains: None

Sample No. 154

USA A.7X50:3 Sort Date: 7/11 Fraction: H Pre-sort weight: 8 Sorted by: YH
Remarks: BEETLES ONLY SUBMITTED
Plant Remains: Under 5 gr.
Other: ROOTS
Other Remains: None

Sample No. 38

USA A.7X50:3 Pail 33 Sort Date: 7/18 Fraction: Pre-sort weight: 0 Sorted by: YH
Remarks: ONLY 2 OLIVE PIT PORTIONS SENT IN--NO SOIL
Plant Remains: Under 5 gr.
Animal Remains: None
Other: POTTERY
Other Remains: None

Sample No. 128

USA A.7X50:5 Sort Date: 8/3 Fraction: Pre-sort weight: 0 Sorted by: YH
Remarks: FROM CRATER
Plant Remains: Under 5 gr.
Other: 1 IRIDESCENT BEETLE
Other Remains: None

Sample No. 1418

USA A.7X50:5 Sort Date: 8/3 Fraction: H Pre-sort weight: 15 Sorted by: YH
Remarks: FROM CRATER
Plant Remains: Under 5 gr.
Other: ROOT
Other Remains: WEIGHT: 8

Sample No. 1418

USA A.7X50:5 Sort Date: 8/3 Fraction: L Pre-sort weight: 15 Sorted by: YH
Remarks: FROM CRATER
Plant Remains: Under 5 gr.
Other: SHELL
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: C Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER--NO ASH
Plant Remains: Under 5 gr.
Other: WEIGHT: 7
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: L Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 8
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: C Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 7
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: L Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 8
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: C Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 7
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: L Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 8
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: C Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 7
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: L Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 8
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: C Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 7
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: L Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 8
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: C Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 7
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: L Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 8
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: C Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 7
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: L Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
Other: WEIGHT: 8
Other Remains: None

Sample No. 1468

USA A.7X50:5 Sort Date: 8/3 Fraction: C Pre-sort weight: 15 Sorted by: YH
Remarks: CONTENTS OF CRATER
Plant Remains: Under 5 gr.
U84 A.7K50:5 Pail 133 Sort Date: 8/3 Fraction: H Pre-sort weight: 3 Sorted by: YH Remarks: CONTENTS OF LARGE SIZE 2-HANDED VESSEL. REMNANT OF LIGHT FRACTION SENT TO US FOR SORTING.
Plant Remains: Under 5 gr.
Barley 1  Legume 1  UD X
Charcoal: PRESENT
Other Remains: None

U84 A.7K50:5 Pail 134 Sort Date: 8/3 Fraction: H Pre-sort weight: 3 Sorted by: YH Remarks: CONTENTS OF LARGE SIZE 2-HANDED VESSEL. REMNANT OF LIGHT FRACTION SENT TO US FOR SORTING.
Plant Remains: Under 5 gr.
Barley X  Grape 1
Charcoal: 2 VERY SMALL FRAGMENTS
Other Remains: None

U84 A.7K50:5 Pail 134 Sort Date: 8/3 Fraction: L Pre-sort weight: 3 Sorted by: YH Remarks: CONTENTS OF LARGE SIZE 2-HANDED VESSEL. REMNANT OF LIGHT FRACTION SET TO US FOR FURTHER IDENTIFICATION.
Plant Remains: Under 5 gr.
Wheat 1  Grape 4  UD X
Charcoal: SPECKS
Charcoal: 2 VERY SMALL FRAGMENTS
Other Remains: None

U84 A.7K50:8 Sort Date: 7/11 Fraction: L Pre-sort weight: 8 Sorted by: YH Remarks: "FROM POINTY BASE"
Plant Remains: Under 5 gr.
Millet X  Charcoal: PRESENT
Other Remains: None

U84 A.7K50:9 Sort Date: 7/19 Fraction: L Pre-sort weight: 12 Sorted by: YH Remarks: SOIL SAMPLE CONSISTED OF MUDBRICK CONSISTENCY THEREFORE WAS SOAKED WELL BEFORE BEING BROKEN UP. NO SUPERVISOR NOTATION AS TO SOURCE.
Plant Remains: Olive 1
Charcoal: PRESENT
Other Remains: None

U84 A.7K50:9 Sort Date: 7/19 Fraction: H Pre-sort weight: 12 Sorted by: YH Remarks: "FROM POINTY BASE"
Plant Remains: Under 5 gr.
Barley X  Shell X
Other Remains: None
U84 A.7X50:9 Sort Date: 7/23 Fraction: L Pre-sort weight: 4 Sorted by: YH
Remarks: GRID 11
Plant Remains: Under 5 gr.
Charcoal: PRESENT
UD X
Other Remains: None
Sample No. 68A

U84 A.7X50:9 Sort Date: 7/23 Fraction: H Pre-sort weight: 4 Sorted by: YH
Remarks: GRID 11
Plant Remains: Under 5 gr.
Charcoal: PRESENT
UD X
Other Remains: None
Sample No. 68B

U84 A.7X50:10 Sort Date: 7/24 Fraction: L Pre-sort weight: 20 Sorted by: YH
Remarks: FROM GRID LOCATION 20 SOIL AROUND HALF OF POT IN SITU. ASHY SOIL.
Plant Remains: Under 5 gr.
Barley 7 Grape 4
Charcoal: PRESENT
Rodent X Shell X
Other Remains: None
Sample No. 81A

U84 A.7X50:10 Sort Date: 7/24 Fraction: H Pre-sort weight: 20 Sorted by: YH
Remarks: FROM GRID LOCATION 20 SOIL AROUND HALF OF POT IN SITU.
Plant Remains: Under 5 gr.
Wheat 2 Barley X Olive X
Other: PEAT
Rodent X Dung X UD X
Other Remains: Weight: 47
Pottery X
Sample No. 81B

U84 A.7X50:10 Pail 103 Sort Date: 7/26 Fraction: Pre-sort weight: 2 Sorted by: YH
Remarks: CONTENTS OF SMALL JUG. THIS SAMPLE WAS SO SMALL THAT IT WAS FLOATED IN A BUCKET. NO SEPARATE FRACTIONS.
Plant Remains: Under 5 gr.
Barley X
Charcoal: PRESENT
UD X
Other Remains: Weight: 6
Pottery X
Sample No. 99

U84 A.7X50:10 Sort Date: 7/26 Fraction: L Pre-sort weight: 6 Sorted by: YH
Remarks: "ASHY SOIL IN ACUTE ANGLE OF WALLS 4 AND 7." POTTERY X
Plant Remains: Under 5 gr.
Other Plants: Roots, suspected grape stalk
Shell 1
Other Remains: None
Sample No. 101A

U84 A.7X50:10 Sort Date: 7/26 Fraction: H Pre-sort weight: 6 Sorted by: YH
Remarks: "ASHY SOIL IN ACUTE ANGLE OF WALLS 4 AND 7." IN REALITY NO ASH SHOWN DURING FLOTATION--IN FACT SOIL APPEARED TO BE MORE ORANGE THAN USUAL.
Plant Remains: Under 5 gr.
Olive 2
UD X
Other Remains: Weight: 7
Pottery X
Sample No. 101B
<table>
<thead>
<tr>
<th>Sample No. 101C</th>
<th>Remarks: THERE WERE TWO SAMPLES WITH EXACT SAME DETAILS AND SIMILAR WEIGHTS. PERHAPS ONE WAS MEANT FOR GEOLOGY BUT FLOATED BEFORE REALIZED. FRACTIONS PASSED TO GEOLOGY AFTER SORTING.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley 1, Grape 2</td>
<td>Plant Remains: Barley 1, Grape 2</td>
</tr>
<tr>
<td>UD X</td>
<td>Other Plants: FINE ROOTS</td>
</tr>
<tr>
<td>None</td>
<td>Animal Remains: None</td>
</tr>
<tr>
<td>None</td>
<td>Other Remains: None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample No. 1010</th>
<th>Remarks: THERE WERE TWO SAMPLES WITH EXACT SAME DETAILS AND SIMILAR WEIGHTS. PERHAPS ONE WAS MEANT FOR GEOLOGY, BUT FLOATED BEFORE REALIZED. FRACTIONS LATER PASSED TO GEOLOGY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley 1, Grape 2</td>
<td>Plant Remains: Under 5 gr. Barley 1, Grape 2</td>
</tr>
<tr>
<td>UD X</td>
<td>Other Plants: FINE ROOTS</td>
</tr>
<tr>
<td>None</td>
<td>Animal Remains: Under 5 gr. Barley 1, Grape 2</td>
</tr>
<tr>
<td>UD X</td>
<td>Other Plants: FINE ROOTS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample No. 108A</th>
<th>Remarks: FROM SMALL VESSEL. THIS SAMPLE WAS SUCH SMALL QUANTITY THAT IT WAS NOT SEPARATED INTO FRACTIONS, JUST FLOATED IN SMALL BUCKET. NO ASH.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat X</td>
<td>Plant Remains: None</td>
</tr>
<tr>
<td>Dung X</td>
<td>Animal Remains: Under 5 gr. Barley 1, Grape 2</td>
</tr>
<tr>
<td>UD X</td>
<td>Other Plants: FINE ROOTS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample No. 108B</th>
<th>Remarks: CONTENTS OF SMALL VESSEL NOT SEPARATED INTO FRACTIONS BECAUSE SUCH A SMALL SAMPLE.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat X</td>
<td>Plant Remains: Under 5 gr. Barley 1, Grape 2</td>
</tr>
<tr>
<td>Shell X</td>
<td>Animal Remains: Under 5 gr. Barley 1, Grape 2</td>
</tr>
<tr>
<td>UD X</td>
<td>Other Plants: FINE ROOTS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample No. 83</th>
<th>Remarks: CONTENTS FROM SMALL VESSEL NOT SEPARATED INTO FRACTIONS BECAUSE SUCH A SMALL SAMPLE.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat X</td>
<td>Plant Remains: None</td>
</tr>
<tr>
<td>Dung X</td>
<td>Animal Remains: Under 5 gr. Barley 1, Grape 2</td>
</tr>
<tr>
<td>UD X</td>
<td>Other Plants: FINE ROOTS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample No. 87</th>
<th>Remarks: CONTENTS FROM SMALL VESSEL NOT SEPARATED INTO FRACTIONS BECAUSE SUCH A SMALL SAMPLE.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat X</td>
<td>Plant Remains: None</td>
</tr>
<tr>
<td>Shell X</td>
<td>Animal Remains: Under 5 gr. Barley 1, Grape 2</td>
</tr>
<tr>
<td>UD X</td>
<td>Other Plants: FINE ROOTS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample No. 88</th>
<th>Remarks: CONTENTS FROM RED JUG NOT SEPARATED INTO FRACTIONS BECAUSE SUCH A SMALL SAMPLE.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat X</td>
<td>Plant Remains: None</td>
</tr>
<tr>
<td>Shell X</td>
<td>Animal Remains: Under 5 gr. Barley 1, Grape 2</td>
</tr>
<tr>
<td>UD X</td>
<td>Other Plants: FINE ROOTS</td>
</tr>
<tr>
<td>Sample No.</td>
<td>Sort Date</td>
</tr>
<tr>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td>91A</td>
<td>7/24</td>
</tr>
<tr>
<td>91A</td>
<td>7/24</td>
</tr>
<tr>
<td>92A</td>
<td>7/24</td>
</tr>
<tr>
<td>92A</td>
<td>7/24</td>
</tr>
<tr>
<td>92B</td>
<td>7/24</td>
</tr>
<tr>
<td>93B</td>
<td>7/24</td>
</tr>
<tr>
<td>122A</td>
<td>7/31</td>
</tr>
<tr>
<td>122B</td>
<td>7/31</td>
</tr>
</tbody>
</table>

**PLANT REMAINS:**
- Charcoal:
- Animal Remains:
- Other Remains:

**ANIMAL REMAINS:**
- Weight:

**OTHER REMAINS:**
- Weight:

**POTTERY:**
- Weight:
UMEIRI FLOTATION LIST: SQUARE A.7K51

09/05/85

Page 1

Sample No. 7A

USA A.7K51:2

Sort Date: 7/6  Fraction: H  Pre-sort weight: 0  Sorted by: YH

Plant Remains: Under 5 gr.
- Wheat
- Grape
- UB

Other: HUSKS

- Shell
- 19

Other: PUPA

Other Remains: None

Sample No. 78

USA A.7K51:2

Sort Date: 7/9  Fraction: H  Pre-sort weight: 0  Sorted by: YH

Plant Remains: Under 5 gr.
- Grape
- 6 FRAGS

Other Plants: HUSKS

Charcoal: 6 FRAGS

- UB

Other Remains: Under 5 gr.
- Pottery

Other: PUPA

Sample No. 11

USA A.7K51:10

Sort Date: 7/10  Fraction: L  Pre-sort weight: 1  Sorted by: YH

Plant Remains: Under 5 gr.
- Wheat
- Olive
- Grape

Other: HUSKS

Charcoal: 3 FRAGS

Animal Remains: None

Other Remains: None

Sample No. 128

USA A.7K51:10

Sort Date: 7/11  Fraction: H  Pre-sort weight: 7  Sorted by: YH

Plant Remains: Under 5 gr.
- Wheat
- Olive
- Grape

Other Plants: GRAPE TENDRILS?

Charcoal: PRESENT

- UB

Other Remains: Pottery

Sample No. 18A

USA A.7K51:10

Sort Date: 7/12  Fraction: L  Pre-sort weight: 5  Sorted by: YH

Plant Remains: Under 5 gr.
- Grape

Other: ROOTS

Charcoal: FRAGMENTS

Animal Remains: None

Other Remains: None

Sample No. 188

USA A.7K51:10

Sort Date: 7/12  Fraction: H  Pre-sort weight: 5  Sorted by: YH

Plant Remains: Under 5 gr.
- Grape

Other: ROOTS

Charcoal: FRAGMENTS

Animal Remains: None

Other Remains: None

Sample No. 37

USA A.7K51:10

Sort Date: 7/16  Fraction: L  Pre-sort weight: 0  Sorted by: YH

Plant Remains: Under 5 gr.
- Olive

Animal Remains: None

Other Remains: None
Remarks:

This sample was just a few large hunks of mudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.

Remarks:

This sample was just a few large hunks of Kudbrick-like substance. It was soaked for 3 days and then broken up but no remains at all were found.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USA B.7J89:8</td>
<td>Pail 28 Sort Date: 7/18</td>
<td>Fraction: L</td>
<td>Pre-sort weight: 12</td>
<td>Sorted by: YH</td>
<td>Remarks: CHARCOAL ONLY SUBMITTED--NO SOIL SAMPLE</td>
<td>Plant Remains: Under 5 gr. Barley X Grape X</td>
<td>Charcoal: PRESENT</td>
<td>Animal Remains: None</td>
<td>Other Remains: None</td>
</tr>
<tr>
<td>Date</td>
<td>Plant Remains</td>
<td>Animal Remains</td>
<td>Other Remains</td>
<td>Sample No.</td>
<td>Remarks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>---------------</td>
<td>----------------</td>
<td>---------------</td>
<td>------------</td>
<td>----------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/20</td>
<td>Under 5 gr.</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>61A</td>
<td>INSIDE OF STORAGE POT, ASHY SOIL.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/20</td>
<td>Under 5 gr.</td>
<td>Shell X</td>
<td>None</td>
<td>61B</td>
<td>INSIDE OF STORAGE JAR, VERY ASHY SOIL.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>Barley 30+</td>
<td>Shell X</td>
<td>None</td>
<td>65A</td>
<td>INSIDE OF STORAGE JAR, ASHY SOIL.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>Barley X</td>
<td>Shell X</td>
<td>None</td>
<td>65B</td>
<td>contents of large pot #1, not very ashy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>Under 5 gr.</td>
<td>Shell X</td>
<td>None</td>
<td>66A</td>
<td>contents of large pot #2, not very ashy, few grains.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>Under 5 gr.</td>
<td>Shell X</td>
<td>None</td>
<td>66B</td>
<td>contents of large pot #2, not very ashy, few grains.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>Under 5 gr.</td>
<td>Shell X</td>
<td>None</td>
<td>67A</td>
<td>contents of large pot #3, not very ashy, few grains.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>Under 5 gr.</td>
<td>Shell X</td>
<td>None</td>
<td>67B</td>
<td>contents of large pot #3, not very ashy, few grains.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>Under 5 gr.</td>
<td>Shell X</td>
<td>None</td>
<td>68A</td>
<td>contents of large pot #4, not very ashy, few grains.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/23</td>
<td>Under 5 gr.</td>
<td>Shell X</td>
<td>None</td>
<td>68B</td>
<td>contents of large pot #4, not very ashy, few grains.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
09/05/85 UMEIR FLOTATION LIST: SQUARE B.7J89

Sample No. 112A

USA B.7J89:18 Pail 58 Sort Date: 7/27 Fraction: H Pre-sort weight: 10 Sorted by: YH
Remarks: "BETWEEN COBBLES"
Plant Remains: Under 5 gr.
Barley X Grape X
Other: FLAX
Other Plants: FINE ROOTS
Shell X Dung X
Other Remains: None

Sample No. 112B

USA B.7J89:18 Pail 58 Sort Date: 7/27 Fraction: H Pre-sort weight: 10 Sorted by: YH
Remarks: "BETWEEN COBBLES"
Plant Remains: Under 5 gr.
Charcoal: FRAGMENTS
Animal Remains: None
Other Remains: Under 5 gr.
Pottery X

Sample No. 114A

USA B.7J89:18 Pail 57 Sort Date: 7/27 Fraction: L Pre-sort weight: 4 Sorted by: YH
Remarks: NOTHING IN HEAVY FRACTION
Plant Remains: Under 5 gr.
Charcoal: PRESENT
Animal Remains: None
Other Remains: None

Sample No. 114B

USA B.7J89:18 Pail 57 Sort Date: 7/27 Fraction: L Pre-sort weight: 9 Sorted by: YH
Remarks: COMPLETE FRACTION STORED FOR MORE EXPERT SORTING.
Plant Remains: Under 5 gr.
Charcoal: PRESENT
Animal Remains: None
Other Remains: None

09/05/85 UMEIR FLOTATION LIST: SQUARE B.7J98

Sample No. 132A

USA B.7J98:10 Pail 58 Sort Date: 8/3 Fraction: H Pre-sort weight: 10 Sorted by: YH
Remarks: "BETWEEN COBBLES"
Plant Remains: Under 5 gr.
Other: FLAX
Other Plants: FINE ROOTS
Other Remains: None

Sample No. 132B

USA B.7J98:10 Pail 58 Sort Date: 8/3 Fraction: L Pre-sort weight: 9 Sorted by: YH
Remarks: COMPLETE FRACTION STORED FOR MORE EXPERT SORTING.
Plant Remains: Under 5 gr.
Charcoal: PRESENT
Shell X
Other Remains: None

Sample No. 135A

USA B.7J98:10 Pail 59 Sort Date: 8/3 Fraction: H Pre-sort weight: 4 Sorted by: YH
Remarks: WORKING IN HEAVY FRACTION
Plant Remains: None
Animal Remains: None
Other Remains: Under 5 gr.
Other: FLINT PIECES

Sample No. 135B

USA B.7J98:10 Pail 59 Sort Date: 8/3 Fraction: L Pre-sort weight: 4 Sorted by: YH
Remarks: COMPLETE FRACTION STORED FOR MORE EXPERT SORTING.
Plant Remains: Under 5 gr.
Charcoal: PRESENT
Shell X
Other Remains: None
### Sample No. 40
- **Plant Remains:** Under 5 gr.
- **Charcoal:** Present
- **Animal Remains:** Under 5 gr.
- **Other Remains:** None

### Sample No. 41
- **Plant Remains:** Under 5 gr.
- **Charcoal:** Present
- **Animal Remains:** Under 5 gr.
- **Other Remains:** None

### Sample No. 44A
- **Plant Remains:** Under 5 gr.
- **Charcoal:** Present
- **Animal Remains:** Under 5 gr.
- **Other Remains:** None

### Sample No. 44B
- **Plant Remains:** Under 5 gr.
- **Charcoal:** Present
- **Animal Remains:** Under 5 gr.
- **Other Remains:** None

### Sample No. 70A
- **Plant Remains:** Under 5 gr.
- **Charcoal:** Present
- **Animal Remains:** Under 5 gr.
- **Other Remains:** None

### Sample No. 70B
- **Plant Remains:** Under 5 gr.
- **Charcoal:** Present
- **Animal Remains:** Under 5 gr.
- **Other Remains:** None

### Sample No. 133A
- **Plant Remains:** Under 5 gr.
- **Charcoal:** Present
- **Animal Remains:** None
- **Other Remains:** None

### Sample No. 133B
- **Plant Remains:** None
- **Charcoal:** None
- **Animal Remains:** None
- **Other Remains:** None

### Sample No. 76A
- **Plant Remains:** Under 5 gr.
- **Charcoal:** Present
- **Animal Remains:** None
- **Other Remains:** None

### FIELD READING SUMMARIES: CARBONIZED SEEDS
09/05/85  UMEIRI FLOTATION LIST: SQUARE B.7K90  Page 19
UMEIRI FLOTATION LIST: SQUARE B.7K90

Sample No. 76A

**U84 B.7K90:13**
- Pail: 66
- Sort Date: 7/24
- Fraction: H
- Pre-sort weight: 4
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: Pottery X

Remarks: THREE PAILO NUMBERS THE SAME, IN THE SAME LOCUS

Sample No. 77A

**U84 B.7K90:13**
- Pail: 66
- Sort Date: 7/24
- Fraction: L
- Pre-sort weight: 6
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: Weight: 74

Remarks: THREE PAILO NUMBERS THE SAME, IN THE SAME LOCUS

Sample No. 77B

**U84 9.7X90:13**
- Pail: 66
- Sort Date: 7/24
- Fraction: H
- Pre-sort weight: 6
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: Weight: 74

Remarks: THREE PAILO NUMBERS THE SAME, IN THE SAME LOCUS

Sample No. 78A

**U84 B.7K90:13**
- Pail: 66
- Sort Date: 7/24
- Fraction: L
- Pre-sort weight: 5
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: None

Remarks: THREE PAILO NUMBERS THE SAME, IN SAME LOCUS

Sample No. 78B

**U84 9.7X90:13**
- Pail: 66
- Sort Date: 7/24
- Fraction: H
- Pre-sort weight: 5
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: None

Remarks: THREE PAILO NUMBERS THE SAME, FROM LOCUS 13

Sample No. 78C

**U84 9.7X90:13**
- Pail: 66
- Sort Date: 7/27
- Fraction: L
- Pre-sort weight: 1
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: None

Remarks: PROBE, SE CORNER

Sample No. 107A

**U84 B.7K90:13**
- Pail: 68
- Sort Date: 7/27
- Fraction: L
- Pre-sort weight: 1
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: None

Remarks: PROBE, SE CORNER

Sample No. 107B

**U84 B.7K90:13**
- Pail: 68
- Sort Date: 7/27
- Fraction: H
- Pre-sort weight: 1
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: None

Remarks: PROBE, SE CORNER

Sample No. 116

**U84 B.7K90:13**
- Pail: 68
- Sort Date: 7/27
- Fraction: L
- Pre-sort weight: 0
- Sorted by: YH
- Plant Remains: None
- Animal Remains: None
- Other Remains: Under 5 gr.

Remarks: PROBE, SE CORNER

Sample No. 56A

**U84 9.7X90:14**
- Pail: 76
- Sort Date: 7/24
- Fraction: L
- Pre-sort weight: 1
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: None

Remarks: PROBE, SE CORNER

Sample No. 56B

**U84 B.7K90:13**
- Pail: 66
- Sort Date: 7/24
- Fraction: L
- Pre-sort weight: 5
- Sorted by: YH
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: None

Remarks: THREE PAILO NUMBERS THE SAME, IN SAME LOCUS
**FIELD READING SUMMARIES: CARBONIZED SEEDS**

**U84 8.7X90:14 Pail 76 Sort Date: 7/24 Fraction: H Pre-sort weight: 1 Sorted by: YH**
- Plant Remains: Barley 1, Legume X, Grape 2
- Other: PEA
- Animal Remains: None
- Other Remains: None

**U84 8.7X90:14 Pail 70 Sort Date: 7/24 Fraction: L Pre-sort weight: 8 Sorted by: YH**
- Plant Remains: Under 5 gr., Legume X, Grape 1
- Other Plants: ROOTS
- Animal Remains: None
- Other Remains: None

**U84 8.7X90:14 Pail 70 Sort Date: 7/24 Fraction: H Pre-sort weight: 8 Sorted by: YH**
- Plant Remains: Under 5 gr., Legume X, Grape 1
- Other Remains: None

**U84 8.7X90:14 Pail 70 Sort Date: 6/24 Fraction: H Pre-sort weight: 8 Sorted by: YH**
- Plant Remains: Under 5 gr., Legume X
- Other Remains: Weight: 70

**U84 8.7X90:14 Pail 70 Sort Date: 7/25 Fraction: H Pre-sort weight: 0 Sorted by: YH**
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: None

**U84 8.7X90:14 Pail 75 Sort Date: 7/26 Fraction: H Pre-sort weight: 10 Sorted by: YH**
- Plant Remains: Under 5 gr., Legume 2, Olive 2
- Animal Remains: None
- Other Remains: None

**U84 8.7X90:15 Pail 70 Sort Date: 6/24 Fraction: H Pre-sort weight: 8 Sorted by: YH**
- Plant Remains: Under 5 gr., Legume X, Grape 1
- Other Remains: None

**U84 8.7X90:15 Pail 75 Sort Date: 7/25 Fraction: H Pre-sort weight: 0 Sorted by: YH**
- Plant Remains: Under 5 gr.
- Animal Remains: None
- Other Remains: None

**U84 8.7X90:15 Pail 75 Sort Date: 7/26 Fraction: H Pre-sort weight: 10 Sorted by: YH**
- Plant Remains: Under 5 gr., Legume 2, Olive 1
- Animal Remains: None
- Other Remains: Weight: 10

**U84 8.7X90:15 Pail 86 Sort Date: 7/31 Fraction: H Pre-sort weight: 11 Sorted by: YH**
- Plant Remains: Under 5 gr.
- Other Remains: None
<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Date</th>
<th>Fraction</th>
<th>Pre-sort Weight</th>
<th>Remarks</th>
<th>Plant Remains</th>
<th>Animal Remains</th>
<th>Other Remains</th>
</tr>
</thead>
<tbody>
<tr>
<td>120B</td>
<td>7/31</td>
<td>L</td>
<td>11</td>
<td>LIGHT FRACTION PARCELED FOR FURTHER SORTING</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>120C</td>
<td>7/31</td>
<td>L</td>
<td>5</td>
<td>SOIL SAMPLE FLOATED BY MISTAKE</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>120D</td>
<td>7/31</td>
<td>H</td>
<td>5</td>
<td>SOIL SAMPLE FLOATED BY MISTAKE</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>124</td>
<td>7/27</td>
<td>H</td>
<td>0</td>
<td>CONTENTS OF POT BASE. NO RESULTS.</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>53A</td>
<td>7/19</td>
<td>L</td>
<td>6</td>
<td>SMALL PIECE</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>53B</td>
<td>7/19</td>
<td>H</td>
<td>6</td>
<td>SMALL PIECE</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

09/05/85 UMEIRI FLOTATION LIST: SQUARE B.7X90

Page 23
<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Date</th>
<th>Fraction</th>
<th>Pre-sort weight</th>
<th>Sorted by</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>138</td>
<td>8/13</td>
<td>L</td>
<td>11</td>
<td>YH</td>
<td>&quot;EARTH SURFACE MATERIAL&quot;</td>
</tr>
<tr>
<td>26</td>
<td>7/18</td>
<td></td>
<td>0</td>
<td>YH</td>
<td>RESIDUE ATTACHED TO LARGE POTSHerd. SEED ENCRUSTED WITHIN. THERE WAS NOTHING AT ALL IN THIS SMALL SAMPLE.</td>
</tr>
<tr>
<td>43</td>
<td>7/18</td>
<td></td>
<td>0</td>
<td>YH</td>
<td>RESIDUE ATTACHED TO LARGE POTSHerd. SEED ENCRUSTED WITHIN. THERE WAS NOTHING AT ALL IN THIS SMALL SAMPLE.</td>
</tr>
<tr>
<td>47</td>
<td>7/18</td>
<td></td>
<td>1</td>
<td>YH</td>
<td>ASH POCKET IN TUMBLE. NO SEPARATION INTO FRACTIONS BECAUSE SUCH LITTLE SAMPLE.</td>
</tr>
<tr>
<td>130A</td>
<td>8/2</td>
<td>L</td>
<td>11</td>
<td>YH</td>
<td>&quot;EARTH SURFACE MATERIAL&quot;</td>
</tr>
<tr>
<td>130B</td>
<td>8/2</td>
<td>H</td>
<td>11</td>
<td>YH</td>
<td>&quot;EARTH SURFACE MATERIAL&quot;</td>
</tr>
<tr>
<td>57</td>
<td>7/19</td>
<td>H</td>
<td>6</td>
<td>YH</td>
<td>LIGHT FRACTION MISPLACED</td>
</tr>
<tr>
<td>63A</td>
<td>7/20</td>
<td>L</td>
<td>7</td>
<td>YH</td>
<td>NO REMAINS AT ALL IN THIS FRACTION.</td>
</tr>
</tbody>
</table>

Sample No. 138:
- **Remarks:** CONTENTS OF VERY SMALL POT. NOT SEPARATED INTO FRACTIONS. SAMPLE TOO SMALL. NOTHING IN SAMPLE.
- **Plant Remains:** None
- **Animal Remains:** None
- **Other Remains:** None

Sample No. 26:
- **Remarks:** RESIDUE ATTACHED TO LARGE POTSHerd. SEED ENCRUSTED WITHIN. THERE WAS NOTHING AT ALL IN THIS SMALL SAMPLE.
- **Plant Remains:** None
- **Animal Remains:** None
- **Other Remains:** None

Sample No. 43:
- **Remarks:** RESIDUE ATTACHED TO LARGE POTSHerd. SEED ENCRUSTED WITHIN. THERE WAS NOTHING AT ALL IN THIS SMALL SAMPLE.
- **Plant Remains:** None
- **Animal Remains:** None
- **Other Remains:** None

Sample No. 47:
- **Remarks:** ASH POCKET IN TUMBLE. NO SEPARATION INTO FRACTIONS BECAUSE SUCH LITTLE SAMPLE.
- **Plant Remains:** None
- **Animal Remains:** None
- **Other Remains:** None

Sample No. 130A:
- **Remarks:** EARTH SURFACE MATERIAL
- **Plant Remains:** Olive
- **Animal Remains:** Sheep/Goat
- **Other Remains:** None

Sample No. 130B:
- **Remarks:** EARTH SURFACE MATERIAL
- **Plant Remains:** Olive
- **Animal Remains:** Sheep/Goat
- **Other Remains:** None

Sample No. 57:
- **Remarks:** LIGHT FRACTION MISPLACED
- **Plant Remains:** None
- **Animal Remains:** None
- **Other Remains:** Flint, Soil Imression

Sample No. 63A:
- **Remarks:** NO REMAINS AT ALL IN THIS FRACTION.
- **Plant Remains:** None
- **Animal Remains:** None
- **Other Remains:** None
UMEIRI FLOTATION LIST: SQUARE C.8L72

Sample No. 536

U64 C.8L72:13 Pail 32 Sor Date: 7/20 Fraction: H Pre-sort weight: 7 Sorted by: YH

Plant Remains: Under 5 gr.

Charcoal: Presents

Other Plants: Wood

Animal Remains: None

Other Remains: Pottery X

Sample No. 79A

U64 C.8L72:15 Pail 37 Sort Date: 7/24 Fraction: L Pre-sort weight: 18 Sorted by: YH

Barley X

Grape X

Other: PEA

Charcoal: Present

Animal Remains: None

Other Remains: None

Sample No. 79B

U84 C.8L72:15 Pail 37 Sort Date: 7/24 Fraction: H Pre-sort weight: 18 Sorted by: YH

Remarks: "EARTH AND PLASTER SURFACE"

Plant Remains: Under 5 gr.

Charcoal: Present


Other Remains: None

Sample No. 125A

U84 C.8L72:16 Pail 46 Sort Date: 7/26 Fraction: L Pre-sort weight: 6 Sorted by: YH

Plant Remains: Under 5 gr.

Charcoal: Fragments


Other Remains: None

Sample No. 125B

U84 C.8L72:22 Pail 61 Sort Date: 7/27 Fraction: L Pre-sort weight: 0 Sorted by: YH

Remarks: CHARCOAL SAMPLE ONLY SUBMITTED

Plant Remains: Under 5 gr.

Charcoal: Present

Animal Remains: None

Other Remains: None

Sample No. 139

U84 C.8L72:23 Sort Date: 8/3 Fraction: L Pre-sort weight: 0 Sorted by: YH

Remarks: VERY SMALL SAMPLE SUBMITTED--SUSPECTED CHARCOAL BUT ONLY A FEW SPECKS. TOO SMALL QUANTITY TO SEPARATE.

Plant Remains: Under 5 gr.

Charcoal: Specks

Animal Remains: None

Other Remains: None
<table>
<thead>
<tr>
<th>Sample No. 129</th>
<th>Pail 73</th>
<th>Sort Date: 8/2</th>
<th>Fractions: C</th>
<th>Pre-sort weight: 0</th>
<th>Sorted by: YH</th>
<th>Remarks: TWO CLODS ONLY—TWO CHARCOAL FRAGMENTS; TOO SMALL QUANTITY FOR FRACTIONS.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plant Remains: None</td>
<td>Animal Remains: None</td>
<td>Other Remains: None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample No. 127A</td>
<td>Pail 77</td>
<td>Sort Date: 8/2</td>
<td>Fractions: L</td>
<td>Pre-sort weight: 14</td>
<td>Sorted by: YH</td>
<td>Remarks: &quot;ASHY POCKET&quot;—NO REMAINS</td>
</tr>
<tr>
<td></td>
<td>Plant Remains: None</td>
<td>Animal Remains: None</td>
<td>Other Remains: None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample No. 127B</td>
<td>Pail 77</td>
<td>Sort Date: 8/2</td>
<td>Fractions: H</td>
<td>Pre-sort weight: 14</td>
<td>Sorted by: YH</td>
<td>Remarks: &quot;ASHY POCKET&quot;</td>
</tr>
<tr>
<td></td>
<td>Other Remains: Weight: 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pottery X PLINT</td>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIELD READING SUMMARIES: CARBONIZED SEEDS
<table>
<thead>
<tr>
<th>Sort Date</th>
<th>Fraction</th>
<th>Pre-sort weight</th>
<th>Sorted by</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/6</td>
<td>L</td>
<td>0</td>
<td>YH</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>L</td>
<td>7</td>
<td>YH</td>
<td></td>
</tr>
<tr>
<td>7/12</td>
<td>L</td>
<td>1</td>
<td>YH</td>
<td></td>
</tr>
<tr>
<td>7/10</td>
<td>H</td>
<td>6</td>
<td>YH</td>
<td></td>
</tr>
<tr>
<td>7/12</td>
<td>H</td>
<td>7</td>
<td>YH</td>
<td></td>
</tr>
<tr>
<td>7/12</td>
<td>H</td>
<td>2</td>
<td>YH</td>
<td></td>
</tr>
<tr>
<td>7/18</td>
<td>L</td>
<td>8</td>
<td>YH</td>
<td></td>
</tr>
<tr>
<td>7/18</td>
<td>H</td>
<td>0</td>
<td>YH</td>
<td></td>
</tr>
</tbody>
</table>

- **Sample No. 6A**: UD 1, Plant Remains: Under 5 gr. Animal Remains: WILD GRASS. Other Remains: None.
- **Sample No. 6B**: UD 1, Plant Remains: Under 5 gr. Animal Remains: None. Other Remains: None.
- **Sample No. 100A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 101A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 104A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 105A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 106A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 107A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 108A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 109A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 110A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 111A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 112A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 113A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 114A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 115A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
- **Sample No. 116A**: UD 2, Plant Remains: None. Animal Remains: None. Other Remains: None.
U84 C.8L73:9  Sort Date: 7/23  Fraction: L  Pre-sort weight: 6  Sorted by: YH
Plant Remains: Under 5 gr.
Animal Remains: None
Other Remains: None

Plant Remains: Legume X
Animal Remains: None
Other Remains: None

U84 C.8L73:10  Sort Date: 7/24  Fraction: L  Pre-sort weight: 11  Sorted by: YH
Plant Remains: Under 5 gr.
Legume 1  Grape 1
Other Plants: ROOT/BARK
Animal Remains:
Insect X
Other Remains:
BONE CARVED INTO OBJECT (FRAGMENT ONLY)
Pottery X
Other Remains:
Weight: 14

U84 C.8L73:11  Pail 1  Sort Date: 7/26  Fraction: L  Pre-sort weight: 6  Sorted by: YH
Plant Remains: None
Other Plants: ROOTS
Animal Remains: None
Other Remains: None

U84 C.8L73:15  Sort Date: 8/2  Fraction: L  Pre-sort weight: 7  Sorted by: YH
Plant Remains: None
Shell X
Other Remains: None

U84 C.8L73:15  Sort Date: 8/2  Fraction: H  Pre-sort weight: 7  Sorted by: YH
Plant Remains: None
Other Plants: ROOTS
Charcoal: 1 PIECE
Animal Remains: None
Other Remains:
Weight: 7
084 C.8L82:2
Sort Date: 7/15 Fraction: L Pre-sort weight: 2 Sorted by: YH
Remarks:
NOTHING AT ALL IN HEAVY FRACTIONS--SMALL STONES LOOKING LIKE CHARCOAL BUT NOT IN FACT.
Plant Remains:
Charcoal: FRAGMENTS
Animal Remains: None
Other Remains: None

084 C.8L82:6
Sort Date: 7/26 Fraction: H Pre-sort weight: 6 Sorted by: YH
Remarks:
THERE WERE NO REMAINS AT ALL IN LIGHT FRACTION
Plant Remains:
Olive 1
Other Plants: ROOTS
Shell X
Other Remains: None

084 C.8L82:9 Pail 51 Sort Date: 7/26 Fraction: L Pre-sort weight: 10 Sorted by: YH
Remarks:
CONTENT OF PROBABLY PIT--MANY BONES AND SHERDS
Plant Remains:
Grape 1
Other: FLAX (HUSS?)
Shell X
Other Remains: None

084 C.8L82:9 Pail 51 Sort Date: 7/26 Fraction: H Pre-sort weight: 10 Sorted by: YH
Remarks:
CONTENT OF PROBABLY PIT--MANY BONES AND SHERDS
Plant Remains:
UD X
UD X
Other Remains: None
<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Plant Remains</th>
<th>Animal Remains</th>
<th>Other Remains</th>
</tr>
</thead>
<tbody>
<tr>
<td>13A</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>22</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>31</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>123</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Barley 1</td>
<td>Olive 1</td>
<td></td>
</tr>
<tr>
<td>131</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Barley 1</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>50</td>
<td>Charcoal: PRESENT</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>45A</td>
<td>Barley X</td>
<td>PART OF BARLEY SPIKELEY---NOT CARBONIZED</td>
<td>None</td>
</tr>
<tr>
<td>45B</td>
<td>Barley X</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Under 5 gr.</td>
<td>Part of Barley Spikelet---Not Carbonized</td>
<td>None</td>
</tr>
</tbody>
</table>

**Remarks:**
- NOTHING IN LIGHT FRACTION AT ALL
- CONTENTS OF JAR BASE
- CHARCOAL ONLY SUBMITTED--NO SOIL SAMPLE FOR FLOTATION
- HANDFUL OF EARTH--SUSPECTED SEEDS
- CHARCOAL ONLY SUBMITTED--NO SOIL SAMPLE FOR FLOTATION
UMEIRI FLOTATION LIST: SQUARE D.5K76

U84 D.5K76:10 Pail 26 Sort Date: 7/19 Fraction: L Pre-sort weight: 4 Sorted by: YH
Plant Remains: Under 5 gr.
Shell X
Other Remains: None

U84 D.5K76:10 Pail 26 Sort Date: 7/18 Fraction: H Pre-sort weight: 4 Sorted by: YH
Plant Remains: Under 5 gr.
Barley X Olive X
Other Plants: ROOTS/TENDRILS
Charcoal: PRESENT
Animal Remains: None
Other Remains: None

U84 D.5K76:15 Pail 38 Sort Date: 7/25 Fraction: Pre-sort weight: 0 Sorted by: YH
Remarks: CHARCOAL SAMPLE ONLY--NO SOIL FOR FLOTATION
Plant Remains: Under 5 gr.
Charcoal: PRESENT
Animal Remains: None
Other Remains: None
<table>
<thead>
<tr>
<th>Sample No. 34A</th>
<th>Remarks: ASHY SOIL, mostly too small and poterie to retain. SURPRISINGLY no remains in this fraction.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Under 5 gr. Roots: None. Plant remains: Charcoal: None. Other remains: None.</td>
</tr>
<tr>
<td></td>
<td>Grape X</td>
</tr>
<tr>
<td>Sample No. 34B</td>
<td>Remarks:</td>
</tr>
<tr>
<td></td>
<td>Shell X</td>
</tr>
<tr>
<td>Sample No. 39A</td>
<td>Remarks: BALK REMOVAL. Fraction was all charcoal - sent to us for analysis.</td>
</tr>
<tr>
<td></td>
<td>Shell X</td>
</tr>
<tr>
<td>Sample No. 142A</td>
<td>Remarks: BALK REMOVAL. Fraction was all charcoal - sent to us for analysis.</td>
</tr>
<tr>
<td></td>
<td>Shell X</td>
</tr>
<tr>
<td>Sample No. 115A</td>
<td>Remarks:</td>
</tr>
<tr>
<td></td>
<td>Shell X</td>
</tr>
<tr>
<td>Sample No. 115B</td>
<td>Remarks:</td>
</tr>
<tr>
<td></td>
<td>Shell X</td>
</tr>
<tr>
<td>Sample No. 115C</td>
<td>Remarks:</td>
</tr>
<tr>
<td></td>
<td>Shell X</td>
</tr>
</tbody>
</table>
UMEIRI FLOTATION LIST: SQUARE D.5X86

U84 D.5X86:5 Pail 22 Sort Date: 7/12 Fraction: Pre-sort weight: 2 Sorted by: YH Not separated into fraction because such a small sample
Plant Remains: None
Animal Remains: None
Other Remains: None

U84 D.5X86:24 Pail 39 Sort Date: 7/20 Fraction: L Pre-sort weight: 13 Sorted by: YH
Remarks: Charcoal particles are many but too small to retain
Plant Remains: Under 5 gr.
Other: Roots
Shell X
Other Remains: None

U84 D.5X86:24 Pail 39 Sort Date: 7/20 Fraction: H Pre-sort weight: 13 Sorted by: YH
Remarks: Light fraction was all ash; heavy fraction only two particles. Indicates effectiveness of floating.
Plant Remains: Under 5 gr.
Charcoal: Present
Insect X Shell X
Other Remains: None

U84 D.5X86:24 Pail 48 Sort Date: 7/24 Fraction: L Pre-sort weight: 6 Sorted by: YH
Remarks: Ashy soil—actually only ash remained after flotation
Plant Remains: Other Plants: Roots
Charcoal: Present
Insect X Shell X
Other Remains: None

U84 D.5X86:24 Pail 48 Sort Date: 7/24 Fraction: H Pre-sort weight: 6 Sorted by: YH
Remarks: Light fraction was ash; heavy fraction only two particles. Indicates effectiveness of floating.
Plant Remains: Under 5 gr.
Charcoal: Present
Insect X Shell X
Other Remains: None

U84 D.5X86:25 Pail 49 Sort Date: 7/26 Fraction: L Pre-sort weight: 4 Sorted by: YH
Plant Remains: Under 5 gr.
Other Plants: Roots
Shell X
Other Remains: None

U84 D.5X86:25 Pail 49 Sort Date: 7/26 Fraction: H Pre-sort weight: 4 Sorted by: YH
Plant Remains: Under 5 gr.
Other Plants: Roots
Shell X
Other Remains: None
<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4A</td>
<td>U84 D.5X87:3 Plant Remains: Pail 7 Sort Date: 7/6 Fraction: L Pre-sort weight: 0 Sorted by: YH THIS WAS SOIL SAMPLE COLLECTED FROM INSIDE POT PORTION.</td>
</tr>
<tr>
<td>4B</td>
<td>U84 D.5X87:3 Plant Remains: Pail 7 Sort Date: 7/6 Fraction: H Pre-sort weight: 0 Sorted by: YH THIS WAS SOIL SAMPLE COLLECTED FROM INSIDE A LARGE POT PORTION.</td>
</tr>
<tr>
<td>5A</td>
<td>U84 D.5X87:3 Plant Remains: Pail 7 Sort Date: 7/6 Fraction: L Pre-sort weight: 0 Sorted by: YH Ash Pocket Related to Pail 7/Sample 4. Though verbally assured of ash pocket with stones surrounding, no charcoal was in evidence on flotation.</td>
</tr>
<tr>
<td>5B</td>
<td>U84 D.5X87:3 Plant Remains: Pail 7 Sort Date: 7/6 Fraction: H Pre-sort weight: 0 Sorted by: YH Ash Pocket Related to Pail 7/Sample 4. Though verbally assured of ash pocket, no evidence on flotation.</td>
</tr>
<tr>
<td>6A</td>
<td>U84 D.5X87:3 Plant Remains: Pail 7 Sort Date: 7/9 Fraction: L Pre-sort weight: 7 Sorted by: YH</td>
</tr>
<tr>
<td>6B</td>
<td>U84 D.5X87:3 Plant Remains: Pail 7 Sort Date: 7/9 Fraction: H Pre-sort weight: 7 Sorted by: YH</td>
</tr>
<tr>
<td>7A</td>
<td>U84 D.5X87:5 Plant Remains: Pail 7 Sort Date: 7/13 Fraction: H Pre-sort weight: 6 Sorted by: YH Related to Sample Loc. 3, July 6</td>
</tr>
<tr>
<td>7B</td>
<td>U84 D.5X87:5 Plant Remains: Sample 4. Though verbally assured of ash pocket with stones surrounding, no charcoal was in evidence on flotation.</td>
</tr>
</tbody>
</table>

FIELD READING SUMMARIES: CARBONIZED SEEDS
<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Sort Date</th>
<th>Fraction</th>
<th>Pre-sort weight</th>
<th>Sorted by</th>
<th>Remarks</th>
<th>Plant Remains</th>
<th>Animal Remains</th>
<th>Other Remains</th>
</tr>
</thead>
<tbody>
<tr>
<td>U54 D.5X87:17</td>
<td>7/19</td>
<td>L</td>
<td>6</td>
<td>YH</td>
<td>RELATED TO FLOTATION SAMPLE OF LOC. 3, JULY 6</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U54 D.5X87:18</td>
<td>7/19</td>
<td>L</td>
<td>6</td>
<td>YH</td>
<td></td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U54 D.5X87:18</td>
<td>7/19</td>
<td>H</td>
<td>6</td>
<td>YH</td>
<td></td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U54 D.5X87:19</td>
<td>7/18</td>
<td>L</td>
<td>0</td>
<td>YH</td>
<td>OLIVE PITS ONLY SUBMITTED--NO SOIL FOR FLOTATION</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U54 D.5X87:19</td>
<td>7/19</td>
<td>L</td>
<td>8</td>
<td>YH</td>
<td>NOTHING IN LIGHT FRACTION</td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U54 D.5X87:19</td>
<td>7/19</td>
<td>H</td>
<td>8</td>
<td>YH</td>
<td></td>
<td>Under 5 gr.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sample No. 258
Sample No. 55A
Sample No. 558
Sample No. 51
Sample No. 55A
Sample No. 55B
Sample No. 56A
FIELD READING SUMMARIES: CARBONIZED SEEDS