# HESBAN

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# HELLENISTIC AND ROMAN STRATA:

## A STUDY OF THE STRATIGRAPHY OF TELL HESBAN FROM THE 2d CENTURY B.C. TO THE 4th CENTURY A.D.

by

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A research project such as this is hardly conceivable apart from the help, suggestions, and encouragement of many individuals.

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Especially, I wish to acknowledge a great debt to Lawrence T. Geraty, under whom this topic was selected, researched and written (as a Th.D. dissertation). His openness in dialogue, and his readiness to help, set a model for teachers at any educational level. His insights and criticism often opened new doors during the progress of this project.

Øystein S. LaBianca deserves special mention. It was his initial stimulus which propelled the museum and the expedition into the computer age. His creative thinking helped to effect significant changes in approach to Syro-Palestinian archaeology, particularly in the archaeologist's concern for cultural *process*.

James K. Brower was instrumental in implementing the concept of creating and using a computer database for research on the Tell Hesban archaeological remains. He singlehandedly encoded all the pottery field readings for the entire expedition, for all five seasons. His work in developing computer programs with which to analyze the vast amount of data we have encoded was one of the most exciting aspects of the final-publication phase of the Andrews University Heshbon Expedition.

Larry G. Herr from time to time provided incisive and vigorous criticism of methods and approaches, as well as a ready sounding board for new interpretations of Tell Hesban remains. J. Bjornar Storfjell devoted a considerable amount of time and effort to the work on Stratum 11. This was helpful, since his research work picked up where mine left off, and coordination of views and interpretation was important. Eugenia L. Nitowski, then in her capacity as Assistant Curator of the Horn Archaeological Museum at Andrews University, gave regular and invaluable assistance in museum-related problems. And my friend Gary Witz devoted literally hundreds of hours of volunteer time to the data-encoding project, work which is directly represented both in this volume and in the broader research work in publishing the Tell Hesban final report.

Ralph E. Hendrix and Lori A. Haynes, as Managing and Assistant Editors of this series, have been appropriately tenacious in seeking adherence to editorial deadlines. In my case, they had opportunity to demonstrate another crucial quality of editors—patience. Thank you both!

— Larry A. Mitchel
Sacramento, California
April 1992

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# Preface

This is the first published volume in the Hesban series that can be considered an archaeological period report. Appropriately enough, it was the first such manuscript to be completed, and as such, deserves a certain pride of place. Having been closely associated with the research, I am pleased to be able to recommend, without qualifications, Larry Mitchel's skillful analysis of the results that serve as a model for the other period reports to follow.

A quick perusal of this volume, and its comparison with other traditional volumes of its genre, will yield one obvious lack: no pottery plates to substantiate the author's dating of the strata. There is a reason. In 1973, James A. Sauer authored *Heshbon Pottery 1971* (Berrien Springs, MI: Andrews University Press), about which his mentor, G. Ernest Wright said in the advertizing flyer that went with it, "This is the first publication of well-stratified, tightly controlled strata, dealing with archaeologists' greatest dark age—the post New Testament era. For pottery sequences from Roman to the Crusader periods, with this publication Hesbon becomes the type-site for all archaeologists." While some of the most important evidence for chronology was adumbrated there, the interested reader needs Mitchel's study to complement and fill out the picture for the 2d century B.C. to the 4th century A.D.

Because I am writing these words on the 500th anniversary of the coming of Christopher Columbus to the New World, I am tempted to contrast Mitchel's impeccable work with that of Columbus a half a millennium earlier. In the words of his authoritative biographer, Felipe Fernandez-Armesto (Oxford: Oxford University Press, 1992; pp. 5, 6), Columbus:

> had the characteristic intellectual shortcomings of a self-educated man. His mind suffered the defects that a guideless and random absorption of knowledge can impart, like a ship at large upon a starless ocean. He read intently, but not critically; he acquired, over a long time, a mass of information, but was never able to dispose of it to best advantage. He could mimic a variety of styles in a number of languages, but always made silly or risible errors. He would leap—in his attempts at reasoning—to bizarre conclusions, on the flimsiest evidence, which a more balanced preparation might have taught him to eschew. He selected his reading obsessively, choosing whatever supported his own theories, rejecting or distorting whatever would not fit.

In contrast to this description of how Columbus worked, Mitchel (thankfully) has done the opposite. And yet, perhaps it is appropriate that, in the year we celebrate Columbus' voyage from the Mediterranean across the Atlantic, Mitchel returns our focus across the Atlantic to the Mediterranean for a new understanding and appreciation of the Late Hellenistic and Roman periods in the region "beyond the Jordan."

—Lawrence T. Geraty
Atlantic Union College
South Lancaster, Massachusetts
October 12, 1992

# Foreword

When I first met the author, Larry A. Mitchel, it was literally over my back-yard fence at Pacific Union College in Angwin, California where Larry and I were neighbors. Although I was a supervisory instructor in the secondary school there, my great interest was in archaeology. In fact, I had spent several seasons as a volunteer working at Tel Dor, Israel. Larry had just finished his doctrate and was teaching in the Religion Department at the college, but I soon discovered that he was a fellow soul-mate in archaeology. Moreover, his dissertation had not been written on a theological topic, but rather was based on his field work with the Hellenistic and Roman materials from Tell Hesban, Jordan. I still remember the sunny morning when we were chatting about our common interest and he told me about the Madaba Plains Project, the new Andrews University project that was to succeed the Hesban Expeditions. After I expressed an interest in the new project, Larry suggested that I get in touch with the director of the project, Dr. Geraty, and see if there might be a position for me on the staff. Although I intended to do that eventually, other commitments forced me to delay any inquiries. Nevertheless, Larry gave my name to Dr. Geraty and I shortly thereafter received a very nice letter inviting me to join the Madaba Plains Project. Things worked out so that I could join the Project, along with Larry, for its first season in 1984.

Since then, I have become a co-director of the Project and director of the Institute of Archaeology at Andrews University, helping to oversee the publication of both the Madaba Plains Project and Hesban series (with the invaluable leadership of my colleagues, Øystein S. LaBicanca and Ralph E. Hendrix), while Larry's professional pursuits have taken him in directions away from archaeology (much to the regret of his archaeological colleagues). From hence, then, come my feelings of irony and pleasure — irony that it was Larry who recruited me as a volunteer in the project that I now help to direct, and pleasure that from such a beginning, I have come into a position that allows me the opportunity of launching Larry's dissertation in its final published form. Larry's book is, like all of his work, competent, thorough and intensive. It makes an important and much-needed contribution to the archaeology of Jordan in the Hellenistic and Roman periods.

As director of the Institute, I would like to especially acknowledge those whose contributions have been essential to the final product of this volume: first of all to the administration of Andrews University for the continued support of archaeological publications. This especially includes W. Richard Lesher, President of Andrews University, Arthur O. Coetzee, Vice President of Academic Administration during much of the production, and Delmer I. Davis, director of the Andrews University Press while this book was in production and who is now Vice President of Academic Administration. Also, special thanks should go to Stefanie P. Elkins, Jennifer L. Groves, Stephanie C. Merling, and Tony Stemple, editorial assistants who have done much more work on the book than the title page implies (typical I suppose of most editorial assistants); to Ralph E. Hendrix, who not only did the day-to-day overseeing of the creation of the book, but has done a superb job of running our publication office as the managing editor; to his predecessor, Lori A. Haynes; to Lawrence T. Geraty, who not only was a director of the Hesban excavation, but followed through as one of the Hesban series editors (in addition to his responsibilities as a college president); and especially to the untiring efforts of my friend and colleague Øystein S. LaBianca, who (more than any single individual) has taken on the responsibility of making sure the Hesban series is properly published. All of these individuals have been integral to the success of archaeological publication at the Insitute of Archaeology, and I extend my sincere appreciation to all of them.

—Randall W. Younker, Director
Institute of Archaeology
October 1992

# Chapter One

# INTRODUCTION

## Chapter One

# Introduction

The site of Tell Hesban, Jordan, is located on the modern Naur-Madaba highway approximately 9 km north of the city of Madaba. The tell is located on a limestone summit 895 m above mean sea level. It enjoys a commanding view westward of the Wadi el-Majjar that leads eventually to the Jordan Valley. The latter is also visible (along with the Jordan River itself) some 26 km to the west. To the southeast and the south, the Madaba Plain is fully visible, as is also the site of Mt. Nebo to the southwest (fig. 1.1; pls. 1.1, 1.2).

Identification of the modern site of Tell Hesban with ancient biblical Heshbon is suggested by the form of the modern Arabic name, and its general location near Khirbet el-ʾAl, biblical Elealah (Boraas and Horn 1969a: 99; Vyhmeister 1968: 158-164). The name of the site has varied in spelling through history. Biblical Heshbon, חשבון, appears in Josephus as Εσ[σ]εβων[ιτις], and in Eusebius (among other spellings) as Εσβους (Vhymeister 1967: 59). Most milestones that preserved the name in Greek give the form Εσβους. The one Latin version on a milestone of which I am aware gives the name as *ESB[UNTES]* (Thompsen 1917: 67; Germer-Durand 1903: 434). In this report, the normal name for the ancient city will be "Esbus" unless specific reference to an ancient source is involved. The present archaeological site will be referred to by its modern Arabic name *Tell Hesban*.

The nature of the occupation at the site of Tell Hesban has been influenced by its geographical, climatological, and geopolitical environment. Geographically, Tell Hesban lies at the western limit of the high Transjordanian plateau. Thus, though it is situated in a semi-arid rain belt with 400-500 mm per year average rainfall, it is located so as to receive more moisture, on average, than would areas just 20 or 30 km to its east. Water availability has probably limited agricultural production in the immediate vicinity to dryland farming crops (especially grains), if water storage was indeed restricted to runoff water stored in cisterns, as it appears to be. This is a situation which probably held throughout the Roman periods. Geopolitically, the location of Tell Hesban is such that it has likely changed hands often through time. This is certainly true during the Hellenistic and Roman periods represented archaeologically by Strata 15-11 of the recent excavations.

### History of Excavation

The excavation of the archaeological remains at Tell Hesban was undertaken by Andrews University in cooperation with the American Schools of Oriental Research (ASOR) and the Department of Antiquities of the Hashemite Kingdom of Jordan. Specific purposes for choosing this site for excavation are not advanced in the preliminary reports of the 1968 season. However, discussion of the biblical account of the Exodus, particularly the references to the "Heshbon" of Sihon in Num 21 (Boraas and Horn 1969a: 99), makes it clear the excavators considered it possible they would unearth the Late Bronze Age city recorded as taken and destroyed by the Israelites.

The first season of fieldwork occurred in the summer of 1968. Work continued in 1971, 1973, and 1974, and ended with the fifth season in 1976. Principal effort was directed toward the summit of the tell, where by 1971 four areas (fields) were opened up: Area A on the so-called acropolis or the summit itself; Area B on a southern shelf of the site, eventually joined to Area A by excavations in

Figure 1.1 Map of Jordan with an Inset of the Tell Hesban Region.

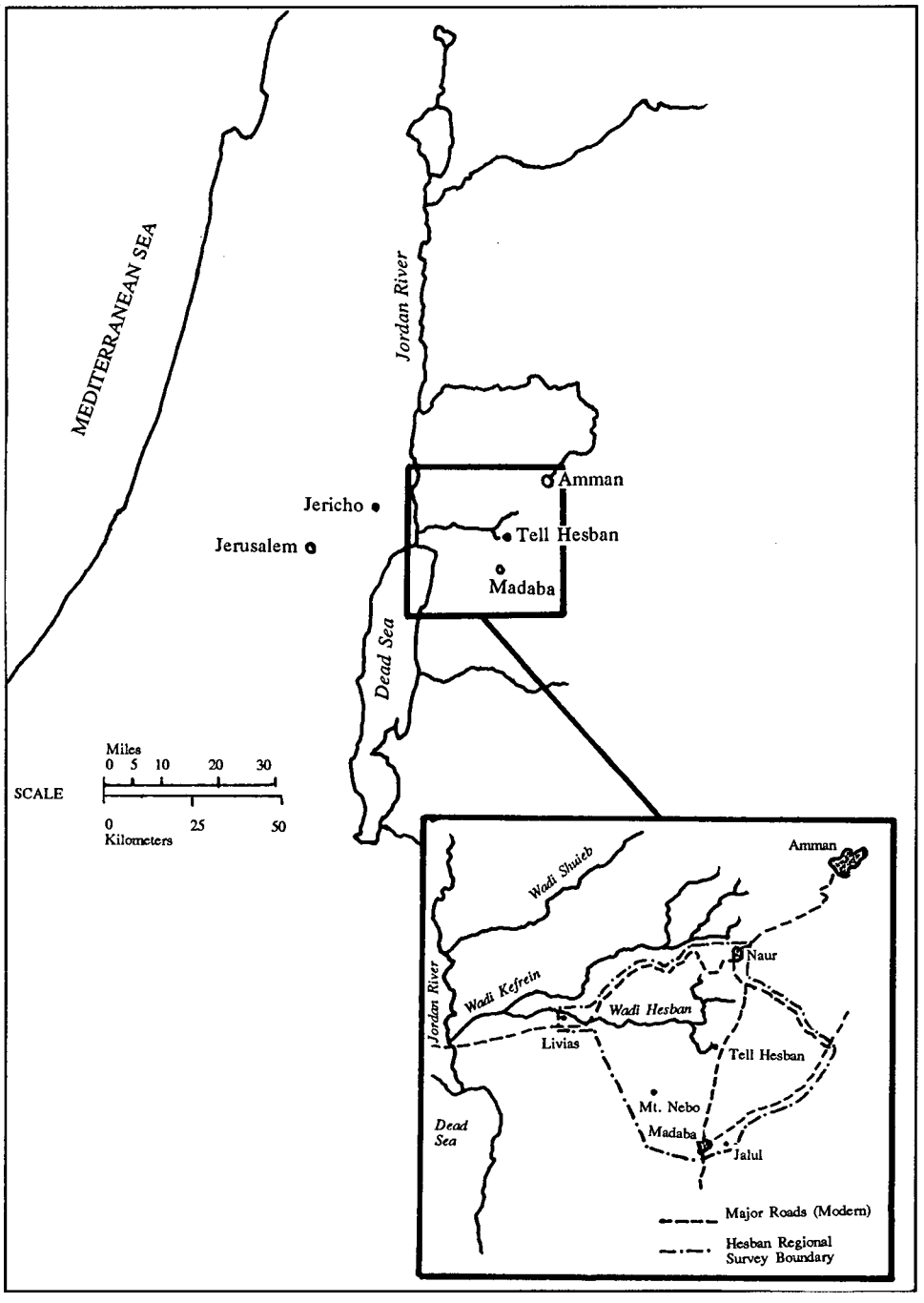


Plate 1.1 Tell Hesban, View Southeast.

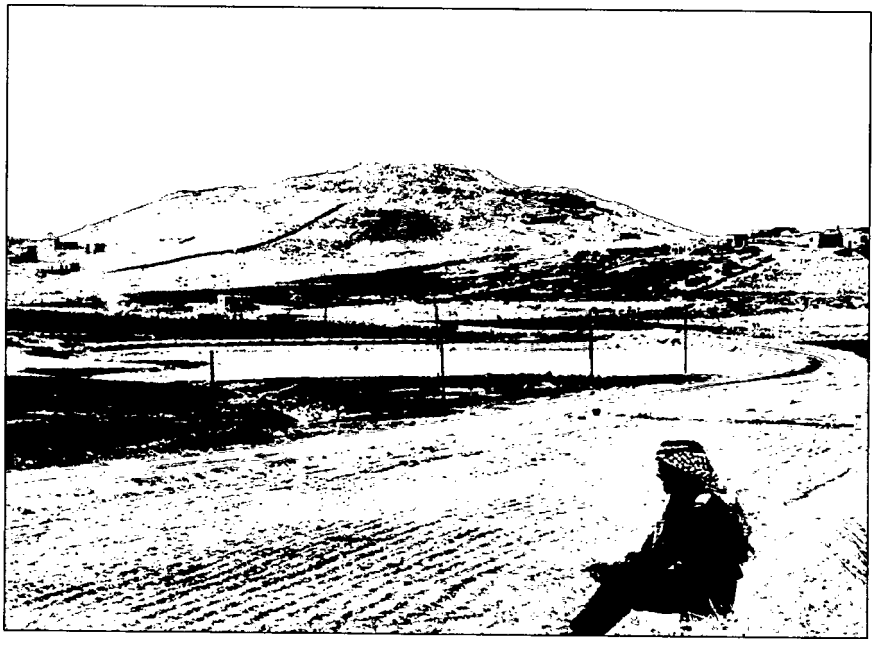
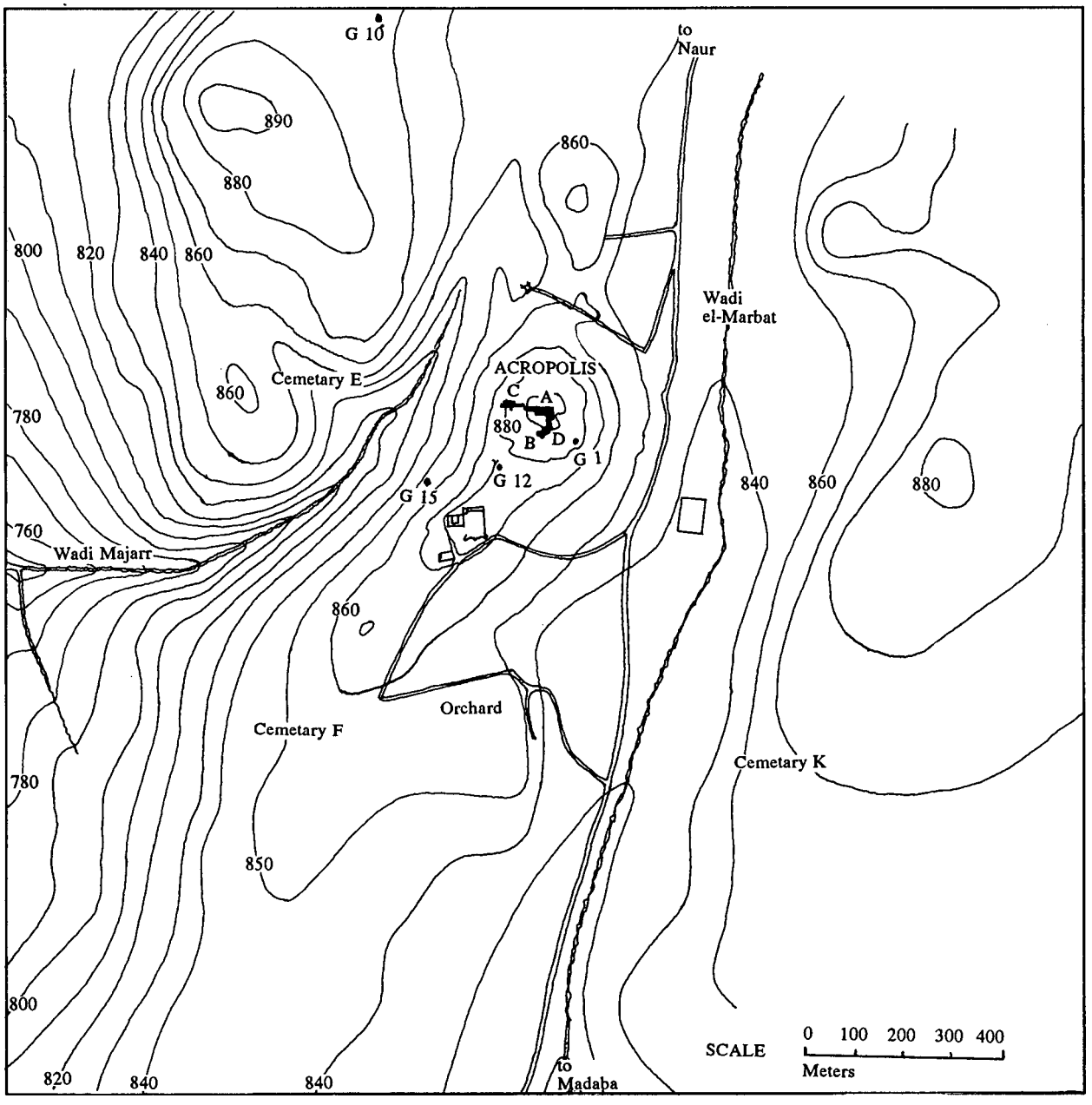


Plate 1.2 Tell Hesban, Aerial View During the 1971 Season.

Figure 1.2 Plan of Tell Hesban.



Area D immediately south of Area A; and on the west, Area C which extended westward downslope from the summit of the tell for about 65 m (fig. 1.2). The general strategy called for excavation of a continuous section to bedrock along an east-west line through Areas C and A intersected by a north-south section from Area A through Area D to Area B. The overall shape of the excavated portions suggests a reversed capital L. Additional work included clearing of tombs southwest of the tell, small probes in a variety of locations (18 in number), and a survey of archaeological sites within a 10 km radius of Tell Hesban. Preliminary reports of these investigations have been published in regular issues of the journal *Andrews University Seminary Studies* (Boraas and Horn 1969a; Boraas and Horn 1973; Boraas and Horn 1975; Boraas and Geraty 1976; Boraas and Geraty 1978). Additional derivative articles have appeared in archaeological journals in the United States and abroad (see bibliography on Heshbon/Tell Hesban in volume 1 of the Hesban Final Publication Series).

### Summary of Occupation History

As is now generally known, the intention of finding Sihon's capital city was not fulfilled. No evidence of Late Bronze Age occupation has been recovered from the tell (apart from a handful of Late Bronze ceramic field readings, most of them from the 1968 season which have recently been re-read as Ayyubid/Mamluk). The site appears to have been occupied first in the Iron Age I period, *ca.* 1200 B.C. (see volume 6 of this series). Occupation of the site continued, with two apparent gaps (sixth century to *ca.* 198 B.C. and *ca.* A.D. 969 to 1200), until the 15th century A.D. Modern occupation of Tell Hesban dates from the latter half of the 19th century. (See table 1.1 for the placement of the Hellenistic and Roman periods, Strata 15-11, in relationship to previous and subsequent occupation of the site.)

### Delimitation of the Research

The sheer bulk of the material which the Andrews University Heshbon Expedition has produced in its five seasons of fieldwork is staggering: approximately 150,000 registered sherds and some 3,000 small objects (to name only two categories of finds) coming from about 5,000 excavated loci. Add to this mass of primary material the work represented in seeking cultural parallels to the remains at Tell Hesban, and it becomes readily apparent that publication of the final results required a collaborative effort.

Table 1.1 Tell Hesban Strata.

| Stratum | Dates |
|---|---|
| 1 | A.D. 1870-1976 |
| 2 | A.D. 1400-1456 |
| 3 | A.D. 1260-1400 |
| 4 | A.D. 1200-1260 |
| 5 | A.D. 750-969 |
| 6 | A.D. 661-750 |
| 7 | A.D. 614-661 |
| 8 | A.D. 551-614 |
| 9 | A.D. 408-551 |
| 10 | A.D. 365-408 |
| 11 | A.D. 284-365 |
| 12 | A.D. 193-284 |
| 13 | A.D. 130-193 |
| 14 | 63 B.C. - A.D. 130 |
| 15 | 198-63 B.C. |
| 16 | 7th Cent. - 6th Cent. B.C. |
| 17 | 9th Cent. - 8th Cent. B.C. |
| 18 | 1150 - 10th Cent. B.C. |
| 19 | 1200 - 1150 B.C. |

It is with this in mind that responsibility for publishing the remains of Tell Hesban was divided by archaeological periods. The present research has been limited to the Hellenistic and Roman remains, Strata 15-11. This delimitation begins very naturally with an apparent occupation gap preceding the Late Hellenistic period at Tell Hesban. The Hellenistic-Roman transition represents no real cultural break, though there are cultural differences which do develop. The ending point for the material published in this volume, while it runs into the earliest years of the Byzantine period, is quite defensible: there is persuasive evidence for a major destruction at the site *ca.* A.D. 363.

Thus the general purpose of this volume can be fairly clearly stated: it is to elucidate the nature of the cultural remains of the Late Hellenistic, Early Roman, and Late Roman occupation of Tell Hesban, Jordan, by (1) a thorough description of the ancient remains, primarily the architecture and soil/debris layers, (2) an interpretation of the meaning of these remains for an understanding of

Table 1.2 Ceramic-period Terminology Used at Tell Hesban.

| Term | Period | Dates |
|---|---|---|
| **Persian** | **Persian (539-332 B.C.)** | |
| Persian | (Cyrus-Darius III) | 539-332 |
| **Hellenistic** | **Early Hellenistic (332-198 B.C.)** | |
| Pre-Ptolemaic | (Alexander - Ptolemy I, Antigonus) | 332-301 |
| Ptolemaic | (Ptolemy I - Ptolemy V) | 301-198 |
| | **Late Hellenistic (198-63 B.C.)** | |
| Early Selucid | (Antiochus III - Antiochus VII) | 198-129 |
| Late Selucid | (Demetrius II - Philip II) | 129-64 |
| Hasmonaean | (Judas Macc. - Arist. II/Hyr. II) | 167-63 |
| **Roman** | **Early Roman (63 B.C. - A.D. 135)** | |
| Early Roman I | (Pre-Herod) | 63-37 |
| Early Roman II | (Herod) | 34-4 |
| Early Roman III | (Post-Herod - First Revolt) | 4 B.C.-A.D. 73 |
| Early Roman IV | (Vespasian - Second Revolt) | 73-135 |
| | **Late Roman (A.D. 135-324)** | |
| Late Roman I | (Hadrian - Commodus ff.) | 135-193 |
| Late Roman II | (Sept. Sev. - Sev. Alexander) | 193-235 |
| Late Roman III | (Maximinus - Carinus/Numerianus) | 235-284 |
| Late Roman IV | (Diocletian - Lic. I/Constant. I) | 284-324 |
| **Byzantine** | **Early Byzantine (A.D. 324-491)** | |
| Early Byzantine I | (Constantine I - Julian) | 324-363 |
| Early Byzantine II | (Jovian - Valent. II/Theo. I) | 363-392 |
| Early Byzantine III | (Theo. I - Theo. II/Valent. III) | 392-450 |
| Early Byzantine IV | (Marcian - Zeno) | 450-491 |
| | **Late Byzantine (A.D. 491-640)** | |
| Late Byzantine I | (Anastasius I - Justin I) | 491-527 |
| Late Byzantine II | (Justinian I) | 527-565 |
| Late Byzantine III | (Justin II - Heraclius) | 565-614 |
| Late Byzantine IV | (Chosroes II - Heraclius) | 614-640 |
| **Islamic** | **Early Islamic (A.D. 630-1174)** | |
| Pre-Umayyad | (Muhammad - ᶜAli) | 630-661 |
| Umayyad | (Muᶜawiya - Marwan II) | 630-661 |
| Early Abbasid | (al-Saffah - al-Muᶜtamid) | 750-878 |
| Late Abbasid | (Tulunid, ᶜAbbasid, Ikhshidid) | 878-969 |
| Early Fatimid | (al-Muᶜizz - al-Mustansir) | 969-1071 |
| Late Fatimid | (al-Mustansir - al-ᶜAdid) | 1071-1171 |
| Seljuq-Zengid | (Atsiz - Ismaᶜil) | 1071-1074 |
| | **Early Crusader (A.D. 1099-1187)** | |
| Early Crusader | (Pre-Hattin) | 1099-1187 |
| | **Late Crusader (A.D. 1187-1291)** | |
| Late Crusader | (Post-Hattin) | 1187-1291 |
| | **Late Islamic (A.D. 1174-1918)** | |
| Ayyubid | (Salah al-Din ff.) | 1174-1263 |
| Early Mamluk | (Aybeg ff.) | 1250-1401 |
| Late Mamluk | (Post-Timur) | 1401-1516 |
| Early Ottoman I | (Selim I ff.) | 1516-1595 |
| Early Ottoman II | (Mehmed III ff.) | 1595-1703 |
| Late Ottoman I | (Ahmed III ff.) | 1703-1808 |
| Late Ottoman II | (Mahmud II ff.) | 1808-1918 |
| **Modern** | **Early Modern (A.D. 1918-1948)** | |
| Early Modern | (British ff.) | 1918-1948 |
| | **Late Modern (A.D. 1948-present)** | |
| Late Modern | (Post-British) | 1948-present |

the periods under investigation, and (3) an interrelation of these and certain other cultural remains, first, with contemporary Palestinian occupation, and second, with the contemporary ancient Near East more generally.

Since there is some ambiguity regarding the meaning and use of the terms designating the various archaeological periods ("Late Hellenistic," "Early Roman," and so on) a table is included here to show both the system of period designators and the dates assigned to them. This scheme was used in the preliminary analysis of the ceramics from Tell Hesban and has been retained for this volume (table 1.2).

### Definition of Certain Technical Terms

Other key terms relating to the site, its excavation, and the field recording system will be defined or explained when used in this dissertation. For now the following five terms ought to be defined since they will be used consistently and repeatedly:

1. **Area**: A sector of the tell in which excavation is carried on under the general supervision of a single, professionally-trained archaeologist who is responsible for preliminary reports; designated with a capital letter; often called a "Field" on other ASOR excavations.
2. **Square**: A single division of an Area under the direct supervision of an archaeologist or archaeological student who is responsible for recording all data; commonly called an "Area" on other ASOR excavations.
3. **Locus (plural: loci)**: The fundamental unit in the recording system; any coherent feature which can be meaningfully distinguished, isolated, and described in relation to other features (or loci) around it: a wall, a soil layer, and so on, can all be given locus numbers.

   In this volume, a very consistent punctuation of locus number references has been used. The area letter is separated from the square number by a period. A colon separates the square number from the locus number. Example: A.1:2 refers to locus 2 from square 1 of Area A. (Note: Occasionally the locus number ends with a letter [*e.g.*, D.2:80E.]; These cases represent either (1) a field decision by the excavator to associate a locus [or loci] with a given feature, or (2) a later decision to split one excavated locus into two or more loci based on objective criteria, usually supporting evidence and clear stratigraphic correlations.)

   When a locus in one square was definitively correlated to its corresponding locus in an adjacent square (or in a second adjacent excavation in the same square, as in the removal of a subsidiary balk, or a two stage removal of laterally extensive debris), these loci are reported here connected by an equal sign (*e.g.*, C.2.31 = C.2:34; A.5:22 = A.6:69).

   Finally, study of the field notes sometimes made it clear that two loci were really part of one feature and should be combined. In those cases a plus sign is used to indicate the combination of one, or more, loci (*e.g.*, B.3:51 + B.3:52).
4. **Stratum**: The stratigraphic material that represents a span of life for contemporary site-wide remains; *i.e.*, a coherent group of loci (usually, though not necessarily, with architectural features) from a single encampment, village, or city from a single period of the site's history.

   As such, each stratum ideally has three stages:
   1) Preparation/Construction Stage: leveling, foundation digging, debris removal, etc. This is cited as Stage C.
   2) Use Stage: reflects the lifetime of the stratum: build-up on surfaces, installation use, pit-digging not done during the preparation/construction stage, and phases as defined below. This is cited as Stage B.
   3) Destruction Stage: the debris which can be interpreted as bringing the use of the stratum to a close, including the artifacts lying on, not in, the uppermost floor. This is cited as Stage A.

   A stratum is thus a span of time, not a single point in time. Though ideally a stratum is a phenomenon demonstrated by

site-wide evidence, where its remains are fragmentary, we must sometimes be satisfied with less than a clear site-wide stratum; however, the three-stage nature of the stratum should still be accounted for, and in the chapter on each stratum such an attempt has been made.

5. **Phase**: A subdivision of a stratum based on localized reconstruction, resurfacing, or other modifications; usually associated with the use stage of a stratum (Andrews University Heshbon Expedition 1977).

## History and Culture at Tell Hesban

As has been suggested in the preceding section, the nature of this research has been influenced to a very large degree by the historical bias common in Palestinian archaeology until the mid- to late-1970s. This bias can no longer be maintained to the exclusion of research aimed at explicating much more fully the cultures, and cultural processes, of Syro-Palestinian civilizations.

A clear recognition of the claims of the study of cultural processes motivated certain field innovations for excavations at Tell Hesban, most of these were inspired by Øystein S. LaBianca, the expedition ethnologist. These innovations include the collection and preservation of bone materials, and the preservation of many other forms of biodata. I recognize also the level of tension which resulted during the process of the research project that led to this volume: trying to answer cultural questions by reference to data gathered with more strictly historical questions in mind.

It is thus with no little reluctance that I determined to proceed with the writing of this volume on a predominantly historical basis for three principal reasons. First, such a thrust is more in keeping with the original historical concerns of the project as a whole. Second, it answered more fully to the historical essence of almost all the raw archaeological data available to me from the excavation of Tell Hesban as well as a large portion of the preliminary reports of the expedition. Third, the culture history was more subject to successful documentation. This is simply because those very remains from Tell Hesban of greatest interest and importance to culture-process investigation for the most part were still undergoing study by scientific specialists. Those reports were not available for inclusion in my dissertation research. Those reports that are now available will be referenced where appropriate. It goes without saying that I recognize the absolute requirement of the archaeologist to explicate the cultures, and cultural processes, as fully as can be done.

## Resources and Methodology

Available resources for this volume included (1) the Andrews University Heshbon Expedition field records; (2) the physical remains stored at the Andrews University Horn Archaeological Museum (as well as photographs and descriptions of remains left in Jordan); (3) previously published material on the Andrews University Heshbon Expedition; and (4) published materials providing parallels in Syria-Palestine to the remains recovered at Tell Hesban. Each of the above categories of resources will now be described in more detail.

Among the many field records made during five seasons of excavation in Jordan, the following items have proved most useful in research. First, of prime importance are the square supervisors' notebooks. These provide a locus-by-locus record of excavation, including progress of excavation, soil characteristics, features, and finds, as well as illustrative material—scale drawings of work in progress and the record of photographs taken. Furthermore, where feasible the excavator has provided an in-field interpretation of the locus. Second, the drawings made by the architects and surveyors' team form an important record and provide valuable cross-checks on the accuracy of written descriptions. Third, the records and reports of area supervisors comprise another element of resources, especially for the interpretation of the excavated remains. These include pottery notebooks, weekly summary reports, and most importantly the scale section drawings. Fourth, the photographs of the expedition, both black-and-white prints and color slides, have very often provided critical evidence not available in any other medium. And fifth, reports of specialists add important dimensions to the interpretation of the remains.

Another important component of the resources of this volume were the actual remains preserved

for study (other than architecture and installations). The most important of these for chronological purposes—the pottery—was studied by James A. Sauer, whose published reports are available (Lugenbeal and Sauer 1972a, 1972b; Sauer 1973b), as are the registered sherds from the 1968 season which have been transported to the Andrews University Horn Archaeological Museum. For the periods covered in this volume, another element of the actual remains of considerable importance is the rather large number of readable coins which were unearthed, whose dates as determined by Abraham Terian (1971, 1974, 1976; see also volume 12 of this publication series) are quite valuable for purposes of historical interpretation. For small finds not actually available for study, records in the form of descriptions, drawings, and photographs are available on the object-registration cards deposited in the Museum.

The third category of resources was the published articles on the Tell Hesban excavations, especially, but not exclusively, the preliminary reports in *Andrews University Seminary Studies* (citations indicated above). There were also other reports which appeared in various journals and magazines. And of course Werner Vhymeister's revised B.D. thesis on the literary references to Heshbon (presumably modern Hesban), has been valuable as an introduction to the known literary history of the site (see volume 3 of this publication series).

The fourth area of research resources for the present investigation comprised the excavation reports, reviews of these reports, supplementary articles, and other such publications based on Palestinian and Transjordanian sites which provide cultural and historical parallels to the remains recovered at Tell Hesban. These publications form the great bulk of this volume's bibliography.

## Research Procedures

In accordance with a working paper drawn up by members of the final publication team (Andrews University Heshbon Expedition 1977) the research procedure which was followed for this project consisted of a series of discrete steps.

1. **Division of loci by period.** Fundamental to work on the remains of Tell Hesban in its various historical periods was the determination of the specific archaeological/historical period of each locus. These determinations were made primarily on the basis of ceramic field readings, coin evidence, and purely stratigraphic considerations.
2. **Ordering of loci according to stratigraphic sequence within each square.** Having once determined which loci belonged in each period, it was considered necessary to sequentially order the loci from each square (for the historical periods under investigation) so that the arrangement represented a truly chronological sequence of debris-deposition. Such a sequencing was based on objective records which describe specific stratigraphic relationships that existed between adjacent loci, based on the record of the field notebooks (locus sheets and scale top plans), balk and subsidiary-balk sections, and the photographic record.
3. **Correlation of loci between squares.** Once the chronological sequence of deposition was established for each excavated square, it yet remained to determine secure connections from square-to-square through the study of intervening balks. There was often enough regularity to deposited layers to allow for a fair degree of certainty in such square-to-square correlations. Basic to this phase of the task were the scale balk- and subsidiary-section drawings, measured levels, and locus descriptions.
4. **Division of correlated loci into strata.** It is theoretically possible to connect stratigraphically all the excavated squares at a Near Eastern tell, including Tell Hesban (in that the squares excavated there were side-by-side, though in one case diagonally adjacent). In practice the formation of site-wide strata, the final locus-oriented step in the research procedure, could not always be done on purely stratigraphic grounds. For example, though Areas B and D could not be as adequately connected stratigraphically with Area A (and so also with Area C) as would be ideal, a reasonably firm basis for site-wide strata divisions could nonetheless be derived by the ceramic readings, coins, stratigraphic considerations, and (only where finds are isolated) typological factors.

5. **Checking the preliminary reports.** In some cases I interpreted certain remains at Tell Hesban differently from the understanding presented in the preliminary reports published in *Andrews University Seminary Studies*. These reinterpretations are not many. I have noted them and have tried to explain why I differ from previous work done (and published) on the site's remains.
6. **Final write-up, stratum-by-stratum.** The following chapters of this volume, specifically chapters 2-6, which discuss the five strata which I was responsible to study, represent a synthetic approach to the remains. All of the relevant data is available in the text or in appendices, whereby the specialist reader may hopefully arrive at independent judgments regarding my conclusions.
7. **Preparation of site-wide stratum plans.** To aid the reader in mentally reconstructing the remains at Tell Hesban in a particular period of time represented by a stratum, a series of scale drawings of the principal architectural (and certain other selected) loci interpreted as in use during that period has been prepared for inclusion with this volume.

The nature of the following chapters, dedicated to describing and interpreting the five Hellenistic and Roman strata at Tell Hesban, will vary somewhat from one to the other as the actual physical remains of the cultures represented vary. However, in general the above sequence of research procedures has determined the way in which the stratigraphy of each stratum is presented. The historical, political, economic, and social issues important to the particular stratum, on the other hand, will tend to render the characterization of each individual stratum as a somewhat unique—and variable—entity. No real attempt has been made to force what could come to be a somewhat artificial unity on the ancient and modern literature I used in determining what this area of Transjordan must have been like between *ca.* 198 B.C. and A.D. 363.

# Chapter Two

# TELL HESBAN STRATUM 15: *CA.* 198-63 B.C.

## Chapter Two

# Tell Hesban Stratum 15: *Ca.* 198-63 B.C.

On at least two counts, Tell Hesban is an excellent location for a fort. First, it is a strategic position, affording a full view of the plains to the south and east, of Wadi el-Majjar, and of the ridges to its south as far as Mt. Nebo (*ca.* 6 km), as well as providing the best position in the vicinity to control traffic on the road north from Madaba. Second, Tell Hesban is located in what has been historically a disputed area. Heshbon itself is known to have changed hands as many as four times between 300 B.C. and 63 B.C., and at least twice during the period of history covered by Stratum 15.

### Stratum 15 Stratigraphy of Tell Hesban

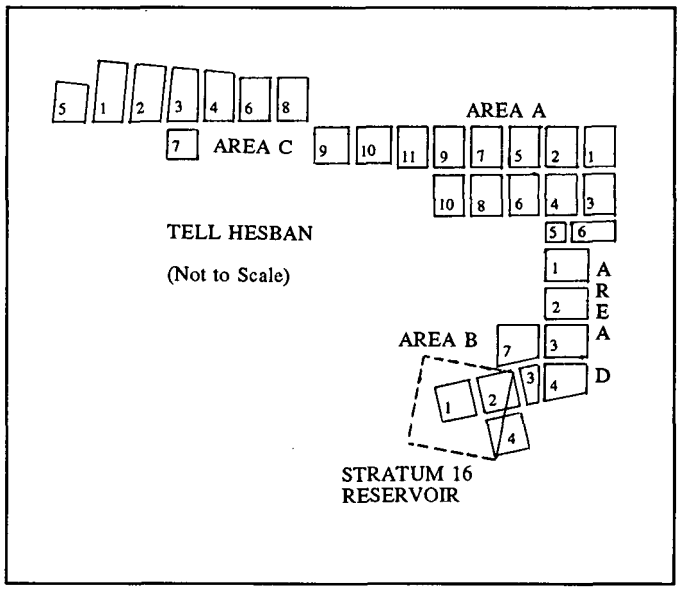
Though evidence for Stratum 15 occupation at Tell Hesban occurs in the form of ceramic remains found across the entire site, evidence of stratigraphic value is greatly limited. Of 287 loci assigned to Stratum 15, 161 come from the Late Hellenistic filling operation which deposited many cubic meters of Iron Age debris in the Area B reservoir (fig. 2.1). Of the remaining 136 Stratum 15 loci, the principle concentrations of importance to the stratigraphy of the stratum include Area A, notably Square A.11 with numerous floors sealing the summit perimeter wall; Area C, Squares C.2, C.3, C.5, and C.7; Area D (with its several typical flask-shaped store silos), Squares D.2, D.4, and D.6; and Probes G.1 and G.12 (fig. 2.2). For a complete list of loci arranged by stratum and stage see appendix A.

The large number of Stratum 15 fill-loci in Area B calls for an explanation. The interpretation of this massive filling operation as belonging to Stratum 15 hinges on the recovery, at the bottom of the reservoir fill, of characteristic Late Hellenistic pottery (Sauer 1975: 159-160). Though the amount of evidence is extremely small given the large numbers of loci from the reservoir which yielded pure Iron Age ceramics, the fact is that almost no Iron Age remains other than scattered sherds were left on a summit whose present shape is to a large degree determined by a massive wall founded on bedrock (see fig. 2.3). This wall in Square A.11 is sealed by Stratum 15 soil surfaces and probable floors. So while more Late Hellenistic pottery in the Area B reservoir fill-loci would enhance the interpretation, it does not appear unreasonable to assign the clearing of the summit to bedrock, with the consequent filling of the Area B reservoir (and perhaps other undiscovered Iron Age features) to Stratum 15 building efforts.

There was at Tell Hesban little stratigraphically significant evidence from Stratum 15. Thus it is particularly gratifying that Square A.11 was dug and recorded as carefully as it was.

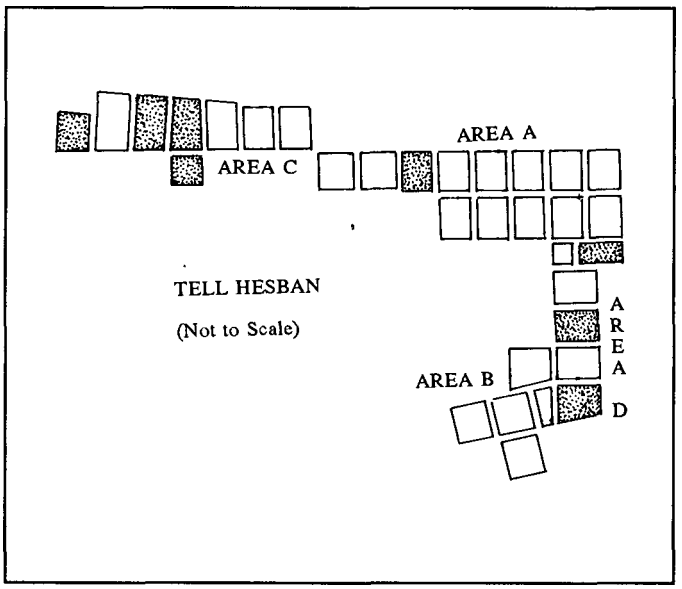
Two special problems regarding the Hellenistic remains at Tell Hesban should be noted at this point. One, relating to the possibility of another Hellenistic stratum (between Strata 16 and 15), has been raised by remains in Square A.11. Final analysis of the pottery from five seasons of excavation, when completed, may turn up additional examples of Early Hellenistic ceramics. Until then only locus A.11:53 has produced Early Hellenistic pottery, and its absence elsewhere argues against assigning an Early Hellenistic stratum to the site. There well may have been someone at the site between the sixth century and the beginning of the second century B.C. In fact I should expect it. But so far the evidence does not indicate occupation intensive enough to justify a separate stratum.

Figure 2.1 Stratum 16 Reservoir (as Proposed).




The second problem arises from the remains in Probe G.1 (*cf.* fig. 1.2), which will be covered in detail below. There are a number of soil layers which appear to be surfaces that are subsequently cut by the foundation trench(es) for wall G.1:41 (= G.1:37 and G.1:43). Following a conscious decision by the publications team not to proliferate strata, and in the absence of compelling stratigraphic data elsewhere on the site, I have chosen to view the Late Hellenistic evidence from Probe G.1 as representing the ongoing activity of one stratum.

Figure 2.2 Stratum 15 Significant Remains.




### Stage C: Construction Stage

Area B

The construction stage of Stratum 15 appears to have involved the wholesale stripping of the summit of the tell to bedrock. Only one clearly Iron Age locus was found in Area A (A.3:56). This witnesses to the thoroughness of the stripping operation (and succeeding clearings) in the excavated portions of the summit, and is suggestive as well, perhaps, to the desire of the Stratum 15 builders to set wall foundations on bedrock whenever possible (Sellers and Albright 1931: 4). Some, or perhaps most, of this debris found its way into the Iron Age reservoir in Area B filling it nearly to the top (see the north balk section of Square B.4). The specific loci involved in this fill have been discussed by Larry G. Herr in his coverage of the Iron Age strata (1978b), and thus will only be listed here: B.1:14B, 15B, 18, 19, 23B, 24, 26, 30-34, 36-39, 41-44, 45A, 45B, 47-56, 63-69, 75-80, 82-102, 104-116, 118, 122-126, 129-142; B.2:35B, 36-42, 56-61, 65-68, 70, 72-74, 79-83, 91, 94, 100, 107, 111, 118-122, 124-126, 128-136; B.4:202, 203, 205, 207, 215, 216, 218-220, 224, 272-274; B.7:39.

Herr estimates that the capacity of the reservoir and the quantity of debris in it come to just over 2,000 $m^3$ (pl. 2.1). One could assume that builders might limit the distance they had to haul soil as much as possible. So soil on the northern half of the summit would be expected to be dumped to the north. Thus if one limits the source of Iron Age debris roughly to the southern half of the area bounded by the so-called perimeter wall (46 x 40 m divided by 2, or just over 900 $m^2$), an average accumulation of some 2.2 m of Iron Age debris can be posited (see figs. 2.1 and 2.3).

Additional evidence for Stage C from Area B consists primarily of fill layers and soil layers in Square B.2 (loci B.2:78, 87-90, 109), and in

Figure 2.3 Plan of the Perimeter Wall.

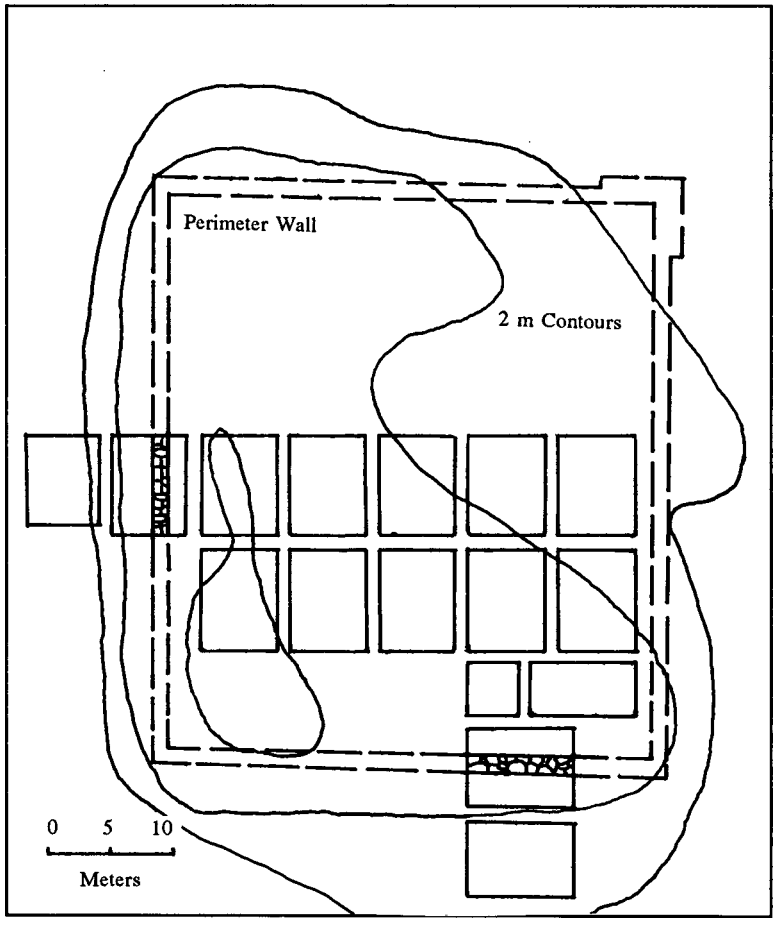
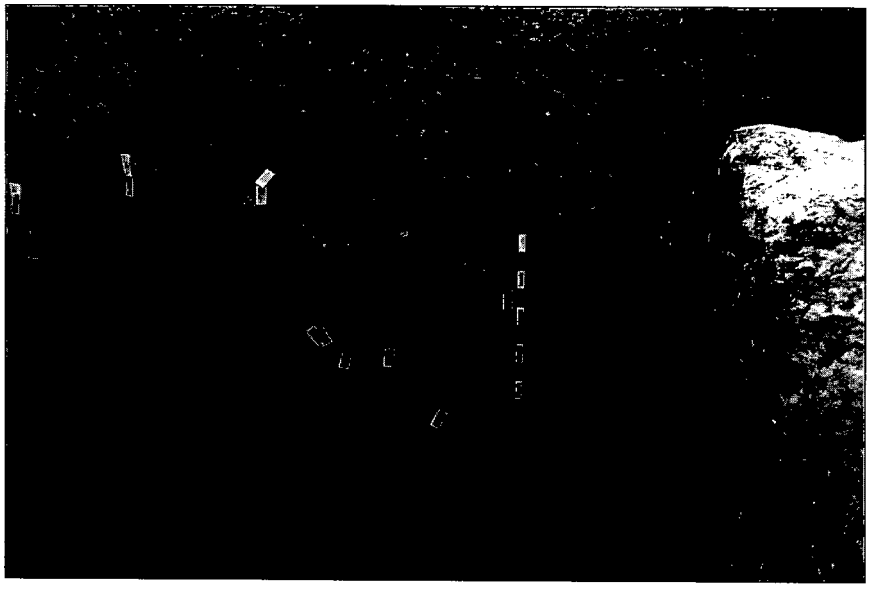



Plate 2.1 Debris Strata in Square B.4.

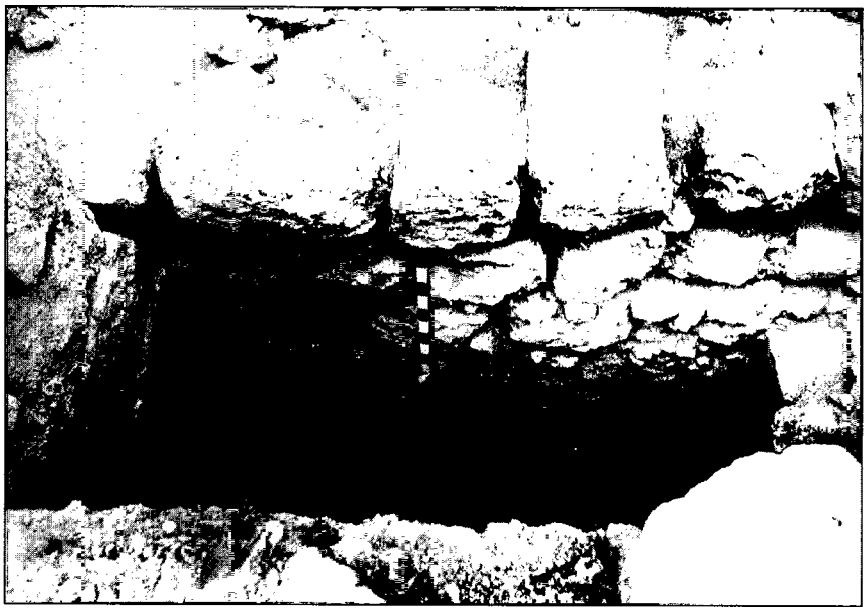


Square B.3 (loci B.3:53 and B.3:54); of these loci several (B.2:88-90) directly underlie Stage B features of Stratum 15. The assignation of blocking Wall B.3:69 (in Store Silo B.3:47) to this stratum depends heavily on the problematic dating of the store silos themselves, a question to which we will return below.

Area D

Stage C remains of Stratum 15 from Area D are slightly more diverse, but not much more coherent. In Square D.4, fill loci D.4:52 and D.4:54 (at the west edge of the vaulted structure built over an Iron Age room) show Stratum 15 activity in the area of bedrock Trench D.4:154 of Stratum 19. East-west Wall B.4:112 founded on bedrock, was laid to parallel the lip of the bedrock trench. One stone of this wall had a prominent door socket cut in its top surface, but it is not known whether the location of this stone was primary or secondary; no corresponding sill, jamb or other doorway remains have survived. Soil fill locus D.4:119 and soil layer locus D.4:121 (beneath D.4:119) overlie early Iron Age loci at the eastern limits of excavation in the Square D.4 bedrock trench. Wall D.1:4D probably corresponds to Wall A.11:49 and will be discussed along with the latter. *Huwwar* Surface D.3:85 (along with loci D.3:89 and D.3:90) may relate to Wall D.3:70, though how it might relate is not clear. Wall D.3:70 is probably later than the *huwwar* surface. However, taken together with the evidence of Wall D.2:64 (which extends eastward into the east balk of Square D.2) it is very possible that some late

Plate 2.2 East Face of Wall A.11:49 (West View).



Stratum 15 or Stratum 15/14 domestic architecture may have survived somewhat more intact under the debris of the Stratum 13 ramp to the summit, to the east of Area D.

Area A

Stratum 15 Stage C evidence from Area A—

Plate 2.3 South Face of Wall D.1:4 (North View).

excluding Square A.11—consists of a cone-shaped, bedrock cut in Square A.4 (locus A.4:21), soil layer patches in Square A.6 (loci A.6:85 and A.6:88), and soil fill around boulders in Square A.9 (locus A.9:114).

In Square A.11, a somewhat fragmentary but more coherent stratigraphic picture is possible. Fortification Wall A.11:49, the western segment of a massive 1.80 m thick stone wall that apparently completely surrounded the summit of the tell, is built on a north-south line over cleared-off bedrock (fig. 2.3, above). Also built upon bedrock is the earliest phase of corresponding Wall D.1:4, the east-west segment uncovered in Square D.1 (pls. 2.2, 2.3). The term "perimeter wall," used in the preliminary reports to describe both these walls, has been retained here for consistency (though the "perimeter" while first defensive, came to be the perimeter of the summit complex only). Abutting the inner (east) face of Wall A.11:49 is Wall A.11:50, an east-west wall which extended into Square A.9 as Wall A.9:33B (fully rebuilt in Stratum 14). Fill-locus A.11:54 apparently sealed against Wall A.11:49 only; Stage B loci above this fill-locus, however, sealed against both Walls A.11:49 and A.11:50.

Area C

In Square C.7, Wall C.7:44 (= C.3:26) was clearly dated to Stratum 15 by pottery in wall-fill loci C.7:100, C.7:105, and C.7:106. The purpose of this wall is unclear; its most probable function would be as a soil-retaining wall.

Plate 2.4 Interior of Store Silo A.5:62.

The only remaining loci assigned to Stage C were found in Probe G.1 south and east of Area D. Pre-Stratum 15 "Cistern" G.1:47 (very possibly another so-called "store silo") was filled (G.1:48) and sealed (G.1:42), after which east-west Wall G.1:46 was constructed directly across the mouth of the filled-in "cistern." Fill Layer G.1:45 was laid over bedrock and covered by a surface of *huwwar* (G.1:44). This fill layer was later cut by Foundation Trenches G.1:37 and G.1:43 of north-south Wall G.1:41 which extended beyond the south balk (fig. 2.4).

Table 2.1 The Store Silos at Tell Hesban.

| Locus | Mouth (Dia.) | Depth | Diameter | Published Drawings |
|---|---|---|---|---|
| A.2:11[1] | 0.58 | 2.06 m | 1.85×2.00 m | Boraas and Horn 1969: 147 (fig. 6) |
| A.5:61 | ---- | 1.60 | 1.15 | Boraas and Geraty 1976: 26 (fig. 3) |
| A.5:62 | ---- | 1.60 | 1.25 | Boraas and Geraty 1976: 26 (fig. 3) |
| A.5:79 | 0.33 | 1.65 | 1.30×1.60 (avg. 1.45) | Boraas and Geraty 1976: 26 (fig. 3) |
| A.5:90 | ---- | ---- | ---- | Boraas and Geraty 1976: 26 (fig. 3) |
| B.3:47 | 0.40 | 2.00 | 1.60 | Boraas and Horn 1975: 148 (fig. 4) |
| B.3:59 | 0.65 | 2.00 | 1.15×1.70 | |
| B.3:64 | 0.38 | 2.00 | 2.00 | |
| B.4:188 | 0.65 | 1.75 | 2.10 | Boraas and Geraty 1976: fig. 10 |
| D.2:77 | 0.40×0.48 (avg. 0.44) | 2.20 | 2.95×3.18 (avg. 3.07) | |
| D.2:80 | 0.45 | ---- | 1.90×2.10 (avg. 2.00) | Boraas and Geraty 1976: 88 (fig. 16) |
| D.2:95 | ---- | 2.40 | 2.75 | Boraas and Geraty 1976: 88 (fig. 16) |
| D.3:57 | 0.30 | 2.80 | 2.00 | |
| D.6:47 | 0.40 | 1.82 | 1.75 | Boraas and Horn 1973: 102 (fig. 6) |
| D.6:48 | 0.32 | 1.84 | 1.90 | Boraas and Horn 1973: 102 (fig. 6) |
| G.1:47 | | [Not Excavated] | | |
| Avgs | 0.43 m | 1.97 m | 1.88 m | |

[1]Not included in averages. Dimensions calculated from unscaled drawing.

Figure 2.4 Square G.1, South Balk.

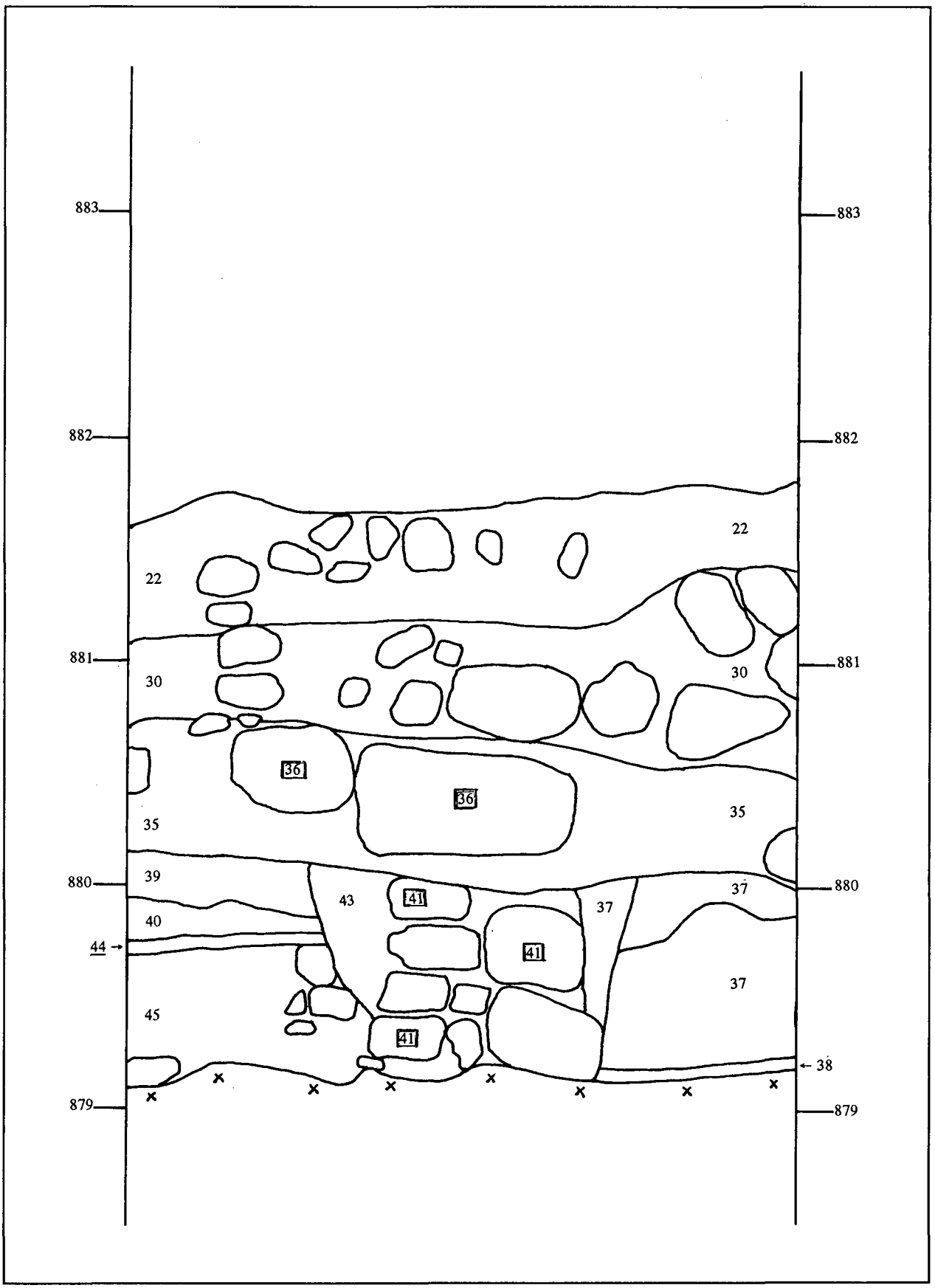


Plate 2.5 Interior of Store Silo A.5:79.

## The Store Silos

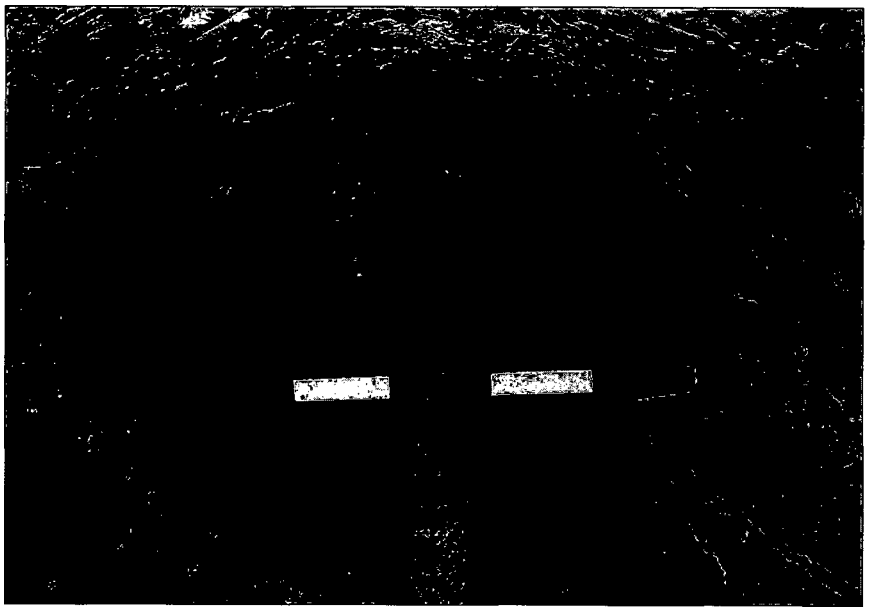
The so-called "store silos" of Stratum 15 pose a special problem. These remarkable installations, of which some fifteen (or sixteen) have been identified, share rather regular dimensions and plans (A.2:11, A.5:61, A.5:62 [pl. 2.4], A.5:79 [pl. 2.5], and A.5:90, with Store Pits A.5:87 and A.5:89 cut in the floors; B.3:47, B.3:59 [pl. 2.6], and B.3:64 [pl. 2.7]; B.4:188; D.2:77, D.2:80, and D.2:95; D.3:57; D.6:47, and D.6:48; and possibly G.1:47; bedrock Cut D.4:113 appears to be an uncompleted silo, dug only some 40 cm deep). Found in Areas A, B, and D, some are discrete installations, others are connected—to neighboring silos or cisterns—by (possibly later) passageways.

The dimensions of the store silos at Tell Hesban, and a list of published drawings, are given in table 2.1. Average dimensions are as follows: opening diameters, 43 cm; silo diameters, 1.88 m; silo depths, 1.97 m. All but two (B.4:188 and D.3:57) occur in groups of two or more silos (pl. 2.8). In cross-section, the usual shape is that of a gently rounded laboratory flask with a very short neck.

Few of these store silos have retained stratigraphic integrity. One silo (D.2:77) which appears to be intact from its last period of use, contained a number of Late Hellenistic loci (D.2:77A, D.2:77B) and is sealed by Occupation Surface D.2:82 (Stratum 15/14). Though this evidence might appear conclusive, it only really proves that Store Silo D.2:77 went out of use at or about the end of Stratum 15. Though I have assigned the original cutting of all of Tell Hesban's store silos to Stratum 15 on the basis of the evidence from Square D.2, the fact is that the cutting of all these silos may well have been accomplished at an earlier period in the occupation of the site, perhaps as early as Iron Age I (see the Tell el-Ful evidence below).

Plate 2.6 Mouth of Store Silo B.3:59.

Plate 2.7 Blocked Interior of Store Silo B.3:64.



At a number of sites on the west side of the Jordan River, installations such as those I have described at Tell Hesban have been reported. R. A. S. Macalister's work at Tell Zakariya turned up what appear to be a great number of silos, referred to by the explorer as "bell-shaped." Most of these installations appear to have been subsequently expanded or interconnected, but several retain their original size and shape (Macalister 1900: pls. 1, 3, 4). One silo, A.3 (Macalister 1900: pl. 4:1), has a small pit cut into its floor, such as those in Tell Hesban Store Silos A.5:61 (pl. 2.9) and A.5:62 (Store Pits A.5:87 and A.5:89). Reported dimensions of intact individual store silos at Tell Zakariya reflect the ranges observed at Tell Hesban: opening diameters of from 36 to 60 cm; silo diameters measuring from 0.94 to 2.60 m; and heights of from 1.02 m (not cleared to the floor) to 1.75 m. In the absence of compelling evidence, Macalister chose not to speculate either on the date or the function of his bedrock complex and its silos (1900: 53).

One of the best known and most carefully documented series of store silos has been reported from el-Jib. Sixty-three such "jug-shaped cellars" were cleared and described. Openings averaged 67 cm in diameter; the average depth was 2.20 m; and the diameter of the floors averaged 2.00 m. Most of these installations were unplastered. Only five were plastered as early as Iron Age II; the rest (ten) were plastered in the Roman period or later. Unplastered silos were determined by experiment not to hold water. Of the 63 "cellars" 52 contained pottery, 26 of these only Iron Age pottery. J. B. Pritchard concluded that this series of silos was abandoned in or just after the Iron Age II period. He interprets these installations as the storage facilities for large store jars of the wine produced at the site (1964: 1-16, 24-27). The figures and plates provided by Pritchard for his report on the el-Jib "winery" reveal several

Plate 2.8 Multiple Store Silos B.3:64, 47, 59.

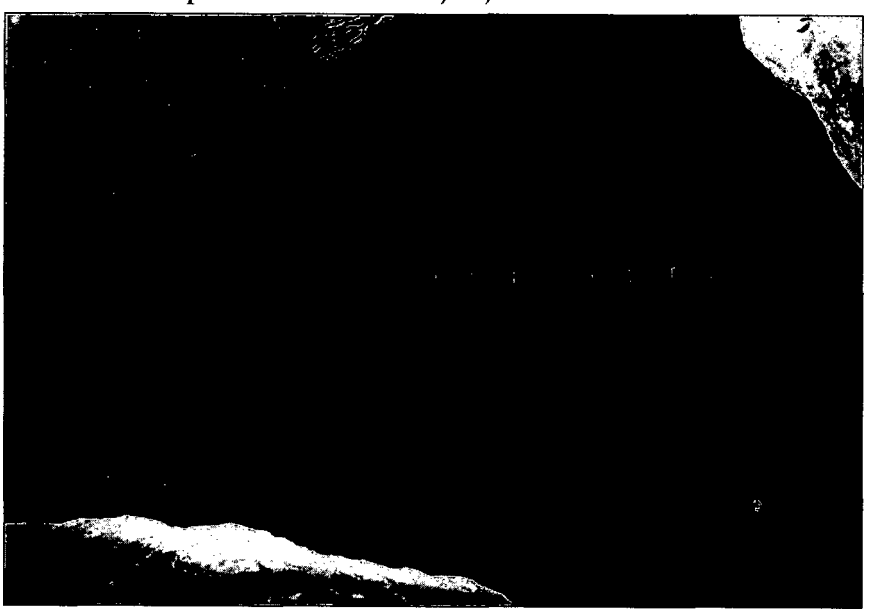
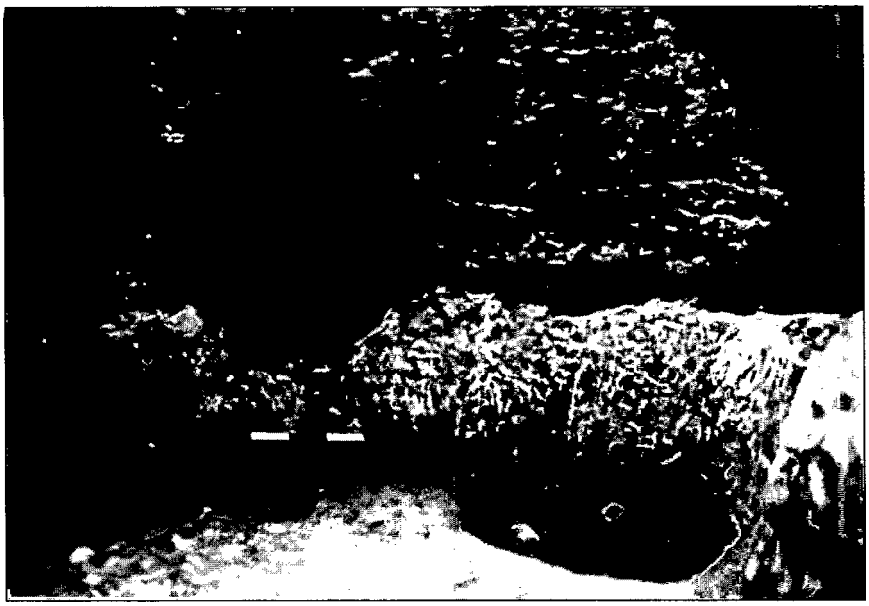


Plate 2.9 Pits in Store Silo A.5:61.



features also observed at Tell Hesban: adjacent silos connected by a cut passage (1964: fig. 10; cf. Hesban Silos D.6:47 and D.6:48); store silos expanded (and interconnected) into much larger installations (1964: figs. 10, 11; cf. Silos A.5:61, A.5:62, and A.5:79); and general lack of plaster (no plaster reported at Tell Hesban).

At Tell el-Ful W. F. Albright excavated what he interpreted as a large "grain-pit" which had three 45-50 cm diameter round holes in the roof, though as it was dug was provided with a "roughly-arched doorway on the north." These holes had been covered by large stones (Albright 1924: 27). Though it is not certain, this installation sounds very much like three store silos (the height is given as 1.70 m) which were joined by later bedrock excavation operations (in antiquity). Albright suggested a "Third Period" date (ninth to seventh centuries B.C.), though he admited this installation might be later.

More recent work at Tell el-Ful by Paul Lapp resulted in the clearing of 24 silos. One silo had been used in Iron Age I. Another had an Iron Age II wall built over its entrance opening. A third had a mid-second century B.C. wall built over its mouth. And two more had Iron Age II/Persian pottery on their floors. A number of these silos were capped. Apart from this evidence for earlier use, nearly all had been used (possibly reused) in the Hellenistic period. While their shape and size matched similar installations at el-Jib, there was no evidence at Tell el-Ful that the silos were connected with a wine industry. Lapp suggests that these silos were the normal place for householders to store a variety of commodities: grain and large jars of oil, wine, or water. Lapp doubts that any of the silos at Tell el-Ful were cut as late as the Hellenistic period (1965: 8-10).

Storage pits at Tell el-Hesi (Stager 1971: 449-450; Coogan 1975: 46) and other sites are not all entirely analogous, though they may be from approximately the same period and used for similar purposes—grain storage. Perhaps the intent was quite the same, the nature of the substrata at the particular site making the greatest difference in the execution of these underground storage facilities.

As an argument against a much earlier assigned date than the Late Hellenistic period for Silo D.2:77, I must mention the remarkable preservation of tool marks in its sides as well as floor (pl. 2.10, in spite of the fact that the *nari* bedrock was (by the 1970s, at least) so soft and fragile that cleaning the floor destroyed the fine details of the tool marks. This suggests that either the bedrock has, since its sealing in Stratum 15/14, softened greatly in the damp conditions prevailing at the bottom of most store silos, or that the floor had not been cleared of pre-Stratum 15 accumulations by Stratum 15 users, and thus ought to be considered as originally part of Stratum 15, Stage C. (Even when cut, the bedrock of most of these installations was most likely quite soft.)

As a review of the Tell Hesban locus lists would indicate, no silo there gives evidence of being used earlier than the Late Hellenistic period. But as noted above, this may be because earlier material was carefully cleared out of the silos before their reuse during the period represented by Stratum 15.

Plate 2.10 Tooled Wall of Store Silo D.2:77.

In virtually every case, the soil loci within the Hesban silos represent later fill (Strata 14 and 13 primarily), so the contents of those loci are valueless in establishing an original purpose for the installations.

Our silos seem analogous in every way to those found west of the Jordan. But as yet we appear to be unable to more closely define just what use was made of them at Tell Hesban. Lapp's conclusion—general storage—seems most sensible for the Late Hellenistic period, especially since a domestic structure of Stratum 15/14 in Square D.2 was located so that the entrance (mouth [pl. 2.11]) of Silo D.2:77 was accessible just inside the door of the house. It seems that we cannot establish more precisely the date for the original excavation of these silos at Tell Hesban, though the Iron Age does not seem impossible.

When these silos were first dug and how they were first used is of material interest to the cultural questions about the occupation of the site. I am assuming the silos at Tell Hesban were originally dug in the Iron Age specifically for grain storage. The troublesome question for the present Stratum 15 discussion is: when and for what purpose were these silos reactivated? And further: what sort of community may be inferred?

The evidence of the pottery makes the Late Hellenistic period the likely time for reactivation. In the absence of contrary evidence, and in light of the "strawy ash" (and similar descriptors) reported from the floors of a number of silos at Tell Hesban, it seems reasonable to suggest grain as the likely article stored.

Plate 2.11 Mouth of Store Silo D.2:77.

There remains a final problem: what community is responsible for Stratum 15 remains in the store silos? The question seems amenable to at least two answers: (1) farmers who settled at Esbus in recognition of the region's excellent grain-growing qualities and needed facilities in which to store their surplus crops; or (2) army men who, whether they attempted any farming on their own or not (as in typical

Plate 2.12 *Zir* B.2:75.

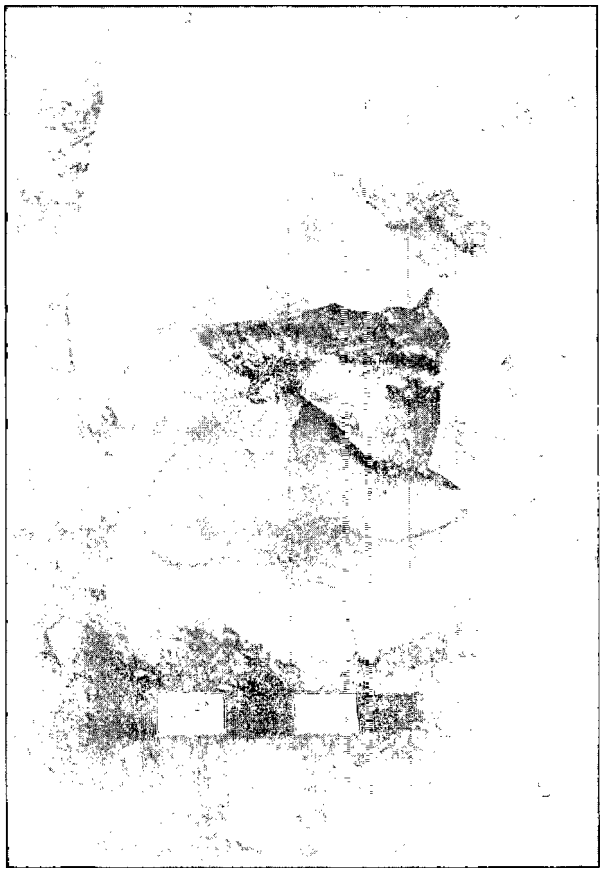
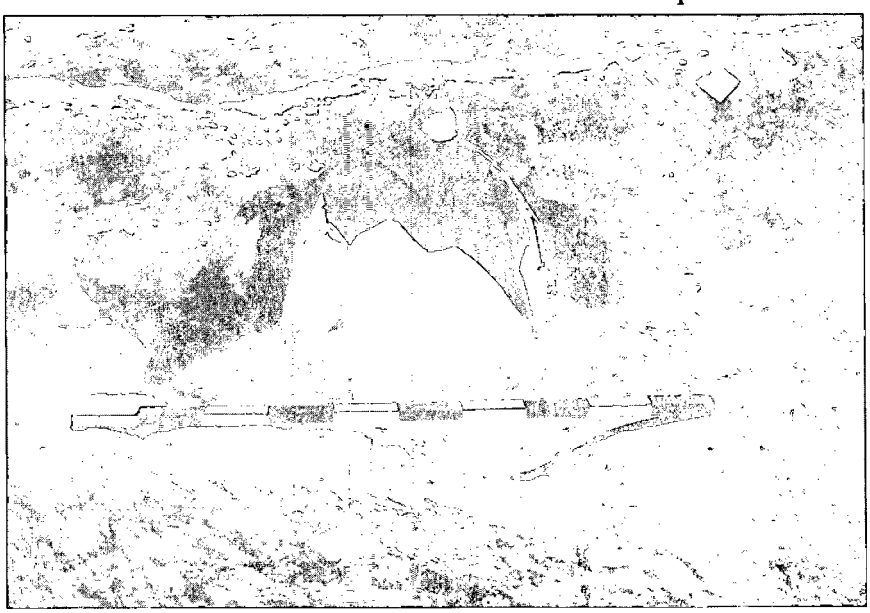


Plate 2.13 *Zir* B.2:82.



frontier-zone agriculture), settled in the site, and, needing food storage facilities for the garrison, possibly reactivated the store silos to meet their needs.

**Stage B: Use Stage**

Area A

Evidence for occupation during the historical period represented by Stratum 15 Stage B is meager and scattered. In Area A, Square A.4 contained two probable Stratum 15 soil layers on bedrock (loci A.5:56 and A.5:90E); at the lower limit of excavations in Square A.9 locus A.9:113, a probable beaten earth surface, was found overlying rock tumble in the so-called "northwest" room. In Square A.11, Fill Locus A.11:53, Fill Loci A.11:51 and A.11:52, Floor A.11:47, Fill Layer A.11:46 each in turn, from lowest (earliest) to highest, sealed against both Walls A.11:49 and A.11:50. Not a single registered object was recorded for any of these A.11 loci. It would be presumptuous to assign a function with any certainty. The bone content of these loci is interesting (including sheep/goat, cattle, pig, chicken, and dog), but is clearly inconclusive. Common sense would suggest that a fort requires cooking and eating facilities as well as living quarters. The remains simply do not allow a reliable choice to be made between these interpretations or among any others.

Area B

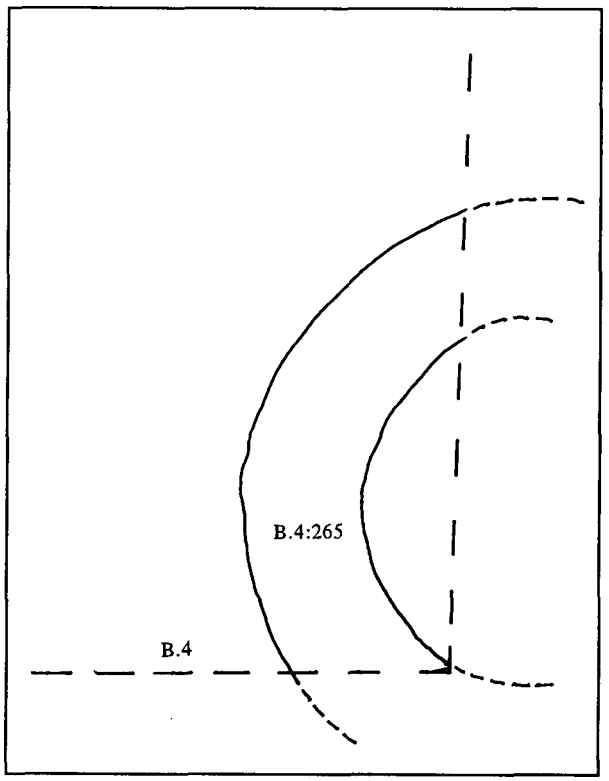
In Area B, Square B.3 occupation evidence is limited to loci inside cave B.3:100 (Soil Layer B.3:71) and inside Store Silos B.3:47, B.3:59, and B.3:64. Ashy Layers B.3:66 (in Silo B.3:59) and B.3:68 (in Silo B.3:64) and Soil Layer or Surface B.3:62 (in Silo B.3:59) probably represent at least final stages of use of these silos in Stratum 15. Soil Layer B.3:67

Plate 2.14 Circular-cut, Plastered Pool B.4:265.

(in Silo B.3:64) may represent pre-Stratum 14 debris, though it could possibly also be later fill.

In Square B.2, Late Hellenistic *Zirs* B.2:75 and B.2:82 were found in Fill Layer B.2:78 (pls. 2.12, 2.13). These two *zirs* (buried store jars) probably indicate domestic use of the immediately adjacent areas, though no architecture could be associated with the *zirs* to suggest the nature of related dwellings. Apart from the locus within *Zir* B.2:75 (fill-locus B.2:110), no other evidence of occupation (Stage B loci) was found. Square B.4, immediately south of B.2, also yielded a Late Hellenistic *zir* (B.4:174) sealed by *Huwwar* Layer B.4:180 and Soil Layer B.4:182. No samples from these store jars were floated for organic remains.

Figure 2.5 Plan of Stratum 15 Pool B.4:265.



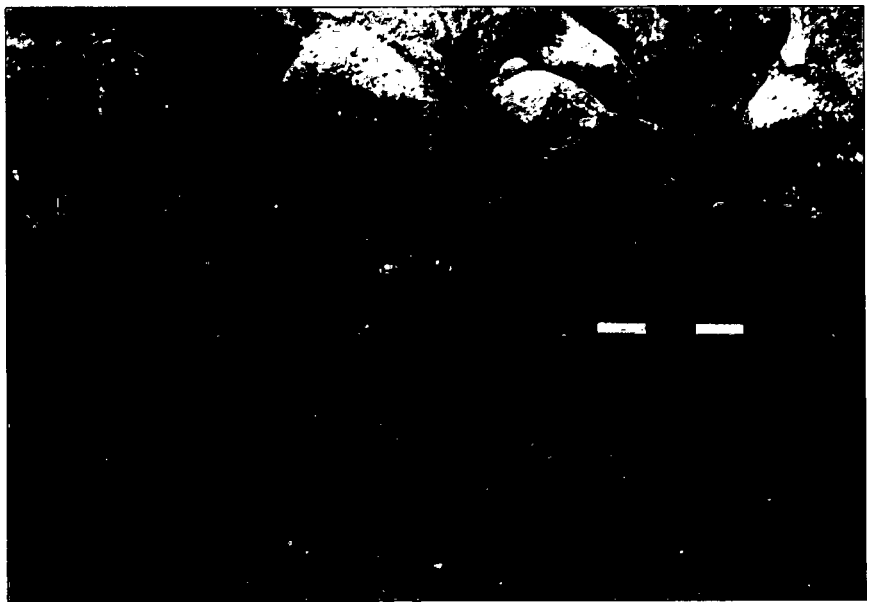

In an interesting, but enigmatic, installation in a bedrock cave, part of a circular cut pool 5 to 6 m in diameter (B.4:265 [pl. 2.14], with its plaster lining, locus B.4:234) contained a layer of sediment (B.4:229) over a layer of clay (B.4:249) which was mixed with Soil Layer B.4:271 in places (fig. 2.5). Again, no scientific studies were made which might elucidate the purpose of this carefully-made installation. Preliminary reports suggest only "some kind of industrial use" (Sauer 1976: 55).

I am aware of no parallels to this underground pool. It is not impossible that the facility was used in connection with a pottery operation, as a soaking pool for production of clay (note the nearly 1 m thick layer of gray-black "gummy" clay excavated from the pool [B.4:249]). However, if there was pottery manufacture at Stratum 15 Hesban, one could expect more evidence, particularly in the form of wasters.

## Area C and Square D.2

In Area C, Firepit C.2:46 (pl. 2.15) cut into an earlier Stratum 15 soil layer (C.2:31 = C.2:34), two consecutive surfaces (*Huwwar* Surface C.2:47 and Soil Surface C.2:48), and farther up slope, an

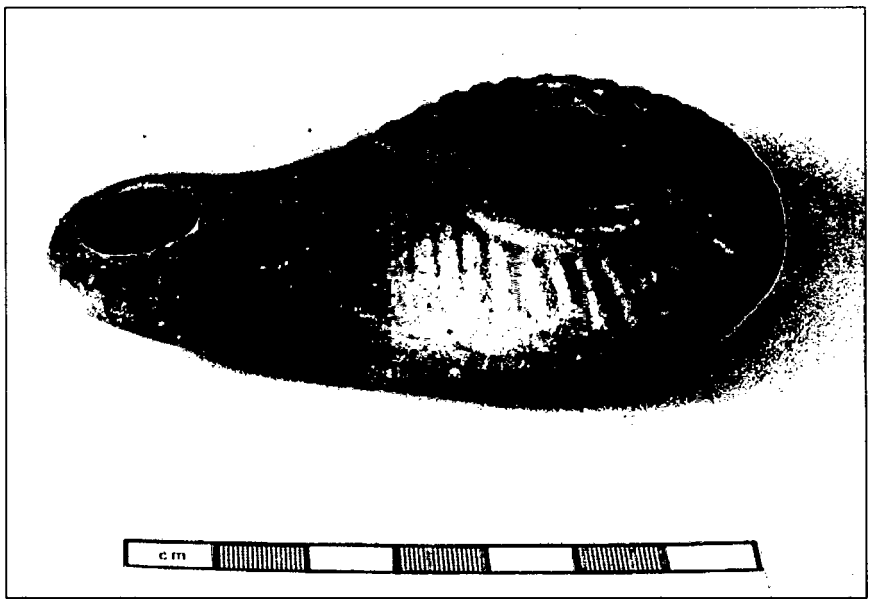
Plate 2.15 Firepit C.2:46.



ash layer (C.3:29) and another firepit on bedrock (C.7:99), constitute the evidence for occupation during Stratum 15. The only additional material for this stage is from Square D.2.

Covering the floor of store silo D.2:77 was a very fine, thin (0.02 - 0.03 m) layer of partially-burned material (D.2:77B). A similar layer (D.2:80E) in Store Silo D.2:80 produced a perfect Late Hellenistic lamp (Object No. 2378 [pl. 2.16]).

Plate 2.16 Late Hellenistic lamp (Obj. No. 2378).




The Probes

Probe G.12 (pl. 2.17) produced a good sequence of Late Hellenistic soil layers (G.12:29, G.12:31, G.12:33, G.12:34B, and G.12:35B) suggesting a certain amount of occupation outside the fort walls (which therefore escaped the clearing operations of Early Roman builders). In Probe G.1 a complex of crude walls (G.1:36 [pl. 2.18]), a soil layer (G.1:39), and an ash layer (G.1:40) appear to be part of the use stage of Stratum 15, but the stratigraphic meaning of these loci is obscure; their lateral exposure was severely limited.

**Stage A: Destruction Stage**

In most of the excavated areas at the site, the evidence for the destruction and/or abandonment of Stratum 15 had been removed by subsequent building activities (notably in Stratum 13). In Areas B and D some possible Stage A loci survived. In two cases, capstones sealed off store silos. Stratum 15/14 Capstone D.2:86 (pl. 2.19) sealed Silo D.2:77, with locus D.2:77A representing a small amount of pre-sealing debris. Capstone B.3:70 closed off Silo B.3:64. In Silo B.3:59, Stratum 14 fill-loci were preceded by one Stratum 15 rubble layer (B.3:63). In G.1 the store silo (or cistern) was filled up with Stratum 15 debris (G.1:48) and covered by tumble (G.1:42).

Plate 2.17 Highly-Stratified Probe G.12

Store Silo B.3:47 was filled up (loci B.3:50 = B.3:51+B.3:52) in Stratum 15. In G.1, Wall G.1:41 was put out of use by Soil Layer G.1:35. Layer G.1:34, which is possibly a dung layer, lies under Stratum 13 Rubble Layer G.1:30; it may or may not belong to Stratum 15.

Area B

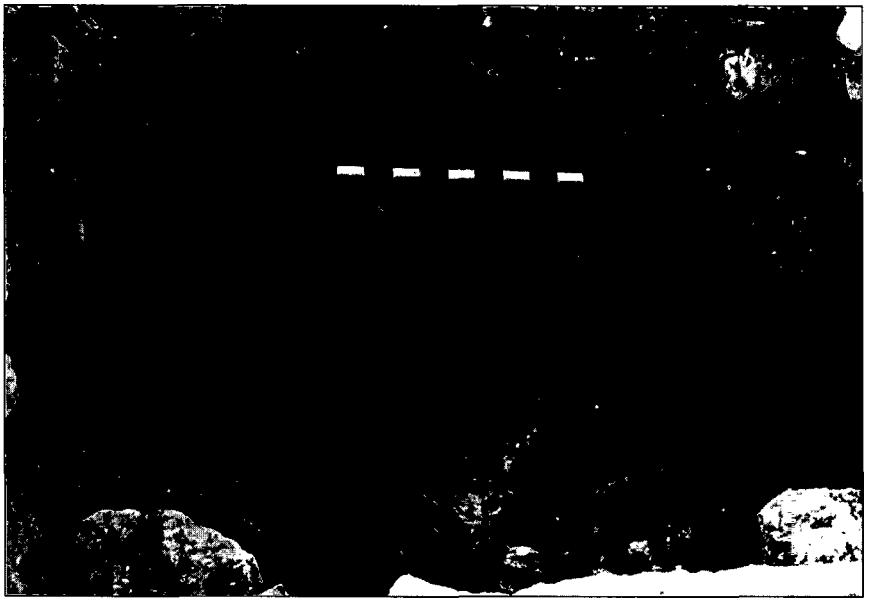
On the tell proper, *Huwwar* Layer B.2:77 put *Zirs* B.2:75 and B.2:82 out of use, and rock and soil locus B.4:183 appears to do the same for *Zir* B.4:174, along with Soil and Ash Layers B.4:175, B.4:176, B.4:178, and B.4:183.

The following loci, though probably part of Stratum 15, did not fit into the stage designations; but are included here to be complete: B.4:150, B.4:173; C.2:40, C.2:45; C.3:35-37, C.3:42; C.5:164, C.5:170; C.7:96, C.7:98; G.12:34C; and G.1:35C.

## The Historical and Political Context

As I have mentioned in the introductory remarks to this chapter, Tell Hesban is located in a place which is rather vulnerable to political and military influences. Because this is so, the following historical section will address the larger historical and political context of Essebon/Esbus on the assumption that a general knowledge of the period in question, though not applicable to Tell Hesban in every point, will aid in understanding the period and, by extension, perhaps better understanding the remains of Stratum 15.

Plate 2.18 Wall G.1:36.



Ptolemaic Transjordan

In the Early Hellenistic period, the area around Tell Hesban was under Ptolemaic control. Josephus (writing at a later date) makes it appear at one place (*Ant.* 12.233) that

Plate 2.19 Capstone D.2:86 (*cf.* pl. 2.11).

Esbus—'Εσσεβων—was the center of a hyparchy of its own. The noun is given a hyparchy ending ('Εσσεβωνιτιδος). Elsewhere, however, Josephus specifically includes Esbus ('Εσσεβων) within the hyparchy of Moab—Μωαβιτιδος (*Ant.* 12.397). The latter assignation is more likely correct (Avi-Yonah 1977: 41, n. 67). In any case, the *-itis* endings are a survival of Ptolemaic administration of this area of Transjordan (Jones 1971: 240).

Ptolemaic Transjordan was sectioned into four hyparchies (fig. 2.6): Gilead (mostly south of the Yarmuk), the Tobiad holdings, Moab(itis), and Gabal(itis). Philadelphia (modern Amman) was an established independent city-state by the middle of the third century B.C. It was later ruled by Zenon Cotylas (*Ant.* 13.235). The Tobiads controlled the plain east of the Jordan River and north of the Dead Sea. At the east-west dividing line formed by Wadi Nusariyat, Tobiad influence spread eastward up to the territory around Philadelphia. It was south of the Wadi Hesban that Esbus lay, in the Madaba Plain which has historically been a highly contested area. (For the modern Arabic term *Belqa* there is, to my knowledge, no equivalent term used in our periods. Since *Belqa* refers to a much larger geographic area than that of the Hesban region, I have avoided the term in this study.)

Each *hyparchy* (corresponding more or less to the Persian "province") would have had a governor who was assisted by an *oeconomus* (for economic matters), and a police official—all of them Greeks. Under the *hyparchy*, various *toparchies* (districts) were established. As under the Persians before them, the Ptolemaic *toparchy* consisted of groups of villages. The *komarchs*, village administrators, were natives (Avi-Yonah 1977: 34; Jones 1971: 450, n. 19). This system of administration, in keeping with the general practice of the Ptolemies, was very centralized. Central control was enhanced by the subdivision of the province, with individual *toparchs* responsible to the *hyparch*.

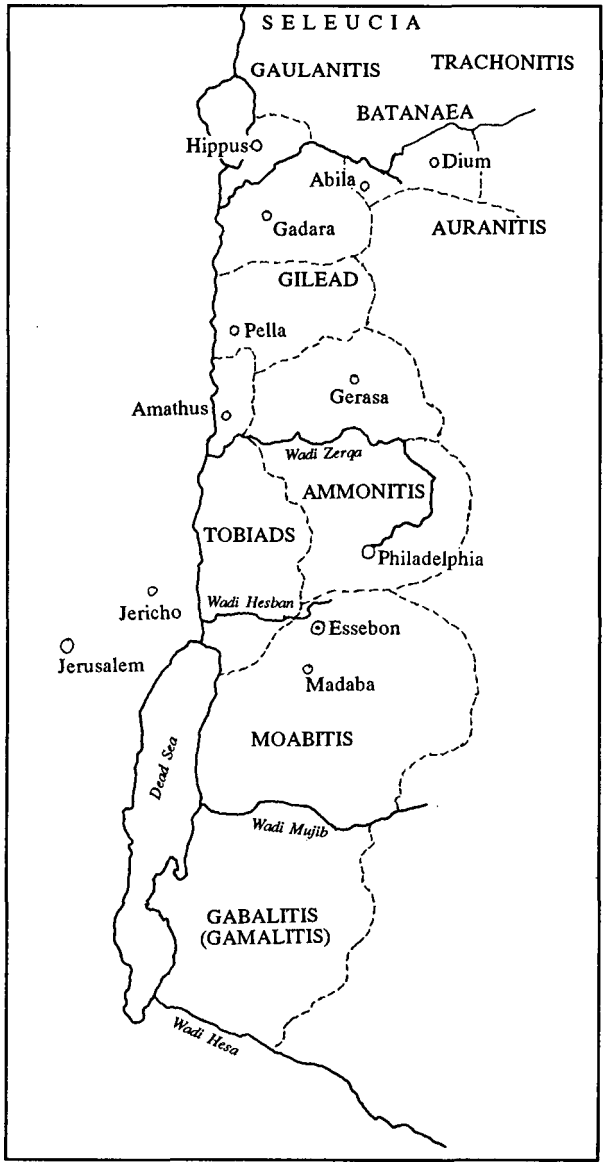
It was during the third century B.C. that many important independent Greek cities were established in Syro-Palestine both east and west of the Jordan. In the west, on the Phoenician coast particularly, quite a number of cities were chartered, including Ptolemais, Joppa, Gaza, Ascalon (Avi-Yonah 1977: 39). In the east, perhaps the city of Philadelphia alone was founded by the Ptolemies. Dium, Gerasa, and Pella, and perhaps Gadara, were in all probability pre-Ptolemiac (Tcherikover 1927; Avi-Yonah 1977).

In Transjordan, however, very little colonization (and thus city-chartering) was accomplished by the Ptolemies. Philadelphia alone retained its Ptolemaic name, and, even in this case, Polybius reverts to its Semitic predecessor—*Rabbatammana* (Jones 1971: 240). From the evidence excavated at the site, Tell Hesban appears not to have been occupied during the Early Hellenistic period.

## Seleucid Transjordan

With the change of power resulting from the Seleucid victory over the Ptolemies in the battle of

Figure 2.6 Ptolemaic Transjordan (pre-198 B.C.).




Paneas, 198 B.C., the whole of Palestine came under Seleucid control for nearly the entire following century. In the absence of evidence to the contrary, it is here assumed that the region of Transjordan was included in this takeover. Arabic tribes were apparently not active as far north as Tell Hesban at this early period.

From the primary sources (and secondary sources for that matter) it is not always possible to know whether references to "Syria" include or exclude southern Transjordan. In spite of that problem there is sufficient reason to at least cautiously count southern Transjordan, including the Hesban region, into the Syrian sphere of influence.

Where Ptolemaic rulers had apparently been reluctant to establish autonomous cities in Transjordan, Seleucid rulership was "eager to foster city life in their territories" by establishing politically independent cities in or near older city sites (Avi-Yonah 1977: 51).

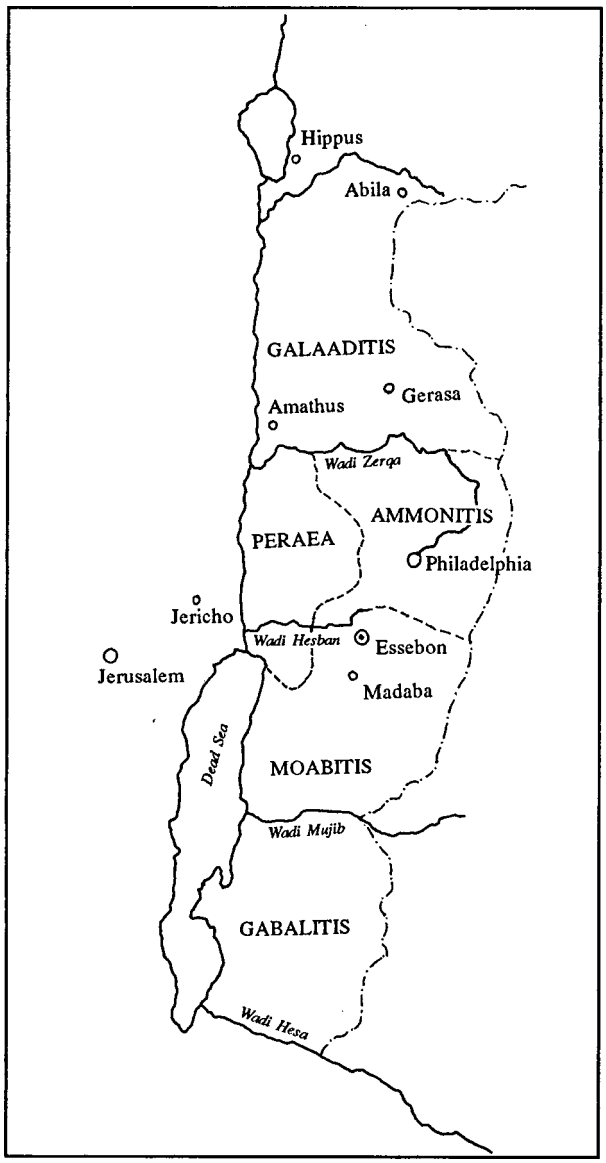
By the end of the reign of Antiochus the Great (223-187 B.C.) no more Greek refugee/colonists entered Syrian territory (Jones 1971: 247). This may at least partially explain why there are apparently no new autonomous cities founded during the Seleucid period south of Philadelphia; there were no worthy native towns, and there were no new Greek colonists from the west in need of a place to settle. This is in the face of the fact that the reign of Antiochus IV Epiphanes (175-163 B.C.) saw a marked increase in the urbanization of Syria (Jones 1971: 247). Abila, Hippus, and possibly Amathus were Seleucid foundations.

One has to wonder also if the presence of desert Arabs—probably never very far from southernmost Transjordan—provided an additional reason for general lack of interest in urbanizing the area. From the middle of the second century on, the Nabataeans would play an increasingly important role in regional politics. Their influence may well have been felt in the area much earlier.

Seleucid Transjordan was divided up very much like Ptolemaic Transjordan had been. However, significant changes in administrative structure were introduced. Province and district boundaries initially stood much as they had under the Ptolemies (fig. 2.7; *cf.* fig. 2.6). The principal difference is that the Seleucid kingdom combined what had been numerous units—some six toparchies and seven or eight cities—into one eparchy—Galaaditis. The sole area of Transjordan not so incorporated was Peraea, with its predominantly Jewish population (Avi-Yonah 1977: 49-50).

The province or eparchy (*Strategia*) of Galaaditis was governed by a *strategus* (or *strategus protarchus*) with so-called *meridarchs* under him (in charge of districts of the province).

Figure 2.7 Seleucid Transjordan (198-129 B.C.).




How did Late Hellenistic Esbus fit into this administrative system? From the size and nature of the Stratum 15 remains, it is unlikely that the site held status higher than that of a village (if that!). As has already been suggested, any community at the site (given its position and nature) would probably have had a primarily military reason for existence. What settlements grew up around the fort, as for example those suggested by remains in Probe G.1, should be explained as closely related to that military purpose—families of the military men, services, and such.

Hasmonaean Southern Transjordan

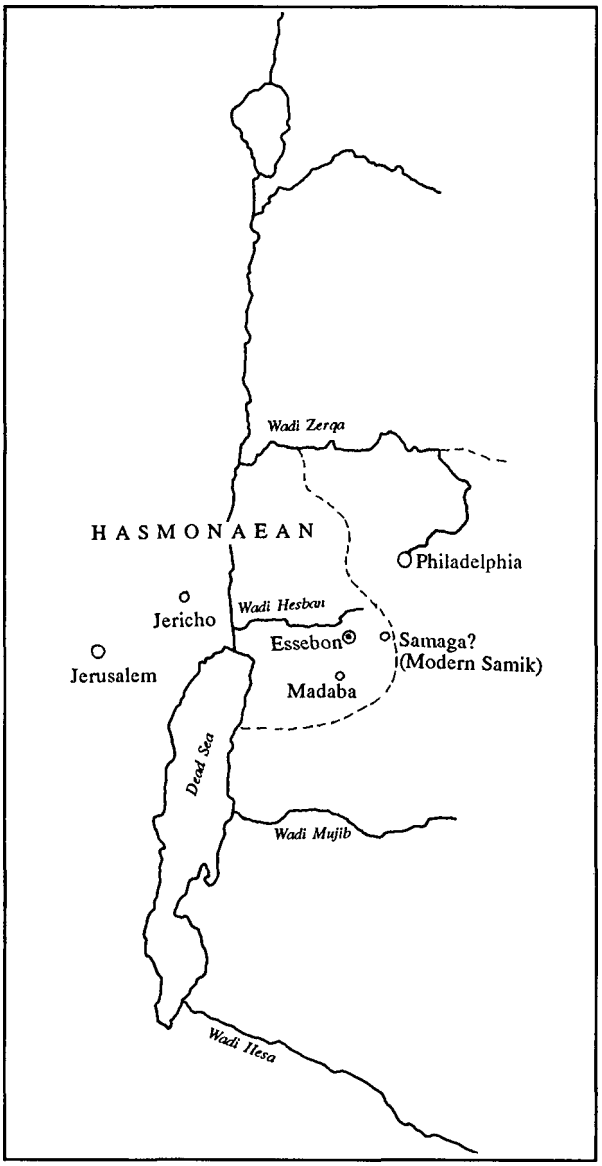
As Seleucid control over its empire weakened, something which began, for some areas at least, as early as the mid-second century B.C., the Hasmonaean fortunes began to rise. Eventually territory nearly as extensive as that held during Israel's Golden Age was once again under Jewish domination (Avi-Yonah 1977: 72). But what interests us is, of course, the place of southern Transjordan in the larger scheme and, more specifically, the site of Tell Hesban in this period.

There are two facts which relate to the problem of Esbus under the Hasmonaeans. First, by 147 B.C., Jonathan had *de facto* control of the Peraea—"beyond" Jordan eastward. This assumes that the fourth nome of 1 Macc 11:34 is indeed the former Tobiad holdings east of the Jordan (Avi-Yonah 1977: 55-57). Second, at the death of Antiochus VII Sidetes (129 B.C.) Hyrcanus I determined to move in on the Seleucid holdings in the east. The cities listed as captured by him include Samaga, possibly modern Samik, 11 km northeast of Madaba (Wright and Filson 1956: 127 and pl. 19; Avi-Yonah 1977: 64), "and its environs," and Madaba itself, are both well east and south of Esbus—which site is not mentioned (*Ant.* 13.254-255). The question is: when did Esbus come under Hasmonaean control?

The answer depends, it seems, on prior assumptions. If one views Peraea as rather severely limited to low-lying areas immediately east of the Jordan, then the site of Esbus, fort that it most likely was, constitutes at best a tenuous Hasmonaean finger-hold on the edge of the high plain Esbus occupied. Not much effort would be required to throw off such a hold.

If, however, one assumes that Peraea extended well east of Esbus—at least on the *north* side of Wadi Hesban, then it would not be difficult to see the possibility of the Hasmonaeans holding Esbus and also the necessity. This site, as virtually no other, could give control over the north end of the Madaba Plain, providing advance warning and protection to the plains at the northeast end of the

Figure 2.8 Hasmonaean Influence (129-63 B.C.).




Dead Sea as well as the southern approaches to Wadi Hesban and Wadi Kefrein themselves.

Interestingly enough, Josephus gives the extent of Peraea as bounded by Moab on its south, and on its east "by Arabia, Heshbonitis, Philadelphia, and Gerasa" moving south to north (*JW* 3.44-47). If correct, this border-designation tends to support the second assumption outlined above: namely, that the Hasmonaeans held territory in the hills east of the river to the north and east of Esbus itself.

Josephus includes Esbus (Εσσεβων) in the list of cities of Moab held by Alexander Jannaeus (103-76 B.C.); this does not really get us any closer to the date of the takeover of Esbus by the Hasmonaeans—it only gives us a *terminus post quem ca.* 75 B.C. (*Ant.* 13.397).

On the basis of the evidence presented above, I have concluded that Tell Hesban was under Hasmonaean control by 129 B.C. (fig. 2.8). Thus it remained, apparently, until the reign of Hyrcanus II (63-40 B.C.). In his civil war with Aristobulus II (67-63 B.C.), Hyrcanus sought and received valuable support from the Nabataean ruler Aretas III (85-60 B.C.). In return, Hyrcanus offered to retrocede to Aretas "the territory and twelve cities Alexander Jannaeus had taken from the Arabs" (*Ant.* 14.18), including Madaba ("These were Medaba, Libba [variants: Libanthra, Livias; modern Khirbet Libb, 8 mi southwest of Madaba], Dabaloth [biblical Beth Diblathaim, modern Deleilat, 6 mi south of Madaba], Arabatha [variants: Rabatha, Barbatha, Tharabatha; biblical Rabbath Moab, modern Rabba], Agalla [variant: Galan; biblical Eglaim, modern Rujm el-Jilimeh], Athone [variant: Thone; modern eth-Theniyeh, 3 mi southeast of Agalla/Eglaim], Zoara [biblical Zoar, in the Ghor Safiyeh, south end of Dead Sea], Oronain [reconstructed name; biblical Horonaim, modern el-Araq, south end of Dead Sea], Gobolis [Gabalos; modern el-Jebelin, 6 mi east of Zoara], Arydda [variants: Sarydda, Rydda, Marisa; modern Naqb el-Arud, in the Negev], Alusa [variant: Lus(s)a; Elusa, modern Khalasa, in the Negev], Orybda [variant: Oryba; modern Abda, 20 mi southeast of Elusa]."). Esbus is not mentioned, but it is usually taken for granted that it was included in the agreement (Jones 1971: 255). However, the omission of Esbus may well mean it was *not* included, especially since apparently *all* the cities mentioned were south of Madaba. As a matter of fact, Josephus ties Esbus (Εσεβωνιτος) with Herodian Peraea, more than hinting that it remained in Hasmonaean/Herodian hands (*Ant.* 15.294).

It appears that during the final 50 to 75 years of the Seleucid empire, while the provinces of Judaea and Galilee were coming under Jewish control and territories around these provinces were being accreted to them, a similar process was taking

place in the east. As the central Seleucid administration became less able to sustain and protect its territories, the encroachment of the Nabataean Arabs from the south increased proportionately. This is perhaps illustrated by the fact that the cities on the Madaba Plain taken by Alexander Jannaeus after the death of Antiochus VII Sidetes are termed "cities of *Syria*" (*War* 1.63; emphasis mine). This, I take as a clear indication that these cities, prior to Sidete's death, formed part of the Seleucid Kingdom.

When, however, Hyrcanus II promised this same territory to Aretas III in exchange for support against his brother, about 63 B.C., the equally clear suggestion is that such a retrocession would constitute an extension of adjacent Nabataean lands. Clearly in the interim from *ca.* 129 to 63 B.C. Nabataean influence had extended considerably, not only northward along the desert into the Syrian homeland, but along the east side of the Dead Sea as well.

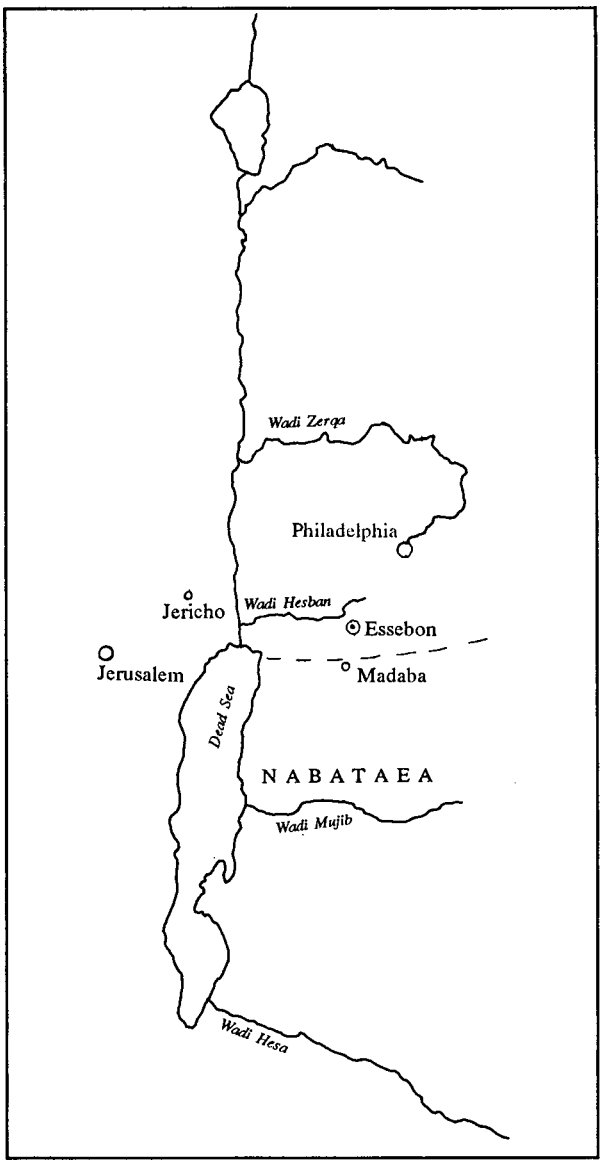
Nabataean Influence in Southern Transjordan

Nabataean presence in the Tell Hesban area is more problematic than it might seem from the foregoing discussion. Very little Nabataean pottery was recovered at Tell Hesban in any period (see table 2.2). This matches the judgment of Nelson Glueck, who placed the northern boundary of Nabataean territories in the Madaba Plain approximately on an east-west line through Madaba itself; his evidence was based on surface surveys in the area (Glueck 1942: 3; Peters 1977: 263; see fig. 2.9). Since this assertion, and the ceramic

Table 2.2 Nabataean Ceramics.

| Stratum | No. of Nabataean Readings |
|---|---|
| 19 | 0 |
| 18 | 0 |
| 17 | 0 |
| 16 | 0 |
| 15 | 1 |
| 14 | 1 |
| 13 | 6 |
| 12 | 6 |
| 11 | 2 |
| 10 | 4 |
| 9 | 4 |
| 8 | 4 |
| 7 | 0 |
| 6 | 0 |
| 5 | 0 |
| 4 | 1 |
| 3 | 8 |
| 2 | 1 |
| 1 | 1 |
| | Total 39 |

Figure 2.9 Nabataean Influence in Southern Transjordan (63 B.C. - A.D. 106).



evidence from Esbus/Hesban, seem to disagree with the literary evidence of a retrocession of these lands and cities to the Nabataeans, some explanation is called for.

By the time the Madaba Plain was "returned" to the Nabataeans by Hyrcanus II, Roman influence was strongly felt in Cis-Jordan. This, along with continued Jewish population of Peraea, would have seriously limited Nabataean encroachment across the Jordan by the ancient (pre-Hadrianic) Esbus-Jericho route. Added to this negative factor was the positive factor that Nabataea did control the eastern desert-fringe route from Petra to Damascus. Its trade was caravanned virtually *around* the area in question, not through it. Thus, it is not at all impossible that while the Madaba Plain was nominally Nabataean from *ca.* 63 B.C. to the annexation (A.D. 106), in fact, its geographic situation tended to isolate it with respect to Nabataean trade routes, perhaps to such a degree that Roman control of the important road junction at Esbus may have preceded by some time actual Roman annexation of the Nabataean homeland.

Most of the third century B.C. in Syria-Palestine was taken up by extensive war. There were four Syrian wars fought in attempts to displace Ptolemaic rule in the area (276-272, 260-255, 246-241, 221-217 B.C.). Finally, in 198 B.C., Antiochus III (223-187 B.C.) beat the Egyptians at Paneas and occupied all of Palestine (Avi-Yonah 1977: 42). It was against this violent backdrop that the Late Hellenistic period in Transjordan unrolled. It is a society set in this context that we shall later attempt to describe.

Having dealt already with political realities in Late Hellenistic Transjordan, there yet remain to be discussed those topics of a more socio-economic nature: the economy (agriculture, trade, and transportation), the social structure, and several other related topics. We shall return to these concerns once we have fully described this stratum at Tell Hesban itself.

## The Social, Cultural, and Economic Context

Sources for the reconstruction of Late Hellenistic economy are rather limited. Basically there are the works of geographers (Strabo and Pliny the Elder), the historian Josephus, the Zenon papyrii, and the Talmudic sources (with their somewhat haphazard information). It is possible even so to outline a general picture, given the relatively unchanged factors of climate and soil of the regions.

The Hellenistic period saw quite an influx into Syria (broadly defined) of numerous new products and technologies. This is certainly true in agriculture. Technical inventions of importance included an improved plow, the Archimedian screw, and such. Of crops, Syrian wheat was considered so superior to the Egyptian variety that it was introduced (and sometimes even imported) into Egypt. There were some good grain-growing areas in Transjordan, though yields did not approach those of Babylon or Egypt. Of legumes, some were native (several varieties of lentils, beans, vetch, lupin, chick pea), but some were introduced, such as the Egyptian bean, Egyptian lentils, and a Cilician pulse. The use of lupin as a rotation crop was a Hellenistic invention. Various fibers were grown in western Asia (flax, hemp, cotton) though the most likely fiber in use in southern Transjordan was wool. It is unlikely that flax and cotton were grown locally. Most locally-grown spices were inferior and not exported. In fact, Egyptian mustard was at times imported into Syria. Vegetable oil was produced from a number of agricultural products, but the most important (aside from olives) was sesame. Not many areas in southern Transjordan could grow olives; the area around Esbus apparently did (and still does). Vegetables were grown, and some were well known in the Roman world, but in the region around Tell Hesban, such horticulture would be confined, as today, to the spring-fed wadis (Heichelheim 1938: 123-134; Avi-Yonah 1977: 197, 209).

Unfortunately not much is known, except in general terms, about commerce in Syria in the Late Hellenistic period. During the second century B.C., the push northward of Nabataean Arabs was felt in southern Transjordan. By the early first century B.C., the Nabataean kingdom was in control of the Petra-Damascus caravan route and most of the towns along it. This route was even further developed, along with several trans-desert routes, as a result of uncertainties which developed in the older trade route up the Euphrates through northern Syria (Rostovtzeff 1932a: 28-29). The tug-of-war over trade routes which had occurred

between Seleucia and Ptolemaic Egypt eventually ended in favor of the Seleucid empire, though temporarily, it seemed. Rome inherited that trade victory, but went on to foster the Egyptian route to the relative neglect of the Euphrates route until the third century A.D. (Arnold 1906: 188-189). As the sources are quite inadequate for this period, the actual goods traded and caravanned along Syrian routes will be taken up later (under Stratum 13). If the later pattern was true of the earlier periods, however, this period also would have seen traffic principally in raw materials en route to manufacture elsewhere.

Syria-Palestine saw an increase in urbanization under the Seleucids. The latter held themselves to be heirs of Alexander the Great, and as such attempted to multiply cities as much as possible (Avi-Yonah 1977: 43). Antiochus IV Epiphanes, a self-styled "Philhellene," especially gave impetus to urbanization, though his motive may have been monetary more than cultural—sale of city charters may have been an important source of desperately needed capital (Jones 1971: 247).

Apparently the Hellenistic period witnessed an increase in population in Palestine, probably a recovery from a century of war (Funk 1958: 14, n. 5). The make-up of population in the east had in the process of the third century B.C. changed with the influx of culture and wealth from the east. The rich oriental families became at least partially hellenized citizens of the new Greek *poleis*, working closely with the ruling Greek Dynasties, and were very wealthy. This was in contrast to the great majority of poor, unprivileged, presumably little-hellenized, and property-less proletariat (Eddy 1961: 119). It is not so difficult to see how Late Hellenistic Esbus, far from the important centers of influence and wealth in the first century B.C. east, could have almost missed out on the prerequisites of hellenization. By the beginning of the first century B.C., a movement reached its apogee which had as its aim the counteracting of Greek influence in the east. But with the abolition of Seleucid rule, Pompey tipped the balance of power away from Oriental nations and toward the Greek cities (Avi-Yonah 1977: 60, 77).

It is of interest to note that artifacts used for spinning and weaving occur most commonly in Strata 15 and 14 (see table 2.3, in which questionable items have been excluded from minimum counts and included in the maximums). Unfortunately it is difficult to know how to interpret the virtual absence of such objects in Strata 12 and 11. Two possibilities seem reasonable (and not necessarily mutually exclusive).

First, it would appear that the warp-weighted loom went out of use at Tell Hesban during the centuries between Stratum 14 and Stratum 12. This view runs contrary to the conclusion of R. J. Forbes. He maintains that as late as A.D. 1070 Theophylactus was aware of warp-weighted looms in Palestine (1956: 198-199). In fact, we can only be sure that the looms Theophylactus referred to were used to weave down (not up as was the practice of Southern European weavers of his day). He is not speaking incontestably of warp-weighted looms. If such were a novelty to him, one might even expect him to have made a specific reference to the peculiarity of warp-weighting in Palestinian looms. In any case, the loom weights from stratified deposits at Tell Hesban more recent than Stratum 13 are all of pottery probably Iron Age sherds and thus poor evidence for the continued use of warp-weighted looms at Esbus beyond Stratum 13. It is possible, but unlikely, that weavers in the Roman period used Iron Age sherds for their loom weights. Furthermore, it must be admitted that loom weights might have come to be made of perishable material and so simply did not survive. This is unlikely though, since cheapness and relative density would have dictated the choice of material for loom weights.

On the other hand, the numbers (and percentages) of spinning and weaving objects other than loom weights also decline dramatically. This fact suggests that textile production in general may

Table 2.3 Spinning and Weaving Objects.

| Stratum | Total (R/%) | Spinning & Weaving min (R/%)-max (R/%) |
|---|---|---|
| 15 | 102 (100%) | 23 (22.5%) - 23 (22.5%)[1] |
| 14 | 113 (100%) | 30 (26.5%) - 31 (27.4%) |
| 13 | 108 (100%) | 10 (9.6%) - 13 (12.0%) |
| 12 | 35 (100%) | 0 (0.0%) - 1 (2.9%) |
| 11 | 43 (100%) | 1 (2.3%) - 1 (2.3%) |
| Total | 301 | 64 - 69 |

[1] Includes 14 clay loom weights from locus D.2:77B.

have fallen off (perhaps entirely) at Esbus after Stratum 13. If so, what could explain such a phenomenon? The physical remains at Tell Hesban suggest that the general economic level increased regularly through the periods represented by our strata. It is possible that with an increase in wealth (probably modest) and status (also modest) tastes in dress changed enough to affect local textile production. The use of imported cottons and linens (and even woolens) increased. So local weaving industries were no longer justified economically. Add to this the probable shift away from a predominantly herding economy to a predominantly agricultural one, which would have the effect of reducing the supply of raw wool.

These suggestions must for the present remain largely hypothetical, since no samples of ancient textiles were found at Tell Hesban, and no looms or representations of them were uncovered either. (For a discussion of the ethnoarchaeological evidence pertaining to this period, see volume 1 of this series; for detailed information on the results of the area survey, see volume 5.)

## Conclusion

Given what we know from the written sources, along with the facts of the site's location, it is possible to make some synthesizing suggestions even though the remains for Stratum 15 are meager. We do know a number of key things: (1) the summit of the tell was stripped to bedrock, at the least over the entire extent in which Area A was excavated to bedrock, and probably a much larger expanse; (2) the summit was surrounded by a massive fortification wall nearly 2 m thick, which may well have from the beginning followed that outline traced by the Heshbon Expedition's surveyor/architects (fig. 2.3); (3) at some distance from the so-called "perimeter" wall itself, a succession of soil layers and/or surfaces with a few walls have been excavated, namely in Probes G.1 and G.12 on the southeast and south sides of the summit mound, respectively.

From this fragmentary information, I would conjecture that Hellenistic Heshbon began its life as a type of border fort. The military nature of early Esbus (Strata 15-14) is certainly underlined, in relative terms, by the occurrence of objects of a military nature (armor scales, slingstones, maceheads, arrowheads). These have been tabulated by raw count and percent of total objects from each stratum (table 2.4). The highest percentages of such objects occur precisely in Stratum 15.

Interestingly enough, one of the highest concentrations of slingstones on the site came from Stratum 15 loci (Kotter 1979: 8). This datum must not be overinterpreted, since I do not believe it is known when these missiles were first made and used, but it is possible that this higher number does in fact reflect the predominantly military nature of the settlement (as well as the military activity in the area in that time period).

The construction of such an installation would have motivated the enormous debris-hauling operation which resulted in an estimated 2,000 $m^3$ of Iron Age remains being dumped into the Area B reservoir. This would have resulted in trustworthy fortification-wall foundations based on bedrock, as well as setting up a clear field-of-fire on the southern approach to the summit, one of the most accessible routes to the top of the tell. In addition it should be noted that a garrison would probably not require more water than could be stored in cisterns available on the summit of the mound itself (*i.e.*, inside the confines of the perimeter wall).

Such a major building operation might also explain the east-west bedrock cut in Area D, Squares D.1 and D.2, which has been a matter of discussion in the preliminary reports (Herr 1978a: 110-112). It is possible that this bedrock cutting represents quarrying activity to supply stone for the building operations of Stratum 15. However, earlier Iron Age quarrying might provide a better explanation, given the fact that surviving Late

Table 2.4 Military Objects.

| Stratum | Total (R/%) | Military min (R/%)-max (R/%) |
|---|---|---|
| 15 | 102 (100%) | 14 (13.7%) - 18 (17.6%) |
| 14 | 113 (100%) | 9 (26.5%) - 11 (9.7%) |
| 13 | 108 (100%) | 7 (6.5%) - 12 (11.1%)[1] |
| 12 | 35 (100%) | 0 (0.0%) - 3 (8.6%) |
| 11 | 43 (100%) | 1 (2.3%) - 3 (7.0%) |
| Total | 301 | 31 - 47 |

[1]Includes 4 "parts" of weights which are possible slingstone fragments.

Hellenistic architecture uses field stone or semi-dressed stone exclusively (compare the dressed stones in the Stratum 17 header-stretcher reservoir wall in B.2; Boraas and Geraty 1976: pl. 4:A).

After a period of time (or maybe almost from the beginning of Stratum 15) a small population sprang up around the military post, at least on its south slopes. Further excavation to the north and west of the summit enclosure might answer the question of Hellenistic period occupation elsewhere around the top of the tell outside the perimeter wall. This occupation entailed at least a little architecture as well on the western slope (C.7:44 = C.3:26), though the nature and purpose of such architecture is not recoverable. As suggested above, the reuse of store silos in Stratum 15 may not of itself imply nonmilitary occupation of the site. But the presence of a relatively large number of spinning and weaving implements certainly argues for more normal domestic occupation—at least later in the period represented by Stratum 15.

The transition to Stratum 14 may be characterized as a smooth one, although the evidence is slim. There is currently no evidence of a destroying conflagration at the end of Stratum 15. In fact, I do not believe it is likely that we shall know whether Stratum 15 Heshbon was simply abandoned, or destroyed by natural or human events. Stratigraphy from Square A.11 would point strongly toward a gradual transition from Stratum 15 to Stratum 14. There Stratum 14 Floor A.11:45 follows Stratum 15 Floor A.11:47 and Fill Layer A.11:46. In Square D.2, Stratum 15/14 Soil and Occupation Surfaces D.2:84, D.2:83, D.2:82, D.2:76, D.2:74, D.2:92, north of Wall D.2:64, and Fill Layers D.2:108 and D.2:109 south of it, are succeeded by Stratum 14 Soil Surface D.2:67 (Wall D.2:26 probably formed the north wall of this room). Finally, in Square B.4, where in Pool B.4:265 two Stratum 15 Layers (B.4:249 and B.4:229) are followed by what appears to be a Stratum 14 floor (B.4:228).

# Chapter Three

# TELL HESBAN STRATUM 14: *CA.* 63 B.C. - A.D. 130

Chapter Three

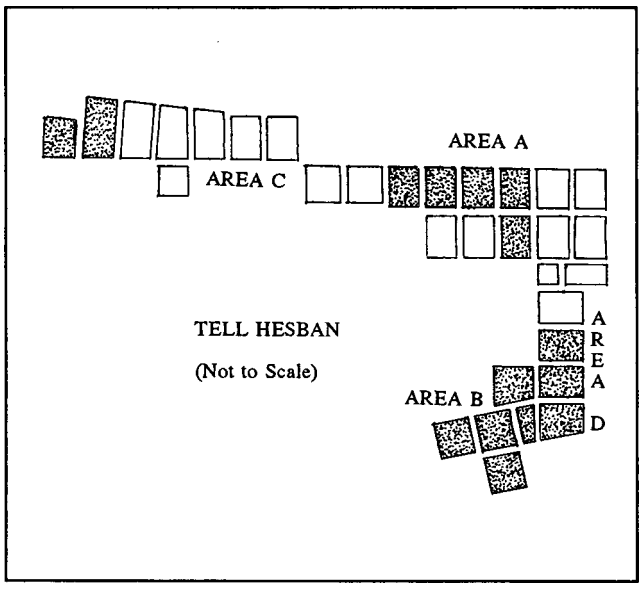
# Tell Hesban Stratum 14: *Ca.* 63 B.C. - A.D. 130

During the period represented by Stratum 14, Tell Hesban probably began its growth process toward eventually becoming a town or modest city. These beginnings were humble enough, but it appears that by the end of this period the stage was set for the relatively large cultural and economic gains made during the following period represented by Stratum 13.

## Stratum 14 Stratigraphy of Tell Hesban

Evidence for Stratum 14 occurs virtually all over the tell, either in primary or secondary contexts. Most of the Stratum 14 remains in Area C appear to be secondary deposits, probably the result of Stratum 13 clearing operations on the tell summit. For the same reason, Area A has few connected remnants of Stratum 14 occupation. In Area D most of the loci of Stratum 14 come from beneath the bedrock fill of Stratum 13, though Square D.2 does have a good series of Stratum 14 surfaces (or floors). The same picture tends to hold for Area B, with the exception of some occupation evidence over Stratum 15 reservoir fill in Square B.4, and to a lesser extent in Square B.2 (see fig. 3.1).

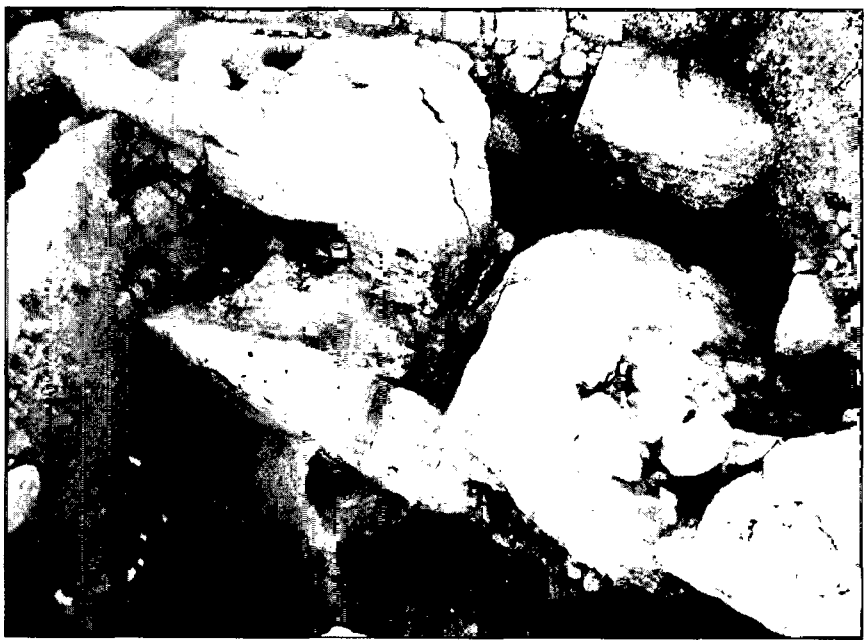
Figure 3.1 Stratum 14 Significant Remains.




It appears that the Stratum 14 occupants of Tell Hesban made more extensive use of underground living and/or storage facilities than did succeeding occupants (until the late Islamic period). The apparent change in dwelling preference following this period may not be due simply to the collapse at the end of Stratum 14 of many such bedrock installations, especially in Areas B and D. It may also signal a shift in dwelling patterns away from underground homes such as the shift suggested to be desirable by a Herodian king in probable reference to the Trachonitis farther north (Avi-Yonah 1977: 91).

As suggested in the discussion of Stratum 15, the transition into Stratum 14 at Tell Hesban was to all appearances a smooth, perhaps gradual, one. The end of the stratum, however, was of quite a different nature. Over a wide area, indicated by the stretch from northern Square D.3 into southern Square B.4, some event caused the majority of caves in bedrock to collapse. This is noted by bedrock surface channels (pl. 3.1), presumably for directing run-off water into storage facilities, which are now totally disrupted and, in many cases, rest 10-20% from the horizontal; by caves with carefully cut steps leading down into them whose entrances are fully or largely collapsed and no longer usable (pl. 3.2); by passages from caves that excavators could enter which obviously were once linked to caves which no longer exist, or are

Plate 3.1 Surface Channels in Square B.4.



so low-ceilinged or clogged with debris as to make their use highly unlikely--at least as they stand now.

Only one agency presents itself as adequate to account for this widespread bedrock disruption: earthquake. After presenting the field evidence for Stratum 14, we shall return to the question of a date for such an event. But whatever or whenever this event, the break between Strata 14 and 13 is clear and distinct in Areas B and D, where loose fill was used by the builders of Stratum 13 Esbus to level out the jumble of broken-up bedrock, and totally new buildings were erected.

## Stage C: Construction Stage

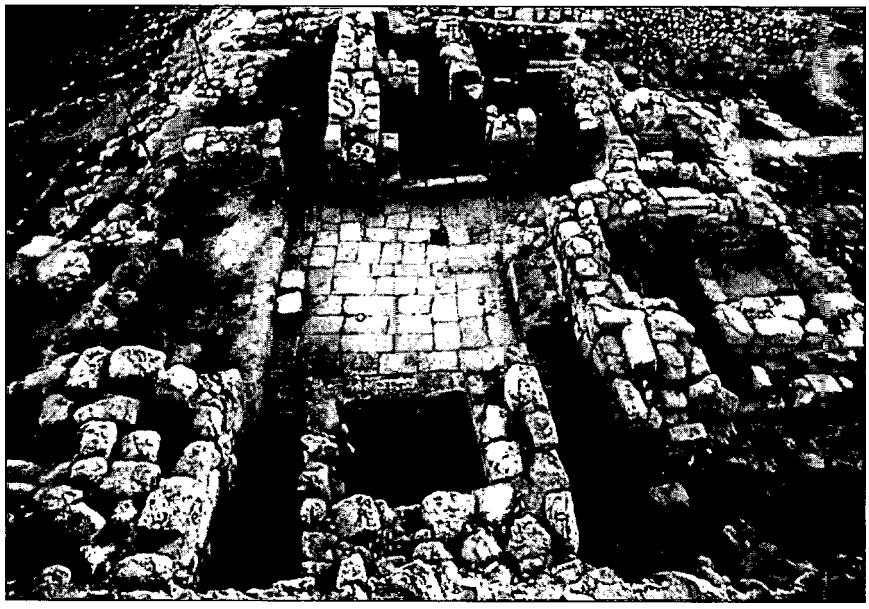
### Area A

Architecture for Stratum 14, while more extensive than that of Stratum 15, is still too fragmentary to suggest a very much more coherent pattern (pl. 3.3). It appears that the summit perimeter wall (A.11:49) continued in use, to judge from the succession of fill layers, surfaces, or floors in Square A.11 which sealed against it (loci A.11:45, A.11:42, A.11:40). On its west face, the foundation level of the fortification was strengthened and protected by a stone revetment (A.11:15) the outer courses of which were cemented in place (fig. 3.2, and north balk section, fig. 3.3).

Built on an earlier Stratum 15 wall (A.11:50; pl. 3.4), a substantial east-west wall (A.11:3B [= A.9:33B]) with its foundation trench (A.9:110; pl. 3.5), set the line for what would eventually be the north wall of the main room of the later (Stratum 12) Roman structure (interpreted to be a temple). Whether or not this wall continued east into Square A.7 is not known. Wall A.7:47, which was built much later than Stratum 14, may have replaced an earlier wall

Plate 3.2 Cut Steps into Collapsed Cave.

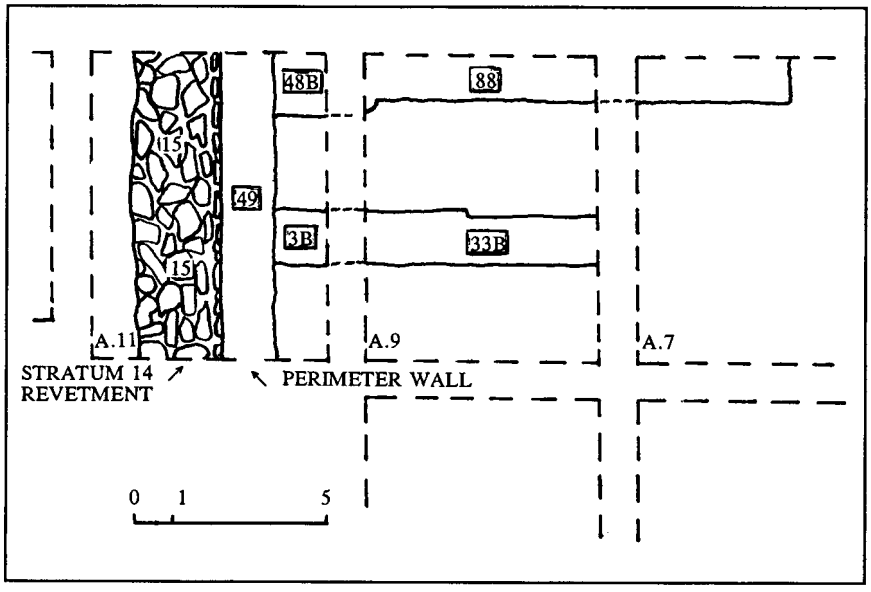
Plate 3.3 Overview of Squares A.7-11.



on the same line (which seems reasonable), but it may also have been a new extension toward the east of the older wall (A.9:33B), a view supported by comparing the levels of Foundation Trench A.9:110 (top level 891.10 m; bottom level 890.50 m) and the lowest level of Wall A.7:47 (891.16 m). This line was paralleled by a second east-west wall found at the north balks of several Area A squares (A.11:48B, pl. 3.6 [= A.9:88, pl. 3.7, and probably = A.7:15]).

These walls appear to form part of a building of some public nature. Unfortunately not enough was preserved (or, given the importance of later architecture in Squares A.6, A.8, and A.10, even exposed) to suggest a function for these walls. If the summit structures continued to function as a border station or fort, a number of possibilities such as garrison quarters or storehouses could be entertained, but conclusions would be speculative.

Figure 3.2 Stratum 14, West End of Area A.




Apart from these walls, only wall fragments from Stratum 14 remain (Walls A.3:54, A.3:57, A.3:62, with Foundation Trenches A.3:58-61; Wall A.4:34; Wall A.5:10B, with Foundation Trench A.5:33, and Wall A.5:59; Walls D.6:46 and D.6:75; and an east-west Wall A.7:89 of which only a fragment remains, but which preceded the building of Walls A.7:46 and A.7:47). An exception to the fragmentary nature of these walls is a stretch of north-south wall of major size (Wall A.6:65, pl. 3.8, with Foundation Trench A.6:81), whose function (again) is not known, but which also appears to have set the line for part of the future Roman temple of Stratum 12.

An apparently common building feature in Stratum 14 was the use of cobble surfaces or layers (loci A.1:38 [pl. 3.9], A.1:46; A.5:20; A.5:38, with make-up layer A.5:19; *cf.* B.4:102, with Soil Layer B.4:114). It is rarely if ever clear whether these cobble-stones were indeed the surface proper, or whether they formed

Figure 3.3 North Balk of Square A.11.

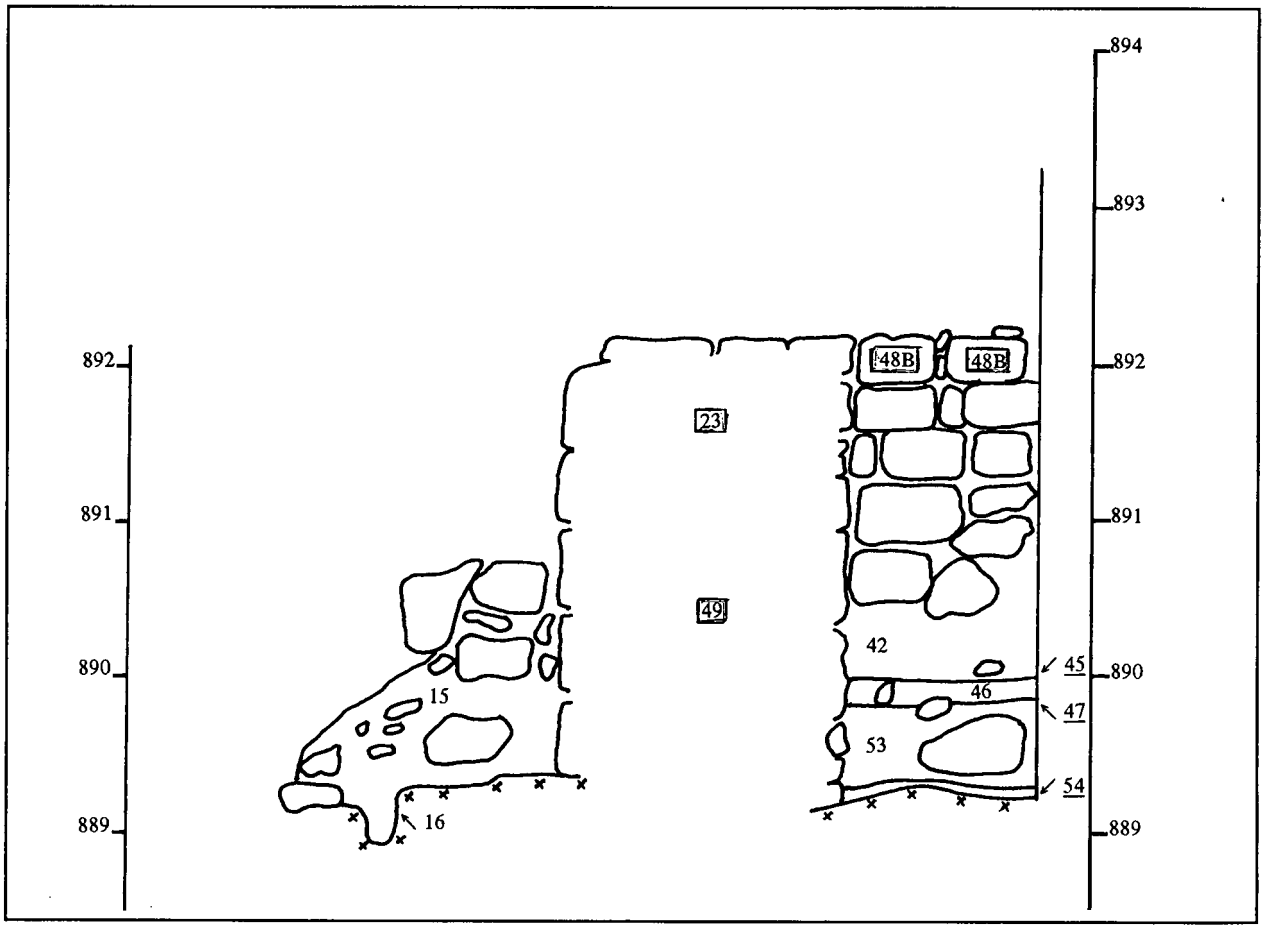
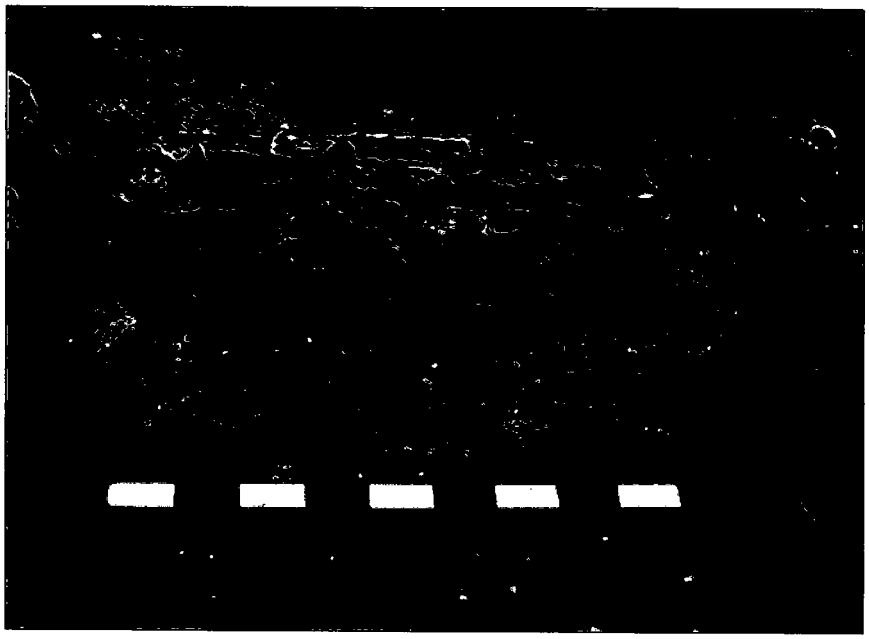



Plate 3.4 Stratum 14 East-West Wall.

the underlayment for more coveted flooring or paving materials that would have been reused by later builders. The latter is a very real possibility. The fragmentary nature of every one of these features even makes it difficult to tell if they were originally inside a building or room, or outside in a courtyard or street.

The remainder of the evidence for Stratum 14 Stage C on the summit of the tell consists primarily of rubble layers, fill layers, and soil layers (A.1:37, A.1:41;

Plate 3.5 Foundation Trench for East-West Wall.



A.3:28, A.3:53; A.4:33, A.4:38 [= A.4:39 = A.4:40 = A.4:61]; A.5:36, A.5:37, A.5:39; A.6:74, A.6:77, A.6:83, A.6:84, A.6:87; A.7:88, A.7:90; A.9:109, A.9:115; D.6:71, and D.6:72). These are indicative of the normal leveling and filling operations which accompany building activities at a Near Eastern site.

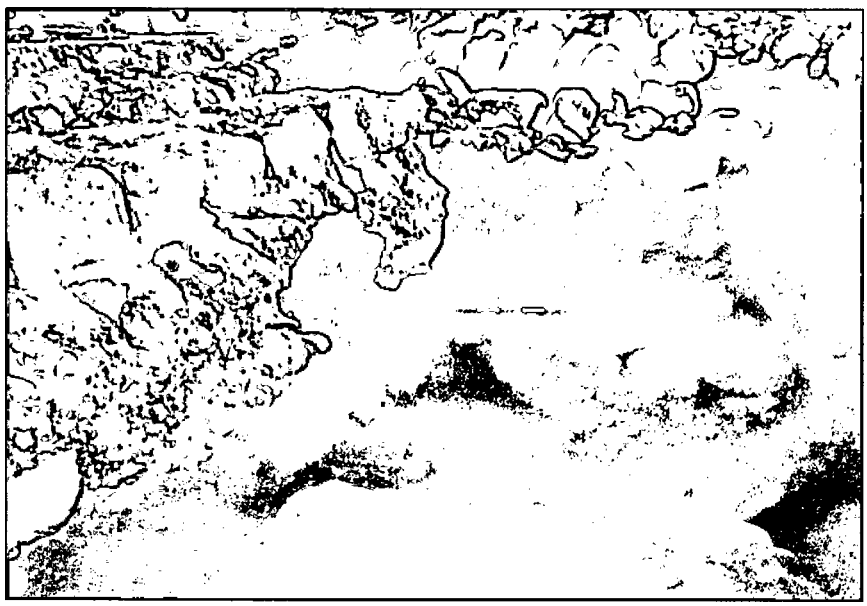
The store silos on the summit were apparently not used for their original purpose during Stratum 14, judging from the evidence of a number of them (A.5:61, A.5:62, A.5:79, and A.5:90) which were interconnected by rock-cut passages at some

Plate 3.6 Second East-West Wall in Square A.11.

Plate 3.7 Second East-West Wall in Square A.9.

Plate 3.8 Major Wall A.6:65.

Plate 3.9 Stratum 14 Cobble Surface A.1:38.



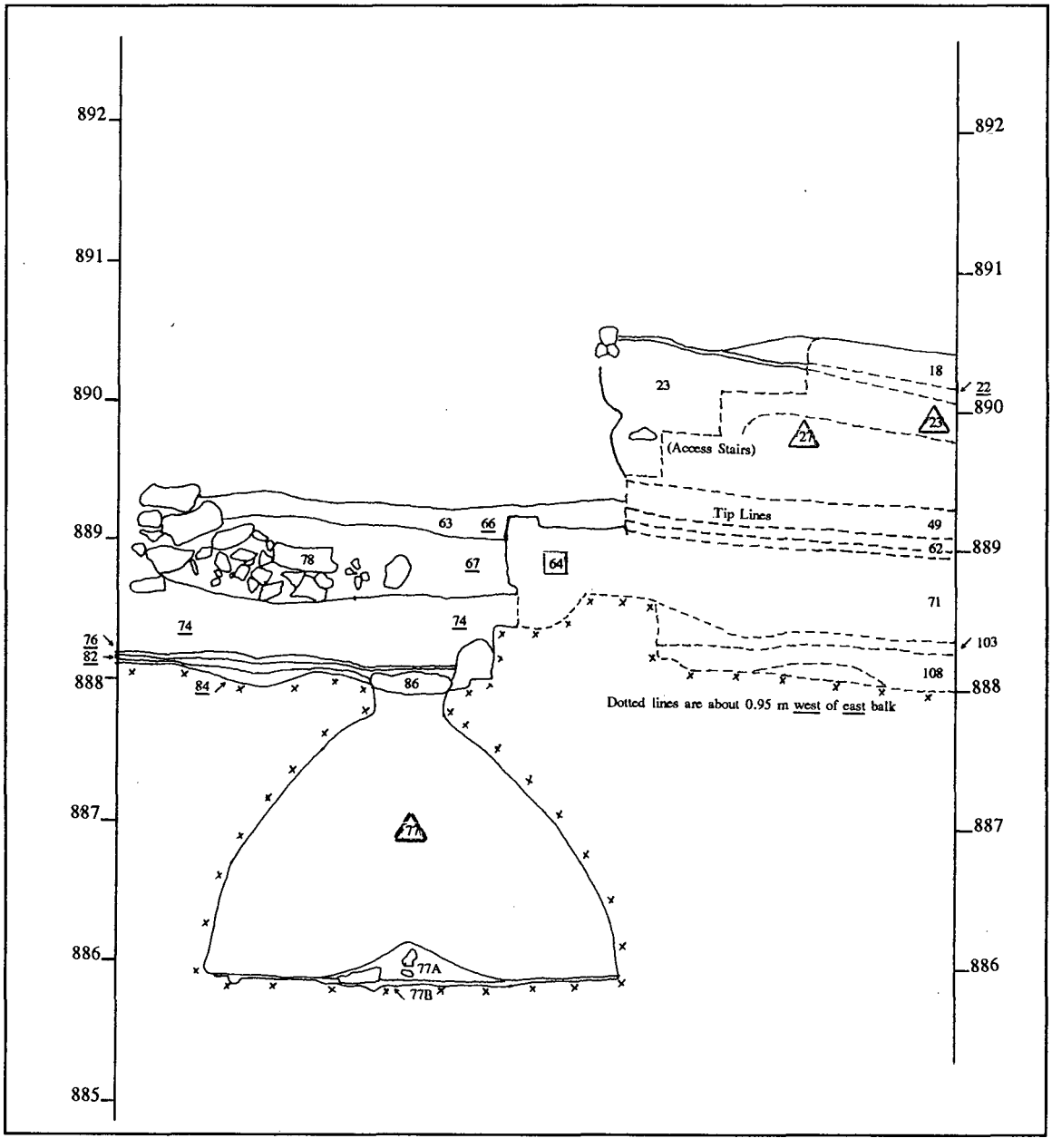
undetermined time preceding Stratum 14 (see Boraas and Geraty 1976: 26 and fig. 3). (The passageway between Silos A.5:61 and A.5:90 had been blocked up with large stones before Silo A.5:61 was filled.) One apparently unstratified fill was deposited in this silo complex (presumably at one time in one operation) and was sealed off by the building of Wall A.5:10B and related activity (loci A.5:62A-62F, A.5:87A, A.5:89A; and in quarried-out Silo A.5:90, loci A.5:90A, A.5:90C, A.5:90D).

Areas B and D

In Areas B and D, south of the summit perimeter wall, the picture is much the same for this stratum as it is inside the wall. In Square D.2, in its northeast corner, a complex series of surfaces and related loci was excavated. The earliest of these surfaces (locus D.2:84 over bedrock Pit D.2:83) does not seal over Store Silo D.2:77 (see the Square D.2 east balk section, fig. 3.4). The next layer (locus D.2:82), however, seals the capstone placed over the mouth of Store Silo D.2:77 (Capstone D.2:86), with a number of soil surfaces completing the stratigraphic sequence (loci D.2:76, D.2:74 [= D.2:92], D.2:65 [= D.2:67, D.2:66, D.2:63]); two of the uppermost layers (loci D.2:67 and D.2:66) sealed the north face of Wall D.2:64 (founded on bedrock), and the last surface (locus D.2:63) sealed over a threshold of the same wall (the latter complete with pivot socket). Though the stratigraphy south of Wall D.2:64 (outside the room or dwelling) is not very clear, it does appear that several surfaces in the southeast corner of Square D.2 (locus D.2:108 [= D.2:109 {= D.3:85, D.3:89, D.3:90}]) are contemporary with the sequence just described to the north of the wall (as are the equivalent deposits in northeastern Square D.3).

The latest apparent use of the Stratum 14 room may be

Figure 3.4 East Balk of Square D.2.




contemporary with *Huwwar* Surface D.2:96 (= D.2:103) over loci D.2:108 (= D.2:109). It is probable that the room represented by Wall D.2:26 and D.2:64 along with the surfaces between them extended to the west (for an undetermined distance). This part of the Stratum 14 room was destroyed by Stratum 13 quarrying. The room also extended to the east into unexcavated debris: the door step in Wall D.2:64 was approximately half-exposed with the other half remaining unexcavated in the east balk (pl. 3.10). Incidentally, though it is hard to make very much of it, Wall D.2:26 appears to have collapsed once and to have been rebuilt (again, note the north end of the Square D.2 east balk section, fig. 3.4). When and how this collapse occurred is not known.

Plate 3.10 Half-exposed Doorstep in Wall D.2:64.

Square D.4 produced only a handful of Stratum 14 loci. Cobble Structure D.4:110 under Stratum 13 Wall D.4:88, may originally have carried a Stratum 14 wall along the still-exposed north shoulder of Iron Age bedrock Trench D.4:154. A soil layer south of the wall (locus D.4:107 over Fill D.4:120) did conclusively relate to this possible foundation. It is also possible that a Stratum 14 wall spanned the Stratum 20 bedrock trench which ran east-west at the south edge of Square D.4, almost on the line of the Square D.4 west balk (D.4:122), though its function is unknown.

As on the summit of the tell, in Areas B and D, Stratum 14 occupants filled in, or otherwise put out of use, the so-called "store silos" attributed to Stratum 15 (those, at least, which were not already out of use). In Square D.2, Wall D.2:26 was built right over the mouth of Silo D.2:80 (pl. 3.11; *cf.* pl. 3.19, below); a certain amount of Stratum 14 debris found its way into the silo (loci D.2:80C [= D.2:112] and D.2:80D). Likewise also Silo D.2:95 had been partially filled (loci D.2:95C-95E) and probably sealed as well, though in this case, later quarrying destroyed the silo mouth. Six layers of fill (loci D.3:57A-57F) and a small, crude wall (D.3:63) put an end to the usefulness of Silo D.3:57. In Square B.3, two of three silos contained only Stratum 15 loci (Silo B.3:47 contained loci B.3:50, B.3:51, B.3:52, B.3:69; and Silo B.3:64 contained loci B.3:67, B.3:68). Silo B.3:59 was clearly used in Stratum 15 (loci B.3:66, B.3:62, B.3:63), and was filled up in Stratum 14 (loci B.3:61, B.3:60, B.3:58). Finally, Silo B.4:188 in the floor of Cave B.4:74, was completely filled in Stratum 14 (loci B.4:184, B.4:187, B.4:189, B.4:232, B.4:240, B.4:241, B.4:243), and at least two soil layers (loci B.4:144, B.4:184, and possibly loci B.4:185) were laid down in the

Plate 3.11 Plugged Mouth of Silo D.2:80.

floor of the cave itself before its eventual sealing by Stratum 13 fill.

Besides the walls associated with the Stratum 14 room in northeast Square D.2, there were very few walls of Areas B and D (almost none of which were extensive enough to be satisfactorily interrelated). A notable exception is the massive east-west wall in Squares B.1 and B.2 (B.1:17+B.1:29 = B.2:62; pl. 3.12). In the preliminary reports this wall was first judged to be post-Hellenistic (Sauer 1973: 67-68) and then Late Hellenistic (Sauer 1975: 156; Sauer 1976: 53-54).

A major unanswered question remains why the foundation trenches for a Hellenistic wall (loci B.1:103 [= B.1:40], B.2:69, B.1:105) should produce Early Roman pottery (3 pails of 12). Furthermore, it appears the wall's builders were not aware of the depth of the fill in the reservoir since the trench they dug for their foundation was shallower near the east margin of the Iron Age reservoir (where Wall B.2:62 actually met the bedrock), than it was at the west balk of Square B.2. When it was discovered how deep soil ran in the west, it seems the builders virtually threw stone into the foundation trench to a depth of at least 1.25 m (see the Square B.2 west balk section, fig. 3.5) before beginning the actual courses of the wall. This wall is here interpreted to belong to Stratum 14, and thus post-Hellenistic. This wall was leveled when the fill for the Stratum 13 so-called plaza layers were laid down. We shall return presently to the possible function of this wall.

Plate 3.12 Stratum 14 East-West Wall B.1:29.

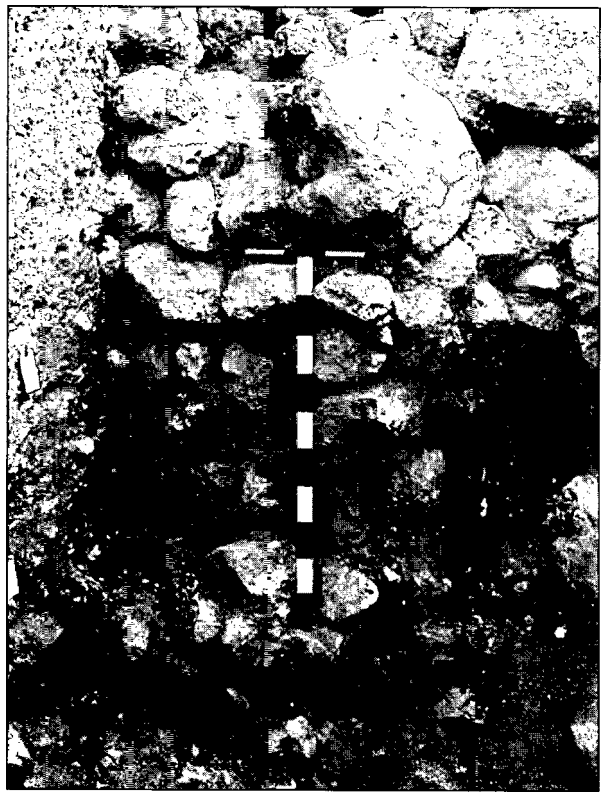


Plate 3.13 *Tabuns* in Square B.4.

The nature of the records kept during the removal of the balk between Squares B.2 and B.4 makes it difficult, if not impossible, to know how (or if) the various Stratum 14 walls of Square B.4 might have related to Wall B.2:62 9 (= B.1:170). A number of them (Wall B.4:73; Wall B.4:127 over Soil Layer B.4:148; Wall B.4:100; Wall B.4:115; Wall B.4:231, plus Foundation Trenches B.4:149 and B.4:225; Wall B.4:120 [= B.4:135]; Wall B.4:165, plus Foundation Trenches B.4:123 and B.4:125, over B.4:238 [= B.4:248]) occur at levels which suggest

Figure 3.5 West Balk of Square B.2.

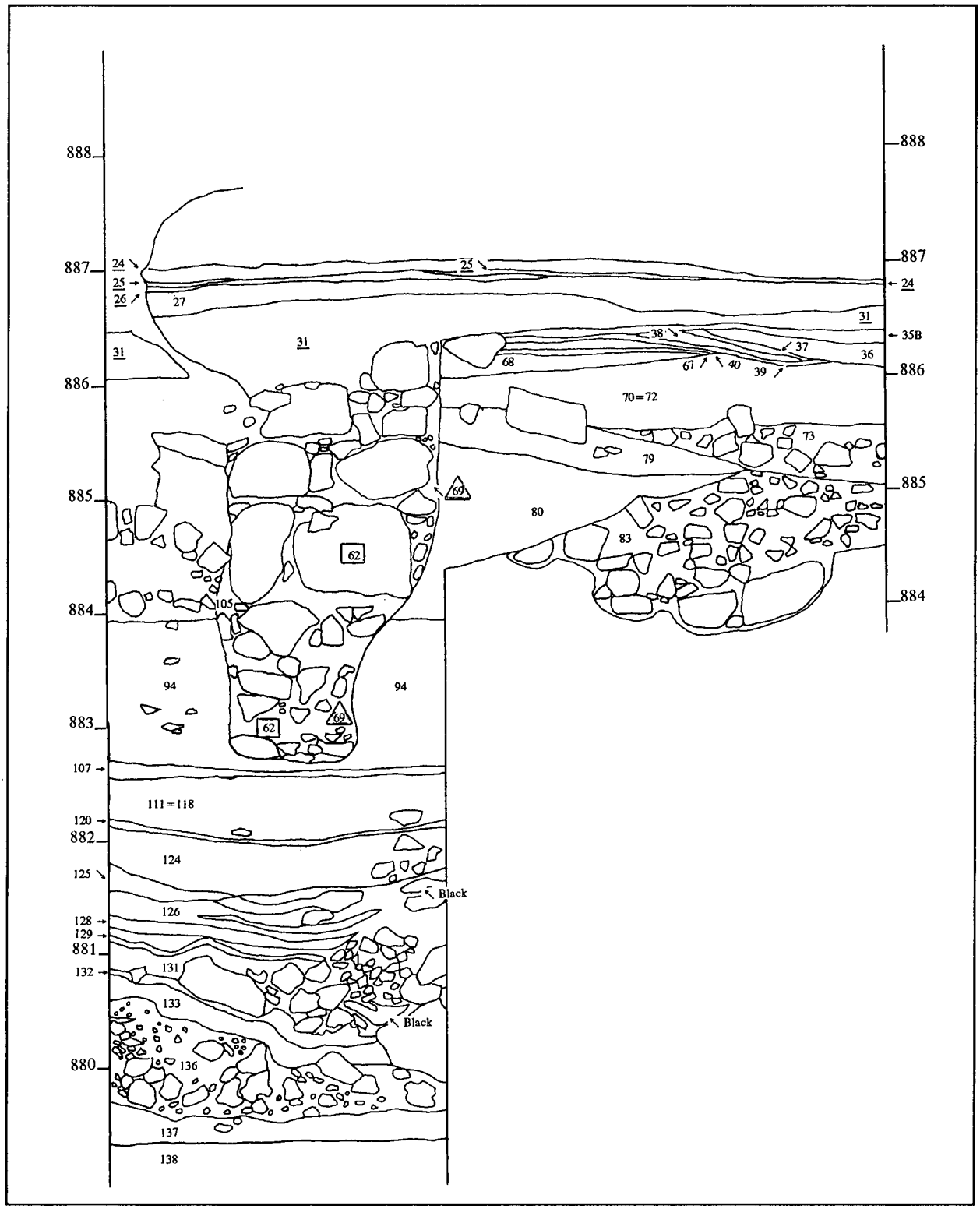
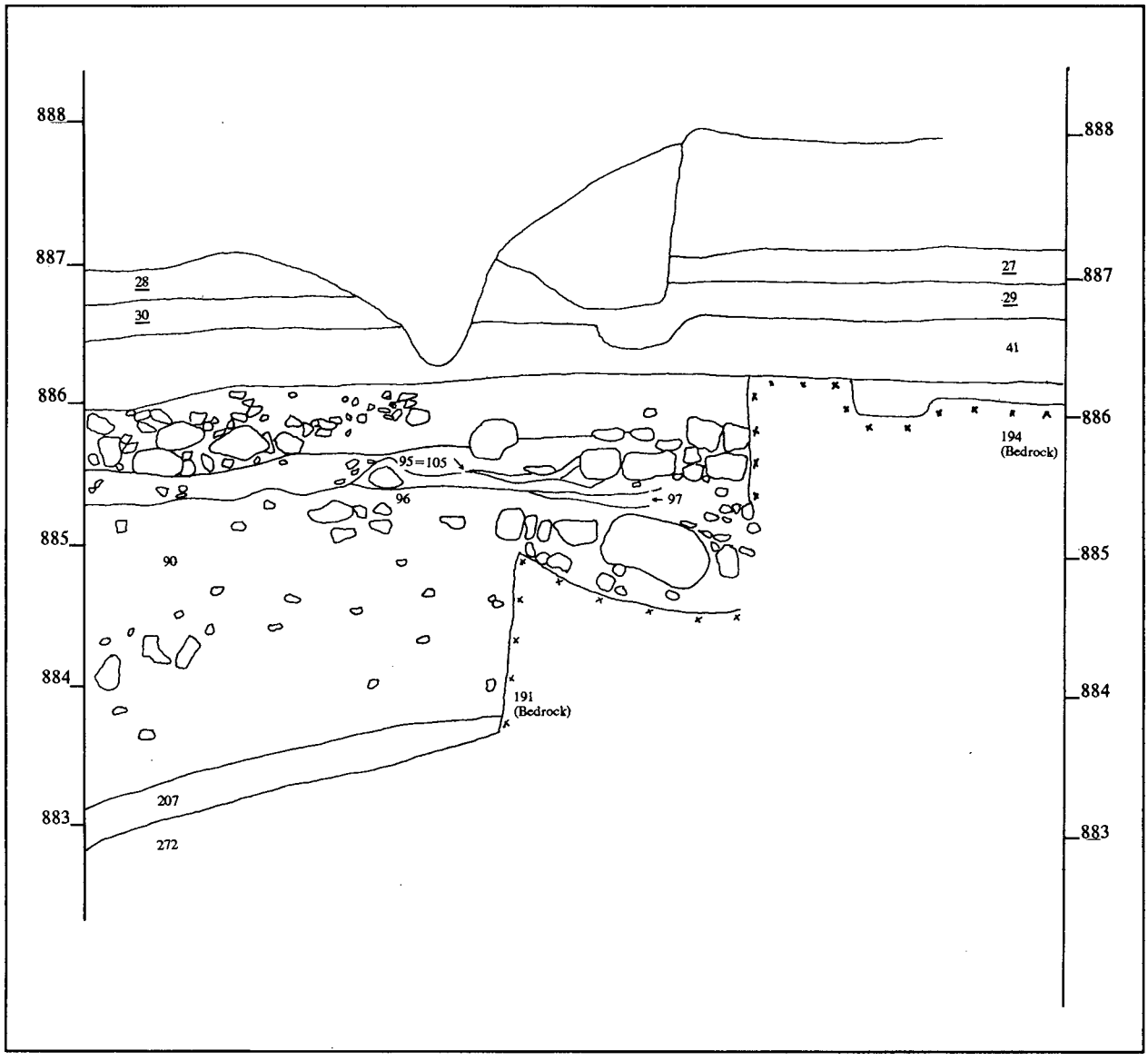


Figure 3.6 North Balk of Square B.4.




they might have been used contemporaneously, but the critical stratigraphic connections are not recorded. (For an indication of the problem, see the B.4 north balk section, fig. 3.6.)

Of the Square B.4 wall fragments themselves, little can be said. The presence of *tabuns* (pl. 3.13) and some associated surfaces which seal nearby walls, indicates that one or more domestic installations occupied this area (including Square B.2). Whether it represents an outdoor cooking area for families who lived underground in caves to the east (Cave B.4:74) or south (Cave B.4:283) or whether there were houses near the *tabuns* can not be determined.

Equally problematic is Wall B.4:253 (= B.4:268), with its Foundation Trench B.4:269, in the southwest corner of Square B.4. This complex was built over Soil Layers B.4:264 and B.4:270. Inside Cave B.4:247, a wall which was apparently erected in Stratum 14 (B.4:222) was sealed by Fill Layer B.4:259 which also represents Stage B in Cave B.4:247. Wall B.4:283B, in the extreme

Plate 3.14 Revetment A.11:15.

southwest corner of the Cave B.4:283, must also date to Stratum 14 since collapsing bedrock caused it to twist extensively out of its original line.

James A. Sauer, in a personal conversation (November 1979), indicated that pottery from the lower level cave(s) in Square B.4 (presumably associated with Wall B.4:222) was so identical to material from the last pre-earthquake stratum at Khirbet Qumran that the two samples could represent the same potter. This pottery was sealed by the collapse of bedrock (Cave B.4:171, probably, with Soil Layers B.4:177, B.4:179, and B.4:181) and so provides a good date for the initial breakup in south central Square B.4. Each of the three soil layers produced Early Roman I-II pottery. Sauer, who supervised the excavation of Square B.4, also indicated that the higher levels of the Square B.4 bedrock complex continued in use and admitted that a later earthquake could have been responsible for the final destruction of the complex as a whole. The notion has merit, since, as we shall see, there is reasonably clear evidence (based on field readings by Sauer) for a second, more extensive destruction around the beginning of the second century A.D. (by the accepted dating system). Though there is no evidence that I am aware of, it is possible that Revetment A.11:15 was required by earthquake damage to the perimeter wall (pl. 3.14).

Plate 3.15 Wall Complex in Square B.1.

There are in Square B.1, on the south side of Wall B.1:17, a number of smaller walls (B.1:25, B.1:27, B.1:28) which meet the south face of massive Wall B.1:17 at right angles (pl. 3.15). It is difficult to determine what function these walls fulfilled, but one perhaps significant inference is the following: at some point in the Stratum 14 occupation of Tell Hesban the massive (possibly, fortification) wall of Squares B.1 and B.2 apparently no longer served a very important defensive purpose. This is based on the observation that a single soil layer

(B.1:23A) sealed against Wall B.1:17, Wall B.1:27 (in the southwest corner of the square), Wall B.1:25 (southeast corner), and Wall B.1:21 (between them). (Wall B.1:21 cut Stratum 15 Soil Layer B.1:23B.) All these walls are described as abutting the south face of Wall B.1:17 making it very possible that the massive east-west wall was ultimately used as the north wall of a building, perhaps a house, but more likely an inn or barracks. Top levels for the three north-south walls support the suggestion that they were in use together in one structure. Again, no objects were registered from relevant loci which might test an hypothesis regarding the use of this installation.

There is an alternate, and probably easier, explanation. As was the case later in the Roman period when there were apparently two separate enclosures (one on the summit of the mound and one on the south flank), so there may have also been two during the Early Roman period of Stratum 14. In this view, Wall B.1:17 (= B.2:62) never was a secondary wall of defense for the summit, just the north wall of a separate, enclosed complex. This interpretation makes much better sense of the three wall stubs which abut the large east-west wall *on its south face*, as well perhaps as the fragmentary walls in Square B.4 described above.

North of Wall B.2:62, Soil Layers B.2:63 and B.2:64 were used as the founding layers for *Tabun* B.2:54 (pl. 3.16).

Farther east, the Stratum 14 occupation in Squares D.4 and D.3 was primarily underground (unless any architecture from the period was later removed). The rock-cut steps in Square D.4 which led down to the entrance of a cave (much like a very similar bedrock installation in Square D.3) suggests that the underground facilities were extensive enough (and important enough) to warrant the time and effort necessary to provide comfortable and attractive access (Entrance D.4:116 to Cave D.4:118 [pl. 3.17]; *cf.* Cave D.3:103 [pl. 3.2, above]). The Square D.3 cave, under the Stratum 11 stairway, could not be excavated beyond the collapsed entrance. There was barely enough room in Cave D.4:118 to crawl in and turn around (pl. 3.18); but there were clear communicating passages from it to the north (which may have connected with that cave which was originally accessible by the carved Stratum 14

Plate 3.16 *Tabun* B.2:54.

steps in Square D.3), and to the south (perhaps opening on the north face of the Square D.4 Bedrock Trench D.4:154), which probable opening was given a *huwwar* surface (D.4:123, Stage B). Both passages were totally blocked by fragmented bedrock, and the completely broken-up nature of the bedrock south of the Square D.3 Stratum 11

Plate 3.17 Entrance to Cave D.4:118.

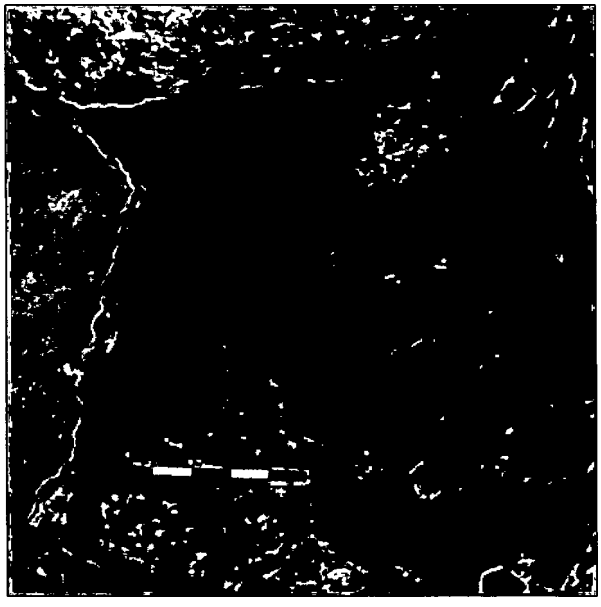
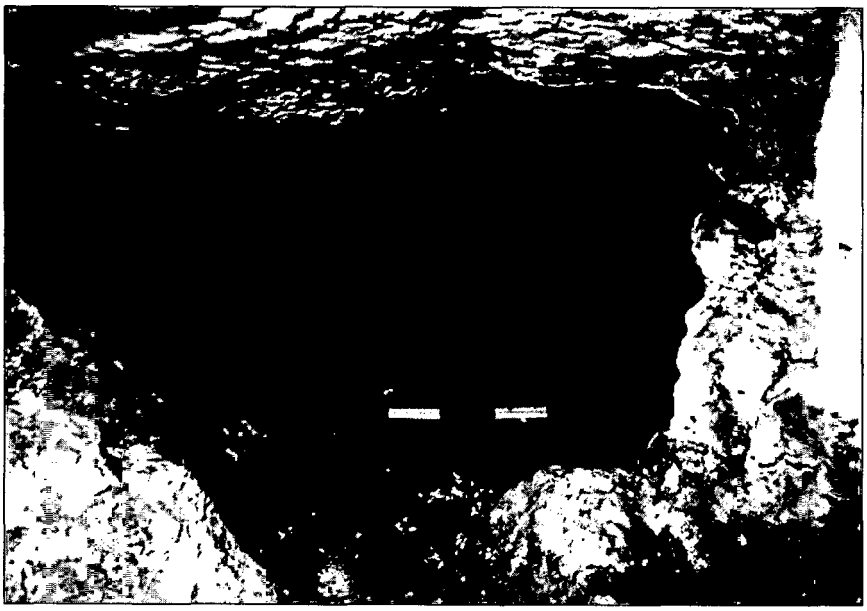


Plate 3.18 Interior of Cave D.4:118.



stairway witnesses to the devastating effect of the earthquake which destroyed these caves.

In the northeast corner of Square D.3 (to come full circle in our discussion of the Stratum 14 Stage C remains in Areas B and D), there appears to have been a connection between the loci which equal Stratum 14/15 loci D.2:108 (= D.2:109), namely loci D.3:85, D.3:89, D.3:90 (and Soil Layer D.3:86), and a threshold and doorjamb at the extreme north extent of Wall D.3:70. It is not certain, but this wall, doorway, and short, probable buttressing Wall D.3:87, may all have seen use in Stratum 14, though a transitional Stratum 15/14 assignation may be more precise. Excavation east of Squares D.2 and D.3 might solve this question of function.

Moving south from the northeast corner of Square D.3 along the central part of the east balk of Square D.3, the stratigraphy of the Stratum 14 loci east of Wall D.3:16 (as recorded in the field notes) presents a difficult problem at best. Soil Layer D.3:86 probably belongs in Stratum 13 or 14, but where it is to be placed in the strata is unclear. The relationship of Soil Layers D.3:86 and D.3:91 (possibly Stratum 13) to Soil Surface D.3:89 and Soil Layer D.3:90 (Strata 15/14) is also not stratigraphically clear.

Plate 3.19 Square D.2 Stratum 14 Walls.

To complete the survey of Stratum 14 Stage C south of the perimeter wall, I should mention the only other probable Stratum 14 wall in Square D.2 (Wall D.2:21B). Though it is not certain when this wall was built, it was built over Stratum 14/15 Wall D.2:26, though not exactly on the same axis. Note pl. 3.19 which shows Wall D.2.21 over Wall D.2:26, which is, in turn, built over the mouth of Silo D.2:80 (above the meter stick; *cf.* pl. 3.11). When the Stratum 13 quarrying was carried out in Square D.2, this wall was faced (D.2:21A, Stratum 13) bringing the composite wall fully in line with the cut edge of bedrock and bonding it with the eastern

and western walls of the Square D.2 Stratum 13, Room 1.

In Square D.1, south of the Perimeter Wall D.1:4, Iron Age Cistern D.1:63 was partially filled with Stratum 14 debris (loci D.1:100, D.1:63F [= D.1:69], and D.1:63E [= D.1:68]); it was later cut into by Stratum 13 quarrying and completely closed off by an extensive Stratum 13 filling operation. Wall D.1:4 itself almost surely remained in service during Stratum 14, though Stratum 13 builders again scraped most of the summit of the tell to bedrock thereby destroying any sign of such use in the vicinity of Wall D.1:4.

Miscellaneous Area B, Stratum 14, Stage C loci include B.4:155 (= B.4:156) and B.4:160 (= B.4:163).

Area C

Those features in Area C which could be clearly attributed to the construction stage of Stratum 14 are for the most part not sufficiently extensive to allow any significant reconstruction. In Square C.5, only one possible Stratum 14 wall (possibly a stair) was found (Wall C.5:114); however, it cannot be assigned to this stage with much confidence. In Squares C.1 and C.2, Walls C.1:13, C.1:37, C.1:14 (= C.2:38), with their Foundation Trenches C.1:42, C.1:59, C.1:43, C.1:52, C.1:53 and C.2:33, have not survived to a great enough degree to form an interpretable pattern, much like the wall fragments in Square B.4. Wall C.2:26 is no more helpful. Wall C.7:44, originally built in Stratum 15, continued to be used in Stratum 14. (*Huwwar* Surface C.7:72 to its west may in fact have been a trail or path along the west flank of the tell.) To the north in Square C.3, a Stratum 15 Wall C.7:44 was extended northward in Stratum 14 for about 2 m (C.3:26), perhaps as a retaining wall.

Whether because of the original paucity of buildings, which is possible, or because of the quality of the structures (evident at least in what remains), or whether later activity simply obliterated any such buildings, for the most part, the surviving above-ground structures of Stratum 14 (Stage C) are very limited. The picture is not much more clear regarding the evidence for occupation or use (Stage B).

**Stage B: Use Stage**

On the summit of the tell where Stratum 14 remains were largely removed by later builders, there is only one sequence of Stage B surfaces which unmistakably relates to Stratum 14 walls. These surfaces all occur in Square A.11 where later clearing operations failed to disrupt floors and fill layers in the Stratum 14 rooms. Surfaces A.11:44 and A.11:45 in the southeast room, which sealed against both the perimeter wall and east-west wall abutting it (Walls A.11:49 and A.11:3B) yielded some pottery, but unfortunately no objects whatever. In the so-called "northeast" room, two other Stratum 14 loci seal against east-west Walls A.11:3B and A.11:48B (loci A.11:40 and A.11:42). The horizontal exposure was severely limited. No sure interpretation of the use of these rooms is possible.

Other summit, Stage B, soil and *huwwar* loci are given in the list which follows: A.1:25, A.1:28-30, A.1:33-36, A.1:50, A.1:63; A.2:22; A.3:26B, A.3:27, A.3:32 (= A.3:33), A.3:47, A.3:50 (= A.3:52), A.3:55, A.3:71, A.3:72; A.4:32, A.4:56B, A.4:57; A.5:34, A.5:35; A.6:76, A.6:76S, A.6:82; D.1:49, D.1:52; D.6:44, D.6:45; and Store Bin A.1:68. Though attributed to Stratum 14, they seem to have little stratigraphic value for the interpretation of Stage B.

Areas B and D

In Areas B and D, traces of occupation are less tenuous than on the summit. While it is possible that in Stratum 14 the summit of the tell was occupied only by public buildings (so that evidences of domestic activity are by necessity excluded or minimal), it is more likely that whatever evidence of domestic installations (possibly excluding Store Bin A.1:68) may have occupied that portion of the site has simply been lost as a result of later building efforts.

We have already discussed the Stratum 14 room in northwest Square D.2. Evidence of occupational activity in Square D.3 is limited to a possible fire pit on bedrock at the south balk (Fire Pit D.3:54), an apparent wind-blown soil layer (*loess*) near the door at the north end of Wall D.3:70 (Soil Layer D.3:88 which, with B.4:109, sealed against Stage

Plate 3.20 *Tabuns* B.4:261 and B.4:262.

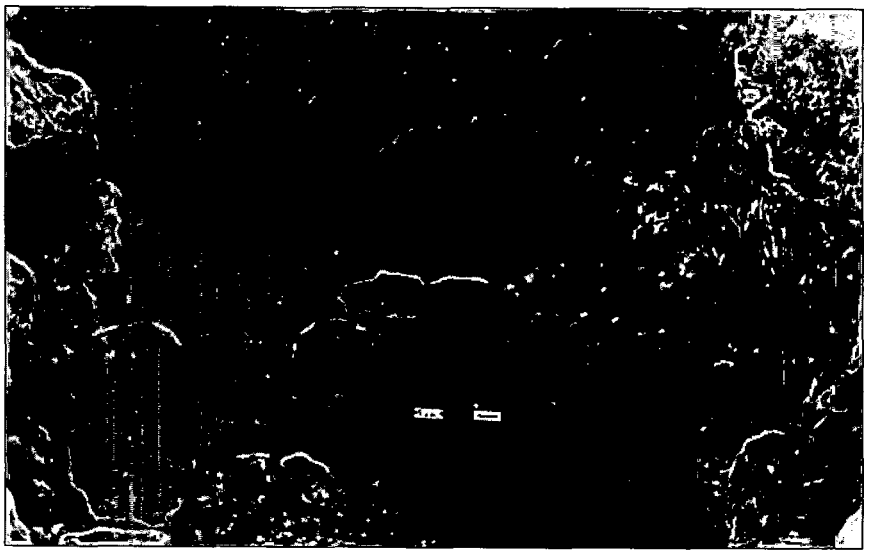
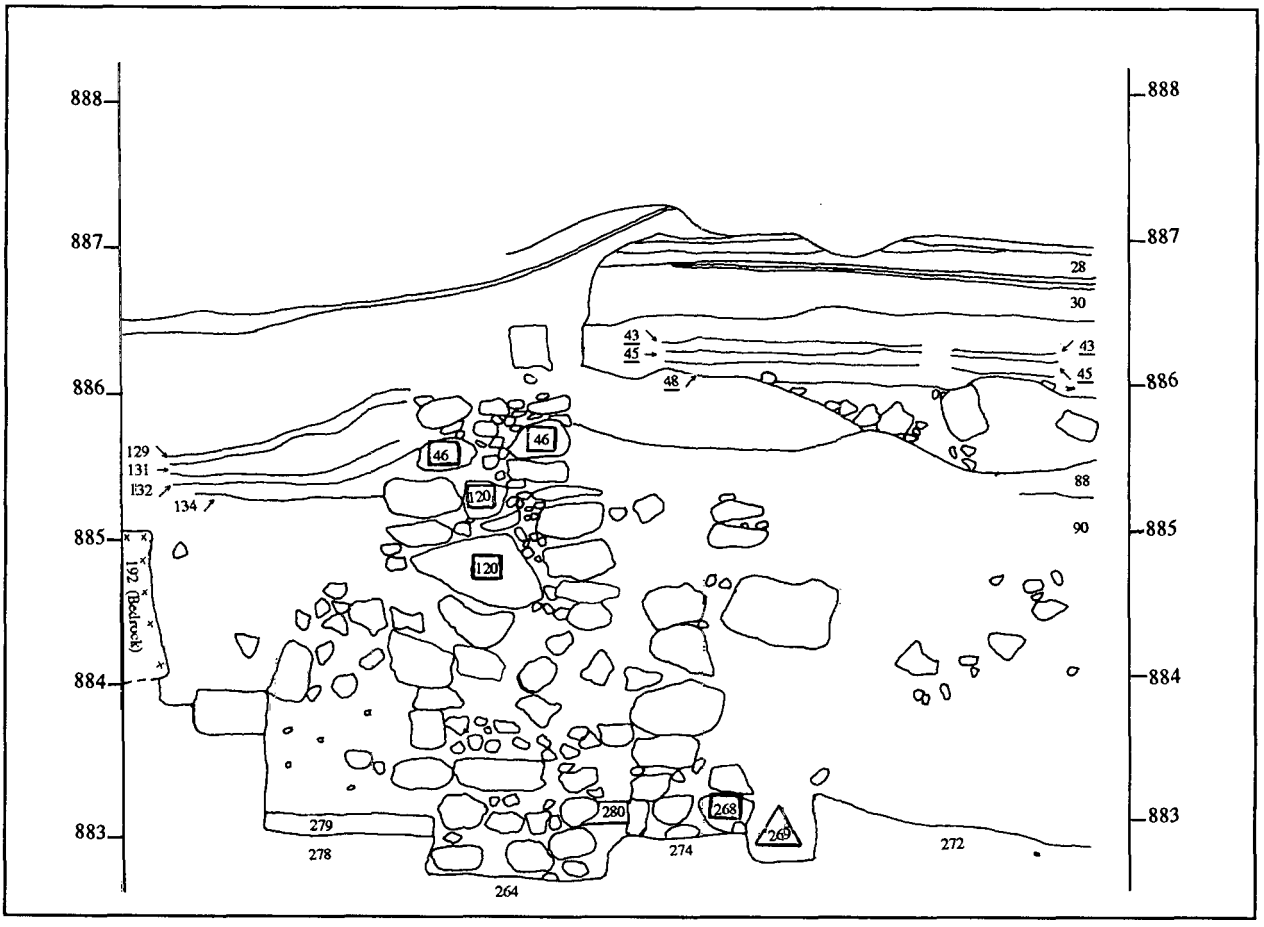


Figure 3.7 West Balk of Square B.4.

C Wall B.4:83), and what appears to be an occupation layer in Cave D.3:83 now buried under chunks of collapsed cave ceiling (D.3:109). In Square D.4, a fine layer of sifted soil (D.4:118A) covered the relatively clear bedrock floor of Cave D.4:118. Several large pieces of a cooking pot found just inside the partially-collapsed entrance-point to some domestic (or storage) use for this cave.

Clear evidence for active domestic use comes from Squares B.2 and B.4. The lack of level measurements in the field records for many loci in



Square B.4 makes post-excavation analysis very tentative, but it is quite probable that two successive (overlapping) *tabuns* (pl. 3.20) were used in conjunction with the Stratum 14 wall complex in southwest Square B.4 (B.4:261, B.4:262, with Ash Layers and Soil-Fill Layers B.4:261A, and B.4:262A and B.4:262B).

Excursus on Stratum 14 in Square B.4

Even a casual perusal of the Square B.4 west balk section drawing (fig. 3.7) will show that there are stratigraphic problems to spare in the southwest corner of the square. Part of these problems stem from the inadequate record keeping (particularly the lack of elevation measurements and the nature of the critical section drawings).

The key problems are these:

1. There was no pottery in the *Huwwar* Surface B.4:279 (= B.4:280, possibly = B.4:266). Therefore it may be difficult to determine whether this locus represents the latest Stratum 15 surface or the first of a succeeding stratum. The position is taken here not to assign the surface to Late Hellenistic Stratum 15, especially in light of the fact that Foundation Trench B.4:269, on the north side of Wall B.3:268, cuts at least three Stratum 15 fill layers.
2. Though Surface B.4:280 appears to seal against Wall B.4:268, this is not expressly recorded. Both Wall B.4:268 *and* Wall B.4:264 (the latter shown cutting Locus B.4:279 [= B.4:280]) produced Early Roman pottery. However, it is unlikely that this complex and plaza retaining Wall B.4:120 (under B.4:46) belong to the same stratum.

It seems reasonable to suggest alternative explanations for these problematic stratigraphic relationships, though the nature of the recorded evidence precludes confident argument.

First, the wall-and-surface complex mentioned above may represent a distinct stratum (between Strata 14 and 15). The immediate difficulty with this interpretation is the local nature of the remains. An interim stratum simply does not fit the data from the remainder of the site.

Second, the above complex may simply represent local, and quite restricted, building activity at some time prior to the filling operations of Stratum 14. Given the limited and discontinuous nature of this group of loci, the second proposed alternative is being followed in this volume. (The relation to this complex of *Tabun* B.4:66+B.4:81 against Wall B.4:73; or of *Tabun* B.4:84 [pl. 3.21] B.4:140+B.4:141+B.4:143+B.4:142+B.4:145 and related loci B.4:121, B.4:100+B.4:89, B.4:90, B.4:97, B.4:98, B.4:105; B.4:172, B.4:147, B.4:128, B.4:126, B.4:88 [possibly = B.4:118]; or of *Tabun* B.4:261 + B.4:261A under Soil Layer B.4:267; or of *Tabun* B.4:262 + B.4:262A + B.4:262B, if any, is totally unclear from the records.) This interpretation takes in the above-mentioned loci (*Huwwar* Surface B.4:279 = B.4:280 and Wall B.4:268), along with locus B.4:278, an unexcavated soil layer under Wall B.4:264 and *Huwwar* Surface B.4:279.

In the Stratum 15 circular reservoir-under-bedrock B.4:193, a series of what appears to be floor layers was

Plate 3.21 *Tabun* B.4:84.

laid down (loci B.4:228 and B.4:227). The only object from either locus, a fragment of limestone mortar (Object No. 1972), suggests domestic use of this underground installation, but is hardly conclusive evidence. Soil layers in Cave B.4:171 may also result from similar use (loci B.4:181, B.4:179, B.4:177).

Area C

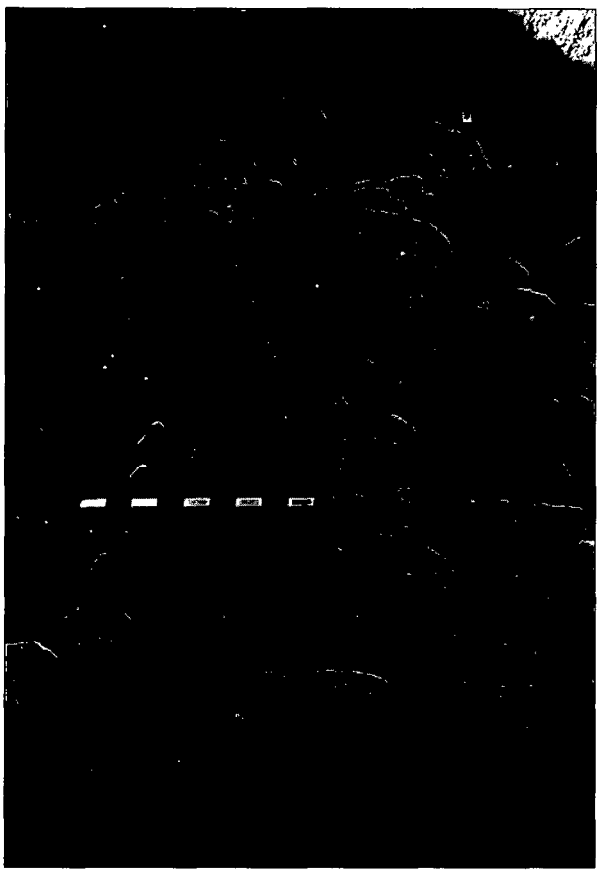
In Area C Square C.1 (Stratum 14), possible evidence of a cooking installation does not appear to be associated with surviving walls (C.1:50, C.1:56 over Soil Surface C.1:84); nor does the isolated fire pit in the northwest corner of the square (C.1:106, C.1:107, over Soil Layer C.1:108). The only remaining Area C loci assigned to this stage also appear unrelated to surviving architecture (C.1:112, C.1:116), save a probable surface west of Stratum 15 Wall C.7:44 which provides evidence that this wall continued in use in Stratum 14 (Soil Layer C.7:60).

The question of the nature of the Stratum 14 occupation of the site is a difficult one. The remains are relatively extensive, certainly occupying more than just the summit of the tell. And yet so little remains that one cannot outline a single intact structure. This causes me to wonder whether (perhaps apart from the summit) few structures existed, or whether, in fact, the site had become the winter home of pastoralists who made use primarily of the rather extensive underground installations, cooked outdoors nearby them, and who perhaps left the site during the milder summer months. If the run-off from winter rains could be directed away from the entrances to these underground facilities, they would certainly have provided more secure, and much more comfortable, winter living than that afforded by the best bedouin tents. On the other hand, many non-nomadic cultures and communities make regular use of subterranean dwellings. In any case the probable economic strategies practiced by those who inhabited Tell Hesban in the period represented by Stratum 14 will probably have to be determined in part, and perhaps to a great part, by factors such as settlement patterns in the Tell Hesban region, apparent dietary practices, and paleoethnologic data. For a discussion of food systems, see volume 1 of this series.

**Stage A: Destruction Stage**

Though there are a number of loci which witness to the destruction of Stratum 14, the clearest probably being a sequence in the northeast corner of Square D.2 (loci D.2:79, D.2:78, D.2:70, D.2:59 [pl. 3.22]), the major evidence for the termination of this stratum resides in the massive bedrock collapse in Areas B and D (as has already been described). It is probable that a related set of factors makes this so. First, the bedrock in that specific sector of the site appears to have been softer (or at least to have had softer strata) and was thus naturally more subject to the natural production of *karsts*. This very softness would invite artificial (*i.e.*, human) expansion of these underground caves and passages, which leads to the second factor. Not only would the bedrock be naturally less resistant to seismic shock, the resistance would be severely reduced by the very

Plate 3.22 Stratum 14 Destruction in Square D.2.

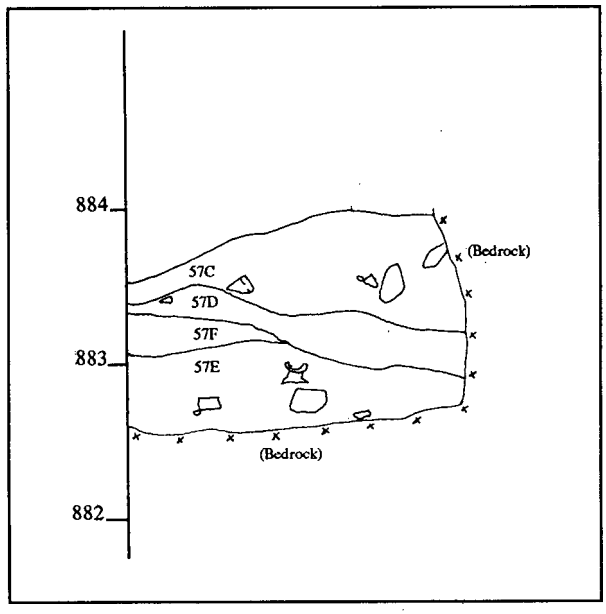


fact of its being honey-combed with chambers and passages. Alternatively, the resistance of the bedrock layers and/or the apparent reduced amount of underground building activity could explain the absence of collapsed Stratum 14 underground facilities and the continued use of these cave systems which survived in Areas A and C, for example the caves in Squares A.1 and C.7.

The earthquake which destroyed bedrock installations and closed out Stratum 14 occupation at Tell Hesban has been identified as possibly the earthquake of 31 B.C. (Sauer 1973a: 50; *cf.* Kallner-Amiran 1950, 1951). While this date is not impossible, given the evidence for destruction at Khirbet Qumran about 35 km east-southeast, the 31 B.C. earthquake was centered more in Galilee (Kallner-Amiran 1950: 225). In my judgment the observed destruction at the end of Stratum 14 at Tell Hesban seems more severe than that indicated for Khirbet Qumran in 31 B.C.

More troublesome to the 31 B.C. date, however, is the evidence of certain remains at the site. For one, a late coin was found in the fill of Silo D.3:57 (Object No. 1740, D.3:57C). The coin is of Aretas IV (9 B.C. - A.D. 40) and comes from the last (uppermost) layer of fill in the silo (subsidiary section drawing of balk 74:71a, fig. 3.8). This evidence by itself would suggest a date later than 31 B.C. for the destructive earthquake of Stratum 14 Stage A. (Though in fairness it must be admitted that the coins recovered at Tell Hesban have correlated poorly with associated pottery. More on this coin, and Tell Hesban coins in general, may be found in volume 12 of this series.) But the point must be argued further.

Figure 3.8 Subsidiary Balk 74:71A in Square D.3.




The filling of the silos, caves, and other broken-up bedrock installations at the end of the Early Roman period was apparently carried out nearly immediately after the earthquake occurred. This conclusion is based on the absence of evidence for extended exposure before filling (silt, water-laid deposits, etc.), which in fact suggests that maybe not even one winter's rain can be accounted for between the earthquake and the Stratum 13 filling operation. If this conclusion is correct, then the Aretas IV coin had to have been introduced into the Silo D.3:57 fill soon after the earthquake. Consequently, this could not have been earlier than 9 B.C.

Table 3.1 provides a systematic presentation of what I consider to be the critical ceramic evidence from loci

Table 3.1 Ceramics from Squares D.3, D.4, and B.7.

| Locus | Soil Description | Pail No.:Pottery Call |
|---|---|---|
| D.3:101 | Brown; cobbles; rubbly | 357:ERom IV dom; Few Hell |
| D.4:101 | Yellowish-brown; loose; rubbly | 247:ERom I-II dom; Few Hell, Few Iron II; Few Iron I<br>248:ERom I; Few Iron<br>249:ERom I; LHell; Few Iron bods.<br>251:ERom I-III; Hell; Few Iron I bods.<br>254:ERom I/LHell; Few Iron I<br>258:ERom II-IV; Hell; Iron I<br>264:Bods. only: ERom I/Hell; Iron I |
| B.7:33 | White, gray-black; *huwwar* chunks; packed[1] | 119:ERom I-IV; Hell; Iron II/Pers; Iron IA<br>121:LRom III-IV; Iron II/Pers |

[1]This locus, as excavated, included the *huwwar* surface layer laid down over bedrock fill.

Plate 3.23 Soil Layer D.4:118A in Cave D.4:118.

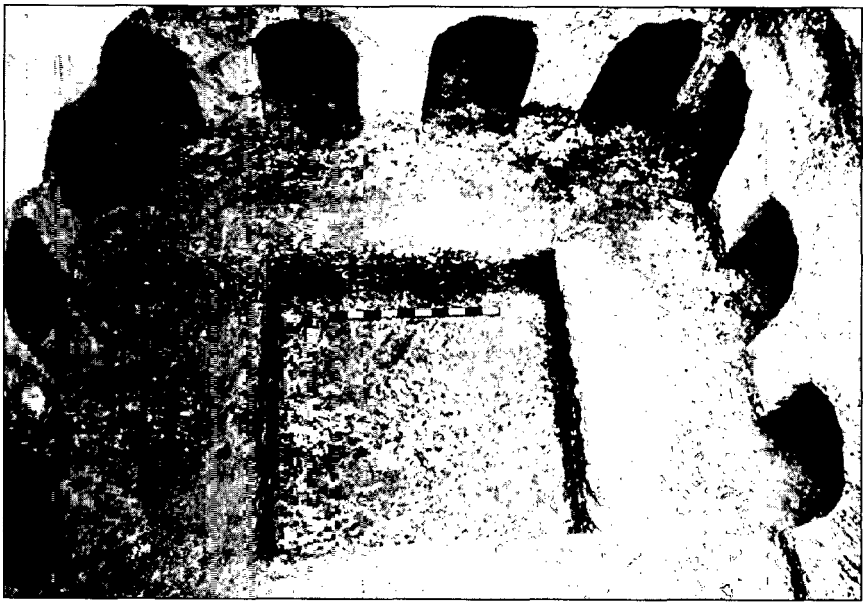
in three adjacent squares: D.3, D.4, and B.7. The nature of the pottery preserved on the soft, deep fills overlying collapsed bedrock is also of significant importance to my argument in favor of the A.D. 130 earthquake as responsible for the final demise of underground (bedrock) installations in Areas B and D. The dates of the latest pottery uniformly carry us well beyond the date of the earthquake which damaged Khirbet Qumran, down, in fact, closer to the end of the first century A.D. or the beginning of the second century A.D.

In addition to these three fill loci, Soil Layer D.4:118A (pl. 3.23), inside collapsed Cave D.4:116 (+ D.4:118), yielded Early Roman I-III sherds, as well as two Late Roman I sherds (Square D.4 pottery pails 265, 266). Contamination of these latter samples is possible, but not likely. I dug the locus myself, and am reasonably sure of its provenance.

Obviously, this post-31 B.C. pottery could have been deposited much later than 31 B.C., closer, say, to the early second century A.D., but the evidence seems to be against such a view. I personally excavated much of locus D.4:101 (Stratum 13). It was a relatively homogeneous, unstratified fill of loose soil that gave all the appearances of rapid deposition in one operation. From field descriptions of the apparently parallel loci in Squares D.3 and B.7, I would judge them to be roughly equivalent and subject to the same interpretation and date. And I repeat, the evidence for extended exposure to the elements (and a concomitant slow, stratified deposition) was either missed in excavation, not properly recorded, or did not exist.

This case is surely not incontrovertible, but seems to me to carry the weight of the evidence which was excavated at Tell Hesban. Furthermore, the earthquake of A.D. 130, of those from this general time-period listed in Amiran's earthquake catalogue, could

Plate 3.24 Multiple Loculi Tomb F.31.



better account for the massive destruction evidenced at Early Roman Tell Hesban, given the widespread evidence for this earthquake in Transjordan, from Jerash to Petra (Fritsch and Ben-Dor 1961: 55; Stinespring 1934: 15). In Gerasa (Jerash) an arch dedicated to Hadrian fell in the 192d year of the era of Gerasa (October 1, A.D. 129 to October 1, A.D. 130). The incised letters of the inscription on the north (inner) face had apparently been newly painted--perhaps newly finished--when the arch collapsed in an earthquake (Stinespring 1935: 4). It is possible this earthquake can be dated to the spring or summer of A.D. 130. Hadrian apparently made his trip in early summer of A.D. 130 (Weber 1936). Though there is yet some question about the precise date, at Petra there is evidence of a destructive earthquake probably to be dated in the early decades of the second century. Russell actually prefers a date of ca. A.D. 114 (Russell 1980b).

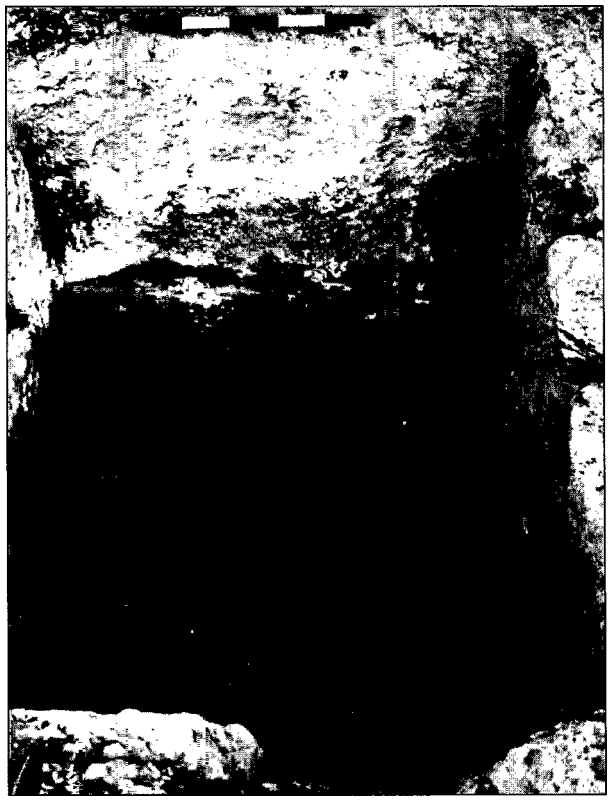
The building projects of Stratum 13 would have been begun soon after the earthquake damage had occurred, the first operation being the levelling out of broken-up bedrock surfaces.

Additional loci attributed to Stage A are: A.1:27; A.5:80; B.3:48; B.4:166, B.4:186, B.4:254, B.4:283E, B.4:283F; C.1:125; C.2:28, C.2:39. Loci which are assigned to Stratum 14, but do not materially contribute to a threefold understanding of the stratigraphy: A.2:46; A.3:51; A.8:38; B.2:106; B.3:56, B.3:57; B.4:152, B.4:204, B.4:221, B.4:233, B.4:255, B.4:263, B.4:283G; C.1:18, C.1:27, C.1:38, C.1:45, C.1:55, C.1:58, C.1:60, C.1:65, C.1:68, C.1:69, C.1:75, C.1:76-80, C.1:82, C.1:83, C.1:85-89, C.1:92, C.1:93, C.1:103-105, C.1:113, C.1:115, C.1:117; C.2:27, C.2:32, C.2:35, C.2:37, C.2:69-71; C.3:31; C.5:52, C.5:86, C.5:102, C.5:105, C.5:107, C.5:109, C.5:110, C.5:112, C.5:117, C.5:119, C.5:129, C.5:131, C.5:150, C.5:168, C.5:178, C.5:179, C.5:213, C.5:227; C.7:69, C.7:73, C.7:76, C.7:79, C.7:107; C.9:57, C.9:59; D.1:51, D.1:92; D.3:107; G.1:46.

## The Tombs

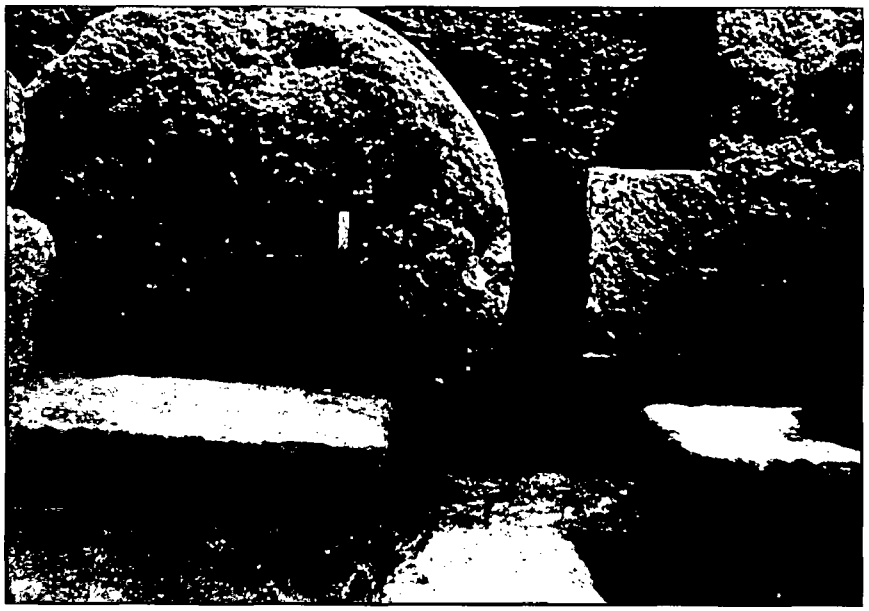
Burial phenomena at Esbus may provide an exception to the general lack of Stratum 14 data. Beginning with the 1971 season, a coordinated effort was begun to discover and excavate tombs in the vicinity of Tell Hesban. These efforts were maintained in each successive season, with preliminary reports appearing regularly (Little 1969; Waterhouse 1971; Beegle 1975; Stirling 1976a, 1976b; Davis 1978). For a more complete discussion of the Tell Hesban necropolis, see volume 10 of this series.

Plate 3.25 Single Loculus Tomb E.2.



There are to my knowledge no Hellenistic tombs (or burials) at Tell Hesban. Of the tombs excavated, 25 have been given preliminary periodization. Tombs having been determined to date originally from the Early Roman period (63 B.C. - A.D. 135) include Tombs E.2, E.3, F.1, F.6, F.7, F.8, (Waterhouse 1973); F.14, F.18 (Beegle 1975); E.6, and G.10, 2 km northwest of the tell (Stirling 1976a); F.27, F.28, F.31, and F.37 (Davis 1978). Types include predominantly chamber/multiple loculi tombs (F.1, F.6, F.8, F.14, F.18, G.10, F.27, F.28, F.31 [pl. 3.24]) and single loculus tombs (E.2 [pl. 3.25], E.3, E.6). Irregular Early Roman Tomb F.7 may not have been completed. One cave was fitted with five

Plate 3.26 Tomb F.1 "Rolling Stone" Entrance.



stone sarcophagi (Tomb F.37). Two tombs were closed with large round stone doors which ran in tracks ("rolling stone" Tombs F.1 [pl. 3.26] and G.10 [pls. 3.27-28]). With perhaps the exception of Tomb F.6, the grave goods were interesting and helpful, but not spectacular. The bronze spatula, and the shell and ivory cosmetic case from Tomb F.6 are fine examples of the art and tastes of the period.

But what period are we considering? Based on the more refined pottery field dates given in 1976, I am prepared to suggest that the great majority (perhaps all) of the Early Roman tombs are late Early Roman, and perhaps even very early Late Roman (late first and early second centuries A.D.). Tomb F.27 yielded Late Roman I-II pottery (ca. A.D. 135-235) as the earliest date of use. Tomb F.28 was first used in Early Roman IV (ca. A.D. 70-135). Tomb F.31 was built in the Early Roman II-III period (37 B.C. - A.D. 70). And Cave F.37

Plate 3.27 "Rolling Stone" of Tomb G.10.

Plate 3.28 Tomb G.10 "Rolling Stone" Entrance.

was also apparently first used for burials in Early Roman IV (Davis 1978: 133, 135, 140, 143).

While volume 10 of this series (regarding the tombs and burial practices of Tell Hesban) is currently being prepared (and thus some of the conclusions I am drawing may need revision), it seems clear, as I have already argued on architectural grounds primarily, that Stratum 14 at its inception may represent a rather poor occupation at Tell Hesban. Though a lack of earlier Early Roman burials (if the revised 1976 pottery dates are to be accepted) may suggest principally a lower population, the real picture is doubtless more complex. The increase of burials late in the period represented by Stratum 14 (and on into Stratum 13) calls for a number of explanations, including population increase, a rise in living standards (for at least a few Esbus residents), evolution (or importation) of burial practices, a sense of belonging and permanence on the part of the inhabitants, and so on. It is obviously not coincidental that the first building effort at Tell Hesban in Strata 15-11 is apparently paralleled by increased care, elaboration, and numbers of burials at the site (and in the nearby region).

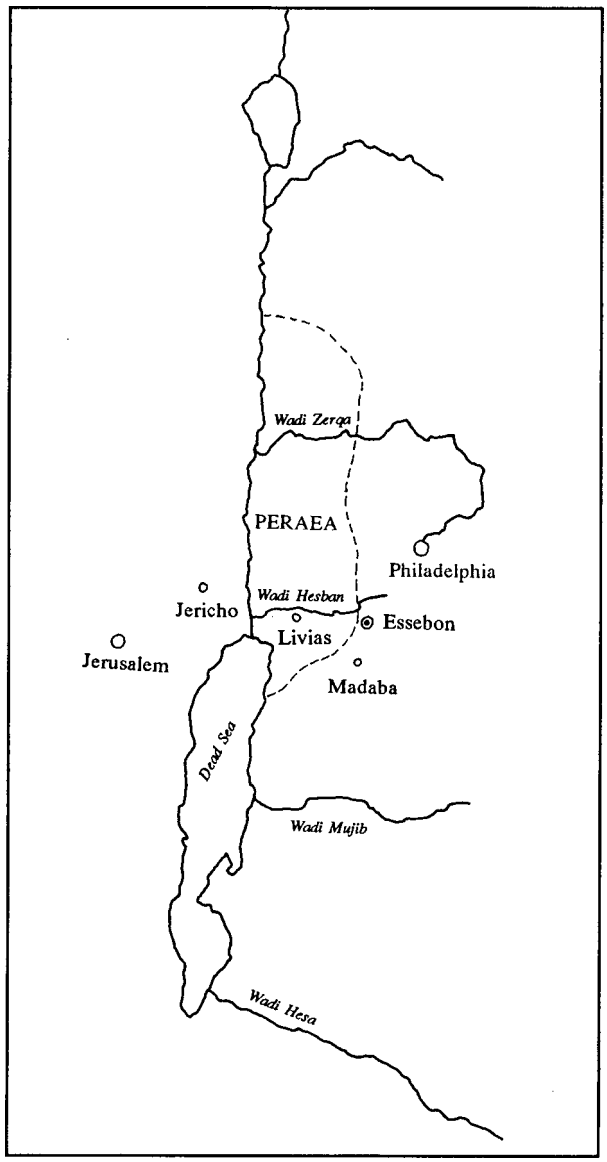
## The Historical and Political Context

We move now from a strict analysis of Tell Hesban Stratum 14 to the broader historical and political context, a continuation of factors considered in chapter 2, regarding Stratum 15. As in the preceding chapter, this consideration will allow the minutiae of Stratum 14 to be seen amid the ebb and flow of larger forces. Other aspects of this historical context may be found in volume 3 of this series.

At the beginning of the period represented by Stratum 14 at Tell Hesban, the Madaba Plains region was reportedly retroceded to the Nabataeans. It appears from the extant pottery that the site of Tell Hesban itself never came under firm Nabataean control. As for the reasons, one can only conjecture: perhaps Pompey's need for communications led him to place importance on the road junction at Esbus; or perhaps Jewish elements, and later Herod the Great, either occupied it (which is indeed likely) or at least considered it a vital part of the defensive system east of the Jordan. The reason for this conclusion is the virtual absence of artifactual evidence for Nabataean occupation of Tell Hesban. As we shall see, the literary sources indicate that the site was in Hasmonaean and then Herodian hands.

In general terms, principally following Josephus, this is what we know of the area surrounding Tell Hesban (fig. 3.9). The area known as Peraea was among lands granted to Herod the Great by the Roman Senate (*Ant.* 14.14.5 § 389). It was some three years before political grant became actual fact. About 20 years after Herod's accession (*ca.* 20 B.C.) he passed

Figure 3.9 General Boundary of Peraea..



Peraea over to his brother Pheroras (*Ant.* 15.10.3 § 362; *JW* 1.24.5 § 483). Herod's last will set Antipas over Peraea (and Galilee); this was eventually confirmed by Augustus during the reign of Archelaus (4 B.C. - A.D. 6; *Ant.* 17.8.1 § 188; 17.11.4 § 318).

Much later, in A.D. 44, Jewish inhabitants of Peraea took a border dispute into their own hands. The village in question was Zia, 15 Roman miles west of Philadelphia which claimed the village. The Jews were punished, and in the process Fadus (procurator, A.D. 44-45) cleared the brigands' bases in Peraea, to the gratitude of peoples on both sides of the Jordan (*Ant.* 20.1.1 § 1ff). Later still, in A.D. 54, Nero gave the city of Julias (Livias), with its villages, to Agrippa II (A.D. 53-100 [*Ant.* 20.8.4 § 159]). We shall return to the connections between Peraea and Esbus below.

In Josephus, the geographical area which constitutes "Moab" is nowhere detailed. For example, just what "territory" and which "strongholds" Alexander Jannaeus conquered in "Moab[itis] and Galaaditis" we are not told (*Ant.* 13.14.2 § 382). We are only told that he was later forced to return these territories to the Nabataeans because of domestic political difficulties (*cf. Ant.* 13.13.5 § 374).

There seems to be only one line of reasoning, based on the literary sources, with which to tie Early Roman Esbus to Herodian Peraea. We are told that Herod, in what appears to be a period of quite some building activity, settled veterans of his at Esbus (Εσ[σ]εβωνιτος). The statement of Josephus is not altogether clear, but the suggestion of the translator Marcus, that Herod "rebuilt" Esbus, does not seem to be required by the Greek; Marcus adds the verb in his translation for the Loeb Classical Library edition (*Ant.* 15.8.5 § 294). Rather, it seems the Herodian veterans simply occupied an existing site/position, as *JW* 3.3.1 § 36 seems to suggest was the case in Gaba. They were to provide, in exchange for the rights to land around Tell Hesban, protection of the area from Arab (Nabataean) incursion. This system of border defense was inherited by Herod. Herod's placement of veterans at Esbus is paralleled by a similar action of his in Idumaea (*JW* 2.4.1 § 55; Gihon 1967).

This settlement of veterans at Esbus implies two things: (1) the site was under Herod's control; (2) the areas around it were in need of at least that protection which discharged cavalrymen could provide. If this settlement occurred at approximately the same time as Herod rebuilt Samaria (suggested, though not proved, by the juxtaposition in Josephus' account) the date would be about 25 B.C. My conclusions were reached independent of a similar position argued by Sauer (1973a: 53, n. 60). Sauer, however, connects this settlement of veterans with the victory of Herod over the Nabataeans in the vicinity of Philadelphia, just after the 31 B.C. earthquake.

After Herod Agrippa I died (A.D. 44) all of the Jewish territories of Herod the Great went over to Roman control (under a procurator) except Gadara, Hippus, and Gaza (Avi-Yonah 1977: 106).

In A.D. 106, Nabataea, which had fared well under Pompey's partition of southern Seleucia (Jones 1971: 258), was annexed by the Emperor Trajan (A.D. 98-117) and the area became the Province of Arabia. Initially, its provincial capital was in Petra, then it was later transferred to Bostra. Recently, Bowersock has analyzed the evidence, which he cautiously endorses, that Petra (not Bostra) was the first capital of the Province of Arabia (1970: 44-45). The nature of this annexation has been variously characterized. There is at least some evidence which suggests a somewhat peaceful Roman takeover of Nabataean holdings, at least in certain locations (Negev 1967). By the end of the second century A.D. quite a number of new autonomous cities had been carved out of previously Nabataean territory.

## The Social, Cultural, and Economic Context

### Roman Roads

With the annexation of Nabataea, Rome came into full possession of the important north-south trade route east of the Jordan, the ancient "King's Highway." While the Roman system of roads in the east continued to be developed into the late second and even the third centuries A.D., one of the first major projects that was undertaken after the annexation was that of bringing the old King's Highway up to Roman standards.

The Roman road system throughout the empire was intimately tied up with defensive and offensive military activity, communications, travel, and

trade. All of these topics are obviously interrelated, and all must have played an increasing role in life at Roman Esbus. For purposes of organization, we shall divide the subjects, speaking first of Roman roads in general and the *via nova* specifically, next the *limes* system, communications and travel, then last trade and taxation.

While some ancients apparently viewed the enterprise with some distrust (Pliny the Elder, *Nat. Hist.*, 36.5), the extent of Romanization in east, no less than in west, depended to a great degree upon the extent of Roman road building. "Roads brought innovation but they also conserved and unified" (Chevallier 1976: 204). By the reign of Diocletian (A.D. 285-305) 372 roads totaled about 85,000 km in length.

According to Siculus Flaccus (*De condicionibus agrorum*) there were several categories of Roman roadways with differing financial arrangements made for their construction and upkeep. Public highways (*viae publicae*) were built at state expense by contractors working under Roman administrators (*curatores viarum*). These major arteries were named after their builders (*cf. via nova Traiana*). Landowners in the area of these roads were from time to time required to share in costs of maintenance. From these major highways local public roads (*viae vicinales*) branched off, often leading to other major public *viae*. These secondary roads were built and maintained by the *magistri* of the townships the roadway traversed. In practice, maintenance was farmed out to landowners whose lands the roads actually crossed. The specific duties regarding maintenance were spelled out in inscriptions at the ends of the sections. In addition to these public highways there were private roads on private property intended for use only by those who needed access to fields of the estate. Upkeep of these roads was provided by the landowner, or, in case the road served adjacent lands, landowners (Chevallier 1976).

The historian Livy adds a little to our view of the financing of roadbuilding operations. In some cases apparently fines or confiscated funds were so used (10.23; 10.47). At times, it appears, citizens undertook street repairs at their own expense (38.28). It goes without saying that in the outlying areas of the East such ideal arrangements did not always obtain.

While there was a certain amount of variation, Roman decree set the width standards for Roman roads. Augustan law indicated about 6.08 m for a *decumanus* and 3.04 m for a *cardo maximus*, major roads in the system (Chevallier 1976: 66). The average widths of Roman roads in the Syrian *limes* system compare favorably to the *cardo maximus* standard: 6.50 m on the plain (3.50 m on hillsides; Poidebard and Mouterde 1939: 66). These dimensions are rather closely matched in a section of the Roman road west of Esbus (pls. 3.29-30), which varied from 4.90 to 11.20 m, averaging "about six meters" (Waterhouse and Ibach 1975: 225-226).

Roman roads were usually quite carefully engineered for maximum useful life. Syrian roads typically consisted of two lanes, divided by a central line of stones. The paving of both lanes sloped down from the center of the roadway to curblines on each side. Irregularly laid stone slabs provided the paving.

Because of their obvious military importance, it should come as no surprise that the Roman army was most responsible for road development. Military and civil engineers surveyed and laid out the route and worked out engineering problems. The labor of soldiers in the particular legion responsible for the work was augmented by veterans and laborers conscripted from people in the vicinity. This mix of local and imported labor

Plate 3.29 Roman Road as Viewed from Site 16.

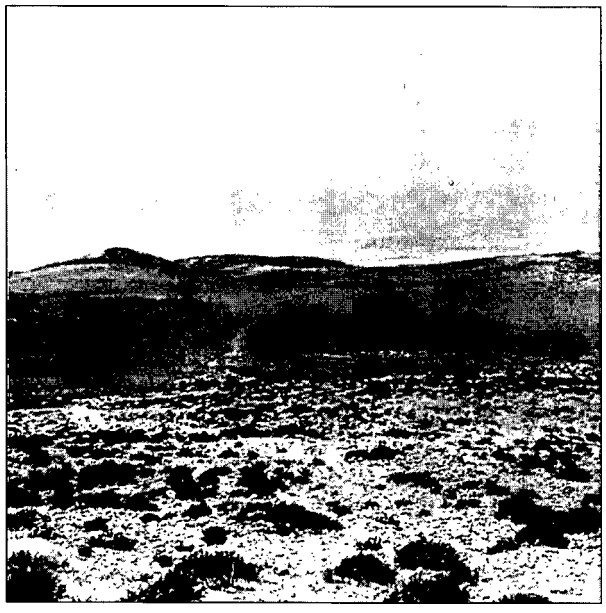
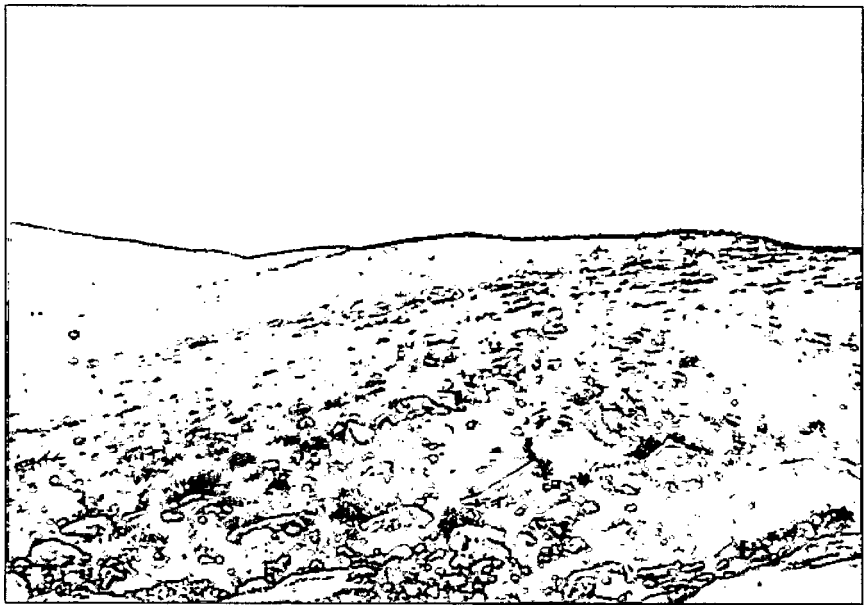


Plate 3.30 Roman Road at Site 13.



and expertise probably helps to explain both the general uniformity of the road system and the local adaptability and variation of building techniques. When completed, the upkeep of the entire system, including relay posts and stations of the Imperial Post, was turned over to provincial authorities (Chevallier 1976: 84-86).

The name of the builder, or a later restorer, with the date and other information, was placed on stone monuments giving the mileage to the next station, city limit, or such. It is from these inscriptions or milestones (the few which survive in legible condition) that most conclusions regarding the history of Roman roads are drawn (Chevallier 1976: 41; Avi-Yonah 1977: 181).

Some space has been taken to describe in very general terms the Roman road system in the belief that it would be possible to underestimate the importance of the relationship of Esbus to the Roman road system in Transjordan in the Early Roman/early Late Roman periods (Strata 14/13). Though the full impact of this relationship is not felt at Esbus until late in Stratum 14 and into the following stratum, it has been described at this point because roadbuilding activity became a very real factor in this period. There will be more said about this topic in the discussion of later strata.

The *Via Nova*

In Transjordan, the Legio IX Hispana under legate Claudius Severus was responsible for construction of a "new" highway, from Bostra (Bosra) to Aila (Aqaba), which was begun quite soon after the annexation of Nabataea took place. The effort took from A.D. 111 to 114, according to Avi-Yonah (1977: 183), though Parker indicates the road was finished in A.D. 111. The highway marked the line of a series of various military posts defending about 360 km of imperial frontier, the *Limes Arabicus* (Parker 1976: 26; Rothenberg 1971: 220).

Regarding the issue of whether or not Esbus lay directly on the *via nova Traiana*, Avi-Yonah places Heshbon on the route (1977: 187) as does Sauer (1973a: 54). Yet even exploration at the turn of the century (when one would expect more milestones and road beds to be preserved than are presently available for study) failed to establish the line of the Roman road between Madaba and Philadelphia (Amman). In fact, Germer-Durand indicates that in precisely this Madaba-Philadelphia stretch he found nothing, "not pavement remains not milestone fragments," to indicate the route of the *via nova* in the Esbus region (1904: 4, author's translation). It is not impossible that the modern Naur-Madaba highway lies on the ancient route.

The north-south trunk line of the *via nova* was tied by a Roman road to Jericho and Jerusalem/ Aelia Capitolina probably during the reign of Hadrian, possibly for his visit to Arabia (Avi-Yonah 1977: 183-184). It is this very quarter-century or so, from the annexation of Nabataea to the reign of Hadrian, that seems to turn the fortunes of Esbus (and for Palestine in general (Avi-Yonah 1977: 186).

The *Limes* System

There is little doubt, based on its geographical

location, that Stratum 14 Esbus formed an integral part of the *Limes Arabicus*. Little if any literary or archaeological evidence is extant which might indicate just what its place or function was. That a new cemented revetment (locus A.11:15) reinforced the base of Wall A.11:47 (the "perimeter wall") indicates that Stratum 14 Esbus continued to serve (or served again) as a border fort, and probably one of increasing importance as the significance of the traffic and trade which passed it increased. We must, therefore, consider the *limes* system in general as a contribution to the meaning of the site of Tell Hesban in the late Early Roman period and beyond.

We have already noted that the settlement of veterans on the border to provide frontier protection was not uncommon in the east (Gihon 1967: 30). The Roman system of *limites*, used virtually throughout the empire, represented a much more refined practice of the same sort of border defense, based not on the settlement of veterans, but rather on Roman legionnaires.

The term *limes* itself developed in Roman usage through time. It first meant a way or road which traversed a particular area. In a related use, the term came to mean a road that "limited" (bounded) land holdings. In its military use the term referred to routes designed to open up previously inaccessible or hostile territory. And eventually *limes* came to mean the actual frontier of the empire formed by a complex system of outposts, watch towers, forts, and legionary camps interconnected by a well-designed and executed system of roads. "The term as employed, rapidly extended to all natural and artificial frontiers and to the fortifications along frontier roads, even if they were not on the frontier itself" (Poidebard 1934: 18, author's translation).

Likewise the concept of the role of the *limes* underwent considerable development keeping in line with the new task of Rome's military (Weber 1936: 312). Following Poidebard, the Syrian *limes* system during the first century A.D. was militarily offensive in nature, essentially a network of penetrating roads intersected by main roads. Under the Flavians and Antonines the line became increasingly more defensive, until by the early third century A.D., the system had quite crystallized as a static defensive line, even employing walls in places (1934: 19; Mouterde and Poidebard 1945: 19; Chevallier 1976: 189).

What has not really been recognized until rather recently is the close tie between Roman military policy in defining and controlling the *limes* and Roman economic development of the frontier districts (Birley, Dobson, and Jarrett 1974: 4). It is to these issues of communications, travel, and trade that we now turn.

## Communications and Travel

The effectiveness of Roman administration depended greatly upon good communications. The road system provided one very important medium of that communication: the overland Imperial Post. During the reign of Augustus the organization of a system of couriers which had been in effect during the Republican period was revived. At first, mail was passed on from courier to courier in relays. By the end of his reign, a single courier made the entire trip, driving a carriage and changing horses regularly at posting-stations along the way. This system persisted into the reigns of his successors. According to the primary sources (from a later period, though distance-per-day figures would not have varied significantly) it is apparent that the Imperial Post moved at something approaching an average of 50 Roman miles per day (Ramsay 1920).

Though travel in Transjordan probably did not become a reasonably safe venture until the second century A.D., the establishment of the *limes* roads and military installations began a process which rendered travel over extended distances a definite feasibility. It is unlikely that travellers often exceeded the fifty-mile-per-day average of the Imperial Post. Strabo indicates the journey from Petra to Jerusalem took three to four days (Charlesworth 1926: 43). In addition to the normal requirements of travellers, namely feed and protection for their animal(s) and food and lodging for themselves, it is certain that some additional services began to find more and more demand. Thus it is probable that increased travel, at least along major thoroughfares, meant an economic boost to the territories along the route (Fink 1933: 124). It is equally probable that the turn of affairs during the following period at Esbus (illustrated by Stratum 13) represents, at least in part, this sort of influx of money made possible by a number of

conjoining factors, not the least of which was the increased quality and safety of travel conditions (Rostovtzeff 1932a: 30).

There is some evidence that the Emperor Hadrian himself travelled in Transjordan. Though the account of his traversing Arabia includes not one detail (Henderson 1923: 128), there are a few facts that together hint at the emperor's presence. First, the Gerasa arch which was dedicated to Hadrian, fell in the year bounded by October 1, A.D. 129 and October 1, A.D. 130. As indicated above, this earthquake probably can be dated to the spring or summer of A.D. 130. Hadrian's trip apparently came in early summer of that year (Weber 1936). It is not impossible that the lack of details regarding Hadrian's tour to Pelusium via Arabia relates to such a potentially ominous portent as an earthquake occurring during an imperial tour. Second, the Esbus-Livias-Jericho-Jerusalem/Aelia Capitolina Roman road was most likely built in Hadrian's reign, perhaps as Avi-Yonah has suggested for the emperor's own travels: from Gerasa, via Esbus to Jerusalem/Aelia Capitolina, on to Gaza and by the coastal route to Egypt. Third, during the reign of Hadrian, the city of Petra was renamed Hadriana (Head 1887: 687; Negev 1967: 51). Thus, the emperor's presence in Petra is surely suggested, but not assured, by such a renaming. (Indeed, Hadrian may have travelled more than once in Arabia; see Chessman 1914).

## Trade

Much travel was no doubt trade-related. But it was trade itself that was always most lucrative, not only to the brokers, merchants, and caravaneers themselves, but also for all types of enterprise along the main trade routes. The *via nova* was probably becoming just such a main trade route toward the end of the period represented by Stratum 14 (and more so during that of Stratum 13).

The opening of the *via nova Traiana* certainly must have had an influence upon Transjordan along its route. Prior to its opening, trade goods from the south would be routed mostly westward through the Negev, as well perhaps as north along the King's Highway. With the increased emphasis the Romans put on the sea route to Egyptian Red Sea ports and especially the overland route between Mesopotamia and the Mediterranean, the Negev caravan cities appear to have suffered a recession (Naphtali 1948: 106; Fink 1933: 124).

In fact, this process of a shift in favored trade routes had begun already under Pompey, when the Romans "constituted themselves the successors of late Seleucid rather than of the Ptolemaic tradition." The Nabataeans, however, subjugated politically, appear to have continued to run the caravan trade themselves, paying tribute to Rome and probably customs duties, taxes, and tolls as well (Rostovtzeff 1932a: 30, 34).

The imports into Syria and Egypt were far more valuable than the exports, evidence in part of the profit margin of merchants involved in the eastern trade. The imports were largely raw materials which were manufactured in Egypt, and probably in Syria, and marketed to the west by Roman *negotiatores* (West 1917: 47-48). From south Arabia came bales of spices, gums, and perfumes. The Nabataean homeland itself produced some gold and silver, some varieties of spices, but most of the rest of its products (agricultural products) were apparently not exported. Nabataea grew rich on other's resources; it had precious few of its own.

If this is the general nature of the trade which presumably moved up the *via nova* and through Esbus, it is not hard to understand how these items would fail to be registered in the archaeological record. These raw materials would have passed on into Syria, been worked there, and resold there, or probably more often, exported as luxury items. Little of this trade in manufactured goods would have found its way back to Early Roman Esbus.

It was to this lucrative luxury-materials trade that both governmental and private (legal and illegal) interests were attracted. Private enterprise, as noted already, included provisioning and lodging. Pliny the Elder (A.D. 23-79) could complain: "Wherever you go, you have to pay, here for water, there for fodder, for halting overnight, for tolls of all kinds" (quoted in Chevallier 1976: 197). The official tolls were generally the Roman scourge on trade caravaneering; but private individuals apparently added their weight to the expense of travel. Brigandage (not uncommon) was ever more lucrative, if also more risky.

The Roman military was very visible along the

empire's highway trade routes. However, it was the civil authority which held responsibility for levying an indirect tax on trade goods. This *portorium* included both transport duty on the movement of goods (customs duty) and town dues payable at city gates, as well as tolls for roads and bridges. Rather than to protect home trade and to tax luxuries, the system was intended simply to serve as a source of public revenue (Chevallier 1976: 195; Laet 1949).

Other taxes were, of course, due to the Roman Government. In the provinces, a *quaestor* attached to the governor was responsible for administrating the provincial finances. Direct taxes were farmed out at auction by the censors to *publicani* (Mattingly 1949).

Another significant "tax" burden on the general population occurred when army units were on the move, living off the land. This support included troop billeting and appropriation of crops and animals for food.

As mentioned above, it appears that the domestic quarters of Stratum 14 Esbus were primarily underground installations. If this properly represents the actual situation, it would not be wholly out of character with contemporary Transjordan. Avi-Yonah reports an inscription, mentioned briefly above, which records an address of the king (possibly Herod Agrippa I, A.D. 37-44) to the inhabitants of Trachonitis. "He tries to persuade them to give up living in caves like wild beasts. They should rather build themselves houses and live like the rest of humanity" (1977: 91).

## Conclusion

Occupation at Tell Hesban during the period represented by Stratum 14 does not appear to have been extensive or sophisticated, although it is possible that its remains were so thoroughly disrupted by natural disaster that they simply did not survive rebuilding efforts. If during this time period, the Nabataeans were routing north-south trade well to the east of Tell Hesban (and even Amman/Philadelphia), as appears likely, then Esbus may well have found itself located in a relative backwater. Isolated as it was from the main trade routes used by the Nabataeans, perhaps Esbus was not yet of strategic value to the Romans, who appear to have possessed it at this time (at least technically, and by A.D. 106, in *fact*). This isolation would not last long.

If the above, or similar, circumstances are true, then it would not be surprising to find at least a poor settlement at Tell Hesban, perhaps little more than a fort and some seasonal occupation by pastoralists, and at most, perhaps a reasonably small village built up around the fort on the summit of the hill. The settlement of Herod's veterans at Heshbon/Esbus might incline us toward the latter view, though hard evidence for such a conclusion is lacking as yet.

For whatever reason, whether in response to "civilizing" sentiments such as those above or some other factor(s), the Esbus that replaced that of Stratum 14 did indeed show what appears to be an increased sophistication, however modest.

# Chapter Four

# TELL HESBAN STRATUM 13: *CA.* A.D. 130-193

Chapter Four

# Tell Hesban Stratum 13: *Ca.* A.D. 130-193

Stratum 13 at Tell Hesban comprises remains from the second century A.D. This century represents, as we shall see, a real movement upward for the modest community of Esbus, and may reflect the relative calm of this period in which Rome consolidated its position in *Provincia Arabia*.

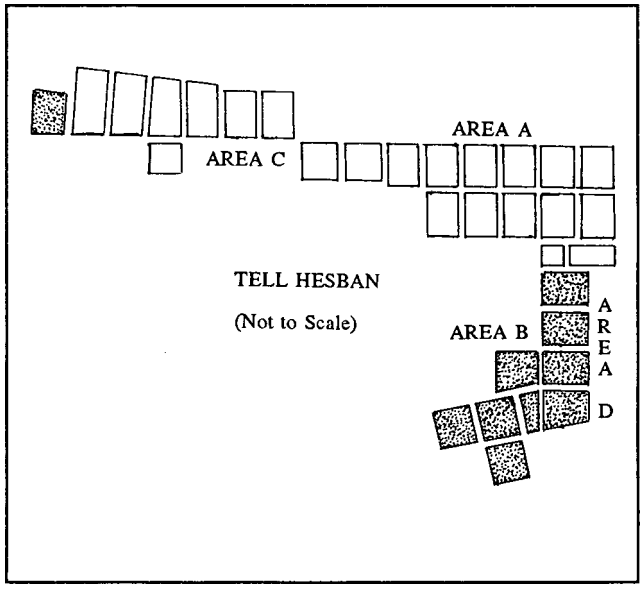
## Stratum 13 Stratigraphy of Tell Hesban

### Introduction

Though the most significant and extensive evidence for Stratum 13 comes from Areas B and D, remains from the stratum have been recovered in all the areas of the site including at least two Area G probes. The major locations of stratigraphically significant Stratum 13 remains are shaded in fig. 4.1.

By definition, the immediate post-earthquake loci have been interpreted as the building stage,

Figure 4.1 Stratum 13 Significant Remains.




Stage C, of Stratum 13. In Areas B and D, the part of the excavated portions of the tell most subject to bedrock collapse, tremendous effort must have been expended in filling the tumbled surfaces for the extensive building activity to come.

Outside of Areas B and D the remains are much less extensive. Squares C.1/C.5 reveal an impressive wall complex; Square C.10 has a good sequence of Stratum 13 loci in a limited space. Area A has a total of only three loci which have been assigned to Stratum 13 (A.5:54; A.7:80, A.7:84).

### Stage C: Construction Stage

There appears to be no evidence that any time passed between the event which destroyed Stratum 14 and the fill operation which marks the beginning of Stratum 13. In fact, as has been stressed above (chapter 3), the absence in Areas B and D of water-washed deposits at the bottom of the Stratum 13 fills could indicate that not even one winter intervened.

Not one underground installation in Areas B and D remained in use; all were either filled in and/or sealed over, or cut open by quarrying. This fact seems to point to a complete change in living patterns, though it is possible that the large cave in Square C.7, which was not destroyed along with the Area B and D caves, was in use throughout the Roman periods. Other caves may have been in use in Stratum 13 as well (*e.g.*, Caves A.1:44/A.1:67), but were completely cleared by later cave occupants of such materials as might date their use in Stratum 13 (pl. 4.1).

#### Area B

In Area B an east-west wall (B.4:46=B.4:239) was built on the general line of an earlier wall (B.4:120, Stratum 14), apparently in part to

Plate 4.1 Stratum 13 Cave A.1:44 Interior.

provide the south retainer for the fill that would completely bury the Iron Age reservoir and the destroyed bedrock installations to its east, and give to Area B the general character which it would retain through the Byzantine period. The evidence of the Square B.4 west balk section (fig. 3.7, above) seems to indicate that this wall originally rose higher than the level of the plaza and was later robbed out. Such an interpretation is supported by the existence of Abutting Wall B.4:71 (pl. 4.2) which probably would not have had a retaining function along with the southern extent of the Square B.4 curbstones (B.4:72). This complex of wall fragments may well represent the south wall of an enclosed courtyard. (Stratum 13 fill loci in Cave B.4:74 include: B.4:54 [= B.4:91], B.4:59, B.4:62, B.4:63, B.4:64, B.4:67, B.4:92, B.4:93, B.4:110, B.4:124, B.4:130, B.4:154; loci over Stratum 14 layers in the broken bedrock south of B.4:74 include: B.4:217 [= B.4:236 = B.4:223 = B.4:230], B.4:283D, B.4:283C, B.4:260, B.4:258, B.4:257, B.4:256, B.4:237, B.4:163, B.4:162, B.4:139; fill loci in the reservoir include: B.4:44, B.4:47, B.4:49, B.4:50, B.4:51, B.4:52, B.4:53, B.4:55, B.4:58, B.4:78, B.4:86, B.4:106, B.4:107, B.4:94 [= B.4:111 = B.4:146], B.4:122 [=B.4:208], B.4:209, B.4:210, B.4:211, B.4:212, B.4:213 [=B.4:214]; B.2:34, B.2:43, B.2:44, B.2:45, B.2:46, B.2:47, B.2:48, B.2:49, B.2:50, B.2:51, B.2:52, B.2:53, B.2:55, B.2:84A, B.2:85, B.2:86, B.2:93, B.2:104, B.2:108; B.1:22; B.3:37, B.3:39 [=B.3:44], B.3:40, B.3:41, B.3:43, B.3:46, B.3:72, B.3:73, B.3:79; B.7:33 [= B.2:35A = B.1:14A = B.1:15A = B.1:16].)

Plate 4.2 Wall B.4:71 and Curbstones B.4:72.

Initial *huwwar* surfaces were laid down over these fills throughout Area B (B.7:36, B.7:31 [= B.7:32 = B.3:30]; B.3:33 [= B.3:36 = B.2:33 = B.1:13 = B.4:43], B.3:29 [= D.4:87]; B.4:45, B.4:48). This series of Stratum 12 *huwwar* surfaces was followed by

another series throughout most of Area B (B.2:31 [= B.1:13 = B.3:29 = B.4:41]). The lowest Square B.1 *huwwar* surface (B.1:13) sealed up against a curious installation that was probably contemporary with the Square D.4 gates and Area B curbing. The installation, called a "podium" in the preliminary reports (Sauer 1976: 40), consists of two bases with their north corners aligned, cut into two isolated parts by the excavation of a Stratum 8 Byzantine Kiln B.1:153 and B.1:154; cut by B.1:10 (pl. 4.3). The two sets of bases have non-matching molding (see descriptions in Locus List, appendix A). Though in line with the entryway of Square D.4, this poorly preserved architecture is of unknown function.

Area D

As noted before, in Area D, Squares D.4 and D.3, the entrances to collapsed caves and the jumbled bedrock that resulted from earthquake(s) were also capped and leveled off in preparation for the series of layers (in Square D.4) or floors (in Square D.3) to follow. On this fill in Area D the first ambitious building project now arose at Tell Hesban which, apart from the perimeter wall, was to survive for archaeological research to discover. A line of curbstones (pl. 4.4) was set into a foundation trench which cut the earliest *huwwar* layers (B.7:29 [= B.3:31, sealed by *Huwwar* Surface

Plate 4.3 Stratum 13 "Podium" Cut by Kiln.

B.3:32 {= B.3:35} = B.4:72]; Foundation Trenches B.7:34 [= B.3:34]). This curbing, of enigmatic function, extended from at least somewhere under the Stratum 11 stairway of Square B.7 (a probe in the north corner of B.7 failed to find more curbstones to the north) into the south half of Square B.4, where it appears at the appropriate level in the east balk (for a surviving length of 17 or 18 m).

This row of neatly-cut and -laid stones paralleled a line of walls in Area D which, together with intersecting east-west walls, marked out at least two, and probably three, large rooms (in Squares D.2 and D.3) forming a building or section (possibly, a wing) which was oriented with its long axis north and south. These rooms have been numbered 1 through 3, moving north-to-south (fig. 4.2).

Plate 4.4 Stratum 13 Curbstones.

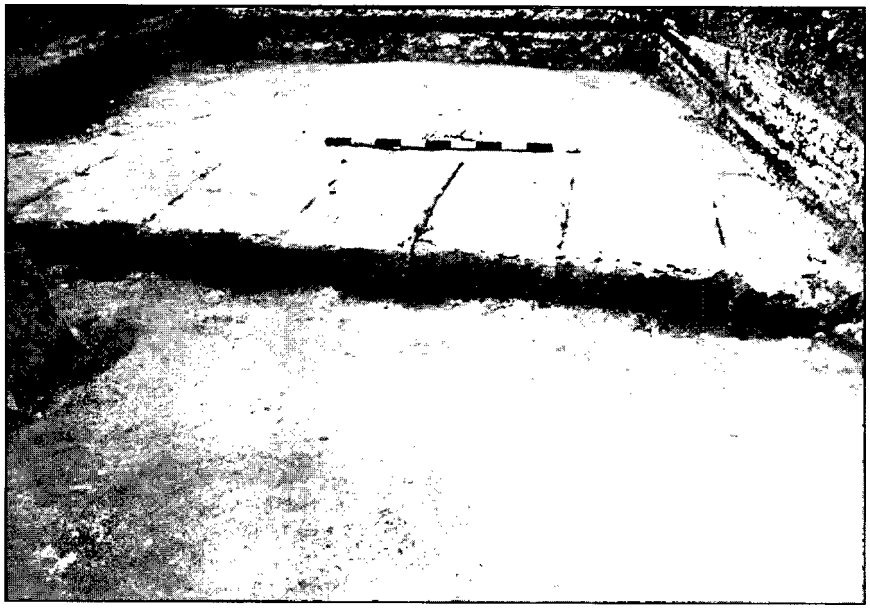


Figure 4.2 Stratum 13, Area D "Inn."

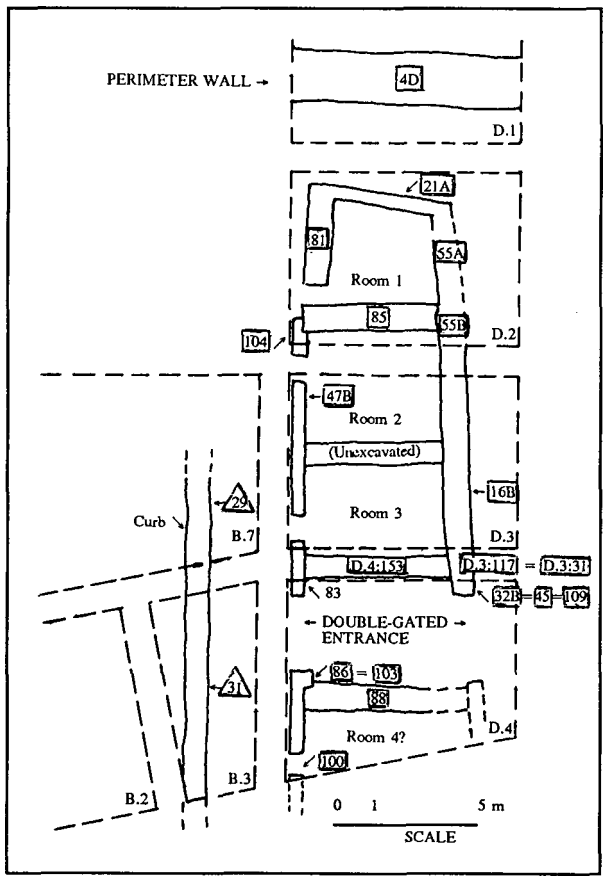



Plate 4.5 Room 1 of the Area D "Inn" Complex.

A wall which coincided with the balk separating Squares D.4 and D.3 marked the south wall of Room 3 discovered in Area D (Wall D.4:153). There must have been, to be sure, something architectural connected with the well-worn doorstep (D.4:103) in the very southwest corner of Square D.4, but the square did not extend far enough to the south to determine for sure that the series of rooms continued, though they well may have (*e.g.*, possibly, Room 4), as the curbing of Area B certainly extended well south of Square D.4. In fact, two rooms of approximately the width (north-south) of excavated rooms added to the south of the Square D.4 entrance way would reach to the south end of the Stratum 13 curb in the east balk of Square B.4.

The northernmost room, Room 1 in Square D.2 (pl. 4.5), appears to have begun originally (and perhaps only) as a quarry for the neatly-cut stone, characteristic of Stratum 13 building projects (Bedrock Cut D.2:93 does not seem to be due to quarrying). In the process of this quarrying, two (possible) Stratum 15 store silos were cut open (pl. 4.6) and filled in (D.2:95A, D.2:95B). One store silo (D.2:80, with Wall D.2:111) appears to have continued to serve as a storage area for the Strata 13 and 12 rooms. There is a possible remnant of an original floor for Room 1, preserved as locus D.2:94 (and perhaps Surface D.2:98 as well).

At the conclusion of quarrying, a wall was built (D.2:21A) at the lip of the north bedrock cut. In time, this wall was bonded to a wall (D.2:55B) on the lip of the bedrock on the east of the rooms, which formed the east boundary of Room 1 in Square D.2. It bonded as well to the wall (D.2:81) which formed the west limit of the room. The south wall of Room 1 (D.2:85) cannot be stratigraphically connected to Stratum 13 (pl. 4.7), since (1) there is a break (locus D.2:69) between Wall D.2:55B and its southward extension (D.2:55A [= D.3:16B]); (2) the east end of Wall D.2:85 does not bond to Wall D.2:55A, and furthermore, the relationship of the

Plate 4.6 Cut Stratum 15 Silo D.2.95.

Plate 4.7 Walls D.2:55A (Bottom), D.2:55B (Top), and D.2.85 (Right).

west end of Wall D.2:85 to north-south Wall D.2:104 (= D.3:47A) is also unclear; and finally, (3) because at least sections of Wall D.2:85 (and the north end of Wall D.2:104) were founded on trenches cut into Bedrock D.2:91. (Soil Layer D.2:102 fills a similar cut into which Wall D.2:104 was set.) Though stratigraphically uncertain, Wall D.2:85 is functionally necessary for Stratum 13 Rooms 1 and 2.

As Wall D.3:47 clearly indicates (Square D.3 west balk section, fig. 4.3 and pl. 4.8), there were two phases represented in the use of Room 3 (Wall D.3:47B, with Foundation Trench D.3:53). Floors of Stratum 13 lay directly on somewhat roughly leveled fill over bedrock (loci D.3:55, D.3:61, D.3:99, D.3:101), sealing against the earlier phase of the west Wall (Floor D.3:52 sealing Wall D.3:47B). Later Stratum 12 floors sealed against the upper phase (Floors D.3:48 and D.3:49 [Stratum 12] sealing D.3:47A; Floor D.3:48 actually sealed *over* the threshold itself in Wall D.3:47A). The east boundary of Room 3 (and probably of Rooms 1 and 2 as well) was the thick wall which apparently doubled as the retaining structure for an inclined ramp parallel to and east of the Area D rooms (Wall D.3:16B, possible Foundation Trench D.3:104). This ramp was correctly identified during the 1974 season by Larry G. Herr (Herr 1976: 93-94). The south wall of Room 3 (D.4:153), located directly in the balk between Squares D.3 and D.4, was probably built on Foundation D.3:56 (and probably Foundation D.4:97 [= D.4:114 = D.4:127] as well). The north boundary of Room 3 is formed by a wall which was not excavated because Stratum 11 Stairway D.3:39, which was constructed over the wall, was not removed.

In Square D.4 the stratigraphic sequence is both clear and unclear. What is clear is this: following the deposition of bedrock fill (locus D.4:101) is the *Huwwar* Surface D.4:108 (succeeded by D.4:98 [Stage B], D.4:96; pl. 4.9). This sequence of loci seals against both Threshold D.4:83 [= D.4:86 = D.4:103] on the west and Threshold D.4:45 [= D.4:109] (over D.4:95) on the east, giving both of these doors or gates a Stratum 13 origin (on the basis of stratigraphy in Square D.3 and the equivalence of Wall/Threshold D.3:47A with Wall/Threshold D.4:86 [= D.4:103]). On its east side, Threshold D.4:45 was sealed against by Fill

Figure 4.3 West Balk Section of Square D.3.

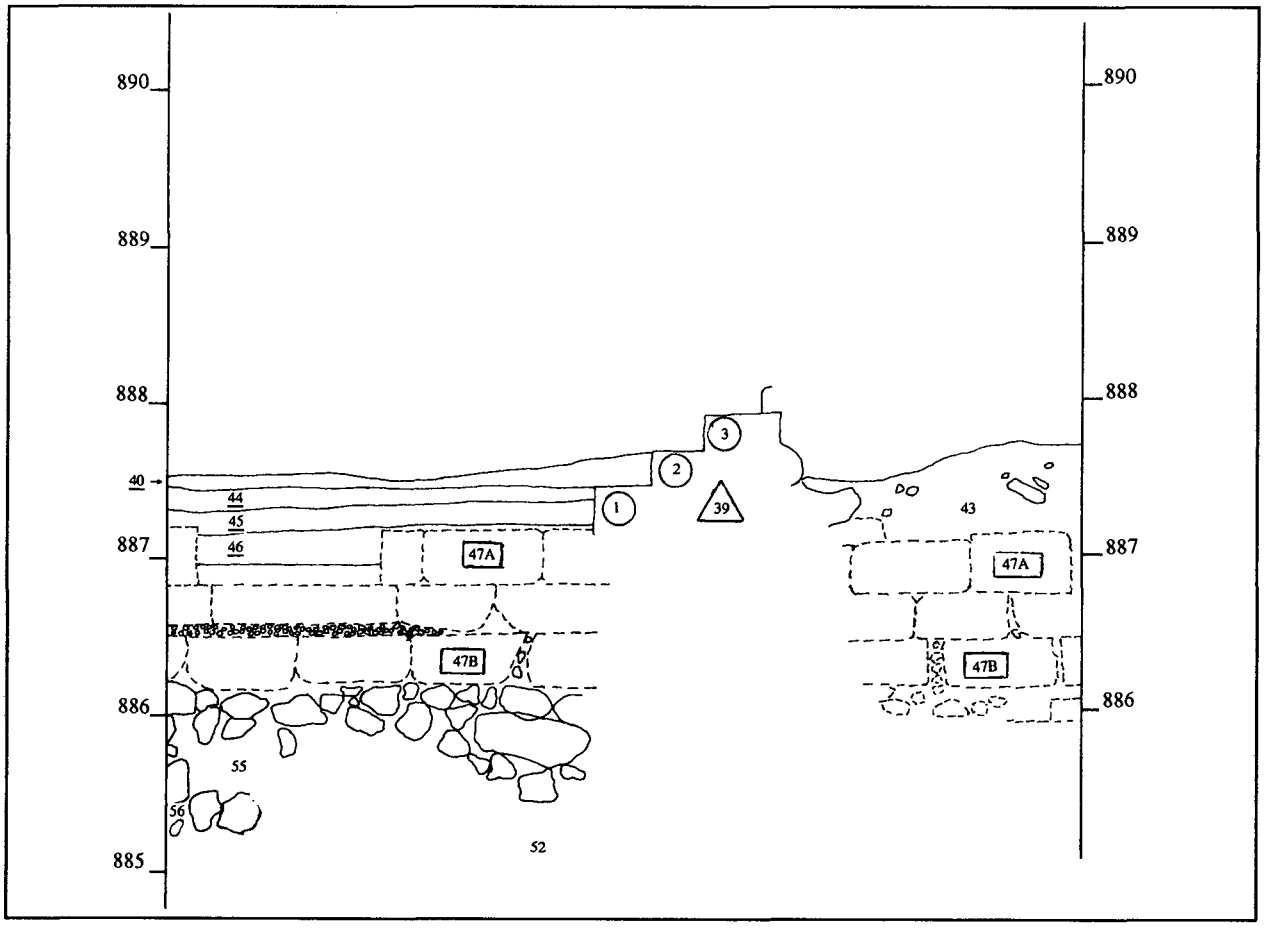



Plate 4.8 West Balk of Square D.3.

Layer D.4:44 (and D.4:104, Stage B) over Fill D.4:47, D.4:50, and D.4:55. It seems unlikely that the Stratum 13 Squares D.2/D.3 series of rooms did indeed terminate at the wall in Square D.4's north balk (see fig. 6.5). Otherwise the placement of the Square D.4 double-gated entrance would be puzzling. By this conceptualization, when the rebuilding took place near the end of Stratum 13 (as evidenced by Wall/Threshold D.3:47A), the walls on both east and west sides of the Squares D.2/D.3 rooms already extended southward into Square D.4 (Wall

D.4:100, an extension of Wall/Threshold D.4:83 [= D.4:86 = D.4:103]) and, most probably, *beyond* it along the line of prior walls. However, it must be noted that while Wall/Threshold D.4:83 [= D.4:86 = D.4:103] is almost certainly the contemporary extension of Wall/Threshold D.3:47A (not Wall D.3:47B), unlike Wall/Threshold D.3:47A, it is not built on a former wall (pl. 4.10; and Square D.3 west balk section, fig. 4:3).

There is a problem with Wall D.4:88, which abutted Wall/Threshold D.4:83 [= D.4:86 = D.4:103] and ran some 4.5 m to the east. While it does provide for a wall to mark the southern extent of the east-west entryway through Square D.4, the date of the wall is problematic: a "foundation trench" (D.4:90) on the north side suggests a late date; (it appears to "cut" layers of Late Roman Stratum 12). However, its appearance as a foundation trench may be quite artificial. Locus D.4:90 consists of extremely loose sand; it followed the very irregular contours of the north face of Wall D.4:88. For these reasons Locus D.4:90 is here interpreted not as a *bona fide* foundation trench, but as windblown sand which accumulated next to the Stratum 13 wall and was not compacted by foot traffic through the entrance.

When the east-west gateway of Square D.4 was in use, it appears that the *huwwar* surfaces did not extend southward beyond Wall D.4:88. The question of the purpose or use made of the probable room south of Wall D.4:88 is intriguing for a number of reasons. Soil Layers D.4:107 (possibly Stratum 14) and D.4:117 (questionably Stratum 13) provided the base for the three Stratum 13 soil layer and fill loci (D.4:99, D.4:105, D.4:106) which rose to the approximate level of the Threshold of Wall D.4:100. The hinge marks in this threshold clearly indicate the door swung open to the east (pl. 4.11). Just north of the doorway itself a tie-down was carved through the upper east edge of one sillstone. In that very area, in what appeared to be a corner, there was what appeared to be a trash pile. It is possible that this room was

Plate 4.9 Stratum 13 Entrance, Square D.4.

Plate 4.10 Stratum 13 Wall D.4:100.

Plate 4.11 Threshold D.4:100 Hinge Marks.


used for a stable, perhaps for the animals of travellers on the road which passed the site.

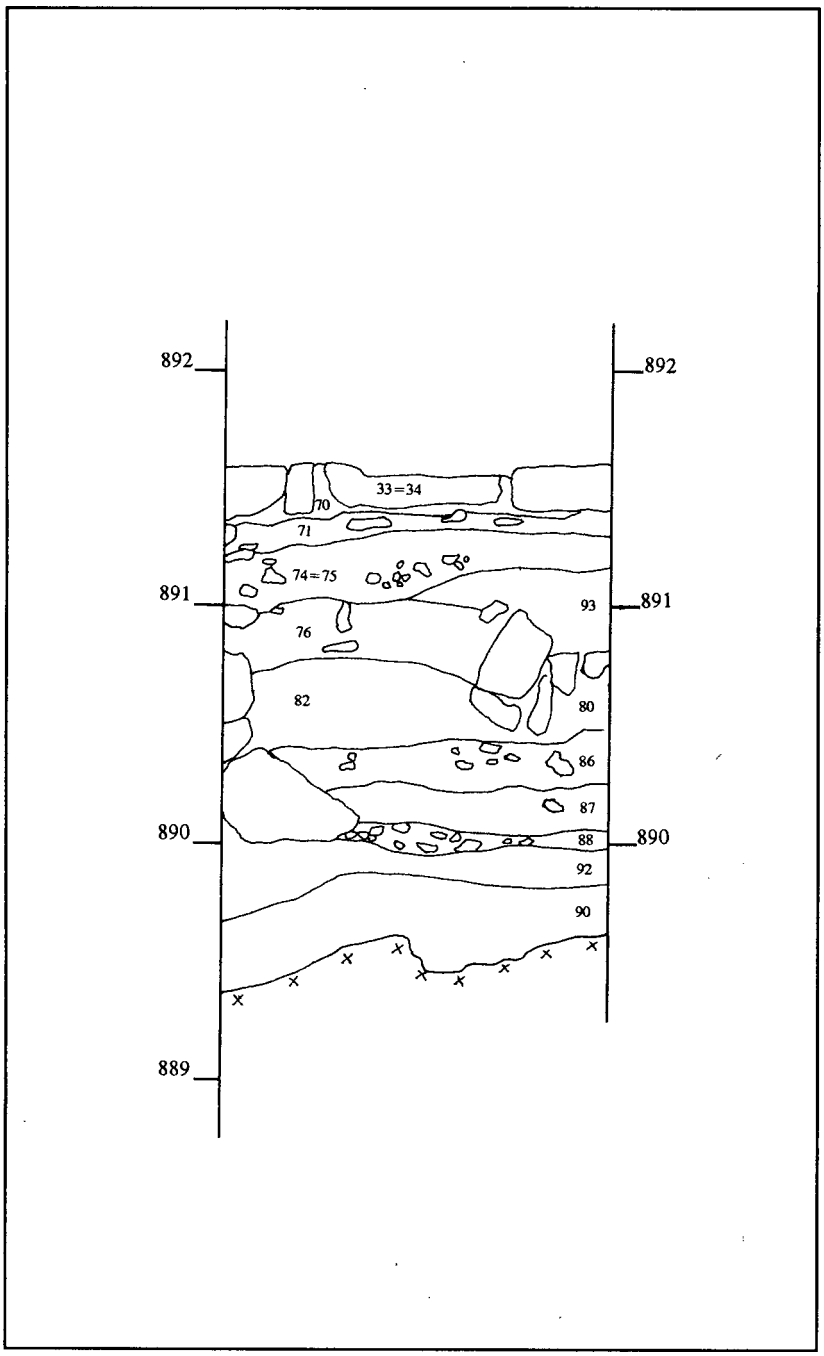
Unfortunately, for the solution to the critical chronological problem in Area D, both the balks between Squares D.4 and D.3, and between Squares D.3 and D.2, fall at critical places in the western wall line. We do not know how Wall D.2:104 relates to Wall D.3:47K or for certain how Wall D.3:47 relates to Wall/Threshold D.4:83 [= D.4:86 = D.4:103]. Since neither balk was removed, the opportunity to check the connections is for the present lost. One is thus cast into the perilous business of first taking one end or the other of this stratigraphic chain and attempting thereafter to control the midsection as well as the opposite end.

This, then, is my reconstruction of the Stratum 13 stratigraphy of Squares D.2, D.3, and D.4: The original thresholds of Square D.4 are to be considered contemporary with the quarrying-out and walling-in of the Stratum 13 Room 1 in Square D.2. Stratum 12 rebuilding from the south wall of Room 1 (in Square D.2) to the south wall of Room 3 (in Square D.3) has rendered Stratum 13 stratigraphy problematic. Stratum 13 use of the entrance in Square D.4 was followed by continued use (and modification) of that entrance during Stratum 12. This sequence of use also obtains in Room 3 (in Square D.3). In this reconstruction the weight of evidence has been placed on the clear relationship of Stratum 13 surfaces in Square D.4 to rather intact architectural features on both the east and the west. It also does justice, I believe, to the clear evidence of a Stratum 13 floor associated with Walls D.2:81 and D.2:85 (Floor D.2:89) in Room 1.

In Stratum 13, access to the summit of the tell was apparently via the earthen ramp to the east of the line of Area D rooms, terminating at the southern face of the balk between Squares D.3 and D.4 with east-west retaining Wall D.3:117 (= D.4:31). (Compare the similar device at the Horvat Hora fortified farmstead, Building No. 1; Applebaum and Gihon 1967: 38 and fig. 8.) Whether this ramp was filled in after the eastern wall line was built, or whether the wall was built (battered) into the existing fill of the ramp is not clear (D.2:71 [= D.2:75 = D.3:78]; D.3:80, D.3:81; D.2:49+D.2:62 [= D.3:71 = D.3:73]; D.3:79; D.2:50 [= D.2:61], D.2:27, D.2:23, D.2:22 [= D.3:19 = D.3:65 = D.3:67]; D.3:66, D.3:76, D.3:116, D.3:115 [= D.3:114]; Walls D.2:55A, D.2:55B; D.3:16B with so-called "Foundations Trenches" D.2:68, D.3:75; [possibly D.3:91], possibly D.3:93, D.3:102, D.3:105, D.3:108).

In Square D.1 just north of the Room 1 (in Square D.2), evidence of additional Stratum 13 quarrying comes from the breaching of Iron Age Cistern D.1:63. This cistern, along with the resultant quarrying trench (compare the interpretation in the preliminary reports; Herr 1978: 111), was filled most likely with debris scraped from the summit of the tell in preparation for Stratum 13 building activity on the summit. After filling the cistern, builders constructed a wall in line with the cut bedrock face (D.1:104). Then they continued to transfer debris over the wall to the south, gradually transporting earlier material, namely Late Hellenistic debris of Stratum 15. This interpretation best explains the persistent occurrence deep in Cistern D.1:63 of Early Roman

Figure 4.4 South Balk Section of Square D.1.




sherds in loci D.1:63A, D.1:63D, D.1:64, and D.1:67 (see Square D.1 south subsidiary balk section, fig. 4.4), while also explaining their virtual absence in overlying fill layers (D.1:56H, D.1:59, D.1:60). The top layers in the source debris north of the perimeter wall (D.1:4) had been recently deposited; below these layers were Late Hellenistic debris layers—the latter wound up outside (south of) the perimeter wall, *over* the former. (Additional fill loci in the south of Square D.1 include: D.1:63C, D.1:63I, D.1:63J, D.1:66, D.1:53, D.1:105, and D.1:106.)

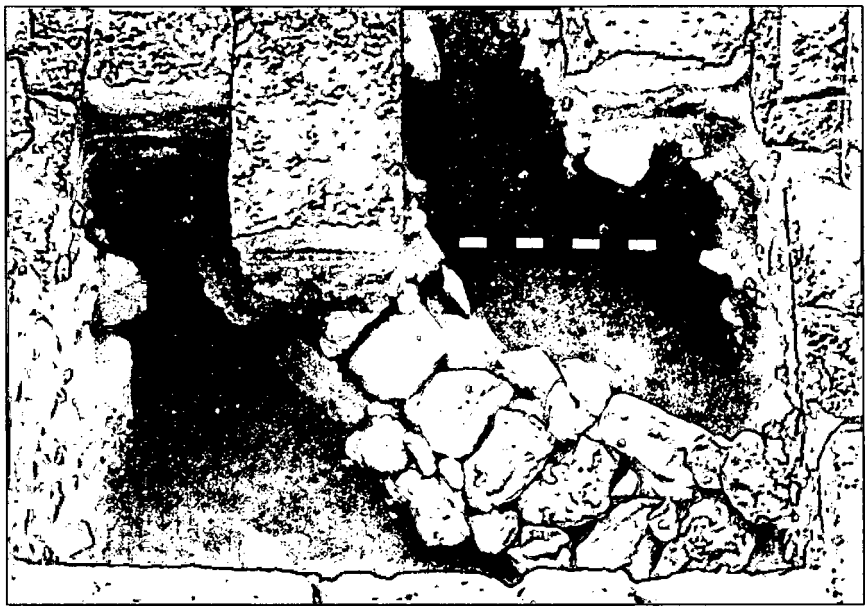
Inside the perimeter wall, in the north half of Square D.1, a series of Stratum 13 fill layers were laid down (D.1:48 [= D.1:87 = D.1:88], D.1:92; D.1:47 [= D.1:86]; D.1:46 [= D.1:81 = D.1:82]). A wall stub (D.1:45) was first sealed by Fill Layer D.1:46, but is too short to allow much of an interpretation (unless it forms the wall for one of a series of rooms built against the perimeter.

Two drainage channels were installed in the uppermost Stratum 13 layers or surfaces: on the north side of Wall D.1:4, and sloping down toward it (*i.e.* to the south). Channel D.1:80 (pls. 4.12-13), with Foundation Trenches D.1:84 and D.1:85, was built of side stones and capstones, with no stone bottom provided (cut into Fill Layer D.1:81 [= D.1:82]). On the south side of the same wall this drain channel continued (Channel D.1:61, with very similar construction) on into the west balk. Whether this channel was just for drainage or whether it emptied into a cistern is unknown. The former is most likely.

Areas A and C

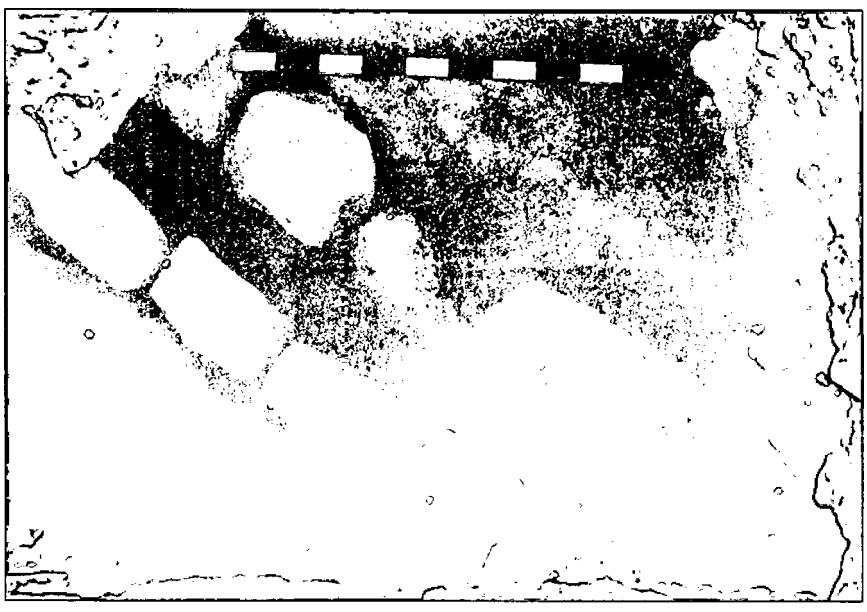
In Area A virtually no loci were attributed to Stratum 13 Stage C (A.7:84), apart from the series of walls for public buildings originally built in Stratum 14 (Walls A.7:15 [= A.9:88 = A.11:48B]

Plate 4.12 Channel D.1:80 (Covered).



and A.9:33B [= A.11:3B]) or Stratum 15 (Wall A.11:49). In Area C, only isolated pockets of related Stratum 13 loci occur. A fragmentary series of soil layers east of Stratum 12-11 Wall C.10:20 (C.10:62, C.10:63, and C.10:64) and two sequential layers between Walls C.10:20 and C.10:50 (C.10:55 and C.10:58), comprise the evidence for this stratum and stage in Square C.10.

Plate 4.13 Channel D.1:80 (Covering Removed).



In Squares C.1/C.5, the Stratum 13 remains consist primarily of a set of impressive, but ubiquitous, walls. Clearly detectable foundation trenches were cut into earlier Roman and Iron Age debris layers. Well-built walls formed a partially excavated room complete with a doorway facing west (Wall C.5:60 [= C.1:49], Foundation Trenches C.5:62 [= C.5:136 = C.1:110]; Wall C.5:77 on the west with Doorway C.5:199 [pl. 4.14], and Wall C.5:82; Wall C.1:163 [= C.1:40], forming an integral corner with Wall C.1:49, along with Foundation Trenches C.1:51, C.1:66, and C.1:73 [pl. 4.15]).

The preliminary interpretation of this complex as a defensive tower (Mare 1976: 63-67, 76; Mare 1978: 65-66) runs directly into several difficulties: (1) the doorway on the west (outer) side hardly suggests a design for high security (fig. 4.5); (2) its location in relation to the probable spread of Stratum 13 occupation at Tell Hesban (see Concluding Stratigraphic/Architectural Remarks below); and (3) the apparent isolation of the original structure: Wall C.1:30 abuts—does not bond with—the corner formed by Walls C.1:49 and C.1:63 [= C.1:40], making it most likely that Wall C.1:30 (with Foundation Trenches C.1:48, C.1:71, C.1:81, C.1:109, and C.1:111) followed the building of the Squares C.1/C.5 complex, perhaps by some time. In Square C.7, a (possible) retaining wall north of the entrance to Cave C.7:86 (Wall C.7:44) continued in use.

The following are miscellaneous Stage C loci in Area C.1:70; C.5:118; G.1:35,

Plate 4.14 Stratum 13 Doorway C.5:199.

Plate 4.15 Wall C.1:49 with Foundation Trenches.

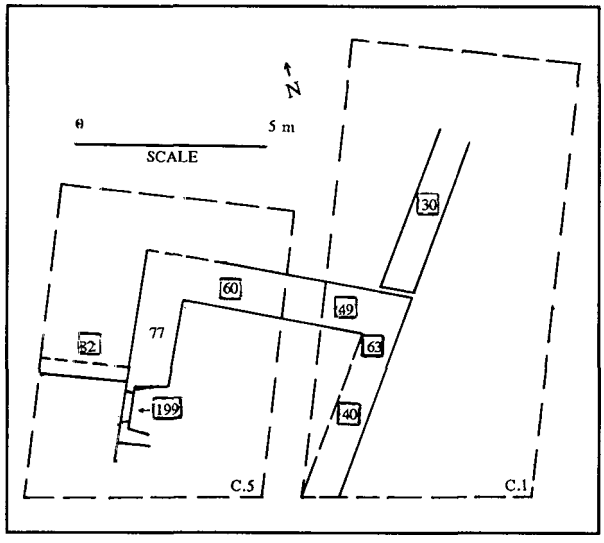
G.1:29. Other miscellaneous Stage C loci include: B.3:45; B.4:76, B.4:85, B.4:134, B.4:136, B.4:137, B.4:138, B.4:160 [= B.4:163], B.4:169, B.4:226; C.2:36.

### Stage B: Use Stage

No really exceptional evidence for the use stage of Stratum 13 was found anywhere on the site. In Area B and Square D.4 the initial Stage C *huwwar* surfaces were repeatedly renewed in a cycle of soil layers alternating with *huwwar* layers laid over fill layers (south of Wall B.4:46 also a series of layers built up: B.4:132 and B.4:131). Some of these layers constituted full-scale resurfacings, others surely represented very localized repairs. An Early Roman cooking pot (B.4:133) was found buried south of Wall B.4:46; whether it belongs to Stage C or B is not clear. The contents, if any, were not described in the field materials.

The pattern of those loci related to use (Stage B) is simply not discernable in Squares D.2 and D.3. In both cases, this is probably true mainly because of Stratum 12 disturbance of the stratigraphy.

Figure 4.5 Stratum 13 Complex in Area C.



In Square D.1, only two loci seem to fit this stage (D.1:55, D.1:56A). In Area C as well, Stage B remains are patchy and with few exceptions (Fire Pit C.1:41, possibly loci C.1:72 and C.5:157; and Soil Layers C.7:102, C.7:103, and C.7:104 in Cave C.7:86) cannot be related stratigraphically to the architecture of the stratum (loci C.1:36, C.1:39, C.1:64; C.10:44, C.10:46, C.10:48, C.10:51, C.10:59; D.2:100; D.4:43, D.4:48).

### Stage A: Destruction Stage

There is little evidence for destruction of Stratum 13. In fact, the transition from Stratum 13 to Stratum 12 appears to have been a gradual one. In Areas D and B, Stratum 12 surfaces were usually found superimposed upon previous layers with little noticeable break. One exception is in Room 1 (in Square D.2) where the Stratum 13 floor is covered with a layer of rubble containing much bone material and pottery (D.2:90), which is followed stratigraphically by the first Stratum 12 floor (D.2:88). The few Stage A loci from Area C present no consistent pattern (C.1:36, and possibly C.1:57), but are included for sake of completeness only.

Loci of Stratum 13 which have been assigned to no stage include: B.1:20, B.1:35; B.4:75, B.4:87, B.4:95 [= B.4:105], B.4:96, B.4:103, B.4:104, B.4:108, B.4:151, B.4:153, B.4:157, B.4:158, B.4:167, B.4:247, B.4:251; C.1:54, C.1:61, C.1:62, C.1:67, C.1:101; C.2:15; C.5:59, C.5:61, C.5:165; C.7:94; C.10:49, C.10:53, C.10:54, C.10:65; D.2:101; G.1:28, G.1:30, G.1:31, G.1:32, G.1:33; G.3:17, G.3:19, G.3:30; G.4:27; G.8:2, G.8:4, G.8:6, G.8:8, G.8:9; G.12:27.

### Concluding Stratigraphic/ Architectural Remarks

The question now comes, what kind of a settlement at Tell Hesban do the Stratum 13 remains represent? For the tell's summit, that question is virtually impossible to answer given the fragmentary nature of the remains. For Area C the problem is much the same. But on the southern flank of the tell, in Areas B and D, the situation is almost reversed. There is an abundance of excavated materials and a good degree of correlation of the loci.

There are, it seems to me, two competing interpretations for the Stratum 13 remains in Areas B and D. The first one views the entire complex as a commercial center. The broad, level expanse in Area B to the west of the so-called "curbing" is interpreted as a large open-air marketplace. On this view, the "curbing" itself (which may well turn to the west somewhere directly under the surviving Stratum 11 stairway in Square B.7) could have formed a marker line outside of which individual sellers could not set up their wares in order to ensure clear traffic lanes around the market square. Around the outer edge of the market square, at least on the east side, though perhaps also on the north, a series of permanent shops would have been built to house various industries, crafts, and merchandising enterprises. I do not know if use in the preliminary reports of the term "plaza" in Area B carries with it all the above socio-economic connotations and implications (Sauer 1973: 143).

This interpretation depends to a degree on the perception we have of Early Roman Esbus. Market towns naturally have a certain centrality and importance which dictate their becoming a central focus of economic activity for the surrounding region. Stratum 13 Esbus may well have held that position in the northern Madaba Plain. Note that in the period represented by Stratum 14, Josephus can already speak of "Heshbon (Εσεβωνιτιν) and its district" in a string of cities including Philadelphia (*JW* 2.18.1 § 458). This is not to imply that Esbus was Philadelphia's equal!

The second interpretation, and one which I tend to favor, sees Stratum 13 installations in Areas B and D as an integral part of a fortified Roman road-station and village. In this view, rather than a market place (though some marketing may of course have gone on) the flat plaza of Area B would have been an enclosure, perhaps attached to the fort on the summit of the tell, but certainly at least dominated—and protected—by it. In this enclosure the animals of travelers and of small caravans could be protected for the night. In this interpretation, then, the rooms bordering (or surrounding) the plaza, rather than being primarily involved in crafts and trades, would have provided housing and food—perhaps even some entertainment—for travelers and caravaneers using the north-south route on which Esbus was located, as well as that route into the Jordan Valley which likely preceded the improved Roman road to Livias, the latter built perhaps under the Flavians

(Waterhouse 1975: 217-218). A Roman garrison would have been stationed at Esbus at this time (Sauer 1973a: 53 and n. 60; although, as Sauer recognizes, some have placed Esbus prior to A.D. 106 in the Nabataean sphere of influence, the evidence at the site is against such a view). Parallels to this inn at Tell Hesban are discussed in the section which follows.

As indicated earlier, either of the above views somewhat weakens the interpretation of the Squares C.1/C.5 complex as a defensive tower. The "tower" is not only out of location, it also seems to lack good parallels elsewhere along the Roman road system. Additional problems of this interpretation will be suggested below.

Since the developments seem to occur so late in Stratum 14, the discussion of burial practices in chapter 3, should be considered at least the proper starting point for Stratum 13 burials. In fact no real architectural evidence for Stratum 13 tombs has been published, apart from the fact that the Early Roman tombs appear to have been modified and expanded in later periods.

Late Roman I ceramic calls (A.D. 135-193) were given (1976 season only) for Tombs F.27, F.28, F.31, and for cave F.38. Of these it appears that only Tomb F.27 was first used on Late Roman I-II (Davis 1978: 133).

## The Historical Context and Parallels

We move now from a strict analysis of Tell Hesban Stratum 13 to the broader historical and political context, a continuation of factors considered in chapters 2 and 3, regarding Strata 15 and 14. As in the preceding chapters, this consideration will allow the minutiae of Stratum 13 to be seen amid the ebb and flow of larger forces. Other aspects of this historical context may be found in volume 3 of this series.

The second century A.D. saw the extremes of personality in the emperors who directed the affairs of Rome. Hadrian (A.D. 117-138) was a ruler of energy and action. Antoninus Pius (A.D. 138-161) earned his name by simplicity and piety. His son, Marcus Aurelius (A.D. 161-180), who was perhaps one of the most self-effacing and retiring of Roman emperors, was followed by Commodus (A.D. 161-192), by contrast a very visible, public, and dissolute person.

Regarding the East specifically, while it may be difficult to identify at the level of the remains at Tell Hesban, it is likely that Hadrian's interest in the provinces at least indirectly benefitted the economy at Esbus. His Antonine successions seem to have been increasingly less concerned with matters in the provinces (Weber 1936).

It was apparently during the second century A.D. that the impetus for local village and city government laid the foundation for the great number of city-constitutions which were granted in the late second and early third centuries. In some respects, while effective government usually resulted, a western form was simply imposed over older semitic tribal organizational patterns—at least in the case of the villages (Cumont 1936: 624). In any case, most villages (κωμαι) in Syria had a rather complex set of public offices with specific responsibilities (mayor, headman, magistrates, scribe/clerks, public works superintendents, construction superintendents, and religious functionaries of various sorts). Virtually all villages had at least a mayor (*komarch*) who presided over the village council (βουλη) and was charged with law and order functions (Cumont 1936: 622, 624; Harper 1928: 116-145).

Thus even villages in Roman Syria (and presumably Arabia as well) enjoyed quite a bit of independence (Jones 1971: 284), at least in local politics and in matters of village finances. Regarding the latter, it is clear that villages could raise and disperse funds for projects conceived and directed by them. Sources of village monies included fees paid by officials entering office, fines, gifts and bequests from private individuals, rent for public facilities, water fees, and income from public (common) land. Villages had virtually no expenditures apart from construction costs for public buildings, including temples, though other funds were due—primarily by way of direct taxes—to a city in whose territory a village might be located (Harper 1928: 146-160).

Beginning in the second century A.D., the change from village status to city status came to mean much less than it once had in terms of territories allotted to it (Jones 1971: 286). This factor doubtless affects Stratum 12 Esbus as we shall see in the following chapter. But Esbus as a small- to medium-sized village in Stratum 13 is of interest at this point.

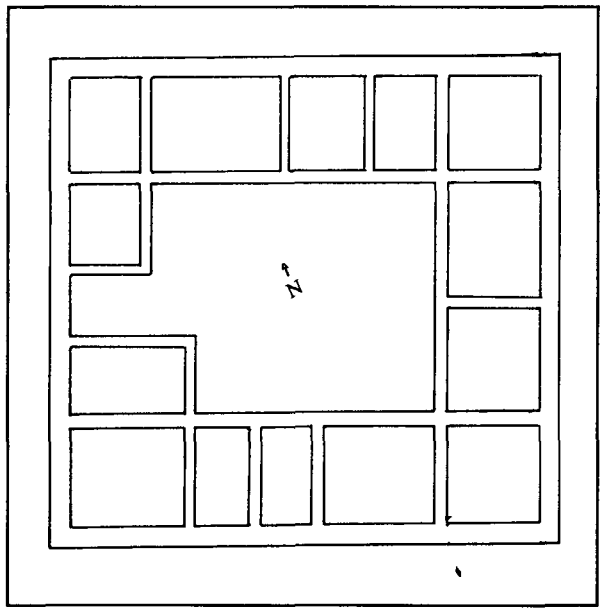
Unfortunately, we have no inscriptions—save one fragment discovered before 1900 (Germer-

Durand 1895: 588); for reading—to tell us what sort of administrative structure was present in the village of Esbus. The site size may not have exceeded 2 ha., though size estimates based on the limited soundings done at Tell Hesban are probably very imprecise. It is unlikely that a village this small would have had a large or complex administrative system. Nor do we know whether second-century Esbus was independent or dependent. And if dependent, upon what city? Philadelphia? Madaba? Both of these latter cities began to mint coins (*i.e.* be autonomous) before Esbus—Philadelphia in the reign of Titus (A.D. 78-81) and Madaba in the reign of Septimus Severus (A.D. 192-211). The implication of Esbus' right to mint coins (under Elagabalus, A.D. 218-222) might suggest that Esbus was not previously autonomous, but does not prove it. In any case, Stratum 13 Esbus, though not a grandiose hellenized (romanized) city, may well have provided a political and economic focus of modest importance by the middle of the second century or later, a village in most respects typical of many others in Syria (see Cumont 1936: 621-622).

The two most prominent structures at Stratum 13 Esbus would have been the hilltop fort, repaired and reused from Stratum 14, and a newly-constructed inn. Regarding the former, because of the subsequent reworking of the acropolis in later periods, little at all (and virtually nothing interpretable) has survived of the inner structure of the fort from the early Late Roman period. Walls A.9:88, A.11:3B, and A.11:48B, built originally in Stratum 14, were reused. It can be safely assumed that there were interior rooms for the quarters of officers and soldiers, storerooms, cooking areas, and the like (compare the "courtyard pattern fort" of Tuweyl el-Mahdi [Applebaum and Gihon 1967: 38 and fig. 1] and the *quadriburgium* at En-Boqeq [Gihon 1974: 258, fig. 67; Sauer 1973a: 52]. (For schematic representations of these two sites, see figs. 4.6 and 4.7.)

The fort at Esbus was apparently never equipped with corner towers with extreme salience. A 0.5 m projection on the north-east and south-east corners of the perimeter wall (about 7 m long on the north, and about 5 m long on the east) might possibly represent the remains of towers (see fig. 4.5). If towerless, the Esbus fort was presumably so because the earliest Roman structure adopted intact the lines of an earlier, towerless, fort.

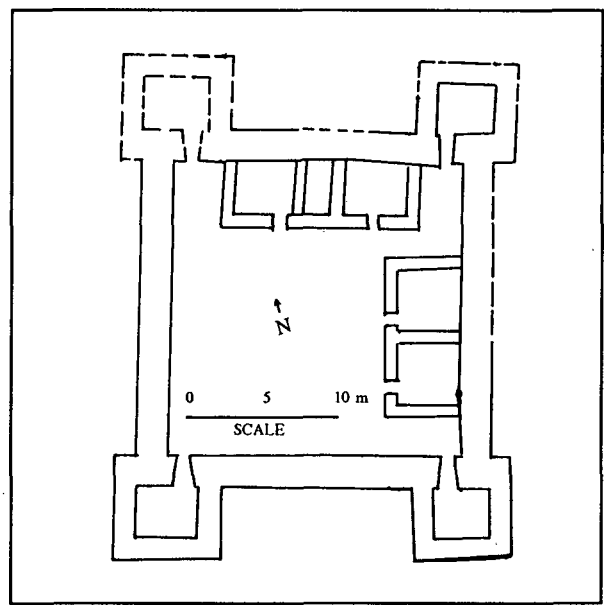
Figure 4.6 Courtyard Pattern Fort, Tuweyl el-Mahdi (after Applebaum and Gihon 1967: fig. 1); Not to Scale.




However, in fairness, it must be pointed out that not one of the Esbus fort's four corners has been excavated. This should eventually be done.

The "inn" at Esbus, a new structure built over fill that covered the destroyed bedrock of Area D,

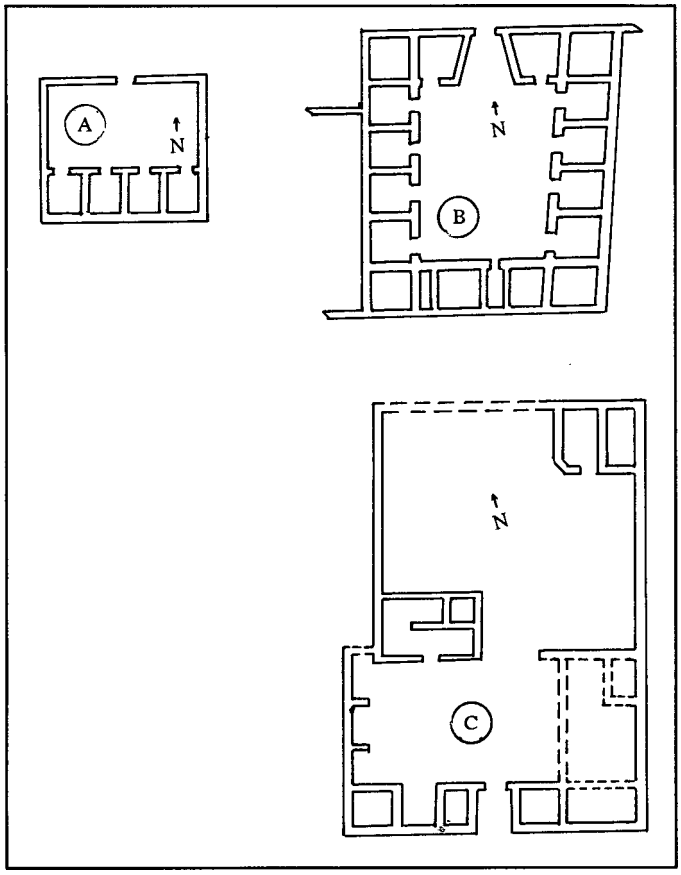
Figure 4.7 Fort with Four Corner Towers, ᶜEn Boqeq (after Gihon 1974: fig. 67).



survived in a series of rooms and a well-worn gateway in Squares D.2, D.3, and D.4. This building can be roughly reconstructed from what survives, though a more precise view of the complex will have to await further excavation south of Square D.4 and west of Squares D.2-D.3. Interestingly, exactly one-half of the 16 coins from Stratum 13 loci came from Squares D.3 and D.4, providing an accurate indication of the economic centrality of the entrance to the enclosure.

It seems unlikely that a full square of rooms around a central court was built in Stratum 13 (though it is not impossible, of course). Syrian parallels are given in fig. 4.8. The site of Gebel Says, about 70 km east of Damascus, shows a great variety of inn complexes, some rather small (3-5 rooms; see fig. 4.6A, above), and some large (15-20 rooms; see fig. 4.6B, above). Furthermore, several types of construction were used, some with rooms on all four sides, others with rooms only on one side. But virtually all these complexes feature an enclosed courtyard (Poidebard 1934: pl. 57 and also pl. 107:B). What is also probably an inn at Qasr Seyqal (fig. 4.6C, above) has a doorway into the central courtyard which only lacks an outer door or doorway to provide an example of a covered entryway with two doors, or doorways (Poidebard 1934: pl. 18). Unfortunately, the dates of these Syrian complexes are unknown; none were excavated stratigraphically. A second century date for them is not unreasonable.

Figure 4.8 A-B: Probable Inns, Gebel Says, Syria; C: Double-wall Entryway, Qasr Seyqal, Syria (after Poidebard 1934: pls. 18, 57); Not to Scale.




There has been some discussion about the function of the *huwwar*-layered so-called "plaza" or "roadway" of Area B (Beegle 1969: 122-123; Sauer 1973: 49-57, 64-65; Sauer 1975: 153-154; Sauer 1976: 40, 52-53; Sauer 1978: 43-44). The idea of an open-air market place ("plaza") at first appealed to me. The "roadway" interpretation, while surely possible, has problems regarding construction technique, especially in the light of the description of the nearby Esbus-Livias road bed: two parallel rows of tightly fitting curbstones on the average 6 m apart, a slightly higher center row of tight-fitting stones, and in between these a layer of cobbles sloping down from the center to the edges of the road (Waterhouse and Ibach 1975: 225-226). On the assumption that roads close to the city would be similarly constructed, it is quite unlikely that what we have in Area B is a roadway. Sauer has noted a similar caution (1973a: 49, n. 47).

The most reasonable interpretation of these superimposed *huwwar* layers in Area B is that they formed the repaired and periodically relaid pavement for the courtyard of an inn, entrance to which was gained, probably solely, by the gate complex in Square D.4 (see fig. 4.2, above). The nature and function of the bases ("podia") of Square B.1 (B.1:153 and B.1:154), which were apparently contemporary with the building of the gate complex (Sauer 1976: 43; 45 and fig. 8; 46; 52), are not known and actually present something of a puzzle for the favored interpretation of this complex.

Stratum 13 Esbus may also have functioned as a *horreum*, a storage depot for agricultural products (taxes in kind, primarily) for use by an army on the march (Daremberg and Saglio 1900: 268). However, if it did the evidence has surely not been recovered so far.

That part of the gateway into the Stratum 13 inn which survived most intact (D.4:32B) exemplifies a building technique that was apparently not uncommon. The stones which formed the doorjamb itself were very carefully tooled and joined. The wall that continued the line northward was made of very roughly worked stone, probably originally plastered over (D.3:16B). A very similar technique is used on Room 1 (Wall/Door Jamb D.2:104). Compare the like masonry at Mampsis (Negev 1967: pl. 7B). This parallel may suggest residual Nabataean masonry influence at Esbus, but the evidence is not overwhelming. For a lintel much like that of D.4:100, see Crowfoot and Fitzgerald (1929: 46 and fig. 14).

The use of limestone chips (often from quarrying) rammed or rolled into a hard paving surface was known in the west as well as the east (Forbes 1955a: 148). The surface would not be as resistant and durable as stone paving, something which becomes evident in the multiple thin layers and local patches that characterize the *huwwar* of Stratum 13 (and later) Esbus.

Though in general the architecture at Esbus in Stratum 13 represented a rather modest achievement, it is probable that throughout the second century, important villages such as Esbus attempted to emulate the sophistication of the larger cities of Syria—consciously or unconsciously (Cumont 1936: 637).

## The Social and Economic Context

The social history of the provinces of Syria and Arabia in the second century is interesting and varied, though it must be indicated that original sources are still meager—especially for *Provincia Arabia*. It was during the increasingly ineffective regimes of the late Antonines that a number of issues arose. With the spread of the privilege of Roman citizenship through the empire's provincials, the distinction between Rome and the provinces was reduced (Weber 1936: 365). By the middle of the second century, brigandage, apparently virtually absent for a century (to believe the inscriptions), again became a subject of concern and eventually a major social problem (MacMullen 1966). It is likely that the great differences in social and economic status between the city-dwellers and the poor peasantry contributed to this crime wave, though eventually Roman troops were enticed into the lifestyle, turning against their former role of policing brigandage. Some brigands became genuine folk heroes.

The population of first century A.D. Syria-Palestine has been variously estimated. Cumont suggests a combined total of five or six million as a minimum (1934: 189). It is probable that, under the generally favorable conditions of the first one-and-a-half centuries of the present era, the population rose steadily, but to say by how much would add conjecture to estimate.

In the middle of the second century, a disaster struck the East: in A.D. 165 a plague broke out among Roman troops under Cassius in Seleucia. The next spring the disease was carried into Syria and it spread from there through Asia Minor and Egypt, to Greece and Italy (eventually reaching up into Europe). It is not to be doubted that this plague had its effect on the population figures for Syria and Arabia, but how many (or what percentage) of its people perished is not known (Weber 1936: 348).

The second century saw the beginning of a steady rise in the wage/price structure (*i.e.* inflation). A few examples should suffice to demonstrate this. In early first century A.D. Palestine, a vineyard worker earned one *denarius* per day. Before the middle of the fourth century, such a wage was up to 6-10 *folles* (12-20 *denarii*)—and this at greatly devalued coinage! Wheat, which in the first century might cost less than one *denarius* per *sea* (13.13 ℓ), by the mid-second century cost between two and four *denarii* and apparently held around four *denarii* per *sea* into the early third century. Olive oil, which Josephus gives as two imperial *asses* per amphora in A.D. 66/67, by the mid-second century was between 2 2/3 and 3 2/3 *asses* (Heichelheim 1938: 178-183; Jones 1953). Once the Roman navy had secured the safety of shipping in the Mediterranean, sea lanes again boomed with trade (as they once had under the Phoenicians). Syrian merchants and craftsmen were soon to be found from east to west in pursuit of trade advantages. Many returned to their homeland wealthy and used their money to buy estates (Cumont 1936: 633-634).

How much of this sort of cash influx affected Esbus is unclear, but there were certainly more attractive locales in which to invest in land. We know that textiles continued to be an important

industry in the eastern provinces (Cumont 1936: 627-628). If the industry continued to be an important factor in the economy of Esbus, the type of loom in use must have changed. As has been suggested in chapter 2, the relative absence of loom weights in Stratum 13 suggests the warp-weighted looms of the Iron/Persian and Hellenistic periods (and perhaps the Early Roman period as well) might have been replaced—presumably by one with a wood frame.

The interpretation made of the 1.15 m-wide wall in Square C.5 (C.5:60) and associated walls as a Roman defensive tower has been called into question (see above, on the stratigraphy of this stratum). In light of the increased trade in and around Esbus, several more specific objections to the "tower" interpretation can be added.

First, it is likely that the Roman road past Esbus, whether it was the *via nova* itself or a spur, was probably routed to the east of the tell, perhaps close to the route of the modern Naur-Madaba highway. This is in accord with Roman practice to hide the line of a road (and thus the traffic on it) out of sight behind a ridge. If so, the tower would not overlook the road. Second, as has been mentioned, the door of the "tower" is located peculiarly with respect to strength and defensibility. The door, if of a tower, should have been located on the east side of the room, not the west as it was (unless the road passed *between* the tell and the Squares C.4/C.5 "tower"). This complex, except for the massiveness of its north and east walls, seems more likely domestic than defensive. The very nature of the north wall (C.5:60 [= C.1:49]) deepens the mystery, if anything. Was there once a defensive line at this point that was later incorporated into a house-builder's plans?

**Conclusion**

Stratum 13, the beginning of which is marked by a destructive earthquake, closed on a much more promising note. There is little or no evidence to show a sitewide event of such proportions by which to mark the close of the Stratum. Rather, an arbitrary dividing point has been made between the end of the reign of Commodus and the beginning of the emperorship of Septimus Severus, who again turned his favorable attention to Rome's provinces—with predictable results.

# Chapter Five

# TELL HESBAN STRATUM 12: *CA.* A.D. 193-284

Chapter Five

# Tell Hesban Stratum 12: *Ca.* A.D. 193-284

The development evident in Stratum 13 Esbus was continued into the period of Stratum 12, which was, roughly speaking, the third century A.D. It appears that some important building projects were carried out, suggesting that the town was prospering at least modestly. No drastic changes were made to the town's basic plan, to judge from the excavated areas. Even the impressive masonry on the summit followed the lines of former walls wherever possible.

## Stratum 12 Stratigraphy at Tell Hesban

Evidence for Stratum 12 occupation represents, without much doubt, the most extensive settlement of the site up to its time. Though no excavations which yielded Stratum 12 loci were carried out on the north side of the tell, on the north-west flank of the ridge crowned by Tell Hesban (and south-west of the tell proper), Probe G.15, located nearly 300 m from the primary bench-mark on the tell, contained three Stratum 12 layers near bedrock (loci G.15:32, G.15:33, G.15:34). This of course does not prove that the Stratum 12 settlement solidly occupied the intervening area, but may at least indicate less dense occupation out that far. A more substantial series of loci in Probe G.1 (some 80 m southeast of the acropolis) tends to confirm the widespread nature of Stratum 12 occupation.

On the tell itself, though the number of Stratum 12 loci is not necessarily impressive, the nature of them certainly is. In Area A, especially the west part (from Squares A.5/A.6 west), Roman architecture is found. Of particular interest is the Roman temple and related walls. In Area D, Stratum 12 loci are limited to the extreme ends: Squares D.6 and D.4. Area B Stratum 12 loci consist only of additional layers over the so-called "plaza." And in Area C, evidence for Stratum 12 is concentrated in the lower five squares (fig. 5.1).

Much of the Roman temple architecture will have to be reconstructed on the assumption of symmetry, since the Islamic bath complex was built directly over much of it (and the latter has not been removed). Even so, it is possible to suggest, probably with a fair degree of reliability, the outlines and some details of this important structure.

## Stage C: Construction Stage

### Area D

The complex of rooms in Area D which had been built in Stratum 13 continued in use. It clearly appears that Stratum 13 Room 1 in Square D.2 (formed by Walls D.2:21A [pl. 5.1], D.2:55A and D.2:55B, D.2:85, D.2:81, and D.2:104) continued to be used on into this period. A tumble layer lying on the surface of the last Stratum 13 floor (D.2:89

Figure 5.1 Stratum 12 Significant Remains.

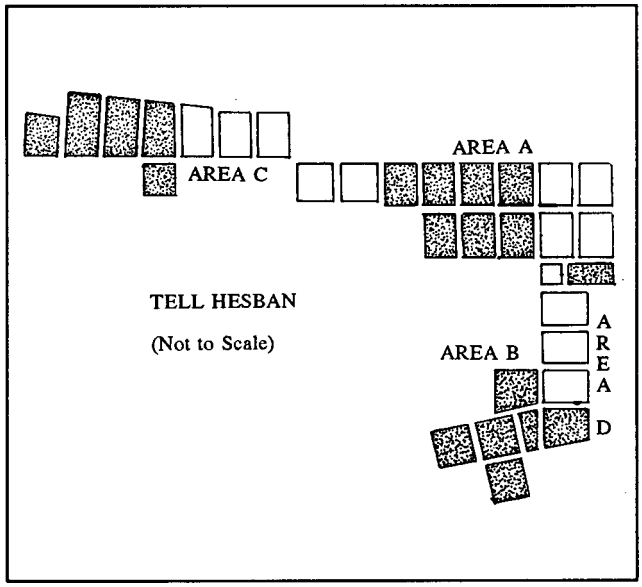


Plate 5.1 Wall D.2:21.

and D.2:90) underlies the sole Stratum 12 floor (Floor D.2:88 of Stage B). The next room to the south, Room 2 in Square D.3, also shows the same succession of floors. In the north of the square (behind the Stratum 11 stairway which was preserved as excavated) the earliest Stratum 12 floor (Floor D.3:60 of Stage B) sealed against both Wall D.3:16A, with its possible Foundation Trench D.3:77 (= D.3:82), and Wall D.3:47A, on the west. This floor was followed by at least one additional use surface (Surface D.3:59 of Stage B), which may match a similar layer in Room 3 (Surface D.3:49 [= D.3:95 of Stage B], over Fill Layer D.3:97).

The surfaces between Wall/Threshold D.4:83 (= D.4:86 = D.4:103 [= D.4:100]) and Wall/Threshold D.4:32B (= D.4:45 = D.4:109) continued to carry east-west traffic into the courtyard of what is believed to be an inn (cf. pl. 4.9). As the new layers were added, the level of the resurfaced gateway rose (Surfaces D.4:92 and D.4:85 of Stage B), though unlike the western door threshold, the threshold of the eastern counterpart was never completely sealed over.

East of the outer (eastern) doorway in Square D.4, there are a number of problematic surfaces and layers (loci D.4:30A, D.4:30B, D.4:30C, and D.4:30D). Though these have all been assigned to Stratum 12, Stage C, some may belong to Stage B (D.4:30B and D.4:30D *over* D.4:51) or even the following stratum. (In Square D.1, Wall D.1:45, abutting Perimeter Wall D.1:4, was apparently still in use [though related Stratum 12 surfaces were not reported] it was still standing in Stratum 11 when it was sealed by Surface D.1:44.)

Plate 5.2 Cobblestones over Wall G.1:24.

The probe south and east of Area D (Probe G.1) showed evidence of Stratum 12 occupation. A very patchy cobblestone surface (pl. 5.2) was laid down over an Early Roman Wall (G.1:24 [= G.1:27]). A drainage channel with nearly 10 degree drop

(0.50 m vertical drop in 3.20 m) carried water from an unknown source on the west-northwest to an equally unknown destination (possibly a cistern) east-southeast of Probe G.1:23 (pl. 5.3). Retaining Wall G.1:21 and Cobble Surface G.1:15 may belong in Stratum 11; the evidence is unclear. Lateral exposure was insufficient to determine the function of these remains in Probe G.1.

Area B

Over almost the entire sector excavated in Area B, Stratum 13 *huwwar* surfaces were followed by equivalent Stratum 12 surfaces, implying that, whatever the function of the installation, it continued to serve the same, or an indistinguishably similar, purpose (B.1:13 [= B.2:31 = B.3:29 = B.7:30 = B.4:41]; Soil Layers B.4:68, B.4:69, B.4:112, B.4:116—actual stratum assignations for these loci vary from Stratum 13 to Stratum 13/12 to Stratum 12, indicative of their transitional nature).

Area C

In Area C, the sector west of Wall C.5:77, with Door C.5:199 (pl. 5.4), shows a series of new soil layers, both north and south of the east-west wall which seems to have provided a protective

Plate 5.4 Wall C.5:77 and Door C.5:199.

Plate 5.3 Drainage Channel in Probe G.1.

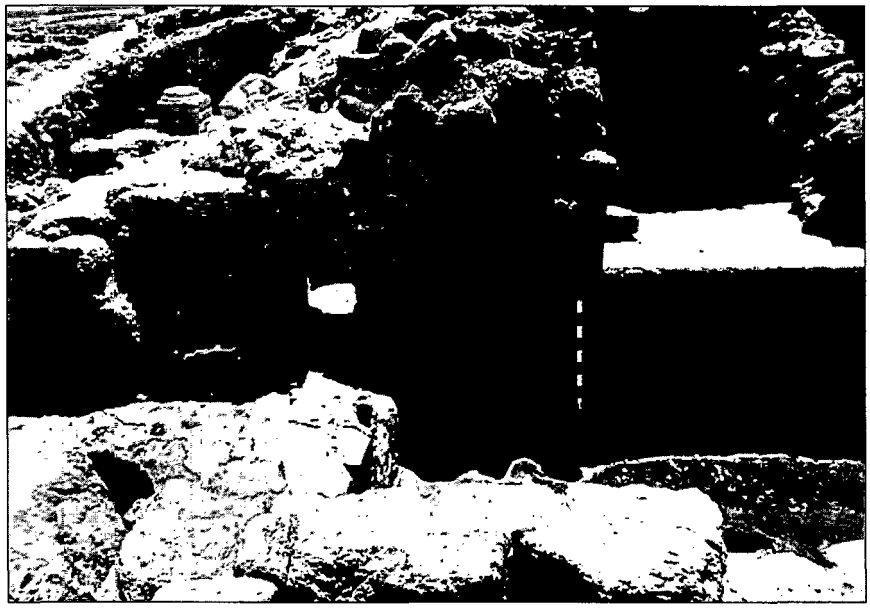
entryway to the door into the Roman building (C.5:123, C.5:124, C.5:126, C.5:139, C.5:154; Wall C.5:82B [built in Stratum 13] and its facing Wall C.5:186). The major walls of this structure remained in use, in both Squares C.5 and C.1 (C.5:60 [= C.1:49], C.1:63 [= C.1:40]).

In Square C.7, a doorway was added to the south end of Wall C.7:44 (C.7:81) as an entrance to the Square C.7 cave complex. A number of soil layers attest to activity around the area in front of the mouth of Cave C.7:86 (C.7:78, C.7:83, C.7:84, and C.7:85). Only a few other Stratum 12 loci were found in Area C (C.2:36 and Wall C.10:20).

Area A

The Roman building on the acropolis, as has been noted earlier, was constructed following the line of some of the walls of earlier structures. The Stratum 12 masonry is, however, very distinctive,

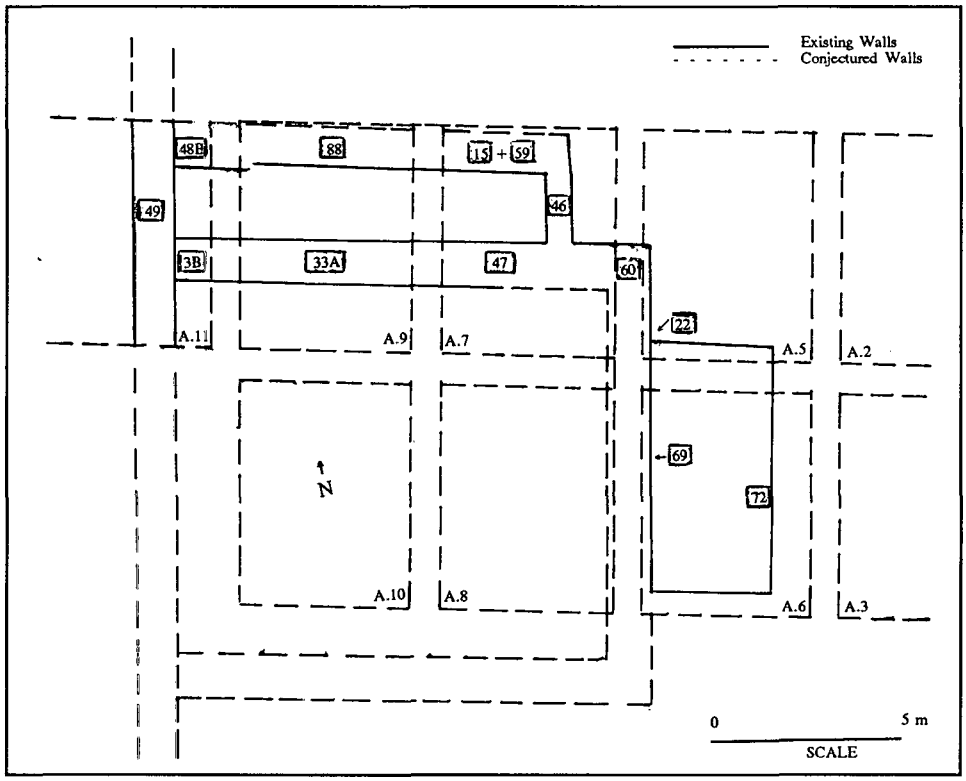
Plate 5.5 Stratum 12 Masonry in Squares A.7-A.9.



being finely cut and tightly set without mortar, and approximately 1.40 m thick (pl. 5.5). The building itself has not been fully uncovered, but assuming the architecture is somewhat symmetrical something can be stated about its dimensions (fig. 5.2).

The estimated width of the structure is 16 m, taken north (Wall A.7:47 [= A.9:33A, sealed by A.9:107] = A.11:3B) to south. It measures 16.80 m from the front wall (A.5:22 = [A.6:69]) on the east to the east face of the perimeter wall (A.11:49) which forms its back wall (pl. 5.6). On the east side of the structure were found the few remains of what possibly was a portico at least 2.80 m wide (east-west if measured to retaining Wall A.6:72); but more likely 4.10 m wide with the substantial Header-Stretcher Wall A.6:65 (pl. 5.7) forming the eastern margin of the portico and the base for the front columns. This portico was perhaps 9 or 10 m long (north-south). Cobble Surface A.6:71 (with retaining Wall A.6:72 and Fill A.6:80) may be underlayment for the portico pavers. It is not known if there were any divisions in the internal structure of the large hall of the building. However, it is clear that at least one room, perhaps two (pl. 5.8-9), was built of somewhat inferior masonry on the north side of the main hall and shared its north wall (Walls A.7:47 + A.5:60 [= A.9:33A = A.11:3B]; A.7:46,

Figure 5.2 Stratum 12-11 Roman Temple.



A.7:57 [= A.9:88, sealed by A.9:108, = A.11:48B]). Problems relating to the unpreserved façade of the temple are discussed below.

A number of loci are of too fragmentary a nature to establish any sort of consistent view: A.5:11C (with Foundation Trench A.5:55), A.5:48, A.5:49, A.5:57, A.5:58, A.5:63, A.5:64; A.9:111, A.9:112; A.68[6W]:83, A.68[6W]:84; D.6:39-42, D.6:73; and G.1:26.

Stratum 12 Stage C loci east of Squares A.5/A.6 are really classifiable as miscellaneous (A.1:15; A.2:28, A.2:39, A.2:44, A.2:45; A.3:42, A.3:49; and A.4:31). The cave complex in Square A.1 may have been used in Stratum 12. In fact there are some parallels between it and Cave C.7:86 with regard to the wall and doorway placed just outside its entrance. However, if it was used, it was later cleared (completely) for reuse during Stratum 11.

**Stage B: Use Stage**

Areas D and B

During Stratum 12 the eastern doorway in Square D.4 (D.4:32B = D.4:45) was modified a bit. Apparently the level of surfaces to its east (outside the inn) had risen markedly. In Stratum 13, the east side of Door Sill D.4:45 had been sealed by a soil layer (D.4:44) which formed an almost unbroken surface at the top level of the sill. In Stratum 12 a step was added (D.4:51, sealed by D.4:41 and possibly D.4:33) which rose about 0.33 m above Door Sill D.4:45. Additional *huwwar* surfaces were laid down in the space between the two doorways (D.4:85). In Area B perhaps only two surfaces belong to this Stage (B.7:28 and B.4:113). The rooms of Squares D.2 and D.3 accumulated various surfaces before the building of the stairway put them out of use permanently (D.3:49 [= D.3:95], D.3:58, D.3:59, D.3:60; and D.2:88).

Plate 5.6 Stratum 12 Wall A.6.69.

Plate 5.7 Header-Stretcher Wall A.6:65.

Plate 5.8 Stratum 12 Wall A.7:47.

Locus D.3:59 produced one small object (No. 1624), a cone-shaped stone seal 19 mm in diameter and 17 mm high. A string hole pierced the upper part of the cone; the seal surface formed its base. From the available photographs it is not clear that the seal (now at the Department of Antiquities of Jordan) has any letters.

Plate 5.9 Stratum 12 Wall A.7:57.

Area C

In the west end of Area C, this stage is marked primarily by the accumulation of soil layers and surfaces (loci C.5:108, C:5:122, C.5:127, C:5:128, C.5:133 [= C.5:137], C.5:135, C.5:141, C.5:143, C.5:166; C.1:25; C.7:77; C.10:18, and C.10:40). In Square C.7, the three rooms of cave C.7:86 were clearly in use, probably as a dwelling (Soil Surfaces C.7:88 and C.7:90).

Area A

Though few remains of Stage B survive in Area A, there is a notable exception in Square A.9. Between the north wall of the Stratum 12 Roman structure (A.9:33A) and the northernmost wall of the complex (A.9:88), two rooms, mentioned above (Stage C), were excavated and recorded under the descriptions "northwest room" and "southwest room." Two floors (A.9:106 and A.9:90) were laid successively in the so-called "southeast" room. In the northwest room, one such floor was uncovered, but not excavated (A.9:101).

This pattern is repeated just to the east, in Square A.7, where a surface or floor seals against three Stratum 12 walls (A.7:78 sealing A.7:46, A.7:47, A.7:57). A crude fire pit was cut into the floor adjacent to the north wall (A.7:77). Another possible fire pit was cut in Stage C fill in Square A.5 (A.5:52); that particular pit and a remnant of *huwwar* surface (A.5:30) comprise the total extent of Stratum 12 loci which can be related to the

large Roman public building in western Area A. The remaining loci in the eastern four Area A Squares are quite fragmentary and, without apparent exception, unrelated to any of the surviving architecture (A.1:31, A.1:32; A.2:30, A.2:31, A.2:33, A.2:34, A.2:43; and A.3:48).

In Probe G.12, one Stratum 12 locus (Soil Layer G.12:22) was also cut by the Stratum 11 foundation trench for Wall G.12:25.

### Stratum 12 Tombs

Before turning to a fuller discussion of these two possibly intersecting data, the burial practices of this period will be briefly summarized. A fuller discussion of the Tell Hesban necropolis may be found in volume 10 of this series.

On the basis of the fact that changes in tomb architecture, toward the chamber/arcosolia type (Waterhouse 1973: 114), are to be dated to the end of the Late Roman or the beginning of the Early Byzantine periods, I have concluded that Stratum 12 burial practices did not depart much from those of Stratum 13.

Tombs excavated in 1976 which produced pottery from this stratum's assemblage (Late Roman II-III, roughly third century A.D.) include F.27, F.31, (possibly) F.34, and Cave F.38.

### Stage A: Destruction/Transition Stage

Stratum 12 at Tell Hesban was closed out by the construction efforts of Stratum 11 builders. In Area A, little evidence of this stage is seen (A.2:21, A.2:29), but to the south, in Squares D.2, D.3, and D.4, there is evidence that at least a short period of time elapsed between the destruction of the Area D rooms and the construction of the Stratum 11 stairway. Especially noteworthy are the pockets of sand in tumble locus D.2:73 suggesting exposure of the locus during a rainy period. A less rubbly layer was deposited over the Stratum 12 floors in Room 3, Square D.3 (D.3:48 [= D.3:94]), except on the east near Wall D.3:16A (D.3:96). See also Square D.4 tumble locus D.4:94 in the southwest corner of the square (pl. 5.10). In Area C the only clear Stage A evidence comes from soil accumulation in the entrance to cave C.7:86 (C.7:68, C.7:95).

Loci of Stratum 12 assigned no stage include: B.4:117, B.4:119; C.2:25, C.2:30, C.2:42, C.2:43; C.5:8, C.5:121, C.5:140, C.5:144; C.7:87, C.7:89; C.9:58; C.10:19, C.10:43; G.1:22; G.4:101; G.12:16, G.12:24; G.15:35.

### The Roman Acropolis Structure

Though the evidence is admittedly tenuous, it may be possible to make a few suggestions regarding the Roman structure on the acropolis. The starting points are two: first, wall remains of outstandingly fine masonry, and second, the Esbus coin with a temple façade on the reverse side.

To consider first the latter, one can either posit a generally faithful reproduction of an actual building at Esbus, or a more stylized presentation of Roman temples in the East. The choice will materially affect the reconstruction made. I am, for purpose of argument, assuming that the Esbus coin gives a reasonable image of the façade of a Roman

Plate 5.10 Stage A Tumble in Square D.4.

temple which actually existed at Stratum 12 Esbus. More specifically, I am assuming this temple had a central pillared platform with four columns, a façade which incorporated an arch between the innermost columns (technically, an "arcuated lintel").

Regarding the former of the two evidences (the extant Stratum 12 masonry), we have noted above that the wall which would have formed the front of a portico or platform carried traces of what have been interpreted to be the positions of column bases (see pl. 3.8). From the positions of these breaks in the wall it is possible to reconstruct a likeness which is reasonably similar to the façade pictured on the Esbus coin.

### Architecture at Tell Hesban

Two of the most interesting and significant remains of Stratum 12 Esbus are intimately co-related. These are (1) the impressive archaeological remains of Area A interpreted here as a Late Roman temple, and (2) the so-called "Esbus" coin (Terian 1976: 133, 139 [no. 249]) with its representation on the reverse, of a prostyle temple, the façade of which is provided with an arcuated lintel—a common enough Syrian architectural form (Price and Trell 1977: 19), also called a "Syrian" arch (Boëthius and Ward-Perkins 1970: 441).

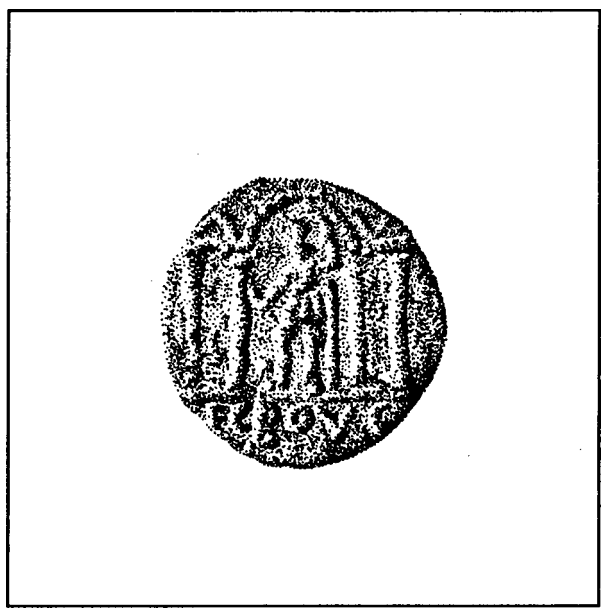
Regarding the temple itself three questions arise. First, what was the appearance of the acropolis temple? Second, when was it built? And third, by whom was it built (or, under whose authority and financing)? Unfortunately the available data leaves much unknown in the search for answers to each of these questions. We shall treat in their order: *appearance* first, then *date*, and finally *means*.

First, it must be repeated that the assumption has been made that the Esbus coin presents (1) a temple actually built at Esbus and (2) a reasonable facsimile thereof. There is no way at present of proving or disproving this twofold assumption. On the probability that Coin 280 (Object No. 2104; Terian 1976) is from the Esbus mint, we have additional evidence for an arcuated lintel (fig. 5.3).

There are, of course, precedents for city coins which show a local temple or shrine, but this alone does not prove the second part of our assumption (reasonable facsimile), since in some cases two different coin issues have represented the temple *with* and *without* an arcuated lintel (Price and Trell 1977: 19-21). The use of an arch, at the same time exaggerating the distance between the two central columns, may have simply been an artist's device to provide a larger space in which to depict the deity of the shrine. To be fair, examples of other coins attributed to Elagabalus (A.D. 218-222), one

Figure 5.3 Esbus Coin, Obverse.

Figure 5.4 Esbus Coin, Reverse.

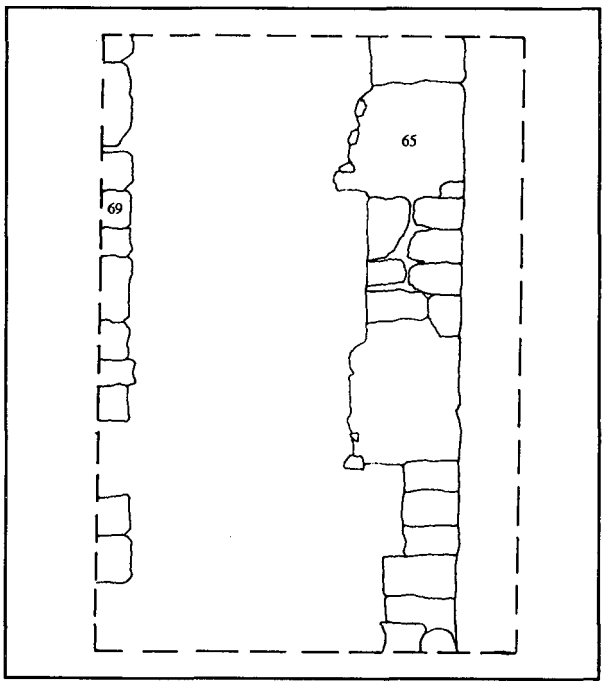


from Eleutheropolis and the other from Anthedon (Mediterranean coast north of Gaza) have such similar temple motifs on the reverse as to cast doubt on the validity of using the Esbus coin to show what the temple there "must have looked like" (Hendin 1976: 117, 118; *cf.* coin 226 [Antoninus Pius], p. 115).

Second, to return to the matter of a date for the temple itself, two general possibilities present themselves. It could be argued that the temple itself was originally built during Stratum 13, perhaps during the rein of Hadrian who provided funds for many such projects. Then during the intervening 80 or 90 years, the shrine grew in importance and prestige until the reign of Elagabalus (A.D. 218-222). When an Esbus mint was authorized in his reign, the obvious subject for the reverse side of some coins was the *by-then-famous* temple of Esbus.

On the other hand, it could be argued that the city officials, upon the granting of city status and the authorization to mint coins, wished to commemorate on their monetary issue(s) the *newly-completed* temple. In this situation one might look for the (beginning of the) building of the Stratum 12 temple to the reign of Septimus Severus (A.D. 192-211), with his increased interest in the eastern empire, especially Syria, and his native Africa (Miller 1939: 24). The latter era, which begins with Septimius Severus' reign, has been accepted here as the more likely context for the building of the acropolis temple, given the available ceramic evidence which dates the exposed walls.

Figure 5.5 Plan of the Stratum 12 Temple Portico.




Third, the question of who paid for this construction cannot be answered authoritatively with the available primary data. Villages and certainly cities had the right to erect public buildings, including temples, with public funds. Whether the Esbus temple was erected with local money only, or (as we have rather assumed above) with some outside—imperial—aid, is not known.

The architectural pattern of the temple which emerges is one of a nearly square building (north-south estimated 16 m, east-west 16.80 m) with two rooms on its north side, and apparently a prostyle-tetrastyle entrance on the east, with a slightly wider spacing between the two innermost columns (fig. 5.5). No interior walls have been excavated, thus the internal structure of the temple is unknown.

And of course nothing can be known for sure regarding the superstructure. As has been recognized, the use of an arcuated lintel on the so-called "Esbus" coin may involve artistic license. If, however, it does represent the actual façade of the Stratum 12 temple, there are parallels in Syria to such an architectural feature.

At Baalbek, the entrance to the court before the temple of Jupiter Heliopolitanus completed around the middle of the second century incorporates an arcuated lintel (Boëthius and Ward-Perkins 1970: 417-418 and fig. 156; Brown 1961: pl. 40). For an early example, perhaps the earliest in a classical context in Syria/Arabia, note the Nabataean temple of Dushara at Si$^{\supset}$ in the Hauran (dating to "last few decades of the first century B.C."; Boëthius and Ward-Perkins 1970: 438-444 and fig. 163).

Examples outside Syria include the arch of the Temple of Hadrian at Ephesus, *ca.* A.D. 117-125 (Boëthius and Ward-Perkins 1970: Frontispiece, 393); a small third-century temple at Pamphylia (Boëthius and Ward-Perkins 1970: 408 and fig. 155C); and in Rome, the Spalato, Palace of Diocletian, *ca.* A.D. 300-306 (Boëthius and Ward-Perkins 1970: pl. 272).

On this basis an arcuated lintel at Stratum 12 Esbus in the late second/early third centuries does

not seem impossible. Of course, no architectural fragments of such survived, or were recovered and reported to my knowledge, from which to reconstruct the actual form the façade took. It is probable that much of the material from the earthquake-flattened temple (A.D. 363) was salvaged for use in the building of Early Byzantine Esbus, including its earliest Christian church.

The northern two rooms of the temple, of uncertain use, have a parallel in a Dura-Europos temple which had a tetrastyle porch added in the early third century. This so-called "Temple of the Palmyra Gods" was built against the city wall with an enclosed courtyard in front (Boëthius and Ward-Perkins 1970: 449-451 and fig. 168). In this Dura temple, one of the two rooms (added along with the porch) opens onto the courtyard; the other (earlier) room is reached from the cella.

### Numismatics at Tell Hesban

Before speaking more specifically about the so-called "Esbus" coin, it would first be helpful to look at mints in Transjordan by way of placing the Esbus coins in context. (For a more comprehensive treatment of numismatics at Tell Hesban, see volume 12 of this series.)

During the period covered by Stratum 14 (particularly the first and early second centuries A.D.) two cities in Transjordan and one in the Negev began to mint coins. From the Negev city of Eboda (Oboda), only one coin is extant. It is one from the reign of Nero (A.D. 54-68). In Transjordan proper, the mint of the city of Philadelphia (modern Amman) produced its earliest coin during the reign of Titus (A.D. 79-81), its latest under Elagabalus (A.D. 218-222) or perhaps Severus Alexander (A.D. 222-235). And the city of Gerasa (Jerash) minted its earliest coin probably in the reign of Hadrian (A.D. 117-138), its latest under Commodus (A.D. 161-192) or Severus Alexander (A.D. 222-235).

Two cities, Adraa and Bostra, each opened a mint during the period basically covered by Esbus' Stratum 13. Adraa's earliest issue was apparently made in the reign of Marcus Aurelius (A.D. 161-180), and its mint was active until the mid-third century. Bostra began minting certainly as early as Antoninus Pius (A.D. 138-161) and perhaps as early as Hadrian's reign.

In contrast to the three first-century openings, and the two in the second century (pre-Severan), the period corresponding to Stratum 12 at Esbus (A.D. 193-284) saw the opening of six mints in Transjordan within 100 km of Esbus. Two of these, Dium (all but one coin from the reign of Septimius Severus [A.D. 192-211]) and Philippopolis, not far from Bostra (coins undated; city founded A.D. 244), interest us perhaps less than the other four. Of these latter mints the first (and northernmost) is Esbus itself, whose extant coins were probably all issued under Elagabalus (though some have been attributed to Caracalla). Types show on the reverse (1) a seated Zeus (Hill 1922: pl. 5:1), (2) the now-familiar city-goddess in her temple (see our fig. 5.3; also, Hill 1922: pl. 5:2), and (3) a seated god (Hill 1922: pl. 5:3). The coins make it clear that at this time the city was called *Aurelia Esbus*: Coin 2, p. 29, obv. AVTCMAVR-ANTONINVS; rev. AVPE ... (Hill 1922: 29). The obverse inscription is in every letter like the Tell Hesban "Esbus Coin." The reverse is to be read AVRELIA (it is not uncommon for eastern coins of this period to mix Latin and Greek characters). Another coin rev. reads: AV...l; OVC r. (Hill 1922: 29 and pl. 5:1). It is perhaps indicative of relative cultural levels of Esbus and Madaba, less than 10 km to the south, that the third type of reverse design on Esbus coins (Hill 1922: pl. 5:3) as well as its obverse both appear to be poor imitations of a very similar Madaba type (Hill 1922: pl. 5:9). If true, Hill's (1922: xxxiii, n. 6) interesting footnote about the appropriateness of worship of the Phoenician god Eshmun at Heshbon is vitiated since the Esbus engraver may only be borrowing a common numismatic motif.

The next city to the south which began to mint coins in this period was Madaba which apparently first minted in the reign of Septimius Severus (A.D. 192-211) and produced its last extant coins in the reign of Elagabalus (A.D. 218-222).

About 60 km south of Esbus, lies the city of Rabbathmoba (Old Testament: Kir-Moab). Coins available from this city belong to Septimius Severus and other Severan emperors, including (perhaps concluding with) Elagabalus (AVTOK. CC.A.ANTONIN.; [Hill 1922: 33, no. 3]).

The last city which began to mint in the period corresponding to Stratum 12 at Esbus is Charachmoba (modern Kerak); AVKAIMAVANTWNINO

on the obverse (Hill 1922: 27, no. 1). As at Esbus, the coins that have been published (three in the British Museum in 1916) all come from the time of Elagabalus (Hill 1916; 1922: xxxiii, 29 and pls. 5:1-3). (At this point, it should be remembered that there can be some confusion between coins and titles of Elagabalus and Caracalla. Elagabalus did take, perhaps following Caracalla, the title of Marcus Aurelius Antoninus [Miller 1939; Mattingly 1975: ccxlii-ccxliii], and the portrait of Elagabalus is assimilated to that of Caracalla [Mattingly 1975: ccxxix]).

One really wonders about the significance of four cities in central and southern Transjordan beginning to mint coins within a 20- or 30-year period. The Severan emperors in general, and Elagabalus in particular, were quite pro-eastern. This favoritism alone may account for new city foundings and coin issues (not all the above coins represent *new* cities or communities). But there may be more to it than just this. We have noted before that centralization in the Roman empire as a whole began to break down through the second century. This fact would certainly influence the phenomenon we are considering, namely the formation of new cities and activation of new mints, as provincial city governments picked up the administrative slack.

But further motivation may be necessary to explain the sharp increase in active mints in Arabia. We do know that through the third century A.D. Palmyra's importance and power began to rise as the value of trade shipped through her gates increased. Roman concern about her rising spirit of independence culminated in the sack of the city by Aurelian, A.D. 273. It is possible that attempts were made in the late second century to counteract the growing power of Palmyra by spreading out the trade network somewhat and encouraging shipping through other avenues, including southern *Provincia Arabia* (Petraea). The conclusion is admittedly speculative.

## The Economic Context

The late second and the third centuries (especially the latter) saw a continued inflation of prices and a continuing currency devaluation. This two-pronged economic reality had several long-term effects. Since country-dwellers usually owned their land, inflation tended to touch their lives less severely, though of course wages and prices kept rising (along with the prices they received for the goods they sold). (For a discussion of food systems specific to the Tell Hesban region, see volume 1 of this series.) However, city-dwellers, especially those who had invested in long-term loans, were hit considerably harder, since their mortgages were paid back in devalued currency. For example, a pound of gold in Nero's reign was valued at 1,050 *denarii*; by about A.D. 324 the same weight of gold was valued by the government at 100,000 *denarii*, and soon went to 300,000 (Jones 1953)!

Furthermore, while *ad valorem* taxes of the empire (trade customs, shipping tolls, etc.) continued to rise as values inflated, the *tributum*, the empire's head tax and its most important source of revenue, apparently remained at a rate fixed in Vespasian's reign (Jones 1953) and consequently produced an effectively decreasing income. Since the empire came more and more to lack sufficient cash for military payrolls, the use of in-kind payment of goods requisitioned from producers, city governments, or purchased at low, imperially-set prices, increased. (It became standard policy later under Diocletian.) The general economic malaise was to have repercussions as Rome continued to sag under inflation and regularly expended money it could not afford to spend, on wars it could not afford not to fight (Jones 1953).

## Conclusion

It is during the years represented by Stratum 12, to judge in part by the remains on the acropolis, that Roman Esbus begins to come of age. During this period of the site's history, the city is granted the right to mint its own coinage, represented in our excavations by the so-called "Esbus" coin discussed above. It is most likely during this period also that Esbus erected a temple, possibly the one represented on the Esbus coin. It may now be safe to speak of Stratum 12 Esbus as a "city." Assuredly, it was not in the same class of cities as were Philadelphia (Amman) and Gerasa (Jerash), but it apparently enjoyed certain of the rights and appurtenances of cityhood. And Esbus was yet to reach its *ultima*, for as we shall see in the chapter which follows, Stratum 12 was closed out by the construction efforts of Stratum 11 builders.

# Chapter Six

# TELL HESBAN STRATUM 11: *CA.* A.D. 284-363

Chapter Six

# Tell Hesban Stratum 11: *Ca.* A.D. 284-363

The period of history covered by Tell Hesban Stratum 11 seems to present some real contrasts. While Esbus appears to be about as well off economically as it had ever been, the empire in general was suffering under runaway inflation. At Esbus, it was at the beginning of this stratum that a major rebuilding began.

## Stratum 11 Stratigraphy of Tell Hesban

In Stratum 11, additions were made to the Roman structure (temple) on the acropolis and a magnificent stairway of monumental size replaced the Stratum 13-12 ramp as the south access route to the acropolis complex. At the foot of the stairway, an even more extensive plaza was laid, which covered that part of Room 3 (in Square D.3) not covered by the stairway. On the western slope of the tell, continued use of earlier buildings and walls is demonstrated by the accumulation of floors and soil layers over Stratum 12 remains.

The date for the beginning of Stratum 11 is somewhat arbitrary. The latest coin in Stratum 12 loci is one probably issued under Elagabalus (B.1:13; Object No. 2104) which would place it around A.D. 222 at latest, with the stratum closing out at some time after that. Since there is no clear stratigraphic break across the tell, the date of A.D. 284 was selected with respect to the beginning of the reign of Diocletian who began a reorganization of the empire of major proportions.

Though the beginning date for the stratum is somewhat uncertain (and stratigraphic horizon is somewhat arbitrary), the end of it seems fixed quite well. A destruction of some sort tumbled the wall on the east side of the great stairway, signaling the end of the stairway's use. This destruction has been interpreted to have been caused by the earthquake of A.D. 363 (possibly A.D. 365) which wreaked much havoc at Kerak, about 70 km south of Esbus (Kallner-Amiran 1951: 225; Russell 1980a). This event also apparently destroyed the temple on the acropolis, which was never rebuilt as a temple.

Field techniques (including the records kept) in some squares and seasons in Area A have sometimes made it difficult to decide the assignation of particular archaeological remains. Though this is troublesome, expressly where the Byzantine and Late Roman materials meet (Strata 10/11), J. Bjornar Storfjell (who prepared Strata 10-5 for final publication) and I worked out the important sequences which appear in these final reports. The reconstruction we present is reasonably satisfactory and quite defensible, though it does differ somewhat from the preliminary reports.

The primary evidence for Stratum 11 comes from Area A Squares A.1 through A.6; Area D Squares D.2, D.3, and D.4; Area B Squares B.1, B.2, B.3, and B.4; and Area C Squares C.5, C.7, and C.10 (fig. 6.1).

Figure 6.1 Stratum 11 Significant Remains.

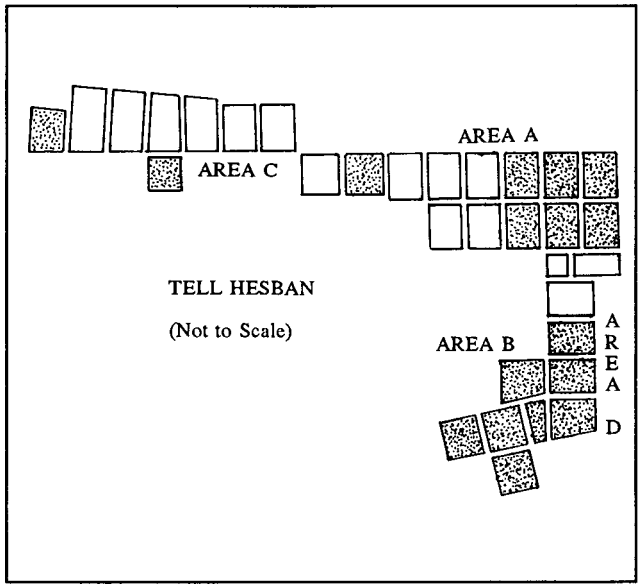
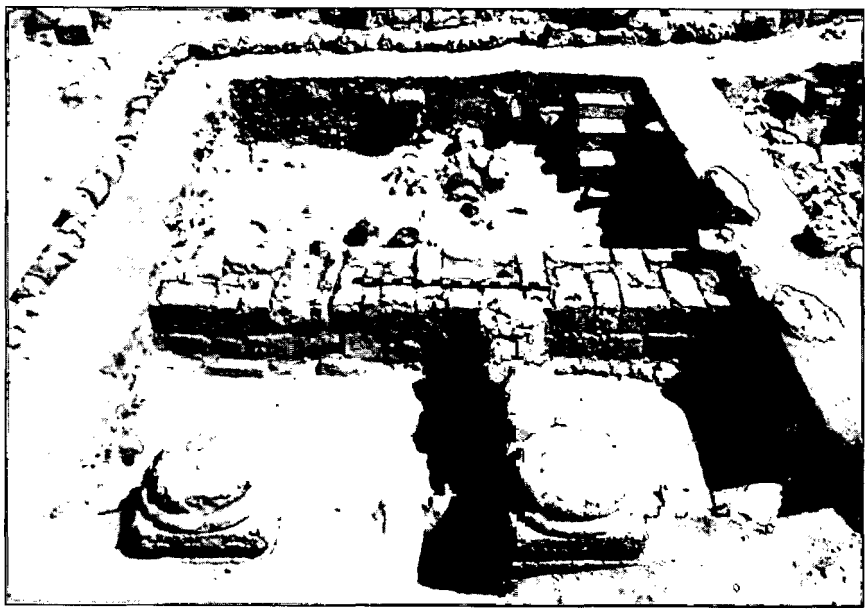


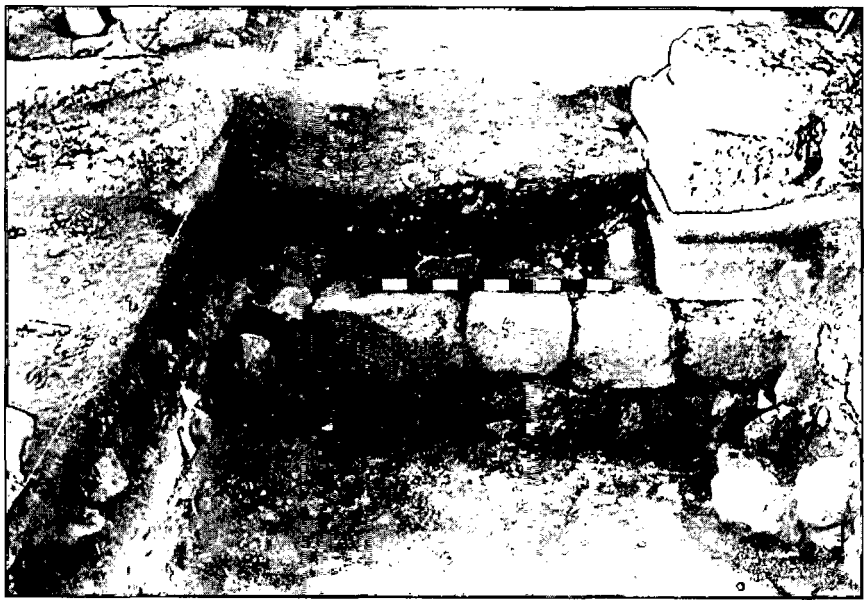
Plate 6.1 Pillar Bases in Square A.2.



### Stage C: Construction Stage

Stratum 11 brought what appears to be a new surge of construction on the acropolis and on the southern flank (Areas D and B). However, this period of renewed building activity was not necessarily occasioned by widespread destruction on the site. Rather, it appears to have been motivated by civic interest or pride, probably accompanied by an improved economic picture. This judgment rests in part on a lack of evidence across the tell for a violent destruction of Stratum 12 remains.

Plate 6.2 South Balk, East End of Square A.2.

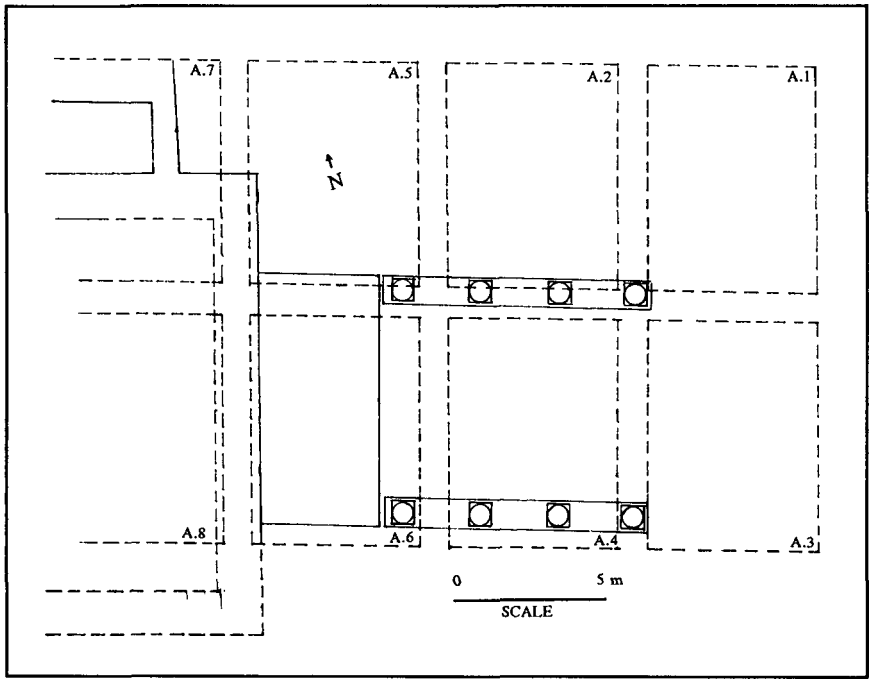


Area A

The temple built in Stratum 12 continued in use (loci A.6:69 [= A.5:22, A.11:3B = A.9:33A = A.7:47], A.11:48B [= A.9:88 = A.7:15 +A.7:57], A.11:49, and A.7:46). In the area of the acropolis in front (to the east) of the temple portico, a double colonnade (Pillar Bases A.2:2 and A.4:45 [pls. 6.1 and 6.2]) was built on stylobate walls. The northern wall line, Wall A.2:49, with Foundation Trench A.2:47 (= A.5:29), and the southern wall line, Wall A.3:67 (= A.4:12 = A.6:68), with Foundation Trenches A.4:29, A.4:37, A.6:70 (and related soil and *Huwwar* Surfaces A.4:24 and A.4:160), extended eastward from the front foundation wall of the portico, Wall A.6:65 (Stratum 12-11), with Soil Layer A.6:75 and possible Foundation Trench A.6:81, for an unknown distance, but at least some 9 m. These walls were built over fill loci A.2:18B (= A.2:25), A.2:23 (= A.2:40), A.2:32; A.4:30; A.5:65 (= A.5:66 = A.5:91), and A.5:92.

The stylobate walls appear to be lined up close to the north and south ends of the portico. This placed them approximately 7.75 m apart, measured center-to-center (fig. 6.2). How this colonnade terminated on its east end is not known; extensive later Byzantine

Figure 6.2 Stratum 11 Colonnade, Eastern Area A.




building activity possibly disturbed it, though the stylobate walls may have only reached to what ultimately was the apse of the Christian church on the acropolis (*cf.* the similar phenomenon in the so-called "Propylea Church" at Jerash; J.W. Crowfoot 1935). It is entirely possible that there was another entrance to the acropolis complex from the east which would explain the direction and extent of the colonnade, though the size and execution of the south stairway (see below) might seem to speak against that hypothesis.

Though it does seem a bit incongruous, it appears that a cave complex in Square A.1 was in use in Stratum 11 (A.1:44/A.1:67). Inside it were evidences of domestic, or possibly industrial, use (see below, Stage B). Whether this complex was accessible from the open air or as part of a building which covered it is not known. Features of this complex include Wall A.1:24, Lintel A.1:52 (pl. 6.3), and Carved Entrance A.1:61, along with Walls A.1:69 and A.1:70 (pl. 6.4) which may have divided the caves into rooms.

The following are miscellaneous Area A Stage C loci: A.1:72; A.3:34 [= A.4:18]; A.3:41, A.3:46; and A.5:31.

Areas D and B

Stairway B.7:20 (= D.3:39 = D.2:32) which led up from the south, represents a fine piece of masonry (pls. 6.5, 6.6, and 6.7; and fig. 6.3). The stones are evenly-cut and nicely-laid on rather massive fills of soil, and, in Square D.2, on carefully positioned stone (Boraas and Geraty 1978: pl. 10:A; D.2:31 [= D.2:32S = D.2:35 = D.2:36], D.2:40, D.2:43, [possibly] D.2:58, D.2:60, D.2:72, [possibly] D.2:80B, [possibly] D.2:107; D.3:43, D.3:50, and D.3:51).

In Square D.4, the east-west entrance way was put out of service by a crude wall (D.4:32A, D.4:32C, D.4:78, with Foundation Trench D.4:91) which completely blocked-up the surviving portion of the eastern doorway (D.4:32B

Plate 6.3 Lintel A.1:52.

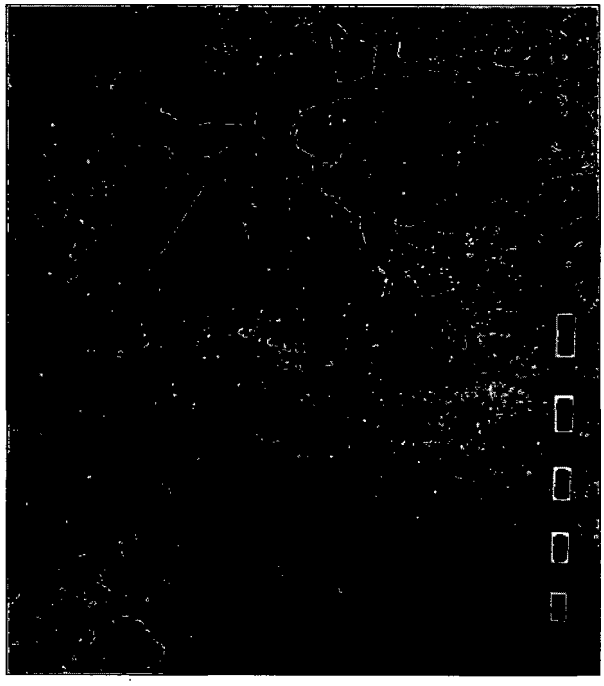
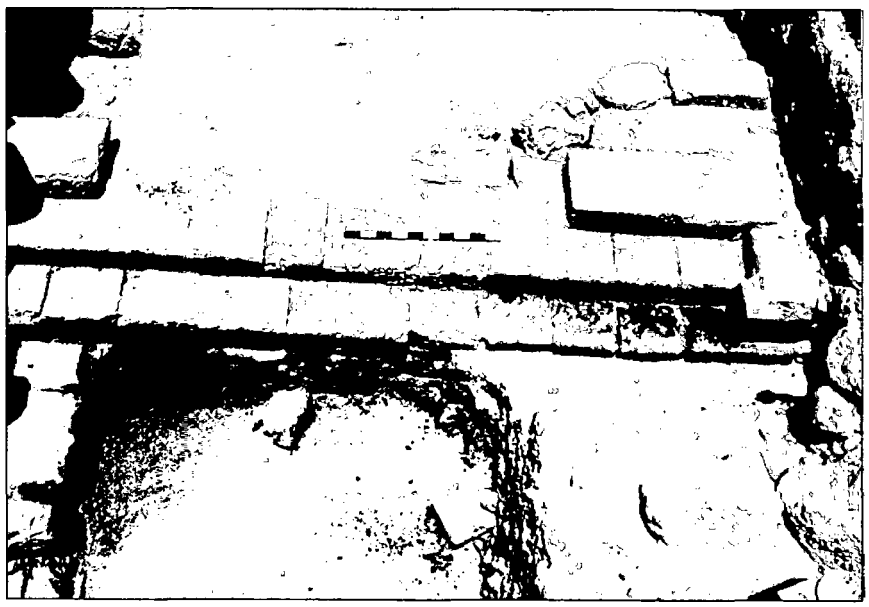


Plate 6.4 Dividing Wall A.1.70.

Plate 6.5 Stairway B.7:20.

[= D.4:45]; pl. 6.8). The western doorway was buried under the rising *huwwar* layers. On the basis of the even stratigraphy in Squares B.7, D.3, and D.4, which appears to lack debris typical of a violent destruction, it seems likely that the building of the stairway was preceded by the purposeful dismantling of the Stratum 13-12 inn.

Plate 6.6 Stairway D.3:39 (Viewed from Above).



The preserved door in the south stretch of the Perimeter Wall D.1:4 (pl. 6.9) presents a puzzle. The surviving stairway in Squares B.7/D.3 is well over 11 m wide, measuring from Wall D.3:16A on its eastern end; with the west end robbed away, it is not actually known how wide it was originally. But the sole doorway (in Stratum 10-5 Wall D.1:4C) to which this stairway leads is only about 1.5-2 m wide. It is possible, though not probable, that Wall D.1:4D did not protrude above the level of

Plate 6.7 Stairway D.2:32.

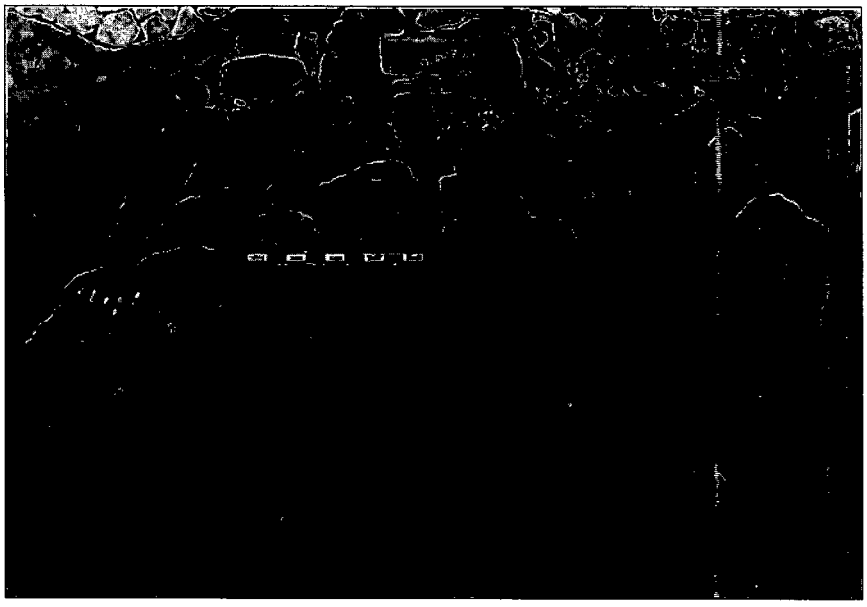
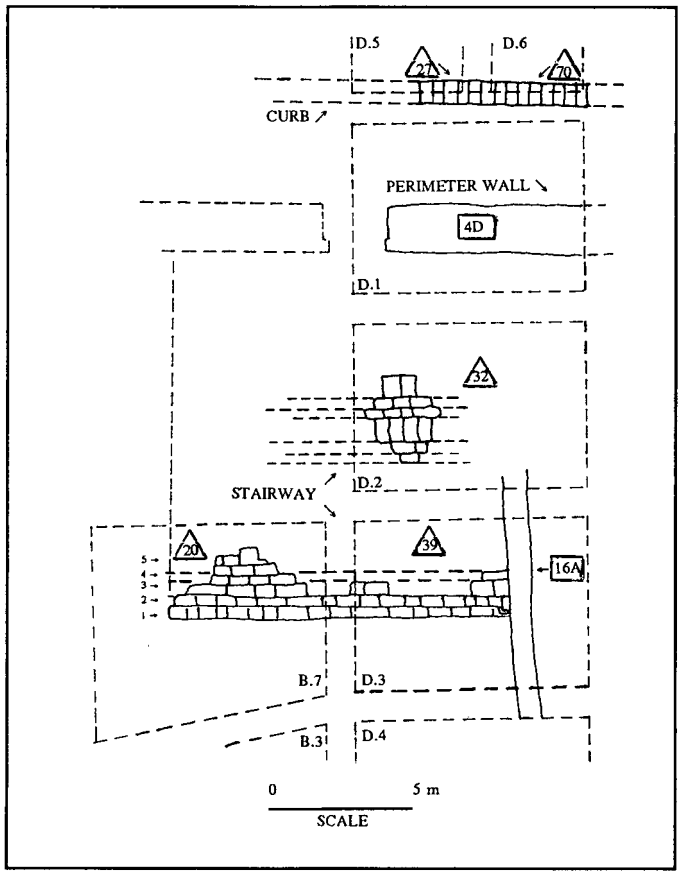


Figure 6.3 Stratum 11 Features in Area D.




ground north of the wall during this time, the remnants of earlier Wall D.1:4D only serving to retain a summit platform which was open on at least one side—the south—and perhaps on the east and north as well. However, given the nature of temple complexes in provincial Syria and Arabia, this seems unlikely. It is not unknown for wide stairways to lead up to relatively narrow doorways into public buildings and courtyards (see, for example, Boëthius and Ward-Perkins 1970: 418 and fig. 156).

In Squares D.5 and D.6 north of the perimeter wall, a line of curb stones was installed parallel to the wall and about 4.45 m north of it. This curb was well-worn, especially on its north (inner) edge, suggesting it may have defined a platform of sorts from which people entering the acropolis complex from the monumental stairway must step down (D.5:27 [= D.6:70]; possible Foundation Trench D.6:74). That this curb line indicates the front of a series of stalls which may have lined the periphery of the complex is not clear, but a stub of Wall D.1:45 (pl. 6.10), abutting the north face of Wall D.1:4D, makes this a possibility. Wall D.1:45 was last sealed by Soil Layer D.1:44 (D.1:35 = D.6:69). Parallels for such architecture are found at temple complexes in Petra (Browning 1973: 142 and fig. 83; 202 and fig. 135) and elsewhere. The only other Stratum 11 locus in Square D.6, Soil Layer D.6:62, is too discontinuous to be helpful in our interpretation.

That the stairway was in service for some time is indicated by the steady rise in level of the *huwwar* layers which seal against the bottom steps, slowly putting the lowest two out of use. (See the Square D.3 west balk section, fig. 4.3.) Eventually this accumulation also served to

Plate 6.8 Crude Wall Blocking Eastern Doorway.

save the surviving steps; they were buried deep enough to discourage further Byzantine-era stone robbing. These same layers of accumulation, of course, covered the so-called "plaza" of Area B over and over again (see below under Stage B).

Area C and Probe G.12

The so-called "Roman tower" in Squares C.1/C.5 (Walls C.1:40 [= C.1:63], C.1:49 [= C.5:60], C.5:77, and C.5:82B+C.5:186) continued to be used in Stratum 11, as evidenced by new soil layers associated with Doorway C.5:199. In addition, Wall C.5:190, in line with Wall C.5:77, was built on Stratum 11 Layer C.5:223 (or C.5:220), and Soil Layers C.5:224 and C.5:225. Wall C.1:12, with Foundation Trenches C.1:31 and C.1:44, and Walls C.10:20 and C.10:50 complete the new additions in Area C for this stratum; none of these suggest any particular use, though the area is more likely domestic than defensive, including the so-called "Roman tower" of C.1/C.5 (as I have argued above). In Square C.7, Wall C.7:44 was still in use, north of the entrance (C.7:81) to the Square C.7 cave.

In the probe on the flat shelf south-west of the summit of the tell (Probe G.12), a full series of Stratum 11 loci was excavated (Wall G.12:25, with Foundation Trench Complex G.12:28, G.12:30, G.12:32, G.12:34A, G.12:35A, G.12:36A, and G.12:37A). A large, well-built wall (width not known) was bonded into the neck of a large cistern. The foundation trench for Wall G.12:25 was cut down through Late Hellenistic Stratum 15 debris layers. Just what purpose this wall fulfilled is not clear; it was exposed by excavation only on its east face.

**Stage B: Use Stage**

As has been indicated, numerous additional *huwwar* layers were laid down

Plate 6.9 Preserved Door in Perimeter Wall D.1:4.

Plate 6.10 Curb Line with Soil Layer D.6:69.

on the so-called "plaza" of Area B and Squares D.3/D.4 in Stratum 11 (pl. 6.11). These eventually covered the bottom two steps of the monumental stairway (D.3:40 [= D.3:44 = D.3:92 = D.4:35 = D.4:56], D.3:45 [= D.3:46 = D.4:38], and possibly also Soil Surface D.4:37 [= D.4:64]). North of the acropolis perimeter wall of Square D.1, a number of soil layers and surfaces sealed up against the curb stones in Squares D.5 and D.6 (D.5:21 [= D.5:25], D.5:22 [= D.5:23 = D.5:26]). Soil Surface D.2:42 was unrelated to any Square D.2 architecture.

In Area B, a comparable, but stratigraphically disconnected, sequence of layers attests to extended use of the so-called "plaza" through the end of the stratum (B.2:30, B.2:29, B.2:28, B.2:27 [= B.7:27 = D.4:38 = D.4:69], B.2:26, B.2:25 [= B.1:12]; B.1:11 [= B.2:24 = B.3:26 = B.7:26]; B.3:28; B.4:27, B.4:28, B.4:29, B.4:30, and B.4:32). The inn complex was no longer in use. Apparently, this plaza simply formed a large open area in front of the southern stairway to the temple complex, its purpose unknown.

The cave complex of Square A.1 appears to have been in use throughout the stratum. A curious installation was discovered in Cave A.1:44: a (probable) Roman nether millstone (pl. 6.12) was set upside down in a ring of bricks and stones, supported with its flat base forming a surface (A.1:64). Speculation as to its use includes an anvil (Boraas and Horn 1973: pl. 3:B; Harvey 1973: 30), or, as I suggest, a simple table top or counter; but its intended function is as yet quite unknown. An underground foundry or smithy (Harvey 1973: 30) seems interesting, but unlikely because of draft and exhaust problems such as a cave location would present. A fire pit and a number of soil loci complete the occupation evidence for the Square A.1 cave complex (A.1:62, A.1:66, A.1:71, A.1:73, A.1:74, and A.1:76).

Plate 6.11 Layers Seal Against Area D Stairway.

In the rest of Area A, use loci (Stage B) are limited to one possible wall (A.2:42) and a number of soil layers and possible surfaces, some of which seal against Stratum 11 Walls A.4:27 and A.4:28, but most of which have simply been designated "Stage B" from more subjective stratigraphic considerations

(A.1:26B, A.1:45; A.4:19; A.5:26, A.5:32, A.5:47, and A.5:77B).

Moving down slope through Area C, only one Stage B locus was indicated in Square C.10, a surface (C.10:14) east of Wall C.10:20. In the cave complex of Square C.7, clear occupation debris was excavated (loci C.7:64, C.7:65, and C.7:82). In Square C.5, additional surfaces accumulated to the west of Wall C.5:77 (C.5:92, C.5:100, C.5:106, and C.5:125) and south of Wall C.5:200 (C.5:212, C.5:214-217, and C.5:219-222), both sequences hinting at a rather consistent and prolonged use of the surrounding architecture.

### Stage A: Destruction Stage

Evidence from the foot of the monumental stairway is clear regarding the nature of the Stratum 11 destruction. In the drawing of the balk separating Squares D.3 and D.4 (Square D.3 south balk section, fig. 6.4 and pl. 6.13, and Square D.4 north balk section, fig. 6:5 and pl. 6.14), is visible a massive tumble (D.3:84 [= D.4:34], D.4:36, and D.4:53) spilled westward over the uppermost *huwwar* layers south of the stairs (pl. 6.15). The source of this material was most probably the retaining wall at the east margin of the stairs (D.3:16A).

Plate 6.12 Nether Millstone A.1:64.

Plate 6.13 Square D.3 South Balk, West Section.

The evidence is interpreted as being the result of the same earthquake which greatly damaged Kerak. The numismatic evidence supports this later closing date for the stratum. From locus C.5:219, an Early Byzantine soil layer, a coin of Constans I, A.D. 343 (Object No. 2940) was recovered (pl. 6.16). Unfortunately no coins were found in the latest *huwwar* layers south of the monumental stairway laid down before the earthquake. By the definition of a stratum adopted by the authors of the final period reports (Andrews University Heshbon Expedition 1977:1),

Figure 6.4 Square D.3, South Balk.

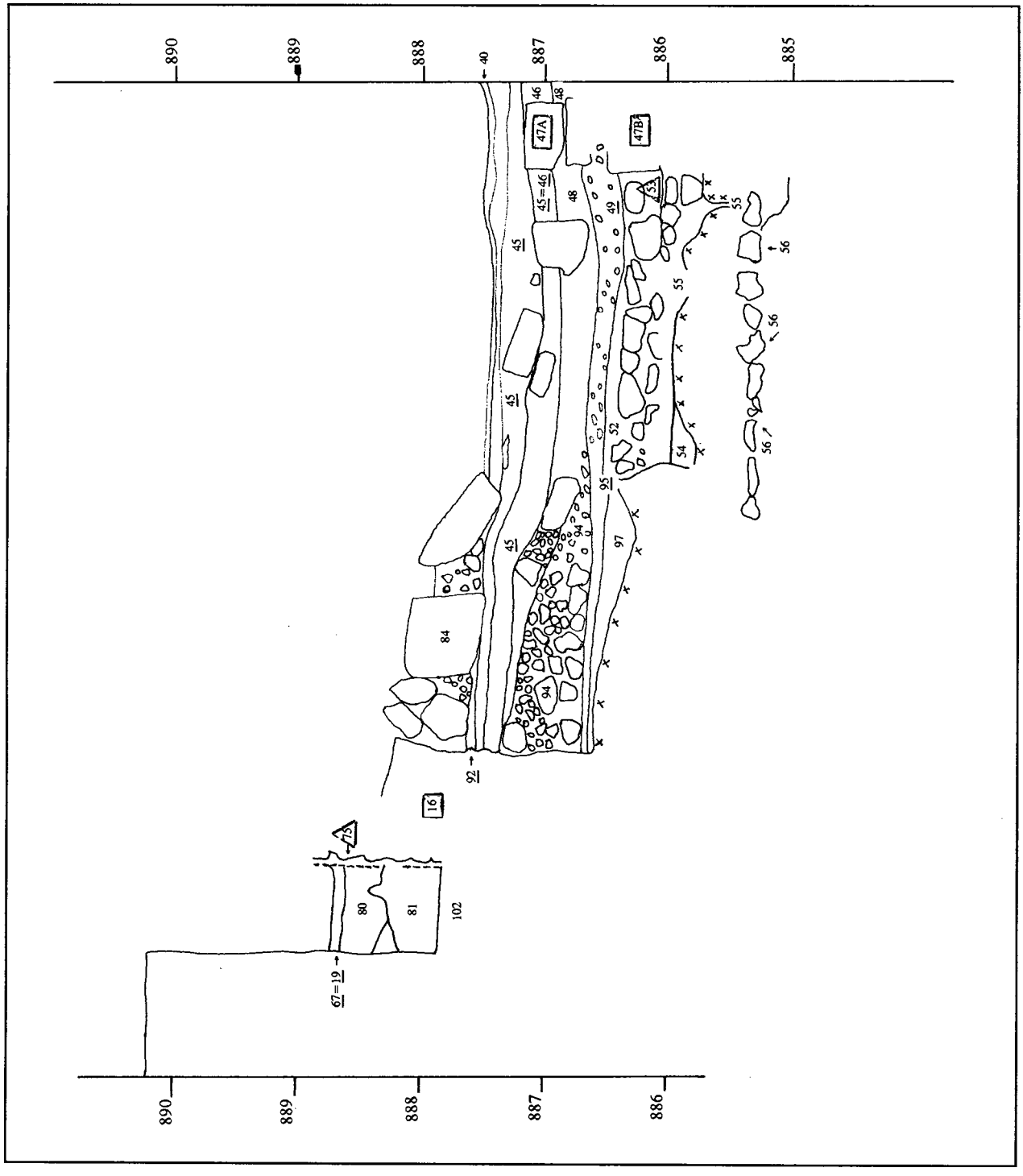


Figure 6.5 Square D.4 North Balk.

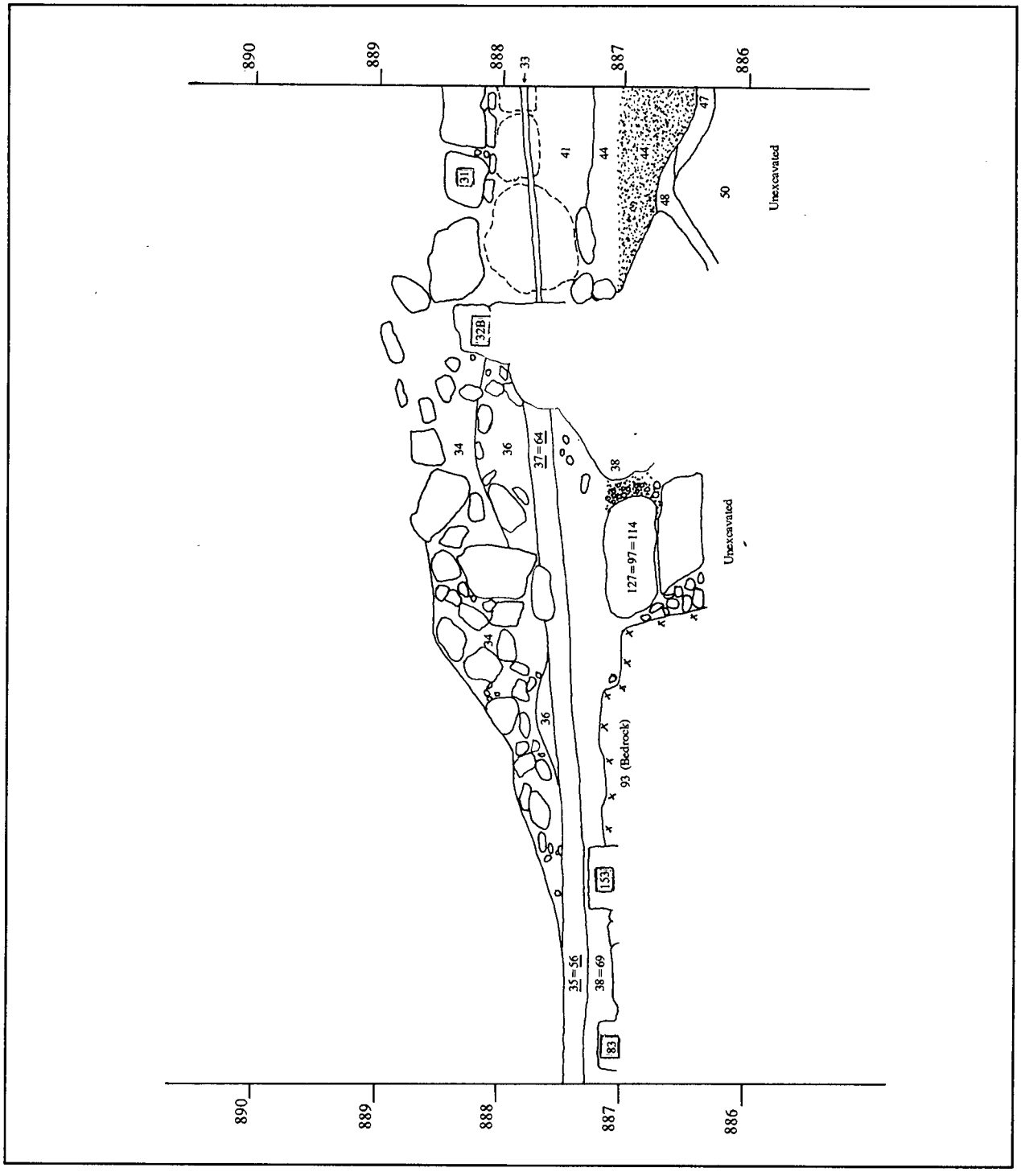


Plate 6.14 Square D.4 North Balk.

I have deemed it unnecessary to retain the separation of the three preliminary Early Byzantine strata (XII-XIV). Furthermore, these preliminary strata represent primarily, if not almost entirely, a rather localized phenomenon. Interestingly enough, another coin of Constans I also dated A.D. 343 (Object No. 1076) was recovered from an Area A locus assigned to Stratum 10 (locus A.5:23), thus effectively bracketing the stratigraphic break in the archaeological remains on the tell. An Ayyubid coin (Object No. 0546) from a questionable Stratum 11 locus (A.2:23) comes from a mixed context. Though the loci above locus A.2:23 are not Ayyubid/ Mamluk, it appears likely that the integrity of the locus can not be assumed. (For a more comprehensive treatment of numismatics at Tell Hesban, see volume 12 of this series.)

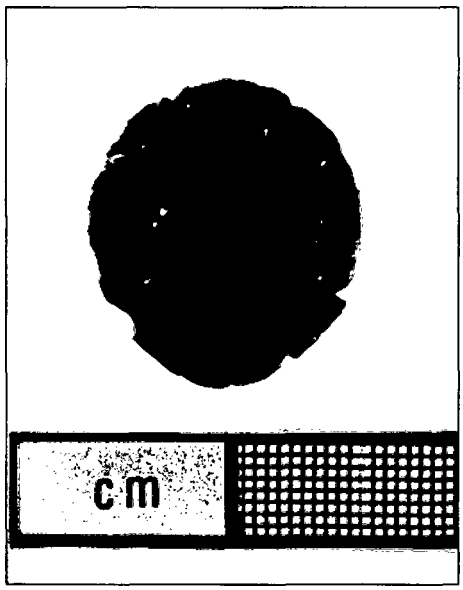
No other clear evidence for Stratum 11 destruction occurs on the site, with the exception of the cistern in Square C.5 (C.5:228) which was put out of use at the end of this period. For Area A, the assumption is that building activity (including earth-moving and stone-robbing) effectively obliterated Stage A evidence. In Area C, later Islamic building activity most probably is responsible for the lack of such evidence.

In terms of parallels, there is quite clear evidence for a pre-earthquake Early Byzantine occupation at ʿAraq el-Emir, less than 15 km north and east of Esbus. About 0.5 m of fill covered the first (lowest) Byzantine floor surface. An oven installed in the surface of the fill indicates continued occupation. This fill layer was then covered by earthquake tumble in the A.D. 365 seismic event (Lapp's date; 1962: 84).

In the publication of excavation results of Khirbet Ader (7 km northeast of Kerak), a similar picture is reported, with debris covering a floor, beneath which there were found "second or early third century" sherds

Plate 6.15 *Huwwar* Layers South of Stairway.

Plate 6.16 Coin of Constans I.




(Cleveland 1960: 84-85 and pl. 20). At Avdat, in the Negev, retaining walls were shattered and had been rebuilt by Byzantine masons (Negev 1961: 126). And finally, from Jerash, there are reports of a stair reconstructed perhaps as a result of its destruction, most likely in A.D. 362 or 365 (according to J. W. Crowfoot; 1931: 144).

Kenneth W. Russell argues for a date of May 19, A.D. 363 for the earthquake responsible for widespread destruction in Palestine (1980a: 47-64). He uses a letter of Cyril (published recently by S. P. Brock) to correct the date given in D. H. Kallner-Amiran's widely-quoted earthquake catalogue (1951, 1952). Numismatic evidence which Russell provides from the destruction level of a house in Petra generally parallels that from Stratum 11 at Tell Hesban (1980a: 48-49).

Actually, the crucial problem that concerns our site is not whether an extensive earthquake in Palestine is to be dated A.D. 363 or 365. The issue is where in the *stratigraphy* of Tell Hesban Areas B and D to locate this destructive earthquake. In his preliminary report on the 1971 season, Sauer identified this earthquake with his Stratum 6 (1973a: 48) and reiterated that position in his 1973 report (1975: 142-143). I have been unable to locate in the 1971 report the specific assignation of particular *loci* to Stratum 6. From Sauer's statement that "a 365/366 coin would suggest that the rock tumble and bricky red soil of Stratum 6 should be associated with a 365 earthquake" I would judge that the locus in question (among others, if there are any) is locus B.1:4 (containing the coin in question: Object No. 0115). If locus B.1:4 is the correct one, a "Stratum 6" date in the fourth century A.D. for this locus appears untenable: locus B.1:4 also produced a coin of Valentinian II (A.D. 375-392) and a Mamluk coin (A.D. 1453-1461) along with Arabic pottery (15 pails out of 15) and modern pottery (5 out of 15 pails). J. Bjornar Storfjell (personal communication, April 1980) was prepared to argue that Square B.1 was not necessarily dug poorly, rather that, by and large, the evidence of late material in B.1:4 must be taken seriously. (Interestingly enough, the locus is taken seriously enough by Sauer for him to accept the validity of the A.D. 365/366 coin.)

In my opinion, the ceramic evidence, for example in Squares D.3/D.4, is against moving the damage of the A.D. 363 earthquake upward well over 1 m through several soil layers. Sauer's extensive Area B section drawing (last updated following the 1973 season), in comparison with the present north balk section of Square D.4, makes my point sufficiently well: Surface D.4:35 (= D.4:56 [= D.3:40 = B.3:26 = B.7:26]) in all probability forms the last surface to serve the Late Roman monumental stairway. Of these loci, 20 pottery pails were read, resulting in one Early Byzantine ceramic call (in locus B.7:26) and one Early Byzantine sherd (in locus D.3:40). The following, *i.e.* next highest, loci (D.3:38, D.4:34 [= D.4:53], B.7:25, and B.3:25) appear to present a changing ceramic picture: 21 pails read, with 7 Early Byzantine ceramic calls (in loci D.3:38, B.7:25, and B.3:25). I believe the interface between Late Roman and Early Byzantine ceramics, dated by Sauer to A.D. 324 (Table 1.2), is to be found at, or stratigraphically very near, the interface of these two sets of loci. Of course this conclusion is based on field pottery readings and the accepted dates for Late Roman/Early Byzantine, but it seems reasonable to locate the A.D. 363 (possible A.D. 365) earthquake as Storfjell and I have, with tumble loci D.3:84 [= D.4:34] and related debris.

Loci which are assigned to Stratum 11, but to no specific stage assignment include: A.2:24;

C.2:29; C.5:226; C.7:66, C.7:80, C.7:86, C.7:101; C.10:32, C.10:33, C.10:35-39, C.10:56, and C.10:61.

## The Political, Social, and Economic Context

We move now from a strict analysis of Tell Hesban Stratum 11 to the broader historical and political context, a continuation of factors considered in chapters 2-5, regarding Strata 15-12. As in the preceding chapters, this consideration will allow the minutiae of Stratum 11 to be seen amid the ebb and flow of larger forces. Other aspects of this historical context may be found in volume 3 of this series.

The period represented by Stratum 11 at Tell Hesban witnessed great changes in the Roman world. This period arbitrarily begins with the reign of Diocletian who brought about a major reorganization of the empire (including the formation of *Palaestina III* from portions of the old *Provincia Arabia*). This period saw the first Christian emperor.

Some eleven emperors reigned from Diocletian to Valeus and Valentinian when Stratum 11 closed at Tell Hesban, several of them co-terminously (Diocletian, A.D. 284-305; Maximianus, A.D. 286-305; Constantius I, A.D. 293-306; Galerius, A.D. 293-311; Constantine I, A.D. 306-337; Magnetius, A.D. 337-353; Constans I, A.D. 337-350; Constantius II, A.D. 353-362; Julian, A.D. 361-363; Valens, A.D. 364-378; and Valentinian, A.D. 364-375).

### Political and Administrative Structure

As was mentioned above, Diocletian carried out a rather extensive reorganization of the Empire. This in all likelihood included splitting the Province of Palestine into three parts. Southern *Provincia Arabia* was removed from the latter's jurisdiction and added to *Palaestina III Salutaris* (Bury 1923: 131-132). In addition, governors of the provinces now came from the equestrian order, replacing senatorial governors. This reorganization had the effect of stimulating growth and building in Palestine (Gihon 1974: 260), as well as along the *Limes Arabicus*, where Parker found the highest number of occupied military sites precisely between A.D. 284 and 363 (1976: 31 and fig. 3). This pattern of increasing occupation into the Byzantine period is substantiated by the Hesban Region Archaeological Survey (Ibach 1978: 212; see also volume 5 of this series).

During this period the Roman civil service bureaucracy became more and more complex. The increase in bureaucracy was accompanied (quite naturally) by a great increase in paperwork, office jealousies, excessive rigidity and conservatism, featherbedding and absenteeism, financial corruption (to supplement overly low wages), and increasing lack of ambition and motivation. On the other hand, the civil service was not an unmitigated disaster. It did act as a check on the inexperience and greed of its superiors (just as was expected by the emperors). The civil servants were permanent while their chiefs were transient. Since the appointments of the civil servants were longer, they were under less pressure to get rich quick. And they usually felt more comradeship with provincials than would a governor (Jones 1964: 601-606).

We shall return to Esbus and its government below. For now it will suffice to set out the territory which from literary and milestone sources appears to have been under the administration of Esbus in Stratum 11. On the north, the area of Esbus bordered that of Philadelphia (Wadi Hesban or Wadi Kefrein), and on the west, it was bordered by Peraea. On the south, the territory of Esbus bounded that of Madaba (Avi-Yonah 1977: 177-178).

### The Economy

One of the critical factors of the Roman economy in the fourth century A.D. was the spiral of wage/price inflation and the steady rise in taxes. The nature of this inflation has been described above (Strata 13 and 12). But during the period covered in Stratum 11 the rising tax burden became a significant socio-economic factor. Because of increasing military pressure on the borders of the empire, Diocletian and his successors had to greatly increase (maybe double) the strength of the Roman army—perhaps as high as 650,000 men. This rise in the size of the military involved a concomitant rise in taxes, which in turn resulted in an increase in civil service jobs to process the

increased taxes. The additional civil service positions themselves, of course, added to State expenditures. The result was that taxes came to total as much as one-third of the gross production of a given piece of land—not counting the additional costs of the rather prevalent extortion and corruption (Jones 1970a: 129, 132). Themistius indicates (*ca.* A.D. 364) that taxes had roughly doubled in the past forty years.

Apparently one of the greatest effects of this greatly increased tax burden was to make farming in marginal areas unprofitable, since taxes must be paid in good years *and* in bad. Thus increased taxation resulted in progressive abandonment of arable land and therefore a decrease in the area actually under cultivation as well as a decrease in the total agricultural yield. A second result was the increasing depopulation of the countryside in the East and in Africa, as well, perhaps, as a depopulation of the Empire as a whole. By the mid-fifth century (a century after the close of Stratum 11), land-desertion rates ranged from 16% or 17% in northeast Syria to perhaps 50% in Byzacena (North Africa). Good reasons can be found for such high rates of desertion, such as soil depletion, farm-labor shortages, insecurity of border areas because of increasing raids. Though these reasons probably played a part, as early as the reign of Diocletian, Lactantius suggested that the primary cause of land desertion was the high rate of taxation. The reason North Africa was harder hit was that, contrary to practices in Syria and Palestine where land was classified by use (and within those categories was graded by quality), in North Africa all lands, marginal or not, were fully assessed (Jones 1959). Though the relationship is not clear, it is interesting to note that by the end of the fourth century, levies in kind were steadily being replaced by payment in gold, and issues in kind, principally to the troops, were replaced by gold payments. (For a more comprehensive treatment of food system strategies in the Tell Hesban region, see volume 1 of this series.)

In the late third and the fourth centuries a number of key industries were taken over by the State. For example, the State manufactured *all* arms. In the preparations for the campaign against the Persian king Vahram III (A.D. 296), a number of the arms factories in the East were established. In all, there were fifteen arms factories there, including facilities in the cities of Damascus, Antioch, and Edessa. In some cases the arms-factory work force, soldiers all, made up almost the entire population of the town. Quotas were assigned to workers: one metal smith, about whom we have a record, was expected to produce six bronze helmets complete with cheek pieces, as well as decorate another eight helmets with silver and gold—in thirty days (Jones 1964: 834-836; Mattingly 1939: 336).

The state also operated weaving mills, such as, for instance, a linen mill at Scythopolis. Such mills were managed by a procurator and manned by state slaves. Each factory was given a yearly quota, but since total mill output fell short of state demand, additional levies of garments were often made in the fourth century to make up the difference.

Stone quarrying, which had at the beginning of the fourth century generally been a private enterprise under government license, was first taxed by 10%— with another 10% going to the landowner (A.D. 382), and then taken over entirely by the State (A.D. 393). In some quarries convict labor was used (Jones 1964: 836-838).

Trade in the later Empire was apparently quite active. The high customs barrier, 25% in the first century A.D., was reduced to a less prohibitive 12.5% by the fourth century (or even the mid-third century). Beginning in the fourth century, exports of bronze and iron were prohibited. In fact at this period all foreign trade was closely controlled. There was a Minister of Trade assigned to the Orient (Syria/Palestine) and Egypt, who controlled the entire eastern trade. This control included designating specific trade cities: Nisibis, Callinicu, and Artaxata in the north, Clysma on the Gulf of Suez, and, during some periods, Iotabe (an island off Aila-ᶜAqaba) in the Gulf of ᶜAqaba.

Objects of the east-west trade came from India and China—live animals and birds (as curiosities), furs and hides, kashmir wool, musk, ivory, pearls and mother of pearl, gemstones, lace, and, most importantly, silk; spices (especially pepper), a little cotton, indigo, and precious woods; from Iraq and Iran—embroidered cloth and clothing, bitumen, dates, and gems; and from Yemen and Hadhramaut—incense, myrrh, balsam, and nard (Jones 1970b: 141-143).

Conditions for internal trade were reasonably good. There were no currency-exchange problems, since imperial coins were good everywhere. There was an excellent road network, maintained at government expense, and tolls were not excessive (2% or 2.5%). Monopolies and price-fixing were outlawed (except presumably when the state itself set maximum prices for grain or other commodities!). Shipping was handled by guilds of shippers. A freight rate of about 4% was not intended to cover all costs: favorable tax exemptions allowed the shippers funds for maintenance and capital investment. The government could charter private vessels to transport goods for the State, but those vessels had to have a capacity of 2,000 *modii* (500 bushels) or more. Since shipping rates were considerably lower than land-transport rates, commodities such as grain could travel by sea from one end of the Mediterranean to the other for less than it cost to cart the same goods a few hundred kilometers on land. For this reason sources of agricultural products had to be close to the coast or they simply could not compete in price (Jones 1964: 824-834). It is thus very unlikely that *Provincia Arabia* exported agricultural surpluses.

## Social Issues

Except for the western and southern coasts of Asia Minor, where Greek culture had penetrated well before Alexander's day, the "veneer of Hellenism" was quite thin. It remained an upper class monopoly. The peasants almost universally retained their ethnic languages. Even in towns the lower classes knew little Greek (Jones 1963: 111). This helps to explain why so many semitic place names in Syria, Transjordan, and Palestine survived more or less intact. They were never really lost in the vernacular of the peasants. *Aurelia Esbus* retained a semitic counterpart; in the Islamic period, the semitic name was simply reinstated.

It is probable, as noted above, that even by the time Diocletian came to power, the population of the Roman Empire had been reduced considerably—by a combination of factors: continual civil war and barbarian invasion with attendant devastation and famines, and the epidemic which began under Marcus Aurelius and recurred for the next fifty years. There is no major epidemic recorded after that until A.D. 542, yet the population of the empire appears to just hold its own or decrease throughout the fourth through the sixth centuries.

This depopulation hit especially at the peasant ranks. It was upon these groups that conscriptions exclusively fell. Their death rate from malnutrition was quite likely very high. And they were at the mercy of creditors in case of crop failure or destruction, with slavery a real possibility (Jones 1959). Though the connection between this decline in peasant population and the increasing burden of taxes cannot be proved, such evidence as there is suggests a direct connection. In the case of a number of recorded famines throughout the empire, it was the peasants who starved first and came into the towns for relief, since government stores and private granaries were located there (Jones 1970a: 135).

## Esbus

Regarding the town of Esbus itself, very little is directly known of its social, political, and economic affairs. What can be said, will be surmised from a general knowledge of central towns or cities of the period in Syria and Transjordan.

The fragment of one inscription has been reported from Tell Hesban. Seven letters carved on an architrave fragment were published by Germer-Durand before the turn of the century. The surviving inscription fragment reads:

> . . . σε[β]εσθαι (Germer-Durand 1895: 588; for a photograph, see Musil 1907: 385 and fig. 181).

Apart from this fragment of doubtful value, a Latin potter's seal (Langholf 1969), and poorly preserved Greek ostracon (Elderen 1975), no significant inscriptional material from the Roman or Byzantine periods has been recovered. There are, of course, milestones marking distances to Esbus in Greek or Latin (once, on an otherwise Greek inscription: *Esb[untes]*; Thompson 1917: 34-37, 67-68; Germer-Durand 1903: 432; Germer-Durand 1896: 614-615; Germer-Durand 1897: 591-592).

## Conclusion

By the time of Stratum 12, Esbus became a town (if not a modest city) probably undergoing a steady process of synoecism (centralization) beyond the period represented by Stratum 12 and on into the period of Stratum 11. This conclusion is inferred from the public works undertaken during the late third and fourth centuries. It is not at all impossible that the Stratum 11 colonnade added to the Stratum 12 temple represents for Esbus at least a spin-off of Julian the Apostate's attempt to re-establish pagan cult centers and pagan worship in the Empire. Apparently, the A.D. 363 earthquake was responsible for the termination of Julian's efforts to rebuild the Temple in Jerusalem (Russell 1980a). The pattern of political and economic alignments set up in the period of Stratum 12 very likely survived intact into that of Stratum 11, with Esbus continuing to serve as the central town or city for its district, with the administrative and economic position which that status implies.

# Chapter Seven

# Conclusions

## Chapter Seven

# Conclusions

The period of time covered by this research based on the archaeological remains at Tell Hesban, Jordan, represents what has been interpreted to be some 5½ centuries. During this time the site evolved in more or less unilinear fashion from a minor, though perhaps important, military outpost to a district center of some importance. Though lateral exposure of archaeological remains at Tell Hesban has been somewhat limited, that which has been excavated seems to allow for a reasonably sound interpretation of the remains, especially in the light of what we know about Transjordan from other archaeological sites and from the ancient literary sources.

### Historical Summary

Stratum 15

As has been argued, Stratum 15 occupation at Tell Hesban is most likely a military outpost or fort. The construction project involved stripping debris from the summit of the tell and filling the Iron Age reservoir in Area B. The evidence of probable domestic structures outside the hilltop fortress (within which very little Stratum 15 evidence survived) indicates that there must have been a small, dependent population living around the fort (at least by the end of the period covered by Stratum 15, if not from the very beginning of the period). The so-called "store silos," as noted, present an historical problem which will require continued research and perhaps rethinking. It is possible (LaBianca 1979c: 11) that the inhabitants of Tell Hesban in this period initiated an economy (mixed farming) which developed throughout the Late Hellenistic and Early Roman periods (Strata 15-13).

Stratum 14

Stratum 14 does not reflect a stratigraphic discontinuity from Stratum 15, rather a change in the ceramic corpus. This stratum seems to represent a period when the overall extent of the settlement at Tell Hesban appears to have increased somewhat. Unfortunately we have not one intact structure from this period, a fact which may indicate the general poverty of the inhabitants, or the thoroughness of the destruction their buildings suffered, or the effects of later rebuilding efforts (or a combination of these factors). Though it is possible that the complex on the summit of the tell (the "fort") was not in use during the period represented by Stratum 14, the Early Roman debris fill, such as that in south Square D.1 (interpreted here as the result of Stratum 13 earth-moving operations), suggests that the fort was probably occupied, and presumably still being used as a military outpost or fort. It is tempting to connect the Early Roman tomb burials with the veterans placed at Esbus by Herod. Since the burials come late in the period, a direct connection is unlikely. A structure in Square B.1 suggests that another complex may have occupied the southern shelf below the summit.

LaBianca does propose as a testable hypothesis that the Early Roman period (of which Stratum 14 represents the beginning) "most nearly approximates the ideal-type relationship for mixed farming" of any period at ancient Tell Hesban. This later category ("mixed farming") is determined from several factors: a diet high in red meats, regular site-dispersion patterns, small-scale water works, mixed range-crop land use, and village-based land control (LaBianca 1979c: 9).

Stratum 14 ended and Stratum 13 began with what clearly appears to have been a disastrous

earthquake. Though the date of the final event to close Stratum 14 is not universally agreed upon, I have argued that a date of A.D. 130 is not impossible or unreasonable. In any case, evidence suggests that with Stratum 13 a rather considerable rebuilding effort commenced.

Stratum 13

The construction of what appears to have been an inn may testify to the symbiosis of village and road system in the second century Roman East. In the period represented by Stratum 13, we have evidence of the increased importance of Esbus in the region. The nature of the architecture which has survived (particularly in Area D) suggests by its size, layout, and execution an increase in economic levels and, perhaps, a concomitant increase in travel in the area. During this period, it appears the fort on the summit of the tell continued in use, eventually (one would surmise) by a Roman army garrison. Below the summit and to the south, an inn complex was raised, built around an open courtyard. Three (and possibly four) of an unknown number of original rooms survived and were excavated. The northern side of such a projected complex, if it existed, is still buried north of Squares B.7 and B.2.

While the preceding stratum break was abrupt and disastrous, the change from Stratum 13 to Stratum 12 is not made on the basis of a stratigraphic break. The cultural lines are continuous, with the ceramic remains demonstrating an evolving pattern, not a sudden change.

Stratum 12

In keeping with Stratum 13, the surviving architecture of Stratum 12 is functional, not artistic. An exception to this general judgment of utilitarian concern might be the public temple structure which is to be dated to this period. Of its superstructure we know nothing directly. The overall impression one gains from the cultural remains of Stratum 12 Tell Hesban is of a small, road-junction town beginning to develop culturally and economically. The resulting gains are modest, but noteworthy, so that by the third century, Esbus, *Aurelia Esbus*, even mints its own coin. Growth in general, and a shift in economic strategy, may in fact be two symptoms of a trend toward more social and political organization, agricultural land use, and more careful land control. Such trends appear to have persisted and may indeed have accelerated during the period represented by Stratum 11.

Stratum 11

The inn was replaced by a complex that seems to take on the nature of a public plaza or square adjacent to the temple precinct and a wide stairway leading to it. If this perception is correct, one might ask why the public accommodations of an inn would no longer be wanted (or needed) in that location (Areas B and D), or near the center of town. It appears that the size of the settlement itself grew through the Late Roman period and on into the Byzantine. If true, then I advance as a probability that, with expansion, other facilities for travellers became available in time, so that when a public decision was reached to rebuild the "civic center" the demolition of the old inn represented no loss to the community that was not offset by the gains brought about by the new construction project. I assume here that the need for a rebuilding effort in Stratum 11 resulted not from natural or violent destruction (for which there is no evidence to my knowledge), but from a rather conscious decision, perhaps on the order of a fourth-century "urban renewal" project. This development, I view as evidence of a reasonably sound, if not booming, economy at Stratum 11 Esbus.

And so a site which began as little more than a military outpost or border fortress moved into the Byzantine period very likely as a bustling small town, the modest hub of political, social, and economic life in its territory.

# Appendix A

# TELL HESBAN ABBREVIATED LOCUS LIST FOR STRATA 15-11

## Appendix A

# Tell Hesban Abbreviated Locus List for Strata 15-11

### Introduction

The entries in this locus list, which constitute an abbreviation of the comprehensive locus list, present a large amount of information in rather compact form. For this reason an introduction to the locus list and its interpretation seems in order.

The data in the comprehensive locus list were divided into various broad fields, each of which was so arranged as to deal efficiently with information peculiar to it. These fields included ASSIGNATION (ASN), DESCRIPTION (DES), STRATIGRAPHY (STR), LEVEL (LEV), REFERENCES (REF), POTTERY (POT), OBJECTS (OBJ), and PHOTOGRAPHS (PHO). This comprehensive locus list is included on the enclosed microfiche card, and, in order to facilitate interpretation of the microfiche information, definitions and explanations have been included in this introduction for all of the fields of information included in the comprehensive locus list. However, only data from ASN, DES, STR, and POT are included here in the appendix A abbreviated list. Appendix B includes OBJ information.

An explanation of the information fields in the comprehensive locus list is as follows:

ASSIGNATION (ASN). Gives a summary of critical information from several other fields in abbreviated form.

DESCRIPTION (DES). Provides a description of the locus, based on the written descriptions made in the field and recorded in the field notebooks.

STRATIGRAPHY (STR). Shows the known stratigraphic relationships between loci.

LEVELS (LEV). Gives top and bottom level measurements of the locus (and in some cases the horizontal location of the measurement).

REFERENCES (REF). Provides a record of existing section drawings and/or top plans on which the locus is depicted.

POTTERY (POT). Records critical information about the potter from the locus.

OBJECTS (OBJ). Records critical information about the objects (small finds) from the locus.

PHOTOGRAPHS (PHO). Gives a list of the important photographic illustrations available for the locus.

Before taking up the elucidation of each field's entries one by one, a word should be said about the physical arrangement of the locus list. The first line of each entry provides the locus number, along with the season(s) in which the locus was excavated. (Locus numbers are formatted as follows: A.11:23. This designation would be read as: "Area A, Square 11, Locus 23."). Locus entries in this list are arranged in order by Area (A-K), Square (1-99), Locus (1-999), and Square Modifier (A-Z). For purposes of clarity, the full description of data presentation in the eight major information fields will be based on the following sample locus "X.99:999."

```
   X.99:999SEASON: 1976

ASN  PROB  LROM  STRAT LTPOT  A/MA IRON  HR13 C  SOILLAY
LAM
DES  SOIL LAYER UNDER 112, EQUALS 115
     SA:TAN-BROWN;SC:PEBBLES,SOME ORGANIC
     MATERIAL,MORTAR;SD:
     PACKED;SX:NS1.00,EW1.00;SY:SECORNER
STR  EQUALS:115 X.98:888
     UNDER:112
     OVER:114
     CUT BY:111
LEV  T889.40 S1.00 E0.00
     T889.26 S0.00 E0.00
     B889.15 S0.00 E0.00
REF  SECTION:E BALK (S STUB)  PLAN:76:79
POT  376 31160-31169   2 A/MA,LROM 3-4,ROM,IRON        =0103
     377 31170-31172   LROM 3-4,EROM                   =0021
OBJ  376 1326 COPP     BRACELET                        A76.0074
     376 1345 BRNZ     COIN:ALEX.JAN.103-76  CERT EROM JDA
PHO  PHOTOS:76:395 442 452 528 529
```

## Assignation

This one-line summary of important locus information (labeled ASN) carries the following data in discrete fields (numbered 1 through 11).

```
    1     2     3     4     5  6      7  8  9  10      11
ASN  PROB  LROM  STRAT LTPOT  A/MA IRON  HR13 C  SOILLAY  LAM
```

The superscript numbers point out the beginning column of the subdivisions of information in this computer record.

1. Level of confidence with which this locus is assigned to its archaeological period (not to its stratum). Entries: UNCT [uncertain], POSS[ible], PROB[able], CERT[ain].
2. Archaeological period to which the locus is assigned. For period abbreviations see the glossaries at the end of this introduction.
3, 4. Basis (or bases) upon which archaeological period assignment is made. The most important (or only) basis is given first. Entries: LTPOT [latest pottery], PTECH [physical techniques], NUMIS [numismatic evidence], STRAT [stratigraphic evidence], OBJEC [object evidence], ARCHT [architectural evidence], OTHER.
5. Latest associated pottery for the locus. For abbreviations see the glossaries at the end of this introduction.
6. Earliest pottery associated with the locus. For period abbreviations see the glossaries at the end of this introduction.
7. Stratum (or earliest stratum) to which the locus is assigned.
8. (For multi-stratum loci.) Latest stratum to which the locus is assigned. Use of the locus in intervening strata is assumed.
9. Stage within the stratum to which the locus is assigned. Entries: C [construction], B [use], A [destruction or abandonment].
10. Coded interpretation of the function of the locus. For interpretation code abbreviations see the glossaries at the end of this introduction.
11. The initials of the person who prepared the locus entry for the computerized data base. Entries: BDV [Bert De Vries], JBS [J. Bjornar Storfjell], LAM [Larry A. Mitchel], LGH [Larry G. Herr].

## Description

This information field (labeled DES) is the most varied and complex, and potentially the most confusing for prospective locus list users. In general terms, the loci have been divided (in some cases somewhat arbitrarily) into three categories, grouped by the descriptors necessary to communicate the essential attributes of the locus.

The "Soil" category includes soil layers, soil surfaces, floors, other surfaces (cobblestone, flagstone, *huwwar*, etc.), fill layers, dump layers, and so on. The "Architecture" category includes walls, foundations, doorways, gateways, revetments, arches, and so on. The "Installation" catagory includes pits, foundation trenches, robber trenches, store silos, store bins, cisterns, reservoirs, *tabuns*, caves, and so on.

Since each category of loci obviously requires differing descriptions, specific sets of locus descriptors have been defined and coded for each category of loci. The list of locus descriptors and codes in all three sets is given in the glossaries at the end of this introduction.

In use, a descriptor code (e.g. "SA:") is given. Immediately after the colon, which is part of the code, occurs data descriptive of the specified attribute, in this case Soil Color. Descriptor codes not used are

skipped. Semi-colons separate descriptor entries; commas punctuate within descriptor entries.

For the size designations in soil inclusions ("SC:") standard geological sizes have been used: BOULDER (Large [2-4 m.], Medium [1-2 m.], Small [.25-1 m.]); COBBLE (Large [.20-.25 m.], Medium [.10-.20 m.], Small [.06-.10 m.]); and PEBBLE (Large [.02-.06 m.], Medium [.01-.02 m.], Small [.004-.01 m.])

In locus entries which I have prepared (labeled LAM), one protocol has been more or less consistently followed. This relates to the category of location in square ("SY:," "AY:," "IY:"). The following diagram will help to clarify the use of consistent language to describe the general location of the locus being described.

| | | |
|---|---|---|
| Northwest Corner | North Central | Northeast Corner |
| | N | |
| West Central | W Center E | East Central |
| | S | |
| Southwest Corner | South Central | Southeast Corner |

To the degree possible, the sets of locus descriptors have been standardized. Thus, for example, SX:, AX:, and IX: are each codes for measurements. All measurements are in meters and hundredths. For various abbreviations used in the descriptions (for diameter, orientation, and so on) see the glossaries at the end of this introduction.

Stratigraphy

One of the most important pieces of information about a locus (at least for critical loci) is its relationship to other adjacent loci. This information (labeled STR) is given to the extent it is known. In this information field, a relation type is given, followed by a colon and numbers (and/or letters and numbers). Several protocols have been observed (hopefully with some consistency).

First, all stratigrpahy entries are to read in a specific way. To use the sample locus entry (X.99:999) as a model the entry:

STR EQUALS:115 X.98:888

is to be read:

> [Locus X.99:999] EQUALS:[X.99:]115 [as well as locus] X.98:888.

Consistent observation of this protocol will ensure accurate understanding of locus relationships.

Second, the numbers of loci in relation to the locus being described are entered (separated by a space) without preceeding area and square designators *if the loci are in the same square*. These loci are given first, following the colon. If the locus being described is related to (especially equal to) loci in adjoining *squares*, such loci are given full locus identification, such as X.98:888 in the example above. Such entries for related loci in adjacent squares will follow all entries indicating intra-square locus relationships.

Levels

In the recording of levels (labeled LEV) all measurements are given in meters and hundredths. T[op] and B[ottom] measurements are above mean sea level.

In many cases this location in the square for a particular level measurement is known. In these cases the X and Y axes of that horizontal location are given. In the example given in the sample locus (locus X.99:999), the entry which appears as:

LEV T889.40 S1.00 E0.00

should be read:

> T[op level of] 889.40 [m., taken at a point which measures from the] S[outh balk] 1.00 [m.; and from the] E[ast balk] 0.00 [m.].

The Y (second) axis measurement indicates that the level was taken right at the east balk (0.00 m. away). In some cases, the measurement is located on a feature or locus. If no measurement is given after X-Y axis designations the N[orth], S[outh], E[ast], W[est], or C[enter] of that locus is intended.

References

This entry (labeled REF) is of technical interest primarily. After "SECTION:" are recorded: the balk section drawing(s), identified as "BALK[S]," on which the locus appears. Subsidiary balk section drawings are identified as "SBLK[S]," followed by the season of the specified field notebook for that square, followed by a colon and the page of the notebook on which the sub-balk section drawing is found. References to top plans ("PLAN:") follow the format of sub-balk section drawings.

Architect's and surveyor's field sheets are indicated by the siglum "FSH" (Field Sheet, Hesban) and the season, followed by a hyphen and the number of the sheet (e.g. FSH74-23).

If numbers appear along following full entries as described above, the most recently mentioned season's field notebook is assumed.

Pottery

Notice the sample pottery field-reading entries repeated below (from "locus" X.99.999).

| 1 | 2 | 3 | 4 | | 5 |
|---|---|---|---|---|---|
| POT | 376 | 31160-31169 | 2 | A/MA,LROM 3-4,EROM,IRON | =0103 |
| | 377 | 31170-31172 | | LROM 3-4,EROM | =0021 |

The superscript numbers identify the following pieces of information about the pottery.

1. This number represents the pail number, a sequential series for each square.
2. This number represents the beginning figure for sherd registration numbers assigned to registered pottery from this pail.
3. This number represents the ending pottery registration number for this pail.
4. The pottery field readings are recorded, from most recent to most ancient, using the abbreviations for pottery mentioned under the ASSIGNATION information field (see glossaries at the end of this introduction). Some additional items are included in this reading: TABF [tabun fragments], TESS[er(e)], BRIK [brick fragments], and so on. See the glossaries for more abbreviations, including modifying and explanatory terms used.
5. When available, a figure is given to the right of the field reading (preceeded by "="). This represents a count (or estimate) of the total sherds for the pail (to be compared with the number of registered sherds as indicated by the pottery registration numbers).

In recording these readings, which it must be stressed are preliminary in nature, no effort was expended to "improve" the readings. In fact, every attempt was made to represent *exactly* what pottery notebooks, locus sheets, and pottery registrar's notebooks contained. The exceptions to this rule are pottery pails whose registered sherds were later reread. Updated readings, when included, are clearly identified as such.

Objects

The information field for objects (labeled OBJ) is laid out somewhat like that for pottery. Examine the following object entries (again, from model "locus" X.99:999).

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| OBJ | 376 | 1326 | | COPP BRACELET | | | A76.0074 |
| | 376 | 1345 | | BRNZ COIN:A LEX.JAN.103-76 | CERT | | EROMJDA |

1. This number represents the pottery pail with which this object was associated.
2. The second number represents the object registration number assigned when objects were processed at camp.
3, 4. The codes which follow the object registration number stand for the material(s) used in the manufacture of the object, in order of predominance. For the abbreviations used here see the glossaries at the end of this introduction.
5. A short descriptive identification is given, sometimes (very) tentative, for the object.
6. If a date has been given for the object (item 7), the level of confidence may be recorded here. (Regarding the codes, see ASSIGNATION above.)
7. The date (archaeological period) to which the *object* has been assigned (as distinct, perhaps, from the period to which the *locus* is assigned) is the next to last entry for objects. Most

objects are as yet undated. The same abbreviations are used here as are used for pottery field readings (see the glossaries at the end of this introduction).

8. Allocation of objects is indicated by a "JDA," for Jordan--Department of Antiquities, or by an "A" followed by a bifid number to indicate year of accession and accession number for objects held by the Horn Archaeological Museum (Andrews University, Berrien Springs, MI 49104-0990).

Photographs

The entry for Tell Hesban field photographs (labeled PHO) represents the last digits of the season, followed by a colon and the numbers of photographs which depict the locus. The prints and negatives are housed in the Institute of Archaeology (Andrews University, Berrien Springs, MI 49104-0990).

## Glossaries

Assignation

The Archaeological Periods:

| | |
|---|---|
| MOD | Modern |
| LMOD | Late Modern |
| EMOD | Early Modern |
| M/OT | Modern/Ottoman |
| OTTO | Ottoman |
| LOTT | Late Ottoman |
| EOTT | Early Ottoman |
| ARAB | Arabic |
| LARB | Late Arabic |
| EARB | Early Arabic |
| A/OT | Ayyubid/Mamluk/Ottoman |
| MAM | Mamluk |
| LMAM | Late Mamluk |
| EMAM | Earl Mamluk |
| A/MA | Ayyubid/Mamluk |
| AYYB | Ayyubid |
| CRUS | Crusader |
| LCRU | Late Crusader |
| ECRU | Early Crusader |
| SELJ | Seljuq |
| FATD | Fatimid |
| LFAT | Late Fatimid |
| EFAT | Early Fatimid |
| F/AB | Fatimid/Abbasid |
| ABBD | Abbasid |
| LABB | Late Abbasid |
| EABB | Early Abbasid |
| AB/U | Abbasid/Umayyad |
| UMAY | Umayyad |
| UM/B | Umayyad/Byzantine |
| BYZN | Byzantine |
| LBYZ | Late Byzantine |
| EBYZ | Early Byzantine |
| BZ/R | Byzantine/Roman |
| B/LR | Byzantine/Late Roman |
| ROM | Roman |
| LROM | Late Roman |
| EROM | Early Roman |
| NABN | Nabataean |
| LNAB | Late Nabatatean |
| ENAB | Early Nabataean |
| ER/H | Early Roman/Hellenistic |
| R/LH | Roman/Late Hellenistic |
| HELL | Hellenistic |
| LHEL | Late Hellenistic |
| EHEL | Early Hellenistic |
| PR/H | Persian/Hellenistic |
| PERS | Persian |
| LPER | Late Persian |
| EPER | Early Persian |
| I2/P | Iron II/Persian |
| IRON | Iron |
| IR2 | Iron II |
| IR2B | Iron IIB |
| IR2A | Iron IIA |
| IRN1 | Iron I |
| IR1C | Iron IC |
| IR1B | Iron IB |
| IR1A | Iron IA |
| BRNZ | Bronze |
| LBRO | Late Bronze |
| M/LB | Middle/Late Bronze |
| MBRO | Middle Bronze |
| E/MB | Early/Middle Bronze |
| EBRO | Early Bronze |
| C/EB | Chalcolithic/Early Bronze |
| CHAL | Chalcolithic |

The Interpretation Codes:

| | |
|---|---|
| ACCESST | Access Stairs |
| ANMHOLE | Animal Hole |
| ARCH | Arch |

| | |
|---|---|
| ARCHFRG | Architectural Fragment |
| ASHLAY | Ash Layer |
| BALKREM | Balk Removal |
| BALKTRM | Balk Trim |
| BASE | Base |
| BASIN | Basin |
| BASUNDS | |
| BEAM | Beam |
| BEDRCUT | Bedrock Cut |
| BEDROCK | Bedrock |
| BEDRPIT | Bedrock Pit |
| BEDRTRN | Bedrock Trench |
| BENCH | Bench |
| BURIAL | Burial |
| BWALL | |
| CAPSTON | Capstone |
| CAVE | Cave |
| CEMLEY | Cement Layer |
| CHANNEL | Channel |
| CHIMNEY | Chimney |
| CISSILT | Cistern Silt |
| CISTERN | Cistern |
| CLEANUP | Clean-up |
| COBBLAY | Cobble Layer |
| COBSURF | Cobbled Surface |
| COMBINE | Locus Later Combined with Other Locus |
| COMINST | Commercial Installation |
| CONSPIT | Preconstruction Pit |
| CURB | Curb |
| DOMINST | Domestic Installation |
| DOMWALL | Domestic Wall |
| DOOR | Door |
| DOORSTP | Doorstop |
| DOORWAY | Doorway |
| DUMP | Waste Dump |
| ENCWAll | Enclosure Wall |
| FACWALL | Facing Wall |
| FILL | Fill |
| FILLLAY | Fill Layer |
| FIREPIT | Fire Pit |
| FLAGSUR | Flagstone Surface |
| FLOOR | Floor |
| FLUE | Flue |
| FORTWAL | Fortification Wall |
| FOUNDA | Foundation |
| FTRENCH | Foundation Trench |
| FURNACE | Furnace |
| GRAVLAY | Gravel Layer |
| HEARTH | Hearth |
| HECHAMB | |
| HUWSURF | Huwwar Surface |
| HUWWAR | Huwwar |
| HUWWLAY | Huwwar Layer |
| KILN | Kiln |
| LAMPNCH | Lamp Nich |
| LINTEL | Lintel |
| MAKEUP | Makeup Layer |
| MOSAIC | Mosaic |
| MOSPRPC | Mosaic Preparation Layer--Cement |
| MOSPRPP | Mosaic Preparation Layer--Plaster |
| MOSPRPS | Mosaic Preparation Layer--Soil |
| NOTASSN | Locus Number Not Assigned |
| OBJECTS | Objects |
| OCCLAY | Occupation Layer |
| OCCSURF | Occupation Surface |
| ORGANIC | Organic Material |
| PAVEMNT | Pavement |
| PILBASE | Pillar Base |
| PILDRUM | Pillar Drum |
| PIT | Pit |
| PLASLAY | Plaster Layer |
| PLASLIN | Plaster Lining |
| PLASTER | Plaster |
| PLASURF | Plaster Surface |
| PLATFRM | Platform |
| POSFLOR | Possible Floor |
| POT | Pot |
| PREPLAY | Preparation Layer |
| PROBE | Probe |
| PUBWALL | Public Wall |
| RESERVR | Reservoir |
| RETWALL | Retaining Wall |
| REVETMT | Revetment |
| ROBTREN | Robber Trench |
| ROOF | Roof |
| ROOM | Room |
| RUBBLAY | Rubble Layer |
| RUBBLE | Rubble |
| SEALSTN | Sealing Stone |
| SEDILAY | Sediment Layer |
| SILTLAY | Silt Layer |
| SOIL | Soil |
| SOILLAY | Soil Layer |
| SOILSUR | Soil Surface |
| SPLIT | Header for Pottery, Bones, Objects, and/or Photos From Loci Which Were Later Split into More Than One Locus |
| SPRINGR | |

| | |
|---|---|
| SRCPHGS | Sarcophagus |
| STAIR | Stair |
| STAIRWAY | Stairway |
| STEP | Step |
| STONE | Stone |
| STORBIN | Storage Bin |
| STORPIT | Storage Pit |
| STOSILO | Storage Silo |
| STYWALL | Stylobate Wall |
| SUBBALK | Subsidiary Balk |
| SUBSOIL | Subsoil |
| SUMP | Sump |
| SURFACE | Surface |
| SURSOIL | Surface Soil |
| TABUN | Tabun |
| TOMB | Tomb |
| TUMBLE | Tumble |
| TUNNEL | Tunnel |
| UDPROV | Provenance Unknown |
| UNEXCAV | Unexcavated |
| VAULT | Vault |
| VIRSOIL | Virgin Soil |
| WALFILL | Wall Fill |
| WALL | Wall |
| ZIR | Zir |

Description

Soil Locus Descriptors:

| | |
|---|---|
| SA | Soil Color |
| SB | Soil Composition |
| SC | Soil Inclusions |
| SD | Soil Consistency |
| SE | Soil Slope Direction (down) |
| SF | Soil Slope Degree |
| SX | Soil Measurements |
| SY | Soil Location in Square |
| SZ | Soil Remarks |

Architectural Locus Descriptors:

| | |
|---|---|
| AA | Architectural Masonry |
| AB | Architectural Construction |
| AC | Architectural Mortar |
| AD | Architectural Material |
| AE | Architectural Orientation |
| AF | Architectural Courses |
| AG | Architectural Rows |
| AX | Architectural Measurements |
| AY | Architectural Location in Square |
| AZ | Architectural Remarks |

Installation Locus Descriptors

| | |
|---|---|
| IA | Installation Material |
| IB | Installation Plan |
| IC | Installation Lining |
| ID | Installation Locus (Loci) Which Fill(s) |
| IE | Installation Color of Fill |
| IF | Installation Composition of Fill |
| IG | Installation Inclusions in Fill |
| IH | Installation Consistency of Fill |
| IJ | Installation Orientation |
| IK | Installation Section |
| IX | Installation Measurements |
| IY | Installation Location in Square |
| IZ | Installation Remarks |

General Locus Descriptor Abbreviation

| | | | |
|---|---|---|---|
| N | North | S | South |
| E | East | W | West |
| NS | North-South | EW | East-West |
| NE/SW | Northeast/Southwest | | |
| NW/SE | Northwest-Southeast | | |

| | | | |
|---|---|---|---|
| L | Length | W | Width |
| H | Height | DP | Depth |
| DI | Diameter | RA | Radius |

| | | | |
|---|---|---|---|
| VS | Very Small | S | Small |
| M | Medium | | |
| L | Large | VL | Very Large |

Pottery

General Abbreviations

| | |
|---|---|
| BOD | Body Sherd |
| BRIK | Brick Fragments |
| BNSH | Burnished |
| CERH | Ceramic Heel |
| CHIN | Chinese |
| CONT | Contaminated |
| DEF | Definite |
| DOM | Dominant Reading |
| DTIL | Drain Tile |

| | |
|---|---|
| FEW | Few |
| FTIL | Floor Tile |
| GLAS | Glass Fragment |
| GLAZ | Glazed |
| INCL | Including |
| INTR | Intrusive |
| MRBF | Marble Facing Fragment |
| MOST | Mostly |
| NONE | No Pottery Saved |
| ONLY | Only |
| OSTR | Ostraca |
| PNT | Paint, Painted |
| PLST | Plaster |
| PORC | Porcelain |
| POSS | Possible |
| PROB | Probable |
| PSIG | Pseudo-Sigellata |
| RTIL | Roof Tile (Fragment) |
| SUBS | Subsequently |
| TABF | Tabun Fragment |
| TSIG | Terra Sigellata |
| TESS | Tesserae |
| UD | Undetermined |
| VERY | Very |
| WSTR | Waster |

Objects

Materials

| | |
|---|---|
| AGAT | Agate |
| ALAB | Alabaster |
| AMBR | Amber |
| AMTH | Amethyst |
| BIOM | Biomicrite |
| BONE | Bone |
| BRNZ | Bronze |
| BRSS | Brass |
| BSLT | Basalt |
| CAML | Camel Hair |
| CARN | Carnelian |
| CERM | Ceramic |
| CHRT | Chert |
| CLAY | Clay (unbaked) |
| CLTH | Cloth |
| COPP | Copper |
| CORL | Coral |
| COTT | Cotton |
| CRSL | Crystal |
| DIOR | Diorite |
| ELEC | Electrum |
| FIBR | Fiber |
| FLAX | Flax |
| FLNT | Flint |
| FNCE | Faience |
| FRIT | Frit |
| GLSS | Glass |
| GOAT | Goat Hair |
| GOLD | Gold |
| GRAN | Granite |
| GSTN | Gemstone |
| HMTT | Hematite |
| IRON | Iron |
| IVRY | Ivory |
| LAVA | Lava |
| LEAD | Lead |
| LSTN | Limestone |
| LTHR | Leather |
| MARB | Marble |
| MARL | Marl |
| METL | Metal |
| NARI | Nari |
| OBSD | Obsidian |
| ORGN | Organic |
| PLST | Plaster |
| PLTC | Plastic |
| POTT | Pottery |
| PSTE | Paste |
| PUMC | Pumice |
| QRTZ | Quartz |
| SHLL | Shell |
| SILV | Silver |
| SSTN | Sandstone |
| STEA | Steatite |
| STEL | Steel |
| STON | Stone |
| TIN | Tin |
| UD | Undetermined |
| UDML | Undetermined Metal |
| UDST | Undetermined Stone |
| WOOD | Wood |
| WOOL | Wool (sheep) |

## Tell Hesban Abbreviated Locus List

### Introduction

As mentioned above, the information fields considered here in the appendix A abbreviated list include ASN, DES, STR, and POT. The descriptions of these fields still apply.

The abbreviated locus list which follows is divided by stratum (Strata 15-11), and, within each stratum, by stage (unassigned, Stages C, B, and A). The list includes: excavation year, area, square, pottery pail number, certainty of pottery call, assignment (determined stratigraphically by latest pottery), latest pottery call, earliest pottery call, stratification (indicating the relationship of this locus with other loci: equals, under, over, cuts, cut by, seals, sealed by, within, and contains), locus function, excavator's initials, and written description. For explanations of codes and abbreviations, see the material above.

| Yr | Ar | Sq | Loc | Pot. Assignment | Latest | Earliest | Stratification | Function | Initials | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| **STRATUM 15** | | | | | | | | | | |
| **Unassigned** | | | | | | | | | | |
| 73 | B | 4 | 150 | POSS | LHEL | HELL | IRN1 | Under:100,102,128,147;Over:173,158;Cutby:149;Seals:100 | SOILLAY | LAM | SOIL LAYER, POSS FILL |
| 73 | B | 4 | 173 | POSS | LHEL | HELL | I2/P | Under:84,121,145,150,172,174,182;Over:202=205;Cutby:149 | SOILLAY | LAM | SOIL LAYER, POSS SOIL SURFACE AT N BALK |
| 73 | C | 2 | 31 | PROB | LHEL | HELL | IRN1 | Equals:34;Under:26,28;Over:41 | SOILLAY | LAM | SOIL LAYER N OF WALL 26, AT E BALK |
| 73 | C | 2 | 34 | POSS | LHEL | EROM | IRN1 | Equals:31;Under:15,29,33,41;Over:40,46,49;Cutby:32,33,37,39,46 | SOILLAY | LAM | SOIL LAYER IN SW, S OF WALL 38 |
| 73 | C | 2 | 40 | PROB | LHEL | HELL | IRN1 | Under:34,38;Over:45,47,48;Cutby:32,33,35,37,39,45,46 | SOILLAY | LAM | SOIL LAYER IN SW, BETWEEN WALLS 36 AND 38 |
| 73 | C | 2 | 45 | POSS | LHEL | I2/P | IRN1 | Under:40;Over:48;Cuts:40,47 | SOILLAY | LAM | SOIL LAYER, POSS PIT, IN SW QUADRANT |
| 73 | C | 3 | 35 | PROB | LHEL | HELL | IRN1 | Under:29,42;Over:36 | SOILLAY | LAM | SOIL LAYER IN SW CORNER |
| 73 | C | 3 | 36 | PROB | LHEL | HELL | IRN1 | Under:35;Over:37,39 | SOILLAY | LAM | SOIL LAYER IN SW |
| 73 | C | 3 | 37 | PROB | LHEL | HELL | IRN1 | Under:36;Over:38 | SOILLAY | LAM | SOIL LAYER IN SW QUADRANT |
| 76 | C | 5 | 164 | POSS | LHEL | HELL | IR1A | Equals:170;Under:154;Over:166,168,175 | SOILLAY | LAM | SOIL LAYER IN NW CORNER |
| 76 | C | 5 | 170 | POSS | LHEL | IR1C | IR1B | Equals:164;Under:168;Over:175 | SOILLAY | LAM | SOIL LAYER ALONG W BALK |
| 76 | C | 7 | 96 | PROB | LHEL | HELL | IRON | Under:93;Over:97 | SOILLAY | LAM | SOIL LAYER E OF WALL 44 |
| 76 | C | 7 | 98 | PROB | LHEL | HELL | I2/P | Under:93;Over:99 | SOILLAY | LAM | SOIL LAYER E OF WALL 44 |
| 73 | G | 1 | 34 | POSS | LHEL | HELL | IRN1 | Under:30;Over:unexcav | SOILLAY | LAM | SOIL LAYER, POSS DUNG DEPOSIT, S OF LOC 31 |
| 76 | G | 12 | 34C | PROB | LHEL | HELL? | IRN1 | Equals:34B;Under:12;Over35C | SOILLAY | LAM | SOIL LAYER E OF WALL 25 |
| 76 | G | 12 | 35C | PROB | LHEL | HELL | I2/P | Equals:35B;Under:34C;Over:bdrk | SOILLAY | LAM | SOIL LAYER E OF WALL 25 |
| 73 | C | 3 | 42 | POSS | LHEL | IRON | - | Under:20;Over:35;Cutby:26 | HUWLAY | LAM | HUWWAR LAYER IN SW, PROB OCCUP SURFACE |
| 73 | G | 1 | 47 | POSS | IRON | HELL | - | Under:42,46;Over:48;Contains:48 | CISTERN | LAM | CISTERN(POSS STORE SILO) IN CENTER OF SQUARE |
| **Stage A** | | | | | | | | | | |
| 73 | B | 3 | 51 | PROB | LHEL | HELL | I2/P | Equals:50;Under:46;Over:52;Within:47 | SOILLAY | LAM | SOIL LAYER IN STORE SILO 47 |
| 73 | B | 3 | 63 | PROB | LHEL | HELL | I2/P | Under:61;Over:62;Within:59 | SOILLAY | LAM | SOIL LAYER IN STORE SILO 59 |
| 73 | B | 4 | 175 | PROB | LHEL | HELL | IRN1 | Under:100;Over:176;Within:174 | SOILLAY | LAM | SOIL LAYER, FILL IN ZIR 174 |
| 73 | B | 4 | 178 | PROB | LHEL | HELL | - | Under:176;Over:174;Within:174 | SOILLAY | LAM | SOIL LAYER IN ZIR 174 |
| 73 | B | 4 | 183 | PROB | LHEL | HELL | I2/P | Under:88;Over:180;Seals:174 | SOILLAY | LAM | SOIL AND ROCK LAYER S OF ZIR 174 |
| 74 | D | 2 | 77A | PROB | LHEL | ER/H | IRON? | Equals:92;Under:26,65,67;Over:76 | SOILLAY | LAM | SOIL LAYER BELOW MOUTH OF STORE SILO 77 |
| 73 | G | 1 | 35 | PROB | LHEL | HELL | IRN1? | Under:28,30,31;Over:37,39,41,42,43 | SOILLAY | LAM | SOIL LAYER IN S HALF OF SQUARE |
| 73 | B | 2 | 77 | POSS | LHEL | HELL | I2/P | Under:63,86;Over:75,78,82,87,88,89,109 | HUWLAY | LAM | HUWWAR LAYER IN SE QUAD OVER ZIRS 75, 82 |
| 73 | B | 3 | 50 | POSS | LHEL | HELL | I2/P | Equals:51,52;Under:46;Within:47 | FILLLAY | LAM | FILL LAYER MADE OF PARTS OF LOCI 51, 52 |
| 73 | B | 3 | 52 | PROB | LHEL | HELL | I2/P | Equals:50;Under:46,51;Over:bdrk;Within:47 | FILLLAY | LAM | FILL LAYER IN STORE SILO 47 |
| 73 | B | 3 | 70 | PROB | LHEL | HELL | - | Under:57;Over:64,67;Within:100 | CAPSTON | LAM | CAPSTONE/SOIL OVER MOUTH OF ST SILO 64 |
| 73 | B | 4 | 176 | PRO | LHEL | HELL | IRON | Under:175;Over:178;Within:174 | ASHLAY | LAM | ASHY LAYER IN ZIR 174 |
| **Stage B** | | | | | | | | | | |
| 73 | B | 2 | 75 | PROB | LHEL | LHEL | I2/P | Under:77;Cuts:78;Contains:110 | ZIR | LAM | ZIR, LATE HELLENISTIC STORE JAR |
| 73 | B | 2 | 82 | PROB | LHEL | A/MA | I2/P | Under:77;Over:84;Cuts:78 | ZIR | LAM | ZIR UNDER HUWWAR 77 |
| 73 | B | 4 | 174 | PROB | LHEL | HELL | HELL | Under:100,178;Over:173;Sealedby:128,180,182,183;Contains:175,176,178 | ZIR | LAM | ZIR TO E OF TABUN 84 |
| 73 | G | 1 | 36 | PROB | LHEL | HELL | IRON | Under:30;Over:41,43 | WALL | LAM | COMPLEX OF CRUDE WALLS IN SE CORNER |
| 71 | A | 5 | 56 | UNCT | LHEL | NONE | - | Under:54;Over:bdrk;Cutby:55,57 | SOILLAY | LAM | SOIL LAYER OVER BEDROCK IN NE CORNER |
| 74 | A | 5 | 90E | POSS | LHEL | BYZN? | I2/P | Under:90A,90C;Over:bdrk;Within:90 | SOILLAY | LAM | SOIL LAYER IN SILO 90 |
| 76 | A | 9 | 113 | PROB | LHEL | LHEL | I2/P | Equals:A.11:45;Under:109;Over:114 | SOILSUR | LAM | SOIL SURFACE IN NW ROOM |
| 76 | A | 11 | 51 | PROB | LHEL | LHEL | IRN1 | Equals:52;Under:47;Over:53 | SOILLAY | LAM | SOIL LAYER IN NE ROON, EQUALS 52 |
| 73 | B | 3 | 62 | PROB | LHEL | HELL | I2/P | Under:63;Over:66;Within:59 | SOILLAY | LAM | SOIL LAYER IN STORE SILO 59, POSS USE SURFACE |
| 73 | B | 3 | 67 | PROB | LHEL | HELL | I2/P | Under:70;Over:68;Within:64 | SOILLAY | LAM | SAIL LAYER IN STORE SILO 64, POSS USE SURFACE |
| 73 | B | 3 | 71 | PROB | LHEL | HELL | - | Under:56;Over:bdrk;Within:100 | SOILLAY | LAM | SOIL LAYER OVER BEDROCK IN CAVE 100 |
| 73 | B | 4 | 182 | PROB | LHEL | HELL | I2/P | Under:180;Over:173;Seals:127,174 | SOILLAY | LAM | SOIL LAYER S OF ZIR 174 |
| 74 | B | 4 | 249 | PROB | LHEL | HELL | I2/P | Under:228,229,259;Over:234,265,271;Seals:234;Within:265 | SOILLAY | LAM | SOIL LAYER, GUMMY CLAY IN POOL 265 |
| 74 | B | 4 | 271 | PROB | LHEL | I2/P? | - | Under:249;Over:234;Within:265 | SOILLAY | LAM | SOIL LAYER MIXED WITH LOC 249 IN POOL 265 |
| 73 | C | 2 | 48 | PROB | LHEL | HELL | IRN1 | Under:40,45,47;Over:54(cleanup);Cutby:37 | SOILSUR | LAM | SOIL SURFACE AT W BALK |
| 73 | G | 1 | 39 | PROB | LHEL | HELL | IRN1 | Under:35;Over:40 | SOILLAY | LAM | SOIL LAYER IN S HALF OF SQ, E OF WALL 41 |
| 76 | G | 12 | 29 | PROB | LHEL | BYZN? | IRON | Under:27;Over:31;Cutby:28,30,32,34A,35A,36A,37A | SOILLAY | LAM | SOIL LAYER E OF WALL 25 |
| 76 | G | 12 | 31 | PROB | LHEL | LHEL | IRN1 | Under:29;Over:33;Cutby:28,30,32,34A,35A,36A,37A | SOILLAY | LAM | SOIL LAYER E WALL |
| 76 | G | 12 | 33 | PROB | LHEL | HELL | I2/P | Under:31;Over:34B;Cutby:28,30,32,34A,35A,36A,37A | SOILLAY | LAM | SOIL LAYER E OF WALL 25 |
| 76 | G | 12 | 34B | PROB | LHEL | HELL | IR1A | Equals:34C;Under:33;Over:35B | SOILLAY | LAM | SOIL LAYER E OF WALL 25 |
| 76 | G | 12 | 35B | PROB | LHEL | B/LR | IRN1 | Equals:35C;Under:34B;Over:36B;Cutby:28,30,32,34A,35A,36A,37A | SOILLAY | LAM | SOIL LAYER E OF WALL 25 |
| 73 | B | 3 | 66 | PROB | LHEL | NONE | - | Under:62;Over:bdrk;Contains:67,68 | OCCSURF | LAM | ASHY LAYER OVER BDRK, PROB OCCUP SURFACE |
| 73 | B | 3 | 68 | PROB | LHEL | NONE | - | Under:67;Over:bdrk;Within:64 | OCCSURF | LAM | ASHY LYR OVR BDRK IN SILO 64,PRB USE SUR |
| 74 | B | 4 | 229 | PROB | LHEL | HELL | IRN1 | Under:228,259;Over:249;Seals:234;Within:265 | OCCSURF | LAM | FLOOR IN POOL 265 |
| 74 | D | 2 | 77B | PROB | LHEL | LROM | I2/P | Under:77A;Over:bdrk;Within:77 | OCCSURF | LAM | SURFACE IN STORE SILO 77 |
| 76 | D | 2 | 80E | PROB | LHEL | LHEL | LHEL | Under:80D112;Over:80F(bdrk);Within:80 | OCCSURF | LAM | STRAW-LIKE OCC SUR OVR BDRK IN ST SILO 80 |
| 73 | B | 4 | 180 | PROB | LHEL | HELL | I2/P | Under:126,183;Over:182;Seals:127,174 | HUWLAY | LAM | HUWWAR LAYER S AND W OF ZIR 174 |
| 73 | C | 2 | 47 | PROB | LHEL | NONE | - | Under:40,49;Over:48;Cutby:37,45 | HUWSURF | LAM | HUWWAR SURFACE IN S HALF OF SQUARE |
| 76 | A | 11 | 47 | PROB | LHEL | LHEL | IRN1 | Under:46;Over:51,52;Seals:49,50 | FLOOR | LAM | FLOOR N OF WALL 50 |
| 76 | A | 11 | 46 | PROB | LHEL | LHEL | I2/P | Under:45;Over:47;Seals:49,50 | FILLLAY | LAM | FILL LAYER UNDER FLOOR 45 |
| 76 | A | 11 | 52 | PROB | LHEL | LHEL | IRN1 | Equals:51,A.9:114;Under:47;Over:53 | FILL | LAM | FILL UNDER FLOOR 47 |
| 76 | A | 11 | 53 | PROB | LHEL | EROM | I2/P | Under:51=52;Over:54;Seals:49,50 | FILL | LAM | FILL UNDER FLOOR 47 |
| 73 | B | 2 | 110 | PROB | LHEL | HELL | HELL | Under:77;Within:75 | FILL | LAM | FILL INSIDE ZIR 75 |
| 73 | C | 2 | 46 | PROB | LHEL | HELL | IRN1 | Under:28;Over:34;Cuts:34,40 | FIREPIT | LAM | SEMI-CIRCULAR FIREPIT IN SE |
| 76 | C | 7 | 99 | PROB | LHEL | HELL | I2/P | Under:98;Over:bdrk | FIREPIT | LAM | ASH LAYER E OF WALL 44, PROB FIREPIT |
| 73 | C | 3 | 29 | PROB | LHEL | HELL | IRN1 | Under:23;Over:35 | ASHLAY | LAM | ASH LAYER, POSS PIT, IN SW CORNER |
| 73 | G | 1 | 40 | PROB | LHEL | HELL | IRN1 | Under:39;Over:44 | ASHLAY | LAM | ASH LAYER IN SE CORNER |

## Stage C

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 73 | B 3 69 | POSS | LHEL | HELL | IRN1 | Within:47 | WALL | LAM | WALL BLKG HOLE, S SIDE SILO 47 |
| 76 | C 7 100 | PROB | LHEL | HELL | IRON | Over:104,105;Within:44 | WALFILL | LAM | SOIL BETWEEN 3D/4TH COURSES OF WALL 44 |
| 76 | C 7 105 | PROB | LHEL | NONE | - | Under:100;Over:106 | WALFILL | LAM | SOIL BETWEEN 2D/3D COURSES OF WALL 44 |
| 76 | C 7 106 | PROB | LHEL | HELL | IRON | Under:105;Over:unexcav | WALFILL | LAM | SOIL UNDER 2D COURSE OF WALL 44 |
| 76 | D 4 112 | UNCT | LHEL | NONE | - | Under:88,90,110;Over:bdrk | WALL | LAM | EW WALL OVER BEDROCK |
| 73 | G 1 41 | PROB | LHEL | HELL | IRON | Under:35,36;Over:bdrk;Sealedby:37,43 | WALL | LAM | NS WALL EXTENDING N FROM CENTER OF S BALK |
| 73 | G 1 42 | PROB | LHEL | HELL | IRON | Under:35;Over:37,47 | TUMBLE | LAM | ROCK TUMBLE COVERING OPNING TO CISTRN 47 |
| 74 | A 5 61 | PROB | LHEL | NONE | - | Under:33;Over:unexcav;Cutby:87,89;Contains:62A-62F | STOSILO | LAM | STORE SILO CONNECTED TO SILOS 62 AND 79 |
| 74 | A 5 62 | PROB | LHEL | NONE | - | Equals:63;Under:33,Over:62B;Within:61,62,79 | STOSILO | LAM | STORE SILO CONNECTED TO SILOS 61 AND 79 |
| 74 | A 5 79 | PROB | LHEL | NONE | - | - | STOSILO | LAM | STR SILO IN BDRK IN SW CRNR CNCTD TO 61,62 |
| 74 | A 5 87 | UNCT | EROM | NONE | - | Under:62F;Cuts:61,62;Contains:87A | STORPIT | LAM | STORE PIT CUT INTO FLOOR OF SILOS 61, 62 |
| 74 | A 5 89 | UNCT | EROM | NONE | - | Under:62F;Over:bdrk;Cuts:61;Contains:89A | STORPIT | LAM | STORE PIT IN BEDROCK FLR OF STORE SILO 61 |
| 74 | A 5 90 | POSS | LHEL | NONE | - | Under:11C,51;Over:bdrk;Contains:90A,90B,90C,90D,90E | STOSILO | LAM | STORE SILO CONNECTED TO SILO 61 |
| 71 | B 3 47 | PROB | LHEL | NONE | - | Under:44,46;Over:bdrk;Contains:50,51,52,69 | STOSILO | LAM | STORE SILO DUG IN FLR OF BEDROCK CAVE 100 |
| 73 | B 3 59 | PROB | LHEL | NONE | - | Under:57;Over:bdrk;Contains:58,60,61,62,63,66 | STOSILO | LAM | STORE SILO IN FLOOR OF CAVE 100, E OF SILO 47 |
| 73 | B 3 64 | PROB | LHEL | NONE | - | Under:70;Over:bdrk;Contains:67,68 | STOSILO | LAM | STR SILO IN FLR OF CAVE 100, N OF SILS 47,59 |
| 73 | B 4 188 | PROB | LHAL | NONE | - | Under:144;Contains:184,187,189,232,240,241,243,252(bdrk) | STOSILO | LAM | STORE SILO DUG IN BEDROCK FLR OF CAVE 74 |
| 74 | D 2 77 | PROB | LHEL | NONE | - | Under:82,86;Sealedby:82;Sealedoverby:76;Contains:77A,77B | STOSILO | LAM | STOREAGE SILO CENTERED ON E BALK LINE |
| 76 | D 2 80 | PROB | LHEL | NONE | - | Under:43;Contains:80A(Cleanup),80B,80C,80D,80E | STOSILO | LAM | STORE SILO IN NW |
| 74 | D 2 95 | PROB | LHEL | NONE | - | Under:73,88;Contains:95A,95B,95C,95D,95E | STOSILO | LAM | STORE SILO IN N CENTER OF SQUARE |
| 74 | D 3 57 | PROB | LHEL | NONE | - | Under:43,63;Contains:57A,57B,57C,57D,57E,57F | STOSILO | LAM | STORE SILO UNDER FILL FOR STAIRWAY |
| 71 | D 6 47 | PROB | LHEL | A/MA | I2/P | Under:43,45;Over:bdrk | STOSILO | LAM | STORE SILO IN CORNER OF WALLS 3 AND 19 |
| 71 | D 6 48 | PROB | LHEL | A/MA | I2/P | Under:45;Over:bdrk | STOSILO | LAM | STORE SILO IN E FOURTH OF SQUARE |
| 73 | A 6 85 | POSS | LHEL | HELL | IRON | Under:83,84;Over:bdrk | SOILLAY | LAM | SOIL LYR ON BDRK E OF WLL 65, N OF WLL 68 |
| 73 | A 6 88 | PROB | LHEL | HELL | I2/P | Under:76,76S;Over:bdrk;Cutby:70,81 | SOILLAY | LAM | SOIL LAYER ON BDRK IN SE CRNR POSS SURFACE |
| 76 | A 11 54 | PROB | LHEL | HELL | I2/P | Under:53;Over:55(bdrk);Seals:49 | SOILSUR | LAM | SOIL SURFACE, POSS FLOOR, OVER BEDROCK |
| 73 | B 2 88 | PROB | LHEL | HELL | I2/P | Equals:87,89,90,109;Under:77;Over:84 | SOILLAY | LAM | SOIL LAYER UNDER HUWWAR SURFACE 77 |
| 73 | B 2 89 | POSS | LHEL | I2/P | I2/P | Equals:87,88,90,109;Under:77;Over:84,90 | SOILLAY | LAM | SOIL LAYER UNDER HUWWAR SURFACE 77 |
| 73 | B 2 90 | POSS | LHEL | NONE | - | Equals:87,88,89;Under:89;Over:84 | SOILLAY | LAM | SOIL LAYER E OF WALL 84, UNDER ZIR 82 |
| 73 | B 2 109 | PROB | LHEL | HELL | I2/P | Equals:78,87,88,89;Under:77;Over:84 | SOILLAY | LAM | SOIL LAYER ALONG W FACE OF 112 |
| 76 | D 4 121 | PROB | LHEL | HELL | IRN1 | Under:119;Over:132,136;Seals:66 | SOILLAY | LAM | SOIL LAYER UNDER 119 AT S BALK |
| 73 | G 1 37 | PROB | LHEL | HELL | IRN1 | Under:35,42;Over:38;Seals:41 | SOILLAY | LAM | SOIL LYR IN S HALF, TWO LYRS DUG SEPARATELY |
| 74 | B 4 265 | UNCT | LHEL | NONE | - | Under:249;Over:bdrk;Sealedby:234;Contains:227-229,249,264,271 | RESERVR | LAM | CIRC. RESERVR CUT IN UNDRGRND BDRK OPENING |
| 76 | A 11 50 | PROB | LHEL | NONE | - | Equals:A.9:33B;Under:3B;Over:unexcav;Sealedby:42,45,46,47,53 | PUBWALL | LAM | EW WALL UNDER WALL 3 |
| 74 | B 4 234 | UNCT | LHEL | NONE | - | Under:249,260,263,271;Seals:235,265(bdrk);Sealedby:228,229,249 | PLASLIN | LAM | PLASTER LINING OF BEDROCK POOL 265 |
| 73 | G 1 44 | PROB | LHEL | HELL | IRON | Under:40;Over:45;Cutby:43 | HUWSURF | LAM | HARD BEATEN SOIL SURFACE E OF WALL 41 |
| 73 | G 1 43 | PROB | LHEL | HELL | I2/P | Under:35,36;Over:45;Seals:41;Cuts:44,45 | FTRENCH | LAM | FOUNDATION TRENCH ON E FACE OF WALL 41 |
| 76 | A 9 114 | PROB | LHEL | LHEL | IRN1 | Equals:A.11:52;Under:108,113;Over:unexcav | FILL | LAM | FILL AROUND BOULDERS IN NW ROOM |
| 68 | B 1 14B | POSS | HELL | I2/P | - | Under:14A;Over:18;Cutby:57 | FILL | LOH | SOIL FILL LAYER AT TOP OF RESERVOIR FILL |
| 68 | B 1 15B | POSS | HELL | IRN2 | - | Equals:B.2:70=72;Under:15A;Over:19;Cutby:57 | FILL | LOH | SOIL FILL LAYER AT TOP OF RESERVOIR FILL |
| 68 | B 1 18 | POSS | HELL | HELL | IRN2 | Equals:24;Under:14B,14C;Over:26,36;Cutby:10,57 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 19 | PROB | HELL | IRN2 | - | Equals:B.2:73=74;Under:15A,15B;Over:24;Cutby:57 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 23B | POSS | I2/P | I2/P | - | Equals:33;Under:21,22,23A,25,34,35;Over:30;Cutby:17,21,27,28 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 24 | PROB | HELL | HELL | IRN2 | Equals:18,B.2:73=74;Under:19;Over:31;Cutby:17,29,57 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 26 | PROB | HELL | IRN2 | - | Under:18;Over:36 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 30 | PROB | HELL | HELL | IRN2 | Under:23B;Over:32;Cutby:17,27 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 31 | PROB | HELL | I2/P | IRN2 | Equals:B.2:73=74,79;Under:24;Over:37,41,42;Cutby:57,17,29 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 32 | PROB | HELL | HELL | IRN2 | Under:30;Over:50;Cutby:17,27 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 33 | POSS | I2/P | - | - | - | FILL | LOH | EQUALS LOCUS 23B |
| 68 | B 1 34 | PROB | HELL | I2/P | - | Under:20;Over:23B;Cutby:17,25,28 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 36 | PROB | HELL | I2/P | - | Under:18,26;Over:38,39,40;Cutby:40,57 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 37 | PROB | HELL | I2/P | IRN2 | Under:31;Over:42;Cutby:29 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 38 | PROB | HELL | I2/P | IRN2 | Under:36;Over:39;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 39 | PROB | HELL | I2/P | IRN2 | Under:36,38;Over:44;Cutby:40,57 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 41 | PROB | HELL | I2/P | - | Equals:B.2:mayequal37,42,81;under:31 | FILL | LOH | SOIL AND ROCK LAYER IN RESERVOIR FILL |
| 68 | B 1 42 | PROB | HELL | I2/P | IRN2 | Equals:43,B.2:80,81;Under:31,37,41;Over:45A;Cutby:57,29 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 43 | PROB | HELL | I2/P | IRN2 | Equals:42,B.2:80,81;Under:42;Over:45A;Cutby:29,57 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 44 | PROB | HELL | I2/P | IRN2 | Equals:85;Under:39,45B;Over:47,85;Cutby:40,57 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 45A | PROB | HELL | I2/P | IRN2 | Equals:B.2:83;Under:42=43;Over:45B=63;Cutby:57,40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 45B | PROB | HELL | I2/P | IRN2 | Equals:63,B.2:83;Under:45A;Over:64=44;Cutby:40,57 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 47 | PROB | HELL | I2/P | IRN2 | Equals:67,68,69;Under:44=66;Over:48=75,49=76,52=78,84;Cutby:40,57 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 48 | PROB | HELL | I2/P | IRN2 | Equals:75;Under:47;Over:49=76;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 49 | PROB | HELL | I2/P | IRN2 | Equals:76;Under:48=75,47;Over:51=77,52=78;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 50 | PROB | HELL | I2/P | IRN2 | Under:32;Over:54;Cutby:17,27 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 51 | PROB | HELL | I2/P | - | Equals:77;Under:49=76;Over:52=78;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 52 | PROB | HELL | I2/P | - | Equals:78,79,81,82,88,90;Under:42,49=76,51=77;Over:53=91;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 53 | PROB | HELL | I2/P | IRN2 | Equals:91;Under:52=90;Over:55=92;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 54 | PROB | HELL | I2/P | IRN2 | Under:50;Cutby:17,27 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 68 | B 1 55 | PROB | HELL | I2/P | IRN2 | Equals:92,93,95,96;Under:53=90,91;Over:94;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 75 | PROB | HELL | I2/P | - | Equals:48;Over:76;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 76 | PROB | HELL | I2/P | - | Equals:49;Under:48=75;Over:51=77,52=78;Cutby:40 | FILL | LOH | SEE LOCUS 49 |
| 71 | B 1 77 | PROB | HELL | I2/P | - | Equals:51;Under:49=76;Over:52=78;Cutby:40 | FILL | LOH | SEE LOCUS 51 |
| 71 | B 1 78 | PROB | HELL | I2/P | - | Equals:52;Under:47:49=76,51=77;Over:52=79;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 79 | PROB | HELL | I2/P | - | Equals:52,81;Under:52=78;Over:52=82,80;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 80 | PROB | HELL | I2/P | - | Equals:87;Under:79=81=82,84,52=82;Over:52=88,92;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 82 | PROB | HELL | I2/P | - | Equals:52;Under:52=79;Over:52=88,52=90,80;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 83 | PROB | HELL | - | - | Under:56;Over:100 | FILL | LOH | LARGE ROCK IN RESERVOIR FILL |
| 71 | B 1 84 | PROB | HELL | I2/P | - | Equals:B.2:94;Under:44,47,64,65,66,67,68,69,85;Over:80=87 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 85 | PROB | HELL | I2/P | - | Equals:44,64;Under:86,44;Over:84 | FILL | LOH | SA:BLK; SB:SILT; SC:ASH,BONES; SY:NE CRNR |
| 71 | B 1 86 | PROB | HELL | I2/P | - | Equals:B.2:94;Under:85 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 87 | PROB | HELL | I2/P | - | Equals:80,B.2:94;Under:84;Over:92 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 88 | PROB | HELL | I2/P | - | Equals:52;Under:52=82,80;Over:52=90,92;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 89 | PROB | HELL | I2/P | - | Equals:B.2:94;Under:92;Over:97 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 90 | PROB | HELL | I2/P | - | Equals:52,92;Under:52=82,52=88;Over:53=91,55=92;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 91 | PROB | HELL | I2/P | - | Equals:53;Under:52=90;Over:92=55;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 92 | PROB | HELL | I2/P | - | Equals:55,90,B.2:94;Under:80=87,88,53=91;Over:89,93-5,99,55=96;Cutby:40 | FILL | LOH | ROCK TUMBLE IN RESERVOIR FILL |
| 71 | B 1 93 | PROB | HELL | I2/P | - | Equals:55;Under:92;Over:94;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 94 | PROB | HELL | I2/P | - | Equals:92?;Under:55=96,92,93;Over:106,108,118=126=142;Cutby:40 | FILL | LOH | ROCK LAYER IN RESERVOIR FILL |
| 71 | B 1 95 | PROB | HELL | I2/P | - | Equals:55;Under:55=92;Over:55=96 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 96 | PROB | HELL | I2/P | - | Equals:55;Under55=92,55=95;Over:94 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 97 | PROB | HELL | I2/P | - | Equals:129;Under:89,99;Over:98,105;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 98 | PROB | HELL | I2/P | - | Under:97;Over:105,130 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 99 | PROB | HELL | - | - | Under:92;Over:97;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 100 | PROB | HELL | I2/P | - | Under:83;Over:99? | FILL | LOH | ROCK LAYER IN RESERVOIR FILL |
| 71 | B 1 101 | PROB | HELL | I2/P | - | - | FILL | LOH | SBSDRY BLK FRM 83 TO N BLK IN RESRVR FILL |
| 71 | B 1 102 | PROB | HELL | I2/P | - | - | FILL | LOH | E-W SUBSDRY BALK ALONG FNDATN TRNCH 40 |
| 71 | B 1 105 | PROB | HELL | I2/P | - | Equals:130,B.2:94;Under:97,98;Over:106=131;107=133,112 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 106 | PROB | HELL | I2/P | - | Equals:131,B.2:94;Under:105=130,,94;Over:107=133 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 107 | PROB | HELL | I2/P | - | Equals:133,B.2:94;Under:106,105,112,113,114;Over:108;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B 1 108 | PROB | HELL | I2/P | - | Equals:134,B.2:94;Under:107,113,94;Over:109,110,115;Cutby:40 | FILL | LOH | SOIL LAYER IN RESERVOIR FILL |

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|---|---|---|---|---|---|---|---|---|---|---|
| 71 | B | 1 | 109 | PROB | HELL | I2/P | - | Equals:135;B.2:107;Under:108;Over:110 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 1 | 110 | PROB | HELL | I2/P | - | Equals:136,137,B.2:11;Under:108,109;Over:11,115,118,123;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 1 | 112 | PROB | HELL | I2/P | - | Equals:130;Under:105;Over:107,113;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 1 | 113 | PROB | HELL | I2/P | - | Under:112;Over:107,108,114;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 1 | 114 | PROB | HELL | I2/P | - | Under:113;Over:107 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 1 | 115 | PROB | HELL | I2/P | - | Equals:125,141,B.2:124;Under:108,110,124;Over:116,118 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 1 | 116 | PROB | HELL | I2/P | - | Under:115;Over:118 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 118 | PROB | HELL | I2/P | - | Equals:126,142,B.2:125,126,128-136;Under:94,110,115,116;Over:119 | FILL | LGH | ROCK LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 122 | PROB | HELL | I2/P | - | Equals:11,138,B.2:111,118;Under:110;Over:124 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 123 | PROB | HELL | I2/P | - | Equals:139,B.2:111,118;Under:111;Over:124 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 124 | PROB | HELL | I2/P | - | Equals:140,B.2:120;Under:111,123;Over:115 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 125 | PROB | HELL | I2/P | IRN1 | Equals:115,141,B.2:124;Under:124;Over:118 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 126 | PROB | HELL | I2/P | - | Equals:118,142,B.2:125 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 129 | PROB | HELL | I2/P | - | Equals:92,97,B.2:94;Under:127;Over:130;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 130 | PROB | HELL | I2/P | - | Equals:105,112,B.2:94;Under:98,97;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 131 | PROB | HELL | I2/P | IRN1 | Equals:106,B.2:94;Under:105;Over:107,132;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 132 | PROB | HELL | I2/P | - | Under:106;Over:107 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 133 | PROB | HELL | I2/P | - | Equals:107,B.2:94;Under:106,132,105,112,113;Over:108;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 134 | PROB | HELL | I2/P | - | Equals:108,B.2:94;Under:107,113;Over:109,110,115;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 135 | PROB | HELL | I2/P | IRN1 | Equals:109,B.2:107;Under:108;Over:110 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 136 | PROB | HELL | I2/P | - | Equals:110,137,B.2:111,118;Under:108,135;Over:111,123;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 137 | PROB | HELL | I2/P | - | Equals:110,136,B.2:111,118;Under:108,135;Over:111,123;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 138 | PROB | HELL | I2/P | - | Equals:111,122,B.2:11,118;Under:110;Over:123;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 139 | PROB | HELL | I2/P | IRN1 | Equals:123,B.2:111,118;Under:111,110;Over:124;Cutby:40 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 140 | PROB | HELL | I2/P | - | Equals:124,B.2:120;Under:123;Over:115 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 141 | PROB | HELL | I2/P | - | Equals:114,124,B.2:124;Under:115,124;Over:118 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 1 | 142 | PROB | HELL | HELL | IRN1 | Equals:118,126,B.2:125-6,128,129,131-136;Under:94,115;Over:119 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 35B | PROB | HELL | I2/P | - | Equals:partB.1:15B;Under:33;Over:36,42 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 36 | PROB | HELL | I2/P | - | Equals:partB.1:15B;Under:35B;Over:37 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 37 | PROB | HELL | I2/P | - | Equals:partB.1:15B;Under:36;Over:38,41,42 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 38 | PROB | HELL | EROM | I2/P | Equals:partB.1:15B;Under:31,37;Over:39,41;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 39 | PROB | HELL | I2/P | - | Equals:partB.1:15B;Under:38,41,42;Over:40,65 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 40 | PROB | HELL | I2/P | - | Equals:65,PartB.1:15B;Under:39,57;Over:67,68,70;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 41 | PROB | HELL | - | - | Equals:partB.1:15B;Under:37,38;Over:39 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 42 | PROB | HELL | I2/P | - | Under:35B,37;Over:39;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 56 | PROB | HELL | I2/P | - | Under:48;Over:72;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 57 | PROB | HELL | EROM | I2/P | Under:48;Over:40,66;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 58 | PROB | HELL | I2/P | - | Under:53;Over:59 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 59 | PROB | HELL | EROM | I2/P | Under:58;Over:60 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 60 | PROB | HELL | I2/P | - | Under:51,59;Over:61 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 61 | PROB | HELL | I2/P | - | Under:60;Over:72 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 65 | PROB | HELL | I2/P | - | Equals:40,partB.1:15B;Under:39,57;Over:67,68,70;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 66 | PROB | HELL | I2/P | - | Under:57;Over:72;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 67 | PROB | HELL | I2/P | - | Equals:partB.1:15B;Under:40;Over:68,72 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 68 | PROB | HELL | I2/P | - | Equals:partB.1:15B;Under:40,65,67;Over:70;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 71 | B | 2 | 70 | PROB | HELL | I2/P | - | Equals:72,B.1:15B;Under:40,65,68 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 72 | PROB | HELL | I2/P | - | Equals:70,B.1:15B;Under:56,61,66,67,68;Over:73,79;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 73 | PROB | HELL | HELL | I2/P | Equals:74,B.1:19,24,331,B.2:74;Under:64,72;Over:79,81 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 74 | PROB | HELL | LROM | I2/P | Equals:73,B.1:19,B.1:24,B.1:31 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 78 | PROB | LHEL | HELL? | I2/P | Equals:87,109;Under:77;Cutby:75,82 | FILLLAY | LAM | FILL LAYER UNDER HUWWAR 77 |
| 73 | B | 2 | 79 | PROB | HELL | I2/P | IRN1 | Equals:B.1:31;Under:72,73;Over:80,81,83;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 80 | PROB | HELL | I2/P | - | Equals:81,B.1:41,42,43;Under:79;Over:83;Cutby:69 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 81 | PROB | HELL | I2/P | - | Equals:80,B.1:41,42,43;Under:73,79;Over:83 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 83 | PROB | HELL | HELL | I2/P | Equals:91,B.1:45A;Under:79,80,81;Over:94 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 87 | PROB | LHEL | HELL | I2/P | Equals:78,88,89,90,109;Under:77;Over:84A | FILLLAY | LAM | FILL LAYER IN ACCESS STAIR REMOVAL |
| 73 | B | 2 | 91 | PROB | HELL | - | - | Equals:83 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 94 | PROB | HELL | EROM | I2/P | Equals:B.1:56,84,86,87,89,92,97,105-8,130,133,134; B.4:202,203,207;Under:62,83;Over:107;Seals:113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 100 | PROB | HELL | I2/P | - | | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 107 | PROB | HELL | I2/P | IRN1 | Equals:B.1:109;Under:94;Over:111 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 2 | 111 | PROB | HELL | I2/P | - | Equals:118,B.1:111,136-138,123;Under:107;Over:120;Seals:113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 118 | PROB | HELL | EROM | IRN1 | Equals:111,B.1:136,138,139;Over:119 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 119 | PROB | HELL | I2/P | IRN1 | Under:118;Over:120;Seals:84,113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 120 | PROB | HELL | EROM | IRN1 | Equals:B.1:124;Under:111,119;Over:121,124;Seals:84,113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 121 | PROB | HELL | - | - | Under:120;Seals:84 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 122 | PROB | HELL | I2/P | - | Under:62,108,117;Over:94 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 124 | PROB | HELL | I2/P | IRN1 | Equals:B.1:115;Under:120;Over:125;Seals:84,113 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 125 | PROB | HELL | I2/P | - | Equals:B.1:118,Under:124;Over:126;Seals:84,113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 2 | 126 | PROB | HELL | I2/P | - | Equals:B.1:118;Under:125;Over:128;Seals:113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 2 | 128 | PROB | HELL | I2/P | IRN1 | Equals:B.1:118;Under:126;Over:129 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 2 | 129 | PROB | HELL | I2/P | - | Equals:B.1:118;Under:128;Over:130,131;Seals:113 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 2 | 130 | PROB | HELL | - | - | Under:129;Over:131 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 2 | 131 | PROB | HELL | I2/P | IRN1 | Equals:B.1:118;Under:129,130;Over:132;Seals:113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 2 | 132 | PROB | HELL | I2/P | - | Equals:B.1:118;Under:131;Over:133;Seals:113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 2 | 133 | PROB | HELL | HELL | IRN1 | Equals:B.1:118;Under:132;Over:134,135,136;Seals:113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 2 | 134 | PROB | HELL | I2/P | - | Equals:B.1:118;Under:133;Over:135,136;Seals:113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 2 | 135 | PROB | HELL | I2/P | - | Equals:B.1:118;Under:133,134;Over:136;Seals:113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 2 | 136 | PROB | HELL | I2/P | - | Equals:B.1:118;Under:133,134,135;Over:137;Seals:113A | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 73 | B | 3 | 53 | POSS | LHEL | HELL | I2/P | Under:37;Over:bdrk | FILLLAY | LAM | FILL LAYER OF NARI AND BRN SOIL OVER BDRK |
| 73 | B | 3 | 54 | POSS | LHEL | HELL | I2/P | Under:42;Over:bdrk | FILLLAY | LAM | FILL LAYER OVER BEDROCK |
| 74 | B | 4 | 202 | PROB | HELL | I2/P | IRN1 | Equals:205,B.2:94;Under:173,201;Over:203,221;Cutby:204,233?,236?,239? | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 203 | PROB | HELL | I2/P | - | Equals:205,B.2:94;Under:202;Over:205;Cutby:204,221 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 205 | PROB | HELL | EROM | IRN1 | Equals:202-3,218-220,224,B.2:94;Under:173,199-203;Over:207; Seals:190-1;Cutby:204,225,231,233,236,255,268-9 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 207 | PROB | HELL | - | - | Equals:215-6,B.2:94;Under:205;Over:272;Seals:190-1; Cutby:209,225,231,255,268-9 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 215 | PROB | HELL | I2/P | - | Equals:207 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 216 | PROB | HELL | - | - | Equals:207 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 218 | PROB | HELL | - | - | Equals:205;Under:221 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 219 | PROB | HELL | I2/P | - | Equals:205 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 220 | PROB | HELL | I2/P | - | Equals:205 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 224 | PROB | HELL | I2/P | - | Equals:205 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 272 | PROB | HELL | I2/P | - | Under:207;Over:273;Cutby:255,269,280 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 273 | PROB | HELL | I2/P | - | Under:272;Over:274 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | B | 4 | 274 | PROB | HELL | I2/P | - | Under:264,259,270,273;Over:unexcav | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 76 | B | 7 | 39 | PROB | HELL | I2/P | - | EqualsB.2:47;Under:33,37 | FILL | LGH | SOIL LAYER IN RESERVOIR FILL |
| 74 | D | 4 | 52 | POSS | LHEL | HELL | IRON | Under:2;Over:54 | FILL | LAM | FILL OVER LOCUS 54 |
| 74 | D | 4 | 54 | PROB | LHEL | IRON | IRON | Under:52 | FILL | LAM | FILL IN BEDROCK TRENCH 153 |
| 76 | D | 4 | 119 | POSS | LHEL | LHEL | IRN1 | Under:2;Over:121 | FILL | LAM | FILL UNDER A/MA WALL 2 IN S BALK |
| 73 | G | 1 | 45 | PROB | LHEL | HELL | IRN1 | Under:43,44;Over:bdrk;Cutby:43 | FILLLAY | LAM | FILL LAYER OVER BEDROCK E OF WALL 41 |
| 73 | G | 1 | 48 | PROB | LHEL | HELL | IRN1 | Under:46;Over:unexcav;Within:47 | FILL | LAM | FILL IN CISTERN 47 |
| 68 | A | 4 | 21 | PROB | LHEL | HELL | I2/P | Under:19;Within:20 | BEDRPIT | LAM | CIRC. CONE-SHPD CUT IN BDRK N OF WALL 12 |
| 76 | D | 4 | 113 | POSS | LHEL | NONE | - | Under:107;Over:bdrk | BEDRCUT | LAM | PROB STR SILO MTH S OF WALL 112, NOT CMPLTD |

# STRATUM 14

## Unassigned

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71 | A | 3 | 51 | PROB | EROM | EROM | I2/P | Under:50,52;Over:53 | TUMBLE | LAM | ROCK TUMBLE ALONG S BALK, UNDER 50 |
| 74 | B | 4 | 221 | PROB | EROM | NONE | - | Equals:204;Under:202;Over:218;Cuts:203 | TUMBLE | LAM | TMBL OF LRG CBBLS IN NW CRNR, EQLS PIT 204 |
| 76 | C | 5 | 114 | PROB | EROM | I2/P | IRN2 | Under:88;Over:119 | STAIR | LAM | ROW OF 5 STONES POSS WALL OR STEP |
| 73 | B | 4 | 152 | PROB | EROM | EROM | I2/P | Under:102;Over:186;Cutby:149 | SOILLAY | LAM | SOIL LAYER N OF WALL 115 |
| 76 | B | 4 | 278 | UNCT | EROM | NONE | - | Under:264,279;Over:unexcav;Seals:282;Cutby:264 | SOILLAY | LAM | SOIL LAYER IN SW CORNER,NOT EXCAVATED |
| 71 | C | 1 | 27 | POSS | EROM | EROM | I2/P | Under:10;Over:45;Sealedby:26,28,29 | SOILLAY | LAM | SOIL LAYER IN TRIANGULAR SHAPE NEAR S BALK |
| 71 | C | 1 | 38 | PROB | EROM | BYZN? | I2/P | Equals:18;Under:8,32,35;Over:64,65 | SOILLAY | LAM | SOIL LAYER AT S BALK, W OF WALL 8 |
| 71 | C | 1 | 55 | PROB | EROM | A/MA | I2/P | Under:45,76;Over:75,80 | SOILLAY | LAM | SOIL LAYER S OF WALL 14 |
| 71 | C | 1 | 58 | PROB | EROM | EROM | I2/P | Equals:C.2:37;Under:45;Over:75,82,83,85 | SOILLAY | LAM | SOIL LAYER AT E BALK, S OF WALL 37 |
| 73 | C | 1 | 60 | PROB | EROM | I2/P | - | Equals:69;Over:82;Under:46,76 | SOILLAY | LAM | SOIL LAYER IN SE QUADRANT |
| 71 | C | 1 | 65 | PROB | EROM | EROM | I2/P | Under:58,64;Over:82 | SOILLAY | LAM | SOIL LAYER IN SW QUADRANT, E OF WALL 40 |
| 71 | C | 1 | 68 | PROB | EROM | EROM | I2/P | Under:39,41,61,37;Over:69;Cutby:42,70 | SOILLAY | LAM | SOIL LAYER E OF WALL 30, N OF WALL 37 |
| 73 | C | 1 | 69 | PROB | EROM | A/MA | I2/P | Equals:60,117;Under:13,14,37,42,53,68,70;Over:80,112 | SOILLAY | LAM | SOIL LAYER E OF WALL 30 AND N OF WALL 37 |
| 73 | C | 1 | 75 | PROB | EROM | EROM | I2/P | Under:55,58;Over:82 | SOILLAY | LAM | SOIL LAYER IN SMALL CUT OF WALLS 40 AND 63 |
| 73 | C | 1 | 76 | PROB | EROM | HELL | I2/P | Equals:77-80,82;Under:45,46,62;Over:55,60 | SOILLAY | LAM | SOIL LYRS IN TST PRB EW AT LOC. OF WALL 14 |
| 73 | C | 1 | 77 | PROB | EROM | UMAY | IRN1 | Equals:76,81,113;Under:62,73,101;Over:78 | SOILLAY | LAM | PROB SOIL SURFACE IN CENTER OF SQUARE |
| 73 | C | 1 | 78 | PROB | EROM | LROM | IRN1 | Equals:76,81;Under:77;Over:79 | SOILLAY | LAM | SOIL LAYER IN CENTER OF SQUARE |
| 73 | C | 1 | 79 | PROB | EROM | EROM | IRN1 | Equals:76,81;Under:78;Over:80 | SOILLAY | LAM | SOIL LAYER IN CENTER OF SQUARE |
| 73 | C | 1 | 80 | PROB | EROM | EROM | IRN1 | Equals:76;Under:55,62,69,79,81;Over:82 | SOILLAY | LAM | SOIL LAYER IN CENTER OF SQUARE |
| 73 | C | 1 | 82 | POSS | EROM | LROM? | IRN1 | Equals:76,C.2:37;Under:55,58,60,65,66,69,75,80,101;Over:83 | SOILLAY | LAM | SOIL LAYER IN SE QUADRANT, E OF WALL 40 |
| 73 | C | 1 | 83 | PROB | EROM | EROM | IRN1 | Under:58,82;Over:84;Cutby:51 | SOILLAY | LAM | SOIL LAYER IN SE CORNER, E OF WALL 40 |
| 73 | C | 1 | 85 | POSS | EROM | HELL | I2/P | Equals:C.2:37;Under:58;Over:87 | SOILLAY | LAM | SOIL LAYER ALONG E BALK IN SE CORNER |
| 73 | C | 1 | 86 | POSS | EROM | HELL | IRN1 | Under:84;Over:88,89 | SOILLAY | LAM | SOIL LAYER, PROB FILL IN SE CORNER OF SQUARE |
| 73 | C | 1 | 87 | POSS | EROM | HELL | I2/P | Under:85;Over:88 | SOILLAY | LAM | SOIL LAYER ALONG E BALK IN SE CORNER |
| 73 | C | 1 | 89 | POSS | EROM | HELL | IRN1 | Under:84,86;Over:90,91 | SOILLAY | LAM | SOIL LAYER JUST W OF WALL 90 |
| 73 | C | 1 | 93 | POSS | EROM | EROM? | IRN1 | Under:88,92;Over:94 | SOILLAY | LAM | SOIL LAYER OVER BEDROCK IN SE CORNER |
| 74 | C | 1 | 103 | PROB | EROM | BYZN | I2/P | Equals:C.5:86;Under:67,71,72;Over:104-109;Cutby:110 | SOILLAY | LAM | SOIL LAYER IN NW CORNER |
| 74 | C | 1 | 104 | PROB | EROM | EROM | IRN1 | Under:103;Over:105 | SOILLAY | LAM | SOIL LYR, W/GRVL, IN NW QUAD. ALNG W BALK |
| 74 | C | 1 | 105 | PROB | EROM | EROM | IRN1 | Under:67,71,103,104,106,108,109;Over:118;Cutby:110 | SOILLAY | LAM | SOIL LAYER IN NW CORNER |
| 74 | C | 1 | 113 | PROB | EROM | EROM | IRN1 | Equals:77;Under:112;Over:114,115;Cutby:111 | SOILLAY | LAM | VERY ROCKY SOIL LYR E OF WALL 30 AND PT 111 |
| 74 | C | 1 | 114 | PROB | EROM | EROM | IRN1 | Under:111,112,113;Over:116 | SOILLAY | LAM | SOIL LAYER E OF WALL 30 |
| 74 | C | 1 | 115 | PROB | EROM | EROM | IRN1 | Under:113;Over:116 | SOILLAY | LAM | SOIL LAYRE E OF WALL 30 |
| 74 | C | 1 | 117 | PROB | EROM | A/MA | IRN1 | Equals:69;Under:30,116;Over:125(unexcav) | SOILLAY | LAM | SOIL LAYER E OF WALL 30 |
| 73 | C | 2 | 27 | PROB | EROM | EROM | IRN1 | Under:24;Over:28,39 | SOILLAY | LAM | SOIL LAYER W OF WALL 26 |
| 73 | C | 2 | 35 | PROB | EROM | EROM | IRN1 | Under:25,36;Over:52;Cutaby:35 | SOILLAY | LAM | SOIL LAYER OF CMPST NATURE N OF WALL 36 |
| 73 | C | 3 | 31 | PROB | LROM | LROM | EROM | Under:27;Over:34 | SOILLAY | LAM | SOIL LAYER IN S PART OF SQUARE |
| 76 | C | 5 | 86 | PROB | EROM | A/MA | IRN1 | Equals:C.1:103;Under:52;Over:105;Cutby:62 | SOILLAY | LAM | SOIL LAYER UNDER LOCUS 52 IN NE CORNER |
| 76 | C | 5 | 102 | POSS | EROM | NONE | - | Under:97,108;Over:213(unexcav) | SOILSUR | LAM | SOIL SURFACE S OF WALL 60, E OF WALL 77 |
| 76 | C | 5 | 105 | PROB | EROM | I2/P | I2/P | Under:86;Over:107;Cutby:62,77,136 | SOILLAY | LAM | SOIL LAYER N OF WALL 60 AND W OF WALL 77 |
| 76 | C | 5 | 107 | PROB | EROM | EROM | I2/P | Under:105;Over:109;Cutby:62,136 | SOILLAY | LAM | SOIL LAYER IN NE CORNER |
| 76 | C | 5 | 109 | PROB | EROM | IRN2 | - | Under:107;Over:110;Cutby:62,136 | SOILLAY | LAM | SOIL LAYER IN NE CORNER |
| 76 | C | 5 | 110 | PROB | EROM | I2/P | I2/P | Under:109;Over:112,118;Cutby:62,136 | SOILSUR | LAM | SOIL SURFACE IN NE CORNER |
| 76 | C | 5 | 112 | PROB | EROM | I2/P | I2/P | Under:110;Over:117,129;Cutby:62,136 | SOILLAY | LAM | SOIL LAYER IN NE CORNER |
| 76 | C | 5 | 117 | PROB | EROM | NONE | - | Under:112;Over:118,119,129 | SOILSUR | LAM | SOIL SURFACEIN NE CORNER |
| 76 | C | 5 | 119 | PROB | EROM | I2/P | IRN2 | Under:114,118;Over:131 | SOILLAY | LAM | SOIL LAYER IN NE CORNER, N OF WALL 60 |
| 76 | C | 5 | 129 | PROB | EROM | IRN2 | IRN2 | Under:112,117;Over:131;Cutby:62,136 | SOILLAY | LAM | SOIL LAYER IN NE CORNER, N OF WALL 60 |
| 76 | C | 5 | 131 | PROB | EROM | EROM | IRN1 | Under:119,129;Over:147,150,152,155;Cutby:62,136 | SOILLAY | LAM | SOIL LAYER N OF WALL 60 |
| 76 | C | 5 | 150 | PROB | EROM | LROM | IRN2 | Under:131;Over:163;Cutby:62 | SOILLAY | LAM | SOIL LAYER N OF WALL 60 |
| 76 | C | 5 | 168 | POSS | EROM | IR1B | IR1B | Under:164,165;Over:170 | SOILLAY | LAM | SOIL LAYER ALONG W BALK, N OF WALL 82 |
| 76 | C | 5 | 178 | PROB | EROM | BYZN | IRN1 | Under:127,135;Over:179;Seals:82 | SOILLAY | LAM | SOIL LAYER AT W BALK, S OF WALL 82 |
| 76 | C | 5 | 179 | PROB | EROM | EROM | IRON | Under:135,178;Over:173 | SOILLAY | LAM | SOIL LAYER AT W BALK, S OF WALL 82 |
| 76 | C | 5 | 227 | POSS | EROM | ERM3 | IR1A | Under:225,226;Over:bdrk | SOILLAY | LAM | SOIL LAYER, ARBITRARY SERIES |
| 76 | C | 7 | 69 | PROB | EROM | ERM4 | IRN1 | Under:58,60;Over:72,73,76;Seals:44 | SOILLAY | LAM | SOIL LAYER W OF WALL 44 |
| 76 | C | 7 | 73 | PROB | EROM | IRON | - | Under:69;Over:76 | SOILLAY | LAM | SOIL LAYER ALONG W FACE OF WALL 44 |
| 76 | C | 7 | 76 | PROB | EROM | EROM | IRN1 | Under:69,72,73;Over:80 | SOILLAY | LAM | SOIL LAYER W OF WALL 44 |
| 76 | C | 7 | 79 | PROB | EROM | EROM | - | Under:76;Over:bdrk | SOILLAY | LAM | SOIL LAYER JUST W OF DOORWAY 81 |
| 76 | C | 7 | 107 | POSS | EROM | ERM3 | IRON | Over:102;Within:86 | SOILLAY | LAM | SOIL LAYER IN CAVE 86 |
| 76 | C | 9 | 59 | POSS | EROM | R/LH | - | Under:49,58;Over:23 | SOILLAY | LAM | SOIL LAYER IN TWO PATCHES N OF WALL 8 |
| 74 | D | 3 | 89 | PROB | EROM | EROM | HELL | Equals:D.2:108;Under:85;Over:90:Seals:70 | SOILSUR | LAM | PROB SOIL SURFACE IN THRSHLD N OF WALL 70 |
| 76 | B | 4 | 283G | PROB | EROM | ERM3 | ERM3 | Under:283F;Over:283H;Seals:283B;Cutby:283I;Within:283 | PLASLIN | LAM | PLASTER OVER BEDROCK IN CAVE 283 |
| 74 | B | 4 | 204 | PROB | EROM | EROM | EROM | Equals:221;Over:205;Cuts:202 | PIT | LAM | PIT IN W BALK NEAR NW CORNER |
| 74 | B | 4 | 233 | PROB | EROM | EROM | I2/P | Cuts:205 | PIT | LAM | PIT OF DARK SOIL IN NW CORNER AT W BALK |
| 74 | B | 4 | 255 | PROB | EROM | ER/H | I2/P | Under:231,225;Over:unexcav;Cuts:272 | PIT | LAM | PIT IN NW CENTER |
| 73 | C | 2 | 37 | PROB | EROM | EROM | IRN1 | Equals:C.1:58,C.1:82,C.1:85;Under:32,42,43;Over:50;Cuts:34,40,47,48 | PIT | LAM | PIT IN SW CORNER, TWO DISTINCT LAYERS |
| 71 | A | 2 | 46 | POSS | EROM | EROM | I2/P | Under:44;Over:24 | HUWSURF | LAM | HUWWAR LAYER ON BEDROCK |
| 74 | B | 4 | 263 | PROB | EROM | ER/H | IRON | Under:237;Over:228,234,235 | HUWLAY | LAM | HUWWAR AND SOIL LAYER ON BEDROCK 235 |
| 73 | C | 1 | 45 | PROB | EROM | A/MA | I2/P | Equals:C.2:52;Under:12,15,18,24,26-7,31,44;Over:46,50,55-6,58,76 | HUWLAY | LAM | HUWWAR LAYER E OF WALL 8 |
| 73 | C | 1 | 88 | POSS | EROM | HELL | IRN1 | Under:86,87;Over:92,93 | HUWLAY | LAM | HUWWAR LAYER IN SE CORNER |
| 73 | C | 1 | 92 | POSS | EROM | HELL | I2/P | Under:88;Over:93 | HUWLAY | LAM | HUWWAR LAYER IN SMALL PCKT S OF WALL 90 |
| 73 | C | 2 | 32 | PROB | EROM | EROM | IRN1 | Equals:C.1:45;Under:15,24;Over:37;Cutby:29;Cuts:34,40 | HUWLAY | LAM | HUWWAR LAYER IN SW CORNER |
| 74 | C | 2 | 69 | PROB | EROM | EROM | IRN1 | Under:39;Over:70 | HUWLAY | LAM | HUWWAR LAYER AT N SBULK, POSS FILL IN PIT |
| 74 | C | 2 | 70 | PROB | EROM | EROM | I2/P | Under:69;Over:71 | HUWLAY | LAM | HUWWAR LAYER AT N SBULK, POSS FILL IN PIT |
| 74 | C | 2 | 71 | PROB | EROM | EROM | I2/P | Under:70;Over:74 | HUWLAY | LAM | HUWWAR LAYER AT N SBALK, POSS FILL IN PIT |
| 76 | C | 7 | 72 | PROB | EROM | IRON | - | Under:69;Over:76 | HUWSURF | LAM | HUWWAR SURFACE W OF WALL 44 |
| 76 | C | 9 | 57 | PROB | EROM | ERM3 | IRON | Under:49;Over:23 | HUWSURF | LAM | HUWWAR SURFACE N OF WALL 8 |
| 71 | D | 1 | 51 | PROB | EROM | EROM | I2/P | Under:49;Over:52;Seals:4D | HUWSURF | LAM | POSS HUWWAR SRFC ON BDRK N OF WALL 4 |
| 74 | D | 3 | 85 | PROB | EROM | NONE | - | Equals:D.2:108;Under:88;Over:89;Seals:70 | HUWSURF | LAM | HUWWAR SURFACE N OF WALL 70 |
| 73 | B | 3 | 56 | PROB | EROM | EROM | I2/P | Under:46;Over:71;Within:100 | FILLAY | LAM | FILL LAYER IN CAVE 100 |
| 73 | B | 3 | 57 | PROB | EROM | EROM | I2/P | Under:46;Over:58,59,70;Within:100 | FILLAY | LAM | FILL LAYER IN CAVE 100 |
| 71 | C | 1 | 18 | POSS | EROM | A/MA | I2/P | Equals:38;Under:10;Over:45;Cutby:8 | FILLAY | LAM | FILL LAYER E OF WALL 8 |
| 76 | C | 5 | 213 | PROB | EROM | EROM | IRN1 | Under:102;Over:unexcav | FILL | LAM | FILL LAYER ON E FACE OF WALL 77 |
| 74 | D | 2 | 108 | PROB | EROM | EROM | I2/P | Equals:109,D.3:85,D.3:89-90;Under:60,68,103;Over:bdrk;Cutby:68 | FILLAY | LAM | SOIL LAYER, FILL OVER BEDROCK EQUALS 100 |
| 74 | D | 2 | 109 | PROB | EROM | HELL? | IRON | Equals:108,D.3:85,D.3:89,D.3:90;Under:103;Over:bdrk | FILL | LAM | SEE LOCUS 108 |
| 74 | D | 3 | 90 | PROB | EROM | ER/H | I2/P | Equals:D.2:108;Under:89;Over:86 | FILLAY | LAM | FILL LAYER UNDER 89 |
| 74 | D | 2 | 64 | PROB | EROM | NONE | - | Under:57;Over:bdrk;Sealedby:66,67,103;Cutby:55B | DOMWAL | LAM | EW WALL E OF WALL 55B |
| 74 | D | 2 | 83 | POSS | EROM | HELL? | HELL? | Under:82;Over:84 | BEDRPIT | LAM | BEDROCK PIT UNDER 82 NEAR 3 BALK |
| 74 | C | 5 | 52 | POSS | EROM | A/MA | IRN1 | Equals:C.1:67;Under:51;Cutby:62;Over:86 | ASHLAY | LAM | ASH LAYER UNDER LOCUS 8 IN NE CORNER |

## Stage A

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71 | A | 1 | 27 | PROB | EROM | A/MA | I2/P | Under:25;Over:bdrk | TUMBLE | LAM | SOIL LAYER/ROCK TUMBLE N OF WALL 19 |
| 74 | A | 5 | 80 | PROB | EROM | EROM | IRON | Over:79 | TUMBLE | LAM | RK TMBL IN CRNR FRMD BY WALLS 22 AND 10 |
| 71 | B | 3 | 48 | POSS | EROM | NONE | - | Under:43;Over:78 | TUMBLE | LAM | ROCK TUMBLE UNDER 43 |
| 73 | B | 4 | 166 | POSS | EROM | HELL | I2/P | Under:94;Over:bdrk | TUMBLE | LAM | STONES NEXT TO N FACE OF WALL 120 |
| 73 | B | 4 | 186 | PROB | EROM | EROM | I2/P | Under:147,152;Over:225,245 | TUMBLE | LAM | RK TMBL ON BDRK SHLF E OF E MARG. OF RSRV |

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|---|---|---|---|---|---|---|---|---|---|---|
| 76 | B | 4 | 283E | POSS | EROM | NONE | - | Under:283C,283D,283F;Over:unexcav;Within:283 | TUMBLE | LAM | TUMBLE IN CAVE 283 |
| 76 | C | 1 | 125 | PROB | EROM | EROM | IR1A | Under:117;Over:124 | TUMBLE | LAM | ROCK TUMBLE ON E SIDE OF WALL 30 AT BASE |
| 73 | C | 2 | 28 | PROB | EROM | EROM | IRN1 | Under:24,27;Over:31,39,46 | TUMBLE | LAM | ROCK TUMBLE N OF WALL 26 |
| 73 | C | 2 | 39 | PROB | EROM | HELL | IRN1 | Under:27,28;Over:69;Cuts:34,40 | TUMBLE | LAM | ROCK TUMBLE E OF WAL 38 |
| 74 | D | 2 | 59 | PROB | EROM | A/MA | I2/P | Under:56;Over:55B,70 | TUMBLE | LAM | ROCK TUMBLE E OF WALL 55B, S OF WALL 26 |
| 74 | D | 2 | 70 | PROB | EROM | EROM | I2/P | Under:59;Over:78,79 | TUMBLE | LAM | ROCK TUMBLE S OF WALL 26 |
| 74 | D | 2 | 78 | PROB | EROM | EROM | IRON | Under:70;Over:76 | TUMBLE | LAM | ROCK TUMBLE N OF WALL 64 |
| 74 | D | 2 | 79 | PROB | EROM | EROM | HELL | Under:70;Over:103 | TUMBLE | LAM | ROCK TUMBLE AROUND WALL 64 |
| 74 | B | 4 | 254 | PROB | EROM | EROM | I2/P | Under:238,248;Over:261,262,267,262A;Seals:261,262 | SOILLAY | LAM | SOIL LAYER WVER TABUNS 261 AND 262 |
| 76 | B | 4 | 283B | PROB | EROM | ERM3 | ERM3 | Over:283H;Sealedby:283A,283F,283G;Within:283 | SOILLAY | LAM | SOIL LAYER IN CAVE 283 |
| 76 | D | 3 | 107 | PROB | EROM | NONE | - | Under:104,105,106;Over:108,109 | BEDROCK | LAM | COLLAPSED BEDROCK IN MOUTH OF CAVE 83 |

## Stage B

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71 | B | 2 | 54 | POSS | EROM | EROM | I2/P | Under:53;Over:64 | TABUN | LAM | TABUN IN NE NEAR E BALK |
| 71 | B | 4 | 66 | PROB | EROM | EROM | I2/P | Under:55;Over:58,70,81 | TABUN | LAM | TABUN AGAINST N FACE OF POSS EW WALL 73 |
| 73 | B | 4 | 84 | PROB | EROM | I2/P | I2/P | Under:78;Over:173;Sealedby:88;Cuts:98;Contains:140-143,145 | TABUN | LAM | TABUN PARTLY IN W BALK NEAR NW CORNER |
| 74 | B | 4 | 261 | PROB | EROM | NONE | - | Under:254,267;Over:270;Cutby:262;Sealedby:254,267;Conts:261A | TABUN | LAM | TABUN W OF BEDROCK E MARGIN OF RESERVOIR |
| 74 | B | 4 | 262 | PROB | EROM | NONE | - | Under:254;Over:266;Sealedby:254,267;Cuts:261;Conts:262A,262B | TABUN | LAM | TABUN JUST S OF TABUN 261 |
| 71 | A | 1 | 68 | PROB | EROM | EROM | IRN1? | Under:26B;Over:bdrk | STORBIN | LAM | PROB STORE BIN BLT AGNST N PC OF WALL 26 |
| 68 | A | 1 | 25 | PROB | EROM | ERM2 | ERM2 | I2/P | Under:15;Over:27,28,29 | SOILSUR | LAM | SOIL SURFACE E OF WALL 17 N OF 16 |
| 71 | A | 1 | 28 | PROB | EROM | BYZN | I2/P | Under:25;Over:38,41 | SOILLAY | LAM | SOIL LAYER IN E CENTER OF SQUARE |
| 71 | A | 1 | 29 | POSS | EROM | A/MA | I2/P | Under:25;Over:30,36 | SOILLAY | LAM | SOIL LAYER BETWEEN 19 AND 26 |
| 71 | A | 1 | 30 | PROB | EROM | EROM | I2/P | Under:29;Over:37,bdrk | SOILLAY | LAM | SOIL LAYER AT E BALK BETWEEN 19 AND 26 |
| 71 | A | 1 | 33 | PROB | EROM | EROM | IRN2 | Under:15,34;Over:35;Sealedby:31,32 | SOILLAY | LAM | SOIL LAYER BETWEEN WALLS 17,19 AND 26 |
| 71 | A | 1 | 34 | PROB | EROM | EROM | I2/P | Under:32;Over:33 | SOILLAY | LAM | SOIL LAYER BETWEEN WALLS 17.19 AND 26 |
| 71 | A | 1 | 35 | PROB | EROM | EROM | IRN2 | Under:33;Over:37;Sealedby:31,32 | SOILLAY | LAM | SOIL LAYER BETWEEN 17, 19 AND 26 |
| 71 | A | 1 | 36 | PROB | EROM | EROM | I2/P | Under:29,30;Over:38 | SOILLAY | LAM | SOIL LAYER BETWEEN 17,19 AND 26 |
| 71 | A | 1 | 50 | POSS | EROM | NONE | - | Under:47;Over:bdrk | SOILLAY | LAM | SOIL LAUER IN SHALLOW BEDROCK PIT |
| 71 | A | 1 | 63 | PROB | EROM | EROM | I2/P | Under:22;Over:bdrk | SOILLAY | LAM | SOIL LAYER OVER BEDROCK S OF WALL 12 |
| 71 | A | 2 | 22 | PROB | EROM | EROM | I2/P | Under:21;Over:bdrk | SOILLAY | LAM | SOIL LAYER OVER BEDROCK |
| 71 | A | 3 | 26B | PROB | EROM | EROM | I2/P | Under:26A;Over:27,28;Cutby:5,8,21 | SOILLAY | LAM | SOIL LAYER IN SBLK BETWN WALLS 5,21 AND 8 |
| 71 | A | 3 | 27 | PROB | EROM | EROM | I2/P | Under:26B;Over:28;Cutby:5,8,21 | SOILLAY | LAM | SOIL LAUER IN SBLK BETWN WALLS 5,21 AND 8 |
| 71 | A | 3 | 32 | PROB | EROM | EROM | I2/P | Equals:33;Under:25;Over:30 | SOILSUR | LAM | SOIL LAYER, PROB OCC. SURFACE IN NW CRNR |
| 71 | A | 3 | 33 | PROB | EROM | IRON | IRON | Equals:32;Under:29,22;Over:30 | SOILSUR | LAM | SOIL LAYER, PROB OCC. SURFACE IN NW CRNR |
| 71 | A | 3 | 47 | PROB | EROM | EROM | I2/P | Under:46;Over:bdrk | SOILLAY | LAM | SOIL LAYER ABOVE BEDROCK |
| 71 | A | 3 | 55 | PROB | EROM | EROM | I2/P | Under:28;Over:56 | SOILSUR | LAM | SOIL LYR POSS OCC. SRPC IN NE, E OF WALL 54 |
| 73 | A | 3 | 71 | PROB | EROM | EROM | I2/P | Equals:A.4:56W;Under:70;Over:72;Seals:67 | SOILSUR | LAM | SOIL LYR POSS SRPC AGNST S FACE OF WALL 67 |
| 73 | A | 3 | 72 | PROB | EROM | EROM | I2/P | Equals:A.4:56B;Under:71;Over:bdrk;Seals:67 | SOILSUR | LAM | SOIL LYR POSS SRPC AGNST S FACE OF WALL 67 |
| 71 | A | 4 | 32 | PROB | EROM | EROM | EROM | Under:29;Over:30 | SOILLAY | LAM | SOIL LAYER IN CRNR OF W BALK AND WALL 12 |
| 73 | A | 4 | 56B | PROB | EROM | LROM | IRON | Equals:A.3:71,A.3:72;Under:56A;Over:57 | SOILLAY | LAM | SOIL LYR POSS SRPC IN SE CRNR S OF WALL 12 |
| 73 | A | 4 | 57 | PROB | EROM | BYZN? | I2/P | Equals:A.3:72;Under:56B;Over:bdrk | SOILLAY | LAM | SOIL LYR POSS SRPC IN SE CRNR S OF WALL 12 |
| 71 | A | 5 | 34 | PROB | EROM | EROM | I2/P | Under:31;Over:35,36;Cutby:25 | SOILSUR | LAM | SOIL LYR N AND W OF WALLS 10 AND 11 PROB SRPC |
| 71 | A | 5 | 35 | PROB | EROM | LROM? | I2/P | Under:34;Over:36 | SOILSUR | LAM | SOIL LYR N AND W OF WALLS 10 AND 11 PROB SRPC |
| 73 | A | 6 | 76 | PROB | EROM | EROM | I2/P | Under:75,87;Over:81,82,88;Cutby:70 | SOILLAY | LAM | SOIL LAYER E OF WALL 65 |
| 73 | A | 6 | 76S | POSS | EROM | NONE | - | Under:87;Over:88 | SOILLAY | LAM | SOIL LAYER POSS SOIL SURFACE IN SE CORNER |
| 73 | A | 6 | 82 | PROB | EROM | NONE | - | Under:76;Over:83;Cutby:70 | SOILSUR | LAM | SOIL LAYER E OF WALL 65 N OF WALL 68 SURFACE? |
| 76 | A | 11 | 44 | PROB | EROM | ERM4 | IR1C | Under:43;Over:unexcav;Seals:3B,49 | SOILSUR | LAM | BEATEN EARTH SURFACE IN SE ROOM |
| 71 | B | 4 | 70 | PROB | EROM | EROM | I2/P | Under:55,66;Over:81 | SOILLAY | LAM | SOIL LAYER ASS. WITH TABUN 66 |
| 73 | B | 4 | 88 | PROB | EROM | A/MA | I2/P | Under:78,81;Over:89,90,95,100,103-04,108-9,114-15,118,169,183;Seals:83,84 | SOILLAY | LAM | SOIL LAYER POSS USE SRPC ASS. W/TABUN 84 |
| 73 | B | 4 | 89 | PROB | EROM | NONE | - | Under:88;Over:90 | SOILLAY | LAM | SOIL LAYER IN EXTREME NW CORNER |
| 73 | B | 4 | 90 | PROB | EROM | EROM | I2/P | Under:88,89;Over:98;Seals:100;Cutby:121 | SOILLAY | LAM | SOIL LAYER IN NW CORNER W OF WALL 100 |
| 73 | B | 4 | 97 | PROB | EROM | EROM | I2/P | Under:96;Over:102,128;Seals:100,115 | SOILLAY | LAM | SOIL AND ASH LAYER E OF WLL 100 |
| 73 | B | 4 | 105 | PROB | EROM | EROM | I2/P | Equals:95;Under:87,88,104,109;Over:96 | SOILSUR | LAM | SOIL SURFACE POSS FLOOR E OF WALL 100 |
| 73 | B | 4 | 109 | PROB | EROM | A/MA | I2/P | Under:88,103;Over:104,105;Seals:83 | SOILSUR | LAM | SOIL SURAFCE POSS COMPOSITE S OF WALL 83 |
| 73 | B | 4 | 118 | PROB | EROM | EROM | I2/P | Under:88;Over:100,115,126 | SOILLAY | LAM | SIL LAYER S OF TABUN 84 & WALL 100 = 88? |
| 73 | B | 4 | 126 | POSS | EROM | LROM? | I2/P | Under:118;Over:180;Seals:100,115,127;Cutby:121 | SOILLAY | LAM | SOIL LAYER E OF TABUN 84 POSS SURFACE |
| 73 | B | 4 | 140 | PROB | EROM | EROM | HELL | Under:78;Over:141,142;Within:84 | SOILLAY | LAM | SOIL LAYER IN TABUN 84 |
| 73 | B | 4 | 141 | PROB | EROM | EROM | HELL | Under:140;Over:143;Within:84 | SOILLAY | LAM | SOIL LAYER IN TABUN 84 |
| 73 | B | 4 | 142 | PROB | EROM | EROM | I2/P | Under:140;Over:143;Within:84 | SOILLAY | LAM | SOIL LAYER IN TABUN 84 |
| 73 | B | 4 | 144 | PROB | EROM | HELL | I2/P | Under:130;Over:185,188,189,bdrk;Within:74 | SOILLAY | LAM | SOIL LAYER IN CAVE 74 |
| 73 | B | 4 | 145 | PROB | EROM | HELL | I2/P | Under:143;Over:173;Within:84 | SOILLAY | LAM | SOIL LAYER IN TABUN 84 MAY EQUAL 173 |
| 73 | B | 4 | 147 | PROB | EROM | HELL | I2/P | Under:102;Over:128,150,186;Seals:100;Cutby:149 | SOILLAY | LAM | SIL LAYER POSS SURFACE E OF WALL 100 |
| 73 | B | 4 | 172 | PROB | EROM | EROM? | I2/P | Under:98;Over:173;Seals:100 | SOILLAY | LAM | SOIL LAYER W OF WALL 100 |
| 73 | B | 4 | 177 | PROB | EROM | EROM | I2/P | Under:162;Over:179;Within:171 | SOILLAY | LAM | SOIL LAYER IN COLLAPSED CAVE 171 |
| 73 | B | 4 | 179 | PROB | EROM | EROM | I2/P | Under:177;Over:181,bdrk;Within:171 | SOILLAY | LAM | SOIL LAYER IN CAVE 171 |
| 73 | B | 4 | 181 | PROB | EROM | ERM2 | HELL | Under:179;Over:bdrk;Within:171 | SOILLAY | LAM | SOIL LAYER IN SMALL BDRK CUT IN CAVE 171 |
| 73 | B | 4 | 184 | PROB | EROM | EROM | I2/P | Under:124;130;Over:187,bdrk;Within:188 | SOILLAY | LAM | SOIL LAYER IN BEDROCK CUT IN CAVE 74 |
| 74 | B | 4 | 262A | PROB | EROM | ER/H | ER/H | Under:254;Over:262B;Within:262 | SOILLAY | LAM | SOIL LAYER IN TABUN 262 |
| 74 | B | 4 | 267 | PROB | EROM | NONE | - | Under:254;Over:261,261A;Over:261,270;Seals:262 | SOILLAY | LAM | VERY HARD SOIL LAYER AROUND TABUN 262 |
| 73 | C | 1 | 84 | POSS | EROM | EROM | I2/P | Under:56,83;Over:86,89 | SOILSUR | LAM | PROB SOIL SURFACE IN SE CORNER |
| 74 | C | 1 | 106 | PROB | EROM | EROM | IRN1 | Under:103,107;Over:105 | SOILLAY | LAM | SOIL LAYER IN NW CORNER POSS FIREPIT |
| 74 | C | 1 | 108 | PROB | EROM | EROM | IRON | Under:103;Over:105, | SOILLAY | LAM | SOIL LAYER AROUND EDGE OF PROB FIREPIT 107 |
| 74 | C | 1 | 112 | PROB | EROM | LROM | I2/P | Under:62,69;Over:113,114,116 | SOILSUR | LAM | SOIL SURFACE E OF WALL 30 |
| 76 | C | 7 | 60 | PROB | EROM | HELL | IR1B | Under:58;Over:69;Seals:44 | SOILLAY | LAM | SOIL LAYER W OF WALL 44 PROB SURFACE |
| 71 | D | 1 | 52 | PROB | EROM | EROM | I2/P | Under:51;Over:bdrk | SOILLAY | LAM | SOIL IN BEDROCK POCKETS BENEATH 51 |
| 74 | D | 2 | 63 | PROB | EROM | A/MA | IRON | Under:57;Over:66 | SOILLAY | LAM | SOIL LAYER BETWEEN WALLS 26 AND 64 |
| 74 | D | 2 | 65 | PROB | EROM | EROM | IRON | Equals:67;Under:66;Over:74 | SOILSUR | LAM | EQUALS LOCUS 67 |
| 74 | D | 2 | 66 | PROB | EROM | ER/H | I2/P | Under:63;Over:65,67;Seals:64 | SOILSUR | LAM | SOIL SURFACE N OF WALL 64 |
| 74 | D | 2 | 67 | PROB | EROM | ER/H | I2/P | Equals:65;Under:66;Over:74;Seals:64 | SOILSUR | LAM | SOIL SURFACE N OF WALL 64 |
| 74 | D | 2 | 74 | PROB | ERM1 | HELL | IRN1? | Equals:92;Under:26,65,67;Over:76 | SOILSUR | LAM | SOIL SURFACE N OF WALL 64 |
| 74 | D | 2 | 92 | POSS | LHEL | HELL | I2/P | Equals:74;Under:26;Over:76 | SOILLAY | LAM | SOIL LAYER UNDER WALL 26 |
| 74 | D | 3 | 88 | PROB | EROM | NONE | - | Under:81;Over:85;Seals:70 | SOILLAY | LAM | SOIL LAYER WINDBLOWN? IN NE CRNR OVER 85 |
| 76 | D | 3 | 109 | PROB | EROM | ERM3 | IRON? | Under:107,108 | SOILLAY | LAM | SOIL LAYER UNDER 108 & COLLAPSED BDRK 107 |
| 76 | D | 4 | 118A | PROB | EROM | LRM1 | HELL | Over:bdrk;Within:118 | SOILLAY | LAM | SOIL LAYER POSS OCC. DEBRIS . |
| 71 | D | 6 | 44 | PROB | EROM | EROM | I2/P | Equals:A.3:58;Under:41,42;Over:45,46 | SOILSUR | LAM | SOIL SURFACE E OF WALL 41 |
| 74 | D | 2 | 76 | POSS | ERM1 | ER/H | IRON | Under:74,78,92;Over:82,77 | ORGANIC | LAM | STRAW-LIKE SURFACE LAYER UNDER 74 |
| 71 | D | 1 | 49 | PROB | EROM | EROM | I2/P | Equals:D.6:72;Under:48;Over:51 | OCCSURF | LAM | PROB OCCUPATION SURFACE N OF WALL 4 |
| 74 | D | 2 | 84 | POSS | EROM | ER/H | IRON | Under:82,83;Over:bdrk | OCCSURF | LAM | OCCUPATION SURFACE IN NE CORNER |
| 71 | A | 3 | 50 | PROB | EROM | EROM | I2/P | Equals:52;Under:42,49;Over:48,51 | HUWSURF | LAM | HUWWAR LAYER UNDER 42 AND 49 |
| 71 | A | 3 | 52 | PROB | EROM | EROM | I2/P | Equals:50;Under:42,49;Over:51,48,57 | HUWSURF | LAM | HUWWAR LAYER UNDER 42 AND 49 |
| 73 | B | 4 | 98 | PROB | EROM | HELL | IRN1 | Under:90;Over:172;Seals:100;Cutby:84 | HUWLAY | LAM | HUWWAR LAYER W OF WALL 100 |
| 73 | B | 4 | 128 | PROB | EROM | HELL | I2/P | Under:97,147;Over:150;Seals:100,174;Cutby:102,149 | HUWSURF | LAM | HUWWAR SURFACE N OF WALL 115 |
| 74 | B | 4 | 266 | PROB | EROM | ER/H | ER/H | Equals:279,280;Under:262;Over:270;Seals:268 | HUWSURF | LAM | HUWWAR SRPC = TO LOCI 279, 280, IN SW CRNR? |
| 76 | B | 4 | 279 | POSS | EROM | NONE | - | Equals:266,280;Under:264;Over278;Cutby:264 | HUWSURF | LAM | HUWWAR SURFACE E OF WALL 253 |
| 76 | B | 4 | 280 | POSS | EROM | NONE | - | Equals:266,279;Under:264;Over:unexcav;Cuts:272;Cutby:264 | HUWSURF | LAM | HUWWAR SURFACE SML PATCH N OF LOCUS 264 |
| 76 | D | 4 | 123 | POSS | EROM | ERM1 | IR1A | Under:120,122;Over:133 | HUWSURF | LAM | HUWWAR SURFACE N & DWN INTO UNXCVTD CAVE |
| 71 | D | 6 | 45 | PROB | EROM | EROM | I2/P | Under:44;Over:47,48,bdrk;Seals:46 | HUWSURF | LAM | SOIL LAYER W/HUWWAR SURFACE ABOVE BDRK |
| 73 | B | 4 | 121 | PROB | EROM | EROM | I2/P | Under:78;Over:173;Cuts:90,126 | PTRENCH | LAM | FOUNDATION TRENCH FOR TABUN 84 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 76 | A 11 40 | PROB | EROM | NONE | - | Under:38;Over:42;Seals:3,48B;Cutby:37 | FLOOR | LAM | STONE PAVERS WITH PLASTER SURFACE ON TOP |
| 76 | A 11 45 | PROB | EROM | EROM | IRN1 | Equals:A.9:113;Under:42,48B;Over:46;Seals:49,50 | FLOOR | LAM | FLOOR BETWEEN WALLS 48 AND 50 |
| 74 | B 4 227 | PROB | EROM | EROM | I2/P | Under:217,222,223,226;Over:228;Seals:235;Within:265 | FLOOR | LAM | FLOOR OF HUWWAR IN BDRK INST. UNDER 193 |
| 74 | B 4 228 | PROB | EROM | EROM | I2/P | Equals:259;Under:227,237,260-3;Over:229,249;Seals:234;W/in:265 | FLOOR | LAM | FLOOR OF SOIL/HWR IN BDRK INST. UNDER 193 |
| 76 | A 11 42 | PROB | EROM | A/MA | IR1C | Under:40;Over:45;Seals:48B,50:Cutby:37 | FILL | LAM | FILL UNDER FLOOR 40 |
| 73 | D 3 54 | PROB | EROM | EROM | IRON | Under:52;Over:bdrk | FIREPIT | LAM | FIREPIT ON BEDROCK AT S BALK |
| 73 | B 4 81 | PROB | EROM | EROM | I2/P | Under:58,66,70;Over:88;Seals:73 | ASHLAY | LAM | ASH AND SOIL LAYER ASS. WITH TABUN 66 |
| 73 | B 4 143 | PROB | EROM | EROM | I2/P | Under:141,142;Over:145;Within:84 | ASHLAY | LAM | ASH LAYER IN TABUN 84 |
| 74 | B 4 261A | PROB | EROM | NONE | - | Under:267;Within:261 | ASHLAY | LAM | ASH LAYER IN TABUN 261 |
| 74 | B 4 262B | PROB | EROM | ER/H | ER/H | Under:262A;Within:262 | ASHLAY | LAM | ASH LAYER IN TABUN 262 |
| 71 | C 1 50 | PROB | EROM | EROM | I2/P | Under:45;Over:56 | ASHLAY | LAM | SOIL & ASH LAYER IN SE CRNR FIREPIT OR TABUN? |
| 71 | C 1 56 | PROB | EROM | EROM | I2/P | Under:45,50;Over:84 | ASHLAY | LAM | ASHY LAYER IN SE CRNR, SURFACE? |
| 74 | C 1 107 | PROB | EROM | EROM | IRON | Under:103;Over:106 | ASHLAY | LAM | ASH LAYER IN CENTER OF LOCUS 106, FIREPIT? |
| 74 | C 1 116 | PROB | EROM | EROM | IRN1 | Under:112,114,115;Over:117 | ASHLAY | LAM | ASH LAYER E OF WALL 30 |

## Stage C

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 71 | A 3 54 | PROB | EROM | EROM | I2/P | Under:28;Over:bdrk | WALL | LAM | ROUGH NS WALL IN NE CORNER |
| 71 | A 3 57 | POSS | EROM | NONE | - | Under:52;Over:bdrk;Sealedby:58,60 | WALL | LAM | EW WALL UNDER 42 IN SE CORNER |
| 71 | A 3 62 | POSS | EROM | NONE | - | Under:48;Over:bdrk | WALL | LAM | NS WALL BTWN FTRENCH 59=60=61 & WALL 18 |
| 71 | A 4 34 | PROB | EROM | NONE | - | Under:12,16;Over:20 | WALL | LAM | NS WALL ALONG W BALK |
| 71 | A 5 10B | POSS | LROM | NONE | - | Under:10A;Over:79,bdrk | WALL | LAM | EW WALL UNDER 10A |
| 74 | A 7 89 | POSS | EROM | NONE | - | Under:80;Over:unexcav;Sealedby:84,88;Cuts:90;Cutby:46 | WALL | LAM | EW WALL UNDER 80 N OF WALL 47 |
| 68 | B 1 25 | PROB | EROM | HELL | - | Under:20;Over:23B;Sealedby:23A;Cuts:=:34,35;Abuts:17 | WALL | LAM | NS WALL ABTNG S FACE OF WALL 17 NEAR SE CRNR |
| 68 | B 1 27 | PROB | EROM | I2/P | I2/P | Under:22;Over:unexcav;Cuts:23B,30-2,50-4;Sealedby:22-3A;Abuts:17 | WALL | LAM | NS WALL ABTNG S FACE OF WALL 17 AT W BALK |
| 68 | B 1 26 | PROB | EROM | NONE | - | Under:18;Over:36 | WALL | LAM | NS WALL ABUTTING S FACE OF WALL 17 |
| 73 | B 4 83 | PROB | EROM | NONE | - | Equals:91,B.1:45A;Under:79,80,81;Over:94 | WALL | LAM | WALL RUNNING SE/NW PERP. TO CUT BDRK |
| 73 | B 4 115 | PROB | EROM | ERM? | I2/P | Under:88;118;Over:231,238;Sealedby:96,97,102,114,126,149 | WALL | LAM | EW WALL N OF WALL 73 |
| 73 | B 4 120 | PROB | EROM | EROM | I2/P | Equals:135;Under:46;Ovr:165,167,238,248;Seldby:123,125,134,136,138,151,169 | WALL | LAM | EW WALL BELOW WALL 46 |
| 73 | B 4 127 | PROB | EROM | EROM | I2/P | Under:78,148;Over:238;Sealedby:94,126,169,180,182 | WALL | LAM | EW WALL IN LINE WITH AND BELOW WALL 73 |
| 73 | B 4 135 | PROB | EROM | IRON | - | Equals:120;Under:132;Over:238;Sealedby:134,136,138 | WALL | LAM | EQUALS 120 |
| 73 | B 4 155 | POSS | EROM | HELL | I2/P | Equals:156;Under:119;Over:156,161;Sealedby:160;Cutby:125 | WALL | LAM | NS WALL CUT BY BUILDING OF WALL 120 |
| 73 | B 4 156 | POSS | EROM | NONE | - | Equals:155;Under:119,155;Over:161 | WALL | LAM | EQUALS WALL 155 |
| 74 | B 4 231 | PROB | EROM | EROM | I2/P | Under:115;Over:191,242,255;Cuts:205,207;Sealedby:225 | WALL | LAM | EW WALL UNDER WALL 115 |
| 74 | B 4 253 | PROB | EROM | NONE | - | Equals:268;Under:238,248,251;Over:264;Seals:268?;Cuts:264 | WALL | LAM | NS WALL IN SW CRNR PARA. E MRGN OF RSVR |
| 74 | B 4 268 | PROB | EROM | EROM | I2/P | Equals:253;Under:238,248;Over:266,270;Sealedby:266-9;Cuts:205-7 | WALL | LAM | WALL CORNERING W FROM N END OF WALL 253 |
| 76 | B 4 283B | POSS | EROM | NONE | - | Over:283H;Sealedby:283A,283F,283G;Within:283 | WALL | LAM | NS WALL IN CAVE 283 |
| 71 | C 1 13 | PROB | EROM | EROM | I2/P | Under:7;Over:61,69;Abuts:37;Sealedby:59 | WALL | LAM | NS WALL IN NE QUAD. ABUTTED BY WALL 37 |
| 71 | C 1 14 | PROB | EROM | BYZN | I2/P | Equals:C.2:38;Under:7,11;Over:51,69;Sealedby:43,52 | WALL | LAM | EW WALL IN CENTER AND E CENTRAL |
| 71 | C 1 37 | PROB | EROM | EROM | I2/P | Under:7,11;Over:68,69;Sealedby:41,53,70;Abuts:13 | WALL | LAM | EW WALL IN E BALK |
| 73 | C 2 26 | POSS | LHEL | R/LH? | IRN1 | Equals:C.3:26;Under:24,25;Over:31 | WALL | LAM | WALL ORIENTED NW/SE IN SE CORNER |
| 73 | C 2 38 | PROB | EROM | NONE | - | Equals:C.1:14;Under:29;Over:40,unexcav;Sealedby:33 | WALL | LAM | EW WALL EXTENDING INTO W BALK = C.1:14 |
| 73 | C 3 26 | POSS | EROM | HELL | I2/P | Equals:C.2:26,C.7:44;Under:23;Over:bdrk;Cuts:42 | WALL | LAM | NS WALL AT S BALK |
| 74 | D 2 26 | POSS | EROM | EROM | IRON | Under:218,29;Over:74;Sealedby:21A | WALL | LAM | EW WALL UNDER WALL 21B |
| 74 | D 3 63 | POSS | EROM | NONE | - | Under:60;Over:57,57A,bdrk | WALL | LAM | NE/SW WALL BESIDE NW EDGE OF SILO 57 OPENING |
| 74 | D 3 87 | PROB | EROM | EROM | IRON | Under:81;Over:bdrk;Bonds:70;Sealedby:71 | WALL | LAM | WALL STUB ON W FACE OF WALL 70 RUN EW |
| 76 | D 4 122 | POSS | EROM | HELL | IRON | Under:107;Over:123;Cuts:115,124,125,126,128,130 | WALL | LAM | POSS NS WALL IN BDRK TRENCH 153 |
| 71 | D 6 46 | PROB | EROM | NONE | - | Under:44;Over:bdrk;Sealedby:45 | WALL | LAM | EW WALL ADJACENT TO N BALK |
| 73 | D 6 75 | POSS | EROM | LHEL | IRON | Under:62,70,74;Over:bdrk;Beside:70 | WALL | LAM | EW WALL IN S BALK |
| 73 | G 1 46 | PROB | LHEL | HELL | IRN1 | Under:33;Over:47,48 | WALL | LAM | EW WALL THROUGH EW CENTER OF SQUARE |
| 74 | B 4 238 | PROB | EROM | EROM | I2/P | Equals:248;Under:115,120,135,169;Over:127,253-4,264,268-9;Cutby:269 | TUMBLE | LAM | SOIL AND ROCK TUMBLE |
| 71 | A 1 37 | PROB | EROM | EROM | IRN2 | Under:30,35;Over:bdrk | SOILLAY | LAM | SOIL LAYER S OF WALL 19 |
| 71 | A 1 41 | PROB | EROM | EROM | I2/P | Under:28;Over:bdrk | SOILLAY | LAM | SOIL LAYER S OF 38 |
| 71 | A 3 53 | PROB | EROM | EROM | I2/P | Under:48,51;Over:58 | SOILLAY | LAM | SOIL LAYER UNDER 48 AND 51 ALONG S BALK |
| 71 | A 4 33 | PROB | EROM | EROM | I2/P | Under:30;Over:bdrk | SOILLAY | LAM | SOIL LAYER ON BEDROCK N OF WALL 12 |
| 73 | A 4 38 | PROB | EROM | EROM | EROM | Equals:61;Under:35,62;Over:39;Cutby:37 | SOILLAY | LAM | SOIL LAYER S OF WALL 12 |
| 71 | A 4 39 | PROB | EROM | EROM | I2/P | Equals:61;Under:38;Over:40 | SOILLAY | LAM | SOIL LAYER S OF WALL 12 |
| 71 | A 4 40 | PROB | EROM | A/MA | I2/P | Equals:61;Under:37,39;Over:bdrk | SOILLAY | LAM | SOIL LAYER S OF WALL 12 |
| 73 | A 4 61 | PROB | EROM | EROM | IRON | Equals:38,39,40;Under:60;Over:bdrk | SOILLAY | LAM | SOIL LAYER IN SW CORNER S OF WALL 12 |
| 71 | A 5 36 | PROB | EROM | LROM? | I2/P | Under:10,11,34,35;Over:37,59 | SOILLAY | LAM | SOIL LAYER POSS FILL UNDER 34,35 |
| 71 | A 5 37 | PROB | EROM | EROM | I2/P | Under:36;Over:39 | SOILLAY | LAM | SOIL LAYER N & W OF WALLS 10 & 11 |
| 71 | A 5 39 | PROB | EROM | EROM | I2/P | Under:37;Over:bdrk | SOILLAY | LAM | SOIL LAYER N & W OF WALLS 10 & 11 |
| 73 | A 6 74 | PROB | EROM | EROM | I2/P | Under:44;Over:83,bdrk | SOILLAY | LAM | SOIL LAYER OVER BEDROCK E OF WALL 65 |
| 73 | A 6 83 | PROB | EROM | EROM | IRN1 | Under:74,82,84;Over:85;Cutby:70 | SOILLAY | LAM | SOIL LAYER E OF WALL 65 N OF WALL 68 |
| 73 | A 6 87 | PROB | EROM | EROM | I2/P | Under:86;Over:76S;Cutby:70 | SOILLAY | LAM | SOIL LAYER IN SE CORNER |
| 74 | A 7 88 | PROB | EROM | A/MA | IRN1 | Under:46,84;Over:90;Seals:89;Cutby:57 | SOILLAY | LAM | SOIL LAYER UNDER 84 BETWEEN WALLS 57 & 89 |
| 76 | A 8 38 | PROB | EROM | EROM | I2/P | Under:36;Over:unexcav | SOILLAY | LAM | SOIL LAYER IN PROBE TO TEST FOR BYZN MOSAICS |
| 68 | B 1 23A | PROB | EROM | ARAB | IRN2? | Under:22;Over:23B;Seals:17,21,22,25,27;Cutby:8 | SOILLAY | LAM | SOIL LAYER IN SW CORNER BTWN WALLS 17,21,27 |
| 71 | B 2 63 | POSS | EROM | NONE | - | Under:53;Over:64,77 | SOILLAY | LAM | SOIL LAYER ASS. W/TABUN 54 PROB = 45 |
| 71 | B 2 64 | POSS | EROM | NONE | - | Under:54,63;Over:73 | SOILLAY | LAM | SOIL LAYER SIMILAR TO SOIL LAYER 63, =63,45? |
| 73 | B 4 114 | PROB | EROM | EROM | I2/P | Under:88;Over:149;Seals:115 | SOILLAY | LAM | SOIL LAYER N OF WALL 115, POSS EQUALS 102 |
| 73 | B 4 148 | PROB | EROM | EROM | I2/P | Under:73;Over:127;Seals:115 | SOILLAY | LAM | SOIL WITHIN LAYER UNDER WALL 73 |
| 73 | B 4 165 | POSS | EROM | HELL | I2/P | Under:120,125;Over:bdrk | SOILLAY | LAM | SOIL LAYER OVER BEDROCK IN CAVE 74 |
| 73 | B 4 187 | PROB | EROM | EROM | I2/P | Under:184;Over:232;Within:188 | SOILLAY | LAM | SOIL LAYER OVER BEDROCK IN CAVE 74 |
| 73 | B 4 189 | PROB | EROM | EROM | I2/P | Under:144;Over:232;Within:188 | SOILLAY | LAM | SOIL LAYER IN STORE SILO 188 |
| 74 | B 4 270 | PROB | EROM | EROM | I2/P | Under:261,266,267,268;Over:274 | SOILLAY | LAM | SOIL LAYER E OF WALL 288=233 |
| 74 | D 3 86 | PROB | EROM | EROM | IRON | Under:81,90;Over:91 | SOILLAY | LAM | SOIL LAYER IN NE CORNER |
| 76 | D 4 107 | PROB | EROM | ERM3 | IR1A | Under:99,105,106;Over:113,120,122;Cutby:117 | SOILLAY | LAM | SOIL LAYER S OF WALL 88 |
| 73 | D 6 71 | PROB | EROM | LROM | IRN2 | Under:69,56C;Over:72 | SOILLAY | LAM | SOIL LAYER IN W HALF S OF 33 |
| 73 | D 6 72 | POSS | EROM | BYZN | I2/P | Equals:D.1:49;Under:71;Over:bdrk;Cutby:73 | SOILLAY | LAM | SOIL LAYER E OF 56C AND S OF 33 |
| 71 | A 3 28 | PROB | EROM | NONE | - | Under:26B,27;Over:54,55;Cutby:5,8,21 | RUBBLAY | LAM | RUBBLE LAYER IN S BLK BETWEEN WALLS 5,21,8 |
| 73 | A 6 84 | PROB | EROM | EROM? | I2/P | Under:75;Over:83,85 | RUBBLAY | LAM | POSS EW WALL E OF WALL 65 |
| 74 | A 7 90 | POSS | EROM | NONE | - | Under:57,88;Over:unexcav;Cutby:89 | RUBBLAY | LAM | LAYER OF CRMBLY WHT STONES UNDER 88 & 57 |
| 76 | A 9 109 | PROB | EROM | EROM | IRN1 | Under:107;Over:113;Cutby:110 | RUBBLAY | LAM | RUBBLE FILL LAYER UNDER 107 |
| 76 | A 11 15 | PROB | EROM | ERM3 | IRN1 | Under:14;Over:16;Seals:49 | REVETMT | LAM | REVETMENT AGAINST W FACE OF WALL 49 |
| 74 | D 2 21B | PROB | EROM | NONE | - | Under:2,10;Over:26;Sealedby:21A | RETWALL | LAM | EW WALL OVER 26 |
| 74 | D 3 70 | PROB | EROM | LROM? | IRON? | Under:64,66,116 | RETWALL | LAM | NS WALL IN E BALK |
| 71 | A 5 59 | PROB | EROM | NONE | - | Under:36;Over:37 | POSWALL | LAM | POSS WALL W OF WALL 11 |
| 68 | B 1 21 | PROB | EROM | NONE | - | Under:22;Over:23B;Sealedby:22,23A;Cuts:23B;Abuts:17 | POSWALL | LAM | NS WALL? OR FRAG? ABTNG S FACE OF WALL 17 |
| 73 | B 4 73 | PROB | EROM | EROM | I2/P | Under:55;Over:148;Sealedby:81 | POSWALL | LAM | POSS WALL, WNW/ESE, ASS. WITH TABUN 66 |
| 74 | B 4 240 | PROB | EROM | EROM | I2/P | Under:232;Over:241;Within:188 | ORGANIC | LAM | STRAW OR CHAFF LIKE MTRL IN STORE SILO 188 |
| 74 | D 2 82 | PROB | ERM1 | ER/H | HELL | Under:76;Over:83,84;Sealsover:77,86 | OCCSURF | LAM | OCC. MADE UP OF MANY MICROLYRS UNDER 76 |
| 71 | A 5 19 | POSS | EROM | A/MA | I2/P | Under:38;Over:20 | MAKEUP | LAM | SOIL LAYER UNDER 38 |
| 74 | D 2 96 | POSS | EROM | NONE | - | None | HUWSURF | LAM | EQUALS LOCUS 103 |
| 74 | D 2 103 | POSS | EROM | ER/H | IRON | Under:68,69,71,75,79;Over:108,109;Seals:64;Cutby:68 | HUWSURF | LAM | HUWWAR SURFACE UNDER 71 IN SE CORNER |
| 71 | A 3 58 | PROB | EROM | EROM | I2/P | Equals:D.6:44;Under:33;Over:59;Seals:57 | FTRENCH | LAM | PROB FOUNDATION TRENCH S OF WALL 57 |
| 71 | A 3 59 | PROB | EROM | EROM | I2/P | Equals:60,61;Under:58;Over:60,61 | FTRENCH | LAM | PROB FOUNDATION TRENCH S OF WALL 57 |
| 71 | A 3 60 | PROB | EROM | EROM | I2/P | Equals:59,61;Under:59;Over:61;Seals:57 | FTRENCH | LAM | PROB FOUNDATION TRENCH S OF WALL 57 |
| 71 | A 3 61 | PROB | EROM | EROM | I2/P | Equals:59,60;Under:59,61;Over:bdrk | FTRENCH | LAM | PROB FOUNDATION TRENCH S OF WALL 57 |
| 71 | A 5 33 | PROB | LROM | BYZN | I2/P | Under:32;Over:61,62,62A,63;Cuts:31 | FTRENCH | LAM | FOUNDATION TRENCH ON N FACE OF WALL 10B |
| 76 | A 9 110 | POSS | EROM | EROM | I2/P | Under:107;Seals:33B;Cuts:109 | FTRENCH | LAM | FOUNDATION TRENCH ON N FACE OF WALL 33B |
| 68 | B 1 40 | PROB | EROM | HELL | IRN2? | Equals:103;Under:36;Seals:17;Cuts:14,18,26,36,38,39,44,45A,45B,47-9,51-3, 55,75-9,82,88,90-4,97,99,105,108,110,112,113,129-131,133,134,136,138,139 | FTRENCH | LAM | FTRENCH ON N FACE OF WALL 17 =103 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 71 | B | 1 | 103 | PROB | EROM | ROM? | I2/P | Equals:40,B.2:69 | FTRENCH | LAM | FTRENCH ON N SIDE OF WALL 17 = LOCUS 40 |
| 73 | B | 2 | 69 | PROB | EROM | EROM | I2/P | Seals:62;Seledby:33;Cuts:38,40,42,56,57,65,66,68,72,79,80,94 | FTRENCH | LAM | FOUNDATION TRENCH ON N SIDE OF WALL 62 |
| 73 | B | 2 | 105 | PROB | EROM | HELL | - | Seals:62 | FTRENCH | LAM | PROB FTRENCH ON S SIDE OF WALL 62 |
| 73 | B | 4 | 123 | PROB | EROM | EROM | IRON | Under:113;Over:125;Seals:120;Cuts:119,122,137 | FTRENCH | LAM | FTRENCH ON S SIDE OF E PART OF WALL 120 |
| 73 | B | 4 | 125 | PROB | EROM | EROM | I2/P | Under:123;Over:165;Seals:120;Cuts:137,139 | FTRENCH | LAM | FTRENCH S SIDE OF E PART OF WALL 120 SEE 123 |
| 73 | B | 4 | 149 | PROB | EROM | ERM2 | I2/P | Under:102,114;Cuts:128,147,150,152,173 | FTRENCH | LAM | FTRENCH N SIDE OF WALL 115 |
| 74 | B | 4 | 225 | PROB | EROM | EROM | I2/P | Under:186;Over:255;Seals:231;Cuts:205,207,272 | FTRENCH | LAM | PROB FTRENCH ON N FACE OF WALL 231 |
| 74 | B | 4 | 269 | PROB | EROM | I2/P | I2/P | Under:238;Over:274;Seals:268;Cuts:205,207,238,272 | FTRENCH | LAM | FTRENCH ON N FACE OF WALL 268 |
| 71 | C | 1 | 42 | PROB | EROM | EROM | I2/P | Under:39;Over:69;Seals:13;Cuts:41,68 | FTRENCH | LAM | FTRENCH ON E FACE OF WALL 13 |
| 71 | C | 1 | 43 | PROB | EROM | EROM | I2/P | Equals:C.2:33;Under:24,26;Over:46;Seals:14 | FTRENCH | LAM | FTRENCH ON S FACE OF WALL 14 SEE LOCUS 52 |
| 71 | C | 1 | 52 | PROB | EROM | EROM | I2/P | Under:36;Cuts:54;Seals:14 | FTRENCH | LAM | FTRENCH ON N FACE OF WALL 14 SEE LOCUS 43 |
| 71 | C | 1 | 53 | PROB | EROM | LROM | I2/P | Under:36;Over:69;Seals:37 | FTRENCH | LAM | FOUNDATION TRENCH S OF WALL 37 |
| 71 | C | 1 | 59 | PROB | EROM | EROM | IRN1? | Under:54;Over:62;Seals:13;Cuts:61 | FTRENCH | LAM | FTRENCH ON W FACE OF WALL 13 |
| 73 | C | 2 | 33 | PROB | EROM | EROM | IRN1 | Equals:C.1:43;Under:29;Over:34;Seals:38;Cuts:34,40 | FTRENCH | LAM | FOUNDATION TRENCH ON S FACE OF WALL 38 |
| 68 | B | 1 | 17 | PROB | EROM | HELL | IRN2 | Equals:B.2:62;Under:14A,15,16;Over:unexcav;Sealedby:22, 23A,35,40;Cuts:23B,24,30-32,50,54;Abutby:21,25,27,28,29 | FORTWAL | LAM | FOUNDATION OF AN EW WALL |
| 68 | B | 1 | 29 | PROB | EROM | I2/P | - | Under:16,19;Over:56;Cuts:24,31,37,42;Bonds:17 | FOUNDA | LAM | NWARD EXT. OF WALL OR FOUNDATION 17 |
| 74 | B | 2 | 62 | PROB | EROM | EROM | I2/P | Equals:B.1:17;Under:43-4,46,49,50,55;Over:94,122;Sealedby: 69,105;Abuts:84,114B | FORTWAL | LAM | EW WALL, FORTIFICATION WALL OF GREAT SIZE? |
| 73 | B | 4 | 165 | PROB | EROM | HELL | I2/P | Under:120,125;Over:bdrk | FOUNDA | LAM | FOUNDATION OF WALL 120 E END |
| 76 | D | 4 | 110 | PROB | EROM | ERM3 | HELL | Under:88;Over:112;Abuts:103 | FOUNDA | LAM | COBBLE FOUNDATION LAYER UNDER WALL 88 |
| 74 | A | 5 | 62A | PROB | EROM | A/MA | I2/P | Equals:63;Under:33;Over:62B;Within:61,62,79 | FILLAY | LAM | SOIL LAYER IN SILOS 61,62,79 |
| 74 | A | 5 | 62B | PROB | EROM | LROM? | I2/P | Equals:63;Under:62A;Over:62C;Within:61,62,79 | FILLAY | LAM | SOIL LAYER IN SILOS 61,62,79 |
| 74 | A | 5 | 62C | PROB | EROM | EROM | I2/P | Equals:62;Under:62B;Over:62D;Within:61,62,79 | FILLAY | LAM | SOIL LAYER IN SILOS 61,62,79 |
| 74 | A | 5 | 62D | PROB | EROM | LROM | I2/P | Equals:64;Under:62C;Over:62E;Within:61,62,79 | FILLAY | LAM | SOIL LAYER IN SILOS 61,62,79 |
| 74 | A | 5 | 62E | PROB | EROM | EROM | IRN1 | Equals:62;Under:62D;Over:62F;Within:61,62,79 | FILLAY | LAM | SOIL LAYER IN SILOS 61,62,79 |
| 74 | A | 5 | 62F | PROB | EROM | EROM | I2/P | Under:62E;Over:87,87A,89,89A,bdrk;Within:61,62,69 | FILLAY | LAM | SOIL LAYER IN SILOS 61,62,79 |
| 74 | A | 5 | 87A | PROB | EROM | EROM | IRN1 | Under:62F;Over:bdrk;Within:87 | FILLAY | LAM | SOIL LAYER IN STORE PIT 87 |
| 74 | A | 5 | 89A | PROB | EROM | B/LR | IRN1 | Under:62F;Over:bdrk;Within:89 | FILLAY | LAM | SOIL LAYER IN STORE PIT 89 |
| 74 | A | 5 | 90A | PROB | EROM | IRON | IRON | Under:91;Over:90E;Within:90 | FILLAY | LAM | SOIL LAYER IN SILO 90 |
| 74 | A | 5 | 90B | PROB | EROM | ER/H | I2/P | Equals:92;Under:91;Over:90C,90D;Within:90 | FILLAY | LAM | ROCK FILL LAYER OVER OPENING INTO SILO 90 |
| 74 | A | 5 | 90C | PROB | EROM | LROM? | I2/P | Under:90B,90D;Over:90E;Within:90 | FILLAY | LAM | SOIL LAYER IN SILO 90 |
| 74 | A | 5 | 90D | PROB | EROM | NONE | - | Under:90B,92;Over:90C;Within:90 | FILLAY | LAM | NARI FRAGMENT LAYER IN SILO 90 |
| 73 | A | 6 | 77 | PROB | EROM | EROM | IRON | Under:61,71;Over:bdrk | FILL | LAM | ROCK FILL BETWEEN WALLS 65 & 72 |
| 76 | A | 9 | 115 | PROB | EROM | EROM | IRN2 | Under:112;Over:bdrk | FILL | LAM | FILL OVER BEDROCK IN NE ROOM |
| 73 | B | 3 | 58 | PROB | EROM | EROM | I2/P | Under:57;Over:60;Within:59,100 | FILL | LAM | FILL IN MOUTH OF STORE SILO 59 |
| 73 | B | 3 | 60 | POSS | EROM | EROM? | I2/P | Under:58;Over:61;Within:59 | FILLAY | LAM | FILL LAYER IN STORE SILO 59 |
| 73 | B | 3 | 61 | POSS | EROM | EROM? | IRN1? | Under:60;Over:63;Within:59 | FILLAY | LAM | FILL LAYER IN STORE SILO 59 |
| 74 | B | 4 | 232 | PROB | EROM | EROM | IRN1 | Under:187,189;Over:240;Within:188 | FILLAY | LAM | FILL LAYER IN STORE SILO 188 |
| 74 | B | 4 | 241 | PROB | EROM | EROM | I2/P | Under:240;Over:243;Within:188 | FILL | LAM | ROCK AND SOIL FILL IN STORE SILO 188 |
| 74 | B | 4 | 243 | PROB | EROM | EROM | I2/P | Under:241;Over:252;Within:188 | FILLAY | LAM | FILL LYR OVER BDRK LOCUS 252 IN ST.SILO 188 |
| 74 | B | 4 | 248 | PROB | EROM | EROM | I2/P | Equals:238;Under:120,138;Over:253,254,268 | FILL | LAM | FILL ALONG W BALK |
| 74 | B | 4 | 259 | POSS | EROM | ER/H | IRN2? | Equals:228;Under:237,256,258,260;Over:249,229;Seals:222 | FILL | LAM | FILL E OF WALL 222 IN BDRK OPENING 247 |
| 74 | B | 4 | 264 | PROB | EROM | EROM | IRN2 | Under:236,238,251,253;Over:274,278-80;Cuts:279;Cutby:253;Within:265 | FILL | LAM | FILL IN SW CORNER, FOUNDATION FOR WALL 120? |
| 74 | D | 1 | 63E | PROB | EROM | IRN2 | IRN1 | Equals:68;Under:63B-D,I,J;Over:63G;Within:63 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 74 | D | 1 | 63F | PROB | EROM | EROM | IRON | Equals:69;Under:63C-D;Over:63E;Within:63 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 74 | D | 1 | 68 | PROB | EROM | ER/H | IRN1 | Equals:63E;Under:65,68,106;Over:69 | FILLAY | LAM | FILL LAYER EXT. OUTSIDE CUT IN CISTERN 63 |
| 74 | D | 1 | 69 | PROB | EROM | IRN1 | IRN1 | Equals:63F;Under:68;Over:100 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 76 | D | 2 | 80C | PROB | EROM | ERM1 | ERM1 | Equals:112;Under:80B,110;Over:80D;Within:80 | FILLAY | LAM | FILL LAYER IN STORE SILO 80 |
| 76 | D | 2 | 80D | PROB | EROM | A/MA | I2/P | Under:80B,80C;Over:80E;Within:80 | FILLAY | LAM | FILL LAYER IN STORE SILO 80 |
| 74 | D | 2 | 95C | PROB | EROM | LROM? | IRN1 | Under:95B;Over:95D;Within:95 | FILL | LAM | FILL IN STORE SILO 95 |
| 74 | D | 2 | 95D | PROB | EROM | EROM | I2/P | Under:95C;Over:95E;Within:95 | FILL | LAM | FILL IN STORE SILO 95 |
| 74 | D | S | 95E | PROB | EROM | A/MA | IRN1 | Under:95D;Over:bdrk;Within:95 | FILL | LAM | FILL IN STORE SILO 95 |
| 76 | D | 2 | 112 | PROB | EROM | EROM | EROM | Equals:80C;Under:111 | FILLAY | LAM | FILL LAYER UNDER WALL 111 =80C |
| 74 | D | 3 | 57A | PROB | EROM | EROM | I2/P | Under:60,63;Over:57B;Within:57 | FILL | LAM | FILL IN STORE SILO 57 |
| 74 | D | 3 | 57B | PROB | EROM | EROM | I2/P | Under:57A;Over:57C;Within:57 | FILL | LAM | FILL IN STORE SILO 57 |
| 74 | D | 3 | 57E | PROB | EROM | EROM | HELL | Under:57D,57F;Over:bdrk;Within:57 | FILLAY | LAM | FILL LAYER, WASTE DUMP IN STORE SILO 57? |
| 74 | D | 3 | 57F | PROB | EROM | EROM | EROM | Under:57D;Over:57E;Within:57 | FILLAY | LAM | FILL LAYER IN STORE SILO 57 |
| 76 | D | 4 | 120 | PROB | EROM | HELL | IRN1A | Under:107;Over:123,132 | FILL | LAM | SOIL AND ROCK FILL IN BEDROCK TRENCH 153 |
| 74 | D | 3 | 57C | PROB | EROM | EROM | IRN2 | Under:57B;Over:57D;Within:57 | DUMP | LAM | WASTE DUMP LAYER IN STORE SILO 57 |
| 74 | D | 3 | 57D | PROB | EROM | EROM | HELL? | Under:57C;Over:57E-F;Within:57 | DUMP | LAM | WASTE DUMP IN STORE SILO 57 |
| 73 | B | 2 | 106 | - | UD | NONE | - | None | DOMWAL | LAM | NO FIELD DESCRIPTION, WALL IN LINE W/B.4:100? |
| 73 | B | 4 | 100 | PROB | EROM | NONE | - | Under:88,118;Over:150,174,175;Sealedby:90,95-8,102,126,128,147,150,172 | DOMWAL | LAM | NS WALL PROB ASS. WITH TABUN 84 |
| 74 | B | 4 | 222 | PROB | EROM | EROM | IRN1? | Under:193;Over:227;Sealedby:217,258,259 | DOMWAL | LAM | NS WALL BLOCKING UP BEDROCK 193 |
| 71 | A | 1 | 38 | PROB | EROM | NONE | - | Under:28,36;Over:40 | COBSURF | LAM | COBBLE SURFACE S OF WALL 19 |
| 71 | A | 1 | 46 | PROB | EROM | EROM | I2/P | Under:45;Over:bdrk | COBSURF | LAM | COBBLE SURFACE UNDER 45 |
| 71 | A | 5 | 20 | PROB | EROM | NONE | - | Under:19,13;Over:unexcav | COBSURF | LAM | COBBLE SURFACE NEAR BEDROCK |
| 71 | A | 5 | 38 | PROB | EROM | EROM | I2/P | Under:22,30,58;Over:19 | COBSURF | LAM | COBBLE SURFACE IN SW CORNER |
| 73 | B | 4 | 102 | PROB | EROM | EROM | I2/P | Under:97;Over:147,149,150,152;Seals:100,115;Arts:128 | COBSURF | LAM | COBBLE SURFACE E OF WALL 100 |
| 74 | D | 1 | 100 | POSS | EROM | NONE | - | Under:69;Over:101 | COBBLAY | LAM | LAYER OF LIMEST. FLKS AT BTM OF CSTRN 63 |
| 74 | D | 2 | 86 | PROB | ERM1 | ER/H | HELL | Under:82;Over:77 | CAPSTON | LAM | CAPSTONE BLOCKING STORE SILO 77 |
| 76 | D | 4 | 116 | PROB | EROM | ERM1 | HELL | Equals:118;Under:101;Over:bdrk;Leases:118 | CAVE | LAM | ENTRANCE TO CAVE 118 |
| 76 | D | 4 | 118 | PROB | EROM | NONE | - | Equals:116;Under:101;Over:bdrk;Contains:118A | CAVE | LAM | CAVE ENTRD BY MOUTH, LOC. 116, OPEN TO E |
| 76 | D | 3 | 103 | POSS | EROM | NONE | - | Under:16B,101;Over:unexcav | BEDRCUT | LAM | 3 STEPS CUT IN BDRK DESCNDNG FROM S TO N |

## STRATUM 13
## Unassigned

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 73 | G | 1 | 33 | POSS | EROM | LROM | I2/P | Under:32;Over:46 | WALL | LAM | EW WALL UNDER COBBLE SURFACE 32 |
| 68 | B | 1 | 20 | PROB | EROM | BZ/R? | IRN2 | Under:16;Over:25,28,34,35 | TUMBLE | LAM | ROCK TUMBLE S OF WALL 17 |
| 76 | G | 4 | 27 | POSS | EROM | EROM | - | Under:67 | STAIRWY | LAM | 10 STEPS CARVED IN BEDROCK IN CISTERN 8 |
| 68 | B | 1 | 35 | PROB | EROM | BYZN? | I2/P | Under:20;Over:23A;Seals:17,25 | SOILLAY | LAM | SOIL LYR, SRFC?, S OF WALL 17 & E OF WALL 25 |
| 73 | B | 4 | 87 | PROB | EROM | I2/P? | - | Under:86;Over:105 | SOILLAY | LAM | SOIL LAYER DESCRIBED AS IN WALL 83 |
| 73 | B | 4 | 103 | PROB | EROM | EROM | HELL? | Under:88;Over:104,109 | SOILLAY | LAM | SOIL LAYER NEAR N BALK SMALL PATCH |
| 73 | B | 4 | 104 | PROB | EROM | EROM | I2/P | Under:103,109;Over:105 | SOILLAY | LAM | SOIL LAYER E OF WALL 100 |
| 73 | B | 4 | 108 | PROB | EROM | EROM | I2/P | Under:88;Over:96 | SOILLAY | LAM | SOIL LAYER ALONG FACE OF NS BEDROCK CUT |
| 73 | B | 4 | 151 | PROB | EROM | EROM | I2/P | Under:116,Over:153;Seals:120,192 | SOILLAY | LAM | SOIL LAYER, FILL?, W OF WALL 71 S OF WALL 120 |
| 73 | B | 4 | 153 | PROB | EROM | EROM | I2/P | Under:151;Over:157,158 | SOILLAY | LAM | SOIL LYR BTWN SW BDRK OUTCROP & WALL 155 |
| 73 | B | 4 | 157 | POSS | EROM | HELL | I2/P | Under:153;Over:159,160 | SOILLAY | LAM | SOIL LAYER W OF WALL 155=156 |
| 73 | B | 4 | 158 | POSS | EROM | HELL | I2/P | Under:153;Over:161 | SOILLAY | LAM | SOIL LAYER BTWN SOIL LOCUS 157 & WALL 120 |
| 73 | B | 4 | 167 | POSS | LHEL | HELL | I2/P | Under:120,162;Over:bdrk | SOILLAY | LAM | SOIL LAYER IN BDRK CHANNELS LOCUS 168 |
| 74 | B | 4 | 251 | PROB | EROM | EROM | HELL | Under:138;Over:264;Seals:253 | SOILLAY | LAM | SOIL LAYER IN SW CORNER |
| 71 | C | 1 | 54 | POSS | EROM | A/MA | I2/P | Under:9;Over:59,61,63,73 | SOILLAY | LAM | SOIL LAYER E OF WALL 30-63 |
| 71 | C | 1 | 64 | PROB | EROM | EROM | I2/P | Under:38;Over:65 | SOILLAY | LAM | SOIL LAYER BETWEEN WALLS 30 & 13 |
| 71 | C | 1 | 62 | PROB | EROM | BYZN? | I2/P | Under:59,61;Over:76,77,80,81,101,112 | SOILLAY | LAM | SOIL LAYER BETWEEN WALLS 30 & 13 |
| 71 | C | 1 | 67 | PROB | EROM | EROM | I2/P | Equals:C.5:52,62;Under:25;Over:103,105;Cutby:71 | SOILLAY | LAM | SOIL LAYER IN NW CORNER W OF WALL 30 |
| 73 | C | 1 | 101 | PROB | EROM | ERM2 | I2/P | Under:62;Over:77,82 | SOILLAY | LAM | SOIL LAYER E OF WALL 30 |
| 71 | C | 2 | 15 | PROB | EROM | A/MA | I2/P | Under:14;Over:32,34;Cutby:29 | SOILLAY | LAM | SOIL LAYER IN PROBE IN SW CORNER |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 74 | C | 5 | 59 | PROB | EROM | EROM | I2/P | Under:54;Over:62 | SOILLAY | LAM | SOIL LAYER NEAR NE CORNER |
| 74 | C | 5 | 61 | PROB | EROM | EROM | I2/P | Equals:C.1:67;Under:58;Over:62;Seals:60 | SOILLAY | LAM | SOIL LAYER N OF WALL 60 |
| 76 | C | 5 | 165 | PROB | EROM | EROM | IRN1 | Under:140,143;Over:168 | SOILLAY | LAM | POSS SOIL SURFACE AT W BALK N OF WALL 82 |
| 76 | C | 7 | 94 | POSS | EROM | ERM4 | HELL | Over:bdrk;Within:86 | SOILSUR | LAM | PROB SOIL SURFACE IN ROOM 2 OF CAVE 86 |
| 76 | C | 10 | 49 | PROB | LROM | LRM1 | ERM3 | Under:43,46,48,51;Over:53,55 | SOILLAY | LAM | SOIL LYR W/BURNED MTRL, DUG E OF WALL 20 |
| 73 | G | 1 | 28 | POSS | EROM | B/LR? | I2/P | Under:22;Over:35 | SOILLAY | LAM | SOIL LAYER BETWEEN WALL 26 & CHANNEL 23 |
| 73 | G | 3 | 17 | PROB | EROM | EROM | IRN1? | Under:19;Over:30;Cutby:16 | SOILLAY | LAM | SOIL LAYER IN NW CORNER |
| 73 | G | 3 | 19 | PROB | EROM | EROM | I2/P | Under:7;Over:17;Cutby:16 | SOILLAY | LAM | SOIL LAYER IN NW CORNER |
| 73 | G | 3 | 30 | PROB | EROM | A/MA | I2/P | Under:17;Over:unexcav;Cutby:16 | SOILLAY | LAM | SOIL LAYER IN NW CORNER |
| 74 | G | 8 | 2 | PROB | EROM | EROM | IRON? | Under:1;Over:4 | SOILLAY | LAM | SOIL LAYER WVER MOST OF SQUARE |
| 74 | G | 8 | 4 | PROB | EROM | BYZN? | IRON | Equals:6;Under:2;Over:8-10 | SOILLAY | LAM | SOIL LAYER STRAT. = LOCUS 6 BURIAL |
| 76 | G | 12 | 27 | PROB | EROM | EROM | I2/P | Under:24;Over:29;Cutby:26,28,30,32,34A-37A | SOILLAY | LAM | SOIL LAYER E OF WALL 25 |
| 76 | C | 10 | 64 | PROB | EROM | ERM4 | ERM4 | Under:63;Over:66 | RUBBLAY | LAM | RUBBLY LAYER IN PROBE AT E BALK |
| 73 | G | 1 | 30 | PROB | EROM | EROM | IRN1? | Under:22,23;Over:34-36 | RUBBLAY | LAM | RUBBLE LAYER IN S HALF OF SQUARE |
| 74 | A | 7 | 80 | PROB | EROM | EROM | IRN1 | Under:78;Over:84,89;Cutby:46,47,57 | HUWSURF | LAM | HUWWAR SRFC BND BY FTRNCHS OF 46,47,57 |
| 68 | B | 1 | 16 | PROB | EROM | LBYZ? | ROMN | Equals:14A,15A;Under:13;Over:17,20,29 | HUWSURF | LAM | HUWWAR SRFC W/SOIL UNDERLAY IN SE CORNER |
| 71 | B | 4 | 75 | POSS | EROM | NONE | - | Under:31;Over:94 | HUWSURF | LAM | HUWWAR SURFACE S OF CURBING 72 |
| 76 | C | 10 | 65 | POSS | LROM | ERM3 | - | Under:50,56;Over:unexcav;Cutby:50 | HUWLAY | LAM | POSS HUWWAR LAYER BETWEEN WALLS 20 & 50 |
| 74 | D | 2 | 101 | PROB | LROM | LROM? | LRM? | Under:100;Over:bdrk | HUWSURF | LAM | HUWWAR SURFACE W OF DOORWAY INTO D.2 ROOM |
| 76 | C | 10 | 53 | POSS | LROM | ERM2 | I2/P | Under:49;Over:54,55 | GRAVLAY | LAM | LIMESTONE GRAVEL LAYER E OF WALL 20 |
| 73 | G | 1 | 31 | POSS | EROM | ERM2 | I2/P | Under:22,26;Over:35 | FIREPIT | LAM | FIREPIT IN E CENTRAL PART OF SQ.? STORE BIN? |
| 73 | G | 1 | 32 | POSS | EROM | EROM | I2/P | Under:29;Over:33 | COBSURF | LAM | PROB COBBLE SURFACE OVERWALL 33 |
| 74 | B | 4 | 247 | PROB | EROM | NONE | - | Under:237;Over:256 | CAVE | LAM | BEDROCK CAVE OR OVERHANG |
| 74 | G | 8 | 6 | PROB | EROM | EROM | HELL? | Equals:4 | BURIAL | LAM | HUMAN BURIAL IN LOCUS 4 SOIL LAYER |
| 74 | G | 8 | 9 | PROB | EROM | EROM | EROM | Under:4;Over:10 | BURIAL | LAM | HUMAN BURIAL UNDER LOCUS 4 |
| 74 | G | 8 | 8 | POSS | EROM | EROM | - | Under:4 | BEDRPIT | LAM | POSS SETTLING VAT W/RUN-OFF DRAIN ON N |
| 76 | C | 10 | 54 | POSS | LROM | NONE | - | Under:53;Over:55 | ASHLAY | LAM | ASH LAYER E OF WALL 20 |

## Stage A

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71 | C | 1 | 46 | PROB | EROM | EROM | IRN1? | Under:12,43,45;Over:60,76 | SOILLAY | LAM | SOIL LAYER ALONG E BALK |
| 71 | C | 1 | 57 | PROB | EROM | EROM | I2/P | Under:47;Over:40 | SOILLAY | LAM | SOIL LYE ALONG W SIDE OF SURVTV. WALL 40 |
| 74 | D | 2 | 90 | PROB | LROM | BYZN? | IRON | Under:88;Over:89,91,94,98;Seals:81,85 | RUBBLAY | LAM | RBL LYR UNDR FLR 88 IN SW PRT OF D.2 RM |

## Stage B

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71 | A | 5 | 54 | POSS | LROM | NONE | - | Under:48;Over:56;Cutby:55,57 | SOILSUR | LAM | SOIL SURFACE IN NE CORNER E OF WALL 11 |
| 73 | B | 4 | 131 | PROB | EROM | EROM | I2/P | Under:129;Over:132;Seals:46,71 | SOILLAY | LAM | SOIL LAYER IN SW CORNER POSS SURFACE |
| 73 | B | 4 | 132 | PROB | EROM | EROM | I2/P | Under:131;Over:134,135;Seals:46,71 | SOILLAY | LAM | SOIL LAYER IN SW CORNER |
| 71 | C | 1 | 41 | PROB | EROM | EROM | I2/P | Under:39;Over:13,68,70;Seals:37;Cutby:42 | SOILLAY | LAM | SOIL LAYER AT E BALK |
| 71 | C | 1 | 64 | PROB | EROM | EROM | I2/P | Under:38;Over:65 | SOILLAY | LAM | SOIL LAYER BETWEEN WALLS 40 AND |
| 71 | C | 1 | 72 | PROB | EROM | LROM | I2/P | Under:25;Over:103 | SOILLAY | LAM | SOIL LAYER ALONG N SIDE OF WALL 49 |
| 76 | C | 7 | 102 | PROB | LROM | LRM1 | ERM2 | Under:101;Over:bdrk;Within:86 | SOILSUR | LAM | SOIL SURFACE IN ROOM 3 OF CAVE 86 |
| 76 | C | 7 | 103 | PROB | LROM | ERM3 | ERM2 | Under:85;Over:104 | SOILSUR | LAM | SOIL SRFC BTWN DRWY 81 & CAVE 86 ENT. |
| 76 | C | 7 | 104 | PROB | LROM | LRM1 | ERM2 | Under:103;Over:bdrk | SOILSUR | LAM | SOIL SRFC BTWN DRWY 81 & CAVE 86 ENT. |
| 76 | C | 10 | 48 | PROB | LROM | EROM | - | Under:36,39,44;Over:49 | SOILLAY | LAM | SOIL LAYER ALONG E BALK |
| 76 | C | 10 | 51 | PROB | LROM | ERM3 | ERM2 | Under:43,46;Over:45,49 | SOILLAY | LAM | SOIL LAYER IN SE AGAINST BEDROCK 45 |
| 76 | C | 10 | 60 | PROB | EROM | ERM3 | ERM3 | Under:58,59;Over:62;Cutby:59 | SOILSUR | LAM | POSS SOIL SURFACE IN PROBE AT E BALK |
| 73 | D | 1 | 55 | PROB | EROM | EROM | I2/P | Under:53;Over:56A | SOILLAY | LAM | SOIL LAYER BERWEEN 54 AND 37 |
| 74 | D | 2 | 100 | PROB | LROM | LROM | EROM | Under:98;Over:101,102 | SOILLAY | LAM | SANDY SOIL LAYER W OF DOORWAY INTO D.2 ROOM |
| 74 | D | 4 | 48 | PROB | EROM | HELL | IRN2 | Under:44;Over:47,50 | SOILLAY | LAM | SOIL LAYER E OF WALL 32 |
| 76 | D | 4 | 99 | PROB | EROM | LRM2 | IR1A | Equals:105,106;Under:94;Over:107;Seals:100,103 | SOILSUR | LAM | SOIL SRFC IN NW CRNR OF WALLS 100=103 & 88 |
| 76 | D | 4 | 104 | PROB | EROM | ERM4 | IRON | Under:51;Over:unexcav;Seals:45 | SOILSRU | LAM | SOIL SRFC SEAL. UP E EDGE OF THRSHLD 45 |
| 76 | D | 4 | 108 | PROB | EROM | LRM1 | IRON | Under:98;Over:101;Seals:45,86 | SOILSUR | LAM | SOIL SRFC UND 98 BTWN THRSHLDS 86=103 & 45 |
| 76 | C | 10 | 46 | PROB | LROM | ERM3 | I2/P | Under:43,44;Over:49,51 | PLASTER | LAM | PLSTR FLR? 4 SM PATCHES REMAIN E OF 20 |
| 73 | B | 4 | 133 | PROB | EROM | EROM | EROM | Under:119;Over:122;Cuts:122 | PIT | LAM | PIT OCC. BY EROM COOKING POT |
| 73 | D | 1 | 56A | PROB | EROM | A/MA | IRON | Under:54,55;Over:56H | OCCSURF | LAM | PROB OCC. SURFACE S OF WALL 4 |
| 71 | B | 4 | 43 | PROB | EROM | EROM | I2/P | Equals:B.2:33;Under:41;Over:44,45,72,bdrk | HUWSURF | LAM | HUWWAR SURFACE OVER BEDROCK |
| 71 | C | 1 | 36 | PROB | EROM | EROM | I2/P | Equals:39;Under:11;Over:52,53 | HUWSURF | LAM | HUWWAR SUFACE BETWEEN WALLS 14 AND 37 |
| 71 | C | 1 | 39 | POSS | EROM | BYZN | I2/P | Equals:36;Under:34;Over:41,42,68,70 | HUWSURF | LAM | HUWWAR SURFACE N OF LOCUS 36 WHICH IT = |
| 76 | D | 4 | 98 | PROB | EROM | ERM4 | IRON | Under:96;Over:108,109;Seals:45,86 | HUWSURF | LAM | HUWWAR SRFC BTWN DRWYS 86=103 & 32B=45 |
| 74 | D | 2 | 89 | PROB | LROM | LROM | EROM | Under:88,90;Over:91,93,94,bdrk;Seals:81,85 | FLOOR | LAM | FLOORL IN D.2 ROOM |
| 76 | C | 10 | 59 | POSS | EROM | ERM4 | ERM3 | Under:58;Over:60;Cuts:60 | FIREPIT | LAM | FIRE PIT LOCATED AT E BALK |
| 74 | D | 1 | 105 | PROB | EROM | NONE | - | Equals:63I;Under:67;Over:106 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 76 | C | 5 | 157 | PROB | EROM | EROM | IRN1 | Under:141;Over:159 | ASHLAY | LAM | PIT/DMP,CRNR N OF WALL 82 W OF WALL 77 |
| 76 | C | 10 | 44 | PROB | LROM | LRM1 | IRON | Under:39;Over:46,48 | ASHLAY | LAM | ASH LAYER AT E BALK |
| 74 | D | 4 | 43 | PROB | EROM | EROM | I2/P | Under:41;Over:44;Seals:45,51 | ASHLAY | LAM | ASH LAYER E OF WALL 32, TABUN? |

## Stage C

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71 | B | 3 | 45 | POSS | EROM | NONE | - | Under:37,43;Over:44 | WALL | LAM | CURVED WALL OF PLASTER, FUNC UNDTRMND |
| 73 | B | 4 | 46 | PROB | EROM | NONE | - | Under:44;Over:47,50,51,56,bdrk;Within:100 | WALL | LAM | EW WALL IN S OF SQUARE |
| 73 | B | 4 | 71 | PROB | EROM | NONE | - | Under:33;Over:bdrk;Sealedby:131,132;Abuts:46 | WALL | LAM | NW WALL ABUTTING S FACE OF WALL 46 |
| 73 | G | 1 | 25 | POSS | LROM | LROM | I2/P | In:30 | WALL | LAM | EW WALL S OF WATER CHANNEL 23 |
| 73 | G | 1 | 29 | POSS | EROM | LROM? | I2/P | Under:24,27;Over:32 | WALL | LAM | EW WALL UNDER LOCUS 24=27 |
| 71 | B | 3 | 43 | PROB | EROM | NONE | - | Under:37;Over:45,48,bdrk | TUMBLE | LAM | ROCK TUMBLE OVER BEDROCK |
| 73 | B | 4 | 146 | PROB | EROM | HELL | I2/P | Equals:94 | TUMBLE | LAM | ROCK TUMBLE WITHIN FILL 94 |
| 74 | G | 8 | 12 | POSS | EROM | NONE | - | Under:10 | TOMB | LAM | SM TOMB CUT IN BDRK AT BTM OF SHAFT 10 |
| 68 | B | 1 | 15A | PROB | EROM | ARAB? | IRN2 | Equals:14A,16;B.2:35A;Under:13;Over:15B,19;Cutby:10 | SOILLAY | LAM | SOIL LAYER IN NE |
| 68 | B | 1 | 22 | PROB | EROM | ROMN | I2/P | Under:14A;Over:21,23A-B,27;Seals:17,21,27;Sealedby:23A;Cutby:8 | SOILLAY | LAM | SOIL LAYER, SOIL SURFACE?, S OF WALL 17 |
| 71 | B | 2 | 34 | PROB | EROM | EROM | I2/P | Under:33;Over:55 | SOILLAY | LAM | SOIL LAYER UNDER 33, ROCK FALL |
| 71 | B | 2 | 35A | POSS | EROM | EROM | I2/P | Equals:B.7:33,B.1:14A;Under:33;Over:43,45,51,52 | SOILLAY | LAM | SOIL LAYER UNDER HUWWAR SURFACE 33 |
| 71 | B | 2 | 43 | PROB | EROM | EROM | I2/P | Under:35A;Over:44,46,62 | SOILLAY | LAM | SOIL LAYER OVER WALL 62 |
| 71 | B | 2 | 45 | PROB | EROM | EROM | I2/P | Under:33,35A;Over:48 | SOILLAY | LAM | SOIL LAYER SMALL PATCH |
| 71 | B | 2 | 46 | PROB | EROM | EROM | I2/P | Under:43,44;Over:62 | SOILLAY | LAM | SOIL LAYER SMALL PATCH |
| 71 | B | 2 | 50 | PROB | EROM | EROM | EROM | Under:33;Over:62 | SOILLAY | LAM | SOIL LAYER SMALL PATCH |
| 71 | B | 2 | 51 | PROB | EROM | EROM | I2/P | Under:35A;Over:60 | SOILLAY | LAM | SOIL LAYER UNDER 35A |
| 71 | B | 2 | 52 | PROB | EROM | EROM | I2/P | Under:35A,47;Over:53 | SOILLAY | LAM | SOIL LAYER IN NE UNDER 35A |
| 71 | B | 2 | 53 | PROB | EROM | EROM | I2/P | Under:47,52;Over:54,58,63 | SOILLAY | LAM | SOIL LAYER IN NE N OF WALL 62 |
| 71 | B | 2 | 55 | POSS | EROM | I2/P | I2/P | Under:34;Over:62 | SOILLAY | LAM | SOIL LAYER OVER WALL 62 |
| 73 | B | 2 | 108 | PROB | EROM | A/MA | I2/P | Under:104;Over:122 | SOILLAY | LAM | SOIL LAYER S OF WALL 62 |
| 71 | B | 3 | 40 | PROB | EROM | EROM? | I2/P | Under:39;Over:41 | SOILLAY | LAM | SOIL LAYER ,FILL? |
| 73 | B | 3 | 72 | PROB | EROM | EROM | I2/P | Equals:34;under:31;Over:73,79 | SOILLAY | LAM | SOIL LAYER UNDER CURB 31, =34? |
| 73 | B | 3 | 73 | PROB | EROM | EROM | I2/P | Under:72;Over:74 | SOILLAY | LAM | SOIL LAYER UNDER CURB 31, FOUNDTATION? |
| 71 | B | 4 | 47 | PROB | EROM | EROM | I2/P | Under:44;Over:49,51,52 | SOILLAY | LAM | SOIL LAYER IN NE CORNER |
| 71 | B | 4 | 49 | PROB | EROM | EROM | I2/P | Under:47;Over:53,bdrk | SOILLAY | LAM | SOIL LAYER IN NE CORNER |
| 71 | B | 4 | 52 | PROB | EROM | EROM | - | Under:47;Over:bdrk | SOILLAY | LAM | SOIL LAYER IN BEDROCK CUT DEPRESSION |
| 71 | B | 4 | 53 | PROB | EROM | EROM | I2/P | Under:49;Over:107,bdrk | SOILLAY | LAM | SOIL LAYER OVER BEDROCK E OF RESEVOIR |
| 71 | B | 4 | 58 | PROB | EROM | EROM | I2/P | Under:50,55,66;Over:78,81,85 | SOILLAY | LAM | SOIL LAYER IN NW N OF WLL 46 |
| 71 | B | 4 | 63 | PROB | EROM | EROM | I2/P | Under:62;Over:64;Within:74 | SOILLAY | LAM | SOIL LAYER IN CAVE 74 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 71 | B | 4 | 67 | PROB | EROM | EROM | HELL | Under:64;Over:bdrk;Within:74 | SOILLAY | LAM | SOIL LAYER IN CAVE 74 |
| 73 | B | 4 | 78 | PROB | EROM | EROM | I2/P | Under:58;Over:84,88,121,127,140 | SOILLAY | LAM | SOIL LAYER N OF WALL 46 |
| 73 | B | 4 | 86 | POSS | EROM | EROM | HELL | Under:85;Over:83,87 | SOILLAY | LAM | SOIL LAYER W OF BDRK WALL OF RESEVOIR |
| 73 | B | 4 | 95 | PROB | EROM | EROM | I2/P | Equals:105;Under:83,88;Over:96;Seals:100,115 | SOILLAY | LAM | PROB SOIL SURFACE E OF WALL 100, FLOOR? |
| 73 | B | 4 | 107 | POSS | EROM | HELL? | I2/P | Under:93;Over:94 | SOILLAY | LAM | SOIL LAYER ALONG E BALK |
| 73 | B | 4 | 110 | PROB | EROM | EROM | I2/P | Under:93;Over:124;Within:74 | SOILLAY | LAM | SOIL LAYER IN CAVE 74 |
| 73 | B | 4 | 122 | PROB | EROM | EROM | I2/P | Equals:208-214;Under:119,133;Over:137;Cutby:123,133 | SOILLAY | LAM | SOIL LAYER E OF WALL 71 S OF WALLS 46 & 120 |
| 73 | B | 4 | 124 | PROB | EROM | EROM | I2/P | Under:110;Over:130,184;Within:74 | SOILAY | LAM | SOIL LAYER IN CAVE 74 |
| 73 | B | 4 | 130 | PROB | EROM | EROM | I2/P | Under:124;Over:144,184,bdrk;Within:74 | SOILLAY | LAM | SOIL LAYER IN CAVE 74 |
| 73 | B | 4 | 134 | PROB | EROM | EROM | I2/P | Under:132;Over:136;Seals:120 | SOILSUR | LAM | SOIL SURFACE S OF WALL 46, W OF WALL 71 |
| 73 | B | 4 | 136 | PROB | EROM | EROM | I2/P | Under:134;Over:138;Seals:135 | SOILLAY | LAM | SOIL SURFACE IN SW CORNER MAY = 138 |
| 73 | B | 4 | 137 | PROB | EROM | EROM | I2/P | Under:122;Over:139;Cutby:123,125 | SOILLAY | LAM | SOIL SURFACE IN SE E OF WALL 71 |
| 73 | B | 4 | 138 | PROB | EROM | EROM | I2/P | Under:136;Over:248,251;Seals:120 | SOILLAY | LAM | SOIL LAYER IN SW CORNER |
| 73 | B | 4 | 139 | PROB | EROM | EROM | I2/P | Under:137;Over:162;Cutby:125 | SOILLAY | LAM | SOIL LAYER S OF WALL 120 |
| 73 | B | 4 | 154 | PROB | EROM | ERM2 | HELL? | Under:82;Over:92;Within:74 | SOILLAY | LAM | SOIL LYR PATCH ISO. UNDR MOUTH OF CAVE 74 |
| 73 | B | 4 | 160 | POSS | EROM | ER/H | I2/P | Equals:163;Under:157;Over:bdrk;Seals:155 | SOILLAY | LAM | SOIL LAYER POUND. ON W SIDE OF WALL 155? =163 |
| 73 | B | 4 | 163 | POSS | EROM | HELL | I2/P | Under:155;Over:bdrk | SOILLAY | LAM | SOIL LAYER UNDER WALL 155=156 |
| 73 | B | 4 | 169 | PROB | EROM | EROM | I2/P | Under:88;Over:238;Seals:120,127 | SOILLAY | LAM | SOIL LAYER BETWEEN WALLS 120 & 127 |
| 74 | B | 4 | 226 | PROB | EROM | NONE | - | Under:217;Over:227 | SOILLAY | LAM | SM.(0.05X0.05M) CLAY INCL. IN SOIL LOCUS 217? |
| 76 | B | 4 | 283C | PROB | EROM | ERM3 | I2/P | Under:283A;Over:283D-F;Within:283 | SOILLAY | LAM | SOIL LAYER OVER ENTIRE AREA OF CAVE 283 |
| 76 | B | 4 | 283D | PROB | EROM | ERM1 | ERM1 | Under:283C;Over:283E,283I;Within:283 | SOILLAY | LAM | SOIL LAYER IN CAVE 283 |
| 76 | C | 5 | 118 | PROB | EROM | EBYZ | IRN2 | Under:110,117;Over:119;Cutby:62 | SOILLAY | LAM | SOIL LAYER IN NE CORNER |
| 76 | C | 10 | 55 | POSS | LROM | LRM1 | I2/P | Under:49,53,54;Over:58,68 | SOILSUR | LAM | SOIL SURFACE E OF WALL 20, JUST A SOIL LAYER? |
| 76 | C | 10 | 58 | POSS | LROM | LRM1 | IRON | Under:55;Over:59,60 | SOILLAY | LAM | SOIL LAYER IN PROBE AT E BALK |
| 76 | C | 10 | 62 | PROB | EROM | ERM3 | ERM2 | Under:60;Over:63 | SOILLAY | LAM | SOIL LAYER IN PROBE AT E BALK |
| 76 | C | 10 | 63 | PROB | EROM | LRM1 | HELL | Under:62;Over:64 | SOILLAY | LAM | SOIL LAYER IN PROBE AT E BALK |
| 73 | D | 1 | 53 | PROB | EROM | A/MA | I2/P | Under:10;Over:55;Beside:37 | SOILLAY | LAM | PROB TRNCH FROM S FACE OF WALL 4 TO S BLK |
| 73 | D | 1 | 56H | PROB | EROM | BYZN | I2/P | Under:56A;Over:59;Seals:4D | SOILLAY | LAM | SOIL LAYER, SURFACE?, S OF WALL 4 |
| 73 | D | 1 | 59 | PROB | EROM | LHEL | I2/P | Under:56H,61;Over:60;Seals:4D | SOILLAY | LAM | SOIL LAYER VIRTUALLY INDIST. FROM 56H |
| 73 | D | 1 | 60 | PROB | EROM | LHEL | I2/P | Under:59;Over:63A,64,bdrk;Seals:4D | SOILLAY | LAM | SOIL LAYER INDIST. FROM 59 |
| 74 | D | 1 | 66 | PROB | EROM | LHEL | IRN1 | Under:63A;Over:67 | SOILLAY | LAM | SOIL BENEATH BOULDER AT BOTTOM OF 65 |
| 74 | D | 1 | 81 | PROB | EROM | BYZN | I2/P | Equals:46,82;Under:76;Over:86;Cutby:80,84 | SOILLAY | LAM | SOIL LYR, SRFC?, FROM WHICH CHNL 80 WAS DUG |
| 74 | D | 1 | 82 | PROB | EROM | EROM | IRON | Equals:46,81;Under:76;Over:86;Cutby:80,84 | SOILLAY | LAM | SOIL LYR, SRFC?, FROM WHICH CHNL 80 WAS DUG |
| 74 | D | 1 | 92 | PROB | EROM | NONE | - | Under:88;Over:90 | SOILLAY | LAM | SOIL LAYER N OF WALL 4D |
| 73 | D | 2 | 23 | PROB | EROM | A/MA | I2/P | Under:22;Over:27;Cutby:15,16 | SOILLAY | LAM | SOIL LAYER UNDER 22 |
| 73 | D | 2 | 27 | PROB | EROM | EROM | I2/P | Under:23;Over:49,50;Cutby:15,16 | SOILLAY | LAM | SOIL LAYER UNDER 23 |
| 74 | D | 2 | 49 | PROB | EROM | EROM | I2/P | Equals:D.3:71;Under:27;Over:62;Cutby:50,68 | SOILLAY | LAM | SOIL LAYER UNDER 27 |
| 74 | D | 2 | 71 | PROB | EROM | EROM | I2/P | Equals:75,D.3:78;Under:62;Over:103;Cutby:68 | SOILLAY | LAM | SOIL LAYER UNDER 62 |
| 74 | D | 2 | 75 | PROB | EROM | EROM | IRON | Equals:71,D.3:78;Under:62;Over:103 | SOILLAY | LAM | SOIL LAYER UNDER 62 |
| 74 | D | 2 | 94 | PROB | LROM | LROM | EROM | Under:26,89,90;Over:bdrk | SOILLAY | LAM | PATCHY SOIL LAYER OVER BEDROCK |
| 74 | D | 2 | 95B | PROB | LROM | LROM | EROM | Under:95A;Over:95C;Within:95 | SOILLAY | LAM | SOIL LAYER IN STORE SILO 95 |
| 74 | D | 2 | 98 | PROB | LROM | LROM | ERM? | Under:90;Over:100 | SOILSUR | LAM | SOIL SURFACE IN DOORWAY TO D.2 ROOM |
| 74 | D | 2 | 102 | PROB | LROM | LROM | IRON | Under:100;Over:bdrk;Seals:104 | SOILLAY | LAM | SOIL LAYER IN BEDROCK CUT N OF WALL 104 |
| 73 | D | 3 | 61 | PROB | EROM | LROM | I2/P | Under:52;Over:bdrk | SOILLAY | LAM | SOIL LAYER UNDER 52 |
| 74 | D | 3 | 76 | PROB | EROM | LROM | IRON | Under:67;Over:81 | SOILLAY | LAM | SOIL LAYER, PIT?, UNDER 67 |
| 74 | D | 3 | 78 | PROB | EROM | EROM | IRON | Equals:D.2:71,D.2:75;Under:71,73,79;Over:80;Seals:70 | SOILLAY | LAM | SOIL LAYER UNDER 71 |
| 74 | D | 3 | 79 | PROB | EROM | EROM | IRON | Under:71;Over:78,80;Seals:70 | SOILLAY | LAM | SOIL LAYER E OF WALL 16A |
| 74 | D | 3 | 80 | PROB | EROM | EROM | I2/P | Under:78,79;Over:81;Cutby:16A,77;Seals:70 | SOILLAY | LAM | SOIL LAYER E OF WALL 16A |
| 74 | D | 3 | 81 | PROB | EROM | EROM | I2/P | Under:80,76;Over:82,83,86-88,102;Cutby:16A,77;Seals:70 | SOILLAY | LAM | SOIL LAYER E OF WALL 16A |
| 76 | D | 3 | 105 | PROB | EROM | EBYZ | I2/P | Under:102;Over:106,107 | SOILLAY | LAM | SOIL LAYER UNDER 102 |
| 76 | D | 3 | 114 | PROB | LROM | A/MA | IRON | Under:112;Over:115;Cutby:112 | SOILLAY | LAM | SOIL LAYER UNDER 112, EQUALS 115 |
| 76 | D | 3 | 115 | PROB | LROM | LRM4 | IRON | Under:112,113,114;Over:19;Sealsover:D.4:31 | SOILLAY | LAM | SOIL LAYER, EQUALS 114 |
| 76 | D | 3 | 116 | POSS | EROM | LRM2 | HELL | Under:19;Over:70,117 | SOILLAY | LAM | SOIL LAYER UNDER 67=19 IN SE CORNER |
| 74 | D | 4 | 44 | PROB | EROM | EROM | I2/P | Under:31,41,43,51;Over:47,48,50;Seals:45 | SOILSUR | LAM | FILL UNDER 41, SURFACE LEVEL W/THRSHLD 45? |
| 74 | D | 4 | 55 | POSS | EROM | EROM | IRON | Under:21;Over:25 | SOILLAY | LAM | SOIL FILL IN/AROUND BROKEN BEDROCK 25 |
| 76 | D | 4 | 90 | POSS | EROM | A/MA | IRON | Under:38;Over:112 | SOILLAY | LAM | DOUBTFUL FTRENCH N OF WALL 88 |
| 71 | B | 2 | 44 | PROB | EROM | EROM | I2/P | Under:43;Over:46,62 | RUBBLAY | LAM | RUBBLE LAYER OVER WALL 62 |
| 71 | B | 2 | 47 | PROB | EROM | EROM | I2/P | Equals:B.7:39;Under:33;Over:52,53 | RUBBLAY | LAM | RUBBLE LAYER IN NE CORNER |
| 71 | B | 4 | 50 | PROB | EROM | EROM | I2/P | Under:48;Over:55,58 | RUBBLAY | LAM | RUBBLE LAYER W OF E MARGIN OF RESEVOIR |
| 71 | B | 4 | 51 | PROB | EROM | EROM | I2/P | Under:47;Over:54,bdrk,91 | RUBBLAY | LAM | RUBBLE LAYER COVERING ENTR. TO CAVE 74 |
| 71 | B | 4 | 55 | PROB | EROM | EROM | I2/P | Under:48,50;Over:58,66,70,73 | RUBBLAY | LAM | SOIL/RUBBLE LAYER N OF WALL 46 |
| 73 | B | 4 | 91 | PROB | EROM | EROM | I2/P | Equals:54;Under:51;Over:92;Within:74 | RUBBLAY | LAM | RBL LYR, SOIL & ROOF FRAG FALL IN CAVE 74 |
| 71 | C | 1 | 30 | PROB | EROM | EROM | EROM | Under:20;Over:117;Abuts:63 | RETWALL | LAM | NS WALL N OF WALL 63 |
| 74 | D | 1 | 104 | PROB | EROM | A/MA | IRN1 | Under:63B;Over:63D | RETWALL | LAM | EW WALL IN LINE W/BDRK CUT INTO CIST 63 |
| 76 | D | 2 | 111 | PROB | EROM | NONE | - | Under:80A;Over:112 | RETWALL | LAM | LOW EW RET WALL IN CUT INTO STR SILO 80 |
| 76 | D | 3 | 16B | PROB | EROM | NONE | - | Equals:D.2:55A;Under:16A;Over:103;Sealedby:95,104;Abuts:D.4:117 | RETWALL | LAM | NS WALL UNDER 16A |
| 76 | D | 3 | 117 | PROB | EROM | NONE | - | Equals:D.4:31;Under:116;Over:unexcav;Abuts:16B | RETWALL | LAM | EW WALL IN BALK BTWN D.3 & D.4 = D.4:31 |
| 73 | D | 4 | 31 | PROB | EROM | NONE | - | Equals:D.3:117;Under:30;Over:44,unexcav;Sealedby:33,41,D.3:115 | RETWALL | LAM | RETAINING WALL IN N BALK E OF WALL 32 |
| 76 | A | 9 | 33B | PROB | LHEL | NONE | - | Equals:A.11:3B;Under:33A;Over:unexcav;Sealedby:110 | PUBWALL | LAM | EW WALL UNDER WALL 33A |
| 71 | B | 4 | 76 | POSS | EROM | NONE | - | Under:72;Over:unexcav | POSWALL | LAM | POSS WALL IN E BALK UNDER CURBING 72 |
| 74 | B | 4 | 239 | PROB | EROM | NONE | - | Equals:46;Under:46;Over:unexcav;Sealedby:236 | POSWALL | LAM | SINGLE STONE IN W BALK, PART OF WALL 46? |
| 76 | D | 4 | 153 | PROB | EROM | NONE | - | Under:38 | POSWALL | LAM | EW WALL IN N BALK NOT EXCAVATED |
| 74 | D | 2 | 50 | PROB | EROM | EROM | IRON | Equals:61;Under:27;Cuts:49 | PIT | LAM | PROB PIT IN SE CORNER |
| 74 | D | 2 | 61 | PROB | EROM | A/MA | IRON | Equals:50;Over:62,49;Cuts:49;Cutby:68 | PIT | LAM | PROB PIT IN SE CORNER |
| 68 | B | 1 | 13 | PROB | LROM | BZ/R? | - | Equals:B.2:31,B.2:33,B.4:41;Under:12;Over:14A,15A,16;Seals:153-154 | HUWSURF | LAM | HWR SRFC OVER BRWN/BLK SOIL COV ENT SQ. |
| 68 | B | 1 | 14A | PROB | EROM | BYZN? | IRN2 | Equals:15A,16,B.2:35A;Under:13;Over:17,18,22;Cutby:8 | HUWSURF | LAM | HUWWAR SRFC, = 15&16(THEREFORE B.2:35AALSO) |
| 71 | B | 2 | 33 | POSS | EROM | EROM | I2/P | Equals:B.1:13,B.3:30,B.4:43,B.7:32,33;Under:31;Over:35A-B, 34,45,47,49,50;Seals:69 | HUWSURF | LAM | HUWWAR SURFACE COVERING ENTIRE SQUARE |
| 71 | B | 3 | 30 | PROB | EROM | EROM | I2/P | Equals:B.2:33,B.7:30;Under:29;Over:31,32,35 | HUWSURF | LAM | HUWWAR/SOIL SURFACE COVERING ENTIRE SQ |
| 71 | B | 3 | 32 | PROB | LROM | EROM | I2/P | Equals:B.7:35,B.7:31=32;Under:30;Over:33,34;Seals:31 | HUWSURF | LAM | HUWWAR SRFC E OF CURB 31,CONT. W/35? |
| 71 | B | 3 | 33 | PROB | LROM | EROM | I2/P | Equals:36;Under:32;Over:37;Cutby:34 | HUWSURF | LAM | HUWWAR SRFC E OF CURB 31,CONT. W/36? |
| 71 | B | 3 | 35 | PROB | LROM | LRM? | I2/P | Equals:32,B.7:31;Under:30;Over:36;Sealsover:34;Seals:31 | HUWSURF | LAM | HUWWAR SRFC W OF CURB 31, CONT. W/32? |
| 71 | B | 3 | 36 | PROB | EROM | EROM | I2/P | Equals:33;Under:35;Over:39;Cutby:34 | HUWSURF | LAM | HUWWAR SRFC W OF CURB 31, CONT. W/33? |
| 71 | B | 4 | 44 | PROB | EROM | EROM | I2/P | Under:43;Over:47,94;Seals:72 | HUWSURF | LAM | HUWWAR SRFC OVER BEDROCK AT E BALK |
| 71 | B | 4 | 45 | PROB | EROM | EROM | I2/P | Under:43;Over:48;Seals:72 | HUWSURF | LAM | HUWWAR SURFACE OVER DARK BROWN SOIL |
| 71 | B | 4 | 48 | PROB | EROM | EROM | I2/P | Under:45;Over:50,55;Seals:72 | HUWSURF | LAM | HUWWAR SURFACE OVER DARK SOIL LAYER |
| 71 | B | 4 | 64 | PROB | EROM | EROM | I2/P | Under:63;Over:67;Within:74 | HUWLAY | LAM | NARI LAYER IN CAVE 74 |
| 73 | B | 4 | 85 | PROB | EROM | NONE | - | Under:58;Over:86 | HUWLAY | LAM | HUWWAR LAYER OVER WALL 83 |
| 73 | B | 4 | 96 | PROB | EROM | EROM | I2/P | Under:95,108;Over:97;Seals:100,115 | HUWSURF | LAM | HUWWAR SURFACE E OF WALL 100 |
| 76 | B | 7 | 31 | PROB | LROM | LROM | I2/P | Equals:32,B.3:32,D.3:49;Under:28,30;Over:34,36;Seals:29 | HUWSURF | LAM | HUWWAR/SOIL SURFACE E OF CURB 29=32 |
| 76 | B | 7 | 32 | PROB | LROM | LROM | IRON | Equals:31,B.2:33,B.3:35;Under:28,30;Over:33,34;Seals:29 | HUWSURF | LAM | HUWWAR/SOIL SURFACE W OF CURB 29=31 |
| 76 | B | 7 | 33 | PROB | EROM | LROM | IRN1 | Equals:B.2:33,35A;Under;32;Over:37,39;Cutby:34 | HUWSURF | LAM | HUWWAR SURFACE OVER FILL |
| 76 | B | 7 | 36 | PROB | EROM | NONE | - | Under:31;Over:unexcav;Cutby:34 | HUWSURF | LAM | HUWWAR SRFC E OF FTRENCH 34 NOT EXCAVATED |
| 73 | D | 2 | 22 | PROB | EROM | EROM | EROM | Equals:D.3:19,67;Under:18;Over:23;Cutby:16 | HUWSURF | LAM | HUWWAR SURFACE UNDER 18 |
| 74 | D | 2 | 95A | PROB | LROM | LROM | EROM | Under:73,88;Over:95B;Within:95 | HUWSURF | LAM | HUWWAR SRFC SEALING CUT-OPEN STR SILO 95 |
| 68 | D | 3 | 19 | PROB | EROM | NONE | - | Equals:65,67,D.2:22;Under:18,115;Over:66,73,116;Cutby:16A | HUWSURF | LAM | HUWWAR SURFACE E OF WALL 16 |
| 74 | D | 3 | 65 | PROB | EROM | EROM | IRON? | Equals:19;Under:64;Over:66,73 | HUWSURF | LAM | HUWWAR SURFACE IN SUBBULK E OF WALL 16A |
| 74 | D | 3 | 67 | PROB | EROM | LROM | IRON | Equals:19,65,D.2:22;Under:64;Over:71,73,75-6,116;Cuts:115,7:16A | HUWSURF | LAM | HUWWAR SURFACE E OF WALL 16 |
| 76 | D | 4 | 87 | PROB | LROM | NONE | - | Equals:B.3:29;Under:96;Over:unexcav;Seals:86 | HUWSURF | LAM | PROB HWR SRFC W OF 83=86 NOT EXP OR EXCVTD |
| 76 | D | 4 | 96 | PROB | LRM1 | A/MA | I2/P | Equals:B.3:29;Under:92;Over:86,87,98,103 | HUWSURF | LAM | HUWWAR SURFACE BTWN DRWYS 86=103/32B=45 |
| 71 | B | 3 | 34 | PROB | EROM | EROM | I2/P | Equals:72,B.7:34;Under:31,32,35;Over:44;Seals:31;Sealedby:32,25;Cuts:33,36 | FTRENCH | LAM | FTRENCH E AND W OF CURB 31 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 74 | B 4 236 | POSS | EROM | NONE | - | Under:205;Over:264;Seals:46 | FTRENCH | LAM | FTRENCH ON N SIDE OF WALL 239=46 |
| 76 | B 7 34 | PROB | EROM | EROM | I2/P | Equals:B.3:34;Under:31,32;Over:unexcav;Cuts:33,36 | FTRENCH | LAM | FTRENCH E AND W OF CURB 29 |
| 71 | C 1 48 | PROB | LROM | LROM | I2/P | Under:20;Over:25 | FTRENCH | LAM | POSS FTRENCH ALONG W FACE OF WALL 30 |
| 73 | C 1 51 | PROB | EROM | EROM | IRN1 | Under:8,14;Over:66,94;Cuts:83;Cutby:73 | FTRENCH | LAM | POSS TRNCH FOR WALLS 40 & 63 E OF WALL 40 |
| 71 | C 1 66 | PROB | EROM | EROM | I2/P | Under:35,51;Over:82;Seals:40 | FTRENCH | LAM | PROB FTRENCH ON W FACE OF WALL 40 |
| 71 | C 1 70 | PROB | EROM | NONE | - | Under:39,41;Over:69;Seals:37;Cuts:68 | FTRENCH | LAM | FOUNDATION TRENCH N OF WALL 37 |
| 71 | C 1 71 | PROB | EROM | ROM? | I2/P | Under:25;Over:103,105;Cuts:67 | FTRENCH | LAM | FOUNDATION TRENCH W OF WALL 30 |
| 71 | C 1 73 | PROB | EROM | EROM | I2/P | Under:54;Over:77;Seals:63;Cuts:51 | FTRENCH | LAM | POSS FTRENCH AT E FACE OF WALL 63 |
| 73 | C 1 81 | PROB | EROM | EROM | IRN1 | Equals:77-79;Under:62;Over:80 | FTRENCH | LAM | POSS FTRENCH ON E FACE OF WALL 30 |
| 74 | C 1 109 | PROB | EROM | EROM | IRN1? | Under:103;Over:105 | FTRENCH | LAM | SOIL LAYER, FOUNDATION TRENCH? |
| 76 | C 1 110 | PROB | EROM | EROM | IRN1 | Equals:C.5:62;Seals:49;Cuts:103,105,118,123B,124,131,132,134-9 | FTRENCH | LAM | FOUNDATION TRENCH ON N FACE OF WALL 49 |
| 74 | C 1 111 | PROB | EROM | EROM | I2/P | Under:62;Over:114;Cuts:113 | FTRENCH | LAM | FOUNDATION TRENCH ON E FACE OF WALL 30 |
| 74 | C 5 62 | PROB | EROM | BYZN | IRN1? | Equals:136,C.1:110;Under:59,61;Over:136;Seals:60;Cuts:52,86, 105,107,109,110,112,118,129,131,150,155,163,172,182 | FTRENCH | LAM | FOUNDATION ON N FACE OF WALL 60 |
| 76 | C 5 136 | PROB | EROM | ERM1 | IR1B | Equals:62,C.1:110;Under:62;Over:unexcav;Seals:60;Cuts:105, 107,109,110,112,136,183,194 | FTRENCH | LAM | FTRENCH ON N FACE OF WALL 60 =LOCUS 62 |
| 74 | D 1 84 | PROB | EROM | EROM | IRON | Equals:85;Under:76;Over:86;Cuts:81;Beside:80 | FTRENCH | LAM | FTRENCH NW OF CHANNEL 80 SEE LOCUS 85 |
| 74 | D 1 85 | PROB | EROM | EROM | HELL | Equals:84;Under:76;Over:86;Cuts:81;Beside:80 | FTRENCH | LAM | FTRENCH SE OF CHANNEL 80 SEE LOCUS 84 |
| 74 | D 2 68 | PROB | EROM | EROM? | I2/P | Equals:D.3:77;Over:103,108;Cuts:49,61,62,71,103,108;Seals:55A | FTRENCH | LAM | FTRENCH ON E FACE OF WALL 55A |
| 73 | D 3 53 | PROB | EROM | EROM | IRON | Under:52;Seals:47B | FTRENCH | LAM | FTRENCH ON E FACE OF WALL 47B |
| 74 | D 3 75 | PROB | EROM | EROM | I2/P | Under:67;Over:77;Seals:16A;Cuts:19,66,71 | FTRENCH | LAM | POSS FTRENCH E OF WALL 16A, ROBBER TRENCH? |
| 76 | D 3 104 | PROB | EROM | ERM3 | IRON | Under:93,102;Over:107;Seals:16B | FTRENCH | LAM | POSS FTRENCH E OF WALL 16B |
| 73 | D 3 56 | POSS | EROM | NONE | - | Under:55;Over:unexcav | FOUNDA | LAM | FOUND. LYR OF STN PRTRDNG FROM S BALK |
| 76 | D 4 97 | POSS | EROM | NONE | - | Equals:114 | FOUNDA | LAM | SEE LOCUS 114 |
| 76 | D 4 114 | UNCT | EROM | NONE | - | Equals:97,127;Under:38;Over:unexcav | FOUNDA | LAM | EW WALL OR FOUNDATION IN N BALK |
| 76 | D 4 117 | PROB | EROM | ERM3 | IR1A | Under:100;Cuts:107,124-6;128-131;133,135,137-143 | FOUNDA | LAM | FOUND. WALL 100 SET IN BDRK TRNCH FILL? |
| 76 | D 4 127 | - | - | - | - | Equals:114 | FOUNDA | LAM | SEE LOCUS 114 |
| 73 | D 3 52 | PROB | EROM | LROM? | I2/P | Under:49;Over:54,55,61,bdrk;Sealsover:53;Seals:47B | FLOOR | LAM | FLOOR AND MAKEUP IN D.3 ROOM |
| 74 | A 7 84 | PROB | EROM | EROM | IRN1 | Under:80;Over:88;Seals:89;Cutby:46,47,57 | FILLAY | LAM | FILL LAYER UNDER 80 N OF WALL 89 |
| 71 | B 2 48 | PROB | EROM | EROM | I2/P | Under:45;Over:56,57 | FILLAY | LAM | FILL LAYER N OF WALL 62 |
| 71 | B 2 49 | PROB | EROM | EROM | I2/P | Under:33;Over:62 | FILLAY | LAM | FILL LAYER OVER WALL 62 |
| 73 | B 2 84A | POSS | EROM | EROM | I2/P | Under:45;Over:56,57 | FILL | LAM | DESC. AS A NARROW UNDEF. TRENCH BTWN WALLS |
| 73 | B 2 85 | PROB | EROM | EROM | I2/P | Under:31H;Over:86 | FILLAY | LAM | FILL LAYER IN SE CRNR UND. ACCESS STAIRS |
| 73 | B 2 93 | PROB | EROM | EROM | I2/P | Under:31H;Over:96 | FILLAY | LAM | FILL LAYER IN SE CORNER |
| 73 | B 2 104 | PROB | EROM | EROM | I2/P | Under:103;Over:108 | FILLAY | LAM | FILL LAYER S OF WALL 62 |
| 71 | B 3 37 | PROB | EROM | EROM | I2/P | Under:33;Over:38,bdrk,43,45,53 | FILLAY | LAM | FILL LAYER UNDER 33 |
| 71 | B 3 39 | PROB | EROM | EROM | I2/P | Equals:44;Under:36;Over:40 | FILLAY | LAM | FILL LAYER UNDER 36 EQUALS 44 |
| 71 | B 3 41 | POSS | EROM | ER/H | I2/P | Under:40;Over:42 | FILLAY | LAM | FILL LAYER UNDER 40 |
| 71 | B 3 44 | PROB | EROM | EROM | I2/P | Equals:39;Under:34,45;Over;46,47,bdrk | FILLAY | LAM | FILL LAYER UNDER 34 EQUALS 39 |
| 71 | B 3 46 | PROB | EROM | EROM | I2/P | Under:44;Over:47,50,51,56,bdrk;Within:100 | FILL | LAM | FILL OVER BEDROCK |
| 73 | B 3 79 | PROB | EROM | EROM | IRN1 | Under:72;Over:74 | FILL | LAM | PROB FILL OF ROCK AND SOIL |
| 71 | B 4 54 | PROB | EROM | EROM | I2/P | Equals:91;Under:51;Over:59;Within:74 | FILLAY | LAM | FILL LAYER IN MOUTH OF CAVE 74 |
| 71 | B 4 59 | PROB | EROM | EROM | LHEL | Under:54;Over:62;Within:74 | FILLAY | LAM | FILL LAYER IN CAVE 74 EQUALS 154? |
| 71 | B 4 62 | PROB | EROM | EROM | I2/P | Under:59;Over:63;Within:74 | FILLAY | LAM | FILL LAYER IN CAVE 74 |
| 73 | B 4 92 | PROB | EROM | EROM | I2/P | Under:91;Over:93,154;Within:74 | FILLAY | LAM | FILL LAYER IN CAVE 74 |
| 73 | B 4 93 | PROB | EROM | EROM | I2/P | Under;92;Over:110;Within:74 | FILLAY | LAM | FILL LAYER IN CAVE 74 |
| 73 | B 4 94 | PROB | EROM | EROM | IRN1? | Equals:111,146;Under:44,75,107;Over:166,bdrk;Seals:127 | FILL | LAM | FILL BETWEEN WALL 46 AND BDRK SHELF TO N |
| 73 | B 4 106 | PROB | EROM | EROM | I2/P | Equals:94 | FILL | LAM | SOIL LAYER IN FILL LOCUS 94 |
| 73 | B 4 111 | PROB | EROM | NONE | - | Equals:94;Under:107 | FILL | LAM | FILL LOCUS EQUALS 94 |
| 73 | B 4 162 | PROB | EROM | HELL | I2/P | Under;139;Over:167,177,217,231,bdrk | FILLAY | LAM | FILL LAYER BERWEEN BEDROCK SECTIONS IN SE |
| 74 | B 4 217 | PROB | EROM | A/MA | I2/P | Equals:223,230;Under:162;Over:226,227,230,235,237;Seals:222 | FILL | LAM | FILL BETWEEN BEDROCK SECTIONS IN SE |
| 74 | B 4 223 | PROB | EROM | EROM | I2/P | Equals:217,230;Under:193;Over:227,unexcav | FILL | LAM | FILL UNDER BEDROCK EQUALS 217 |
| 74 | B 4 230 | PROB | EROM | EROM | I2/P | Equals:217,223;Under:162;Over:217 | FILL | LAM | FILL BETWEEN BEDROCK LOCI 194,195 |
| 74 | B 4 237 | PROB | EROM | EROM | IRN1? | Equals:256;Under;162,194;Over:217,228,247,256,260,263 | FILL | LAM | FILL IN BEDROCK NW OF POOL 265 |
| 74 | B 4 256 | PROB | EROM | EROM | I2/P | Equals:237,257,258;Under;237,247;Over:259 | FILL | LAM | FILL IN BEDROCK OPENING 247 |
| 74 | B 4 257 | PROB | EROM | EROM | I2/P | Equals:256;Under:246;Over:258 | FILL | LAM | FILL IN BEDROCK OPENING 247 |
| 74 | B 4 258 | PROB | EROM | EROM? | IRON | Equals:256;Under:257;Over:228;Seals:222 | FILL | LAM | FILL IN BEDROCK OPENING 247 |
| 74 | B 4 260 | PROB | EROM | ER/H | IRON | Under:237,246;Over:259,234,235 | FILL | LAM | FILL N AND E OF WALL 222 |
| 71 | D 1 46 | PROB | EROM | EROM | I2/P | Equals:81;Under:44;Over:47;Seals:45 | FILLAY | LAM | FILL LAYER UNDER SURFACE 44 |
| 71 | D 1 47 | PROB | EROM | EROM | I2/P | Equals:86;Under:46;Over:48 | FILLAY | LAM | FILL LAYER MAKE-UP FOR SURFACE 44 |
| 71 | D 1 48 | PROB | EROM | EROM | I2/P | Equals:87,88;Under:47;Over:49 | FILLAY | LAM | FILL LAYER MAKE-UP FOR SURFACE 44 |
| 73 | D 1 63A | PROB | EROM | LHEL | I2/P | Under:60;Over:66;Within:63 | FILLAY | LAM | FILL LAYER SIMILAR TO LOCI 56A,56H,59,60 |
| 74 | D 1 63C | PROB | EROM | LHEL | I2/P | Under:63B;Over:63D-F;Within:63 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 74 | D 1 63D | PROB | EROM | EROM | IRN1 | Under:63C,104;Over:63E,63I;Within:63 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 74 | D 1 63I | PROB | EROM | NONE | - | Equals:105;Under:63B,D;Over:63E,J;Within:63 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 74 | D 1 63J | PROB | EROM | NONE | - | Equals:67;Under:63I;Over:63E;Within:63 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 74 | D 1 64 | PROB | EROM | EROM | IRON | Under:60;Over:67 | FILLAY | LAM | FILL LAYER IN CUT MADE INTO CISTERN 63 |
| 74 | D 1 67 | PROB | EROM | EROM | LHEL | Equals:63J,106;Under:64,66;Over:68,105 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 74 | D 1 86 | PROB | EROM | EROM | I2/P | Equals:47;Under:80,81,84,85;Over:87,88 | FILLAY | LAM | FILL LAYER N OF WALL 4D, DEBRIS? |
| 74 | D 1 87 | PROB | EROM | EROM | IRON | Equals:48;Under:86;Over:88 | FILLAY | LAM | FILL LAYER N OF WALL 4D |
| 74 | D 1 88 | POSS | EROM | EROM | IRN1 | Equals:48;Under:86,87;Over:90,92 | FILLAY | LAM | FILL LAYER N OF WALL 4D |
| 74 | D 1 106 | PROB | EROM | NONE | - | Equals:67;Under:105;Over:68 | FILLAY | LAM | FILL LAYER IN CISTERN 63 |
| 74 | D 2 62 | PROB | EROM | LROM | I2/P | Equals:D.3:71;Under:49,61;Over;69,71,75;Cutby:68 | FILL | LAM | FILL E OF WALL 55A |
| 74 | D 2 69 | PROB | EROM | EROM | I2/P | Under:62;Over:103;Seals:55A | FILL | LAM | FILL BTWN ENDS OF WALLS 55B AND 55A |
| 73 | D 3 55 | PROB | EROM | LROM | I2/P | Under:52;Over:56,bdrk | FILL | LAM | FILL OVER COLLAPSED BDRK INSIDE D.3 RM |
| 74 | D 3 66 | PROB | EROM | EROM | IRN1 | Under:19,65;Over:70,71;Cutby:16A,75 | FILLAY | LAM | FILL LAYER UNDER HUWWAR SURFACE 19=65=67 |
| 74 | D 3 71 | PROB | EROM | EROM | IRN1 | Equals:73,D.2:49,D.2:62;Under:66,67;Over:78,79;Seals:70,87;Cutby:16A,75,77 | FILLAY | LAM | FILL LAYER UNDER 66 |
| 74 | D 3 73 | PROB | EROM | EROM | IRON | Equals:71;Under;19,65;Over:78 | FILLAY | LAM | EQUALS LOCUS 71 |
| 74 | D 3 91 | PROB | EROM | EROM | IRON | Under:86;Over:93 | FILL | LAM | FILL LAYER E OF WALL 16A |
| 74 | D 3 93 | PROB | EROM | EROM | IRON | Under:91;Over:104 | FILL | LAM | FILL E OF WALL 16A |
| 76 | D 3 99 | PROB | EROM | ERM3 | IRON? | Under:97;Over:101 | FILLAY | LAM | FILLAY S OF STAIRWAY 39 |
| 76 | D 3 101 | PROB | EROM | EROM | HELL | Under:99;Over:103 | FILL | LAM | FILL OVER LOCUS 103 BEDROCK STEPS |
| 76 | D 3 102 | PROB | EROM | EROM | I2/P | Under:81;Over:104,105 | FILL | LAM | FILL E OF WALL 16 |
| 76 | D 3 108 | PROB | EROM | ERM4 | ERM1 | Under:107;Over:109 | FILL | LAM | FILL IN CAVE 83 |
| 74 | D 4 47 | PROB | EROM | HELL | IRON | Under:44,48;Over:50 | FILL | LAM | FILL E OF WALL 32 |
| 74 | D 4 50 | PROB | EROM | EROM | I2/P | Under:44,47,48;Over:unexcav | FILLAY | LAM | FILL LAYER E OF WALL 32 |
| 76 | D 4 95 | PROB | EROM | LRM4 | EROM | Under:45;Over:unexcav | FILL | LAM | FILL UND RED CLY MRTR IN WHCH IS THLD 45 |
| 76 | D 4 101 | PROB | EROM | ERM4 | IRON | Under:45,108;Over:116,118,bdrk;Seals:86 | FILL | LAM | SOIL FILL OVER BDRK BTWN WALLS 86=103 & 32 |
| 76 | D 4 105 | PROB | EROM | ERM3 | IR1B | Equals:99,106;Under:94;Over:107 | FILLAY | LAM | SOIL FILL LAYER S OF WALL 88 |
| 76 | D 4 106 | PROB | EROM | ERM3 | IRN2 | Equals:99,105;Under:94;Over:107 | FILLAY | LAM | SOIL FILL LAYER S OF WALL 88 |
| 73 | D 3 47B | PROB | EROM | NONE | - | Under:47A;Over:unexcav;Sealedby:49,52,53 | DOMWAL | LAM | NS WALL UND 47B FRMS W WALL OF RM IN D.3 |
| 71 | B 3 31 | PROB | EROM | EROM | I2/P | Equals:B.7:29,B.4:72;Under:30;Over:34,72,75;Sealedby:32,34,35 | CURB | LAM | NS CURB IN LINE W/CURB B.7:29 & B.4:72 |
| 71 | B 4 72 | PROB | EROM | NONE | - | Equals:B.3:31,B.7:29;Under:43;Over:76;Sealedby:44,45,48 | CURB | LAM | CURBING STONES IN LINE W/B.3:31 |
| 76 | B 7 29 | PROB | EROM | NONE | - | Equals:B.3:31,B.4:72;Under:28,30;Over:unexcav;Sealedby:30,31 | CURB | LAM | CURBING STONES RUN NS BELOW LROM STRWY(20) |
| 73 | D 1 61 | PROB | EROM | LHEL | I2/P | Under:57;Over:59 | CHANNEL | LAM | WATER CHANNEL DRAINS S FROM WALL 4D |
| 74 | D 1 80 | PROB | EROM | EROM | I2/P | Under:76;Over:86;Cuts:81 | CHANNEL | LAM | WATER CHANNEL DRAINING SW TO WALL 4D |
| 74 | D 2 91 | POSS | EROM | LRM? | IRON | Under:89,90;Over:bdrk | BEDRCUT | LAM | BEDROCK CUT IN LINE WITH WALL 85 |
| 74 | D 2 93 | UNCT | EROM | HELL | IRON | Under:89;Over:bdrk | BEDRPIT | LAM | BEDROCK PIT S OF CUT-OPEN STORE SILO 95 |
| 74 | G 8 10 | POSS | EROM | BZ/R | IRON? | Under:4;Over:12 | BEDRCUT | LAM | SHAFT ENTRANCE TO TOMB 12 CUT VERT. IN BDRK |
| 74 | B 1 153 | PROB | LROM | NONE | - | Under:12;Sealedby:13;Cutby:10 | BASE | LAM | BASE W/CYMA REVERSA/FILLET MLD, SEE B.1:154 |
| 74 | B 1 154 | PROB | LROM | NONE | - | Under:12;Sealedby:13;Cutby:10 | BASE | LAM | BASE W/SPLAY MOLD. CORSPNDS TO B.1:153 |
| 73 | B 2 86 | PROB | EROM | EROM | I2/P | Under:85;Over:77 | ACCESST | LAM | GRAY SIOL LAYER IN ACCESS STAIR REMOVAL |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 74 | B | 4 | 208 | PROB | EROM | EROM | HELL | Equals:122;Under:206;Over:209 | ACCESST | LAM | SOIL LAYER IN ACCESS STAIR REMOVAL |
| 74 | B | 4 | 209 | PROB | EROM | EROM | IRON | Equals:122;Under:208;Over:210;Cuts:207 | ACCESST | LAM | SOIL LAYER IN ACCESS STAIR REMOVAL |
| 74 | B | 4 | 210 | PROB | EROM | EROM | - | Equals:122;Under:209;Over:211 | ACCESST | LAM | SOIL LAYER IN ACCESS STAIR REMOVAL |
| 74 | B | 4 | 211 | PROB | EROM | EROM | - | Equals:122;Under:210;Over:212-214 | ACCESST | LAM | SOIL LAYER IN ACCESS STAIR REMOVAL |
| 74 | B | 4 | 212 | PROB | EROM | EROM | - | Equals:122;Under:211;Over:213,214 | ACCESST | LAM | SOIL LAYER IN ACCESS STAIR REMOVAL |
| 74 | B | 4 | 213 | PROB | EROM | EROM | - | Equals:122;Under:211,212;Over:214 | ACCESST | LAM | SOIL LAYER IN ACCESS STAIR REMOVAL |
| 74 | B | 4 | 214 | PROB | EROM | EROM | - | Equals:122;Under:211,212,213;Over:bdrk | ACCESST | LAM | SOIL LAYER IN ACCESS STAIR |

# STRATUM 12

## Unassigned

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 73 | B | 4 | 117 | POSS | LROM | NONE | - | Under:112;Over:119 | SOILLAY | LAM | SOIL LAYER AT S BALK |
| 73 | B | 4 | 119 | POSS | LROM | LROM | I2/P | Under:113,117;Over:122,133,155,156;Cutby:123 | SOILLAY | LAM | SOIL LAYER E OF WALL 71 S OF WALL 46 |
| 73 | C | 2 | 25 | PROB | LROM | LROM | IRN1 | Under:22;Over:26,30,35,41;Seals:36 | SOILLAY | LAM | SL LYR SE CRNR S WALL 26 SL OVR RK TMBL |
| 73 | C | 2 | 30 | PROB | LROM | LROM | I2/P | Under:25;Over:42 | SOILLAY | LAM | SOIL LAYER S OF WALL 36 |
| 73 | C | 2 | 42 | PROB | LROM | LROM | I2/P | Under:30;Over:37,43 | SOILLAY | LAM | SOIL LYR S BALK S OF WALL 36 HUWR LYR? |
| 73 | C | 2 | 43 | PROB | LROM | LROM | IRON | Under:42;Over:37 | SOILLAY | LAM | SOIL LAYER IN SM PATCH S OF WALL 36 |
| 76 | C | 5 | 121 | PROB | LROM | LRM3 | I2/P | Under:116;Over:123,126 | SOILLAY | LAM | SOIL LAYER W OF WALL 77 S OF WALL 82 |
| 76 | C | 5 | 140 | PROB | LROM | LRM4 | LRM3 | Under:133;Over:165 | SOILLAY | LAM | SOIL LAYER W OF WALL 77 N OF WALL 82 |
| 76 | C | 5 | 144 | PROB | LROM | IRN2 | IRN2 | Under:139;Over:154 | SOILLAY | LAM | SOILA LAYER AT ACCESS STAIRS N BALK |
| 76 | C | 7 | 87 | PROB | LROM | LRM4 | EROM | Under:66;Over:88;Within:86 | SOILLAY | LAM | SOIL LAYER IN ENTRANCE WAY OF CAVE 86 |
| 76 | C | 10 | 19 | PROB | LROM | LRM3 | IRON | Under:14,18;Over:20,32;Cutby:18 | SOILSUR | LAM | SOIL SURFACE E OF WALL 20 |

## No Stage A

## Stage B

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 76 | C | 5 | 108 | PROB | LROM | LRM4 | IRON | Under:100,106;Over:102,128,133,137 | HUWSURF | LAM | HUWWAR SURFACE POSS FLOOR W OF WAL 77 |
| 74 | D | 4 | 33 | POSS | LROM | EROM | IRON | Under:30,30D;Over:41;Seals:31,51 | HUWSURF | LAM | HUWWAR SRFC UNDR 30& 30D ASS. W/STEP 51 |
| 76 | D | 4 | 85 | PROB | LROM | LRM2 | IRON | Under:38,78;Over:92;Cutby:91;Seals:45 | HUWSURF | LAM | HUWWAR SURFACE CON. 83=86=103 & 32B=45 |
| 76 | A | 9 | 90 | PROB | LROM | A/MA | LRM1 | Under:26,28;Over:106 | FLOOR | LAM | SOIL SURFACE ENCLOSED BY WALLS 5,33,& 88 |
| 76 | A | 9 | 106 | PROB | LROM | LRM4 | I2/P | Under:90;Over:107;Seals:33,88 | FLOOR | LAM | SOIL SURFACE IN NW ROOM |
| 74 | D | 2 | 88 | PROB | LROM | LROM | EROM | Under:73;Over:89,90,95,95A;Seals:81,85 | FLOOR | LAM | FLOOR IN D.2 ROOM |
| 73 | D | 3 | 49 | PROB | LROM | LROM | IRON | Equals:95,B:7:31;Under:48;Over:52;Seals:47A,47B | FLOOR | LAM | SOIL SURFACE IN D.3 ROOM |
| 73 | D | 3 | 60 | PROB | LROM | LRM2 | I2/P | Under:58,59;Over:57A, 63;Seals:16A,47A | FLOOR | LAM | PROB FLOOR E OF WALL 47A W OF WALL 16A |
| 74 | D | 3 | 95 | PROB | LROM | LROM | IRON | Equals:49;Under:94,96;Over:97,98;Seals:16B | FLOOR | LAM | FLOOR IN D.3 ROOM |
| 73 | A | 7 | 77 | POSS | LROM | LROM | IRON | Under:69;Cuts:78 | FIREPIT | LAM | FIREPIT AGAINST S FACE OF WALL 57 |
| 76 | C | 10 | 18 | PROB | LROM | LROM | I2/P | Under:14;Over:19;Cuts:19 | DUMP | LAM | WASTE DUMP, FIREPIT?, ON E FACE OF WALL 20 |

## Stage C

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71 | A | 5 | 58 | UNCT | LROM | NONE | - | Under:21;Over:38 | WALL | LAM | PROB WALL IN SW QUAD. OVER 38 |
| 73 | C | 2 | 36 | PROB | EROM | EROM | I2/P | Under:24;Over:35,52;Seals:25 | WALL | LAM | SEMI-CIRC. WALL AT CENTER OF S BALK |
| 76 | D | 4 | 88 | UNCT | EROM | ERM4 | IRON | Under:38;Over:110,112;Abuts:103 | WALL | LAM | EW WALL, FNCTN?, E OF WALL 86=103=101 |
| 71 | D | 6 | 39 | PROB | LROM | LROM | I2/P | Under:23;Over:42;Boundedby:38 | WALL | LAM | NS WALL E OF WALL 41 FOUNDED ON 42 |
| 71 | D | 6 | 41 | POSS | LROM | NONE | - | Under:3,23;Over:44;Sealedby:37,40,42 | WALL | LAM | NS WALL BENEATH & 0.25 M E OF WALL 3 |
| 68 | A | 1 | 15 | PROB | LROM | ABBD | IRN1 | Under:14;Over:25,31,33 | SOILLAY | LAM | SOIL LAYER E OF WALL 17 |
| 71 | A | 2 | 28 | POSS | LROM | BYZN | I2/P | Equals:39;Under:1,13;Over:bdrk | SOILLAY | LAM | SOIL LAYER IN NE CORNER |
| 71 | A | 2 | 39 | PROB | LROM | LROM | I2/P | Equals:28;Under:38;Over:43 | SOILLAY | LAM | SOIL LAYER IN E BALK |
| 71 | A | 2 | 44 | POSS | LROM | LRM? | I2/P | Under:36;Over:46 | SOILLAY | LAM | SOIL LAYER IN E BALK |
| 71 | A | 4 | 31 | POSS | LROM | EROM | I2/P | Under:30;Over:bdrk | SOILLAY | LAM | SOIL LAYER ON BEDROCK W OF 21 |
| 71 | A | 5 | 57 | PROB | LROM | EROM | I2/P | Under:47;Over:bdrk;Cuts:48,49,54,56 | SOILLAY | LAM | SOIL LAYER, PIT?, IN NE CORNER |
| 71 | B | 4 | 68 | PROB | LROM | LROM | EROM | Under:65;Over:69 | SOILLAY | LAM | SOIL LAYER IN SW CORNER |
| 71 | B | 4 | 69 | PROB | LROM | LROM | I2/P | Under:68;Over:79 | SOILLAY | LAM | SOIL LAYER IN SW CORNER |
| 73 | B | 4 | 116 | PROB | LROM | LROM | I2/P | Under:33;Over:151 | SOILLAY | LAM | SOIL LAYER IMMEDEATELY E OF WALL 116 |
| 76 | C | 5 | 123 | POSS | LROM | NONE | - | Under:121;Over:124,130 | SOILLAY | LAM | SOIL LAYER W OF WALL 77 S OF WALL 82 |
| 76 | C | 5 | 124 | PROB | LROM | LRM4 | EROM | Under:123;Over:130 | SOILLAY | LAM | SOIL LAYER W OF WALL 77 & S OF WALL 82 |
| 76 | C | 5 | 126 | PROB | LROM | LRM4 | I2/P | Under:116,121;Over:127,130 | SOILLAY | LAM | SOIL LAYER S OF WALL 82 W OF WALL 77 |
| 76 | C | 5 | 139 | PROB | EROM | EROM | IR1B | Under:128,133;Over:144,166 | SOILLAY | LAM | SOIL LAYER IN NW QUAD. AT ACCESS STAIRS |
| 76 | C | 5 | 154 | PROB | LROM | LRM2 | IRN1 | Under:141,144;Over:164 | SOILLAY | LAM | SOIL LAYER IN NW CORNER |
| 76 | C | 7 | 78 | PROB | LROM | LRM1 | EROM | Under:77;Over:bdrk | SOILLAY | LAM | SOIL LAYER IN DOORWAY 81 UNDER LINTEL STONE |
| 76 | C | 7 | 83 | PROB | LROM | LRM2 | ERM3 | Under:77;Over:85 | SOILLAY | LAM | SOIL LYR BTWN DWY 81& CAVE 86 ENT. SRFC? |
| 76 | C | 7 | 84 | PROB | LROM | ERM3 | ERM3 | Under:68;Over:85 | SOILLAY | LAM | SOIL LAYER IN ENT. TO CAVE 86 |
| 76 | C | 7 | 85 | PROB | LROM | ERM3 | IRON | Under:81,83,84;Over:103 | SOILSUR | LAM | SOIL SRFC BTWN ENT. TO CAVE 86 & DRWY 81 |
| 71 | D | 6 | 40 | PROM | LROM | LROM | I2/P | Equals:A.3:48;Under:37,38;Over:42;Seals:41 | SOILLAY | LAM | SOIL LAYER IN E HALF OF SQUARE |
| 76 | G | 15 | 34 | PROB | LROM | LROM | EROM | Under:33;Over:35,36;Cutby:29 | SOILLAY | LAM | SOIL LYR OVER BDRK E OF WALL 2=8, SRFC? |
| 71 | D | 6 | 42 | PROB | LROM | LROM | I2/P | Equals:A.3:48;Under:39,40;Over:44;Seals:41 | RUBBLE | LAM | SOIL LAYER OVER HALF OF SQ. E OF 41 |
| 73 | A | 6 | 72 | PROB | LROM | NONE | - | Under:42;Over:bdrk | RETWALL | LAM | NS RET. WALL OF PLTFRM FOR CBL SRFC 71 |
| 74 | D | 2 | 55A | PROB | EROM | EROM | HELL? | Equals:D.3:16B;Under:52,53;Over:bdrk;Sealedby:68,69;Abuts:85 | RETWALL | LAM | NS WALL IN LINE W/WALL 55B, UNCON. TO IT |
| 73 | G | 1 | 21 | PROB | LROM | EBYZ | I2/P | Under:15;Over:24 | RETWALL | LAM | EW RETAINING WALL S OF COBBLE SURFACE 15 |
| 71 | A | 5 | 11C | PROB | LROM | NONE | - | Under:11B;Over:90,bdrk;Sealedby:55 | PUBWALL | LAM | NS WALL IN LINE W/WALL A.6:65 |
| 71 | A | 2 | 45 | POSS | LROM | LROM | I2/P | Under:36;Over:bdrk | POSWALL | LAM | POSS NS WALL IN E BALK |
| 73 | G | 1 | 26 | PROB | LROM | NONE | - | Under:22;Over:31 | POSWALL | LAM | POSS WALL AT E BALK RUNNING EW |
| 71 | A | 5 | 48 | PROB | LROM | A/MA | I2/P | Under:47,49;Over:54;Cutby:55,57 | HUWSURF | LAM | HUWWAR SURFACE IN NE CORNER UNDER 47 |
| 76 | A | 9 | 107 | PROB | LROM | LROM | IRN2 | Under:106;Over:109,110;Seals:33;Cutby:108 | HUWSURF | LAM | HUWWAR SURFACE IN NW ROOM |
| 71 | B | 2 | 31 | PROB | LROM | LROM | I2/P | Equals:B.1:13,B.3:29,B.4:41,B.7:28,B.1:30;Under:27,30;Over:33,38 | HUWSURF | LAM | HUWWAR SURFACE COVERING ENTIRE SQ. |
| 71 | B | 3 | 29 | PROB | LROM | LRM? | I2/P | Equals:B.2:31,B.7:28,B.7:30,D.4:87,96;Under:27,28;Over:30 | HUWSURF | LAM | HUWWAR SURFACE COVERING ENTIRE SQ. |
| 71 | B | 4 | 41 | PROB | LROM | LROM | I2/P | Equals:B.2:31,B.1:13;Under:10,29,30,32;Over:43 | HUWSURF | LAM | HUWWAR SURFACE OVER RED SOIL LAYER |
| 76 | B | 7 | 30 | PROB | LROM | ERM1 | ERM1 | Equals:B.2:31,B.3:29,30;Under:28;Over:29,31,32;Sealsover:29 | HUWSURF | LAM | HUWWAR SURFACE OVER CURB 29 |
| 74 | D | 3 | 82 | PROB | EROM | EROM | IRON | Equals:77;Under:81 | HUWWAR | LAM | HUWWAR PATCH WITHIN 77 EQUALS 77 |
| 74 | D | 4 | 30A | PROB | LROM | LROM | HELL | Under:30;Over:30B;Seals:32B | HUWSURF | LAM | HUWWAR SURFACE E OF WALL 32 |
| 74 | D | 4 | 30C | PROB | LROM | LROM | EROM | Under:30B;Over:30D | HUWSURF | LAM | HUWWAR SURFACE UNDER 30B |
| 76 | D | 4 | 92 | PROB | LROM | LROM | HELL | Under:85,91;Over:96;Seals:45;Cutby:91 | HUWSURF | LAM | HUWWAR SURFACE OVER 85 |
| 71 | A | 5 | 55 | POSS | LROM | LRM? | I2/P | Under:53;Cuts:47-49,54,56;Seals:11C | FTRENCH | LAM | FTRENCH ON E FACE OF WALL 11 |
| 76 | A | 9 | 108 | PROB | LROM | ABBD | IRN1 | Under:106;Over:114;Seals:88;Cuts:107 | FTRENCH | LAM | FTRENCH ON S FACE OF WALL 88 |
| 74 | D | 3 | 77 | PROB | EROM | A/MA | I2/P | Equals:82,D.2:68;Under:75;Seals:16A;Cuts:71,80,81 | FTRENCH | LAM | POSS FTRENCH ON W OF WALL 16N |
| 73 | D | 6 | 73 | PROB | LROM | LROM | I2/P | Under:69;Over:bdrk;Cuts:72 | FTRENCH | LAM | PROB FTRENCH FOR 1ST CRS OF CIST.33 NECK |
| 71 | A | 3 | 49 | POSS | LROM | EROM | I2/P | Under:9,42;Over:50,52 | FOUNDA | LAM | FOUNDATION STONES UNDER 42 |
| 71 | A | 5 | 49 | POSS | LROM | LROM | I2/P | Under:45;Over:48,65,66;Cutby:52,55,57 | FILLAY | LAM | FILL LAYER N OF WALL 51 |
| 71 | A | 5 | 63 | PROB | LROM | LROM | I2/P | None | FILLAY | LAM | SOIL LAYER IN SILO 62 |
| 73 | A | 6 | 80 | PROB | LROM | LROM | I2/P | Under:71;Over:bdrk;Seals:69 | FILL | LAM | FILL UNDER 71 BETWEEN WALLS 69 & 72 |
| 76 | A | 9 | 111 | PROB | LROM | LRM4 | IRN1 | Under:105;Over:112 | FILLAY | LAM | FILL LYR UND FLEVEL WALL 88 N OF WALL 33 |
| 76 | A | 9 | 112 | PROB | LROM | LRM4 | IRN1 | Under:89,111;Over:115 | FILL | LAM | FILL UND 111 AND 89 |
| 76 | A | 68 | 84 | PROB | LROM | LRM2 | EROM | - | FILLAY | LAM | FILL LAYER UNDER 83 |
| 73 | B | 4 | 112 | PROB | LROM | A/MA | I2/P | Under:33;Over:113,117 | FILLAY | LAM | FILL LAYER E OF WALL 71 |
| 74 | D | 3 | 97 | PROB | LROM | LROM | I2/P | Under:95;Over:99,bdrk | FILLAY | LAM | FILL LAYER UNDER FLOOR 95=49 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 74 | D 4 30B | PROB | LROM | LROM | I2/P | Under:30A;Over:30C,51 | FILLAY | LAM | FILL LAYER UNDER 30A |
| 74 | D 4 30D | PROB | LROM | LROM? | IRON? | Under:30C;Over:33,51;Seals:32B | FILLAY | LAM | FILL LAYER UNDER 30C |
| 74 | D 4 41 | PROB | EROM | EROM | I2/P | Under:33;Over:43,44;Seals:31,32,51 | FILLAY | LAM | FILL LAYER E OF WALL 32 |
| 76 | G 15 33 | PROB | LROM | LRM3 | EROM | Under:32;Over:34;Cutby:29 | FILLAY | LAM | FILL LAYER UNDER SURFACE 32 |
| 74 | D 2 21A | POSS | EROM | EROM | IRN1 | Under:2,10;Over;bdrk;Bonds:55B,81;Seals:21B,26 | FACWAL | LAM | FCNG WALL S FC OF 21B FRMS N WALL D.2 RM |
| 74 | D 2 55B | PROB | EROM | EROM | HELL? | Under:59;Over;bdrk;Bonds:21A;Cuts:64 | DOMWAL | LAM | NS WALL FORMING E WALL OF D.2 RM |
| 76 | D 2 81 | PROB | EROM | NONE | - | Under:43;Over:bdrk;Sealedby:73,88-90;Bonds:21A | DOMWAL | LAM | NS WALL ON W SIDE OF D.2 ROOM |
| 74 | D 2 85 | POSS | LROM | NONE | - | Under:73;Over:bdrk;Sealedby:88-90,107;Abuts:55A,104 | DOMWAL | LAM | EW WALL ON S SIDE OF D.2 ROOM |
| 74 | D 2 104 | POSS | LROM | NONE | - | Equals:D.3:47A;Under:60;Over;unexcav;Sealedby:102,107;Abuts:85 | DOMWAL | LAM | NS WALL IN LINE W/WALL 2.3:47A |
| 73 | D 3 47A | PROB | EROM | NONE | - | Equals:D.2:104,D.4:83,86;Under:39,46;Over:47B;Sealedby:48,49,58,60 | DOMWAL | LAM | NS WALL OVR 47B FRMS W WALL OF RMS 2&3 |
| 76 | D 4 45 | PROB | EROM | NONE | - | Equals:32B,109;Under:32C,51;Over:95,101;Sealedby:43-4,85,92,98,104,108 | DOOR | LAM | DOORWAY THRSHLD PRT OF WALL 32B = 109 |
| 74 | D 4 83 | PROB | EROM | NONE | - | Equals:86,103,D.3:47A;Under:64;Over:unexcav | DOOR | LAM | PROB 1ST COURSE OF N JAMB OF DRWY IN W D.4 |
| 76 | D 4 86 | PROB | EROM | NONE | - | Equals:83,100,103,D.3:47A;Under:96;Over:unexcav;Sealedby:87,98,101,108 | DOOR | LAM | SEE LOCUS 103 |
| 76 | D 4 100 | PROB | EROM | NONE | - | Equals:86,103;Under:94;Over:117;Sealedby:99 | DOOR | LAM | DRWY THRSHLD W/SOCKET IN LINE W/WALL 86=103 |
| 76 | D 4 103 | PROB | EROM | NONE | - | Equals:83,86,100,D.3:47A;Under:94,96;Over:unexcav;Sealedby: 98,99,108;Abuts:88,110 | DOOR | LAM | DRWY THRSHLD IN WALL ALONG W BALK |
| 76 | D 4 109 | PROB | EROM | NONE | - | Equals:45;Under:32C,98;Over:unexcav | DOOR | LAM | STEP CUT INTO/LOWER THAN THRSHLD 45 |
| 71 | A 3 42 | POSS | LROM | A/MA | I2/P | Under:9;Over:49,50,52 | COBBLAY | LAM | COBBLE LAYER IN SE QUAD., FOUND LAYER? |
| 73 | A 6 71 | PROB | LROM | BYZN? | IRON | Under:42,61;Over:77,80;Seals:69 | COBSURF | LAM | COBBLE SURFACE E OF WALL 69 |
| 76 | A 68 83 | PROB | LROM | LRM3 | EROM | - | COBBLAY | LAM | COBBLE LAYER IN W BALK OF A.6 UNDER 48C |
| 73 | G 1 15 | PROB | LROM | LROM | I2/P | Under:9;Over:21 | COBSURF | LAM | COBBLE SURFACE ALONG N BLAK |
| 73 | G 1 24 | POSS | LROM | NONE | - | Equals:27;Under:19,21;Over:29 | COBSURF | AM | COBBLE SURFACE IN N HALF OF SQ. = LOCUS 27 |
| 73 | G 1 27 | POSS | LROM | NONE | - | Equals:24;Under:19;Over:29 | COBSURF | LAM | COBBLE SURFACE IN N HALF OF SQ. = LOCUS 24 |
| 73 | G 1 23 | POSS | LROM | LROM | I2/P | Under:22;Over:30 | CHANNEL | LAM | WATER OR DRAINAGE CHANNEL |

# STRATUM 11
## Unassigned

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 76 | C 7 101 | PROB | LROM | A/MA | EROM | Over:102;Within:86 | TUMBLE | LAM | TUMBLE LOCUS IN CAVE 86 |
| 76 | C 5 226 | PROB | LROM | LRM3 | IRN1 | Under:225;Over:227 | SOILLAY | LAM | SOIL LAYER ARTIFICIAL LEVEL PEEL |
| 76 | C 7 66 | PROB | LROM | LRM4 | EROM | Under:62,64;Over:68,86,87 | SOILLAY | LAM | SOIL LAYER E OF DOORWAY 81 |
| 76 | C 7 80 | POSS | LROM | LROM | IR1A | Under:53,67;Over:bdrk | SOILLAY | LAM | SOIL LAYER IN STRIP S FROM CENTER OF N BALK |
| 76 | C 10 33 | PROB | LROM | ERM4 | IRON | Under:14;Over:35 | SOILLAY | LAM | SOIL LYR NE CRNR 3 SOIL LYRS IN TST PROB |
| 76 | C 10 37 | PROB | LROM | NONE | - | Equals:38;Under:19,32;Over:36;Seals:20;Cutby:32 | SOILLAY | LAM | EQUALS LOCUS 38 |
| 76 | C 10 38 | PROB | LROM | LRM3 | ERM4 | Equals:37;Under:32;Over:40 | SOILLAY | LAM | SOIL LAYER E OF WALL 20 = 37 |
| 76 | C 10 39 | PROB | LROM | LRM1 | IRON | Under:36;Over:43,44,48;Cutby:43 | SOILLAY | LAM | SOIL LAYER E OF WALL 20 |
| 76 | C 10 56 | POSS | LROM | NONE | - | Under:34;Over:65 | SOILLAY | LAM | SOIL LAYER E OF WALL 50 |
| 76 | C 10 61 | PROB | LROM | LRM4 | EROM | Under:57;Over:67 | SOILLAY | LAM | SOIL LAYER W OF WALL 50 |
| 73 | C 2 29 | PROB | LROM | LROM | IRN1 | Under:9;Over:33,34,38;Cuts:15,32 | RUBBLAY | LAM | RUBBLE LAYER AT W BALK |
| 76 | C 10 32 | PROB | LROM | EBYZ | IRON | Under:19;Over:35-38;Cuts:36,37 | PIT | LAM | POSS PIT IN SE CORNER |
| 76 | C 10 36 | PROB | LROM | ERM4 | IRON | Under:32,35,37;Over:39,48;Cutby:32 | GRAVLAY | LAM | GRAVEL LAYER E OF WALL 20 |
| 76 | C 10 35 | PROB | LROM | A/MA | IRON | Under:32,33;Over:36;Seals:20 | FILLAY | LAM | FILL LAYER E OF WALL 20 |
| 71 | A 1 67 | PROB | LROM | NONE | - | Under:43;Contains:69-71,73,74,76 | CAVE | LAM | CAVE E OF WALL 24 PRT OF COMP W/CAVE 44 |
| 76 | C 7 86 | PROB | LROM | NONE | - | Under:66;Over:bdrk;Contains:87-90,94,95,101,102,107 | CAVE | LAM | CAVE W/3 RMS ENTRANCE IN SW QUAD. |
| 71 | A 2 24 | PROB | LROM | NONE | - | Under:23,30,34,46 | BEDROCK | LAM | QUARRY IN BEDROCK |

## Stage A

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 74 | D 3 84 | PROB | LROM | LROM | IRON | Equals:D.4:34;Under:38;Over:92 | TUMBLE | LAM | ROCK TUMBLE W OF WALL 16A |
| 73 | D 4 34 | PROB | LROM | LROM | IRON | Equals:53,D.3:84,53;Under:28B;Over:35,36 | TUMBLE | LAM | ROCK TUMBLE W OF WALL 32B |
| 73 | D 4 36 | PROB | LROM | LROM | EROM | Under:34;Over:35,37 | TUMBLE | LAM | ROCK TUMBLE W OF WALL 32 UNDER 34 |
| 74 | D 4 53 | PROB | LROM | LROM | IRON | Equals:34;Under:49;Over:35 | TUMBLE | LAM | ROCK TUMBLE S OF 34 PROB = 34 |
| 76 | C 5 228 | PROB | EBYZ | NONE | - | Under:212;Over:bdrk | CISTERN | LAM | CISTERN S OF WALL 200 E OF WALL 190 UNEXCVTD |

## Stage B

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 71 | A 1 26B | PROB | LROM | EROM | I2/P | Under:26A;Over:68,bdrk | SOILLAY | LAM | SOIL LAYER UNDER MAKEUP 26A |
| 71 | A 1 45 | POSS | LROM | BYZN | I2/P | Under:39;Over:46 | SOILLAY | LAM | SOIL LAYER BENEATH WALL 39 OVER FOUND. 46 |
| 71 | A 1 66 | PROB | LROM | LROM | EROM | Under:58;Over:bdrk;Within:44 | SOILLAY | LAM | SOIL LAYER IN CAVE 44 |
| 71 | A 1 71 | PROB | LROM | LROM | I2/P | Under:58,74,76;Over:73;Seals:70;Within:67 | SOILLAY | LAM | SOIL LAYER IN CAVE 67 |
| 71 | A 1 73 | PROB | LROM | LROM | I2/P | Under:71;Over:bdrk;Seals:70;Within:67 | SOILLAY | LAM | SOIL LAYER IN CAVE 67 |
| 71 | A 1 74 | PROB | LROM | LROM | I2/P | Under:58;Over:71;Within:67 | SOILLAY | LAM | SOIL LAYER IN CACE 67 |
| 71 | A 1 76 | PROB | LROM | BYZN | I2/P | Under:58;Over:71;Within:67 | SOILLAY | LAM | SOIL LAYER IN CAVE 67 |
| 71 | A 4 19 | POSS | LRM4 | LRM4 | IRN1 | Equals:28,30;Under:18;Over:20,21;Cutby:27 | SOILSUR | LAM | SOIL SURFACE N OF WALL 12 |
| 71 | A 4 27 | POSS | LROM | BYZN? | I2/P | Equals:18;Under:16;Over:28;Cutby:29 | SOILLAY | LAM | SOIL LYR SUBBLK AGNST N FACE OF WALL 12 |
| 71 | A 4 28 | POSS | LROM | EROM | IRN2 | Equals:19;Under:27;Over:30,32;Cutby:29 | SOILLAY | LAM | SOIL LYR SUBBLK AGNST N FACE OF WALL 12 |
| 71 | A 5 26 | PROB | LROM | LROM | I2/P | Under:24;Over:32;Cutby:25 | SOILSUR | LAM | SOIL SURFACE, OCC. LAYER? |
| 71 | A 5 32 | PROB | LROM | LROM | I2/P | Under:26;Over:31,33;Cutby:25 | SOILSUR | LAM | SOIL SURFACE IN N HALF W OF WALL 11 |
| 71 | A 5 47 | POSS | LROM | A/MA | I2/P | Under:45;Over:48,52,57;Cutby:55,57 | SOILSUR | LAM | SOIL SURFACE IN NE CORNER |
| 74 | A 5 77B | PROB | LROM | BYZN | I2/P | Under:77;Over:unexcav;Seals:60 | SOILSUR | LAM | SOIL LAYER BETWEEN WALLS 10,12,82 & W BALK |
| 68 | B 1 12 | PROB | LROM | A/MA | ROM? | Equals:B.2:25;Under:11;Over:13,153,154;Cutby:8,10 | SOILLAY | LAM | SOIL LAYER UNDER HUWWAR SURFACE 11 |
| 71 | B 2 25 | POSS | LROM | BYZN | I2/P | Equals:B.1:12;Under:24;Over:26;Cutby:18 | SOILLAY | LAM | SOIL LAYER COVERING MOST OF SQ. |
| 71 | B 2 27 | POSS | LROM | BYZN? | I2/P | Equals:B.3:27,B.4:29,30;Under:26,28,29;Over:31;Cutby:18 | SOILLAY | LAM | SOIL LAYER COVERING ENTIRE SQ. |
| 71 | B 2 29 | PROB | LROM | LROM | I2/P | Under:28;Over:27,30 | SOILLAY | LAM | SOIL LAYER IN CENTER OF SQUARE |
| 71 | B 2 30 | PROB | LROM | LROM | I2/P | Under:29,28,26;Over:31;Cutby:18 | SOILLAY | LAM | SOIL LAYER COVERING ENTIRE SQ. |
| 71 | B 3 27 | PROB | LROM | LROM | I2/P | Equals:B.2:27,B.7:27;D.4:38;Under:26;Over:28,29 | SOILSUR | LAM | SOIL LAYER COVERING ENTIRE SQ. |
| 71 | B 4 29 | POSS | LROM | BYZN | I2/P | Equals:30,B.2:27;Under:27;Over:32,41;Cutby:42 | SOILLAY | LAM | SOIL LAYER E OF TOBBER TRENCH 42 |
| 71 | B 4 30 | POSS | LROM | A/MA | I2/P | Equals:29,B.2:27;Under:28;Over:41;Cutby:42 | SOILLAY | LAM | SOIL LAYER W OF ROBBER TRENCH 42 |
| 71 | B 4 32 | POSS | LROM | NONE | - | Under:29;Over:41 | SOILLAY | LAM | SOIL LAYER SE OF ROBBER TRENCH 42 |
| 76 | C 5 92 | PROB | EBYZ | EBYZ1 | LRM? | Under:85;Over:100 | SOILSUR | LAM | SOIL SURFACE W OF WALL 77 |
| 76 | C 5 106 | PROB | EBYZ | EBYZ | LROM | Under:100;Over:108 | SOILLAY | LAM | SOIL LAYER, SURFACE?, W OF WALL 77 |
| 76 | C 5 125 | PROB | LROM | LRM4 | IRON | Under:100;Over:128;Seals:82B | SOILSUR | LAM | SOIL SRFC N OF WALL 82 W OF WALL 77, = 108? |
| 76 | C 5 212 | PROB | EBYZ | EBYZ3 | LROM | Under:210;Over:214,228;Seals:200 | SOILSUR | LAM | SOIL SRFC, FLR?,E OF WALL 190,S OF WALL 200 |
| 76 | C 5 214 | PROB | EBYZ | EBYZ1 | LRM4 | Under:212;Over:215,216;Seals:200 | SOILSUR | LAM | SOIL SURFACE,FLOOR?, S OF WALL 200 |
| 76 | C 5 217 | PROB | EBYZ | EBYZ2 | LRM3 | Under:215,216;Over:219 | SOILLAY | LAM | SOIL LAYER S OF WALL 200 E OF WALL 190 |
| 76 | C 5 219 | PROB | EBYZ | EBYZ2 | LRM3 | Under:217;Over:220 | SOILLAY | LAM | SOIL LAYER S OF WALL 200 |
| 76 | C 5 220 | PROB | EBYZ | EBYZ2 | LRM3 | Under:219;Over:221 | SOILLAY | LAM | SOIL LAYER S OF WALL 200 E OF WALL 190 |
| 76 | C 5 221 | PROB | EBYZ | EBYZ2 | LROM | Under:220;Over:222 | SOILLAY | LAM | SOIL LAYER S OF WALL 200 E OF WALL 190 |
| 76 | C 5 222 | PROB | EBYZ1 | EBYZ1 | LROM | Under:221;Over:223 | SOILLAY | LAM | SOIL LAYER S OF WALL 200 E OF WALL 190 |
| 76 | C 7 64 | PROB | LROM | LRM4 | ERM4 | Under:62;Over:66 | SOILLAY | LAM | SOIL LAYER IN SW CORNER E OF DOORWAY 81 |
| 76 | C 7 65 | PROB | LROM | LRM4 | EROM | Equals:82;Under:58;Over:bdrk | SOILLAY | LAM | SOIL LAYER W OF DOORWAY 81 |
| 76 | C 7 82 | PROB | LROM | LRM1 | ERM4 | Equals:65;Under:58;Over:bdrk | SOILLAY | LAM | SOIL LAYER W OF DOORWAY 81 =65 |
| 76 | C 10 14 | PROB | LROM | LROM | I2/P | Under:12;Over:18,19,33 | SOILSUR | LAM | SOIL SURFACE IN NE CORNER |
| 73 | D 2 42 | PROB | LROM | LROM | IRON | Under:41;Over:72 | SOILSUR | LAM | SOIL SURFACE UNDER 41 |
| 73 | D 3 40 | PROB | LROM | EBYZ? | I2/P | Equals:92,B.7:26,D.4:35;Under:38;Over:44;Seals:39 | SOILSUR | LAM | SOIL SRFC SEALING AGNST STEP 1 STRWY 39 |
| 73 | D 3 44 | PROB | LROM | LROM | I2/P | Equals:92,D.4:35;Under:40;Over:45;Seals:39 | SOILSUR | LAM | SOIL SRFC SEALING AGNST TOP OF 39, STEP 1 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 74 | D 3 45 | PROB | LROM | LROM | I2/P | Equals:46,d.4:38;Under:44,92;Over:48,94;Seals:16A,39 | SOILSUR | LAM | SOIL SRFC SEALING AGAINST BASE OF STEP 1 |
| 73 | D 3 46 | PROB | LROM | LROM | EROM | Equals:45,B.7:27,D.4:38;Under:45;Over:48;Sealsover:47A;Seals:39 | SOILSUR | LAM | SOIL SRFC SEAL OVR WALL 47, AGNST STEP 1 |
| 74 | D 3 92 | PROB | LROM | LROM | IRON | Equals:40,D.4:35;Under:84;Over:45;Seals:16A | SOILSUR | LAM | SOIL SURFACE N OF STAIRWAY 39 |
| 73 | D 4 37 | PROB | LROM | LROM | IRON | Equals:64;Under:36;Over:38 | SOILSUR | LAM | SOIL SURFACE W OF WALL 32 |
| 73 | D 4 38 | PROB | LROM | NONE | - | Equals:69,B.3:27,B.7:27,D.3:45,46;Under:35,37,56;Over:85,88,90,114 | SOILSUR | LAM | PROB SOIL SURFACE W OF WALL 32 |
| 74 | D 4 64 | PROB | LROM | A/MA | IRON | Equals:37;Under:35;Over:38,83;Seals:32B,78 | SOILSUR | LAM | SOIL SURFACE UNDER 56 PROB = 37 |
| 71 | D 5 21 | PROB | LROM | LROM | I2/P | Equals:25;Under:13;Over:22,23;Cutby:20 | SOILSUR | LAM | SOIL LAYER S OF CHANNEL 20B |
| 71 | D 5 22 | PROB | LROM | EROM | I2/P | Equals:23,26;Under:21;Cutby:20;Beside:20,23 | SOILSUR | LAM | SOIL SURFACE UNCT FTRENCH S OF CHNL 20 |
| 71 | D 5 25 | PROB | LROM | LROM | I2/P | Equals:21;Under:13;Over:26;Seals:27 | SOILSUR | LAM | SOIL LAYER N OF 27 POSS SURFACE |
| 71 | A 2 42 | PROB | LROM | NONE | - | Under:38;Over:40,bdrk | POSWALL | LAM | CIRC. ROW OF STONES, WALL?, IN B BALK |
| 76 | C 5 100 | PROB | EBYZ1 | EBYZ1 | EROM | Under:92;Over:106,108,125 | OCCSURF | LAM | SOIL SURFACE, OCC. SURFACE?, W OF WALL 77 |
| 73 | A 4 60 | PROB | LROM | LROM | IRON | Under:59;Over:61 | HUWSURF | LAM | HUWWAR SURFACE IN SE CORNER S OF WALL 12 |
| 68 | B 1 11 | PROB | LROM | ROMN | - | Equals:B.2:24;Under:9;Over:12;Cutby:8,10 | HUWSURF | LAM | HUWWAR SURFACE OVER MOST SQ. |
| 71 | B 2 24 | POSS | LROM | BYZN | I2/P | Equalkis:B.3:26,B.1:11,B.4:27,B.4:28;Under:23;Over:25;Cutby:18 | HUWSURF | LAM | HUWWAR SURFACE COVERING ENTIRE SQ. |
| 71 | B 2 26 | POSS | LROM | BYZN | I2/P | Under:25;Over:27,28,30;Cutby:18 | HUWSURF | LAM | HUWWAR SURFACE COVERING ENTIRE SQ. |
| 71 | B 2 28 | PROB | LROM | LROM | I2/P | Under:26;Over:27,29,30;Cutby:18 | HUWSURF | LAM | HUWWAR SURFACE OVER SMALL AREA, REPAIR? |
| 71 | B 3 26 | PROB | LROM | LROM | I2/P | Equals:D.4:35,B.7:26,B.2:24;Under:25;Over:27 | HUWSURF | LAM | HUWWAR SURFACE COVERING ENTIRE SQ. |
| 71 | B 4 27 | POSS | LROM | BYZN | I2/P | Equals:28,B.2:24;Under:25;Over:29;Cutby:15 | HUWSURF | LAM | HUWWAR SUFACE E OF ROBBER TRENCH 15 |
| 71 | B 4 28 | POSS | LROM | A/MA | I2/P | Equals:27,B.2:24;Under:26;Over:30;Cutby:42 | HUWSURF | LAM | HUWWAR SURFACE W OF ROBBER TRENCH 14,15 |
| 76 | B 7 26 | PROB | LROM | LROM | I2/P | Equals:B.3:26,D.3:40,44,D.4:35;Under;25;Over:27;Seals:20 | HUWSURF | LAM | HUWWAR SURFACE OVER SOIL LAYER |
| 76 | B 7 27 | PROB | LROM | LROM | IRN2 | Equals:D.3:46,B.3:27,D.4:38;Under:20,26;Over:28;Seals:20 | HUWSURF | LAM | HUWWAR SURFACE OVER SOIL LAYER |
| 73 | D 4 35 | PROB | LROM | NONE | - | Equals:56,B.3:26,B.7:26,D.3:40,D.3:44;Under:28B,34,36;Over:37,38 | HUWSURF | LAM | HUWWAR SURFACE W OF WALL 32 |
| 74 | D 4 56 | PROB | LROM | A/MA | IRON | Equals:35,D.3:40,44;Under:53;Over:38,64,78 | HUWSURF | LAM | HUWWAR/SOIL SURFACE |
| 76 | D 4 69 | PROB | LROM | A/MA | I2/P | Equals:38,B.3:27;Under:35,37,64;Over:85,88,90,91,114;Seals:32A | HUWSURF | LAM | HUWWAR/SOIL SURFACE |
| 76 | C 5 215 | PROB | EBYZ | EBYZ2 | LROM | Under:214;Over:215,217 | FLOOR | LAM | SOIL SRFC, FLR IN SE CRNR?, S OF WALL 200 |
| 76 | C 5 216 | PROB | EBYZ | EBYZ2 | LROM | Under:214,215;Over:217 | FLOOR | LAM | SOIL SURFACE, FLOOR?, S OF WALL 200 |
| 71 | D 5 23 | PROB | LROM | NONE | - | Equals:22,26;Under:21;Over:unexcav;Cutby:20 | FLOOR | LAM | SOIL LAYER, SURFACE?, N OF 27 |
| 71 | D 5 26 | PROB | LROM | LROM | LROM | Equals:22,23;Under:25;Over:unexcav;Seals:27 | FLOOR | LAM | SOIL LAYER N OF 27 |
| 71 | A 1 62 | POSS | LROM | BYZN | EROM | Under:58,Over:bdrk;Within:44 | FIREPIT | LAM | FIREPIT IN NW CORNER OF E CAVE (LOCUS 44) |
| 71 | A 1 64 | PROB | LROM | LROM | EROM | Under:58;Over:bdrk;Within:44 | DOMINST | LAM | ANVIL LIKE STONE NEAR ENTRNC TO CAVE 44 |
| 71 | A 1 44 | POSS | LROM | NONE | - | Under:43;Contains:62,64,66 | CAVE | LAM | CAVE E OF WALL 24 PRT OF COMP W/CAVE 67 |
| 71 | B 3 28 | PROB | LROM | NONE | - | Under:27;Over:29 | ASHLAY | LAM | ASHY SOIL LAYER AT E BALK |

## Stage C

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 71 | A 1 24 | POSS | LROM | LROM? | I2/P | Under:1;Over:52,bdrk | WALL | LAM | NS WALL ALONG W BALK |
| 74 | A 7 46 | PROB | LROM | UMAY | IRON | Under:16,38;Over:88;Cuts:80,84,89;Cutby:65,103 | WALL | LAM | NS WALL BETWEEN EW WALLS 57 & 47 |
| 71 | C 1 12 | PROB | LROM | BYZN | I2/P | Under:10;Over:45,46;Sealedby:31,43 | WALL | LAM | NS WALL ALONG E BALK |
| 73 | C 1 40 | PROB | EROM | NONE | - | Equals:63;Under:35,57;Over:unexcav,94;Sealedby:66 | WALL | LAM | NS WALL S OF (& IN LINE WITH) WALL 30-63 |
| 76 | C 1 49 | PROB | EROM | NONE | - | Equals:63,C.5:60;Under:20;Over:unexcav;Sealedby:110 | WALL | LAM | EW WALL IN W CENTRAL PART OF SQUARE |
| 73 | C 1 63 | PROB | EROM | EROM | I2/P | Equals:40,49;Under:54;Over:94;Sealedby:73;Abuts:30 | WALL | LAM | NS WALL FORMING CORNER W/WALL 49 |
| 74 | C 5 60 | PROB | LROM | LROM | I2/P | Equals:C.1:49;Under:50,58;Over:unexcav;Sealedby:61-2,136;Bonds:77 | WALL | LAM | EW WALL ALND W/WALL C.1:49,BND WALL 77 |
| 74 | C 5 77 | POSS | EROM | NONE | - | Under:71;Over:unexcav;Bonds:60;Cuts:77;Sealedby:133,137,141 | WALL | LAM | NS WALL W/WELL PRSVD SILL & JAMBS |
| 76 | C 5 190 | POSS | LROM | NONE | - | Under:188,191;Over:unexcav;Bonds:200 | WALL | LAM | NS WALL IN LINE W/WALL 77 |
| 76 | C 5 200 | POSS | LROM | NONE | - | Over:unexcav;Sealedby:212,214;Bonds:190 | WALL | LAM | EW WALL E OF LN WALLS 77, 190 S DRWY 199 |
| 74 | C 7 44 | POSS | EROM | NONE | - | Equals:C.3:26;Under:43;Sealedby:60,69;Over:bdrk;Contains:100 | WALL | LAM | NS WALL IN LINE W/WALL C.3:26 |
| 76 | C 10 20 | PROB | LROM | EBYZ | EROM | Under:19,22;Over:43;Sealedby:35,37,40 | WALL | LAM | NS WALL IN E FALP OF SQ., RET. WALL? |
| 76 | C 10 50 | POSS | LROM | LROM | EROM | Under:34,47;Over:65;Cuts:65 | WALL | LAM | NE/SW WALL W OF WALL 20 |
| 76 | D 4 32A | PROB | LROM | LROM | IRON? | Equals:78;Under:28;Over:32C,51;Seals:32B;Sealedby:64 | WALL | LAM | BLOCKING WALL IN DOORWAY OF WALL 32 |
| 74 | D 4 78 | PROB | LROM | LROM? | IRON | Equals:32A;Under:56;Over:85;Sealedby:64,69,91 | WALL | LAM | BLCK WALL DRWY WALL 32, LOW CRS OF 32A |
| 76 | G 12 25 | PROB | LROM | NONE | - | Under:2,23;Over:39;Sealedby:28,30,32,34A,35A,36A,37A | WALL | LAM | NS WALL ALONG W BALK E FACE ALONE EXCVTD |
| 71 | A 5 65 | PROB | LROM | NONE | - | Equals:91,A.2:25;Under:49;Over:91 | TUMBLE | LAM | EQUALS TUMBLE LOCUS 91 |
| 71 | A 5 66 | PROB | LROM | NONE | - | Equals:91;Under:49 | TUMBLE | LAM | EQUALS TUMBLE LOCUS 91 |
| 74 | A 5 91 | PROB | LROM | BYZN | IRON | Equals:65,66;Under:65;Over:90A,90B,92 | TUMBLE | LAM | ROCK TMBL IN QRD OUT OPENING TO SILO 90 |
| 74 | A 5 92 | POSS | LROM | HELL | - | Equals:90B;Under:91;Over:90D | TUMBLE | LAM | CONTINUATION OF TUMBLE LOCUS 91 |
| 76 | B 7 20 | PROB | LROM | NONE | - | Equals:D.3:39;Under:18;Over:27,28;Sealedby:26,27 | STAIRWY | LAM | MON. STRWY LDNG UP S-N TO ACROPOLIS |
| 73 | D 2 32 | PROB | LROM | LROM | I2/P | Under:7;Over:31,32a;Cutby:15 | STAIRWY | LAM | STRWY LEADING TO ACROPOLIS(COMP D.3:39) |
| 73 | D 3 39 | PROB | LROM | NONE | - | Equals:B.7:20;Under:38;Over:43,47A;Sealedby:40,44-6;Cutby:41-2 | STAIRWY | LAM | MON. STRWY LDNG UP S-N TO ACROPOLIS |
| 71 | A 2 23 | POSS | LROM | BYZN | I2/P | Equals:25,40;Under:15,13N;Over:30,24 | SOILLAY | LAM | SOIL LAYER IN NE,N OF WALL 8 |
| 71 | A 2 32 | PROB | LROM | A/MA | I2/P | Under:14,49;Over:bdrk;Cutby:47 | SOILLAY | LAM | SOIL LAYER IN NE CORNER ON BEDROCK |
| 71 | A 2 40 | PROB | LROM | LROM | I2/P | Equals:23;Under:38,42;Over:bdrk | SOILLAY | LAM | SOIL LAYER IN E BALK |
| 71 | A 3 46 | PROB | LROM | LROM | I2/P | Under:34;Over:47 | SOILLAY | LAM | SOIL LAYER UNDER 34 |
| 71 | A 4 18 | POSS | LRM4 | LRM4 | IRN2 | Equals:27,A.3:34;Under:17;Over:19,20,24;Cutby:27 | SOILSUR | LAM | SOIL SRFC N OF WALL 12, PRIM. E HALF OF SQ |
| 71 | A 4 24 | POSS | LROM | A/MA | IRN2 | Under:18;Over:20 | SOILSUR | LAM | SOIL SURFACE N OF WALL 12 |
| 71 | A 4 30 | POSS | LRM4 | EROM | IRN2 | Equals:19;Under:28,29,32;Over:31,33,bdrk;Cutby:29 | SOILLAY | LAM | SOIL LAYER N OF WALL 12 |
| 73 | A 6 75 | PROB | EBYZ | BYZN | BYZN | Equals:A.4:16;Under:59A;Over:76,84;Cutby:70 | SOILLAY | LAM | SOIL LAYER E OF WALL 65 |
| 76 | C 5 223 | POSS | LROM | LRM4 | IRN1 | Under:222;Over:224 | SOILLAY | LAM | SOIL LAYER ARTIF. LEVEL PEEL |
| 76 | C 5 224 | PROB | LROM | LRM2 | IRN1 | Under:223;Over:225 | SOILLAY | LAM | SOIL LAYER ARTIF. LEVEL PEEL |
| 76 | C 5 225 | PROB | LROM | LRM3 | IRN1 | Under:224;Over:226,227 | SOILLAY | LAM | SOIL LAYER ARTIF. LEVEL PEEL |
| 68 | D 1 35 | PROB | LROM | NONE | - | Equals:44;Under:29;Seals:4D | SOILLAY | LAM | SOIL LAYER SUB-BALK UNDER WALL 24 |
| 73 | D 1 44 | PROB | LROM | ROMN | I2/P | Equals:35,D.6:69;Under:43;Over:46;Seals:45,D.6:70 | SOILLAY | LAM | POSS SOIL SURFACE ASS. W/WALLS 4D,45 |
| 73 | D 6 62 | POSS | LROM | UMAY | I2/P | Under:61;Over:69,74,75;Cutby:67 | SOILLAY | LAM | SOIL LAYER IN W HALF |
| 73 | D 6 69 | PROB | LROM | BYZN | I2/P | Equals:D.1:44;Under:62,70;Over:71,73 | SOILLAY | LAM | SOIL LAYER E OF WALL 3& S OF 33 |
| 73 | D 2 31 | PROB | LROM | EBYZ | I2/P | Equals:32a,35,36;Under:15,32;Over:44 | RUBBLAY | LAM | ROCK TUMBLE |
| 74 | D 2 43 | PROB | LROM | LROM | IRON | Under:40,58;Over:72,80,81,bdrk | RUBBLAY | LAM | ROCK TUMBLE UNDER 40,51 & 58 S OF WALL 21 |
| 76 | D 3 16A | PROB | LROM | LROM | HELL | Equals:D.4:32B;Under:10;Over:16B;Sealedby:28,31,45,50,51,60, 75,92;Cuts:19,66,71,80,81 | RETWALL | LAM | RETAINING WALL BUILT ON WALL 16B |
| 71 | A 5 22 | PROB | LROM | NONE | - | Equals:A.6:69;Under:4;Over:38 | PUBWALL | LAM | NS WALL IN W BLAK IN LINE W/WALL A.6:69 |
| 73 | A 6 65 | PROB | ROMN | BYZN | - | Under:64;Over:bdrk;Sealedby:81 | PUBWALL | LAM | NS WALL AT W EXTENT OF LROM STRUCTURE |
| 73 | A 6 69 | PROB | LROM | NONE | - | Equals:A.5:22;Under:14;Over:bdrk;Sealedby:71,80 | PUBWALL | LAM | NS WALL IN W BALK IN LINE W/A.5:22 |
| 73 | A 7 15 | PROB | EROM | ABBD? | BYZN | Equals:A.9:88;Under:14,17;Over:unexcav;Sealedby:57 | PUBWALL | LAM | EW WALL AT N BALK IN LINE W/A.9:88 |
| 73 | A 7 47 | PROB | LROM | A/MA | I2/P | Equals:A.9:33B;Under:26,24;Over:bdrk;Cuts:80,84 | PUBWALL | LAM | EW WALL IN LINE W/WALL A.9:33 |
| 74 | A 9 33A | PROB | LROM | NONE | - | Equals:A.7:47,A.11:3B;Undre:26;Over:33B;Sealedby:106,107 | PUBWALL | LAM | EW WALL IN LINE W/A.7:47 & A.11:3 |
| 74 | A 9 88 | PROB | LROM | NONE | - | Equals:A.7:15,A.7:57,A.11:48B;Under:12;Over:unexcav;Sealedby:106,108 | PUBWALL | LAM | EW WALL IN LINE W/WALLS A.7:57 A.11:48B |
| 76 | A 11 3B | PROB | EROM | NONE | - | Equals:A.9:33B;Under:3A;Over:50;Sealedby:3,44 | PUBWALL | LAM | EW WL OVR 50 ALND W/WALLS A.7:47,A.9:33B |
| 76 | A 11 48B | PROB | EROM | NONE | - | Equals:A.9:88;Under:48A;Over:45;Sealedby:40,42 | PUBWALL | LAM | EW WALL IN N BALK IN LINE W/A.9:88,A.7:57 |
| 71 | D 1 45 | PROB | EROM | NONE | - | Under:24;Over:47;Sealedby:44,46 | POSWALL | LAM | POSS WALL STUB ABTNG N FACE OF WALL 4 |
| 71 | A 1 52 | POSS | LROM | NONE | - | Under:24;Over:bdrk | LINTEL | LAM | LINTEL OVER OPENING IN WALL 24 |
| 71 | A 5 31 | PROB | LROM | LROM | I2/P | Under:32;Over:34;Cutby:25,33 | HUWSURF | LAM | HUWWAR SURFACE IN N W OF WALL 11 |
| 71 | A 1 72 | POSS | LROM | BYZN? | I2/P | Under:7;Over:bdrk | FTRENCH | LAM | BRWN CHINK DRT FTRNCH W END OF WALL 26 |
| 71 | A 2 47 | POSS | LROM | LROM | I2/P | Under:1,12,13a;Cuts:32 | FTRENCH | LAM | DUG/DESCRIBED AS FTRENCH N OF 49 |
| 71 | A 4 29 | POSS | LROM | EROM | I2/P | Under:16;Over:30;Seals:12;Cuts:27,28,30 | FTRENCH | LAM | FTRENCH ON N FACE OF WALL 12 |
| 73 | A 4 37 | PROB | LROM | LROM | I2/P | Under:36;Over:40;Seals:12;Cuts:38 | FTRENCH | LAM | FTRENCH ON S FACE OF WALL 12 |
| 73 | A 6 70 | UNCT | LROM | EROM | I2/P | Under:66;Over:bdrk;Sealedby:66;Cuts:75,76,82,83,87,88 | FTRENCH | LAM | FTRENCH ON N AND S SIDES OF WALL 68 |
| 73 | A 6 81 | PROB | EROM | LROM? | IRN1 | Under:76;Seals:65;Cuts:88 | FTRENCH | LAM | FTRENCH ON E FACE OF WALL 65 |
| 71 | C 1 31 | PROM | LROM | LROM | I2/P | Under:11;Over:45;Seals:12 | FTRENCH | LAM | FTRENCH FOR WALL 12 W FACE |
| 71 | C 1 44 | PROB | LROM | LROM | I2/P | Under:10;Over:45;Seals:12 | FTRENCH | LAM | FTRENCH ON E FACE OF WALL 12 |
| 76 | D 4 91 | PROB | LROM | EROM | I2/P? | Under:69;Over:92;Cuts:85,92;Seals:78 | FTRENCH | LAM | FTRNCH W OF DRWY BLOCKING WALL 78=32A? |
| 73 | D 6 74 | PROB | LROM | LROM | I2/P | Under:62;Over:75;Cutby:56C | FTRENCH | LAM | POSS FTRENCH FOR CURB 70 |
| 76 | G 12 28 | PROB | LROM | LROM | I2/P | Under:26;Over:30;Seals:25;Cuts:27,29,31,33,34B,35B | FTRENCH | LAM | ARBITRARY LAYER IN FTRENCH E OF WALL 25 |
| 76 | G 12 30 | PROB | LROM | HELL | IRON | Under:28;Over:32;Seals:25;Cuts:27,29,31,33,34B,35B | FTRENCH | LAM | SEE LOCUS 28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 76 | G 12 32 | PROB | LROM | LROM | IRN1 | Under:30;Over:34A;Seals:25;Cuts:27,29,31,33,34B,35B | FTRENCH | LAM | SEE LOCUS 28 |
| 76 | G 12 34A | PROB | LROM | LROM | IRN1 | Under:32;Over:35A;seals:25;Cuts:27,29,31,33,34B,35B | FTRENCH | LAM | SEE LOCUS 28 |
| 76 | G 12 35A | PROB | LROM | EBYZ | IRN1 | Under:34A;Over:36A;Seals:25;Cuts:27,29,31,33,34B,35B | FTRENCH | LAM | SEE LOCUS 28 |
| 76 | G 12 36A | PROB | LROM | EBYZ | I2/P | Under:35A;Over:37A;Seals:25;Cuts:27,29,31,33,34B,35B | FTRENCH | LAM | SEE LOCUS 28 |
| 76 | G 12 37A | PROB | LROM | B/LR | IRN1 | Under:36A;Over:38;Seals:25;Cuts:27,29,31,33,34B,35B | FTRENCH | LAM | SEE LOCUS 28 |
| 76 | A 11 49 | PROB | LHEL | NONE | - | Under:23;Over:bdrk;Sealedby:15,42,44-47,53,54 | PORTWAL | LAM | NS WALL E SEGMENT OF ACROPOLIS PERM. WALL |
| 71 | D 1 4D | PROB | LHEL | NONE | - | Under:4C;Over:bdrk;Sealedby:51,56H,59,60 | PORTWAL | LAM | EW WALL OF MAJOR IMPORTANCE |
| 71 | A 2 18B | POSS | LROM | BYZN | I2/P | Equals:25;Under:18A,49;Over:21;Cutby:19 | FILL | LAM | FILL S OF WALL 20 |
| 71 | A 2 25 | POSS | LROM | BYZN | I2/P | Equals:18B,A.5:65,23;Under:13N;Over:29,30,bdrk | FILL | LAM | FILL N OF WALL 20 |
| 73 | D 2 32S | PROB | LROM | NONE | - | Equals:31,35,36;Under:32 | FILL | LAM | FILL UNDER STAIRWAY 32 |
| 73 | D 2 35 | PROB | LROM | LROM | I2/P | Equals:31,32a,36;Under:33 | FILL | LAM | FILL UNDER STAIRWAY 32 |
| 73 | D 2 36 | PROB | LROM | BYZN | I2/P | Equals:31,32a,35;Under:32,34;Over:40 | FILL | LAM | FILL UNDER STAIRWAY 32 |
| 73 | D 2 40 | PROB | LROM | LROM | IRON | Under:36;Over:43 | FILLAY | LAM | FILL LAYER UNDER 31=32S=35=36 |
| 74 | D 2 58 | PROB | LROM | LROM | IRON | Under:52,56;Over:43 | FILL | LAM | FILL UNDER 56 W OF WALL 55 |
| 74 | D 2 60 | PROB | LROM | A/MA | IRON | Under:52;Over:104,107,108 | FILL | LAM | FILL W OF WALL 55A |
| 74 | D 2 72 | PROB | LROM | LROM | EROM | Under:42,43;Over:73 | FILL | LAM | FILL UNDER 43 |
| 76 | D 2 80B | PROB | LROM | LRM4 | IRON | Under:80A;Over:80C,80D;Within:80 | FILLAY | LAM | FILL LAYER IN STORE SILO 80 |
| 74 | D 2 107 | PROB | LROM | LROM | EROM | Under:60;Over:unexcav;Seals:85,104;Cutby:68 | FILL | LAM | FILL S OF WALL 85 |
| 73 | D 3 43 | PROB | LROM | LROM | I2/P | Under:31,39,42,51;Over:57-59 | FILL | LAM | FILL UNDER STAIRWAY 39 |
| 73 | D 3 50 | PROB | LROM | A/MA | I2/P | Under:31;Over:51;Seals:16A | FILLAY | LAM | FILL LAYER UNDER STAIRWAY 39 |
| 73 | D 3 51 | PROB | LROM | LROM | I2/P | Under:50;Over:43;Seals:16A | FILL | LAM | FILL UNDER STAIRWAY 39 |
| 73 | A 7 57 | PROB | LROM | LROM | I2/P | Equals:A.9:88;Under:16;Over:90;Seals:15;Cuts:80,84,88 | FACWALL | LAM | FACING WALL ON S FACE OF WALL 15 |
| 76 | C 5 186 | PROB | LROM | BZ/R | ERM1 | Under:75;Over:unexcav;Bonds:82 | FACWALL | LAM | PART RMVL FCNG WALL N SIDE OF WALL 82 |
| 71 | A 1 61 | POSS | LROM | NONE | - | Under:58;Over:bdrk | DOOR | LAM | CARVED DOORWAY ENTRANCE INTO CAVE 44 |
| 71 | A 1 69 | POSS | LROM | NONE | - | Under:58;Over:bdrk;Within:67 | DOMWAL | LAM | NS WALL JUST INSIDE CAVE 67 |
| 71 | A 1 70 | POSS | LROM | NONE | - | Under:58;OVer:bdrk;Sealedby:71,73;Within:67 | DOMWAL | LAM | EW WALL IN CAVE 67 TURNS |
| 76 | C 5 82B | PROB | LROM | NONE | - | Under:79;Over:unexcav;Seledby:122,125,128,143,178 | DOMWAL | LAM | EW WALL POSS DOMESTIC WALL IN W BALK |
| 76 | C 5 199 | UNCT | LROM | NONE | - | Under:71,188;Over:unexcav | DOOR | LAM | DOORWAY IN WALL 77 |
| 76 | C 7 81 | POSS | LROM | NONE | - | Under:49;Over:85,bdrk | DOOR | LAM | DOORWAY ENTERED FROM W PART OF WALL 44 |
| 76 | D 4 32B | PROB | EROM | NONE | - | Equals:45;D.3:16A;Under:28;Over:unexcav;Sealedby:30A,D,32A,41,64 | DOMWAL | LAM | NS WALL IN NE QUAD IN LINE W/WALL D.3:16 |
| 71 | D 5 27 | PROB | LROM | NONE | - | Equals:D.6:70;Under:24;Over:unexcav;Sealedby:25,26 | CURB | LAM | EW LINE OF HEADER STONES ALONG S BALK |
| 73 | D 6 70 | PROB | LROM | BZ/R | BZ/R | Equals:D.5:27;Under:52,53;Over:69,75;Sealedby:77A,D.1:41,D.1:43,D.1:44 | CURB | LAM | EW LINE OF HEADER STONES IN S BALK |
| 71 | A 3 34 | PROB | LROM | LROM | I2/P | Equals:41,A.4:18;Under:21-23;Over:46 | COBSURF | LAM | COBBLESTONE SURFACE BETWEEN WALLS 21,22,23 |
| 71 | A 3 41 | POSS | LROM | BYZN | I2/P | Equals:34;Under:23;Over:bdrk | COBSURF | LAM | COBBLESTONE SURFACE UNDER 23, =34? |
| 76 | D 4 32C | PROB | LROM | LRM2 | I2/P | Under:32A;Over:45 | COBBLAY | LAM | COBBLE LAYER UNDER BLOCKING WALL 32A |
| 71 | A 5 29 | PROB | EBYZ | NONE | - | Equals:A.2:49;Under:1,3,68;Over:bdrk | STYWALL | LAM | STYLOBATE WALL IN S BALK |
| 71 | A 5 60 | PROB | LROM | NONE | - | Under:45;Over:unexcav;Sealedby:77A,77B | PUBWALL | LAM | LARGE STONE W/CARVED MOLDINGS |
| 71 | A 2 49 | PROB | LROM | NONE | - | Equals:A.5:29;Under:2;Over:18B,32 | STYWALL | LAM | EW WALL AT S BALK STYLOBATE WALL |
| 73 | A 3 67 | PROB | LROM | B/LR | I2/P | Equals:A.4:12;Under:66;Over:bdrk;Sealedby:70-72 | STYWALL | LAM | EW WALL POUNDED ON BEDROCK |
| 71 | A 4 12 | PROB | LROM | NONE | - | Equals:A.3:67,A.6:68;Under:1,45;Over:34,bdrk;Sealedby:29,37 | STYWALL | LAM | EW STYLOBATE WLL NEAR S BALK |
| 73 | A 6 68 | POSS | LROM | EROM | I2/P | Equals:A.4:12;Over:bdrk | STYWALL | LAM | EW WALL NEAR S BALK IN LINE W/WALL A.4:12 |
| 68 | A 2 2 | PROB | LROM | EBYZ | IRN2 | Over:49 | PILBASE | LAM | TWO PILLAR BASES IN S BALK |
| 71 | A 4 45 | PROB | LROM | NONE | - | Under:1;Over:12 | PILBASE | LAM | PILLAR BASE IN E BALK |

# Appendix B

# TELL HESBAN OBJECTS FOR STRATA 15-11

## Appendix B

# Tell Hesban Objects for Strata 15-11

The order and interpretation of the information in the following list of objects from Tell Hesban Strata 15-11 follow that which is found in the computerized locus database. The following data includes: Area. Square: Locus: Pottery Pail; Object Reg. Number; Material; Description; Period; and Allocation (JDA = Department of Antiquities, Hashemite Kingdom of Jordan; HAM = Horn Archaeological Museum, Andrews University, followed by the HAM accession number where assigned).

### Stratum 15

| | | | | | |
|---|---|---|---|---|---|
| A.5:61:---- | 1515 | BRNZ | COIN: JEWISH, 103-76BC | - | HAM73.0230 |
| B.1:18:088 | 0184 | CLAY | LOOM WEIGHT | - | HAM68.0180 |
| B.1:18:097 | 0186 | COPP | PROB ARMOR SCALE | - | HAM68.0184 |
| B.1:32:168 | 0283 | POTT | POTTERY DISK | - | HAM68.0053 |
| B.1:32:171 | 0300 | BSLT | STONE VESSEL FRAG | - | - |
| B.1:38:129 | 0240 | BRNZ | PIN (HOOK?) | - | JDA |
| B.1:39:140 | 0245 | HMTT | WEIGHT | - | HAM68.0051 |
| B.1:42:136 | 0237 | BONE | WEAV PATTERN SPAT | - | HAM68.0208 |
| B.1:42:136 | 0239 | BRNZ | PIN (HOOK?) | - | JDA |
| B.1:44:147 | 0260 | STON | SPINDLE WHORL | - | HAM68.0218 |
| B.1:44:177 | 0310 | LSTN | MORTAR | - | - |
| B.1:47:185 | 0302 | COPP | FIBULA SPRING | - | HAM68.0238 |
| B.1:52:187 | 0309 | POTT | OSTRACON | - | JDA |
| B.1:53:199 | 0299 | BONE | BEAD | - | JDA |
| B.1:75:215 | 0566 | LSTN | WHETSTONE FRAG | - | HAM71.0135 |
| B.1:76:220 | 0567 | CHRT | SLINGSTONE | - | HAM71.0136 |
| B.1:77:226 | 1044 | POTT | LAMP FRAGMENT | - | HAM71.0407 |
| B.1:78:227 | 0651 | CERM | FIGURINE FRAGMENT | - | HAM71.0194 |
| B.1:84:229 | 0652 | BRNZ | SPATULA | - | HAM71.0195 |
| B.1:84:229 | 0769 | STON | STONE OBJECT | - | HAM71.----- |
| B.1:90:243 | 0803 | POTT | OSTRACON | - | JDA |
| B.1:91:246 | 0767 | CHRT | SLINGSTONE | - | HAM71.0237 |
| B.1:91:246 | 0768 | BONE | AWL | - | HAM71.0238 |
| B.1:91:248 | 0804 | LSTN | RUBBING STONE | - | HAM71.0263 |
| B.1:91:249 | 0805 | LEAD | WEIGHT | - | HAM71.0264 |
| B.1:91:249 | 0806 | ALAB | STONE VESSEL FRAG | - | HAM71.0265 |
| B.1:92:251 | 0814 | STON | STONE FRAGMENT | - | HAM71.----- |
| B.1:92:251 | 0815 | CHRT | SLINGSTONE | - | HAM71.0272 |
| B.1:94:256 | 0820 | SHLL | CLAM SHELL FRAG | - | HAM71.0276 |
| B.1:97:274 | 0877 | SPST | WHETSTONE FRAG | - | HAM71.0425 |
| B.2:38:106 | 1117 | BRNZ | BRACE | - | HAM71.0442 |
| B.2:42:084 | 1045 | BRNZ | FIBULA SPRING | - | HAM71.0427 |
| B.2:57:110 | 1184 | POTT | POSSIBLE OSTRACON | - | HAM71.0491 |
| B.2:60:117 | 1228 | BONE | PENDANT | - | HAM71.0529 |
| B.2:72:130 | 1313 | BSLT | STONE VESSEL FRAG | - | HAM73.----- |
| B.2:72:130 | 1317 | BSLT | RUBBING STONE | - | HAM73.0065 |
| B.2:72:130 | 1318 | CHRT | SLINGSTONE | - | HAM73.0066 |
| B.2:72:130 | 1658 | POTT | OSTRACON | I2/P | JDA |
| B.2:72:130 | 1659 | POTT | OSTRACON | I2/P | JDA |
| B.2:72:140 | 1343 | BRNZ | FIBULA | I2/P | HAM73.0089 |
| B.2:73:133 | 1319 | BSLT | RUBBING STONE | - | HAM73.0067 |
| B.2:73:133 | 1320 | CHRT | SLINGSTONE | - | HAM73.0068 |
| B.2:74:137 | 1324 | COPP | BAR | - | HAM73.0072 |
| B.2:75:245 | 1679 | GLSS | BEAD | - | HAM73.0351 |
| B.2:80:150 | 1538 | BRNZ | COIN: ROM, AD 2D-4TH | - | HAM73.0249 |
| B.2:82:181 | 1455 | LSTN | SLINGSTONE | - | HAM73.0182 |
| B.2:83:154 | 1401 | STON | LOOM WEIGHT | - | HAM73.0135 |
| B.2:83:154 | 1404 | STON | SLINGSTONE | - | HAM73.0138 |
| B.2:83:155 | 1431 | CHRT | SLINGSTONE | - | HAM73.0161 |
| B.2:94:222 | 1656 | POTT | OSTRACON | - | JDA |
| B.2:94:239 | 1625 | STON | SCARAB | IRON | HAM73.0315 |
| B.2:118:261 | 1727 | BONE | WEAV PATTERN SPAT | - | HAM74.0075 |
| B.2:124:300 | 2034 | BRNZ | BUTTON | - | HAM74.0349 |
| B.2:125:304 | 2071 | BONE | WV PTRN SPAT FRAG? | - | HAM74.0383 |
| B.2:126:311 | 2092 | POTT | OSTRACON | - | HAM74.0400 |
| B.2:133:321 | 2275 | IVRY | INLAY | - | HAM76.0096 |
| B.2:135:328 | 2531 | POTT | JUGLET FRAGMENT | - | HAM76.0315 |
| B.2:135:330 | 2309 | BSLT | STONE VESSEL FRAG | - | HAM76.0125 |
| B.3:62:104 | 1399 | BONE | WEAV PATTERN SPAT | - | HAM73.0133 |
| B.3:62:104 | 1400 | BONE | WEAV PATTERN SPAT | - | HAM73.0134 |
| B.3:62:104 | 1406 | LSTN | DOOR SOCKET | - | HAM73.----- |
| B.3:62:105 | 1418 | BONE | WEAV PATTERN SPAT | - | HAM73.0150 |
| B.3:62:110 | 1427 | BSLT | MACE HEAD | - | JDA |
| B.3:67:112 | 1444 | BSLT | COSMETIC MORTAR | - | JDA |
| B.3:70:118 | 1487 | CHRT | SLINGSTONE | - | HAM73.0208 |
| B.4:150:251 | 1461 | FNCE | BEAD, DECORATED | IRON | JDA |
| B.4:175:320 | 1667 | LSTN | MILLSTONE | - | HAM73.----- |
| B.4:202:366 | 1757 | BRNZ | NEEDLE | - | HAM74.0101 |
| B.4:205:372 | 1728 | SHLL | SHELL, HOLE PIERCED | - | HAM74.0076 |
| B.4:205:373 | 1827 | IVRY | IVORY INLAY | - | HAM74.0165 |
| B.4:205:373B | 1704 | STON | WORKED FLINTS | - | HAM74.0055 |
| B.4:205:376 | 2103 | LSTN | STONE VESSEL FRAG | - | HAM74.0410 |
| B.4:205:403 | 1793 | CERM | FIGURINE | - | HAM74.0134 |
| B.4:249:472B | 2095 | POTT | STAMPED JAR HANDLE | - | JDA |
| C.2:40:491 | 1637 | LSTN | STONE VESSLE FRAG | - | JDA |
| C.2:40:492 | 1626 | STON | SEAL | I2/P | HAM73.0316 |
| C.2:40:511 | 1660 | STON | BEAD | - | HAM73.0336 |
| C.2:48:475 | 1595 | CLAY | FIGURINE HEAD | - | HAM73.0290 |
| D.2:77A:355 | 1959 | CERM | LOOM WEIGHT | - | HAM74.0284 |
| D.2:77B:356 | 1965 | BSLT | PESTLE | - | HAM74.0289 |
| D.2:77B:356 | 1980 | CLAY | LOOM WEIGHT | - | HAM74.0301 |
| D.2:77B:356 | 1981 | CLAY | LOOM WEIGHT | - | HAM74.0302 |
| D.2:77B:356 | 1982 | CLAY | LOOM WEIGHT | - | HAM74.0303 |
| D.2:77B:356 | 1983 | CLAY | LOOM WEIGHT | - | HAM74.0304 |
| D.2:77B:356 | 1984 | CLAY | LOOM WEIGHT | - | HAM74.0305 |
| D.2:77B:356 | 1985 | CLAY | LOOM WEIGHT | - | HAM74.0306 |
| D.2:77B:356 | 1986 | CLAY | LOOM WEIGHT | - | HAM74.0307 |
| D.2:77B:356 | 1987 | CLAY | LOOM WEIGHT | - | HAM74.0308 |
| D.2:77B:356 | 1988 | CLAY | LOOM WEIGHT | - | HAM74.0309 |
| D.2:77B:356 | 1989 | CLAY | LOOM WEIGHT | - | HAM74.0310 |
| D.2:77B:356 | 1990 | CLAY | LOOM WEIGHT | - | JDA |
| D.2:77B:356 | 1991 | CLAY | LOOM WEIGHT | - | JDA |
| D.2:77B:356 | 1992 | CLAY | LOOM WEIGHT | - | HAM74.0311 |
| D.2:77B:356 | 1993 | CLAY | LOOM WEIGHT | - | HAM74.0312 |
| D.2:80E:405 | 2378 | POTT | HELLENISTIC LAMP | - | HAM76.0181 |
| D.4:119:267 | 2606 | CLAY | LOOM WEIGHT | - | HAM76.0380 |
| D.4:119:267 | 2610 | CHRT | SLINGSTONE | - | HAM76.0384 |
| D.4:119:267 | 2611 | CHRT | SLINGSTONE FRAG | - | HAM76.0385 |
| D.4:121:271 | 2625 | CHRT | SLINGSTONE | - | HAM76.0398 |
| D.6:47:000 | 1226 | POTT | TERRA SIGILLATA BWL | - | JDA |
| G.1:41:---- | 1488 | BSLT | STONE VESSEL FRAG | - | HAM73.----- |
| G.1:45:071 | 1486 | CHRT | SLINGSTONE | - | HAM73.0207 |
| G.1:45:074 | 1543 | LSTN | MULLER | - | HAM73.0254 |

### Stratum 14

| | | | | | |
|---|---|---|---|---|---|
| A.1:29:084 | 0353 | LSTN | PESTLE | - | HAM71.0046 |
| A.1:29:085 | 0328 | BRNZ | EARRING | - | HAM71.0024 |
| A.3:26Y:083 | 0371 | IRON | NAIL | - | HAM71.0056 |
| A.5:34:034 | 0864 | GLSS | BEAD | - | HAM71.0304 |
| A.5:62A:146 | 1945 | CLAY | LOOM WEIGHT FRAG | - | HAM74.0271 |
| A.5:62A:146 | 1949 | CLAY | LOOM WEIGHT FRAG | - | HAM74.0274 |
| A.5:62B:100 | 1783 | CLAY | LOOM WEIGHT FRAG | - | HAM74.0125 |
| A.5:62B:147 | 1948 | CLAY | LOOM WEIGHT FRAG | - | HAM74.0273 |
| A.5:62C:101 | 1950 | CLAY | LOOM WEIGHT FRAG | - | HAM74.0275 |
| A.5:62D:135 | 1858 | LSTN | MORTAR? | - | HAM74.0194 |

| | | | | | |
|---|---|---|---|---|---|
| A.5:62D:149 | 1961 | CLAY | LOOM WEIGHT | - | HAM74.0286 |
| A.5:62E:135 | 1822 | STON | UNMNTD RING STONE | - | HAM74.0160 |
| A.5:62E:136 | 1833 | CLAY | LOOM WEIGHT | - | HAM74.0171 |
| A.5:62E:136 | 1834 | CLAY | LOOM WEIGHT | - | HAM74.0172 |
| A.5:62E:136 | 1857 | BSLT | STONE VESSEL FRAG | - | HAM74.0193 |
| A.5:62E:137 | 1938 | POTT | COOKING POT | - | HAM74.0264 |
| A.5:62E:112 | 2014 | CLAY | LOOM WEIGHT | - | HAM74.0330 |
| A.5:62E:112 | 2015 | CLAY | LOOM WEIGHT | - | HAM74.0331 |
| A.5:62F:139 | 1884 | CLAY | LOOM WEIGHT FRAG | - | HAM74.0219 |
| A.5:87A:160 | 2017 | CERM | ISL. PIPE HEAD | - | HAM74.0333 |
| A.5:87A:160 | 2019 | CLAY | LOOM WEIGHT | - | HAM74.0335 |
| A.5:87A:160 | 2022 | CLAY | LOOM WEIGHT FRAG | - | HAM74.0338 |
| A.5:87A:160 | 2027 | CLAY | LOOM WEIGHT FRAG | - | HAM74.0343 |
| A.7:88:235 | 1853 | POTT | BOWL | - | HAM74.0189 |
| A.9:109:196 | 2824 | CLAY | POTTERY OBJECT | - | HAM76.0570 |
| B.1:17:164 | 0286 | BRNZ | RING | - | HAM68.0229 |
| B.1:17:144 | 0263 | BONE | SPINDLE FRAG | - | HAM68.0220 |
| B.1:17:000 | 0548 | BRNZ | COIN: UNIDENTIFIED | - | HAM71.0571 |
| B.2:62:271 | 1765 | BRNZ | ARROW HEAD | - | HAM74.0108 |
| B.2.62:274 | 2001 | BONE | WEAV PATTERN SPAT | - | HAM74.0319 |
| B.3:56:113 | 1446 | GLSS | BEAD | - | HAM73.0174 |
| B.3:58:096 | 1358 | LSTN | MORTAR | - | HAM73.0099 |
| B.3:58:096 | 1359 | IRON | STRIP, RECTANGULAR | - | HAM73.0100 |
| B.3:58:096 | 1364 | BRNZ | PIN, LOOP-HEADED? | - | HAM73.0104 |
| B.3:61:100 | 1382 | IRON | NAIL | - | HAM73.0118 |
| B.3:61:101 | 1474 | POTT | LAMP | HELL | JDA |
| B.3:61:101 | 1475 | POTT | PLATE | HELL | HAM73.0198 |
| B.4:88:166 | 1644 | BRNZ | COIN: PHOEN, 1ST C BC | - | HAM73.0328 |
| B.4:118:200 | 1405 | BSLT | STONE VESSEL FRAG | - | HAM73.0139 |
| B.4:120:295 | 1645 | BRNZ | COIN | - | JDA |
| B.4:120:343 | 1668 | POTT | OSTRACON | HELL | JDA |
| B.4:120:327 | 1661 | CHRT | SLINGSTONE | - | HAM73.0337 |
| B.4:127:308 | 1636 | BSLT | RUBBING STONE | - | HAM73.0323 |
| B.4:186:349 | 1671 | POTT | LOOM WEIGHT | - | HAM73.0344 |
| B.4:186:349 | 1683 | BSLT | STONE VESSEL FRAG | - | HAM73.0354 |
| B.4:222:458 | 1968 | BSLT | PESTLE | - | HAM74.0292 |
| B.4:228:431 | 1972 | LSTN | MORTAR FRAG | - | HAM74.----- |
| B.4:254:462 | 1969 | CHRT | SLINGSTONE | - | HAM74.0416 |
| B.4:263:487 | 2083 | IVRY | PIN | - | JDA |
| B.4:263:487 | 2093 | LSTN | RUBBING STONE | - | HAM74.0401 |
| B.4:264:470 | 2038 | LSTN | POSS STONE WEIGHT | - | HAM74.0353 |
| C.1:38:459 | 0882 | STON | SPINDLE WHORL | - | HAM71.0316 |
| C.1:38:501 | 0978 | STON | BUTTON | - | HAM71.0379 |
| C.1:45:426 | 1015 | BRNZ | COIN: ALEX JAN, 103 BC | - | HAM71.0599 |
| C.1:45:464 | 0880 | LSTN | STONE VESSEL FRAG | - | HAM71.0314 |
| C.1:56:493 | 0976 | BRNZ | COSMETIC SPATULA | - | HAM71.0378 |
| C.1:60:535 | 1187 | GLSS | BEAD | - | HAM71.0493 |
| C.1:75:609 | 1355 | POTT | LAMP | HELL | JDA |
| C.1:83:709 | 1635 | POTT | EMBOSSED SHERD | - | JDA |
| C.1:84:694 | 1468 | BRNZ | EAR RING | - | HAM73.0193 |
| C.1:86:706 | 1503 | BONE | 2-WEAV PATTERN SPAT | - | JDA |
| C.1:88:785 | 1501 | BONE | WEAV PATTERN SPAT | - | HAM73.0220 |
| C.1:89:715 | 1492 | BRNZ | 2-END KOHL STICK FRG | - | HAM73.0211 |
| C.1:89:715 | 1502 | BONE | WEAV PATTERN SPAT | - | HAM73.0221 |
| C.1:93:723 | 1509 | POTT | LOOM WEIGHT | - | HAM73.0225 |
| C.1:105:799 | 1792 | CHRT | SLINGSTONE FRAG | - | HAM74.0133 |
| C.1:105:804 | 2053 | BRNZ | ARROWHEAD | - | HAM74.0366 |
| C.1:117:844 | 2070 | IVRY | EGYPTIAN SEAL FRAG | - | HAM74.0382 |
| C.1:125:888 | 2401 | POTT | LOOM WEIGHT FRAG | - | HAM76.0200 |
| C.1:125:892 | 2436 | POTT | LOOM WEIGHT FRAG | - | HAM76.0232 |
| C.2:28:372 | 1445 | LSTN | SHOVEL/SCOOP? | - | HAM73.0173 |
| C.2:28:382 | 1452 | CHRT | SLINGSTONE | - | HAM73.0179 |
| C.2:28:383 | 1441 | BONE | BEAD | - | HAM73.0170 |
| C.2:32:401 | 1467 | GLSS | BEAD | - | HAM73.0192 |
| C.2:35:437 | 1632 | POTT | INCISED SHERD | I2/P | HAM73.0320 |
| D.1:68:305 | 1794 | CHRT | SLINGSTONE | - | HAM74.0135 |
| D.2:67:277 | 1718 | IRON | ARROWHEAD | - | HAM74.0066 |
| D.2:74:296 | 1872 | GLSS | BEAD, BLUE | - | HAM74.0208 |
| D.2:74:296 | 1873 | BSLT | PESTLE | - | HAM74.0209 |
| D.2:76:304 | 1875 | CERM | LOOM WEIGHT | - | HAM74.0211 |
| D.2:76:304 | 1876 | CERM | LOOM WEIGHT | - | HAM74.0212 |
| D.2:80D:399 | 2454 | POTT | LOOM WEIGHT FRAG | - | HAM76.0246 |
| D.2:92:324 | 1919 | CLAY | LOOM WEIGHT | - | HAM74.0248 |
| D.2:95C:343 | 1963 | IRON | NAIL | - | HAM74.0287 |
| D.2:95C:347 | 1944 | CLAY | LOOM WEIGHT | - | HAM74.0270 |
| D.2:95C:347 | 1926 | FNCE | BEAD | - | HAM74.0253 |
| D.2:95D:379 | 2065 | CLAY | LOOM WEIGHT | - | HAM74.0377 |
| D.2:95D:379 | 2051 | CLAY | LOOM WEIGHT | - | HAM74.0364 |
| D.3:57A:216 | 1703 | FNCE | BEAD | - | HAM74.0054 |
| D.3:57A:220 | 1725 | LSTN | STONE VESSEL FRAG | - | HAM74.0073 |
| D.3:57B:222 | 1756 | BRNZ | KOHL STICK | - | HAM74.0100 |
| D.3:57B:222 | 1749 | LSTN | STONE VESSEL FRAGS | - | HAM74.0093 |
| D.3:57C:231 | 1852 | POTT | JUGLET | - | HAM74.0188 |
| D.3:57C:231 | 1855 | POTT | COOKING POT | - | HAM74.0191 |
| D.3:57C:234 | 1709 | CERM | SPINDLE WHORL ? | - | HAM74.0057 |
| D.3:57C:261 | 1762 | IRON | AX-HEAD | - | HAM74.0106 |
| D.3:57C:268 | 1740 | BRNZ | COIN:ARETS IV,9B-A40 | - | HAM74.0086 |
| D.3:57D:269 | 1851 | POTT | JUGLET | - | HAM74.0187 |
| D.3:57D:271 | 1790 | LSTN | STONE VESSEL FRAG | - | HAM74.0131 |
| D.3:57E:256 | 2005 | GLSS | BUTTON | - | HAM74.0322 |
| D.3:57E:285 | 1782 | LSTN | POSS WEIGHT | - | HAM74.0124 |
| D.3:86:324 | 1903 | LSTN | STONE VESSEL FRAG | - | HAM74.0237 |
| D.4.107:255 | 2541 | CLAY | LOOM WEIGHT | - | HAM76.0324 |
| D.4.107:255 | 2542 | CLAY | LOOM WEIGHT | - | HAM76.0325 |
| D.4.107:255 | 2569 | BSLT | MULLER FRAGMENT | - | HAM76.----- |
| D.4.107:256 | 2663 | BRNZ | COIN: NABATEAN | - | HAM76.0429 |
| D.4.107:256 | 2570 | BSLT | MULLER FRAGMENT | - | HAM76.----- |
| D.4.107:260 | 2558 | CLAY | LOOM WEIGHT | - | HAM76.0336 |
| D.4.107:260 | 2559 | CLAY | LOOM WEIGHT | - | HAM76.0337 |
| D.4.107:260 | 2564 | IRON | HOOK | - | HAM76.0342 |
| D.4:110:250 | 2943 | BSLT | QUERN FRAGMENT | - | HAM76.----- |
| D.4:118A:265 | 2583 | CLAY | LOOM WEIGHT FRAG | - | HAM76.0359 |
| D.4:118A:265 | 2598 | IRON | HOOK | - | HAM76.0372 |
| D.4:118A:265 | 2945 | BSLT | MULLER FRAGMENT | - | HAM76.----- |
| D.4:120:269 | 2621 | CLAY | LOOM WEIGHT FRAG | - | HAM76.0394 |
| D.6:44:118 | 1145 | CHRT | SLINGSTONE | - | HAM71.0463 |
| D.6:45:121 | 1147 | LEAD | POSS FIGURINE | - | HAM71.0465 |

## Stratum 13

| | | | | | |
|---|---|---|---|---|---|
| B.1:13:000 | 2104 | BRNZ | COIN:CA.3D CENT | - | HAM74.0411 |
| B.1:14A:057 | 0147 | LSTN | PART OF A WEIGHT | - | HAM68.0153 |
| B.1:14A:079 | 0201 | COPP | COIN:ARETS IV | - | JDA |
| B.1:14A:057 | 0202 | BRNZ | COIN:ANTON.PIUS,138 | - | HAM68.0290 |
| B.1:14A:065 | 0143 | STON | COSMETIC PALET | - | HAM68.0045 |
| B.1:14A:065 | 0279 | IRON | NAIL | - | HAM68.0226 |
| B.1:14A:086 | 0183 | POTT | RHODIAN JAR HANDL | - | JDA |
| B.1:15A:062 | 0149 | BSLT | STONE VESSEL FRAG | - | HAM68.0155 |
| B.1:15A:078 | 0152 | FRIT | EGYPT. GOD "BES" | - | JDA |
| B.2:34:107 | 1035 | BRNZ | PLATE FRAGMENT | - | HAM71.0401 |
| B.2:35A:098 | 1216 | LSTN | MORTAR AND PESTLE | - | HAM71.0515 |
| B.2:44:153 | 1396 | BSLT | WEIGHT | - | HAM73.0130 |
| B.3:39:077 | 1119 | BONE | SPATULA FRAGMENT | - | HAM71.0443 |
| B.3:41:079 | 1120 | CLAY | LOOM WEIGHT | - | HAM71.0444 |
| B.3:41:079 | 1121 | CLAY | LOOM WEIGHT | - | HAM71.0445 |
| B.3:41:079 | 1122 | CLAY | LOOM WEIGHT | - | HAM71.0446 |
| B.3:41:079 | 1123 | BRNZ | NAIL HEAD | - | HAM71.0447 |
| B.3:46:081 | 1206 | CHRT | SLINGSTONE | - | HAM71.0507 |
| B.3:46:082 | 1217 | IRON | ARROWHEAD | - | HAM71.0516 |
| B.3:46:082 | 1218 | CLAY | LOOM WEIGHT | - | HAM71.0517 |
| B.3:72:122 | 1646 | BRNZ | COIN:NAB,9BC-AD40 | - | HAM73.0329 |
| B.3:73:124 | 1601 | BSLT | MACE | - | HAM73.0296 |
| B.4:43:090 | 1102 | BRNZ | COIN:RABBEL II 71-106 | - | HAM71.0790 |
| B.4:47:095 | 1047 | GLSS | BEAD | - | HAM71.0409 |
| B.4:48:096 | 1105 | LSTN | STONE VESSEL FRAG | - | HAM71.0440 |
| B.4:49:099 | 1124 | CHRT | SLINGSTONE | - | HAM71.0448 |
| B.4:50:104 | 1125 | FNCE | BEAD | - | HAM71.0449 |
| B.4:58:129 | 1219 | LSTN | PESTEL | - | HAM71.0518 |
| B.4:59:114 | 1126 | LSTN | WEIGHT | - | HAM71.0450 |
| B.4:59:114 | 1127 | BONE | BUTTON | - | JDA |
| B.4:59:114 | 1128 | BONE | COMB FRAGMENTS | - | JDA |
| B.4:59:114 | 1129 | STON | RUBBING STONE | - | HAM71.0451 |
| B.4:59:114 | 1130 | BSLT | QUERN FRAGMENT | - | HAM71.0452 |
| B.4:59:114 | 1131 | STON | GRINDER | - | HAM71.0453 |
| B.4:59:114 | 1185 | BRNZ | BOX DECORATION | - | HAM71.0492 |
| B.4:59:114 | 1186 | POTT | TERRA SIG. BOWL | - | HAM71.0667 |
| B.4:91:153 | 1391 | POTT | JUGLET | LROM | HAM73.0125 |
| B.4:93:159 | 1351 | IRON | NAIL | - | HAM73.0095 |
| B.4:94:184 | 1389 | IVRY | SPINDLE | - | JDA |
| B.4:94:185 | 1384 | IRON | SPIKE | - | HAM73.0120 |
| B.4:104:191 | 1463 | POTT | LAMP | EROM | HAM73.0188 |
| B.4:122:206 | 1413 | STON | SPINDLE/BUTTON | - | HAM73.0145 |
| B.4:124:209 | 1523 | BRNZ | COIN:LARGE 40-37BC | - | HAM73.0237 |
| B.4:130:233 | 1433 | BSLT | SADDLE QUERN | - | HAM73.----- |
| B.4:153:281 | 1599 | POTT | LOOM WEIGHT | - | HAM73.0294 |
| B.4:209:379 | 1780 | FLNT | WORKED FLINT | - | HAM74.0122 |
| B.4:211:381 | 1768 | BRNZ | COIN:PHOEN AD64-109 | - | JDA |
| B.4:237:411 | 2009 | IVRY | PENDANT FRAGMENT | - | HAM74.0325 |
| B.4:283C:507 | 2389 | BRNZ | RIVET | - | HAM76.0189 |
| C.1:41:408 | 1014 | BRNZ | COIN:ARETS IV 9B-A40 | - | HAM71.0598 |
| C.1:51:472 | 0883 | IRON | HOOK | - | HAM71.0317 |
| C.1:54:498 | 0977 | POTT | BOWL FRAGMENT | - | HAM71.---- |
| C.1:67:545 | 1205 | POTT | JUGLET | - | HAM71.0646 |
| C.1:109:800 | 1796 | FLNT | WORKED STONE FRAG | - | HAM74.0137 |
| C.5:59:169 | 1781 | LSTN | PESTLE | - | HAM74.0123 |

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|---|---|---|---|---|---|
| C.5:59:178 | 2002 | GLSS | BEAD | - | JDA |
| C.5:62:181 | 1791 | STON | BUTTON/SPINDLE | - | HAM74.0132 |
| C.5:165:420 | 2704 | POTT | LOOM WEIGHT FRAG | - | HAM76.0466 |
| D.1:48:153 | 0909 | BRNZ | NAIL | - | HAM71.0339 |
| D.1:48:153 | 0910 | BRNZ | COSMETIC SPATULA | - | HAM71.0340 |
| D.1:53:169 | 1528 | BRNZ | COIN:UNCERTAIN | - | HAM73.0242 |
| D.1:53:170 | 1437 | POTT | LAMP FRAGMENT | HELL | HAM73.0166 |
| D.1:55:179 | 1402 | IRON | SPIKE | - | HAM73.0136 |
| D.1:56H:215 | 1460 | CARN | BEAD | - | JDA |
| D.1:56H:215 | 1454 | CHRT | SLINGSTONE | - | HAM73.0181 |
| D.1:59:239 | 1544 | POTT | LOOM WEIGHT | - | HAM73.0255 |
| D.1:63D:301 | 1798 | CHRT | MISSILE | - | HAM74.0139 |
| D.1:86:430 | 1788 | STON | OVAL STONE | - | HAM74.0129 |
| D.1:86:436 | 2011 | POTT | CLAY DISK FRAG | - | HAM74.0327 |
| D.1:88:440 | 1854 | CERM | LOOM WEIGHT FRAG | - | HAM74.0190 |
| D.2:23:160 | 1449 | GRAN | SPINDLE WHORL | - | JDA |
| D.2:93:325 | 1913 | IVRY | PENDANT | - | HAM74.0245 |
| D.2:93:325 | 1914 | IVRY | PENDANT | - | JDA |
| D.2:93:325 | 1915 | IVRY | PENDANT | - | HAM74.0246 |
| D.2:93:325 | 1916 | IVRY | PENDANT | - | JDA |
| D.2:93:325 | 1917 | - | PENDANT | - | JDA |
| D.2:95B:339 | 1995 | POTT | BOWL | - | HAM74.0313 |
| D.2:95B:376 | 2074 | IRON | HOOK | - | HAM74.0386 |
| D.2:95B:376 | 2078 | SHLL | CONCH SHELL | - | HAM74.0390 |
| D.3:52:174 | 1602 | STON | SPINDLE REST | - | HAM73.0297 |
| D.3:52:180 | 1634 | BSLT | STONE VESSEL FRAG | - | HAM73.0322 |
| D.3:52:180 | 1675 | POTT | INCISED HANDLE | - | HAM73.0348 |
| D.3:67:249 | 1739 | COPP | COIN:ARETS IV 9B-A40 | - | HAM74.0085 |
| D.3:78:270 | 1766 | IRON | TACK/NAIL | - | HAM74.0109 |
| D.3:78:290 | 1767 | BRNZ | COIN: PILATE,CA30 | - | HAM74.0110 |
| D.3:80:295 | 1805 | BRNZ | COIN:ARETS IV 9B-A40 | - | JDA |
| D.3:80:295 | 1848 | BRNZ | KOHL STICK | - | HAM74.0185 |
| D.3:80:295 | 1849 | BRNZ | COSMETIC SPAT FRAG | - | HAM74.0186 |
| D.3:81:300 | 1831 | LSTN | WEIGHT(?) | - | HAM74.0169 |
| D.3:81:308 | 1719 | BRNZ | ARROWHEAD | - | HAM74.0067 |
| D.3:91:331 | 1996 | POTT | HERODIAN LAMP | - | HAM74.0314 |
| D.3:91:331 | 1971 | LSTN | STONE VESSEL FRAG | - | HAM74.0293 |
| D.3:91:331 | 1964 | LSTN | STONE VESSEL FRAG | - | HAM74.0288 |
| D.3:91:331 | 1952 | IVRY | NEEDLE FRAG | - | HAM74.0277 |
| D.3:93:340 | 2050 | BRNZ | COIN:PTOL III A246-222 | - | JDA |
| D.3:108:368 | 2477 | BRNZ | COIN:PTOL CA220BC | - | JDA |
| D.4:99:000 | 2479 | COPP | COIN:ROM AD146-161 | - | HAM76.0269 |
| D.4:99:239 | 2444 | HMTT | PESTLE | - | HAM76.0239 |
| D.4:99:239 | 2507 | CLAY | LOOM WEIGHT | - | JDA |
| D.4:99:239 | 2508 | CLAY | LOOM WEIGHT | - | JDA |
| D.4:99:239 | 2509 | CLAY | LOOM WEIGHT | - | JDA |
| D.4:99:239 | 2510 | CLAY | LOOM WEIGHT FRAG | - | HAM76.0295 |
| D.4:99:240 | 2443 | BSLT | STONE VESSEL FRAG | - | HAM76.----- |
| D.4:99:240 | 2470 | BRNZ | COIN:ROMAN 3D CENT | - | HAM76.0262 |
| D.4:101:258 | 2662 | BRNZ | COIN:MACCABEAN | - | HAM76.0428 |
| D.4:106:244 | 2503 | GLSS | BEAD | - | HAM76.0291 |
| D.4:108:246 | 2486 | GLSS | BEAD | - | HAM76.0276 |
| G.1:25:052 | 1456 | GRAN | SPNDL WHRL, BUTN? | - | HAM73.0183 |
| G.8:10:035 | 2056 | POTT | ROMAN LAMP | - | HAM74.0369 |

## Stratum 12

| | | | | | |
|---|---|---|---|---|---|
| A.1:15:044 | 0162 | BRNZ | HOOK AND RING | - | HAM68.0163 |
| A.1:15:046 | 0181 | CERM | RAM HEAD FIGURINE | - | JDA |
| A.2:28:081 | 0852 | GLSS | BEAD | - | HAM71.0782 |
| A.2:28:081 | 0853 | GLSS | BEAD | - | HAM71.0783 |
| A.2:30:094 | 0972 | POTT | LROM LAMP FRAG | - | HAM71.0374 |
| A.5:49:060 | 1043 | LEAD | WEIGHT | - | JDA |
| A.5:49:068 | 1252 | POTT | NAB BOWL FRAG | - | HAM71.0824 |
| A.9:101:171 | 2289 | IRON | PLOW POINT | - | HAM76.0109 |
| B.2:31:069 | 0964 | STON | MOSAIC FRAGMENT | - | HAM71.----- |
| B.3:29:061 | 1118 | BRNZ | COIN:AMBIBULUS 9-12 | - | JDA |
| B.4:41:088 | 0966 | GLSS | BEAD | - | HAM71.0368 |
| C.1:25:518 | 1106 | GLSS | BUTTON | - | HAM71.0665 |
| C.1:25:518 | 1132 | BRNZ | NEEDLE | - | HAM71.0454 |
| C.2:42:452 | 1665 | POTT | COOKING POT | ROM | HAM73.0341 |
| C.7:68:140 | 2626 | LSTN | MORTAR FRAGMENT | - | HAM76.0399 |
| C.7:77:163 | 2697 | IRON | METAL BAR | - | HAM76.0459 |
| C.7:88:165 | 2739 | POTT | LATE ROMAN VASE | - | HAM76.0498 |
| D.2:21Y:254 | 1836 | POTT | DECORATED SHERD | - | HAM74.0174 |
| D.2:73:291 | 1878 | BRNZ | FOLDED STRP BRNZ | - | HAM74.0214 |
| D.2:73:299 | 2049 | POTT | BOWL | - | HAM74.0363 |
| D.2:73:302 | 1877 | LSTN | STONE VESSEL FRAG | - | HAM74.0213 |
| D.2:73:334 | 1910 | IVRY | NEEDLE | - | HAM74.0243 |
| D.2:73:373 | 2010 | IRON | FLOGGING HEAD | - | HAM74.0326 |
| D.3:59:191 | 1624 | STON | SEAL:CONE SHAPED | LROM | JDA |
| D.3:82:314 | 1885 | LSTN | STONE VESSEL FRAG | - | HAM74.0220 |
| D.4:41:120 | 1743 | COPP | COIN:HADRIAN 117-138 | - | JDA |
| D.4:85:218 | 2370 | BSLT | STONE VESSEL FRAGS | - | HAM76.0175 |
| D.4:85:218 | 2371 | IRON | HOOK | - | HAM76.0176 |
| D.4:92:219 | 2480 | BRNZ | COIN:ALEX JAN 103-76 | - | HAM76.0270 |
| D.4:94:222 | 2351 | GLSS | BUTTON/SPNDL WHRL | - | HAM76.0156 |
| D.4:94:229 | 2377 | BONE | NEEDLE FRAGMENT | - | HAM76.0180 |
| G.1:23:051 | 1459 | FNCE | BEAD | - | HAM73.0186 |
| G.15:32:039 | 2936 | BRNZ | BUTTON | - | HAM76.0672 |
| G.15:32:039 | 2939 | BRNZ | COIN:UNKNOWN | - | HAM76.0675 |

## Stratum 11

| | | | | | |
|---|---|---|---|---|---|
| A.2:18Y:053 | 0518 | BRNZ | COIN:UNIDENTIFIED | - | JDA |
| A.2:18Y:057 | 0397 | BRNZ | COIN:UNIDENTIFIED | - | JDA |
| A.2:18Y:057 | 0398 | BRNZ | COIN:UNIDENTIFIED | - | HAM71.0534 |
| A.2:23:065 | 0546 | BRNZ | COIN:AYYUBID | - | HAM71.0570 |
| A.2:25:069 | 0650 | GLSS | NECKLACE FRAG | - | HAM71.0193 |
| A.4:18:070 | 0291 | COPP | COIN:TYRE 96/5BC | - | JDA |
| A.4:19:081 | 0292 | BRNZ | NAIL | - | HAM68.0233 |
| A.4:19:084 | 0324 | LSTN | ARCHITECTURL FRAG | - | JDA |
| A.4:27:124 | 0411 | LSTN | STONE VESSEL FRAG | - | HAM71.0079 |
| A.5:77Y:089 | 1701 | BRNZ | COIN:THEOD I 378-395 | - | HAM74.0052 |
| A.5:91:165 | 2064 | CLAY | LOOM WEIGHT | - | HAM74.0376 |
| A.7:47:106 | 1451 | IRON | NAIL | - | HAM73.0178 |
| B.2:27:067 | 0875 | BRNZ | RING | - | HAM71.0312 |
| B.2:27:067A | 1253 | PUMC | RUBBING STONE | - | HAM71.0825 |
| B.4:30:069 | 0865 | IRON | NAIL | - | HAM71.0305 |
| B.7:27:101 | 2502 | FRIT | BEAD | - | HAM76.0290 |
| B.7:27:109 | 2548 | IRON | TWO TAGS, ONE HOOK | - | HAM76.0330 |
| C.5:77:544 | 2921 | POTT | BYZANTINE LAMP | - | JDA |
| C.5:92:299 | 2381 | POTT | JUGLET | - | HAM76.0182 |
| C.5:212:515 | 2912 | FLNT | BLADE FRAGMENT | - | HAM76.0649 |
| C.5:217:526 | 2942 | BRNZ | COIN:ROM 4TH CENT | - | HAM76.0678 |
| C.5:219:529 | 2940 | BRNZ | COIN:CONSTN I AD343 | - | HAM76.0676 |
| C.10:32:076 | 2712 | CRSL | DECORATED CRYSTAL | - | JDA |
| C.10:32:080 | 2743 | IRON | NAIL | - | HAM76.0501 |
| C.10:38:088 | 2777 | GLSS | BEAD | - | HAM76.0530 |
| D.1:44:119 | 0536 | IRON | CHAIN LINK | - | HAM71.0119 |
| D.1:44:123 | 0561 | LSTN | POSSIBLE SLINGSTONE | - | HAM71.0132 |
| D.2:36:195 | 1628 | IRON | HOOK | - | HAM73.0318 |
| D.2:36:207 | 1647 | BRNZ | COIN:ROM AD98-117 | - | HAM73.0330 |
| D.2:43:270 | 1773 | IRON | TACK/NAIL | - | HAM74.0115 |
| D.2:43:272 | 1774 | IRON | NAIL | - | HAM74.0116 |
| D.2:43:273 | 1864 | IRON | NAIL | - | HAM74.0200 |
| D.2:43:273 | 1799 | BRNZ | BUTTON(?) | - | HAM74.0140 |
| D.2:43:276 | 1859 | GLSS | BEAD | - | HAM74.0195 |
| D.2:43:276 | 1879 | LEAD | RIM FRAG OF VESSEL | - | HAM74.0215 |
| D.2:72:284 | 1861 | SHLL | PELECEPOD SHLL FRG | - | HAM74.0197 |
| D.2:72:284 | 1935 | POTT | BOWL | - | HAM74.0261 |
| D.2:80B:395 | 2272 | POTT | BOWL | - | HAM76.0093 |
| D.2:80B:396 | 2254 | LSTN | STONE VESSEL FRAG | - | HAM76.0076 |
| D.3:16Y:361 | 2271 | LSTN | MORTAR FRAGMENT | - | HAM76.---- |
| D.4:34:082 | 1627 | GLSS | BLACK BEAD | - | HAM73.0317 |
| D.4:34:088 | 1682 | PLST | ARCHTECTRL DECOR | - | HAM73.0353 |
| D.4:64:178 | 1978 | IRON | FRAG OF FINGER RING | - | HAM74.0299 |
| D.4:64:178 | 2087 | BRNZ | BEAD | - | HAM74.0395 |
| D.4:69:210 | 2317 | BRNZ | COIN:NABATEAN | - | HAM76.0132 |
| D.6:62:192 | 1414 | IVRY | IVORY JAR LID | - | HAM73.0146 |
| D.6:62:263 | 1545 | CHRT | SLINGSTONE | - | HAM73.0256 |
| D.6:62:263 | 1550 | COPP | HOOK (CHAIN LINK?) | - | HAM73.0261 |
| D.6:69:227 | 1478 | FRIT | BEAD:PENDANT TYPE | - | HAM73.0201 |

End of Strata 15-11

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