

PRELIMINARY REPORT OF THE EXCAVATIONS
AT TELL JAWA
IN THE MADABA PLAINS (1991)

by
P.M. Michéle Daviau

Introduction

Excavations at Tell Jawa (south) began in 1989 as part of the Hinterland Excavations of the Madaba Plains Project. This excavation was one of several undertaken within a 5 km radius of Tell el-'Umeiri, the principal tell under excavation by the project. For the first season (1989), the excavations at Tell Jawa were sponsored by Andrews University Institute of Archaeology with support from Wilfrid Laurier University. Randall Younker served as Director and the author was field supervisor¹. In 1991, the Madaba Plains Project restricted its activity to Tell Jawa where the author directed excavations that were funded by Wilfrid Laurier University and by the participants².

Tell Jawa (map reference 1408/2382) is located immediately west of the modern village of Jawa, 2.2 km northeast of el-Yadudeh and 10.9 km south of 'Amman on the Transjordanian plateau (Fig. 1). The tell forms the eastern skyline as one approaches the Belqa hills from the Queen Alia International Airport. Although Jawa is an obvious tell, no previous excavations had been carried out on this site³.

During the first half of the twentieth century, Alois Musil (1901; 1902), Albrecht Alt (1932) and Nelson Glueck (1933) visited Tell Jawa and observed its ruins. Glueck gathered sherds from the surface which he

dated to EB III, Early Iron I, Early Iron II, and the Islamic period (1934: 4). A second surface survey was conducted by Robert Boling for the Madaba Plains Project in 1984. He recovered evidence for additional occupation during the Roman, Byzantine, and Umayyad periods (1989: 144).

The tell is almost oval in shape and covers an area of 2 ha inside a wall system that crowns the summit of the mound (Fig. 2). The north slope of the tell outside the enclosure wall may also have been part of the ancient settlement (Glueck 1934: 4) but this area has been destroyed by a modern road. Rock-cut installations, probably associated with the occupational remains on the tell, are preserved in two areas of exposed bedrock, one that extends for 300m south of the tell (RS 118)⁴ and a second area at a distance of ca. 800m to the west (RS 127).

Excavation Strategy

During the first season, one excavation area, designated Field A, was opened on the southwest slope of the tell with four squares (A1, A2, A3 and A4) running south to north across the wall system. A fifth square (A13) was positioned to the east of Square A3 in order to determine the amount of settlement debris inside the town and the occupational history of the tell (Fig. 3). In Squares A2 and A3, a casemate wall system that dates to Iron Age IIB⁵ was exposed on the crest of the

1 During the first season, the square supervisors included Nadine Brundrette, Antonius Haakman, Bruce Routledge, Julie Witmer, Michael Wood and Hakam Ziaddi.

2 Square supervisors for the 1991 season were Jennifer Groves, Margaret Judd, Joyce Palmer, Brenda Silver, Shawn Standfast and Mark Ziese who also served as photographer. Robert Hutson served as draftsman/architect. Nazmieh Rida Tawfiq Darwish was the representative for the Department of Antiquities of Jordan. Our work was facilitated by the assistance of Dr. Pierre Bikai, Director of ACOR, and Dr. Patricia Bikai. Drs. Mohammed Najjar, Gaetano Palumbo, Kenneth Russell and Robert Schick were generous in offering their time and expertise in identifying ceramic remains from the Byzantine and Early Islamic periods.

3 The tell at Jawa is private property and has been cultivated in the recent past. Only one area on the east side of the tell along with the base of the tell on the south have been disturbed by bulldozer activity. The generous cooperation of the landowner, Mr. Hamad Talafieh, has preserved the tell and made successful excavation possible.

4 This area was identified as Regional Survey Site 118 in the ongoing survey directed by Gary Christopherson for the Madaba Plains Project.

5 An initial study of the Iron Age ceramic corpus from the 1989 season demonstrated that late eighth-seventh century BC forms, present at Tell el-'Umeiri were absent at Tell Jawa (Daviau 1991).

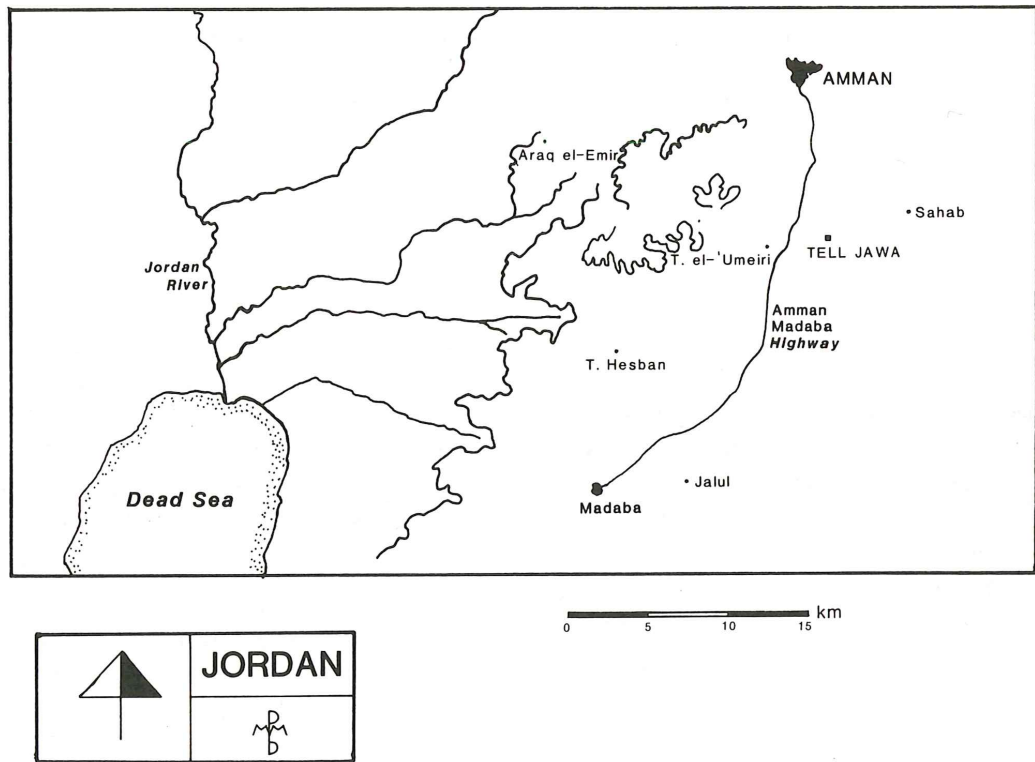


Fig. 1. The location of Tell Jawa in the Madaba Plains Region of Central Jordan.

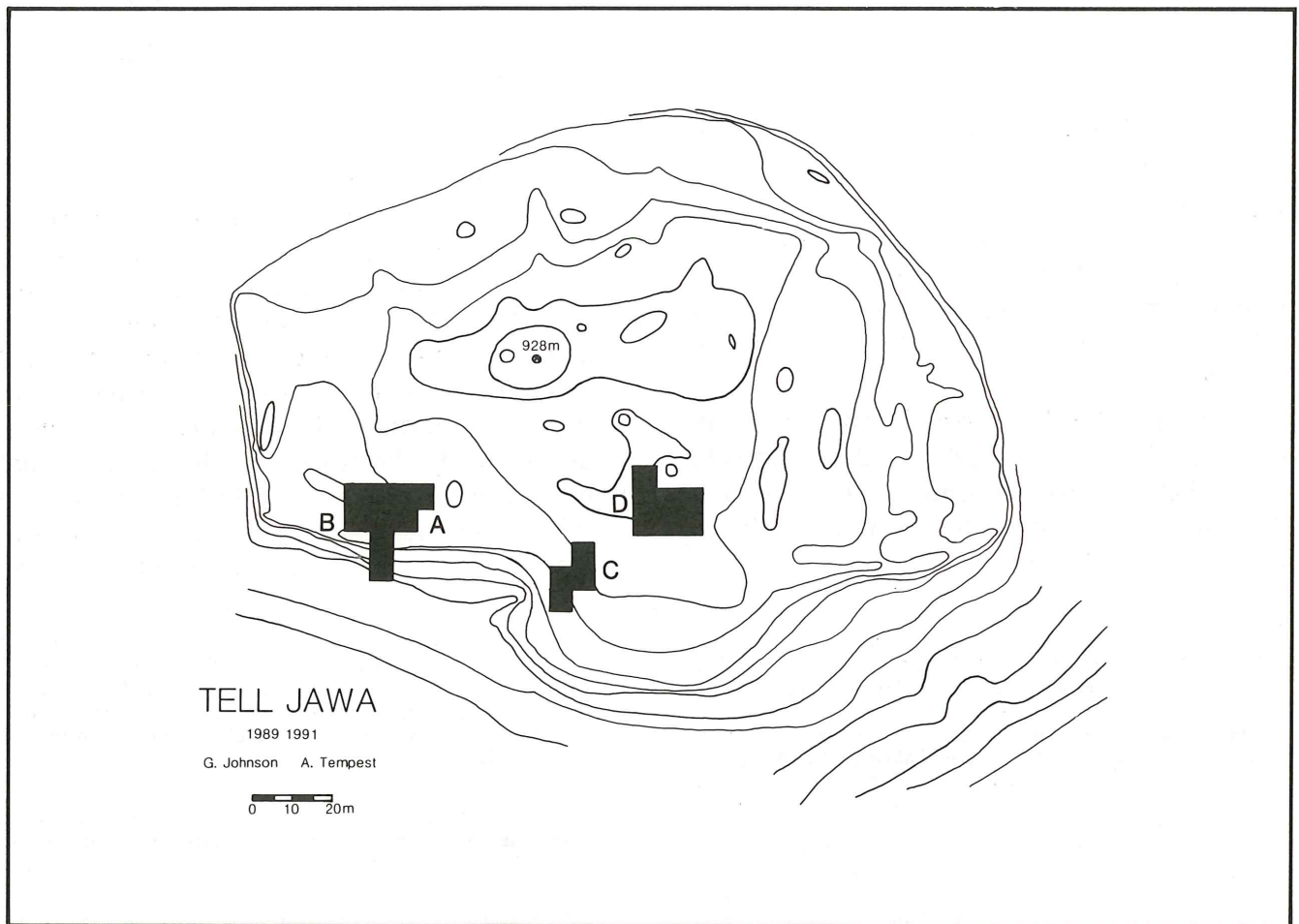


Fig. 2. Plan of Tell Jawa showing the excavation areas for the 1989 and 1991 seasons.

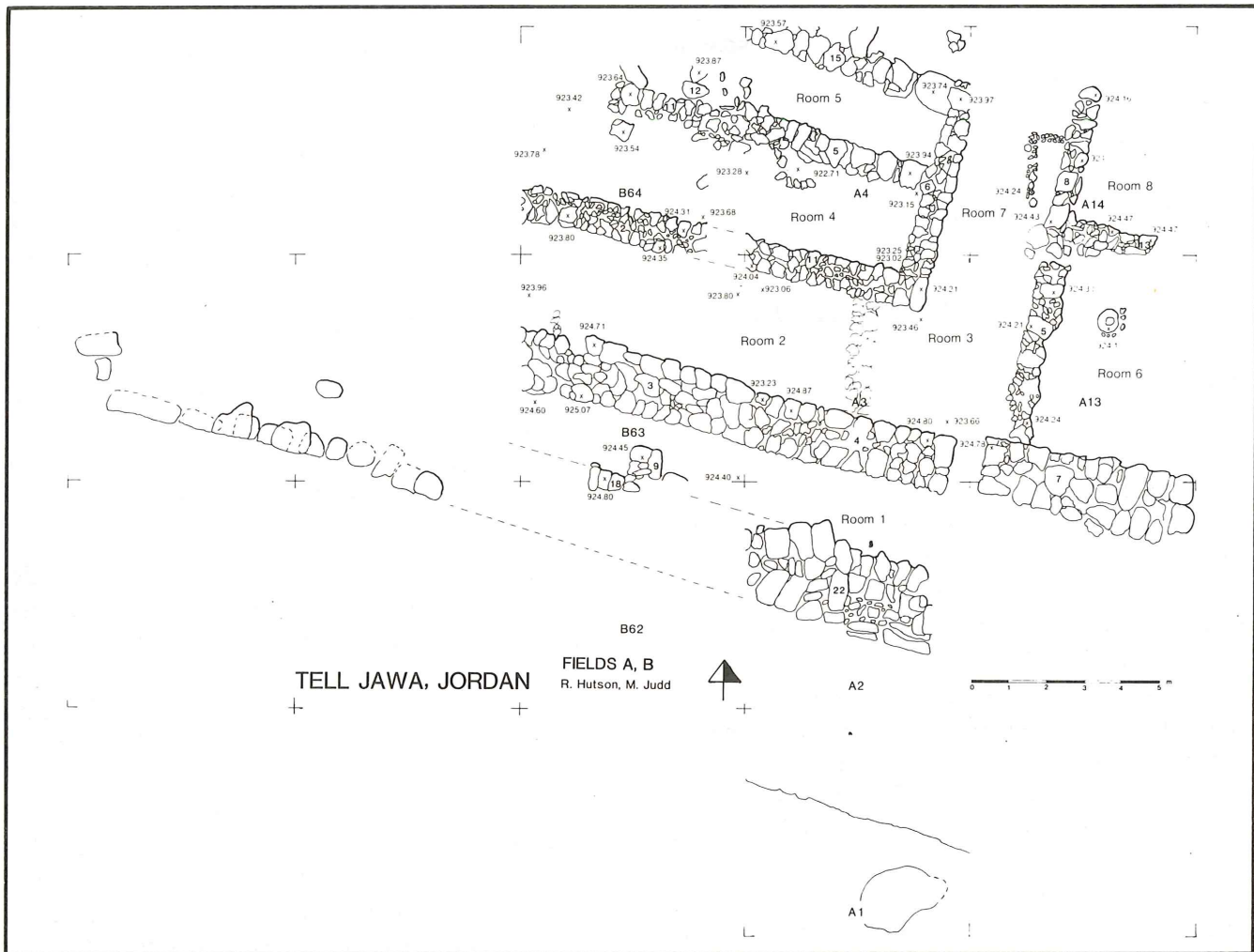


Fig. 3. Plan of Field A and Field B.

mound. A third parallel wall, exposed along its south face by a bulldozer, probably served as a retaining wall for the casemate system. Inside the wall system, a deep probe in Square A13 exposed Early Iron Age I walls and destruction debris. Within the debris layers, ceramic evidence for earlier occupation dated to the Middle Bronze Age. Immediately east of the probe was a storeroom with 9 pithoi smashed on a cobble stone floor (L.13,12) marking the end of Iron Age occupation.

In order to expose the remainder of the storeroom complex, the excavation strategy for 1991 consisted of the extension of Field A on the east (Squares A14 and 24) and on the west in Field B (Squares 63 and 64; see Fig. 3). Field C, located east of Field A, was situated at a juncture in the casemate system where the wall seemed to form a corner. Four squares (C5, C6, C16 and C17) were opened this season to investigate the wall system at

this juncture (see Fig. 2).

On the summit of the tell, exploration in 1989 identified the remains of at least 10 collapsed buildings located to the north and east of Field C. The style of drafted masonry present in these buildings is evidence of the later use of the tell, possibly in the Late Roman or Byzantine periods (see pottery from MPP survey; MPP1 1989: 144). In order to investigate these buildings, Field D was opened in 1991 at the southwest corner of a stone built structure that measured 11×18m (Squares D2, 3, 12, 21 and 22).

Below the tell, the evidence for activity areas and installations involved with food processing, animal husbandry and occasional occupation in the outcropping of bedrock that extends for ca. 300m to the south (RS 118-Field M) is now endangered by a modern housing development begun in 1990. Documentation of the numerous caves, cisterns, depressions and a limestone crushing stone

appeared to be urgent and was incorporated into the research strategy for the 1991 season along with a limited excavation of two installations (M2 and M13) in Field M. Comparable documentation of a similarly endangered area of caves, cisterns, reservoirs and crushing stones (RS 127 = TJ Field S) will be reserved for a future season.

RESULTS OF TWO SEASONS

Fields A and B — Inside the Fortification System

The earliest Iron Age II (FP-7A)⁶ occupation levels uncovered in the 1991 season were located in Square B63 where a bright red mudbrick surface (L. 46; Munsell 5YR 5/8) was in use with a group of ovens and braziers located below the upper level of the inner casemate wall (63:3; Pl. I,1). Surface 46, stained with ash and charcoal and baked hard by the heat of the overlying ovens, supports an interpretation of these ovens as *ṭawabeen* (Arabic plural of *ṭabun*) where the fuel was positioned around the outside of the oven. Together with a comparable surface located in Square 3 (L. 24), Surface 46 constituted an extensive cooking area (Room 2; Pl. I,1).

The first installation constructed on Surface 46 was an open brazier or fire pit (L. 32) formed of a circle of 10 stones and a reused weight. The stones, partially sealed with mudbrick, enclosed an accumulation of ash 0.05-0.10m deep. The original exterior diameter of the brazier measured ca. 0.90-1.00m.

Built over the east edge of Brazier 32 was *Ṭabun* 29, a free-standing structure, 0.31m high × 0.4m in diameter. It had been carefully constructed using a flat stone as a base (0.15 × 0.25m) on which was a layer of unbaked clay (0.05-0.10m. deep) that, in turn, supported an inverted storage jar. This jar was blackened on the interior and its fabric was very friable due to repeated exposure to heat. The base of the jar was missing and the opening had been surrounded

by 15 stones set on end. The opening formed by the stone circle measured 0.38m.

Ṭabun 36, also sitting on Mudbrick Surface 46, was bounded by plaster to the early phase of the casemate wall (L. 42) on the south. A large basalt saddle quern (0.37 × 0.35m), positioned on Mudbrick Surface 46, served as the floor of the *ṭabun*. An inverted jar had been placed on the quern and the upper part of the *ṭabun* had been surrounded with 12 stones (ca. 0.15-0.29m) and sealed with plaster. These stones formed the upper edge of the *ṭabun* while the jar formed its liner. The rim identifies this jar chronologically as Iron Age II, probably late ninth century.

Immediately east of *Ṭawabeen* 29 and 36, Mudbrick Surface 46 was cut by Installation 40. This feature, partially embedded in the balk, appears to have had two phases of use. Initially, a hole was dug from Surface 46 and a ceramic vessel was inserted into the depression. Inside the jar was an accumulation of very black material, possibly decayed organic matter (saved for future analysis). In addition, there was an inverted cooking pot filled with white chalky clay. At some point, the contents of this feature were sealed with clay. Subsequently, an Iron II storage vessel was inverted over the clay (L. 37) to form a *ṭabun*. This over (L. 37) was in use at the same time as *Ṭawabeen* 29 and 36 as all three were surrounded by a large deposit of ash (L. 45; 1.37×1.25m), preserved to a depth of ca. 0.14m. Ash Layer 45 was sealed by Plaster Layer 25 that formed a new surface for use with the ovens.

The largest *ṭabun*, Installation 30 (Pl. I, 1), was cut through Mudbrick Surface 46 at the west edge of the cooking area, immediately east of Partition Wall 28. Again, the *ṭabun* construction consisted of an inverted pithos placed on a hard packed surface (L. 44). Stones and soil were packed around the pithos and it was sealed with plaster. The top of the *ṭabun*, actually the pithos base, was open and eight flat stones (ca. 16×0.26m), standing on end, surrounded the opening.

⁶ Only preliminary phasing has been assigned to the superimposed occupational debris layers recovered during two seasons of excavations. Field Phases 8-5 represent the Iron Age and Field Phase 4 represents the Late Byzantine-Early

Islamic periods. Field Phases 3-1 comprise the evidence for abandonment of the site and modern reuse (for matrix, see Daviau in preparation).

These stones were sealed with plaster and bonded to Wall 42 which ran east-west underneath the later phase of the fortification wall (L. 3).

Ṭabun 30 measured 0.47m inside the top opening, 0.60-0.66m on the outside, with the largest inside diameter at 0.53m. The *ṭabun* had a total depth of 0.46m from the preserved height of the stones to the inverted pithos rim and contained, at its lowest level, 0.10m of layered sherds (L. 17) that acted as insulation and facilitated heat circulation inside the oven. A basalt pestle was on top of the layered sherds along with broken cooking pots. Both the interior of the pithos liner and the cooking pots were blackened although no ash was found inside the *ṭabun*. Evidence for the use of the *ṭabun* comes from the friable condition of the pithos liner which shows repeated exposure to heat.

A preliminary ethnographic study of modern *ṭabun* construction and use at the home of Umm Kamal near the village of Jawa indicates that *ṭawabeen* were hardened by an initial firing and then surrounded by dung and kept hot continuously (see Daviau and Hasan, in preparation). The dung is stored near the *ṭabun* and is placed around the outside and on top of the *ṭabun* itself (see also McQuitty 1984: 261). Unfortunately, only small traces of ash were found in association with *Ṭabun* 30.

The simultaneous use of *Ṭawabeen* 30 and 36 is clearly seen in the fact that both seal against Wall 42. By their association with *Ṭabun* 36, *Ṭawabeen* 29 and 40 could also have been in use at the same time as *Ṭabun* 30. Because *Ṭabun* 30 cut through Surface 46 and sat on Surface 44, it might have been installed after the construction of the other *ṭawabeen* which sat on Mudbrick Surface 46. Therefore it seems possible that *Ṭabun* 30 was the last in the series to be built. However, the continued use of all of these *ṭawabeen* is clearly seen because hard-packed Surface 41 and Fill Layer 34 that covered Plaster Layer 25 sealed against them. On Surface 41 were several areas of ash along with food preparation equipment and vessels, including a grinder fragment and cooking pot sherds. A similar food preparation assemblage was found on Surface 34 and included two basalt

loaf-shaped mill stones and a mortar fragment.

Wall 42 and Partition Wall 28 formed the south and west perimeter of the cooking area exposed in Square B63 this season. The end of the FP-7A ovens was marked by mudbrick collapse (L. 21 and 22) in Debris Layers 23 and 20. The mudbrick (L. 22) which might have fallen from Wall 42 slumped to the north over *Ṭawabeen* 36 and 37. Additional mudbrick collapse (L. 21) extended through the north balk into Square B64. Debris Layer 20 sealed against *Ṭawabeen* 30 and 29 which were still in use with this locus. Further collapse of stone foundation Wall 42 and its mudbrick superstructure brought about the end of *Ṭawabeen* 30 and 29 with the accumulation of Debris Layer 12. Embedded in L. 12 was construction debris from the building of the later phase of inner Fortification Wall 3 of Field Phase 5. No occupation areas of this later phase were recovered in Square B63.

Field Phase 5

The Iron Age II occupation excavated to date in Squares A14 and A24 can be separated into two Field Phases (5B and 5A) by comparison with the later FP-5 (A) surfaces uncovered in 1989. The earliest hard-packed Surface (L. 14:24) supported north-south Wall 14:8 and east-west Wall 14:13 (Fig. 3). These walls appear to abutt one another although they might have been bonded on an upper course. Both walls were built of boulder-and-chink construction and measured ca. 0.60m thick.

A series of superimposed surfaces (L. 14:23, 20 and 6) sealed against the west side of Wall 8 along with stone-edged Bin 21 which was built on Surface 23 and continued in use with Surface 20. Inside Bin 21 was a hard-packed Floor 27 that sealed against Wall 8 and extended south to meet the north end of Wall 28 (=13:5). The contents of Bin 21 consisted of a layer of wind-blown silt (L. 22) which suggests that this area was open or unroofed at some time during antiquity.

Surface 23 extended west and sealed against Wall 4:6=3:27. This connection indicates that the building in Square A4, built in early FP-5A, was still in use at the time of Surface 14:23 and Wall 8. The composition of

Surface 23 was beaten earth and scattered small cobbles. Artifacts included a pumice pendant, a basalt grinder, a spindle whorl and a representative collection of Iron Age II pottery sherds.

Surface 20 was also a beaten earth surface with scattered cobbles. Recovered from this surface was a group of artifacts including one spindle whorl and a pendant along with two groups of flat lying Iron Age II ceramic vessel sherds. This surface also sealed against Wall 28=13:5 making Locus 14:20 contemporary with Floor 13:12 and 13:21 uncovered in the 1989 season. The continuation of Floor 13:12=21 was a cobblestone surface (L. 18) that sealed against Wall 14:13 and 14:31 and was part of Room 6. Locus 31 was a rock fill in the corner of Walls 14:8, 13 and 28 bonding these walls together.

Of these features, Wall 14:8 was probably the earliest with Wall 13:5 being constructed later. Because no east-west crosswall running west of Wall 14:8 has been recovered to date, it appears that Walls 13:5 and 14:8 formed the eastern perimeter of a long corridor or alley leading to the door in the casemate wall system in Squares 13 and 3 (Fig. 3). Debris Layer 17 covered Bin 21 and its associated surfaces. Within this layer, a ceramic zoomorphic bull (?) rhyton was found in association with a grinder fragment and a pounder, a basalt grinder and mortar, a piece of metal, and a ceramic spindle whorl.

The latest surface on the west side of Wall 14:8 was Locus 6 which consisted of a heavy concentration of cobbles, especially along the west side of Wall 8. On Surface 6 was a pounder, a grinder and a large amount of Iron Age II sherds.

Although no connection could be established between the surfaces on the west side of Wall 14:8 with those on the east side, especially Cobble Surface 15 and Plaster Floor 14, these were probably contemporary. Smashed *in situ* on Floor 14 and in the superimposed destruction Layer 14:12 were numerous mendable ceramic vessels, 2 javelin points, metal lumps, a pounder inside a broken bowl, a loaf-shaped upper millstone, 2 pestles, a spindle whorl, a lamp, several semi-precious stones, and a limestone mortar.

In FP-5A, *Tabun* 25 cut Wall 14:13 at the

point where Wall 13 formed a corner with north-south Wall 14:32 that probably served as the eastern perimeter of Room 6 in Square 13. Wall 32 was also robbed out ca. 2.00m north of the south balk and again at 3.00m north. The end of Wall 32 may be marked by a large cylindrical stone located 4.00m north of the south balk (L. 24:8). This stone may represent one side of a doorway which is hidden under a modern field wall (L. 14:2=24:2).

All of these FP-5A surfaces and features went out of use at some time during the Iron Age II period and were covered with rock fall (L. 14:11, 12, 16 and 24:4) which was sealed in its turn by Debris Layers 14:5 and 24:5. Immediately south was Room 6, which also went out of use at the same time. Here, a boulder and rubble wall (L. 5) formed the west side of a cobblestone floor (L. 13:12). Embedded in the floor and surrounded by chink stones was Boulder Mortar 23. Food preparation tools consisting of 2 chert pounders, a basalt millstone, and reworked disks were in association with the mortar. Smashed on Floor 12 and above Mortar 23 were the remains of 9 pithoi (Fig. 4), a krater, red-slipped bowls, cooking pots, jugs, and one complete juglet.

Evidence for the horizontal extension of the early FP-5 building located in square A4 was uncovered in Field B Square 64 (see Fig. 3). Wall A4:11 (=A3:7) continued west-northwest as a two-row, boulder-and-chink limestone wall (L. B64:2) for 4.8 m. Only three courses were exposed this season. To date, there is no evidence for a crosswall connecting Wall 64:2 with parallel Wall 64:11, although there is the suggestion of a crosswall in the east balk. The construction style of Wall 64:2 and its width (1.05-1.90 m) suggest that this was an exterior wall forming the southern side of a large complex of rooms (see Fig. 3, Rooms 4 and 5) that currently extends for 11 meters.

North of and parallel to Wall 2 was Wall B64:11 (=A4:5) which was the continuation of the middle wall in square A4. Constructed of medium sized limestone boulders (0.50-0.75m), Wall 64:11 measured ca. 60m and was bonded to Crosswall 64:12 which ran northeast and may have connected with Wall

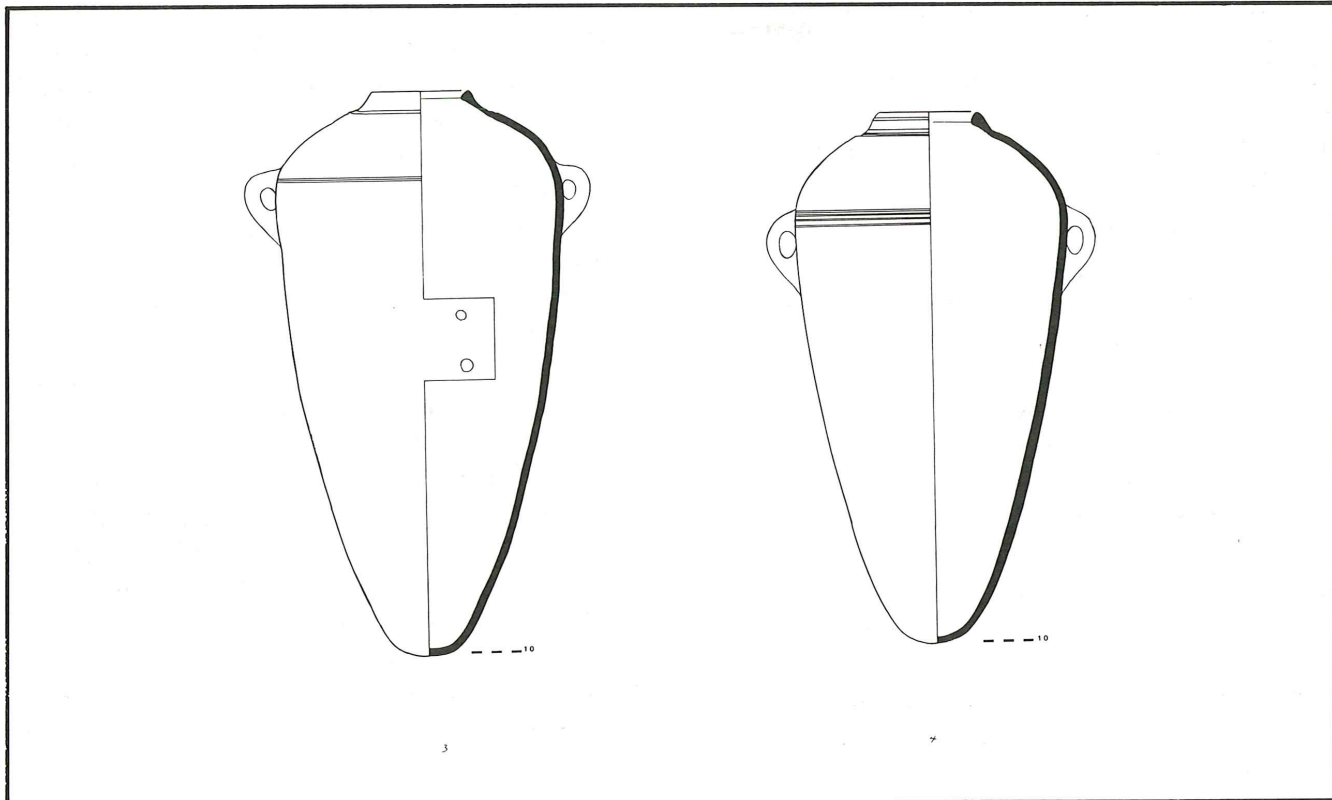


Fig. 4. Reconstructed pithoi from Room 6 (A13, L. 12).

A4:15 forming a discrete room although the connection of these walls would only be found in square B65 (not excavated this season).

On the north side of Wall 64:11 was a stone-lined pit of a *ṭabun* (L. 64:13). Excavation of the fill in this installation (L. 64:14) proved inconclusive, but it was clear that this feature was located in the corner formed by Walls 11 and 12 and was covered by Debris Layer 10. This debris (L. 64:10) accumulated prior to the major wall collapse (L. 64:9) that filled the rooms of this Iron Age II complex. Finds from Debris Layer 10 included a spindle whorl fragment and a possible ceramic figurine crown (Harding 1951: Pl. XIV) along with predominantly Iron Age II pottery sherds.

Although the main floor in use in this building has not yet been discovered, the appearance of Installation 13 indicates that excavation may be very close to floor level. Since no pottery was found in the Pit Fill 14, we cannot assign a precise date to the use of the pit itself, although the latest level of habitation was certainly in Iron Age II on the basis of ceramic ware forms from Debris Layer 10 which sealed the pit. Finally, be-

cause this pit seals against Wall 64:11, we do know that it was built later than Walls 11 and 12.

Evidence from excavations at other Ammonite sites indicates the popular use of long rectangular rooms, that shared common walls and joined building units to each other (Dornemann 1983: 126). This is seen at Tell el-'Umeiri (Geraty *et al* 1989: 233-242), which is in close proximity (4.9 km) to Tell Jawa. Since both sites had several phases of Iron Age habitation we might expect to see similar architectural features. At Tell el-'Umeiri, the "Citadel" had walls 1.15-1.3m thick which might indicate an administrative rather than domestic structure (*ibid*: 233). This interpretation was supported by the discovery of several seals and a bulla at Tell el-'Umeiri while at Tell Jawa most of the objects, in fact all those found in Square 64, were commonplace, everyday items, which suggest that this structure probably had a domestic function. The only exception to this interpretation is a ceramic head from a small plaque found against east Wall 4:6 in Room 4. The head depicts a male wearing an Egyptian *atef*-style crown comparable to those shown on Ammo-

nite sculptures (Abou Assaf 1980: Tafel III, IV; Younker, Herr, Geraty and LaBianca 1990: Pl. 10). To date, the building at Tell Jawa measures 11×6m compared with that at Tell el-'Umeiri, which currently measures 17×12m. However, the full extent of the Jawa building will only be known with further excavation.

This early FP-5 building complex in A4 and B64 appears to have continued in use with the latest FP-5 surfaces in A13 and A14. When the complex went out of use, the walls collapsed into the rooms, forming Debris Layers B6-4:5, 6, 7, and 9. A similar situation was apparent at Tell el-'Umeiri where floor levels occurred 1.8m below the tops of the walls and were sealed with rock fall. Although such deep accumulation of wall collapse might be the result of an earthquake (*ibid*: 236), it clearly represents extensive use of stone construction at least in the outer walls of the complex.

The Fortification System — Field C

A casemate wall system, excavated in Field A (Squares 2, 3 and 13), Field B (Square 63; see Fig. 3) and Field C (Square 6) can be traced around the entire perimeter of the tell. The outer wall was built of large (>0.60m) boulders and measured *ca.* 2.00-2.20m thick. The inner wall, of similar boulder-and-chink construction varied in thickness (1.50-2.00m). The space between the walls averaged 2.10m and was divided by crosswalls at intervals. Down the slope below the outer wall (A2:20), was a soil retaining wall visible in Field A, Squares 1-11 (L. 1:4) where it had been exposed and damaged by bulldozer activity.

The wall system appears to form an oval around the crest of the tell with only one break in the wall line in Squares C16-86. This break in the circumference was first identified in Squares C5 and C6. There, Retaining Wall C5:2 (=C6:2) runs south, perpendicular to the casemate system and turns east lower down on the slope (in Square C2) towards a tower located in Squares C61-91. A second east-west wall in Squares C3-43 and C52-72, along a secondary crest, forms a middle wall. This L-shaped formation includes an unexcavated series of crosswalls perpendicular to the

casemate system and the east-west retaining wall. These walls, along with a curving wall line in Squares C53-84, join the casemate wall where it resumes its trajectory toward the east around the tell. Such a configuration of walls strongly suggests the location of the city gate.

The southeast tower in Field C was constructed of large limestone boulders (*ca.* 0.70×1.50m) that were roughly dressed to form straight edges and square corners (Pl. I,2). The tower itself measured 15×9m. A similar tower on the west side of the casemate enclosure wall in Field B (Fig. 5) measured 10.7×5.5m and was also constructed of very large limestone boulders. At this point, the west tower appears to have sealed against the casemate system although this can only be confirmed by excavation. Mapping of the wall system from the west tower to the southeast tower was completed this season and the rest of the circumference will be completed in 1992.

Only four squares (C5, C6, C16 and C17) were excavated in the "gate" area in 1991 where the casemate system was interrupted. Here the casemate room formed by walls C6.6 and 6.9 appears to be the last room in the southern wall section that was first uncovered in Field A in 1989. Immediately east of the room, Wall C17:2, built of extra large boulders (1.20-2.00m), ran eastward and was apparently part of another structure.

Immediately north of Wall 17:2 was a flagstone floor (L. 18) that sealed against two large orthostats (*ca.* 1.65m tall) standing vertically, 80cm apart. Each stone has distinctive holes in their inner faces, although the function of these holes is not yet clear (Pl. II,1). Between these orthostats, at the level of the flagstones was a threshold stone. Bones, reconstructable pottery, and four grinders were in use with flagstone Floor 18.

A plaster layer (C17.17) that included some ash and hard packed soil covered Floor 18. Embedded in the plaster and in the fill layer immediately above it (L. 14) was a large oval limestone basin that measured 0.64m in diameter and was partially preserved (0.46m). This basin had fallen in front of the orthostats and its original position remains unknown due to the limits of excavation. Artifacts in association with the basin in-

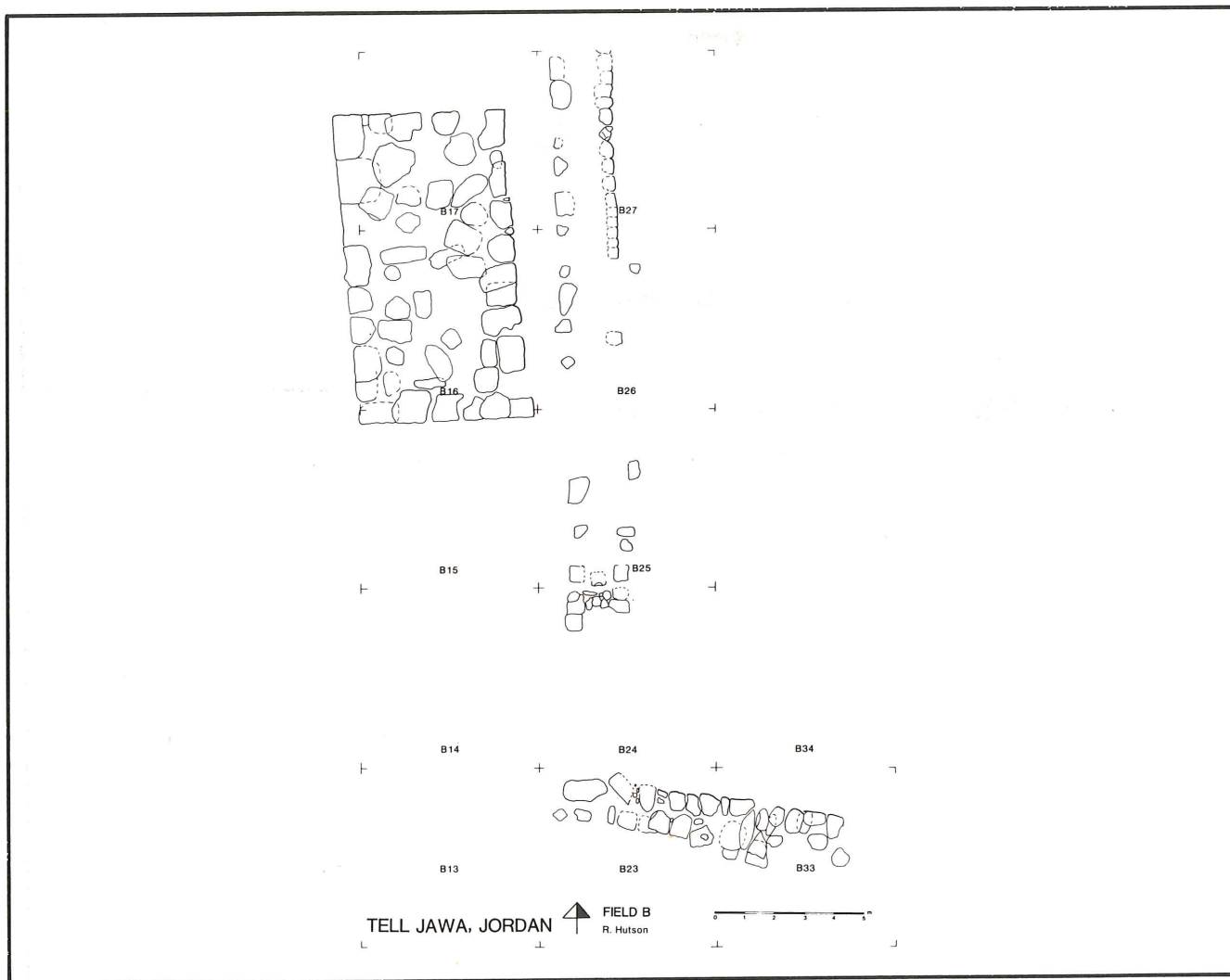


Fig. 5. West tower in Field B.

cluded two stone weights or tether stones, basalt grinders and a pounder. Although the exact interpretation of this area in Square C17 is unclear, the monumental architecture and large stone artifacts suggest public or commercial food preparation activities and a heavily fortified structure, possibly adjacent to or part of the gate area.

Additional evidence for the construction and use of the casemate system was uncovered in Field B, Square 63 (see Fig. 3). Inside the casemate system, between Inner Wall 63:3 and Outer Wall 63:18, was a plastered flagstone surface (L. 63:14, 63:15) that sealed against both walls during the latest phase of use. The crosswall (63:9) dividing these surfaces was only a short wall that left room for a passageway between adjoining rooms. In the fill (63:10) immediately above the plaster floor was an Athenian tetradrachm with the face of Athena on the

obverse and her owl with the letters AOE on the reverse (Fig. 6). While this coin seems to be comparable to other fifth century B.C. coins (Kleiner 1975:6-7), no other finds from this period have been recovered at Tell Jawa to date.

Field Phase 4: Byzantine-Early Abbasid Building

Visible on the surface of Tell Jawa are the remains of ten collapsed buildings constructed of limestone and chert boulders along with some worked architectural fragments. The most prominent of these buildings was located near the center of the tell in Field D (see Fig. 2). Five Squares (D2, 3, 12, 21 and 22), situated at the southwest corner of the building, were excavated in whole or part during the 1991 season (Fig. 7).

Outside of the corner formed by the western and southern walls, three superim-



Fig. 6. Athenian tetradrachm (B63, L. 11), TJ111.

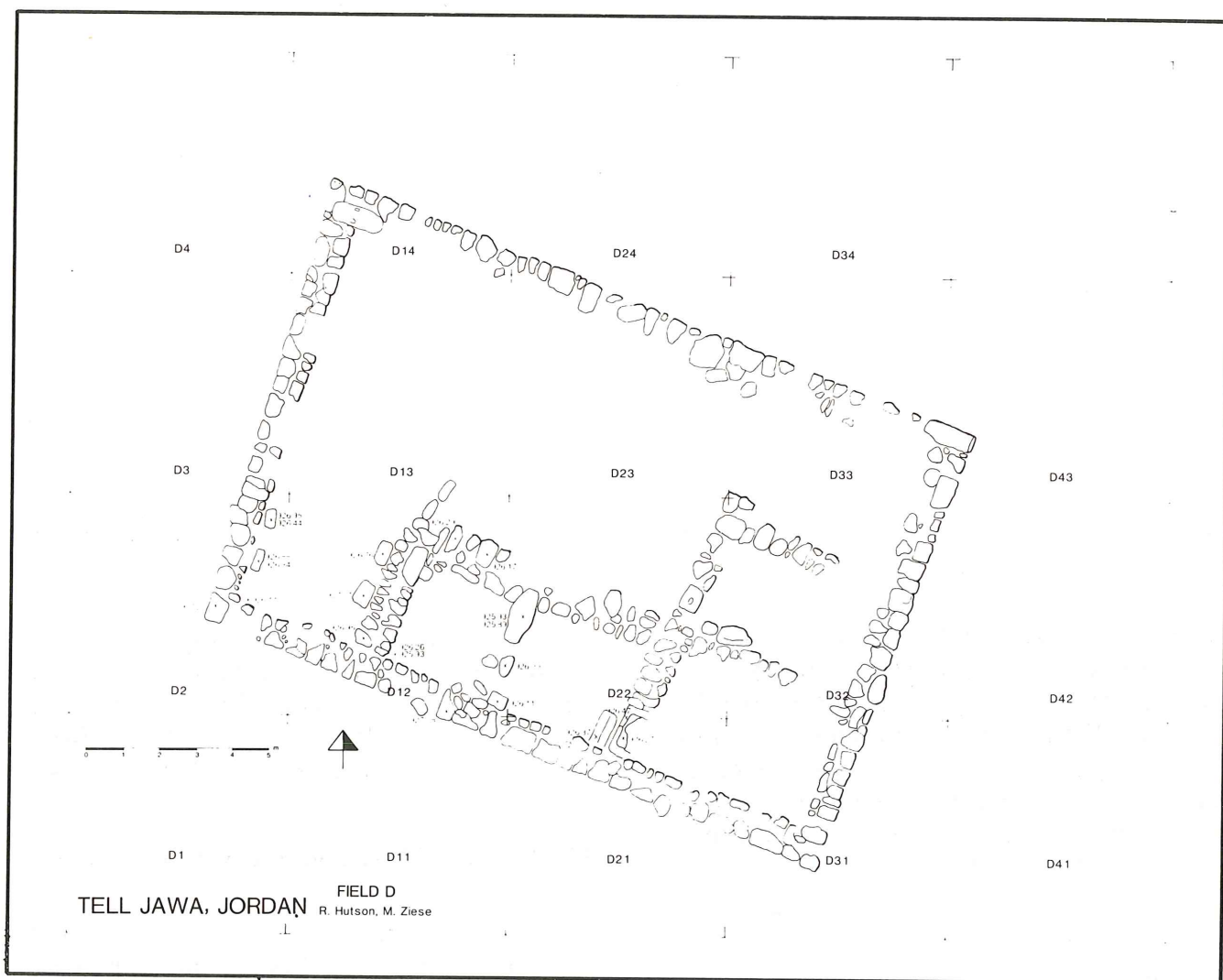


Fig. 7. Plan of the late Byzantine-early Islamic building in Field D.

posed debris layers (2:7, 2:9, 2:10) sealed against the building and rested on a possible founding surface (L. 2:8). The outer building walls (4 and 5) were bonded by large (1.0-2.0m) cornerstones.

Inside the building, portions of four interior walls were excavated that formed at least three rooms (Rooms A, B and C). While

the perimeter walls of the entire building (Walls 2, 3, 4 and 5) were all bonded, the interior walls (Walls 6, 8, 13 and 20) abutted the outer walls with which they were associated. Wall lines for an additional six rooms (Rooms D, E, F, G, H and I) could be traced on the surface.

Room A was located in the southwest

corner of the building. The earliest use surface (L. 2:14=12:11) reached in the 1991 season was associated with four limestone vaults or arch supports, two against West Wall 4 (L. 2:15 and 2:16) and two against East Wall 6 (L. 12:16 and 2:17). Between Pillars 12:16 and 12:17 was stonelined Installation 12:19. Immediately above were numerous pieces of marble floor tile. Few artifacts came from Surface 2:14=12:11 with the exception of ceramic vessel sherds and a well preserved lamp with a design of grape clusters and flowers in the "a vita" style (Arndt 1987: Fig. 6:86). In the fill (L. 12:8) above the tile fragments was a group of mendable sherds from a white slipped and red painted vessel. The date of this vessel is variously identified as Late Byzantine, Umayyad or early Abbasid (Ken Russell 1991, personal communication). In the fill (L. 2:11) on the west side of this same room was a juglet with an incised word in Greek letters of various sizes. The letters read NaOuMa, possibly a personal name (Amir Harrak 1992, personal communication).

To the east of Room A was an area that measured 3.0×3.0m. The designation of this area as a discrete room (Room B) assumes that Wall 20 was a standing wall and not merely a pillar support in the middle of a larger room (Rooms B and C). The earliest surface in use with Walls 5, 6 and 13 was Surface 12:15 distinguished by ash pockets. Surface 15 sealed against Wall 12:20 on the east and was clearly in use with it. Within the overlying Debris Layer (L. 12:5) bones, mendable ceramic vessel sherds, a spouted jug (Pl. II,2), and a glass spout were indicative of domestic activity. The ceramic chronology suggests an occupational use in the late Byzantine or early Umayyad period.

Room C, adjacent to Room B and measuring 3.25×3.00m, was enclosed by Walls 13, 8, 5, and Wall 20 on the west. Surface 22:4 was the earliest floor exposed this season. A group of artifacts including ceramic jar stoppers, and a lump of sulfur were *in situ* on the floor. The fill (L. 22:3) sealing this floor contained ash pockets and a lamp (now dated to the early Abbasid period by Dr. Mohammed Najjar).

The most characteristic features in Room

C were a horizontal limestone door jamb (L. 21: 4) and a threshold with a socket depression (L. 21:6). The jamb, located immediately west of the threshold, measured 0.96×0.44m while the threshold was 1.36×0.50m with L-shaped ends. To the north of the jamb (ca. 1.2m) was a limestone pivot. The threshold was set into Wall 21:8 and appears to be in its original position. It was constructed of three dressed stones and is comparable to a threshold found in Field M, Cave 13 (see below). The pottery for the cave dates to the Byzantine period, while the pottery from the Field D building includes both Byzantine and early Islamic wares. At this stage of excavation, the relationship of these features to the layout of rooms in the Field D building is unclear.

No other rooms were excavated in the 1991 season although the wall lines of several remaining rooms appeared on the surface. The largest "room" (G) contains a deep pit or cistern. Only future excavation can clarify the plan of the building and the nature of this depression.

Field Phase 4 — Associated Installations

To the south of the tell is a 300m long tongue of exposed bedrock, designated Field M. Here, over 50 installations were identified, numbered and photographed in order to document a wide variety of activity areas probably used throughout the occupation history of the Tell Jawa region. As a result of ongoing house construction, some of these installations were destroyed following our initial survey. Because this area was a salvage project, 13 installations were chosen as possible excavation areas. During the 1991 season, two of these installations were excavated (Cave 13 and Press 2) and a third installation (Cistern 28) was explored following its exposure by the construction crew.

Installation 13 was a cave with two entrances facing south. The interior (9.92×7.30m) yielded evidence for human occupation in antiquity and animal use in more recent times. The earliest modification of the natural cave was Locus 14, a 1.56m long threshold with a socket depression at one end, located inside the west entrance. The threshold was constructed of two limestone

blocks with L-shaped ends and positioned on a layer of cobbles and soil that had been laid on the natural floor of the cave. Two walls sealed against either end of the sill, Wall 20 running 1.4m southeast from the threshold to the east side of the west entrance and Wall 15 running *ca.* 0.50m west as a continuation of Threshold 14. The walls were constructed of small to medium sized boulders above a layer of cobbles. This same construction technique, similar to that of the foundation for the threshold, was also employed in the walls of the Field D building. A comparable technique was employed at Pella in the Umayyad domestic structures of Area IV (McNicoll, Smith and Hennessy 1982: 131). The height of Cave 13 from bedrock to current ceiling level is 2.03m and from the top of Threshold 14 to the ceiling is 1.68m. The function of the cave area inside the threshold could not be determined due to the limited area of excavation. Several soil layers that sealed against Threshold 14 and Wall 20 (L. 6, 9, 11 and 15) contained predominantly Byzantine pottery with some worn Iron II sherds in the fill. By contrast, the late Byzantine sherds had crisp edges indicating that they were deposited in the debris layers during the use of the cave and had not been water smoothed as had the sherds from Soil Layer 17 outside the threshold. These sherds showed evidence of being water worn and indeed the soil layers outside Threshold 14 consisted of heavy, wet clay. This is due to the fact that Cave 13 still serves as an excellent water catchment system that has a clear channel for conducting water into the west entrance.

The east entrance to the cave consists of a ramp that ran down to a smooth ledge (1.2×.072m) and then dropped down to the floor level. Byzantine pottery from the east entrance was water worn indicating a long period of time when water was coursing into the cave.

The sides of Cave 13 were lined with plaster varying in thickness from 0.02-0.05m. The plaster sealed the cave against moisture from the natural limestone. Whether or not the plaster continued across the bedrock floor is less certain because the floor is in such a poor state of preservation.

Only the west side of the cave was

excavated. Here, excavation reached the western perimeter wall where a 0.30m ash pocket was located in L. 18 under deteriorating limestone and rockfall from Wall 16. Several bones (7) were found in the area where the west side of the cave met the floor (L. 19) amidst abundant limestone detritus. However, pottery sherds were not present in this area.

In Soil Layer 15, directly north of Wall 16 and Threshold 14, the ceramic evidence for the function of the cave was inconclusive. Partially mendable storejar and bowl sherds represent typical Byzantine ware forms that suggest domestic food preparation or storage activities. Nevertheless, the use of Cave 13 during the Byzantine period appears quite certain based on the pottery in these soil layers and the proximity of Cave 13 to Press 2 where Byzantine pottery was dominant in the fill. The strongest connection of Cave 13 to Late Byzantine/Early Islamic activities is the existence of the matching threshold (D21:6) in the Field D building on the tell.

Following the use phase of Cave 13, water washed fills (L. 6, 7) accumulated over the interior. More recent use as an animal pen resulted in the deposition of a layer of dung (L. 3). Other debris and rubble (L. 1 and 2) had collected over time.

Installation 2 was a group of rock cut basins (A-D) that probably functioned as a wine press during the Byzantine period. The largest basin is a square, plaster lined treading area measuring 4.3×4.1m (Pl. II,3). The treading floor sloped toward the southwest and several natural depressions in this floor had been filled with plaster to form an even surface. Cut into the bedrock adjoining the south wall of Treading Floor A was a semi-circular settling vat (L. 5) measuring 0.60m in diameter and 0.40m deep. West of this vat, where the south edge of the treading floor had been built up by a stone wall, was a drain hole that connected Treading Floor A with rectangular Basin B, 0.55×0.90m. The drain was *ca.* 0.15m in diameter and was comparable to a second drain hole that connected Basin B with C. Basin C, the southernmost depression in the complex, was bell-shaped and flaired out from 0.67m to 1.14m at a depth of 1.45m. On the east was Basin D, a

trapezoidal depression filled with organic debris that has been saved for future analysis.

Parallels for this wine pressing installation are numerous from the Roman period (Hirschfeld and Birger-Calderon 1991:95-97) although no ceramic evidence for occupation at that time has been recovered at Tell Jawa to date. It is possible that this type of wine press continued to be used in later periods although Zayadine documents presses with mosaic floors as typical of the Byzantine and Umayyad period presses in Jordan (1981:344)

To the north of Cave 13, Cistern 28 remained undetected from the surface until it was pierced by construction activities. The cistern was bell-shaped and measured ca. 9m in diameter at floor level and had a layer of plaster (ca. 0.05m thick) covering the sides. The height of the cistern, from the present, unexcavated floor level, was 1.7m. A pillar composed of four medium to large boulders served as a roof support and stood 1.65m tall. The plaster sides of Cistern 28 curved inward at floor level but its full, original depth remains unknown.

Conclusions

The 1991 excavations at Tell Jawa identified the extent of Iron Age II occupation on the tell and revealed later periods of re-occupation in the Byzantine and Early Islamic periods. Documentation of the diversity of activity areas in the immediate region was begun. As a result of our work, it is apparent that the tell is currently a well preserved

example of a walled Ammonite town with a complete casemate system and possible gate area. Because no other comparable Iron Age II town with a known gate area has been excavated to date and because the gate area is vulnerable to ongoing construction work of the nearby housing project, a major effort will be made to extend excavations in Area C in 1992.

Secondly, the transition from the late Byzantine to the early Islamic period is not well known in the Tell Jawa area. The presence of a Byzantine building, reused or rebuilt in the Islamic period, offers an opportunity to document stratigraphically this transition. Future work should complete the excavation of the Field D building and sample other structures from the same periods that are visible on the surface of the tell.

Of continuing interest are the Iron Age II structures in Fields A and B. Comparison with the citadel area of Tell el-'Umeiri should enable us to develop models for Ammonite style architecture and town planning. Future seasons should see more extensive excavation of the structures exposed to date as well as the completion of the deep probe (A13) to document the entire occupation history at Tell Jawa.

P.M. M. Daviau
Wilfrid Laurier University
Waterloo, Ontario
Canada N2L 3C5

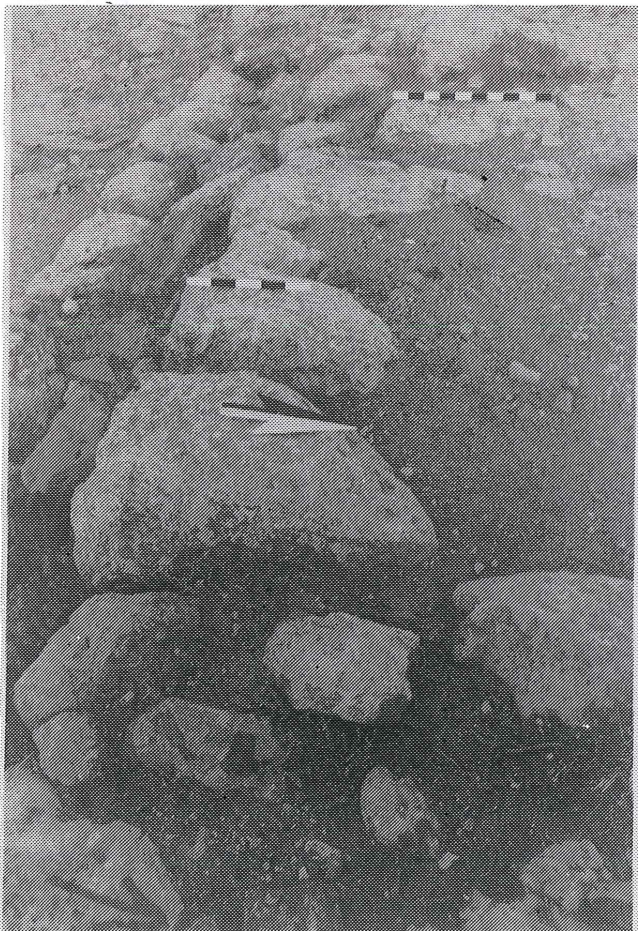
Bibliography

- Abel, F.-M.
1938 *Géographie de la Palestine*, Vol. II. Paris: J. Gabalda.
- Abou Assaf, A.
1980 Untersuchungen zur Ammonitischen Rundbildkunst. *Ugarit Forschungen* 12:7-102.
- Alt, A.
1933 Das Institut im Jahre 1932. *Palestina Jahrbuch*.
- Arndt, M. B.
1987 Lucerne Arabe con Decorazione "a vita" dallo Scavo della Probatca (1956-1967). *LA* 37: 241-289.
- Boling, R. G.
1989 Site Survey in the Tell el-'Umeiri Region. Pp. 98-188 in Geraty, L. T. et al., *Madaba Plains Project I. The 1984 Season at Tell el-'Umeiri and Vicinity and Subsequent Studies*. Berrien Springs, MI: Andrews University Press.
- Daviau, P. M. M.
1991 Ammonite Ceramic Chronology: The Evidence from Tell Jawa. Paper read at the Annual Meeting of the American Schools of Oriental Research, Kansas City, November 23, 1991.
in preparation
Functional Analysis of Food Preparation and Storage Assemblages from Tell Jawa, Jordan.
in press
The First Season of Excavations at Tell Jawa (1989): A Preliminary Report. In *Madaba Plains Project IV. Three Seasons of Excavations at Tell Jawa, Reports and Analysis*. Berrien Springs, MI: Andrews University Press.
- Daviau, P. M. M. and Hasan, J.
in preparation
Ethnoarchaeology in Jordan: Cooking Techniques and Clay Ovens Past and Present.
- Dearman, J. A.
1989 Historical Reconstruction and the Mesha Inscription. Pp. 155-211 in A. Dearman (ed.), *Studies in the Mesha Inscription and Moab*. Atlanta: Scholars Press.
- Dornemann, R.
1983 *The Archaeology of the Transjordan in the Bronze and Iron Ages*. Milwaukee, WI: Milwaukee Public Museum.
1981 The Late Bronze Age Pottery Tradition at Tell Hadidi, Syria. *BASOR* 241:29-47.
- Elitzur, Y.
1989 The Identification of Mefa'at in View of the Discoveries from Kh. Umm er-Rasas. *IEJ* 39: 267-277.
- Geraty, L. T. et al.
1986 Madaba Plains Project: A Preliminary Report of the 1984 Season at Tell el-'Umeiri and Vicinity. Pp. 117-143 in *Preliminary Reports of ASOR-Sponsored Excavations 1980-84*. *BASOR* Supplement No. 24.
- Geraty, L. T. et al.
1989 *Madaba Plains Project I. The 1984 Season at Tell el-'Umeiri and Vicinity and Subsequent Studies*. Berrien Springs, MI: Andrews University Press.
- Glueck, N.
1934 *Explorations in Eastern Palestine I*. *AASOR* 14 (1933-34). Phila.: American Schools of Oriental Research.

- Harding, G. L.
1951 Two Iron Age Tombs in Amman. *ADAJ* 1: 37-40, Pl. XIV.
- Herr, L. G.
1985 The Servant of Baalis. *BA* 48: 169-72.
1989 Organization & Procedures of Excavation. Pp. 213-215 in Geraty L. T. et al., *Madaba Plains Project I. The 1984 Season at Tell el-'Umeiri and Vicinity and Subsequent Studies*. Berrien Springs, MI: Andrews University Press.
1990 The Madaba Plains Project: Three Seasons of Excavation at Tell el-'Umeiri and Vicinity, Jordan. *Echos du Monde Classique/Classical Views* 34/NS 9: 129-143.
- Hirschfeld, Y. and Birger-Calderon, R.
1991 Early Roman and Byzantine Estates near Caesarea. *IEJ* 41: 81-111.
- Kleiner, F. S.
1975 *Greek and Roman Coins in the Athenian Agora*. Picture Book # 15. Pinceton, N.J: American School of Classical Studies at Athens.
- McNicoll, A., Smith, R. H. and Hennessy, B.
1982 *Pella in Jordan I*. Canberra: Australian National Gallery.
- McQuitty, A.
1984 An Ethnographic and Archaeological Study of Tawabeen in Jordan. *ADAJ* 28: 259-267.
- Musil, A.
1907 *Arabia Petraea I. Moab*. Wien: In Kommission bei Alfred Holder.
- Pritchard, J. B.
1964 *Winery, Defenses, and Soundings at Gibeon*. Phila.: The University Museum.
- Schick, R.
1991 Christianity in the Patriarchate of Jerusalem in the Early Abbasid Period, 132-198/750-813. Pp. 51-69 in A. Bakhit and R. Schick (eds.), *The Vth International Conference on the History of Bilad al-Sham: Bilad al-Sham in the Abbasid Period. Volume 2. English Papers*. Amman: University of Jordan Press.
- Simons, J.
1959 *The Geographical and Topographical Texts of the Old Testament*. Leiden: E. J. Brill.
- Yunker, R. and Daviau, P.M.M.
in press
Is Mefa'at to be Found at Tell Jawa (South)? *IEJ* .
- Yunker, R., Herr, L. G., Geraty, L. T. and LaBianca, O. S.
1990 A Preliminary Report of the 1989 Season, Including the Regional Survey and Excavations at El-'Dreijat, Tell Jawa, and Tell el-'Umeiri (June 19-August 8, 1989). *Andrews University Seminary Studies*. 28: 5-52.
- Zayadine, F.
1981 Recent Excavations and Restorations of the Department of Antiquities. *ADAJ* 25: 341-355.
- van Zyl, A.
1960 *The Moabites*. Leiden: E. J. Brill.



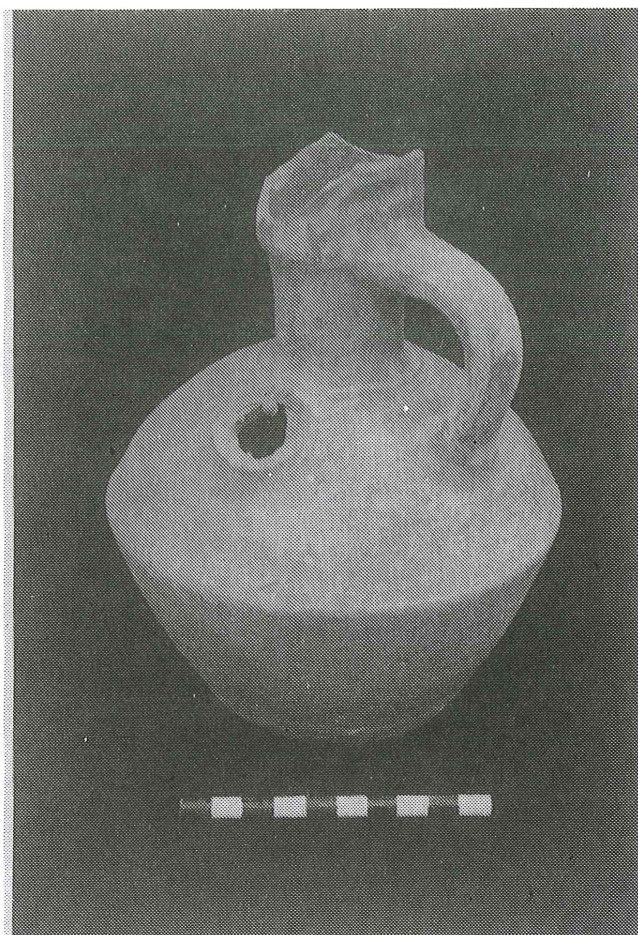
1. Square B63 with *Tabun* 30 in the foreground and *Tabun* 29 in the background.



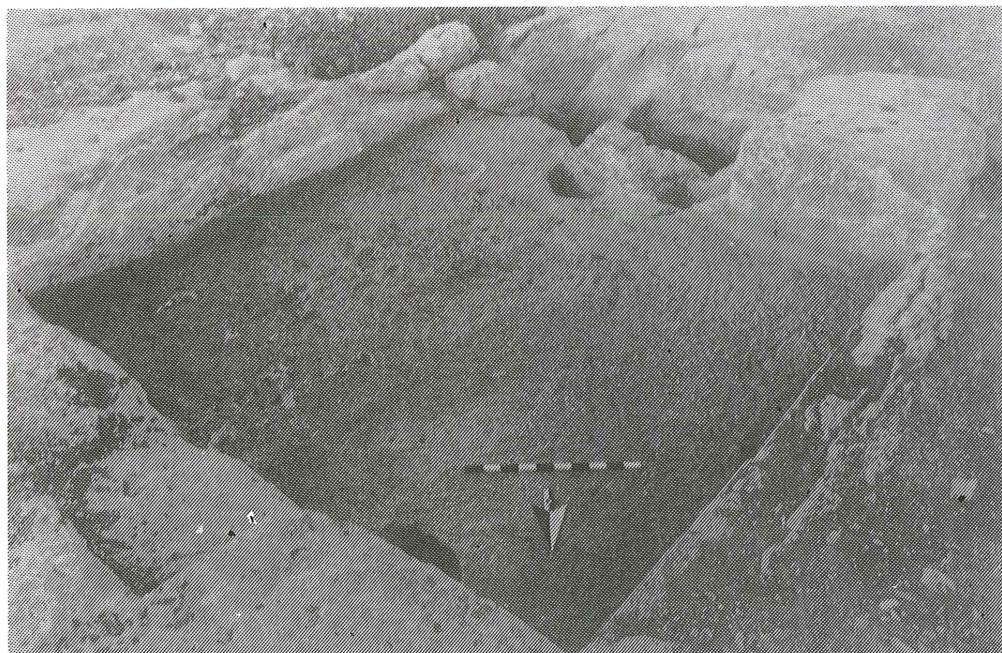
2. Southeast tower in Field C viewed from the east.



1. Orthostats and stone basin in C17.



2. Late Byzantine-early Islamic jug (D12, L,4), TJ138.



3. The wine press in Field M with Treading Floor A in the foreground.