

# MĀDABĀ PLAINS PROJECT 1994: EXCAVATIONS AT TALL AL-‘UMAYRĪ, TALL JALŪL AND VICINITY

by  
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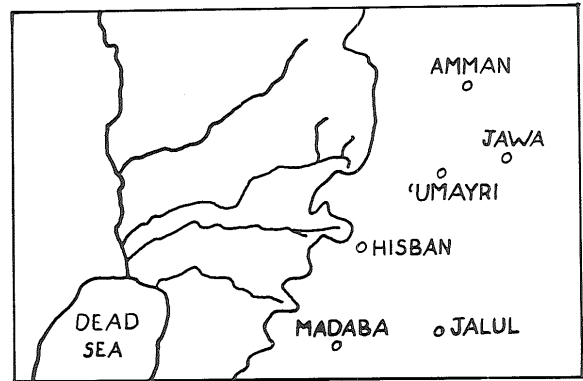
## Introduction

A fifth season of excavation and survey by the Mādabā Plains Project occurred between June 17 and July 31, 1994. It was again sponsored by Andrews University in consortium with Canadian Union College, La Sierra University, Walla Walla College, with help from the Levant Foundation, Poland and Cincinnati Bible Seminary. Full reports have already been published for the first season of 1984 (Geraty *et al.* 1989) and the second season of 1987 (Herr *et al.* 1991a). Preliminary reports have also been published (Geraty 1985; Geraty *et al.* 1986-1990; Younker *et al.* 1990 and 1993; Herr *et al.* 1991b and 1994; LaBianca *et al.* 1995).

This season, a team of about 110 persons took part at various times in the interdisciplinary project, which included excavations at Tall al-‘Umayrī, surveys and soundings within a 5 km radius of ‘Umayrī, excavations at Tall Jalūl, and a survey within a 5 km radius of Jalūl (Fig. 1).

Once again the theoretical objectives of the project focused on cycles of intensification and abatement in settlement and land use in this frontier region between the desert and the sown, especially the involvement of the ancient Ammonites during the Iron Age. Central to this focus was the study of the food systems employed by the inhabitants through time (for a full discussion of this theoretical framework, its history, and previous work done in the region see Geraty *et al.* 1986: 117-119).

The implementation of these objectives were refined during the 1994 season by enlarging the regional survey to six teams, each with its own primary objective; by

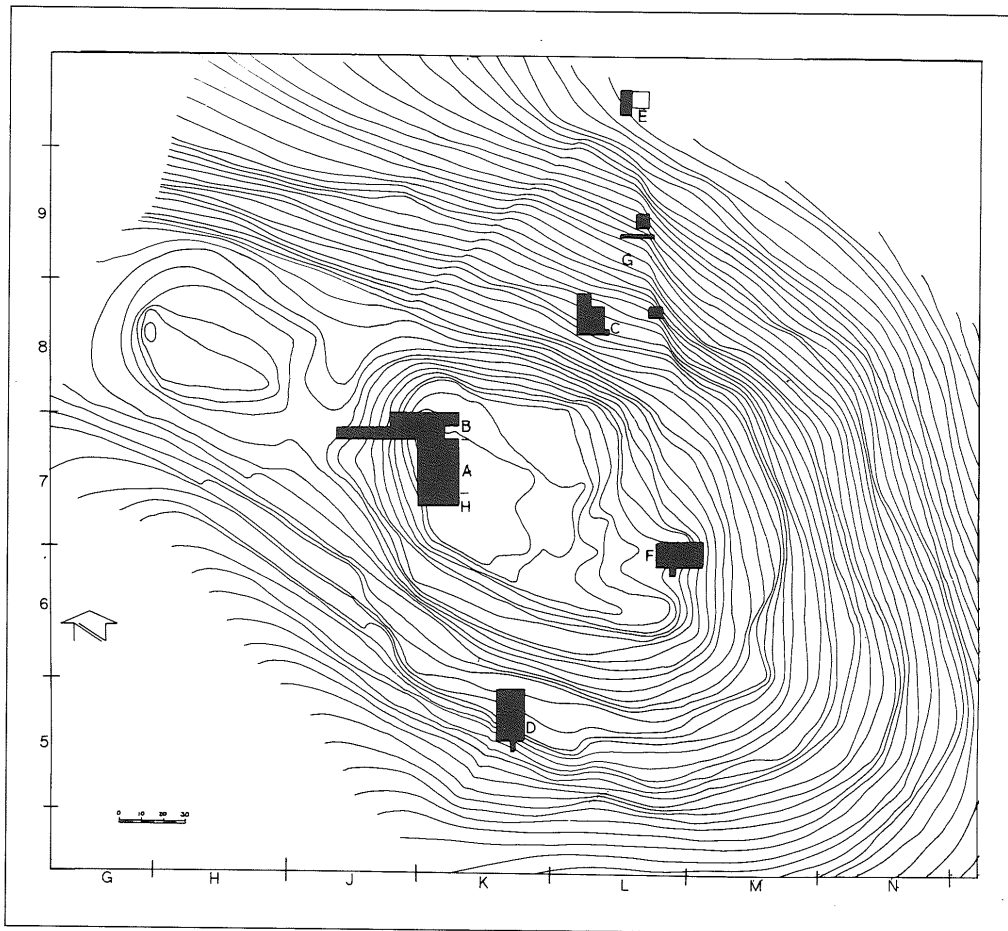


1. Map of the Mādabā Plains region.

probing deeper in the fields of excavation at Tall al-‘Umayrī; and by expanding excavations at Tall Jalūl, the central site of the eastern Mādabā Plain during the Bronze and Iron Ages.

## STRATIGRAPHIC EXCAVATIONS AT TALL AL-‘UMAYRĪ

In 1984 four fields of excavation were opened (Fields A, B, C, and D) (Fig. 2). In 1987 three of the four were expanded (Fields A, B, and D), one was completed (Field C), and two new fields were opened (Fields E and F). In 1989 one was expanded (Field A), three reopened old squares and expanded slightly (Fields B, D, and F), another reduced excavation from two squares to one (Field E), and another field was opened on the north slope (Field G). In 1992 three fields deepened previously opened squares (Fields A, D, and F), one deepened existing squares while expanding by one square (Field B), and two fields were discontinued (Fields E and G). This season, excavations went deeper in Field A, expanded and deepened in Field B, and added Field H south of Field A.



2. Tall al- 'Umayri:  
Topographic map  
with fields of ex-  
cavation.

**Field A: The Ammonite Administrative Complex (John I. Lawlor)**

Previous excavation on the western rim of the site has produced a significant administrative complex of buildings from the end of the Iron Age and the Persian period. Small hints of Iron I and early Iron II material were found in four squares. This season, the three squares farthest north were deepened to reach Iron I remains in order to connect with the architecture of that period in Field B. These included 7K70 at the northwest corner of the field, 7K71 immediately to the east, and 7K72 at the northeast corner of the field. There is now evidence for thirteen phases stretching from the Late Bronze Age to Ottoman times. However, this season, excavations did not deal with the earliest phases. Because of inability to connect the phasing of the major administrative buildings in the southern part of the field

with that to the north, the stratigraphy for the northern portion of the field has been re-numbered with a capital "N" following the phase number.

*Field Phase 9N* (FP 10 in the 1992 reports). The top of the bricky destruction debris of the early Iron I settlement made up this phase. No floors were reached. The southward sloping of the top of the destruction debris suggests that it came from a building to the north in Field B.

*Field Phase 8N* (FP 9 in the 1992 reports). On top of the sloping destruction layers of Phase 9 the plaster surfaces of this phase were laid. No walls were uncovered to go with the surfaces, but they contained Iron I pottery.

*Field Phase 7N*. After layers of fill were added to level the sloping surfaces of Phase 8N,

the eastern portion of a building apparently dating to Iron I was found. So little was in our excavated area, however, that neither its size nor function could be clearly determined. A stone bench may have been constructed on the exterior of the building.

*Field Phase 6N* (FP 8 in the 1992 reports). After a period of abandonment, a new surface was laid in the building found in Phase 7N. It may have been connected with part of a storeroom found immediately to the northwest in Field B in 1984 (for a plan see Herr *et al.* 1991: 62). East of the building was a rectilinear stone line that may have been a border for a small lane next to the building. Farther east were several wall fragments, probably of domestic buildings. The pottery dated to the early Iron II period.

*Field Phase 5N* (FP 6B in the 1992 reports). This is the first phase of the late Iron II to Persian administrative complex and associated domestic buildings (for a plan see LaBianca *et al.* 1995: 105). To it belongs a large room in the northeastern part of the domestic building immediately adjacent to the public buildings. Only an exterior exposure surface was found in use with the walls.

*Field Phase 4N* (FP 5 in the 1992 reports). The room of Phase 5N was sub-divided by a wall (already in the plan in LaBianca *et al.* 1995: 105), probably to support a roof or second story, and a plaster surface was laid. On this surface was found a corpus of typical Ammonite pottery vessels, including seven cups, five triangular-shaped bowls, two hemispherical bowls, and four lamps (Fig. 3). The cups and bowls all had simple rims with a ridge below the rim exterior, typical of one strand of Ammonite bowls. Moreover, all seven cups were made by the same potter so they would neatly nest inside one another. The same was true of the triangular bowls and the hemispherical bowls. The lamps were virtually identical in shape,

typical of the Iron II– Persian transition.

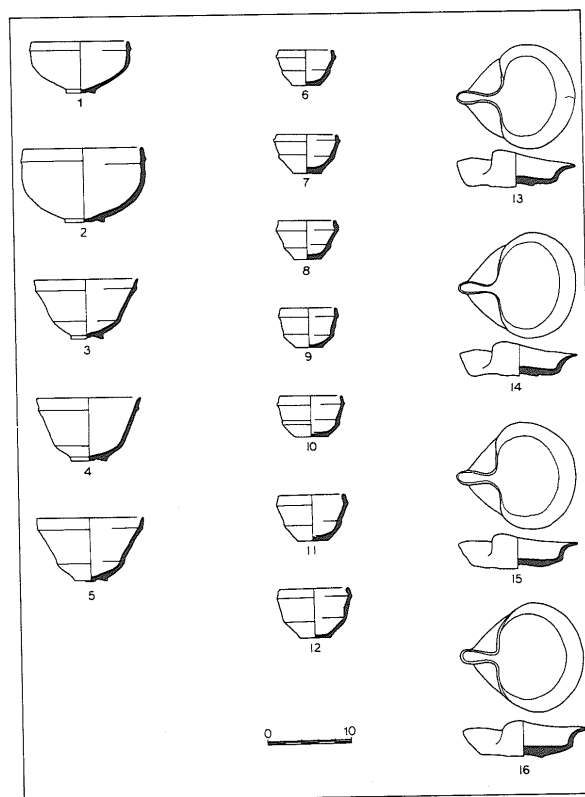
*Field Phase 3N* (FP 4 in the 1992 reports). Several minor adjustments were made to the architecture of the domestic complex of the preceding phases. Finds on the associated floors confirmed the domestic interpretation of the rooms and the Early Persian date.

*Field Phase 2N* (FP 2 in the 1992 reports). The ritual pool (see Herr *et al.* 1991: 38-40 for photographs) was dismantled this season. Among the stones in the foundation was a fragment from a Late Hellenistic fish plate, confirming its post-Persian date (most likely Early Roman).

*Field Phase 1N.* This phase included a pit dug into the area following the 1987 season.

**Field B: The Western Defenses and NW Domestic Quarter** (Douglas R. Clark)

Work centered on two goals in Field B



3. Cache of Ammonite pottery from floor in Field A.

this season. Outside the fortification wall at the top of the western slope a section was cut through the rampart to determine its construction and the date of its retaining wall. This work attained bedrock in the complete section except for the debris beneath the retaining wall. The second goal was to expose more of the extremely well-preserved transitional LB/Iron I city in the northwest corner of the site to help suggest a city plan and to collect more evidence of material culture and perhaps make suggestions regarding the massive destruction of the site.

*Field Phase 12.* Late in the Middle Bronze II period a massive rampart system was constructed on the western side of the site, if not around the complete site (Fig. 4). Moreover, because the bedrock topography of the hill upon which the original EB town was built was only slightly higher than that immediately outside the town to the west, the rampart builders increased the apparent height of the rampart by digging a dry moat almost 5 m deep through the bedrock ridge which connected the site to the hills to the west (Fig.4:no.15). By lowering the point at which the rampart began to ascend, it could be steeper and higher (Fig.4:no.10). The bottom of the moat was flat and cleanly cut, but the sides were apparently not. No sign of a retaining wall was found for the rampart and it would seem that the rampart began its slope from the eastern edge of the dry moat bottom.

The rampart itself was only clearly defined near the top. The western, lower segments were destroyed when bedrock collapsed during an earthquake dated to about 1200 BC. Subsequent erosion destroyed virtually all of it except in pockets. The top of this rampart was discovered in a sounding beneath a later casemate room (Fig. 4: no. 6). The latest pottery from the rampart belonged to the very end of the Middle Bronze Age and included Chocolate-on-white ware.

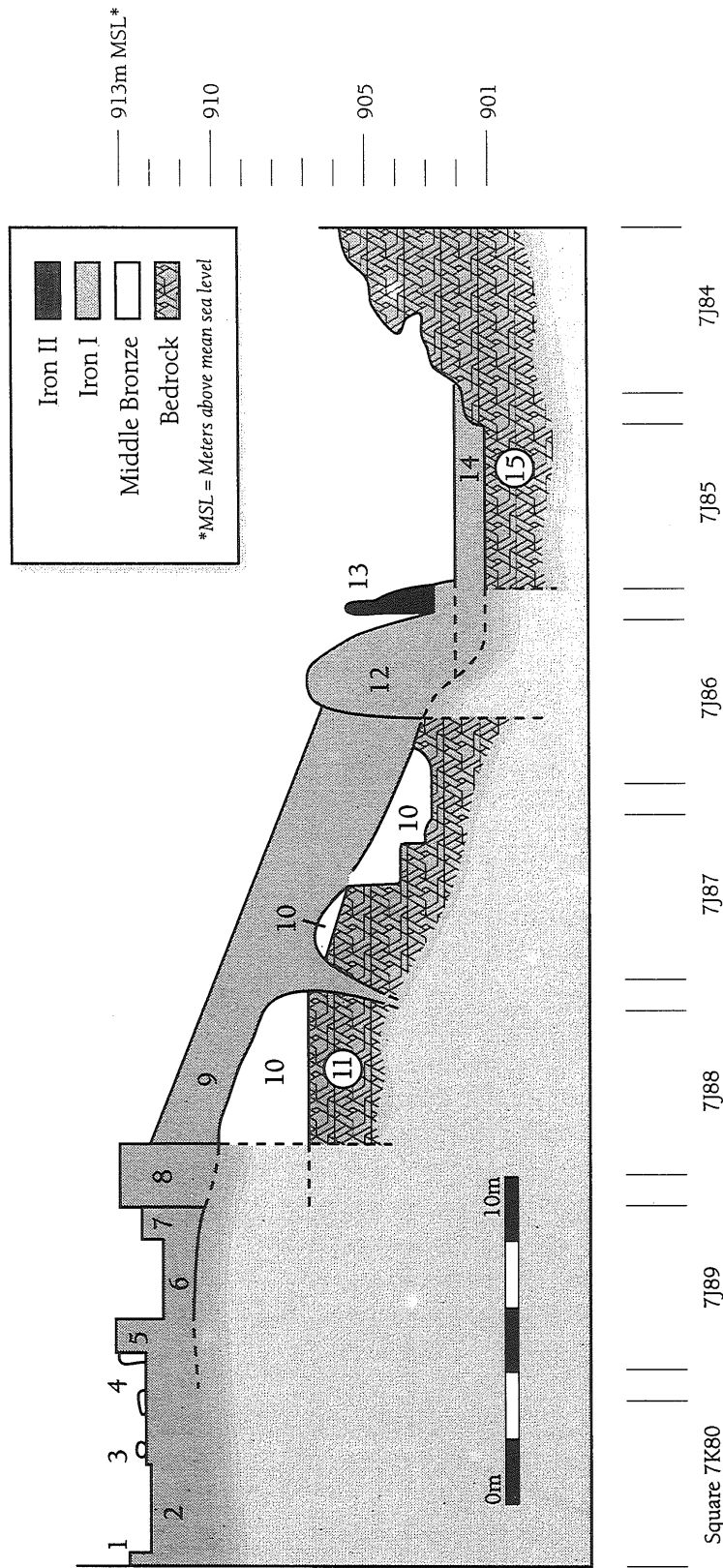
*Field Phase 11B.* This phase is inferred from later rampart deposits. That is, when the LB/Iron I rampart was built on top of the MB IIC rampart, it included LB/Iron I pottery from a settlement that must have been present prior to the construction of the rampart and the city that went with it (Phase 11A). Phase 11B was destroyed by an earthquake which caused the erosion of the MB IIC rampart by the collapsing bedrock beneath it.

*Field Phase 11A.* The earthquake which brought about the end of Phase 11B forced the construction of a completely new fortification system and city within it. Most of the moat was re-excavated, leaving about one meter of MB IIC debris in the bottom (Fig.4:no.14). A brand new rampart (Fig. 4: no. 9) was supported by a retaining wall at the bottom (Fig.4:no.12); it filled the bedrock fissures opened by the earthquake. The rampart ran up to the outer wall of a casemate fortification system (Fig. 4: no. 8). One of the casemate rooms had been excavated in previous seasons (Fig.5: Room A3). This season, a second casemate room was excavated (Fig.5: Room B4). The southern third of the room was paved with flagstones and two stones, which may have supported wooden posts that held curtains at one time, separated the stone pavement from a dirt floor in the northern part. The room was lined with ca. 20 collared pithoi. If these two rooms constitute a true casemate wall system, it is the earliest one so far known from Palestine.

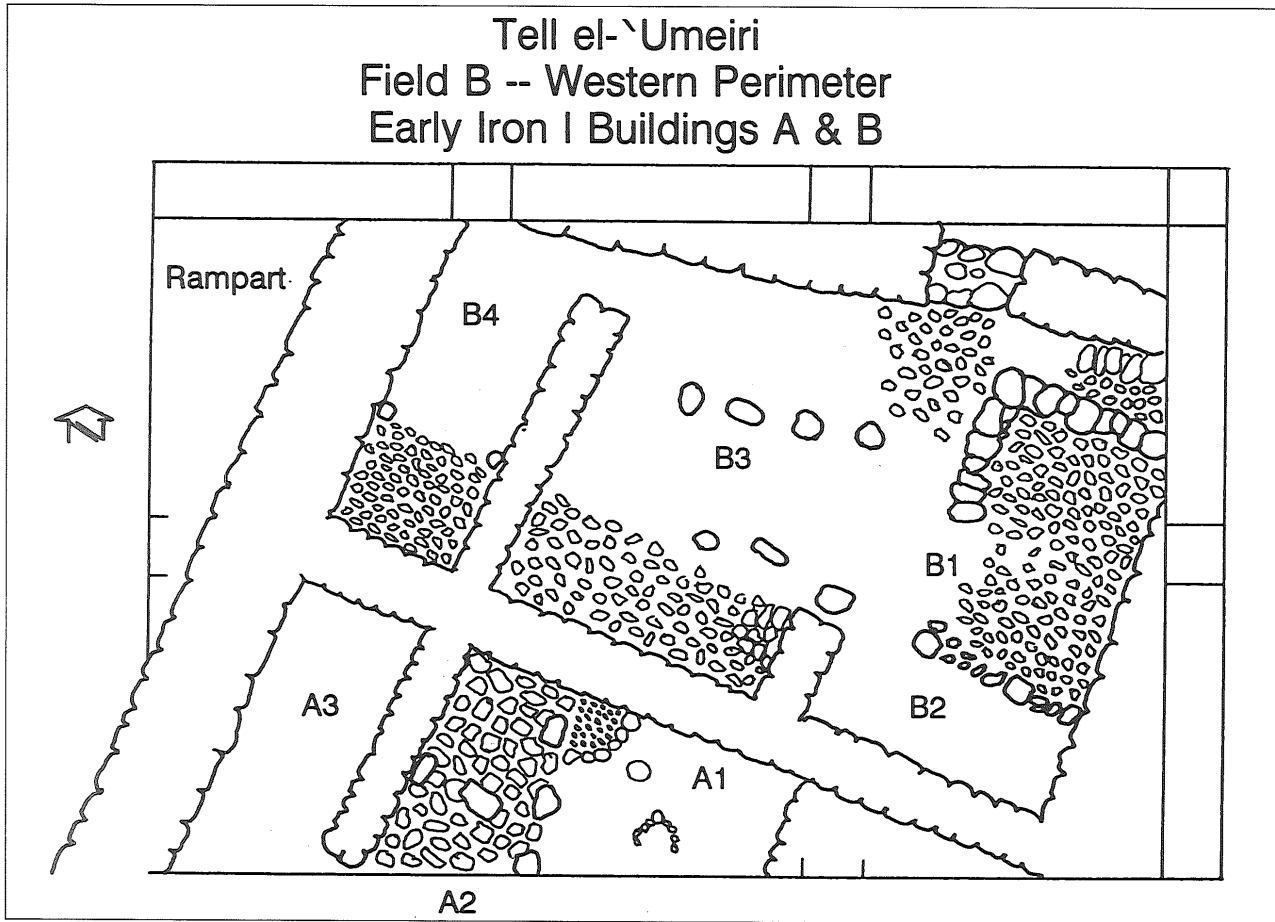
The casemate rooms were actually parts of houses lining the periphery of the site. Building A (made up of Rooms A1, A2, and A3 on Fig. 5) was excavated in previous seasons. This time, Building B was uncovered in a four-room house plan (Fig. 5: Rooms B3 and B4). Room B3 was actually made up of three rooms separated by wooden posts for which we have found the stone bases. The side rooms of Room B3 were paved with flagstones but very few artifacts were found

# Tell el-'Umeiri

## Section of Western Defense System-Field B



4. Section sketch of the fortification system at the western slope of Tall al-'Umayri.



5. Sketch plan of the LB/Iron I buildings in Field B at Tall al- `Umayri.

on the floors. It is unclear at present where the eastern end of Building B is to be located. The well constructed doorway in the northern wall of the building suggests yet another building to the north (to be excavated next season). If so, this is an exterior doorway. It may be suggested tentatively that Rooms B1 and B2 actually comprised a courtyard with access to two houses, one to the west (Rooms B3 and B4) and one to the north. The ephemeral walls in Room B1/B2 may have been animal pens, but, again, very few finds were made on the floor. An alternative suggestion for the threshold leading out of Room B1/B2 is that it was the main door to Building B from a street immediately north of our excavation.

The destruction of this city was violent and immediate. In some places over two meters of destruction debris covered the floors. The lowest levels of the destruction con-

tained scores of burned wooden beams, piles of seeds, and discolored bricks from the upper portions of the walls (the second story—the stone portions of the walls are already preserved over two meters high in places). Many objects tumbled into casemate Room B4 from the second story. Approximately 20 more collared pithoi covered those already lining the edges of the room; four bronze weapons were found in the debris, as was an alabaster vessel and the burned, scattered bones of at least two individuals caught and burned in the destruction. The pottery from the destruction is virtually identical to that found in the rampart and dates to the very end of the Late Bronze Age and the very beginning of Iron I.

Who built this city and who destroyed it? It is possible from the literary sources to suggest several alternatives. The most obvious choice for the builders would be the emerg-

ing Ammonites who were clearly in this territory by Iron II, but were probably already present in Iron I. An important alternative would be the Israelite tribe of Reuben as suggested by Cross (1988). Other possibilities include the Amorites connected with the kingdom of Sihon as mentioned in *Numbers 21*. The ceramic finds cannot be used to suggest ethnicity, but it should be remarked that they fit the assemblages of other highland sites rather than those of coastal and valley sites. The destroyers could have been Ammonites, Israelites, Midianites, or even the Egyptians under Merneptah.

*Field Phase 8.* A phase of pits dug into the Phase 11 destruction and filled with Late Iron II debris had been discovered in 1984 (Geraty *et al.* 1989: 254, plan). Two more pits were excavated this season, widening the area in which pits were found to about 4.5 m east-west by 3.0 m north-south. The pits were not all contemporary because some of them were dug into each other. Most likely they were garbage pits dug by the early founders of the administrative complex in Fields A and H.

*Field Phase 7.* In 1984 a stone-lined silo was assigned to this phase (Phase 2 in 1984; Geraty *et al.* 1989: 254-255). This season several architectural fragments were tentatively ascribed to the phase, but, because of their fragmentary nature and the lack of surfaces, no coherent picture could be gained. The walls were found primarily in one square on the easternmost fringes of the field. The pottery found in two associated earth layers was Late Iron II to Early Persian.

*Field Phase 6.* Previous excavation uncovered fragmentary walls and surfaces to which more wall fragments were added this season. The resulting picture includes a possible alley between two rooms. The presence of domestic objects on the floors suggests that function for the rooms. The pottery was

typical of the Late Iron II to Early Persian horizon at al-'Umayri.

*Field Phase 5.* Above one Phase 6 wall was another that we tentatively identify with Phase 5, another Early Persian phase. However, no other evidence can confirm this date.

*Field Phase 3.* The ritual pool dismantled in field A (Phase 2N) also extended into field B. Its height from the top of the surviving plaster step to the bottom of the stone foundation was almost two meters.

*Field Phase 2.* In earlier seasons a large trench pit surrounding the ritual pool was excavated. It contained many significant artifacts (Clark 1991: 72-72, Phase 1). This season, three earth layers were associated with this phase, though they were found north of the trench-pit. Objects were, however, relatively rich, including a figurine fragment, a seal impression (object no. 5080), and a spindle whorl.

*Field Phase 1.* Topsoil included two ephemeral wall lines that were probably related to nomadic camps or agricultural fields. One of the walls was at least 10 m long. The latest pottery in topsoil was Byzantine.

#### **Field H: The Southwestern Administrative Complex (Lloyd A Willis)**

In 1989 and 1992, ground penetrating radar examined the unexcavated area to the south of Field A. The results suggested more walls of similar size and orientation to those already discovered in Field A. Thus, a new field was laid out with the ultimate purpose of connecting Field A to the southern edge of the site and exposing more of the thick-walled administrative buildings that seemed to extend south of Field A. Three squares were opened immediately south of Field A: 7K30 in the west, 7K31 in the middle and 7K32 in the east. All squares found significant re-

mains of late Iron II and Persian architecture.

*Field Phase 8.* This included a very thick wall (almost 2 m wide) that may be the western wall of the administrative compound or perhaps served a double purpose duty as a site fortification wall, as well. No surfaces were reached, but the pottery in the fills around the wall was late Iron II-Persian.

*Field Phase 7.* Additional walls were added to the large Phase 8 wall, but the excavated area was too small to make a coherent plan and ascribe a function. Still no surfaces were found. The pottery again dates best to the late Iron II and Early Persian period.

*Field Phase 6.* Walls from this phase were found throughout Field H and probably represent a major building of the administrative complex. However, the remains can not yet be related securely to the phasing of Field A. It may be that they represent the second of the major periods of the complex. Pottery again dates to the late Iron II and Early Persian periods.

*Field Phase 5.* This phase included minor adjustments to the walls of Phase 6 and some robbing of walls.

*Field Phase 4B.* Two large parallel walls stretched across the field from east to west and were probably part of a new administrative structure. One of the floors may have been paved with flagstones. For the first time, one of these buildings extends east of our excavated area. Future excavation to the south will undoubtedly expose an impressive structure. A possible tower was erected at the western edge of this structure at the perimeter of the site. Pottery was consistently Early Persian in date. Small additions to the walls were labeled as Phase 4A.

*Field Phase 3.* Modifications to the walls of Phase 4 comprised Phase 3.

*Field Phase 2.* Again, the major walls of the two preceding phases were reused, but with an entirely different function. Apparently, the administrative functions had ceased. Instead, a bin, suggesting domestic occupation, was added to one of the rooms. Also a small building seems to have been built west of the main structures. This reuse of the administrative area by residences confirms similar observations from Field A. The pottery was still Early Persian, however.

*Field Phase 1.* After the site was abandoned long enough for all walls to be destroyed, the top of the tall was converted to an agricultural field by constructing a terrace wall and clearing the field of small stones. These stones were thrown over the side of the mound and covered the ancient walls in the western part of the field. Among the broken pottery and stones thrown over the walls were large amounts of artifacts, including 14 grindstones, nine figurine fragments (especially objects no.5029: horse's head with painted bridle; no.5030: lion's head; no.5055 and no.5081: anthropomorphic fragments) and one coin. Objects from other locations in topsoil included a pair of silver earrings (object no.5120); an anthropomorphic figurine of a male rider (object no.5126); and a bull's head figurine (object no.5127); 11 grindstones or fragments of mortars; a jar handle with a seal impression (object no.5154); several jewelry items (beads, bead fragments and bracelet fragments); a needle fragment (object. no.5109); two scaraboid seals (object no.5009 [with an inscription reading *l'ln bn brk'l*: Figs. 6 a and b] and no.5167; the latter depicted a Mesopotamian figure); a trilobate arrowhead (object no.5018); fragmentary figurines included several anthropoid ones (one was a man with a sash: object no.5046); a life-size human nose, (object no.5039); an LB female plaque (object no.5216), and several zoomorphic figurines (objects no. 5042, no.5043, and no. 5045).





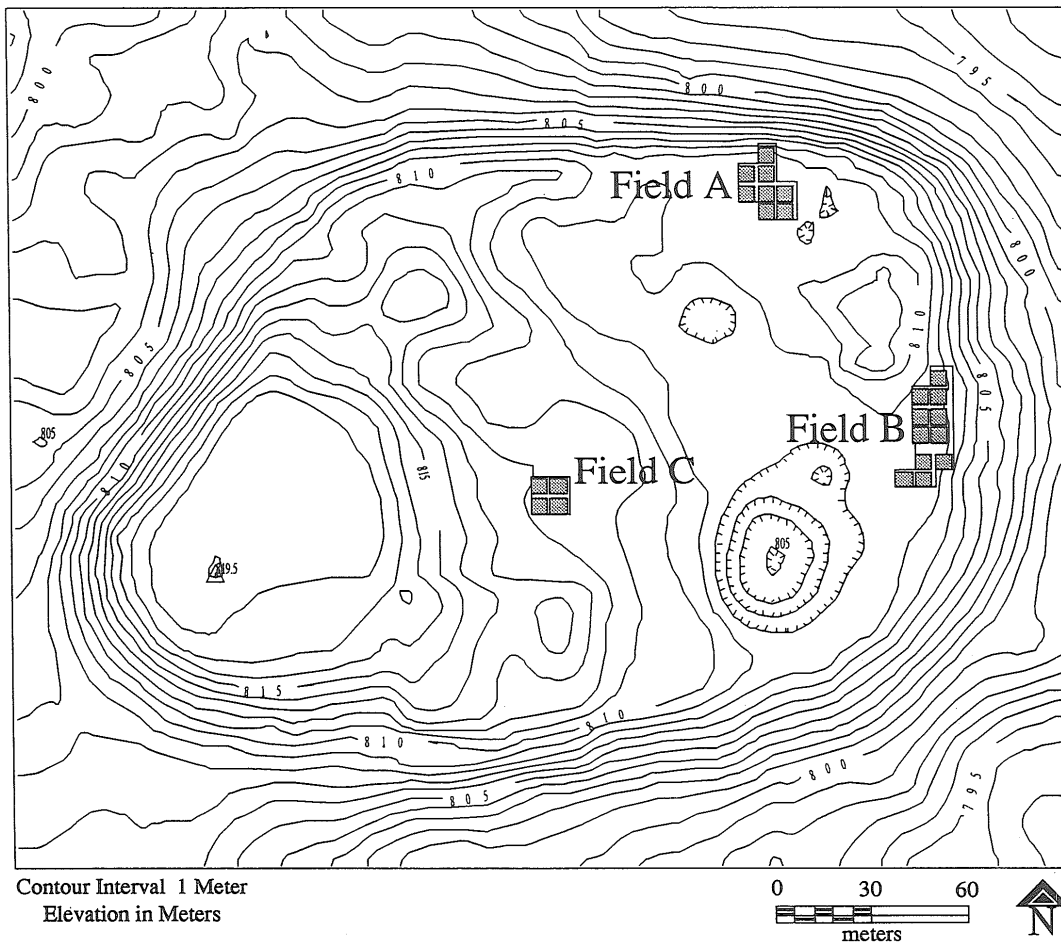
6a and b. Inscribed seal from Field H. (Photos by B. Zuckerman).

**TALL JALŪL**

In 1994 excavations at Tall Jalūl (directed by R. Younker and D. Merling) were continued in both Fields A (north side of the tall) and B (east side of the tall), while a new field, Field C, was opened in the center of the tall, just below and east of the acropolis (Fig. 7).

**Field A: Northern Buildings**  
(Zeljko Gregor)

*Field Phase 14.* As in the 1992 season, the earliest phase was represented by a series of wind-blown (?) ashy lenses containing a significant number of Iron I pottery including carinated bowls and collared-rim store jars.



7. Topographic map of Tall Jalul with fields of excavation.

*Field Phase 13.* The earliest architectural phase included a small domestic (?) building with three partially preserved walls of roughly-hewn stones located in the western part of the Field. A portion of a plastered floor sealed against one of the walls. Ceramics under the walls and floor date this room to about the ninth century BC.

*Field Phase 12.* The next phase was a period of abandonment represented by a layer of debris accumulation on the surface of the plastered floor of Phase 13.

*Field Phase 11.* The room of Phase 13 was rebuilt; portions of three well constructed limestone walls survived from this architectural phase which is dated by pottery to about the eighth century BC.

*Field Phase 10.* Another period of abandonment occurred during which some of the stones from the walls of the building of Phase 11 were robbed.

*Field Phase 9.* What appears to be a tripartite pillared (or four-room) building was excavated in the two eastern most squares of field A (Fig. 8). While some of the monolithic stone pillars had fallen over toward the northeast (earthquake activity?), four of them were still *in situ*. The central room had a floor of hard-beaten earth, while the side

rooms, which paralleled the central room, were paved with flagstones. The western wall of this building (which was the most exposed) was 12 m long. Pottery under the flagstones included well-known seventh century BC Assyrian bowls. Figurines (Fig. 9a-d) from this phase included: a head of a crowned male similar to the statues and figurines in the Amman region; the upper portion of a typical female figurine; a lion figurine; and fragments of a couple of 'horse and rider' figurines.

*Field Phase 8.* This is an abandonment phase represented by accumulated debris found below the Iron II/Persian period pavement of Phase 7.

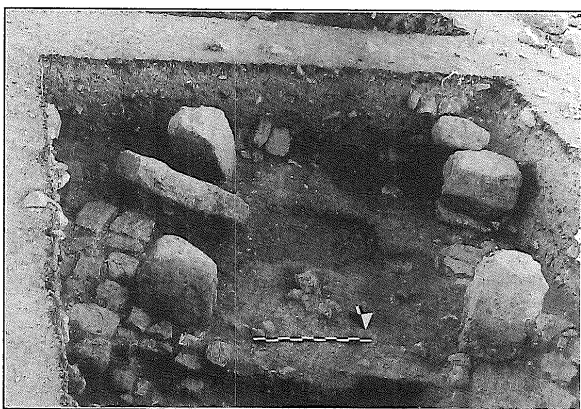
*Field Phase 7.* This phase was made up of a pavement west of the pillared building of Phase 9. Pottery under the pavement dated it to the late Iron II/Persian period.

*Field Phase 6.* A destruction/abandonment phase consisting of rock tumble and ashy layers succeeded the pavement of Phase 7.

*Field Phase 5.* In the western portion of Field A was uncovered a poorly built, semi-circular wall of uncertain purpose. To the north of it and running in an east west direction was a well built wall of an apparently separate building. Both of these structures dated to the Persian Period (fifth- fourth centuries BC).

#### **Field B: The Gate Complex (James Fisher)**

*Field Phase 7.* A paved approach ramp from the early Iron II (tenth/ninth century BC) was discovered during the 1992 season. This year we continued to trace it south west up the slope to the crest of the tall to the threshold of what appears to be an outer gatehouse of the city gate (Fig. 10). Three of four piers still survive. The stones of the main city gate, itself, appear to have been robbed out, probably during Phase 5 (below). One east west



8. Monolithic pillars of the tripartite pillared building at Jalül.



9a-d. Figurines from Tall Jalul, Field A: a) crowned figurine playing flute; b) female figurine; c) lion figurine; d) horse's head from "Horse and Rider" figurine.

line of large stones located immediately south of the outer gatehouse, may have been part of the main gate, although the stratigraphic position of this wall line remained uncertain at season's end.

*Field Phase 6.* This phase comprised a destruction/abandonment phase of nearly a meter of debris which accumulated over the architectural remains of Phase 7. The pottery from these layers dated to early Iron II



10. Early Iron II paved entry and outer gatehouse in Field B at Tall Jalūl.

(ninth/eighth centuries BC).

*Field Phase 5.* In addition to parts of the paving stones of the approach ramp and its associated retaining wall on the west side (discovered during the 1992 season), it appears that much, if not most of the city gate of Phase 7 was robbed.

The remaining phases correspond to those reported in 1992; there are no significant details to add to last season's report.

#### Field C (Penny Clifford and Richard Dorsett)

*Field Phase 10.* The earliest architectural phase was found in Square C4 where a short segment of a well-built wall running in a north-south direction was uncovered. Although it was not possible to date the wall this season, its position directly under an Iron II wall and the occurrence of mudbrick collapse with Iron I (and earlier pottery) immediately to the west suggests it could date to Iron Age I.

*Field Phase 9.* Collapsed mudbrick in Squares C3 and C4 containing Iron I sherds (and earlier forms) suggests the destruction of an Iron Age I building. The stone wall line of Phase 10 found in C4 may represent part of the foundation for this building. Objects within the debris included a number of stone, glass, and frit beads from a necklace, a couple of oil lamps, and the base of a chalice.

*Field Phase 8.* A short stretch of a stone wall dating from Iron Age II was found in Square C4 immediately above (although slightly to the west) and in the same orientation as the Phase 10 stone wall. The wall was approximately 0.75 m in width.

*Field Phase 7.* This phase represents the destruction of the Phase 8 wall.

*Field Phase 6.* A well-built stone wall which ran in a north-south direction across the entire length of Square C2 (5 m) and halfway through Square C4 was founded in the destruction of Phase 7. It was oriented in the same north-south line as the Iron I (?) and Iron II walls in Square C4. It appears to represent the first architectural phase of the eastern wall of a Persian period building of uncertain purpose. In Square C2, on the well-beaten earthen floor of this building, was found a stone roof roller. A small, approximately 10 cm square limestone altar was found within the debris of Square C1 (Fig. 11).

*Field Phase 5.* A second architectural phase of the Phase 6 building appears to consist of a small stretch of wall in Square C4 which abutted the southern end of the Phase 6 wall,



11. Side view of a small stone altar from the Persian period at Tall Jalūl.

and then formed a corner which turned to the west in Square C4. Part of this westward running wall appeared in the northeast corner of Square C3.

*Field Phase 4.* Debris from the destruction and abandonment which followed Phase 5 comprised this phase.

*Field Phase 3.* The bottom-most course of a poorly constructed wall, which ran across Square C2 in the same orientation as the Iron I (?), Iron II, and Persian walls, was dated to the Late Persian period.

*Field Phase 2.* This phase included a fairly long period of abandonment after the ephemeral structure of Phase 3 went out of use.

*Field Phase 1.* This phase included the recent accumulation of topsoil and subsurface debris.

#### HINTERLAND INVESTIGATIONS

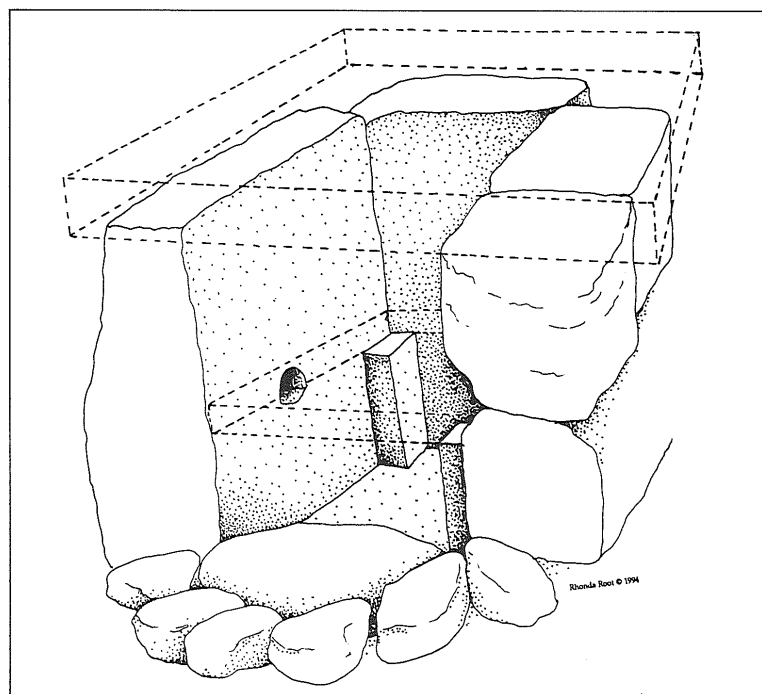
Seven hinterland teams investigated separate archaeological problems in the al-'Umayri region. They included dramatic tomb finds from the Bronze Age on the

southern slope of Tall al-'Umayri; a very well-preserved rural agricultural site ca. 2 km south of al-'Umayri; the determination that the Khirbat Rufeis cave inscription dates to the Early Islamic Age; two detailed surface surveys of both al-'Umayri East and al-'Umayri North; a random squares survey of the Tall Jalul region; and an ethnographic survey which included the reconstruction of ancient cisterns for modern use.

#### Funerary Sites near Tall al-'Umayri (Bogdan Dabrowski)

Three funerary sites were investigated, two on the southeast slope of Tall al-'Umayri and one across the highway in the valley southeast of the site. All were from the Bronze Age.

*Megalithic Tomb.* The most remarkable funerary find was a U-shaped structure constructed of very large hewn stones, similar to a dolmen (Fig. 12). Indeed, the only factor causing us to be somewhat hesitant in classifying it as a dolmen is the lack of the top stone. However, a large stone that could have been from a dolmen is located on top of the site, standing on edge. The *in situ* struc-



12. Architectural plan and section of the megalithic tomb from Tall al-'Umayri.

ture measured 3.2 m long, 2.7 m wide, and 1.8 m high, while the interior measured 1.9 x 1.0 x 1.8 m respectively. The interior seems to have been divided into two chambers, one on top of the other, probably by means of wooden beams. The eastern side of the structure, now open, was at least partially built over, creating a kind of porthole.

The interior contained an impacted bone heap, with some traces of articulation, comprising twenty individuals based on the number of skulls. Among them were 20 complete ceramic vessels, including nine medium large-necked jars (some with ledge handles and columned spouts), two juglets, and nine small cups. A few contained line-painting. While the vessels were concentrated in two deposits which seemed to correspond to the two chambers in the tomb, the bones seemed to be limited to the upper chamber. All the pottery dated to EB IB. Additional finds included flint tools, two rows of beads, and three spindle whorls.

The exterior context of the tomb was difficult to determine owing to limited excavation. However, irregularly placed boulders were piled against the structure, suggesting its original form was possibly a cairn. A plastered surface may have surrounded the structure as well. No other remains of dolmens or other megalithic structures are visible at the site. The reason for the preservation of the tomb was its location on the lower slopes of an actively settled contemporary site; occupational debris eroded down the slope and covered the tomb, preserving its form and contents.

*EB IV-MB IIA Cemetery.* In a large shaft-tomb cemetery discovered by construction activities in 1992 and partially excavated by Waheeb and Palumbo (1993) our team surveyed the area of the cemetery extending ca 500 m north south and 400 m east west. Five shaft tombs were excavated. One contained a four-spouted lamp, the others a four-spouted lamp and a jug; a bronze dagger; two lamps

and a spindle whorl; and the last two lamps. Some of the tombs had MB IIA vessels, as well. Two cistern-like structures were also excavated. These contained large pottery fragments from EB IV to MB IIA and significant quantities of flint debitage. They thus seem to be contemporary with the shaft tombs and may indicate a settled population nearby (Waheeb and Palumbo 1993: 153). Another suggestion, based on the location of the tombs and cisterns in the same area, sees the cemetery itself serving as the settlement, that is, a seasonal campsite for pastoralists (Zohar 1992: 55). This is supported by the survey which found twice the number of cistern-shaped features than of tombs, indicating that to call the site exclusively a cemetery is improper.

*MB IIC Cave Tomb.* For the first time we have found a tomb related to a period when the site was occupied toward the very end of MB IIC when a rampart secured the city. The burial cave was entered by a stepped gangway. Inside the cave were 15 articulated skeletons, including one in a niche and four of children. Several intact vessels were found, including one platter, one carinated bowl, two round-bottomed jugs, one Chocolate-on-white jug, three dipper juglets, four jars, and one lamp; one dipper juglet was found inside a jar. One of the juglets had such a shortened form that it could suggest the tomb was used into the very beginning of LB I.

#### **Sixth-Century BC Rural Complex (David C. Hopkins)**

Earlier seasons of survey work in the al-'Umayri region have located scores of rural agricultural sites consisting of stone structures surrounded by food production and processing installations. One of these, surprisingly well-preserved, was fully excavated this season. Erected on bedrock and nearly 10 x 10 m square, it was constructed of large stones in a plan with five rooms

(Fig. 13). The occupants used a wide variety of ceramic vessels, including cooking pots, jars, jugs, and bowls. Scores of food processing implements included handgrinders, pounders, pestles, and a cylindrical installation hewn into the bedrock floor. Jewelry finds comprised bangles and beads. The building was tied into the larger production and distribution network of the region, probably organized by the contemporary administrative complex in Fields A and H at al-'Umayri. Two stamp seals and one scaraboid with an abedary inscription in Ammonite script suggest this was part of an Ammonite economic enterprise. One of the seals depicted a standing male figure dressed in a toga.

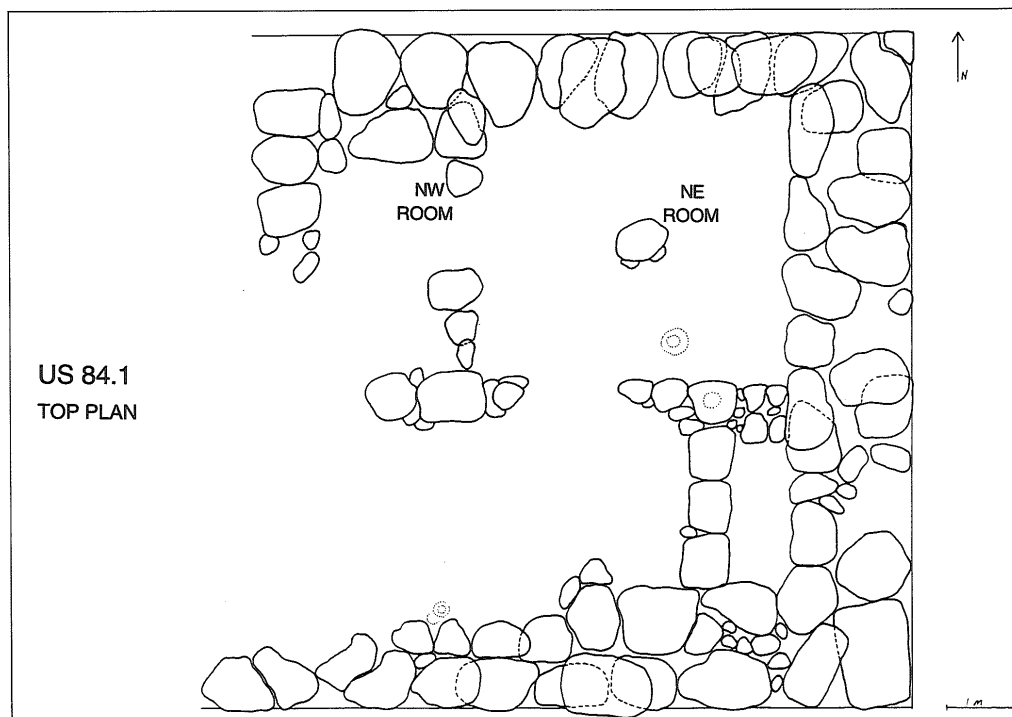
The building sat at the midpoint of a gentle but high slope with a good, but not strategic view of the broadening wadi bottom. Grapes were processed at the slope's rock-cut wine presses. The extent of the farmstead, the number of pressing and other installations, and the material culture of its central building join together to suggest a wine production complex established by or with the support of the administrative governors of the region, probably at al-'Umayri.

The building served as a manufacturing and managerial complex, an extension of urban investment in the rural zone.

The occupation of the site was terminated catastrophically: the fall from two internal walls demonstrated the collapse, crushing pottery *in situ*. Three occupants were apparently also trapped in the rubble. Partial skeletal remains of one infant, one young child, and one young-middle aged adult male came to light in the earth locus directly above the bedrock floor. There was no evidence of fire nor any indication for the cause of the collapse.

#### Khirbat Rufeis Inscription Cave (Paul Ray)

In the 1992 season a large inscription was discovered by our survey team in an easily accessible cave at Khirbat Rufeis south of Tall Jāwā. Several hundred large characters were clearly visible, etched into the hard plaster coating the walls of the cave which had apparently been used at one time as a cistern. The plaster was painted with a broad black band and then signs and symbols were



13. Plan of the sixth century rural site near Tall al-'Umayri.

etched into the plaster.

The cave is part of the Amman Silicified Limestone Formation, which consists of undulating layers of autobrecciated chert alternating with chalk and limestone. A rim sherd of Early Islamic date was found in the plaster bottom of the cave. Sometime later, probably during the Abbasid period, an earthquake caused the north side of the cistern to collapse and to be abandoned. An Abbasid coin was found just a few centimeters above the floor of the structure. The resulting open cave was reused by pastoralists for a seasonal habitation. It was during this time that the black paint was added to the wall of the former cistern and the scores of short inscriptions were added. There is now a tentative scholarly consensus that these are *wu-sum* (camel brands or tribal markings) from the late Early Islamic Age on, though a few may reflect earlier Safaitic/Thamudic signs.

#### **Survey of al-‘Umayri East and North** (Bogdan Dabrowski)

With the threat of development looming, an intensive survey was carried out to document as many archaeological features as were clearly visible on the surface of al-‘Umayri East, the ‘Classical Age’ site just east of a present airport Highway. A total of 43 features were recorded. The most outstanding include a northsouth wall ca. 94 m long straddling the hill abutted by an eastwest wall ca. 62 m long. Both walls appear to be of recent origin. Other features include 11 cisterns, 22 caves, and 10 quarries. Portions of a mosaic floor sealed against one of the cistern openings. A stone with a Byzantine cross engraved on it was found, as well. Thirteen coins were recovered using a metal detector. These included two Early Umayyad, seven Late Umayyad, and one Late Ottoman coins.

The survey of al-‘Umayri north was limited to a metal detector survey to relate the coins to cave features in the area. It yielded a total of 10 coins from the Roman, Umayyad,

Ayyubid, Mamluk, and Ottoman periods.

#### **Random Square Survey of the Jalul Hinterland** (Gary L. Christopherson)

An intensive surface survey of the hinterland of Tall Jalul covered the area within a 5 km radius of the site. The survey used the same methodology as was used in previous seasons in the random survey of Tall al-‘Umayri. A total of 50 randomly chosen 200 x 200 m squares were surveyed. Although a significant amount of pottery was collected by the survey team, no signs of ancient farmsteads, villages, or towns were found within the survey area. The survey findings contrast strikingly with the findings of the ‘Umayri survey, which produced about 50 archaeological sites within a comparably sized region.

#### **Project Rainkeep** (Dorothy Irvin)

Project Rainkeep seeks to heighten public awareness in Jordan of the continued viability of cisterns as a means to deal with the worsening water crisis. To this end, the Madaba Plains Project, in cooperation with the Adventist Development and Relief Agency and the Ministry of Social Development, has assisted residents with cleaning and restoring several ancient cisterns. Follow-up work in future seasons will determine the viability of the program.

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