TALL AL-ḤAMMĀM: PRELIMINARY REPORT ON FOUR SEASONS OF EXCAVATION (2006-2009)

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Abstract

The Tall al-Ḥammām Excavation Project (TaHEP) is a joint scientific project between Trinity Southwest University, Albuquerque, New Mexico, USA and the Department of Antiquities of the Hashemite Kingdom of Jordan. The goal of TaHEP is to study the relationship of this immense and strategically-located site within its socio-cultural, economic and political contexts, and to ascertain its position, function and influence within those contexts.

In addition to this broader focus incorporating historical and archaeological data from neighboring sites in the southern Jordan Valley and beyond, the Project is studying the site as a microcosm of life and activity within its own local environment, seeking to determine its phases of settlement, urbanization and the reasons for its decline, destruction and / or abandonment at archaeological period interfaces.

Within this micro-context the Project seeks to shed light on how the inhabitants of Tall al-Ḥammām adapted to the local environment and environmental changes, and utilized available resources, enabling them to attain levels of city planning and building on a resultantly large scale, particularly during the Bronze Age.

The present report seeks to provide a general overview and introduction to the geographical, chronological, and archaeological data distilled from the first four seasons of exploration and excavation at this remarkable site, and to foster interest in Tall al-Ḥammām as a significant source of present and future information regarding the history of the southern Jordan Valley and, indeed, of the southern Levant.

Introduction

The first four seasons of excavation at Tall al-Ḥammām[1] (TaH) were conducted with the authorization and support of Dr Fawwaz al-Khraysheh, Director General of the Department of Antiquities. TaHEP Season One (winter 2005/ 2006) and Season Two (winter 2006 / 2007) were directed by Dr Steven Collins (Dean, College of Archaeology, Trinity Southwest University, Albuquerque, New Mexico, USA). TaHEP Season Three, marked by the signing of a five-year Joint Scientific Project Agreement between Trinity Southwest University and the Department of Antiquities, was co-directed by Dr Steven Collins and Mr Abdesami‘ Abu Dayyeh (Department of Antiquities, Archaeologist and CRM). Season Four was directed by Dr Steven Collins and Mr Khalil Hamdan (Department of Antiquities, Head of Excavation Sector; Senior Archaeologist). (See additional information by season below.)

Primary funding for the first four years of the Project was provided through Trinity Southwest University, with additional monetary and in-kind contributions provided by individuals and businesses, augmented by small grants from private foundations.

Tall al-Ḥammām is located 12.6km NE of the Dead Sea, 11.7km E of the Jordan River, 8km S of the modern village of South ash-Shūna (the location of Tall Nimrīn) and approximately 1km SSW of the Al-Kafrayn Dam. This area of the southern Jordan Valley, particularly the eastern

1. The spelling of site names in Jordan, including Tall al-Hammam, is problematic. In much of the literature, our site is known as Tell el-Hammam or Tell al-Hammam. According to the latest convention, technically, it should be Tall al-Ḥammām. For this publication, we have chosen to use “Tall al-Ḥammām.”

half of what many now call 'the Jordan Disk'[2] (the circular alluvial area north of the Dead Sea, approximately 25km in diameter, also called the middle Ghawr), lies on the crossroads of the region's ancient N - S and E - W trade routes[3].

Several significant sites, all variously occupied during the high points of Levantine Bronze Age[4] civilization, hug the eastern edge of the Jordan Disk beyond the spread of the ancient flood plain, bounded on the north by the throat of the Jordan Valley, and on the south by the rocky terrain of the Dead Sea area. Tall Nimrīm, with Tall Bulaybil and Tall Muṣṭāḥ in close proximity, and sprawling Tall al-Ḥammām encircled by Tall aṭ-Ṭāḥūnah (NE), Tall Barakāt (N), Tall al-Kafrayn (NW), Tall ar-Rāmah (SW), Tall Muways (SSW), Tall Iktānū (SSE) and several small named and un-named sites are all within a 0.75 to 2.7km radius of Ḥammām (Glueck 1945; Ibrahim and Yassine 1988; Khouri 1988; Leonard 1992; Chang-Ho 2002).

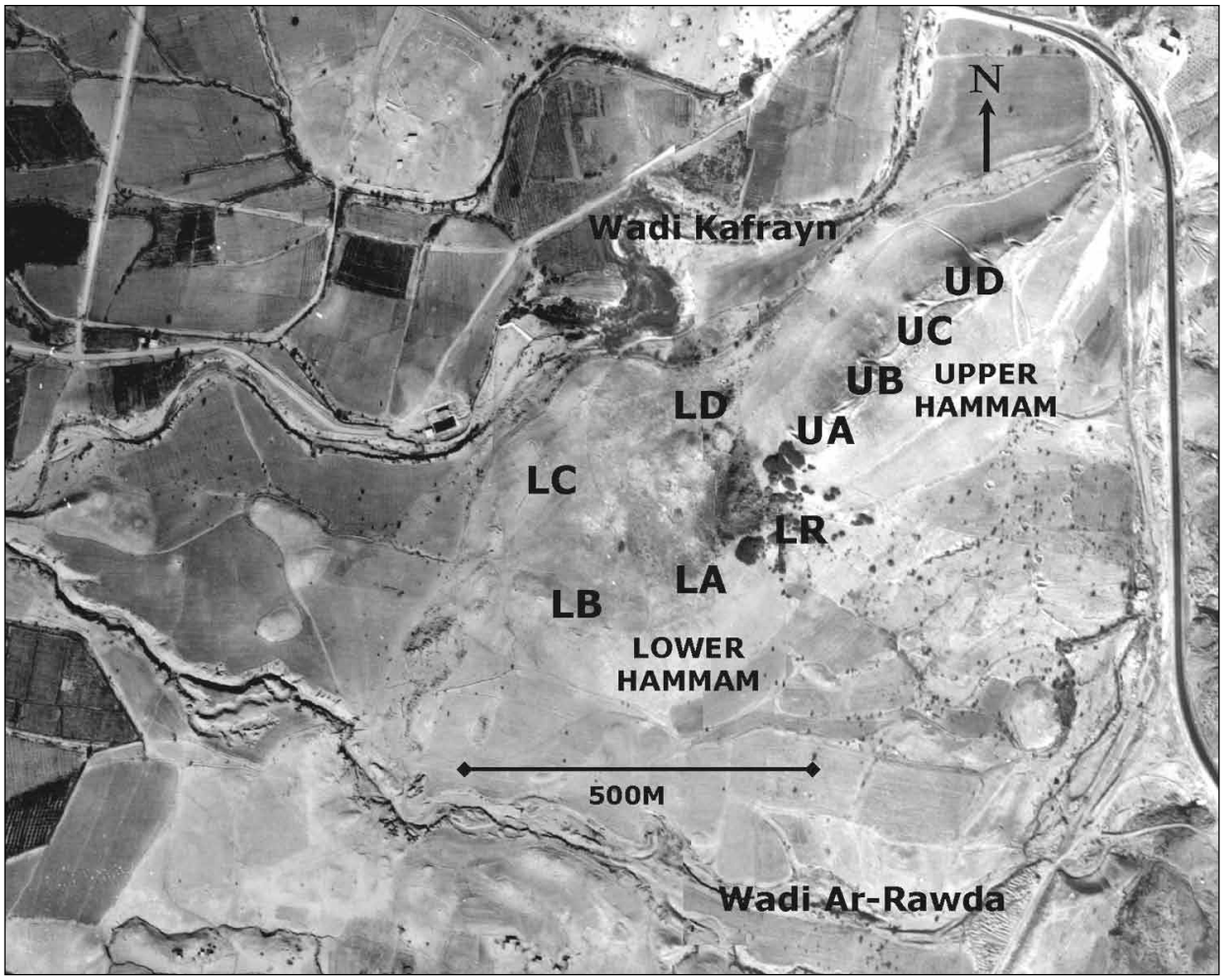
Although the ancient eastern Jordan Disk towns and villages vary site to site as to periodization, particularly during the Bronze Age, Tall al-Ḥammām was a connecting, common denominator positioned at the center of what must surely be described as a city state — and a relatively large one at that (see **Fig. 1**).

Also nearby are several large dolmen fields (Prag 1995; Aljarrah tbp; Clayton tbp) and tombs that, for the most part, remain unexcavated or robbed out[5]. The Hellenistic, Roman and Byzantine periods are represented architecturally at and near the site, including forts, guard towers, aqueducts, large cisterns, and by at least one monumental structure located on the S side of Tall al-Ḥammām near a warm spring[6].

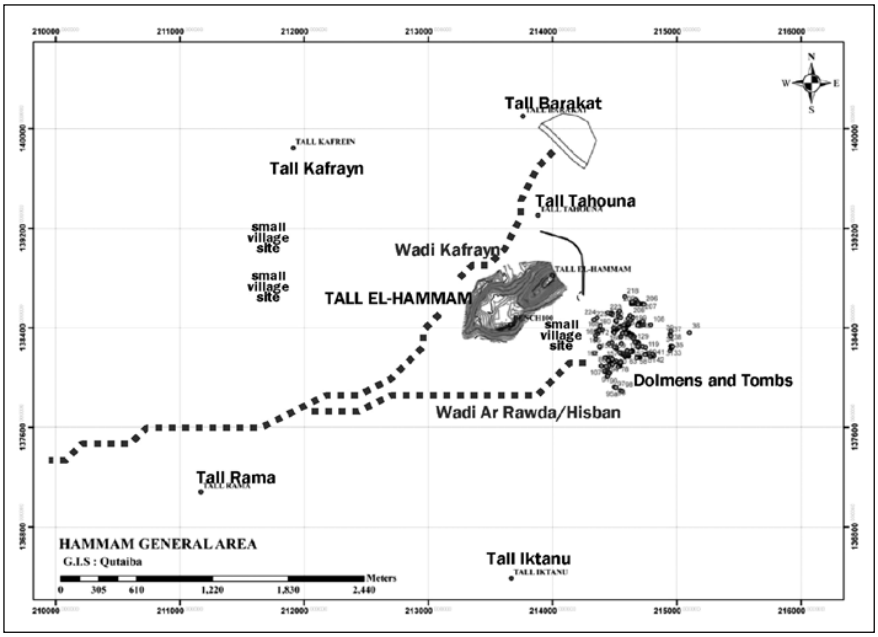
Tall al-Ḥammām is the largest of the Jordan Disk sites. It is certainly one of the largest, if not the largest, Bronze Age site in Jordan. The tall proper spreads over approximately 36 ha (360 dunams), bounded by Wādī al-Kafrayn on the N, Wādī ar-Rawḍa on the S, by the main road to the E of the tall, against the foothills, and by the confluence of the two wadis to the W (see **Fig. 2**). The site footprint for general settlement is well over 400 dunams (100+ acres). These dimensions approximate the areas of the site occupied in more remote antiquity, from at least the Early Bronze Age to the late Iron Age (there are probably period gaps in some locations on the site footprint[7]).

There is, additionally, ample evidence of a Hellenistic / Early Roman Period occupation off the main tall to the immediate south. Reports about the site from the late 19th century (Tristram 1874: 330-333; Thomson 1882: 371-376) describe an aqueduct that fed the area south of the upper tall. There is a warm spring at about the E-W center of the site in close proximity to what may have been a Roman bath complex, public building or large private residence (Field LR on the lower tall).

2. The wide, circular, flat alluvial area of the southern Jordan Valley immediately north of the Dead Sea is approximately 25km in diameter, and split down the center by the Jordan River. The biblical term for this phenomenologically disk-shaped region is *kikkar* (= disk, circle), appearing as *hakikkar* (the disk / circle) and *kikkar hayarden* (disk / circle of the Jordan River). When not used geographically, *kikkar* refers either to a talent (flat, circular weight of metal) or a flat, circular loaf of bread. Although cognate forms of *kikkar* appear in virtually all ANE languages (including Akkadian, Ugaritic and Egyptian), the term is never used in a geographical sense outside the OT, but always refers to a disk-like "talent" or "loaf." The rare, geographical usage of *kikkar* lies at the core of the phrases "Plain (*kikkar*) of the Jordan River" and "Cities of the Plain (*kikkar*)" as seen in Genesis 10-19. The entire area was visible from the highland hilltops near the Jordan Valley WNW of Jericho, the location of Bethel and Ai (see Genesis 13:1-12).
3. There is debate regarding whether or not some kind of traversable route existed on or near the eastern and western shores of the Dead Sea by which travelers could move N and S through the Dead Sea Valley. Even though much of the terrain was difficult, it is hard to believe that at least some kind of stable footpath did not exist, affording one the opportunity to move from towns / sites near the Dead Sea shore northward into the Jordan Valley without having to climb up into the high terrain to connect up with roads on the Trans- and Cisjordan plateaus, then return to the Jordan Valley at a location farther to the N.
4. See the new archaeological period abbreviations in "Section V: Stratigraphy" in our activity report for Season Four (Collins and Hamdan 2009). It is available online at www.tallelhammam.com.
5. The Ḥammām (ar-Rawḍa) dolmens tend to be on the higher, flatter parts of the hills to the ESE of Tall al-Ḥammām, while the tombs are below them in the steeper walls of the wadis. However, there is evidence that at least a few dolmens were located very close to the tall itself, on the adjacent alluvial plain.
6. Dr David Graves and Dr Scott Stripling reason that this must somehow be connected to the ancient Roman city of Livias, perhaps a guesthouse or palatial structure on the eastern edge of the Livias precincts.
7. For example, the smaller Iron Age occupation, confined to the upper tall, covers approximately 12 ha.



1. Area within a 3km radius of Tall al-Ḥammām.



2. Aerial photograph (1972) of Tall al-Ḥammām before the beginning of heavier agricultural activities; the general settlement area occupies all of the terrain between Wādī al-Kafrayn and Wādī ar-Rawḍa, and E of the highway; Fields on the upper tall are UA, UB, UC and UD; Fields on the lower tall are LA, LB, LC, LD and LR.

There is also a possible 'lookout tower' in Field UA on the upper tall. Some pottery sherds from the Byzantine Period are present, but not in abundance. There also seems to have been some minor re-use of IA2 structures on the upper tall during IA2c, IA3, and the Hellenistic, Roman, Byzantine and Islamic Periods. However, pottery from these later periods, while present, is rare.

Surface surveying and excavation reveals occupation beginning at least during the Chalcolithic period (some Pottery Neolithic material may also be present) and extending with detectable consistency through the Early Bronze Age, Intermediate Bronze Age and into the Middle Bronze Age (all with associated architecture). Late Bronze Age pottery seems to be systematically absent, and consequently there is no discernable LBA[8] architecture thus far.

One of the more surprising discoveries during the 2008 season was that the EBA city wall extended not just around the lower tall (as originally thought), but also around the entire base of the upper tall as well. Equally surprising were indications that the MBA city fortifications were not simply confined to the mudbrick / earthen rampart ringing the upper tall (Parr 1968; Burke 2004; McAllister 2008), but also extended around the lower tall, often refurbishing and strengthening the former EBA fortifications with additional towers[9], as a part of the MBA defensive strategy (Zayadine, Najjar and Greene 1987; Najjar 1992; Burke 2004; Falconer 2008).

Further, detailed surface sherding, and now excavation, of the lower tall has revealed a large quantity of ceramic forms dating to the Intermediate Bronze Age (cf. Homès-Fredericq and Franken 1986: 98-114; Brown 1991; Palumbo 2008), indicating that the city likely survived the ubiquitous period-ending calamity that caused the demise of EBA cities throughout the Levant, many of which never recovered (Richard 1987; Ben Tor 1992; Finkelstein and Gophna 1993; Harrison 1997; Avner and Carmi 2001; Philip 2008). Perhaps owing to Tall al-Ḥammām's access to multiple water resources (the Jordan River, seasonal rainfall and wadi flows[10], and numerous nearby and on-site springs), residents seem to have overcome the negative factors that led to the decline and / or demise of other cities in the region (Prag 2007)[11].

Like Tall al-Ḥammām, nearby Bronze Age sites such as Tall Nimrīn, Tall Iktānū and Tall al-Kafrayn[12] (and all others in eastern Jordan Disk area, for that matter) seem to lack discernable, or any, Late Bronze Age occupation (Dornemann 1990; Prag 1974, 1991; Strange 2008). Is the 'LBA gap' — as the Tall Nimrīn excavators call it (Flanagan, McCreery and Yassine 1990, 1992, 1994, 1996) — a regional phenomenon, and can TaH shed light on what caused it? The data through four seasons of excavation seem to support such a gap at TaH. Whatever caused the absence of occupation at the eastern Jordan Disk sites during the LBA timeframe did, in fact, not continue, as most sites were resettled, albeit on a smaller scale, toward the end of Iron Age 1 into Iron Age 2 (cf. Dornemann 1983). Indeed, the IA2a-b occupation at TaH is relatively extensive, and surrounded by a 3+ m thick fortification wall, perhaps casemate, at least in part. What gave rise to the site's Iron Age city, and what brought about its demise? The answers to these questions are only beginning to be answered.

Tall al-Ḥammām certainly holds key pieces of the archaeological puzzle from which a greater comprehension and appreciation of the regional history can emerge. The focus of the first four seasons of excavation has been to identify and sound sections of the site deemed likely to offer reasonable opportunities to expose stratigraphic sequencing on both the upper tall (Area U) and

8. See the new archaeological period abbreviations in "Section V: Stratigraphy" in our activity report for Season Four (Collins and Hamdan 2009). It is available online at www.tallelhammam.com.
9. One particularly massive tower structure located at the far W extremity of the lower tall seems to be of MBA design, using large boulders (some slightly squared) not typical of EBA builders. MBA pottery is present in the area, but no excavation has taken place there to date.
10. In antiquity, both Wādī al-Kafrayn and Wādī ar-Rawḍa / Ḥisbān probably sustained perennial flows more often than not.
11. Tall Iktānū, 2km to the S of Tall al-Ḥammām, also has strong IBA occupation, but not fortified. Although Tall Iktānū has generally been seen as a defining IBA representative in most of the relevant literature, it must now be interpreted as one of many satellites of the much larger, and fortified, Tall al-Ḥammām.
12. Although not much has been published on the ongoing excavation at Tall al-Kafrayn, our personal contact with the director of that excavation confirms that there is not an LBA architectural presence at the site. There is a strong EBA and MBA presence, as at Tall Nimrīn.

lower tall (Area L) while, at the same time, continuing to survey, map and document important geographical features and archaeological sites on the eastern Jordan Disk, with a view to determining the relationship of Tall al-Ḥammām to the territory under its hegemony and to surrounding polities.

Methodology

When considering its constituent components collectively, Tall al-Ḥammām is enormous. But there are four considerations that have assisted us in narrowing the focus of the first four seasons. First, our extensive explorations of the TaH general occupational area have led us to postulate its position as a major, fortified city at the hub of a definable Bronze Age city-state, particularly during the EBA through the MBA. We have extended the scope of this research to include not only Tall al-Ḥammām and its occupational platform between the Wādī al-Kafrayn and Wādī ar-Rawḍa, but also its relationship to smaller sites encircling it, particularly to the N, W, and S, all within a radius of 5km[13]. Therefore, it was imperative for us to complete the GIS topographical survey of Tall al-Ḥammām. This was finished by the end of Season Four. It was also imperative for us to complete our detailed sherding (settlement density) sweeps of the general occupational area, and also to incorporate these areas within our GIS survey. This was also accomplished by the end of Season Four. Beyond this, it was important for us to survey the locations of outlying talls, dolmens and tombs in order to produce a more complete picture of the socio-political structure existing between Tall al-Ḥammām and it many satellites. This phase of research is well underway, and will be continued in future seasons.

Second, the ruins of the Iron Age city (mainly IA2a-b), which spread over the top of the upper tall, contain many exposed domestic and monumental wall foundations, including the 3m thick IA city wall. Considerable segments of the fortification walls are visible, especially on the northern-most side. The remains of mudbrick walls and stone foundations, both domestic and monumental, are clearly visible in several locations. The first four seasons of excavation have helped to define the periodization of the Iron Age occupation, but a great deal remains to be clarified, including the nature of the now-exposed IA gate complex (which is certainly not the main gate, but a secondary, inner entrance). The sequence of IA occupation is likely quite readable in this 'upper' gate complex. One question that needs to be addressed is whether or not Iron Age 1 is represented by any of the gate / plaza phases (IA1 pottery has been found in this location, but not in abundance). Thus, we designed to continue excavating segments along the IA city wall (which was built over the MBA earthen / mudbrick rampart, as revealed in the 2007 and 2008 seasons), including the 'upper' gate area.

Third, the ease of access to the EBA / IBA / MBA lower city led K. Prag, in 1990, to excavate a few soundings on the far western extremity of the lower tall (our Area L) (Prag 1991). In that location, the fortified Bronze Age occupation spreads over a roughly circular area some 500m in diameter, much of which is exposed to, or near, the surface. Fortification walls and towers are clearly visible in many places, making the approximate parameters of the Bronze Age city on the SW half of the site relatively easy to identify. Thus, the lower tall is at least a partially-known quantity, with some stratigraphic sequencing already revealed by K. Prag in her 1990 trenches. However, Prag's probes were relatively shallow and did not extend into the deeper layers of the lower tall. It was our design that Season Four would make a significant penetration into the lower tall. That location (Area L, Field A = Field LA) was singled out for several reasons: (a) it was adjacent to, and included, a well-defined section of the city wall; (b) it included several visible, apparently domestic structures; (c) it was a raised area offering the potential of deep stratification; (d) it was heavily populated with Bronze Age pottery sherds; and (e) it had not fallen prey to 'deep disking' agricultural activity. Thus, the initiation of excavations in this location was logical and practical.

13. Many of these sites tend to hug the circle of foothills to the S and N, while others occupy positions on the alluvial plain to the SW, W and NW. Distances from the center of Tall al-Ḥammām range from 0.25km to approximately 5km. All are within direct line-of-sight from the top of Ḥammām's upper and lower talls within a visually and geographically defined and defensible space.

Fourth, the large Roman / Byzantine structure in Area L, Field R needed work as the key period-feature at the site. Thus, we designed to pursue excavations in that location.

Site Surveys

Under the expert direction of Mr Qutaiba Dasouqi, the GIS topographical survey work proceeded at a remarkable pace during Season Three and Season Four. The results are dramatic, allowing almost endless combinations of highly useful data manipulation for purposes of geographical proximity studies, theoretical projections, 3D modeling, stratigraphic layering and excavation data collection with integrated photographic record.

The site grid developed by our first surveyor during the first two seasons was incomplete. Because of this, Dr Collins decided during the 2009 season to have a new site grid surveyed and triple-checked for accuracy. The embedded photographic data newly shot from previously-excavated squares allowed work done on the old grid to be instantly incorporated into the new grid. The 6m grid (designed for N and E balks of 1m) is now able to be projected easily from the total station over the entire site. All work during the 2009 season was done using the new grid, with excellent results integrated with the GIS.

The first three days before Season Four excavations commenced was spent with most of the team undertaking sweeping surface surveys of the area between the tall proper and the surrounding wadis. Team members assembled into a line at arms' length intervals, with a 'floater' using a GPS device to record sherds visible on the ground. The results were quite good, showing concentrations of sherds and other artifacts (such as grindstones) in certain raised areas (potentially with intact stratigraphy), revealing at least two settlements to the S of the main tall near Wādī ar-Rawḍa. The survey also suggests that the land between these small settlements was likely used for agricultural purposes in antiquity, perhaps being farmed by families living in these 'hamlets' within the shadow of the large fortified city. The small EBA occupation on nearby Tall aṭ-Ṭāḥūnah (NE) is as close as these, and may have served in a similar capacity, or perhaps as a garrison site.

H. Aljarrah (DoA, Jordan) had already performed a detailed survey of what has been called the ar-Rawḍa Dolmen Field—still awaiting publication as of the date of this report—documenting 226 of what had been a much larger number of the funerary monuments in antiquity (Aljarrah tbp). The parameters of this survey are also being included in research conducted by L. Clayton (Department of Anthropology; SUNY, Binghamton) (Clayton tbp). Most of these dolmens fall well within a .5km to 2km radius of Tall al-Hammam's extensive EBA/IBA city, mostly to the E and SE. Mr. Aljarrah (DoA Director of the area in which the dolmen field resides), has kindly facilitated the inclusion of the GPS locations of the ar-Rawḍa dolmens into the TaH database in what we now call the Ḥammām Dolmen Field, since TaH is obviously the epicenter of the funerary/cult rites/activities that created the dolmens (likely) during the Early Bronze Age (Prag 1995).

In order to augment the work done by H. Aljarrah and L. Clayton in documenting the Ḥammām (ar-Rawḍa) Dolmen Field (Aljarrah tbp; Clayton tbp), we undertook to identify, GPS, and photograph as many of the associated tombs as possible. Thus far, we have documented 36 cave and rock-cut tombs, and have tentatively identified about 20 more. These are mostly confined to the steep sides of the wadis (above water flow levels) in rock strata suitable for making tombs. Some seem to have been created from natural caves; others have cut entrances and / or artificially-enlarged interiors (cf. Schaub 1973; Harrison 2001; Chesson and Schaub 2007). Depths vary widely, mostly because of rock decomposition and the collapse of overhanging ledges, but some of the larger ones have interior dimensions well in excess of 3m. This is the first time these tombs have been identified and documented.

Thus far, without exception, each tomb is in close proximity to one or more dolmens located on the higher, more level ground immediately above. Many of the tombs are robbed out. One was recently robbed (Tomb HT.1), with EBA pottery still in the night diggers' debris pile. Several of these tombs seem to be intact, and should be excavated soon before they are found and destroyed by looters. It is likely that these tombs number in the hundreds (perhaps thousands), and we expect to continue to find and

document them in future seasons.

We are also continuing to explore, GPS, sherd and document as many of the eastern Jordan Disk's ancient towns and villages as possible, including the more well-known sites in the immediate vicinity such as Tall Iktānū, Tall Muways, Tulaylāt al-Ghassūl, Tall ar-Rāmah, Tall al-Kafrayn, Tall aṭ-Ṭāḥūnah and Tall Barakāt, as well as the cluster 6km to the N, including Tall Nimrīn, Tall Bulaybil and Tall Musṭāḥ. Most of these have been surveyed in the past, but some have not, including a few un-named sites. It is a critical part of understanding the workings of these (likely) city-state clusters to have an intimate geographical 'feel' for each one relative to all the others, including surrounding local terrains, walking distances and times to other locations, likely courses of connecting roads / paths, and lines of sight between locations. We also perform 'sherding' each time we visit one of these sites in our area. We have made a special effort to visit the mentioned sites, and many others, during each season. Unfortunately, two of the sites we attempted to visit during Season Four, Tall 'Udhayma North and South, have been entirely obliterated by sand / gravel mining on the southern edge of the Disk just SW of Tall Iktānū. Dr Kay Prag was part of the exploration team that day, and shared our sadness at the loss of those two Bronze Age sites. Thankfully, both Drs Prag and Collins had explored them in the past.

Season One Excavation Summary

The first season of excavation at Tall al-Ḥammām (Collins, Byers and Luddeni 2006) was conducted from 27 December 2005 to January 22, 2006, with the assistance of Department Representative Mr Muhammed al-Khatib. The excavation proceeded under the direction of Dr Steven Collins, assisted by a team of nineteen scholars, students and volunteers from Jordan, the United States and Canada. Military Trench (MT) clarifications and excavation squares were supervised by Dr Collins and Mr Gary Byers, with photography provided by Mr Michael Luddeni, and survey work performed by Mr Tawfiq al-Hunaiti of the Department of Antiquities.

With known quantities in Area L (dominated by the Bronze Age city) and Area U (the surface-exposed Iron Age occupation) we chose to focus on a series of squares in locations that would yield, in this and coming seasons, the nature of the unknown quantity, i.e. the stratification that lies below the Iron Age in Area U (the upper tall). Thus, we chose locations in Area U represented by squares in Field UA and Field UD that were proximate to the city wall (later confirmed to be IA2) that might eventually lead to the detection and assessment of earlier fortification systems that would also exist at the edges of the upper tall.

We also selected two squares in Field UB, each for a different reason. The first we chose because it lay over surface-exposed monumental walls, giving us two clearly-defined corners to work with. The second was placed because it represented the lowest spot on the upper tall, with 2+ m already removed by MT (military trenching). Our square selection in Field UC was driven by a significant amount of IA2 pottery, including both large jars and smaller vessels, exposed in an MT clarifying procedure, giving every indication of a sizeable storage room.

The team concentrated initially in Field UD, immediately north of where the MT had bulldozed through the eastern-most portion of the upper tall. As the cast-up from that MT activity was cleared, it became apparent that a 3m high section through the city fortifications had been created. In that massive section it was easy to ascertain that the foundation trench for the IA city wall (3m thick) was cut into a packed-earth / mudbrick matrix of significant proportions. The IA wall was substantial, but it seemed dwarfed by the structure into and over which it was constructed. The glacis associated with the IA wall was clearly visible in the MT section, and it, too, was built over the top of the earlier earthen structure. Two squares were then excavated just N of this MT section, further exposing the IA city wall and how it was constructed. We followed this general procedure in each area, using MT clarifications and visible surface features in order to determine the placement of squares. This approach yielded significantly more results than could have been achieved had not the MT and fortuitous preservation of the IA surface structures occurred. Both turned out to be highly advantageous to the Project's first season.

Field UA

Field UA is cut approximately E-W by MT.

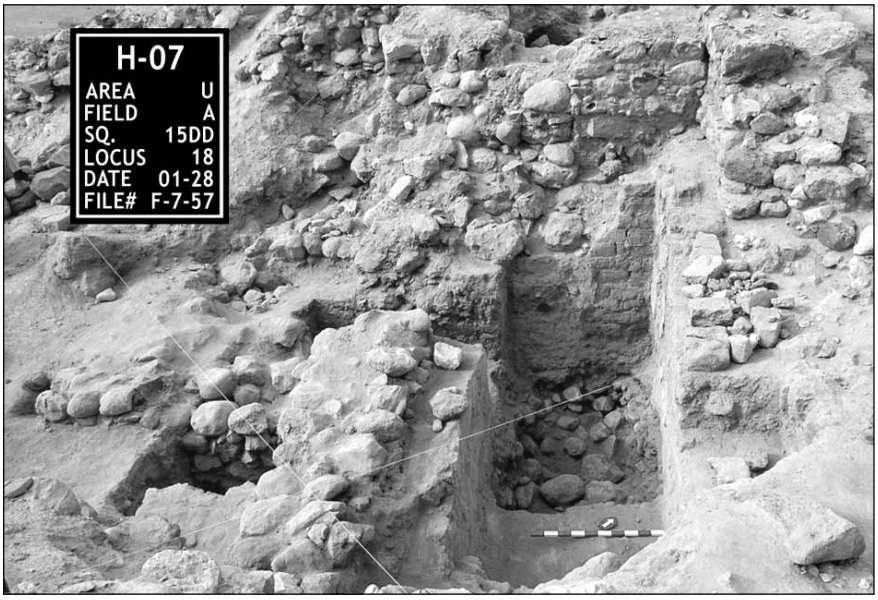
A 3m deep trench through the highest point of the tall destroyed a 5m wide swath of ancient occupation, including massive stone and mudbrick structures. Our goal in this area was to clarify the 'mess' created by the MT, and to determine what stratigraphy was still discernable. MT clarification had revealed at least three occupational levels: Hellenistic / Roman, Iron Age and Bronze Age (initially indeterminate as to periodization and / or phasing).

Square UA.15DD[14] spans about 3 m of the area destroyed by MT activity, but managed to include a significant portion of the original height of the acropolis. The latest phase was what appears to be some sort of tower structure built of medium to small, undressed field stones and chink (loci 2 and 4). Late Hellenistic / Early Roman pottery associated with this structure seems to date it to that period. It is built into and over the remains of an earlier 3m thick wall (locus 9) and adjacent smaller stone and mudbrick walls (loci 6 and 7), the construction of which is visibly different in character than the later wall. The walls underneath the LH / ER tower are clearly IA2 in date and are, in turn, built into and over an earlier monumental, mudbrick structure with sections of well-preserved plaster over orange-colored, sun-dried brick (bricks average approx. 25 x 45 x 14cm) (see **Fig. 3**). The mudbricks of the earlier phase are associated with both EBA and MBA pottery, but further clarification is needed to determine the likely date of construction.

Field UB

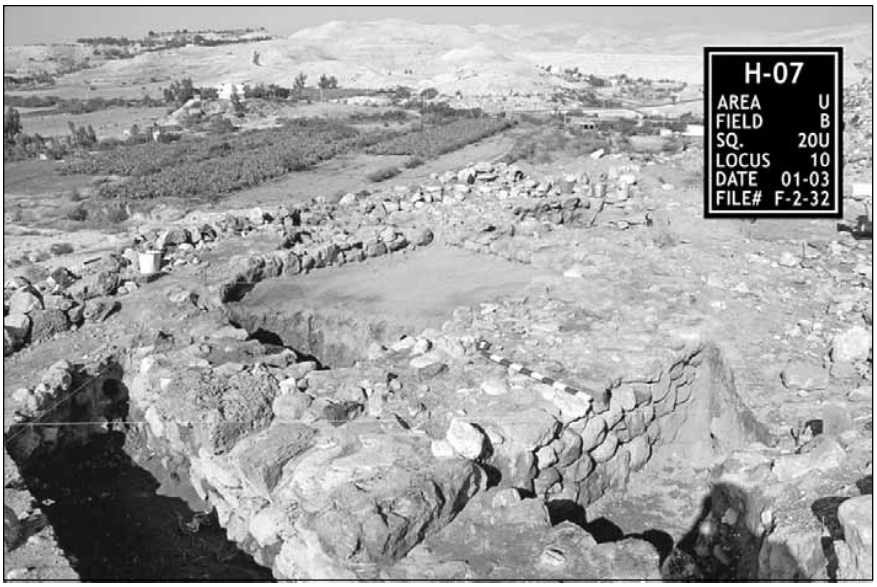
MT activity in Field UB cut through numerous walls, both stone and mudbrick, as well as floors and deposits of debris-strewn ash. The amount of ceramic debris and range of types from represented periods is impressive. Field UB encompasses the lowest level in the 'saddle' of the upper tall, and is also the most extensively damaged by MT activity. However, Field UB also has a significant amount of undisturbed surface with evidence of many structures clearly visible.

We selected Square UB.20U for excavation because of the surface visibility of a monumental foundation within its balk boundaries, walls of 1m (loci 1 and 6) and 2m (locus 2) thickness, the intersection of which forms two inside corners (loci 3 and 4, and subsequent loci within the wall boundaries) (see **Fig. 4**). The well-leveled tops of wall loci 1 and 2, with reddish decomposed mudbrick tightly packed between the stones, seems to indicate that the boulder and chink foundation is preserved to its full height. The bulk of the pottery associated with the wall



3. Iron Age stone foundations built into/over a monumental Middle Bronze Age mudbrick structure; Field UA.

14. All excavation squares given for Season One through Three use numbers from the initial grid system. Beginning in Season Four, square numbers are derived from the new (2009) grid system, with old square numbers often given parenthetically for clarity.



4. Foundations of a monumental Iron Age 2 tower; Field UB.

foundation is IA2a-b. We did not find the bottom of the wall, or any associated surfaces, at well over 1m in depth.

Square UB.21W represents the lowest level on the upper tall. It was thought that this would give us a good opportunity to excavate through the IA material into an earlier stratum, if possible, because the MT at this point had already removed about 2+ m of *in situ* occupational debris. A 2 x 2m sounding was made to a depth of just over 3 m, and the results were instructive. An IA2 structure with a plastered stone wall and contiguously plastered mudbrick wall were encountered just below the surface (loci 3 and 4), giving us the corner of a room. The walls ran to a depth of nearly 2 m, and ended on a firmly packed layer of mixed debris (locus 6) from 20cm to 30cm thick. Inside the corner of the room to the full depth of the wall were layers of collapsed debris (loci 1, 2 and 5). The sequence revealed the collapse of what was probably a two-story structure: from top to bottom, earth and plaster, the remains of wood beams, and a thick matrix of ash, mudbricks and stone. There was no discernable floor at or near the base of the wall. The pottery was IA2a-b. Under the IA walls and locus 6 was a clean, clear interface with hard, yellowish mudbricks. The bricks were tightly laid and very solid (locus 7), with EBA and MBA pottery mixed.

Field UC

There were numerous structures and layers visible after MT cast-up was cleared away in several locations. One location in particular seemed to constitute a hoard of vessels such as storage jars and smaller juglets from IA2.

Square UC.28J was placed to include the pottery discovered by MT cleanup. The context clarified rather quickly with the discovery of an *in situ* mudbrick wall (locus 2) laid over the top of the destruction debris (locus 3) containing the pottery hoard. We could not get a good read on the mudbrick wall (further excavation will probably clarify the date), but the pottery in the burn layer underneath was definitely IA2a-b. One distinctive vessel was a Cypro-Phoenician olive oil jug, white-slipped with reddish-brown painting, found nearly intact with only the spout broken (see **Fig. 5**) (cf. Amiran 1970, 288). Two small spouted juglets were also excavated, along with at least ten medium-sized storage jars, and that was only within the confines of a 2 x 2m probe.

Field UD

The MT makes a 3 m deep cut through the eastern boundary of the upper tall, effectively creating a 3m vertical section in which several features are discernable. One of these features is a 3+ m wide fortification wall that we suspected was Iron Age in date. But the cut also revealed that the wall was built into and over an earlier packed-earth and mudbrick structure. Pottery imbedded in the earthen structure was MBA. The earthen structure (possibly a rampart) seemed to carry a facing of hard, yellowish

5. IA2a-b Cypro - Phoenician 'olive oil' jug; Square UC.28J.

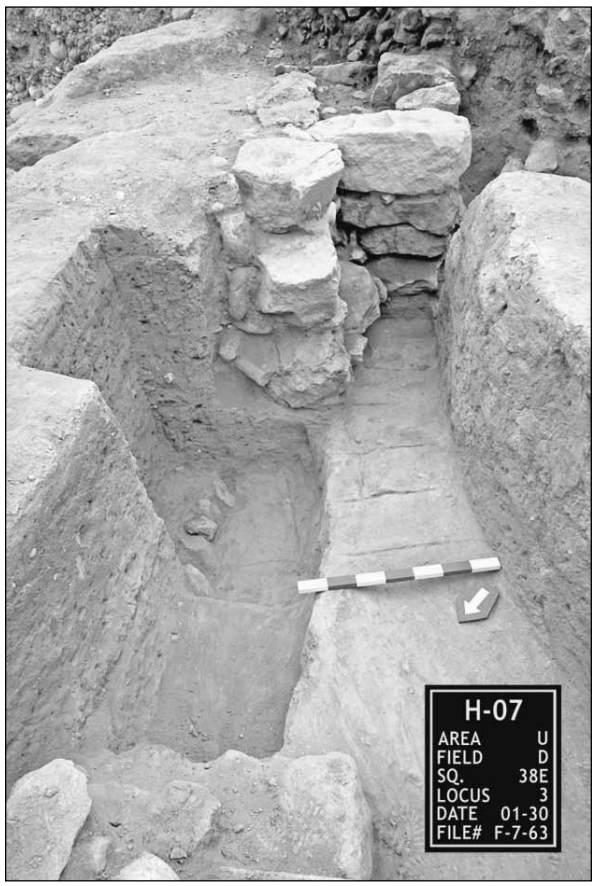
mudbrick on its outer surface. The clearly-defined glacis associated with the 3m-thick wall, as well as the wall itself, rides atop the earlier earthen structure, which was obviously thought by the builders of the later city wall to provide a substantial substrate over which to build their towered fortification perimeter. This deep look at a cross section of at least two fortification systems, one atop the other, provided a key insight into the history of the site. It also gave us a very good reason to place two adjacent squares perpendicular to the city wall line immediately N of the MT cut.

Square UD.37E, dubbed 'the kitchen' by excavators, yielded numerous artifacts of food preparation within a relatively small area of locus 1 (about 2 x 2m): five grindstones, a mortar and pestle, and a very large IA2a-b cooking pot that could be accurately described as a cauldron. A stone wall averaging approximately 0.80m in thickness (locus 4) seemed to define the NE extent of the room. A mudbrick wall (locus 5) seemed to bond at a near right angle to the stone wall (locus 4).

The width of the 3+ m city wall (locus 2) is contained entirely within Square UD.38E, thus both inner and outer faces of the wall were able to be exposed. As the excavation proceeded, our suspicions were confirmed that (a) the wall dated to IA2a-b, and (b) it was indeed built on and over an earlier, massive structure made of very hard, yellowish mudbricks (loci 5, 6, 10 and 12) laid tightly at right angles squaring with the direction of the earthen rampart and IA city wall. The extent of the mudbrick structure runs at least 3m inside the inner face of the IA wall, and extends beyond the outer face as well (see **Fig. 6**). In order to confirm the date of the 3+ m wall, constructed of medium to large field stones (some squared for the corners of tower offsets), we cored through it in two places (locations 7-11 and 25-29 / 31-35). The pottery dated the wall to IA2a-b. We had yet to determine a firm date for the mudbrick structure.

Season Two Excavation Summary

Season Two of the Tall al-Ḥammām Excavation Project (Collins, Byers *et al*. 2007) was conducted from 22 December 2006 to February 4 2007, with the assistance of Dr Mohammed Najjar, Director of Excavations of the Department of Antiquities of Jordan, and Departmental



6. IA2a-b city wall foundation 'footing' trench dug into the MBA mudbrick rampart; Field UD.

Representative Mr Mohammad Ali Al-Khatib. The excavation proceeded under the direction of Dr Steven Collins, assisted by a team of 102 scholars, students and volunteers from Jordan, the United States, Canada, England, Australia, Russia and Ukraine. Field Supervisors were (alphabetically): Mr Gary A. Byers, Mr Adeib Abu-Shmais, Dr David Fouts, Mr Hussien al-Jarrah, Dr David Maltsberger and Dr Sahar Mansour. TaHEP professional archaeologists and specialists were assisted by a team of Square Supervisors from TSU — graduate and doctoral students in archaeology — along with students and scholars from other institutions.

Field UA

In the previous season, this procedure cleared away approximately 1 m of MT cast-up, revealing a significant sectioning, albeit 'bulldozer fine', of what we thought might be the westernmost section of the IA city wall, with about the same dimensions (3m thick) as had appeared on the opposite side of the tall. However, additional excavation in Season Two revealed that the thickness of the wall actually represented two phases, one seemingly LH / ER, built alongside the IA2 wall for the purpose of creating a larger foundation during the later period. The configuration of the walls suggests a large building and not fortifications.

After the first season, one of the most difficult tasks in Square UA.15DD was determining the relationship between the mudbrick construction and the boulder construction built into it. By the end of the second season there was no doubt that the mudbrick structures were built first, then the 'rounded-bottom' boulder foundations (+/- 1m thick) were added later. But how much later? The mudbrick structure itself was built directly over a massive and seemingly deep field of medium-to-large dry-laid leveling-boulders. A sequence of (a) leveling boulders, (b) mudbrick walls and (c) stone foundations, built as a single project, makes little or no sense. The mudbricks are full of EBA and some MBA pottery sherds as binding. The stone walls in / above it are definitely IA2. It seems most logical to postulate that the monumental mudbrick structure(s) underneath the IA2 walls at least belong to an earlier IA phase, or perhaps the MBA.

The stratification in Square UA.15EE is the same as in UA.15DD, with the same difficulties regarding the relationship between the (lower) mudbrick walls and the boulder / chink walls built into and over them. Several mudbrick walls exist with plastered faces. There is also an abundance of wattle and daub roofing material present in the collapse matrix representing the inside of rooms and / or chambers.

Field UB

Work in Field UB expanded significantly during Season Two, exposing several phases of Iron Age tower construction, and revealing underlying MBA material.

Trenched through by modern military activity, Square UB.19U is a complex pile of tumble and poorly-laid, re-used stones along its northern third for a depth of about 1m. However, once the surface 'mess' was removed, several phases of IA construction became apparent. A cobble surface at about the same level as the cobble layer in UB.20U (see below) is perhaps an extension of the same road or plaza. Some aspects of the larger walls in the square suggest that we may be in a gateway or something related to it.

Square UB.20T preserves a complete small room of the monumental IA2 building excavated first in UB.20U. The room was excavated to a depth of about 2m below surface level. At that depth both IA and MBA pottery were present in a mixed locus. Further excavation may clarify the separation between the two periods, as occurred in UB.20U.

In Square UB.20U, the pottery associated with the monumental (tower) foundation is IA2, and exists in at least two, perhaps three phases. The final (likely IA2b-c) phase is delineated by a clear burn layer, the conflagration of which was hot enough to crack large boulders and leave behind many 'clinkers' (melted mudbrick and other material). This final phase was built squarely over at least one earlier phase which defined the footprint of the monumental structure at this location. It is probably a tower built for defensive purposes.

The first phase of the IA2 tower was built over a layer of cobbles (20 to 30cm thick) that seems to form a stretch of road or plaza pavement associated with a wall-stub of only one preserved course installed over the cobbles (early IA2a or late IA1?). Under that wall stub and

cobbles is another wall (at least 1m thick) existing as one preserved course of large boulders (at an oblique angle relative to the later phases) (late IA1?). These are cut into a mixed matrix of decomposed mudbrick, mudbrick fragments and ash, associated with two earlier walls and a floor with clay-lined silo (see **Fig. 7**). The pottery associated with these two earlier walls, floor and silo is MB2, and all associated loci seem to be sealed and free from later intrusion. Significant portions of two MB2 storage jars and a distinctive piriform juglet were discovered in this context.

Square UB.21T was opened primarily to extend our excavation of the multi-phased IA monumental structure first seen in UB.20U. Along with two additional walls from that structure, another building was discovered adjacent to it (E). This new structure is also from IA2, and contains a well-preserved doorway (see **Fig. 8**).

In Square UB.21W, another 2 x 2m sounding was begun this season, and reached a depth of about 2m. The material in the probe was mostly washed-in sediment and tumbled stones, without any discernable architecture other than the opposite side of the mudbrick wall unearthed in the previous season. Unfortunately, a rainstorm filled the probe with water, making it too muddy to continue for the remainder of the season.

Field UC

The hoard of IA2 vessels unearthed during Season One continued into Season Two in Square UC.28J. Two additional squares were

7. MB2 structure with clay-lined silo, covered in 1 m of ash and destruction debris; underneath several phases of IA plaza and tower construction; Field UB.

8. IA2a-b building with doorway; Field UB.

opened about 50m to the S in what appeared to be an area containing domestic structures, the walls of which were exposed to the surface.

In this season, Square UC.28J was opened up to its full extent. Several phases of an IA2 structure were unearthed, including an installation appearing to be some sort of cultic, stone and plaster 'table' or 'altar' on a floor, with fragments of several juglets and chalices dating to IA2 (see **Fig. 9**). The mix of ceramics is interesting throughout this square, as IA2a-b-c forms are present, often in the same context. This suggests re-use and remodeling of these structures throughout IA2. The earliest phase seems to be domestic, while the latest phase, and the one prior to it, seem to be cultic, containing not only the chalices, but fragments of at least one figurine.

The house excavated in Square UC.29P contained several storage jars, juglets, and cooking pots. Several hearths were present, with associated tabun fragments. Possibly destroyed by an earthquake during one of the latest phases, several repairs and remodels were visible, represented by numerous floor levels and wall additions. The residence was obviously rebuilt and re-used over a long period of time. Storage jars were of types used both in IA2a and IA2b. IA2c sherds were rare. Underneath the floor of the IA house were the remains of an oval-shaped structure, perhaps Bronze Age.

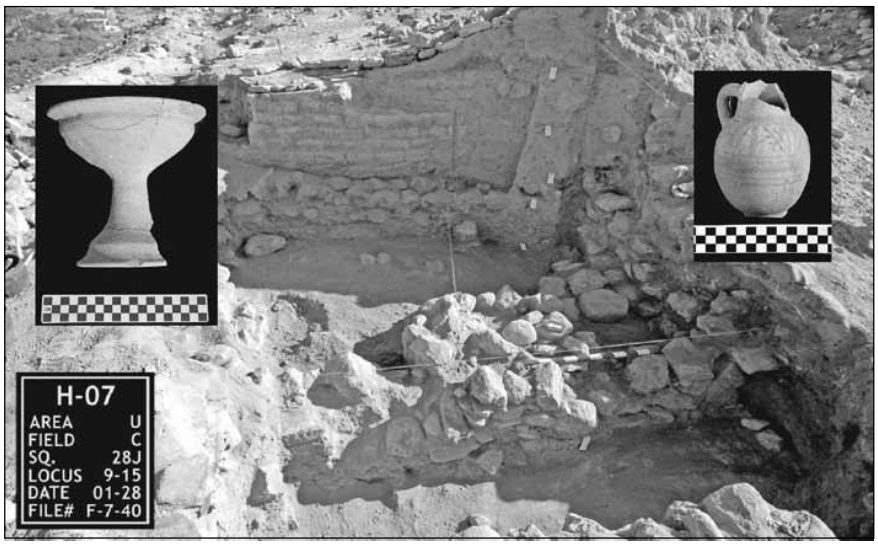
Square UC.29Q contains an extension of the same IA2 house excavated in UC.29P. Doorways and cooking installations are present. A virtually intact cooking pot was found in the ashes of a hearth. A short distance away an intact IA2b storage jar was discovered (see **Fig. 10**).

Field UD

This season, activity expanded to include two additional squares east of 38E, creating a deep trench and further exposing the phases and extent of the fortification systems for both the IA2 and MBA.

As Square UD.37E was taken down through

10. IA2b storage jar from a house in Square UC.29Q.



9. Multiple phases of IA2 structures in Square UC.28J; pottery finds inset.

several IA phases this season, it became clear that each had been at least partially cut into a pre-existing mudbrick structure of immense proportions. Floors and storage silos were literally carved into the thick mudbrick matrix of an earlier period. It now seems reasonably clear that that mudbrick matrix belongs to the inside 'half' of the MBA fortification rampart which was likely terraced down into the MBA city.

During the previous season we discovered that the extent of the mudbrick structure in Square UD.38E ran at least 3m inside the inner face of the IA wall, and extended beyond its outer face. As we had said of the mudbrick / earthen structure during the first season, "Whatever it is, it is monumental in nature". However, we were unable to determine its date with certainty. During Season Two, with the help of hired local workers over a period of about three weeks, the date and nature of the structure became clear: it is a typical MBA fortification rampart system of common, but excellent construction (Pennels 1983; McLaren 2003).

In order to discover the extent of its height and breadth, we extended a trench eastward (Squares UD.39E and UD.40E). The results of this decision were nothing short of dramatic. Approximately 9 m of the MBA rampart face was uncovered, to a height (or depth, depending on perspective) of 5m (see **Fig. 11**). We did not reach the (typical) revetment wall at the base of the rampart, and we estimate that it could be as much as 3m to 5m lower down, possibly making the full height of the MBA rampart something on the order of 10m, with a 38° sloping face of 16m to 18m. The construction is similar to MBA ramparts at both the 'Amman Citadel (Dornemann 1983; Zayadine, Najjar and Greene 1987; Greene and 'Amr 1992) and Tall al-'Umayrī (Herr, Geraty, LaBianca and Younker 1991).

11. Standing atop the MBA earthen / mudbrick rampart; Field UD.

Season Three Excavation Summary

Season Three of the Tall al-Ḥammām Excavation Project (Collins, Abu Dayyeh *et al*. 2008) was conducted from 3 January to 13 February 2008. The first segment of Season Three was directed by Dr Steven Collins, assisted by Mr Hussein al-Jarrah, Mr Gary Byers and Mr Steve McAllister. The second segment of the season, marked by the signing of the Joint Agreement, was co-directed by Dr Steven Collins and Mr Abdesami' Abu Dayyeh, and assisted by Mr Adeib Abu Shmais, Mr Gary Byers, Mr Khalil Hamdan, Mr Hussein al-Jarrah, Mr Jehad Haroun, Mr Michael C. Luddeni, Mr Steve McAllister and Mr Qutaiba Dasouqi. TaHEP professional archaeologists and specialists were assisted by a team of Square Supervisors consisting of TSU graduate and doctoral students in archaeology, along with students and scholars from other institutions. Seventy-six volunteer excavators from the USA, Canada, Germany and Italy, and local workers, completed the team.

Area L

Several sweeps of the lower tall were made for sherding purposes. EBA, IBA and MBA forms were abundant, and in similar quantities (Chalcolithic sherds were comparatively infrequent). We also spent a considerable amount of time and care tracing the Bronze Age city walls, towers and (possible) gates, and placing these on the site survey. After much discussion, we concluded that sections of the fortification walls had likely been added or refurbished during the MBA, as signaled by square towers and megalithic construction over segments of the

4m-thick EBA / IBA city wall. The EBA / IBA walls are fundamentally different in character, and made primarily with 'one-man' field stones and cobble fill, with rounded towers at frequent intervals.

Field LR got some much-needed attention, as local treasure hunters had created many large holes and trenches through previously-deposited heaps of soil bulldozed in or out (depending on the location) for military and / or agricultural purposes. We took advantage of the situation to clean away debris from several sections of walls that turned out to be a very large structure (nearly 40m square), possibly a water reservoir or bath complex (see **Fig. 12**). There was an abundance of Roman (and some Byzantine) pottery and glass fragments. Many of the ashlars in this structure exceed 1m in length, and some are as large as 2m. Floors and plaster are evident.

Area U

We spent a considerable amount of time carefully tracking the Bronze Age city walls from the lower tall around the upper tall, effectively doubling its size, or nearly so. We also discovered that the MBA city stretches out from the upper tall onto the lower tall, making it nearly as big as the earlier city, if not re-occupying the entire EBA footprint. All of this activity was surveyed. Minimally, TaH is one of the largest Bronze Age sites in the southern Levant. Our work on the upper tall expanded somewhat during Season Three, mainly due to the need to extend our knowledge of stratigraphy for the later periods, beginning with late IA1 or IA2.

12. Interior walls and floor in the monumental Roman structure; Field LR..

Field UA

Field UA got a general cleaning from the uppermost MT debris, but no additional excavation was accomplished. The cleaning, however, facilitated continued analysis of exposed stratigraphic sequences.

Field UB

Square UB.20U was cleaned in Season Three, but no further excavation was performed. This allowed adjacent squares to be opened for a better look at what we now believe is a (twin) tower overlooking a gate complex. Square UB.21U was opened this season to extend our look at the tower. Mixed pottery from the Iron Age, Hellenistic (rare) and Islamic (rare) periods attests to possibly continuous re-use of this massive structure over many centuries. UB.21U is also revealing monumental walls below the tower (date undetermined).

We opened UB.21T in Season Two primarily to extend our excavation of the multi-phased IA2 monumental building first seen in UB.20U. Along with two additional walls from that structure, another building was discovered adjacent to it. This new structure seems also to date from IA2, and contains two well-preserved doorways. UB.22T extends our view of this structure. Mixed pottery also signals re-use of this facility over several periods. However, occupation after IA2c may have been merely squatter-presence, as the pottery from this period forward is extremely scarce.

Field UC

In Square UC.28J we unearthed two additional installations (loci 27 and 29) at a level earlier than the previous 'altar', but seemingly associated with the same walls. Several remodels appear to be in view. Square UC.30K, near UB.28J, provided a look at the level below the base of the MT cut, and immediately revealed IA2 foundations and floors. Pottery was mixed EBA, IBA, MBA and IA2.

Field UD

Most of the work done in UD.37E this season was to remove the debris from a storage pit dug into the MBA mudbrick matrix to a depth of almost 2m. Squares UD.35D and UD.36D were opened to extend our understanding of

the relationship between the numerous superimposed structures in UD.37E and the IA2 city wall, which was built squarely on top of the MBA rampart (Parr 1968; Dornemann 1983; Kemp 1983, 1991; Zayadine, Najjar and Greene 1987; Herr, Geraty, LaBianca and Younker 1991; Greene and 'Amr 1992; Burke 2004). IA2 pottery is most abundant in Field UD, but a few forms from the Hellenistic and later periods do appear from time to time, again suggesting some level of re-use. The IA2 structures are clearly 'carved' into the massive mudbrick matrix of the MBA rampart. One fragment of a grey, burnished Tell el-Yahudiya Ware juglet (MB2) was also found in UD.35D, giving some indication of what might be the terminal period for the Bronze Age city.

A 1.5m trench was laid down the 35 line northward from the IA2 city wall, using grid Squares UD.35A, 35B and 35C. The purpose of this trench was to reveal a long section of period fortification systems in an area where wall structures seemed relatively close to the ground surface. We began at the top of the IA2 city wall, cleaning the outer face to the bottom of the foundation. Immediately it became clear that it was built (as in Square UD.38E, Season Two) on top of the MBA rampart, only this time the mudbrick of the rampart's top surface extended out from below the IA wall by over 2m (see **Fig. 13**). In other words, no 'leveling' was done to support the IA wall in this location (as was the case in Square UD.38E), as it sat firmly atop and inside the rampart's outer edge.

13. Stones of the IA2 city wall (top) built over the MBA earthen / mudbrick rampart; mudbricks visible at meter-stick; Field UD.

Season Four Excavation Summary

Season Four of the Tall al-Ḥammām Excavation Project (Collins, Hamdan *et al.* 2009) was conducted from 9 January to 26 February 2009. The season was directed by Dr Steven Collins (Dean, College of Archaeology, TSU; Chief Archaeologist) and Mr Khalil Hamdan (DoA, Head of Excavations; Senior Archaeologist), with the assistance of Mr Hussein al-Jarrah (DoA Regional Director, Al-Kafrayn District; Field Archaeologist), Mr Jehad Haroun (DoA; Field Archaeologist), Mr Gary Byers (TSU; Senior Archaeologist), Dr Steve McAllister (TSU; Field Archaeologist), Mr Michael C. Luddeni (TSU; Director of Photography), Dr David Graves (Atlantic Baptist Univ.; Field Archaeologist), and Mr Qutaiba Dasouqi (DoA; Surveyor). TSU graduate and doctoral students served as Square Supervisors, assisted by 33 volunteer excavators from the USA, Germany, Canada and Russia. Mr Adeib Abu-Shmais (former DoA Archaeological Inspector of Amman; Senior Archaeologist) provided consultation during the reading of diagnostic pottery. Dr Kay Prag (Univ. Manchester, retired; Senior Archaeologist) provided on-site consultation for three days at the end of the season, offering valuable insights based on her extensive experience with exploration and excavation on the eastern Jordan Disk, including directing many seasons of excavation at Tall Iktānū and at Tall al-Ḥammām (1990).

Field UA

During Season Four we spent some time re-assessing the sequencing in Field UA, and found nothing to change our minds regarding

the periods represented. We observed that the 'red' mudbricks (the red color was created by an extensive fire) in the MBA monumental structure average 30 x 50 x 15cm, which is quite distinct from the 20 x 40 x 10cm mudbricks present in most of the EBA construction. The MBA monumental mudbrick building seems to cover the entire acropolis area of Field UA.

Field UB

During this season we confirmed that the cobble surface did, in fact, extend fully between the two towers — in essence creating a road, where formerly the cobbles had created a more expansive plaza before the 'gate' towers were constructed during IA2a-b. Thus, the cobble surface was originally part of an earlier phase, likely IA1b, according to the pottery in associated loci. The stronger E tower has two phases from IA2, while the W tower seems to be almost an afterthought (same dimensions, but much poorer construction) built later in IA2b-c, creating what is perhaps an upper / inner gate. We think that the main gate is outside and lower than this complex — at least that is what the topography suggests.

Under the cobble street / plaza and associated IA1b walls, at a depth of nearly 3m, are two earlier walls and a floor with a clay-lined silo installation. As we observed in previous seasons, the pottery associated with these two earlier walls, floor, and silo dates to MB2, and all associated loci seem to be sealed and free from later intrusion. Square UB.10MM (and adjacent squares W and S; formerly Square UB.20U) got an interpretive cleaning in Season Three, but no further excavation was performed. However, during this season we 'triple dated' the MB2 domestic structure by coring the wall. The MB2 date was upheld through the final pottery reading.

In addition, a 1.5m-wide trench was laid out over the IA city wall going N from the E tower. It was almost immediately apparent that the IA city wall was built directly over the MBA mudbrick / earthen rampart as in Fields UC and UD (cf. Greene and 'Amr 1992; Herr, Geraty, LaBianca and Younker 1991; for Egyptian analogies see Kemp 1983, 1991)[15]. After two weeks we suspended activity in Field UB in order to survey and lay out the new grid before further work is done there in a future season.

Field UC

Two 1.5m-wide trenches were laid out across the IA city wall in Field UC, with the same result as the trench in Field UB: the IA city wall had been built directly atop the MBA mudbrick / earthen rampart. After two weeks we suspended activity in Field UC in order to survey and lay out the new grid before further work is done.

Field UD

Two 1.5m-wide trenches were laid out across the IA city wall in Field UD, with the same result as the trenches in Fields UB and UC: the IA city wall had been built directly atop the MBA mudbrick / earthen rampart. After two weeks we suspended activity in Field UD in order to survey and lay out the new grid before work is continued.

Field LR

Excavation of the monumental Roman building continued during the first two weeks of the 2009 season. The NW corner of the structure was exposed, along with an intersection of interior walls with a well-paved floor (both were recovered for preservation). It seems that the Roman construction used large limestone blocks, while the Byzantine rebuild used a rather poor quality of grey sandstone of the same type found near Tall ar-Rāmah to the SW. The common quarry for this sandstone is equidistant between

15. The MBA rampart system ringing the upper tall at Tall al-Ḥammām effectively creates an inner city defensive perimeter, the interior of which is populated with both monumental buildings (as in Field UA) and domestic structures (as in Field UB). The rampart's outer slope is 38 %. The flattened top of the rampart exceeds 7 m in width. The height of the rampart from the exterior dimension is estimated to be in excess of 20m, and constructed primarily of mudbricks. Based on Schaub's (2007) formula, we estimate that, given its estimated dimensions, it took something on the order of 40+ million bricks to build the rampart around the upper tall. It has been excavated to a height of 6 m in Field UD. There seems to be little doubt that TaH's upper city preserves a virtually-complete MBA rampart system. In the future we hope to accomplish a complete sectioning of the rampart that will reveal it full dimensions, design, and methods of construction. We have not yet determined the location of the MBA gateway through the rampart.

ar-Rāmah and al-Ḥammām. The nature of the large Roman / Byzantine building in Field LR has yet to be determined. Nineteenth century explorers usually interpreted it as a bath complex, taking advantage of the nearby warm spring (Tristram 1874: 330-333; Thomson 1882: 371-376). Late in the season, the corner of another building of similar construction was discovered about 40m E.

Field LA

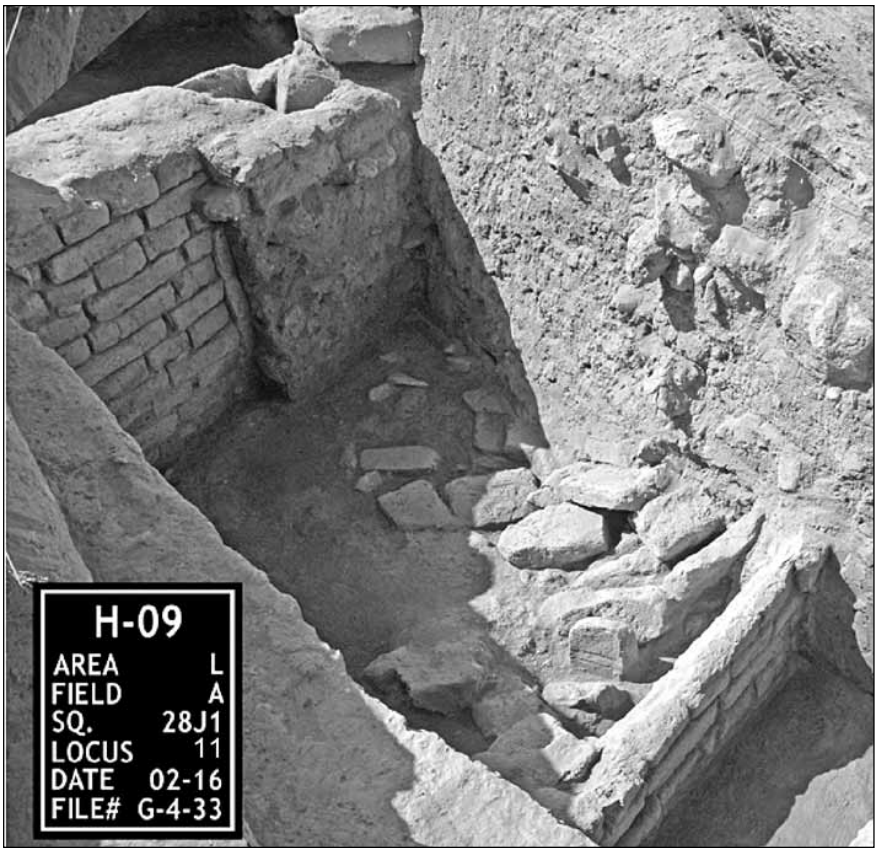
After week two of the season, our focus shifted from the upper tall to the lower tall. With the new site grid now available for Area L, we set our sights on Field LA on the southern side of the site. We laid out a trench down the 28 N-S gridline comprised of Squares LA.28J1, LA.28K1, LA.28L1, LA.28M1, and LA.28N1[16]. We generally refer to this trench as Trench LA.28. Each square was sub-balked to create a 2m trench running for 30m. Surface features included at least 4m width of what was likely the first EB3 city wall phase, of boulder-and-chink construction (EB1c and EB2 city walls were generally made mostly of mudbrick) (Rast and Schaub 1980; Schaub 2007), and several domestic-sized stone foundations. Our extensive sherding in Area L has confirmed previous estimates showing that 99 % of the surface pottery dates to the EBA, IBA and MBA[17]. The excavations of K. Prag on the western side of our Area L gave the same indications (Prag 1991).

It is not an exaggeration to say that Trench LA.28 delivered in dramatic fashion. Not only did we get a good look at the EB3 city wall construction, with phases during which its width was extended from 4 m to 9 m, and then to over 15m (separately-built walls with rubble fill), but also we got a good sense of the stratigraphy and phasing, along with some excellent sections that were quite 'readable' with regard to destructions, collapses and rebuilds (see **Fig. 14**). Sealed loci with a great deal of pottery were in abundance, and many architectural indicators were present that revealed close relationships between occupational phases.

Each square along Trench LA.28 had an identical occupational sequence spread over what appears to be two or three domestic structures, all built with the same wall dimensions, and all oriented parallel and perpendicular to the city wall. In each square the following sequence was obtained: (a) EB3 foundations of two to three courses of medium-sized cobblestones (10-20cm) — with a hard mud-plaster floor sealing against them — were topped by a mudbrick superstructure built with alternating header / stretcher bonding (the EB3 mudbricks were uniformly 20 x 40 x 10cm), using mud / ash mortar, with resulting average wall-widths of 0.75m, including layers of mud plaster; (b) EB3 walls were partially destroyed (fire? earthquake? attack?), but were rebuilt with a bonded layer (again, header / stretcher) of slightly thicker and wider IB1-2 mudbricks on top of 6-10 courses of original EB3 mudbricks; (c) new IB1-2 floors were installed about 20cm above the original EB3 floors, generally sealing against the top of the EB3 foundation stones at the base of the first course of EB3 mudbricks, often running across EB3 stone thresholds into adjacent rooms; (c) the EB3 / IB1-2 domestic structures underwent a major destruction with thick (30+ cm) layers of ash over a tumbled mudbrick and ash matrix; (d) the same walls built and used by the EB3 and IB1-2 builders, probably standing to their present height (8-12 mudbrick courses) within the destruction matrix, were then topped by medium-cobble foundations following the previous wall lines (with a few new walls), likely built during MB1 and used into MB2; (e) all that remains of the MBA occupation in Trench LA.28 are numerous stone foundations and associated pottery.

Final pottery reads from mixed and sealed loci support this sequence of occupation, and

16. A note on the size of Tall al-Ḥammām: our surveyed site grid now contains over 12,000 6 x 6m squares extending over 43 ha.
17. The ceramics seem to reveal the presence of all subphases of the EBA, IBA and MBA, including transitional forms at period and subperiod horizons. No LBA sherds are evident. In other words, Tall al-Ḥammām preserves a remarkably consistent Bronze Age city that was able to withstand the negative factors (climate fluctuations, people migrations, wars) that often created settlement gaps or terminations at other sites — that is, until all the eastern Jordan Disk sites came to a seemingly-abrupt end toward the end of the MBA. Interestingly, there appear to be no LBA settlements at all on the 300km^2 parcel of the Jordan Disk east of the river. Cities, towns and villages reappear about the mid-Iron Age.



14. Multiple building phases - including EB3, IBA and MBA — in Square LA.28J on the lower tall; note the tumbled bricks wrenched out of a wall (earthquake?).

even suggest that no real break in occupation occurred at this location on the site. Thus far, Trench LA.28 suggests that, whatever befell the residents of Tall al-Ḥammām through the EBA, IBA and MBA, they reorganized quickly to rebuild, refurbish, and re-create their urban environment.

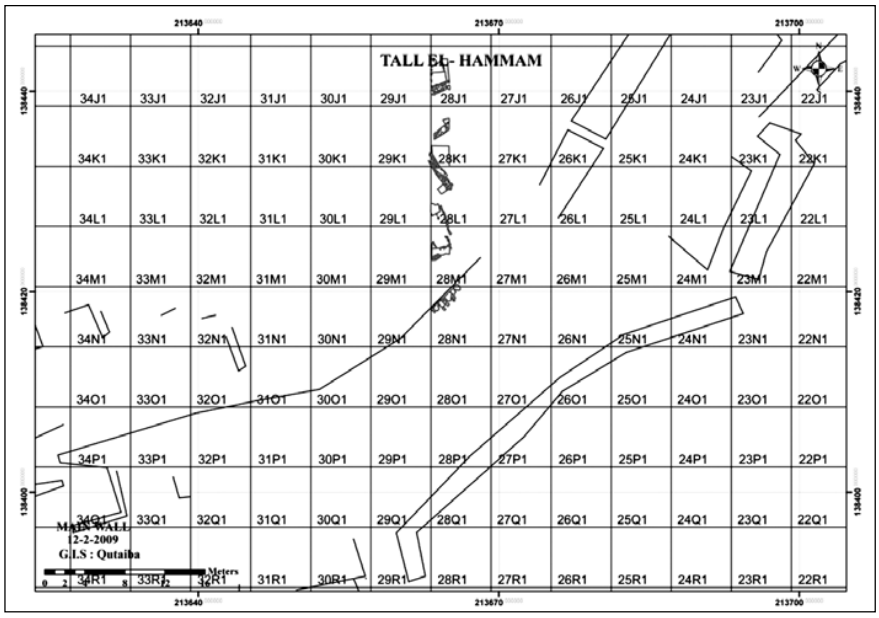
Some of the notable features unearthed in Trench LA.28 include two doorways with stone thresholds (Squares LA.28K1 and LA.28L1), one threshold with an *in situ* socket stone[18] (Square LA.28K1), and an EB3 sub-floor storage installation created from a well-used large holemouth jar (Square LA.28K1).

The EB3 city wall was likely re-used and refurbished several times during the IBA and MBA. In Square LA.28N1, its stone foundation stands to a height of 1.7m. It is built over a matrix of mixed debris (ash, mudbrick, stones, pottery) approximately 1m thick, with interspersed stone foundation stubs and some laid mudbricks. At 1m underneath the EB3 city wall foundation, another substantial stone foundation has emerged, obviously belonging to an earlier phase of the EBA.

We also accomplished some intensive surveying of surface-visible walls in Field LA, adjacent to, and E and W of, Trench LA.28, for a distance of about 200m. The city fortifications are very complex in this area (see **Fig. 15**): red lines depict excavated structures in Trench LA.28; blue lines show fortification walls, including what appears to be a major gateway. Multiple towers are visible, as well as many other structures both monumental and domestic.

Approximately 200m NW of Trench LA.28 we discovered and surveyed what appears to be a monumental Bronze Age building measuring over 20 x 60m, with many interior walls, and perhaps surrounded by platform terraces. It sits on a rectangular, raised area almost in the center of the city wall perimeter of the lower tall. Whatever its function, it must have been central to the daily life of the city. In future seasons, it will be interesting to determine if this surface structure has precursor phases like the domes-

18. What appears to be the upper socket stone was also found near the one doorway.



15. New site-grid with outlines of EBA / IBA / MBA fortification structures, with houses excavated in Trench LA.28, N of the city wall; Field LA.

tic structures excavated this season in Trench LA.28.

Field LB

In the southern part of Field LB we surveyed many city wall segments, and observed two massive structures of solid mudbrick on each side of an area obviously bulldozed out for banana fields. These two mudbrick structures, now separated E-W by nearly 100m, are very much in character with the massive MBA mudbrick rampart surrounding the upper tall and, if a connection is extrapolated, that stretch of now-missing mudbrick rampart or wall may have contained a city gate from one of the Bronze Age fortification phases. Both Drs Prag and Collins think that it has the topography suggestive of a major entryway. Dr Prag, during years of walking over Tall al-Ḥammām, had often speculated about the defensive nature of the massive mudbrick structures that were even more extensive and visible two decades ago. If it is a city wall, such a mudbrick defensive structure could date to EB1c / EB2 (Philip 2008). If it is a sloping rampart, it would likely date either to MB1 or MB2 (Dornemann 1983: 18; Burke 2004), or possibly earlier (Mazar 2002).

The W end of the mudbrick wall / rampart terminates at a large tower built of 0.75-1.5m boulders, sitting high on several terraces, and measuring 8 x 9m at the highest level. The city wall continues from that point to the N, but much of the next 200m of the wall heading in that direction is rather out of character for EBA fortification builders who usually used 'one-man-sized' undressed field stones. In this section of the wall many of the stones are in the 0.75 - 1+ m range, which is more in character with the MBA style. Our current speculation is that these S and W sections of the Bronze Age city wall were rebuilt during the MBA, at which time the large tower was also added.

Field LC

We conducted some sherding in Field LC, but no other activity was pursued. City walls are traceable in several phases in this location, along with several exposed walls of (probably) domestic structures. The city wall segments were surveyed in the previous season.

Field LD

Field LD is heavily damaged by agricultural activity, mostly in the form of banana cultivation. Stones appropriately sized for building are strewn everywhere, with many of the larger ones bulldozed into linear piles along the banana field boundaries. Within Field LD is a large sink-hole that we first thought contained no visible structures or pottery. However, with further erosion between Seasons Three and Four, two stone foundations appeared in the resultant section, 1 m below the original surface, with another stone foundation 1m below that. Pottery em-

bedded in the higher wall dates to the late EB3 or IB1. The wall underneath it had no visible pottery associated with it. The interesting thing is that the sink-hole lies outside the EB3 city wall boundary that we surveyed during Season Three. Therefore, either these substantial structures were outside the city defenses, or the defenses were extended at some point, taking the city fortifications to the N, nearly to the edge of the Wādī al-Kafrayn. This effectively increases the known size of the Bronze Age city by 10-15 %. No excavation was carried out in Field LD during the 2009 season.

Chalcolithic Period

During the first four seasons, no Chalcolithic material has been confirmed in an excavated context. This is understandable given the depth of the Bronze Age material overlying whatever earlier strata may be present. Our deepest penetration on the upper tall has exposed MB1 / 2 material. Our depth on the lower tall has reached well into EB3 and, in some loci, EB2 pottery is present, with occasional EB1 sherds in the mix.

We estimate that in the location of our LA.28 trench we are still approximately 2 m from bedrock, perhaps more. Thus, a Chalcolithic occupation is not out of the question, especially when one considers the number and quality of Chalcolithic objects (mostly bits and pieces) found on the surface. A 'thumb-notch' flint scraper belonging to the Ghassulian tradition, along with several Ghassulian-style basalt bowl fragments, attest to some level of Chalcolithic occupation.

Since Tulaylāt al-Ghassūl lies only a few kilometers to the SE, it makes sense that Tall al-Ḥammām's consistent on-site springs and flanking major wadis would have attracted settlers in the prehistoric eras. Indeed, when Tulaylāt al-Ghassūl lost its water source (almost over night as many scholars depict it), TaH would have provided an attractive alternative site offering significant topographical advantages over the flat terrain around Tulaylāt al-Ghassūl. Perhaps future seasons of excavation will shed light on TaH's role at the dawn of civilization on the eastern Jordan Disk.

Early Bronze Age

Early Bronze Age Tall al-Ḥammām has emerged as a major fortified urban center that obviously dominated the landscape of the southern Jordan Valley. Within a radius of 3km, TaH is surrounded by numerous small-to-medium-sized EBA towns, villages, and hamlets, several literally within its shadow. Most of the larger of these are named (Tall al-'Udhaymī North, Tall al-'Udhaymī South, Tall Muways, Tall al-Kafrayn, Tall Barakāt, Tall aṭ-Ṭāḥūnah), while many of the smaller sites are not. That the configuration of this EBA cluster, with TaH as its immense center, constitutes a substantial city-state is hardly questionable. Its durability, consistency and extent must be determined by continued excavation.

Ceramic indicators strongly suggest that the city had EB1, EB2 and EB3 phases. Although we are not deep enough into the earlier sub-periods to confirm unbroken occupation, the EB3 does seem to have transitioned from the EB2 (Area LA). Forms from the early, middle, and late phases of EB3 are all present in the ceramic repertoire.

Given that EB2 and EB3 sherds are found mixed at what appears to be the interface between the two sub-periods, we anticipate a significant architectural phase dating to EB2. At least two stone foundations within a destruction matrix containing an abundance of tumbled mudbricks lies at approximately 1m below the EB3 city wall foundation (see **Fig. 16**). We cannot at this time confirm an EB2 date for the lower structures. A few EB1 sherds are present, but should not be expected to appear with frequency in the later contexts.

The size of the EBA city at TaH (see the Introduction and Survey sections of this report) ranks it among the largest in the southern Levant. Its fortification systems have wall thicknesses ranging from 4m to over 15m, built in multiple phases using well-faced-but-undressed field stones generally of the 'one-man' variety. Sections of the city wall have obvious rebuilds from the Middle Bronze Age utilizing much larger boulders (0.5 to 1.3m) installed directly on the smaller EBA stone courses. In places, the city walls were reinforced by the construction of additional walls (from 1 to 3m in thickness) running parallel, with rubble fill between them. There are so many of these walls and wall sections visible on the surface that is difficult to make sense of them at this point in the excava-

16. Phases of the Bronze Age city wall with associated ash / debris layers, with another wall visible (very bottom) 1m below the base of the EB3 foundation; the city wall seems to have been refurbished and re-used during the IBA and MBA; Trench LA.28 is 2 m in width; Field LA.

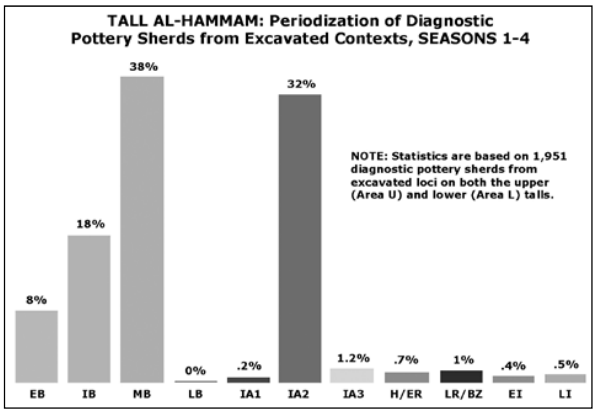
tion. We can say, however, that they comprise a highly complex system of fortification walls, gates, gate plazas, curtain walls, towers, bastions and buttresses, likely built over a very long period of time.

Significant indicators of re-use and re-furbishing of both monumental and domestic architecture have been found in excavated contexts from one end of the site to the other, but particularly on the lower tall in Field LA in the trench comprised of Squares LA.28J-N. For example, the refurbishing of more than one domestic structure is traceable, on the same footprint, from at least the EB3, through the IBA, and into the MBA (many with well-preserved plaster). IBA mudbricks were added directly on top of EBA mudbrick courses (and of a slightly different size), with the floor being raised about 20cm. Subsequently, MBA builders installed (over the IBA mudbricks) a new foundation of two to three stone courses following the same footprint. Ethnographic analogies of such reconstruction and refurbishing of mudbrick structures over many centuries abound[19]. It is interesting to note that some of the mudbrick courses from EB3 contexts were so well preserved that the corners of the bricks were still sharp as if extracted only recently from their molds.

The EB3 ceramic assemblages includes platters and platter-bowls, deep bowls, holemouth jars and cooking pots, storage jars, jugs, a variety of juglets and lamps (see **Figs. 17, 19 and 20**).

Intermediate Bronze Age

If there were (and there always are) surprises in the first four seasons of excavation at TaH, the size of the IBA city was certainly one. We knew from our extensive sherding of the site that there was a large amount of IBA pottery strewn over most of its surface. Although the extent of the IBA city is not confirmed, we suspect that it occupies virtually the same footprint as the EBA



17. Graph showing period percentage distribution of Tall al-Ḥammām diagnostic pottery from excavated contexts over both the upper and lower talls.

19. Myriad examples of the lengthy occupation of mudbrick structures can be found in the Native American pueblos of the American Southwest. Structures continuously used or occupied from five to ten centuries are not uncommon.

city (more than 30 hectares), including the reuse of the earlier fortifications.

This will certainly change the way the IBA is viewed both in the southern Jordan Valley and in the region. In most of the literature, Tall Iktānū is seen, more or less, as the quintessential IBA site in the area. It is now safe to say that the fortified IBA city at Tall al-Ḥammām is many times larger than Tall Iktānū which was not fortified (Prag 1991). At only a little more than 2km distance from TaH, we should now, more accurately, interpret Tall Iktānū as a satellite village within the hegemony of TaH (there are also other IBA sites in the area, including Tall Nimrīn to the north). This seems to suggest that Tall al-Ḥammām retained its city-state status into the IBA, or at least something very close to that (cf. Cohen 2009).

The ceramic assemblages for Tall al-Ḥammām during the IBA reveal the full range of known forms for both the earlier and later phases. The ledge-handle repertoire is particularly instructive, and reveals a continuum of folded (earlier) to enveloped (later) forms, including what seem to be incremental transitions. In other words, there appears to be little or no break in the occupational continuity of the site during the approximately three centuries of this period. The IBA ceramic assemblages includes platter-bowls, holemouth jars and cooking pots, 'milk bottles', storage jars, jugs, 'teapots', lamps and amphoriskoi (see **Figs. 17, 19 and 20**).

Middle Bronze Age

The late IBA ceramic forms give way to the MB1 assemblage amidst the refurbishing of EBA / IBA domestic structures, strongly suggesting a continuation of occupation with little or no interruption. The nature of these rebuilds — indeed, the necessity for them — remains uncertain; however, the condition of some walls (including sections of the city wall) suggests earthquake activity. We often observe that walls have 'lurched' in the same direction, with sections of mudbricks 'torn' or 'thrown' from walls with similar directionality.

Once again, surface sherding reveals that both MB1 and MB2 are well represented over most of the site. However, in excavated contexts, the MB1 assemblage seems to dominate on the lower tall, while the MB2 assemblage dominates on the upper tall. Further, fineware is significantly more predominate on the upper tall, while commonware forms appear with much greater frequency on the lower tall.

Presently, in the face of these observations, we theorize that virtually the entire fortified site footprint (30+ hectares) was occupied during both MB1 and MB2; however, the upper tall, surrounded by a massive earthen / mudbrick rampart (likely during MB2), became a true 'acropolis' during MB2, the location of most of the city's monumental structures such as palaces, temples and administrative buildings. Although there is a 20 x 60m structure (as yet unexcavated) on the lower tall that probably dates to the MBA (following the analogy of the stratification in Trench LA.28), Field UA on the upper tall has already, by excavation, manifested a massive MBA mudbrick structure with meter-thick walls and numerous rooms. The function of that structure is presently unknown, but is suggestive of a palace or large administrative center.

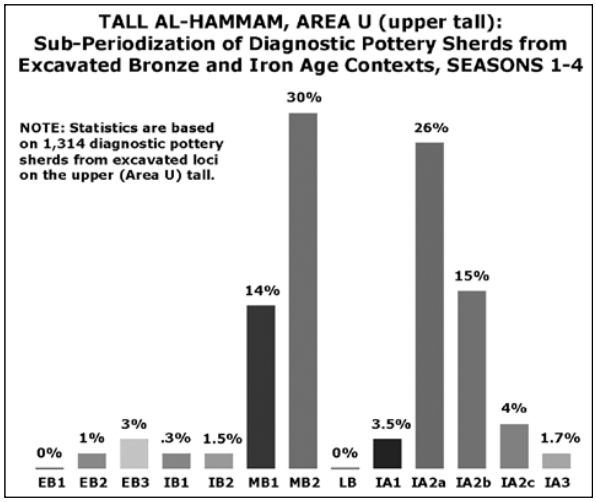
In the 'swale' of the upper tall we excavated part of a structure dating to MB2, containing two storage jars and a grey-burnished piriform juglet (see **Fig. 18**). One room contained a clay-lined silo or storage bin. All this was covered with approximately 1m of destruction matrix filled with dark ash, broken mudbricks, pottery fragments and severely burned wattle-and-daub roofing material. But again, the juglet has to be classed as fineware.

By the time TaH neared the end of MB2, it

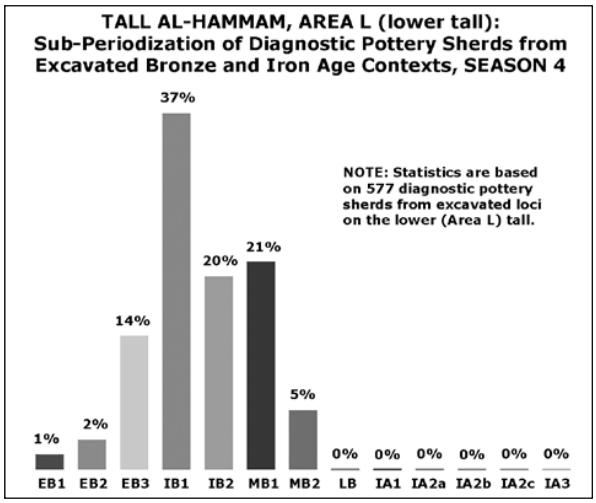
18. Grey burnished MBA piriform juglet, severely burned; Square UB.10MM (formerly UB.20U).

consisted of an outer city ringed by a massive fortification system with many towers (partly earthen / mudbrick rampart, partly stone walls), much of it constructed directly on EBA / IBA foundations. While TaH's EBA towers tend to be more circular, the MBA towers (where we can observe them) are generally square or rectangular, such as the large, well-preserved tower about 500m west of our LA.28 trench on the lower tall. This particular tower is abutted by the city wall (going northward) and by a massive earthen / mudbrick rampart[20] (going eastward); in other words, a corner tower. Much of this is visible on the surface (with additional exposure created by 'night-diggers'), and was the final phase of the Bronze Age city, followed by an occupational hiatus of at least five centuries. This 'LBA gap' is generally observed at all sites within a 10km radius of Tall al-Ḥammām[21].

The MBA ceramic assemblages encompass a range of both common and fine wares including large storage jars, carinated bowls and chalices, large bowls, cups / bowls, kraters, cooking pots, handmade casseroles and a range of jugs and juglets, including Tell el-Yahudiyeh Ware (see **Figs. 17, 19 and 20**).



19. Graph showing sub-period percentage distribution of Tall al-Ḥammām diagnostic pottery from excavated contexts on the upper tall (Area U).



20. Graph showing sub-period percentage distribution of Tall al-Ḥammām diagnostic pottery from excavated contexts on the lower tall (Area L).

Iron Age

Following a Late Bronze Age occupational hiatus, the first signs of the re-occupation of the site appear toward the end of Iron Age 1. Very little pottery from IA1 has appeared in the excavation thus far, and none in a confirmed architectural context.

The first evidence of occupation above the MBA destruction level is a (gate?) plaza made of small-to-medium cobbles (Field UB) that may date to the latter part of IA1. On the NE edge of that cobble surface, a white-slipped, 'cupped' pilgrim flask, with shoulder lug handles and painted reddish-brown geometric decoration, was discovered, but in a location potentially disturbed by modern military trenching. The flask clearly dates to the latter part of IA1 (cf. Amiran 1970: 279). A few other IA1 sherds were found associated with the surface of the cobbles, along with sherds from IA2a (early 10th century BC).

The upper tall is ringed by a fortification wall, consistently 3m thick, dating to IA2a, of boulder-and-chink construction using mostly medium-sized stones, with a few larger stones set into the foundation at the inset - offset cor-

20. This feature was observed by K. Prag on many occasions, including while she excavated on the western edge of the lower tall in 1990. Over 150m of the earthen / mudbrick rampart in this area has now been bulldozed away for agricultural purposes. This information was documented in consultation between Drs Collins and Prag on site at the end of the 2009 TaH excavation season.

21. Jericho, approximately 25km to the west of TaH, has a fiery MB2 (MB IIc in K. Kenyon's chronology) destruction commensurate with that of TaH, followed by a gap in occupation during LB1. Unlike Tall al-Ḥammām, Jericho was re-occupied during LB2 (after 1400 BC), but there is little left of that settlement (Kenyon 1993).

ners. The builders of the IA2 city wall obviously followed the line of the MBA rampart with care, building squarely upon it, and digging their foundation trenches into it. Thus far we have excavated segments of the Iron Age city wall in at least seven locations along a 200 m stretch from Field UD westward to Field UB, along the northern side of the upper tall. Without exception, in each location the IA fortifications are built directly on / into the outer edge of the MBA rampart.

Interestingly, in Field UD, where the MBA rampart takes a turn to the south, the Iron Age builders extended the outer portion of their wall beyond the edge of the top of the MBA rampart by constructing a horizontally-compacted leveling, effectively widening the rampart, and allowing them to build their wall about 1.5m further E than the outer, top edge of the rampart. The amount of earthwork necessary to accomplish this slight eastward placement (less than 2m!) of the IA city wall relative to the top of the MBA rampart is puzzling. One can only think that there may have been a structure of some importance already in place when this phase of the fortification was built, requiring that the wall-placement be adjusted in order to accommodate it.

Field UB has revealed what appears to be a gate area along the northern fortifications, but not of the traditional Iron Age variety. Perhaps it is a smaller, secondary gate. It is flanked by two monumental towers with 1.5m-to 2m-thick foundation walls. While the western tower has the same dimensions as the eastern tower, its construction is not nearly as good (in fact, quite sloppy), giving rise to the idea that it was hastily built, almost as an afterthought. The foundation of the well-built eastern tower is preserved almost in its entirety, with the final leveling course of stones still showing evidence of the mudbricks laid upon them. The western tower dates to IA2a-b, with two phases plainly visible. It seems likely that the earlier phase was constructed toward the beginning of the 10th century BC, with the latter (terminal) phase being built during the 9th century BC. We do not yet have enough ceramic data from the western tower to suggest the date of its construction.

On the N side of Field UC we have excavated what appears to be a 'cultic' installation of some kind, perhaps within the context of a larger administrative center or palatial structure. Around a small 'altar' consisting of several flat, hand-sized stones, we found five chalices (two nearly intact) and a fragment of what appears to be a human figurine. Immediately to the N of this 'cultic' installation was some sort of storage room in which we found numerous large storage jars (mostly broken) and several jugs / juglets, a few intact or nearly intact. One jug was Cypro-Phoenician in design, made of reddish clay, white-slipped, and painted with dark brown geometric designs (cf. Amiran 1970: 288). Another was a spouted juglet made of reddish clay and slip, and painted with a simple geometric design. All of these vessels were contiguous with the surface to a depth of 0.5m, tightly packed, and dating to IA2a-b. Thus, it appears that, for all intents and purposes, this represents the final significant occupation at TaH.

Several IA domestic structures have appeared in Field UD and Field UC, with an abundance of grindstones, mortars and pestles, cooking pots, storage jars, dipper juglets, bowls and kraters, mostly belonging to IA2a-b. A small number of IA2c and IA3 (Persian Period) sherds are also present in these contexts, suggesting that the IA2a-b domestic structures were re-used (squatters?) during the waning decades of the Iron Age. However, it is abundantly clear that the building and successful operation of the city centers on IA2a-b, with only a significantly diminished presence during IA2c and IA3. Perhaps the demise of the IA2b city is attributable to the Assyrian conquest of the region. Whatever the cause, life in the Iron Age city at Tall al-Ḥammām seems to have diminished dramatically after the 8th century BC.

Included in the IA ceramic assemblages are storage jars, kraters, shallow and deep bowls, flasks, decanters, cooking pots and casseroles, a wide range of juglets, amphoriskoi, cups, chalices and lamps (see **Figs. 17, 19 and 20**).

Hellenistic, Roman and Byzantine Periods

Only a handful of pottery sherds from the Hellenistic, Roman and Byzantine periods have been found on the upper tall, and less on the lower tall, except in the immediate vicinity of the monumental Roman / Byzantine structure in Field LR (see **Fig. 17**). Thus, we have tentative-

ly concluded that there is no evidence at TaH to suggest that any kind of town or village existed there during these periods.

However, this is not to say that these periods are not substantially represented at and around the site. Large cisterns and a fort (Roman) are present in the hills immediately to the E at abbasa. Hellenistic forts are also in the area (at aṭ-Ṭāḥūnah and further NE). A building of similar dimensions and (possibly) date as the nearby Hellenistic forts sits atop TaH in Field UA (but nowhere else on the upper tall). That structure in Field UA has yielded both Hellenistic and Early Roman pottery (including a Herodian-style oil lamp). We have also uncovered and identified approximately 165m of a Roman period aqueduct leading from nearby springs on the E side of the tall at the base of the hills in the direction of the large Roman building in Field LR.

This Roman building measures about 40 x 40m, with exterior walls constructed of finely-cut limestone blocks as large as 1 x 1.5m. It is divided on the interior by 0.5m walls, and has flagstone floors (no mosaics are visible at this point, and only a few tesserae have been found) on at least three levels. Some Byzantine pottery is present, and we have noticed what appears to be some reconstruction using a low-grade, grey sandstone from a quarry site approximately 2km to the SE. Architectural fragments such as column drums and bases, door-jams and decorative pieces, made of the same grey sandstone, are strewn around the area, and also on the slopes of the tall below Field UA (the highest point on TaH). There is a raft of speculation on the nature of this monumental structure, but we have no definitive answers at this point. Perhaps it was some sort of 'country estate', bath house, or pilgrim 'guest house'. Extensive excavation will be necessary to reveal its purpose.

The Islamic Periods

Thus far relatively few pottery sherds from the Islamic periods have been found, suggesting that any such presence at the site is likely incidental (see **Fig. 17**).

Insights, Conclusions and Recommendations

The first four seasons of exploration and excavation at Tall al-Ḥammām have been successful in clarifying several geographical and stratigraphical issues, and have also provided a good foundation for the balance of the Project. Of course, many new questions have arisen that must be answered in future seasons. Not only has the excavation proper managed to clarify a great deal on the upper tall relative to IA2 subphasing and the clarification of the inner MBA rampart system of the site, but also it has given us a dramatic look into the EBA, IBA and MBA occupations on the lower tall vis-à-vis clear stratigraphic horizons.

Additionally, the completion of the topographical and area surveys — including dolmens, tombs and related town / village sites — has given us a much clearer picture of TaH's central role in the history of the eastern Jordan Disk and the region in general. Indeed, at approximately 36 ha, the sheer size of the heavily fortified Bronze Age city (EBA, IBA, MBA) — with its many satellite towns and villages tightly clustered around it — will certainly shed new light on the interpretation of the evolution of urban polities in the Transjordan context.

It is becoming increasingly clear that most of the archaeological sites in the vicinity, upon which interpretive analyses of the Transjordan Bronze Age have heretofore been based, were, in fact, subordinate satellites within the gravity of Tall al-Ḥammām's political influence (cf. Levy, Daviau, Younker and Shaer 2007; Adams 2008)[22]. This is no casual cluster (cf. Savage, Falconer and Harrison 2007). What we are witnessing is an EBA / IBA / MBA city-state configuration of significant proportions that, until the present work at Tall al-Ḥammām, had not found its way into any of the past or recent discussions of the Transjordan Bronze Age[23] (cf. Dornemann 1983; Najjar 1992; Savage, Falconer and Harrison 2007; Falconer, Fall

22. Tall al-Ḥammām and its intimate geographical cluster of sites is systematically absent (save for a few graphs of site-size comparisons listing TaH at 15 ha) from all past and recent discussions of the Transjordan Bronze Age both for the southern Jordan Valley, and Jordan in general. The only exception to this is the 1990 probe excavation on TaH by Kay Prag (Prag 1991). Dr Prag was, and is, well-familiar with the size and prominence of TaH, but her work at the site is little known and less considered. Drs Prag and Collins explored the expanse of Tall al-Ḥammām together at the end of the 2009 season.

and Jones 2007; Falconer 2008; Palumbo 2008; Philip 2008).

The complex Bronze Age fortifications at Tall al-Ḥammām, including outer and inner city walls and mudbrick / earthen ramparts, are reminiscent of some Bronze Age urban centers in Mesopotamia (Burke 2004). TaHEP will surely add to our understanding of the Transjordan Intermediate Bronze Age (aka EB IV or Intermediate EB - MB), as all indicators seem to support the supposition that Tall al-Ḥammām was both large and fortified during that enigmatic period, and surrounded by smaller IBA sites — such as Tall Iktānū — in close proximity (cf. Richard and Long 2007), for which a city-state interpretation is certainly not out of the question[24].

Although not as large as the Bronze Age occupation, the Iron Age city at Tall al-Ḥammām was obviously an important crossroads center that played a considerable role in the local socio-political milieu. Without a doubt, the excavation of TaH will contribute a wealth of new information for all of its represented periods. It is possible that it has direct links to Solomonic Jerusalem and the subsequent Israelite hegemony as a Transjordan district commercial center.

As is now widely acknowledged, Tall al-Ḥammām and its Bronze Age neighbors remain a logical geographical epicenter for the rise of the Cities of the Plain tradition codified in historical sources (particularly the ancient book of Genesis), an observation not lost on several sectors of 19th, 20th and present scholarship (Tristram 1874: 330-333; Thomson 1882: 371-376; Collins 2002a, 2002b, 2002c, 2008; cf. MacDonald 2000: 45-61). That the enduring and powerful presence of Tall al-Ḥammām and its associated towns and villages on the eastern Jordan Disk during the Bronze Age gave rise to the Cities of the Plain (Disk) tradition is a reasonable hypothesis commensurate with the available geographical and archaeological data.

Finally, the continuation and building of relationships with local officials and residents, the extensive exploration of area geographical features and archaeological sites, and the experience of working side by side with our colleagues from the Department of Antiquities, have all come together to build positive expectations for the future of TaHEP.

We strongly recommend that the work of TaHEP continue, with the anticipation of providing significant contributions to the archaeology of Jordan and the entire region.

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23. This is not meant as a criticism, simply a statement of fact. One cannot expect an unexcavated, unpublished site, regardless of its size, to play a very large role in the interpretation of a regional archaeological picture, however inaccurate the picture may be without it. New interpretations will arise as information from Tall al-Ḥammām is integrated into the available corpus of archaeological data. But again, Prag's probe excavation report and description of TaH have been available since 1991, so it cannot be said that information about the site was altogether invisible.
24. Once again we have an example in which a secondary townsite, Tall Iktānū, had, by default, become the interpretive epicenter for understanding the IBA in the southern Jordan Valley, even for much of the region. Tall al-Ḥammām will now be able to interject relevant data from a primary IBA urban site into the discussion.

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