

A63/07
Leon Levy Expedition to Ashkelon
Annual Report Submission
Excavation Season, June 2-July 14, 2007



1. RESEARCH DESIGN

The 2007 excavation season at Ashkelon saw a number of new and modified excavation goals, both more immediate ones for this summer and longer-term goals for the next five years. As a result, it is worth presenting these briefly.

Grid 38 (170000, 119100, 107100, 119250)- Since 1985, Grid 38 has been one of the primary excavation areas for the Leon Levy Expedition. After 23 years of research, it is the only excavation area to have a cultural sequence which encompasses all of the major periods of habitation at Ashkelon. Excavations in this area have revealed 21 superimposed, stratigraphically linked architectural phases from modern agricultural terracing to Late Bronze Age fortifications. Outlying excavations have also revealed earlier Late Bronze and Middle Bronze remains. Excavations in 2004 revealed the earliest Philistine remains (Phase 20) on a wide scale (Master 2005; Cross and Stager 2006), and provided an opportunity to test the theories of Stager (1985; 1995) and Mazar (1985) concerning early Philistine settlement. Some ideas, such as a marked distinction between an earlier monochrome phase and a later bichrome phase of Philistine pottery, withstood scrutiny while others, such as the idea of “urban imposition,” (Stager 1995) need revision. One of the features which will be tested in 2007 is the nature of the earliest Philistine occupation. In 2004, intact primary deposits were clustered in certain parts of the excavation area and not in others; in some cases, primary deposits were disturbed by later occupation, in other cases, their distribution may indicate a more scattered occupation. The exposure of this phase over an additional 150m² should provide greater clarity concerning the nature of early Philistine occupation at Ashkelon.

Immediately below the earliest Philistine occupation lies an enigmatic mudbrick wall, manufactured using Egyptian techniques and measures. This season should provide the opportunity to excavate the debris layers associated with this wall and to provide new information on the origin, nature, and downfall of Egyptian activity at Ashkelon in the late 13th century (Martin, *in press*; Master 2005)

Our research goal is complete this core stratigraphic sequence over the next two to three seasons of excavation, to excavate the entirety of the excavation area (450m² through the Iron Age, and to link the earlier Middle and Late Bronze remains to the rest of the excavation area. This resulting stratigraphic sequence will be the core sequence for Ashkelon for the foreseeable future, and the completion of this area will allow the return of this highly visible area to the national park.

Grid 23 (170000, 119400, 107150, 119500)- Grid 23 sits on the south side of the north tell of Ashkelon but is separated from the north tell by a deep wadi which creates an isolated promontory. Excavation of this area began in 1999-2000 and exposed 6 phases ranging from the Hellenistic to the Islamic. The sequence of Byzantine and Islamic occupation uncovered in Grid 23 has been instrumental in highlighting the affects of Byzantine city planning on Islamic domestic architecture (Hoffmann 2003). Earlier strata are just emerging which allow a wider look into early Roman and late Hellenistic Ashkelon. Grid 23 has been a productive area for further understanding the numismatic history of the site, yielding rare a rare first-century (44 BCE) silver tetradrachma of Cleopatra VII (Gittler, forthcoming). Our analysis of exposed bedrock, however, leads to the conclusion that the stratigraphic

sequence in this area nears completion. Almost no residual sherds have been found which point to an Iron Age or Middle/Late Bronze Age occupation. Rather, the only residual fragments belong to the Early Bronze Age II-III (Stager 1991). Our goal is to finish the Hellenistic through Islamic Sequence in this excavation area and to probe below the Hellenistic remains to better understand the stratigraphic sequence in this area. This information should allow us to project a fixed timeline for the filling and return of this area to the national park.

Ground Penetrating Radar

Working in concert with Lawrence B. Conyers of the University of Denver, we plan to investigate several areas using non-invasive ground penetrating radar.

- 1) Tracing the Crusader Rampart: Ashkelon is surrounded by a highly visible rampart, first constructed in the Middle Bronze Age but used through the Crusades. After the fortifications were destroyed at the end of the Crusades, the stone rampart was robbed for building stone on several occasions. The Leon Levy has uncovered areas where the Ramparts were robbed and areas where the Crusader ramparts are intact. Using GPR, we hope to find a large segment of intact Crusader rampart which might be excavated in future seasons.
- 2) Finding the Basilica: In 1815, Lady Hester Stanhope found a third-century A.D. basilica in the center of the city. A hundred years later, John Garstang found another third-century monumental structure in the same vicinity. While we can roughly project the location of these structures (Stager 1991: 39-40), it is not known if they have been robbed in the intervening years. We would like to use GPR to look for these massive stone platforms. This investigation should help the Parks Authority and the Antiquity Authority to better understand the buried cultural resources in the center of the Ashkelon National Park.
- 3) Finding Ashkelon's port: From the Early Bronze Age to the Crusader period, Ashkelon's fortunes were tied to Mediterranean commerce, but the mechanisms by which ships anchored at Ashkelon are poorly understood. Building on the work of A. Raban at Ashkelon in the late 1980s (2007), we would like to test his theory that a Bronze and Iron Age Harbor existed south of the South Tell in the Wadi Ibrahim. We expect to follow-up on the results of the GPR survey with geological testing in future years.

2. RESULTS

Grid 38--see A. Aja, Grid 38 final report

Late Bronze Age remains were reached in most areas, with the plan of a fairly substantial LBII settlement (Phase 22) emerging; in some places an MBIIIC/LBI horizon was reached, mostly in probes. The phase of Egyptian activity was better defined, and the relationship of a series of pits and silos to the main Egyptian garrison wall is now established. In addition, the transition from the Egyptian phase to the early Iron I Philistine settlement is marked by the use of various Egyptian or Egyptianizing objects in secondary contexts.

Grid 23--see K. Birney, Grid 23 final report

As predicted, we reached EBII-III levels immediately below the Hellenistic phase in this excavation area. In addition, we were able to excavate completely (in a large probe in square 34) the Early Bronze remains and reach bedrock. Unfortunately, the remains consisted solely of a series of fill layers, without any architecture or surfaces.

GPR investigation--see L. Conyers, Ground Penetrating Radar draft report

The results of the GPR tests were promising, suggesting several possibilities for excavation in future seasons. These include a series of floors that may relate to the Roman era basilica, and a possibly

intact section of the Islamic/Crusader rampart. GPR was less successful in finding remains of the ancient harbor along the beach, however.

3. RECORDING TECHNIQUES

The 2007 excavation season was a testing ground for several major changes in the Ashkelon recording system that affects this report. Notebooks were replaced by direct input into an online database, OCHRE <http://ochre.lib.uchicago.edu/>

This system allows realtime access to excavation data by specialists worldwide, as well as enhancing communication within the excavation between specialists, registrars, conservators, and field specialists. It is backed up on archival servers at the University of Chicago. Combined with other innovations such as digital surveying and electronic artifact tracking, the amount of data that we are able to submit in this report is unequalled.

However, the amount of data that we assembled from this season renders paper submission impractical. A report of our stratigraphic unit “cards” and bucket lists would extend over 1500 pages. For that reason we have included this information, all of it, in a series of digital reports covering each stratigraphic unit which was extant in any fashion during the 2007 season.

There is one report for each excavation square
Within the reports, the organization is as follows
stratigraphic unit
 pottery bucket
 Material Culture
 Registered Pottery

In addition, all other information previously included in the fieldbooks is now linked to the relevant locations: these include photographs, field sketches, and top plans.

We are committed to the regular submission of *complete* data sets to the Antiquities Authority, and this new system makes that possible. If, however, these large digital reports are impractical for your use, please let us know. We are capable of formatting the data in any manner or in setting up an IAA login to the root database itself. It is important to us that our data be submitted in a manner that will best aid the IAA in its long term cultural resource management of the Ashkelon region.

Grid 38 Final Report 2007

Ashkelon Excavations, the Leon Levy Expedition

by Adam Aja



The 2007 Leon Levy Expedition to Ashkelon, under the guidance of directors Lawrence E. Stager and Daniel Master, returned to the excavation area of Grid 38, which had been initiated in 1985 and continued through 2000 with an additional limited season in 2004. The excavation area encompassed parts of nine contiguous 10 by 10 meters squares, totaling approximately 550 m². The goals of the fieldwork for this season were multifold, but included the investigation of the Late Bronze Age settlement partially exposed in previous seasons, the broadening of the Iron Age I Philistine exposure, and the search for remaining Iron Age II features.

Traditional field excavation techniques were complimented by a new recording system. Director Master eliminated the previous paper-based method for recording data and introduced to the field a new, networked computer system that required each area supervisor to enter all relevant data directly into a personal laptop. These entries were instantly backed up on network servers in the United States. Field measurements and photographs were taken digitally and daily plans printed using these data. Data from previous excavation seasons (1985-2000; 2004), including thousands of previously scanned photographs, drawings, and field notebooks were loaded onto each computer. The area supervisors, support staff, and administrators were thus able to quickly and easily access previous and current research data of all excavation areas from any computer terminal while in the field.



The success of any season rests upon the assembled staff; and the expedition was gifted this season by volunteers and professional staff who were highly motivated and exceptionally skilled. Senior Area Supervisors Kate Birney, Joshua Walton, Michael Press, Dana DePietro, and Doreen Barako each brought numerous seasons of field experience to bear on the research questions of Grid 38 and were ably and tirelessly assisted by Janling Fu, Eric Prins, Deyland Wing, Ashley Derry, and a group of volunteers, most boasting previous field experience. Their

excellent work ensured the quality of the expedition results this season.

The work this season revealed a fairly substantial Late Bronze Age II settlement, characterized by at least one large building with stone foundations and white floors, which was dismantled and built over for a brief period of Egyptian occupation. During this brief occupation they constructed numerous circular grain storage silos and stone-lined installations. The end of their tenure at Ashkelon is dominated by the construction of a large, Egyptian-style garrison, which appears to have never been completed above the first few courses of mudbrick foundation (discovered and exposed during the 2004 season). The Philistine settlement appears to have built up in relation to the disruptions of the prior Egyptian occupation. Their domestic structures are extremely well preserved. This season revealed a complex arrangement of rooms for two large structures, complete with interior features typically associated with Philistine architecture—hearths, wall bins and benches, pillar bases, loom-weights, and infant burials. These buildings provide a complement the previously excavated structures discovered on the opposite side of a major north-south oriented street. Finally, renewed excavation of a previously abandoned area cleared the construction debris of the Persian and late Iron Age II constructional fills to reveal portions of a substantial 8th c. structure.

While some previously excavated features must inevitably appear here to provide context for discussion, the following is a preliminary report intended to provide working summaries only for the major architectural features, significant finds, and tentative dating of the 2007 excavation season's discoveries. It is not intended as a comprehensive discussion of all excavated layers and features. Room and building designations are given for the purpose of facilitating discussion and should not be considered finalized labels for the architectural spaces. Readers are encouraged to examine the 2007 reports from individual areas of excavation to find additional details. The discoveries of previous seasons in Grid 38 have been variously discussed and summarized in earlier grid reports, as well as in Stager, "Ashkelon" in *NEAEHL* vol. 1 (1993; new update in press) and Master, "Iron I Chronology at Ashkelon" in *The Bible and Radiocarbon Dating* (2005). The following discussion of the 2007 discoveries will proceed from the earliest stratigraphic features through the most recent. All results are provisional, with the interpretation of the earliest, incompletely excavated phases being the most tentatively offered.

Late Bronze Age Occupation: Canaanite Ashkelon

Phase 23 (MBIIc/LBI)

The earliest material from Grid 38 was largely only glimpsed in the sections of probes dug in 2004. Since excavation of the broader exposure has not reached the depth of these probes, most material cannot yet be assigned to a specific phase with any confidence, although future work will undoubtedly connect the material properly. One significant feature, the burial of an adult human (**73.F629**—see photo) in a heavily flexed position lying on its right side, facing north was discovered below the floors of a Phase 22 Late Bronze Age II building. The body was covered by a layer of debris soil (**73.L624**) containing pottery sherds dated to the MBIIc/LBI and numerous large



fragments of animal bone. Previous seasons discovered both a female adult burial (**53.F169**; cf. photos 90-3651a-e; Brody "Late Bronze Age Intramural Tombs" In *Ashkelon Vol. 1* [in press]) and a child burial (**63.F116**) in the grid further to the north, dating to the same period. Although no additional features dated to the MBIIc/LBI were identified this season, the discovery of burial **73.F629** sealed below the Phase 22 surfaces indicates that the burials should be considered as belonging to a separate, earlier phase of late Bronze Age occupation. Future seasons may reveal Phase 23 to be an extensive Canaanite cemetery, although numerous probes have been cut throughout the grid without revealing any traces for additional burials other than the three previously noted.

Burial **73.F629** was partially cut through by a later period well (**73.F586**), which removed the left arm and hand, ribs, spine, pelvis, and left foot, but which facilitated the identification and excavation of the burial. No grave goods were discovered with the body, although these may have been destroyed by the cutting of the well. This is in contrast to the numerous grave goods discovered with the other burials from the grid. The large size of the individual (45 cm femur) and the presence of a full set of teeth exhibiting little signs of wear suggest that the person might be a young adult male, although this has not been confirmed. The appearance of some fine lines in the

surrounding soil provide a slight suggestion for a constructed mudbrick chamber, similar to the burial chambers discovered for both the child and female adult burials. Broadening the exposure around burial **73.F629** should clarify the presence or absence of a built brick chamber.

Phase 22 (LBII)

The overlying Phase 22, which was only partially exposed this season, is characterized by the presence of at least one large, multi-roomed LB II building (hereafter **Building 1101**) with fieldstone foundations and thick white floors. Few artifacts of note were discovered on any interior floor and several wall foundations appear partially robbed, leaving the impression of a structure that was stripped of movable property and partially dismantled or mined for durable building material. It appears that the structure will measure at least 11.0 by 9.0 meters, although the full extent has not yet been reached. This large structure no doubt belonged to the Late Bronze Age Canaanite settlement of Ashkelon, which the Egyptian Pharaoh Merneptah claims to have conquered at the end of the 13th c. B.C.E. The siege of the Canaanite settlement was inscribed on the walls of the temple of Karnak. There was no evidence in Grid 38 for a violent destruction of the Canaanite city; although evidence was discovered for a succeeding period of Egyptian occupation (see the Phase 21 discussion below).

The later disruption and heavy pitting that occurred in the grid have significantly devastated the footprint of **Building 1101**; however, the surviving walls and floors allow for a reasonable reconstruction of its layout—a large central room surrounded by three small rooms (approximately 3.0 by 2.5 m.) to the east and at least two partially preserved rooms to the west. The largest room (**Room 1101**, lending its name to the entire structure), measured approximately 9.0 m. by 5.0 m. and possessed a thick white ash and crushed shell floor (**74.L1101** = **64.L1035** = **63.L851** = **73.L605**). The northern and southern closing walls (possibly represented by the unexcavated **74.U1123**) appear to have been almost entirely robbed away, but the fieldstone foundations of the eastern closing wall (**74.F1111** = **64.F1082**) were preserved. The western extent of the room is uncertain, since there was no clear closing wall of substantial size, and later disturbances have completely removed all traces for what would have been the southwest corner of the structure.

The two western rooms of **Building 1101** are poorly defined and incompletely exposed. It appears that these

“rooms” maintained a higher floor elevation, necessitating a step down into the large central **Room 1101**. The northwest **Room 877** (ca. 2.2 by 2.5 m preserved) was separated from the west-central **Room 618** (ca. 2.2 by 3.0 m. preserved), located to its south, by a substantial fieldstone foundation (**73.F581**). The northern closing wall of **Room 877** and the southern closing wall of **Room 618** were robbed, while the western walls remain unexcavated below the west subsidiary balk. The eastern walls appear to be little more than insubstantial half-wall barriers (**63.F886**; **73.F598**; **73.F622**) composed of a single line of fieldstone or mudbrick set on edge. It may be that the rooms remained open to the central **Room 1101**. Occupational debris and fills built up against the half-wall barrier as the residents continually used and renewed the floors of the raised western spaces. The white floor lamina/surface build-up was rather thick, measuring at least 10 cm in some areas (**63.LF877**; **63.F893**; **73.L590**; **73.L591**; **73.L605**; **73.L616**; **73.L618**). No features of note appeared in the northwest room, however **Room 618** had a small semi-circle of stones (**73.F614**), with ashy evidence of burning inside, set into the floor. An additional ashy area, incorporating some cobbles, was discovered in the northwest of the room. The higher elevation of the western rooms appears to have negated the need for leveling fill when the space was prepared for later occupation (Phases 21 and 20). As a result, the floors of **Rooms 877** and **618** appear almost immediately below the occupation of Phase 20. Indeed, parts of these surfaces were excavated along with Phase 20 features during the 2004 season in the effort to remove the Iron Age architecture.

Stepping down into and crossing through the lower central **Room 1101**, residents could enter one of three small rooms (ca. 3.0 by 2.5 m.) flanking the eastern side of the building. These rooms were heavily disturbed by later activity and remain only partially excavated. No clear floors have been identified within any of the rooms, although a surface (**74.L1119**) has been identified, which may correspond to the earliest floor of the southeastern room. The northeast and east-central rooms are bounded on the east by the remains of wall **64.F1098** (= **74.F1129**). This wall either did not continue further south to close in the southeast room, or was robbed out. Given the disturbance in this region, the later is quite likely. The western closing wall for these rooms, **64.F1082** (= **74.F1111**) similarly did not extend completely to the southern end of the building. East-west cross-walls for these three rooms are suggested by remnants of fieldstone foundations (**74.F1126** exposed). Future work should be able to illuminate more about the size, layout, and function of these spaces.

Residents exited the structure from the central **Room 1101** through a doorway in the southern closing wall.

Although this wall is almost entirely robbed away, there are several indications for the presence of both the wall and doorway. **Room 1101** is characterized by its thick, white floor layer. This floor ends abruptly to the south, along a line that is aligned with the stones of **74.F1118**. This rubble may correspond to the southern closing wall of the entire structure, but was only exposed in the southeast room. Furthermore, the floor **74.L1101** corners and turns to the north along a line directly aligned with the wall remnant **74.F1111** (= **64.F1082**). Indeed, to the north, the floor runs up to the surviving foundation stones of wall **74.F1111**. A shallow rectangular pit (**74.L1104/ 74.F1105**), centrally located along the line of the southern wall, but placed inside the room, contained eight complete vessels. These were arranged in three clusters, oriented east to west (one full set shown in photo above). The central and eastern cluster included a simple bowl with a lamp inside, covered by a second inverted bowl (removed from the *in-situ* picture below). The left cluster lacked the lower bowl. These clusters are consistent with the recognized lamp-and-bowl style foundation deposits, typically placed close to or under foundations, in room corners, or in thresholds—a Canaanite practice at the end of the Late Bronze Age that was possibly inspired by a similar Egyptian practice (cf. Bunimovitz and Zimhoni 2004). The location of this foundation deposit (centrally placed along a wall) and the large number of vessels (indicating importance) argue for its identification as the location for the building’s threshold and main entrance/exit. The pit was capped with brickly soil, which would have provided a relatively durable threshold and also protected the vessels.



South of the threshold residents would have encountered an open area. Several indistinct, overlapping fill and debris layers characterize the surfaces of this exterior space (**74.L1122**, **84.L1157**). Several large pits,

(**84.F1150/L1151**, **84.F1148/L1149**)—large enough to be grain storage silos—have been partially revealed in probes, but their function remains uncertain. Future work will illuminate our understanding of the southern exterior space, its contents, and function. One small exterior pit (**74.U1128**) located near the threshold revealed a complete, inverted LBII storage jar. Both the jar contents and the pit fill were decidedly yellowish-green in color. The jar was heavily stained and encrusted with material of the same color. Preliminary evaluation suggests the vessel functioned as repository for excrement—a toilet or chamber pot. It is unclear if the vessel was used *in-situ* or only deposited in the pit once it was filled. Curiously, a frit scarab ring (**MC 57499**) and frit gaming piece (**MC57513**) were recovered from the filth. Given that the items were deposited in a possible toilet, it is understandable why the owner did not try to retrieve them.

A Brief Egyptian Interlude

Phase 21 (LBII/Iron I)

Merenptah's capture of Canaanite Ashkelon appears to have been followed by the systematic demolition of buildings and a re-use of the area for grain storage and other industrial activities. The region was heavily marred by pitting. As noted above, there was no evidence for catastrophic destruction, as would be expected in a city subjected to siege. There were no charred roof beams, ash, or layers of fired mudbrick walls. The buildings appear to have had the contents almost completely removed, and the foundations of several walls robbed. Some thick accumulations of brickly debris found above the robbed foundations and barren floors, may represent the leveled remains of mudbrick structures. The pottery from Phase 21 is LBII, with very few imports and a considerable amount of Egyptian ware, including beer jars, kraters, flanged rim bowls, storage vessels, and cup and saucer bowls. Following the re-use of the area as an industrial park, the residents planned the construction of a major military structure, possibly in reaction to an increased threat by the so-called "Sea Peoples." The foundations were laid for an Egyptian-style garrison, but it was not completed before the arrival of the Philistines to the site circa 1185 BCE.

The overlapping nature of exterior debris layers obscures the precise sequence of deposition following the demolition of the Phase 22 structures, although several features are certain. The robbed southern wall of Building 1101 was sealed by fill/debris layers **74.L1109/73.L610** and **74.L1114**, and the main, central Room 1101 by **74.L1099/73.L601/64.L1083**. Fill **74.L1114** (and

64.L1079) also extended northward to cover the eastern rooms. The western rooms appear to have been covered in part by **73.L613**, although this was largely removed during the 2004 season in the attempt to remove the Phase 20 architecture. Further north, possibly outside the original Building 1101, extended exterior surfaces **64.LF1040** = **64.LF230**. To the south of Building 1101, numerous additional fill layers (incl. **83.L632**=**84.L1109**, **83.L644**, **84.L1140**, **84.L1157**, and **84.L1135**) covered the earlier Phase 22 exterior surfaces. A large Egyptian limestone stamp seal (**MC56974**) was recovered in the debris (see photo above). Nearly all the debris/fill layers of Phase 21 were cut by several postholes and pits of various size and function, some overlapping, indicating continuous activity occurred in the area. While the bulk of the postholes and refuse pits were generally unremarkable, a few pits are worthy of specific attention.

In the south, four unusual pit installations were revealed. Installations **84.F1145** and **84.F1136** were constructed as small sherd-lined pits with a large stone set into a clay-lined bottom. Installation **84.F1136** bore slight traces of burning and ash, suggestive of a use for pyrotechnology. Installations **84.F1129** and **83.F641** were similar stone-lined examples of a larger diameter. The flat chert fieldstone discovered at the bottom of Installation **84.F1129** measured nearly one meter across. The small Installation **83.F636** (ca. 20 cm diameter) was far more clearly associated with pyrotechnology. Its shallow depression was ringed with burned stone and surrounded by ash. Numerous flint blades were recovered in the surrounding debris/fill layers, along with some slag (**MC56980**, **MC56947**).

Several large, round pits were exposed across the grid (**63.F870**, **63.F879**=**64.F1047**, **64.F1077**=**74.F1108**, **63.F892**, **73.F627**=**83.638**, **73.630**=**74.F1130**, **74.F1090**, **84.F1133**, **84.1122**, **84.F1143**, **84.F1141**, and **84.F1162**). Although only two have been fully excavated, several similar characteristics have been distinguishing to allow a reasonable, albeit tentative, identification of these features as grain storage silos. Silo **63.F870** (excavated 2004) was the first identified silo. The plaster floors from later stratum (Phase 20) were found to slump in the area above the silo, creating a shallow depression. This was apparently the result of the pit's contents settling and compacting. To address the unevenness of the floor, residents had been required to apply a leveling fill to the

depression and re-plaster their floor.¹ The slump around the mouth of the silo provided a vaguely inverted bell-shaped profile to the excavated feature. The pattern of wide slumping and leveling fill/capping over the top of a narrow, straight sided pit-shaft, was repeated in several other examples revealed this season and assists in distinguishing silo features from simple, large refuse pits. In addition, silos frequently appear to be ringed by white surface material, unlike generic pits.



The best preserved silo from the 2007 season was Silo **84.F1133** (see photo). This large circular feature (ca. 1.5 m. diameter by 1.5 m. depth) was fully lined with either poor mudbrick and/or a thick mud plaster,

which was occasionally reapplied. There were no surviving grain kernels, although the bottom of the silo was caked with 2-3 cm. of white, organic residue, which lensed up the sides and became trapped in the periodic re-plastering. White surfaces were noted around the mouth of the silo (**84.L1114**, **84.L1112**). These may be evidence of the decayed grain or chaff that was periodically drawn out. Additionally, some small amounts of ash were noted. Empty grain silos were often burned off to reduce chaff and discourage infestation. This silo, and others, may also have been surrounded by a low wall or barrier. The remnant of a thin line of burnt mudbricks (**84.F1152**) was distinguished north of Silo **84.F1133** along with a series of ashy lenses, which sloped away from the bricks toward the silo mouth (cf. Wall remnants **63.F1066** and **74.F1088** for northern silos **64.F1077**=**74.F1108** and **74.F1090**). Once the silo ceased to be useful, it was filled in. Silo **84.F1133** was filled with clean, brickly fill. Others have been found with looser, variegated fills (containing large quantities of Egyptian style pottery). The wide mouth discovered on some silos may be the result of decay from exposure during disuse or a deliberate design feature. Perhaps the excavation of additional examples will assist in creating a typology of storage silos for Ashkelon.

One additional pit, of massive scale, appears to have been cut near the end of the activity in Phase 21. Its debris contained large quantities of LBII Egyptian pottery. The west edge of this feature (**74.F1127**) was revealed to

extend over 10 meters. The full extent or dimensions of the cut could not be determined. This intrusive feature's cutting of earlier architectural features from Phase 22 was visible in several subsidiary sections (see photo below--view of south sub-section). The slope of the tip-lines and known dimensions of this massive feature suggest that it could extend well to the east. This might solve a puzzling element noted for later occupation. The subsequent Iron Age occupation was built upon the fill of this "great cut." Settling and compaction of this fill might explain why the Iron Age structures appeared to be founded at a lower elevation from contemporary buildings on the west side of the grid—those not built above the "great cut." The function of this massive feature is uncertain. It was possibly related to the construction or function of the uncompleted Egyptian garrison, perhaps as the source of mudbrick material or a foundation trench for an additional, undiscovered wall, but this is pure speculation.



In the final days of the Egyptian occupation it appears that they began construction of a military garrison. The exposed garrison wall (**84.F1080**=**83.F618**) was built in the style of the Egyptian garrisons of the XIX-XX Dynasties, four cubits in width. Some portions of the wall were founded on sand, as would be typical of Egyptian manufacture. Baruch Brandel (personal communication) revealed an Egyptian practice of employing professional architects to lay the first important courses of a structure's foundation, to ensure a strong base, and then turn the work of completing the superstructure over to less skilled bricklayers. This season, however, revealed that the wall was also founded on a layer of ashy debris (**84.L1128**), which was filled with large LBII pottery vessel fragments, indicating perhaps less care taken to provide a smooth and solid foundation. In addition, it does not appear that the wall was ever completed higher than four courses. A wall of such massive scale would have included massive quantities of brick, which were never discovered either collapsed or decayed around the surviving portions of the structure. Indeed, the subsequent Phase 20 Philistine layers also appear to have been founded at nearly the same elevations as the garrison wall, indicating that the

¹ The scarab of Ramses III (**MC56832**) reported to have come from the upper elevations of this silo in 2004, should be ascribed instead to the fills and layers of re-plastering at the top of the silo.

Egyptian wall was never completed long enough for occupational material to build up around it before the Philistines moved in to lay their own foundations. It is possible that the Egyptians were racing to produce defenses to survive the on-coming waves of Sea People attacks, but chose to abandon their attempts and recall troops for defense of territory closer to the Egyptian heartland.

Early Iron Age I Settlement: The Arrival of the Philistines

Phase 20b (early Iron I)

Most of the earliest architecture and occupational surfaces of Phase 20 were excavated and discussed in 2004. Several architectural elements discovered in the final days of the 2004 season were tentatively assigned to the earlier Phase 21, but should be re-assigned to Phase 20b; and these will be discussed below. The excavation of these features greatly assisted in clarifying some lingering questions about the transition between the Late Bronze Age and the Iron Age, which heralded the arrival and first construction of the Philistines. The architecture of Phase 20 presents a clear break from the previous phase, relying extensively upon fieldstone foundations. Leveling fills were frequently necessary to address the pitted and uneven surfaces left from the previous phase (cf. **83.L609**), although in many cases, new architectural elements were built directly above or abutting earlier features without any intervening fill. The pottery, however, changed dramatically, with the appearance of Philistine Monochrome vessels. Even the appearance of a couple sherds was enough to clarify the phasing of the tightly superimposed stratigraphic features. All of Phase 20 corresponds ceramically to the period of Philistine Monochrome, but the stratigraphic sequence has been broken into sub-phases to address minor changes in construction.

The so-called stone and mudbrick “revetment wall” (**84.F1061** = **84.F1038** = **84.F1147** = **83.F566**—hereafter **Wall 1038**), which was discovered directly abutting the north face of the Egyptian garrison wall (**84.F1080**=**83.F618**), was scrutinized extensively. The reassessment of its phasing significantly alters and completes our understanding of Phase 20b architecture in the south of the grid. Wall 1038 was generally founded upon the same debris layer (**84.L1128**) as the garrison wall. In 2004, it was believed to have been added to the Phase 21 garrison wall to protect its foundations from

erosion. Given that the garrison was likely never completed, such protection seems premature. Although only limited ceramic evidence exists to connect **Wall 1038** to the Iron Age I, this “revetment wall” is now better understood as part of the original Iron Age I construction, which was built against the pre-existing foundations of the garrison (see photo--view to south). Although the **Wall 1038** extends across the full width of the excavated



area, paralleling the Egyptian garrison wall, the construction is not uniform. Instead, it appears to include sections of solid fieldstone foundation, with a superstructure of either mixed stone/mudbrick rubble (**84.F1038**, **83.F566**) or of solid fieldstone (**84.F1061**), and sections of mixed fieldstone and mudbrick rubble foundation (**84.F1147**). The construction variations appear to correspond to their placement in different rooms of a structure, which was largely dismantled for later, Phase 19 construction, but for which there is ample evidence.

The central segment of solid foundation (**84.F1038**) would have cornered with wall **84.F1099** (fieldstone foundation/mudbrick superstructure) to form a room (**Room 1065**--excavated 2004) to the south. The top of the garrison wall foundation would thus have served as the partial sub-floor of this room. As a result of the later Phase 19 construction, there was no preserved evidence for a Phase 20 floor above the garrison wall, although a white plastered floor (**84.LF1065**) was revealed in the southern portion of the room. In addition, an inverted jar installation (**84.F1091**), which may have served as a sump or toilet, was placed in the southeast corner. There is additional evidence that **Room 1065** was sub-divided by a poor interior, E-W stone wall **84.F1095**. The western closing wall for the room is uncertain, but appears to be represented by mudbrick feature **84.F1068**.

Sandy exterior surfaces and fills were evident to the east and west of **Room 1065**. To the east, the exterior or courtyard space was bounded on the north by the eastern end of **Wall 1038**, identified as **84.F1147**. This space was characterized by large quantities of pottery, ash, and bone. A sunken vessel installation (**84.F892**), firepit (**84.F1066**), and cobblestone paving (**84.F890**) were constructed near the east wall of **Room 1065**. The top of the garrison wall and wall segment **84.F1147** were

heavily weathered, indicating that they were exposed to the elements. To the west of **Room 1065** the exterior space was characterized by significant amounts of sandy, water-laid layers. It was bounded on the north by the western extent of Wall 1038, identified as **84.F1061=83.F566**.

Wall segment **84.F1061=83.F566** also functioned as the southern closing wall for **Room 1105** located to the north. Several features of this room were exposed or excavated in 2004, and incorrectly assigned to Phase 21. Removal of the foundations for this room revealed Philistine monochrome sherds (see photo—*in-situ* monochrome bowl with horizontal handle on **74.F1107**, below Wall **74.F1098**), firmly establishing the date of the room in early Iron Age I. The eastern closing wall, **84.F1110=74.F1103** was constructed of fieldstone.



It was built directly over the Phase 21 **Silo 84.F1133**. The white, plastered floor **84.L1105=83.LF625** extended across the room. A defined mudbrick (**74.F1107**) discovered near the center of the room bore the telltale signs of burning—it was fired to an orange-red. This may represent the earliest known hearth, a hallmark of Philistine culture, yet discovered at Ashkelon. This hearth appears to have only served for a brief period before being built over by an E-W wall (**74.F1098**), possibly to subdivide the room. There was no additional candidate for a closing wall discovered at the northern end of the room prior to the construction of Wall **74.F1098**. A large cobbled work-surface (**74.F1081**) discovered at the northern end may have existed outside the room. The western side of the room is bounded by Wall **83.F543**.

Wall **83.F543 (=73.F540)** also served to separate **Room 1105** from **Room 606** (identified as Room 609 in 2004) to its west. An installation constructed of brick and stone (**73.F584=73.F596**) sat in the north end of this room, against Wall **73.F527**, on the floor (**73.L594=83.LF606** [note that L609 has been reassigned as the sub-floor material, not the floor as previously understood]). A significant amount of ash was discovered in this area, but the source could not be determined definitively. The installation appeared to have been built in multiple stages, with ash trapped between some components. This suggests that it may either have functioned as a fire installation or in conjunction with one. Unfortunately, the bulk of the installation was sealed below the west subsidiary section. It is of interest to note that two foundation deposits (**73.F607** and **73.F608**), each a bowl-lamp-bowl combination, were discovered beneath the

foundations of the northern wall of **Room 606**. This begs the question: “Why were Philistines employing a Canaanite practice in the founding of one of their earliest structures?” The Philistines maintained the practice of laying bowl-lamp-bowl foundation deposits under or near foundations in later Iron I structures. Numerous later examples have been revealed at Ashkelon (and Ekron as well); but these examples are the earliest known from the site.

The major Iron Age I feature at the north end of the grid, E-W fieldstone Wall **64.F985=63.F832**, which was much discussed in 2004, remained to be excavated in 2007. This feature marked the southern closing wall for a large northern building complex.² A large open area divided this northern complex from the southern buildings discussed above. The bulk of the interior rooms discovered north of Wall **64.F985 (=63.F832)**, with the exceptions of a pedestal of soil located beneath the Phase 19 bathtub **64.F963** and the eastern **Room 1088**, were excavated in 2004. Readers are encouraged to investigate earlier reports to discover the details of the “H-shaped,” “L-Shaped,” and “weaving” rooms. Excavation of these northern features, however, remains incomplete and as a result, so does our understanding of the precise nature of the stratigraphic sequence and relationships. At present, it appears that Wall **64.F985** bounded an extremely large **Room 200**. The northern extent of the structure was lost to erosion; however, Pillar base **64.F169**, discovered in 1988 resting over 6 meters to the north of the wall, suggests the room could have been over 10 meters across. The stone drum was approximately 0.75 cm in diameter and could have supported massive roof beams necessary to span a large room. The earliest plaster floor associated with the southern wall, **64.LF1029 (=LF1039 =63.LF862 =64.LF200)**, extended unhindered from the west subsidiary section over 6 meters along the wall. A copper-alloy blade (**MC57214**)—a possible razor—was discovered near the southeast corner of this large space (see photo—broken right edge likely mirrored the intact left side). Fieldstone foundation **64.F1069** may have formed the original eastern closing wall for the monumental building. It was not, however, discovered abutting the



² The foundation trench (**64.F1094=63.F887**) of this major wall appears to have removed all traces of the northern closing wall of the Phase 22 Building 1101, which certainly must have stood at or near the same location.

foundations stones of Wall **64.F985**. This may be the result of construction/rebuild activity on **Room 1088**, located to the east.

Domestic **Room 1088** was set slightly askew from the line of Wall **64.F985** (see photo—view to west). It appears to have shared Wall **64.F1069** with the monumental room to its west. It was bounded on the east by Wall **64.1071** (=64.F1080), and on the south by **64.F1072**. Mudbrick bench **64.F1081** sat against the north face of the southern wall. The floor **64.LF1088** contained significant amount of occupational build-up (**64.L1049**), bearing numerous postholes. Several beads were recovered from the debris (MCs **57396**, **57402**, **57444**, and **57473**). The western wall **64.F1069** was later dismantled (in Phase 20a) and, along with the floors, covered with fill (**64.L1076**).



It appears that the construction and later reworking of the structure damaged the stone foundations at the intersection of the monumental room and **Room 1088**. This hypothesis will be further investigated in the coming excavation season.

The end of Phase 20b was marked by more than the planned rebuild of **Room 1088**. The southern buildings appear to have endured significant damage due to water erosion. Moving water both cut a sluice through strata and carried sediments. As the water slowed, the sediments were deposited. This erosional activity was recognized in 2004 as post-dating the construction of **Room 1105**. The striated, water-laid sediments (**84.L1032** =**84.L1104** =**83.560** =**83.L624**) built up against the north face of Wall **1038** and covered walls and parts of the floors for **Room 1105**, indicating the sediments are stratigraphically later than the architecture. It is unclear how quickly such damage occurred, but it necessitated the rebuild or repair of the southern buildings.

Phase 20a (early Iron I)

The architectural footprint in the south remained largely the same. The rebuilds of the southern architecture were excavated and discussed in 2004; and so will not be further addressed here. More substantial changes occurred

in the northern complex. This new construction was similarly discussed in earlier reports, with the exception of the rebuilt **Room 1088**.

In general, it appears that the elevation of the eastern **Room 1088** was raised. The previous floors and occupational surfaces were covered and a new floor established (**64.LF1041**—excavated in 2004). The southern wall was replaced with Wall **64.F911** and the eastern wall with **64.F1038**. The foundation of Wall **64.F1038** included a small limestone statue of a seated figure (**MC56971**—see photo), which had been reused as construction material. The figure is Egyptian or carved in an Egyptianizing style and bears slight traces of possible red paint. The face is damaged and many features are indistinct. The sex of figure remains uncertain.

Iron Age I Settlement Phases (19-17): the Philistine Domestic Sphere

The settlement plan established during Phase 20, of northern and southern building complexes separated by open area and a north-south oriented street running the length of the grid, became semi-fixed in succeeding phases, lasting into the Iron II period. In 2007 we returned to excavation areas on the eastern side of the street that had remained untouched since 2000 with the goal of broadening the Iron I exposure. Ceramically, Phase 19-17 occupation and construction correspond to the appearance, use, and decline of Philistine Bichrome pottery.

The structures from Phase 19-17 were decidedly domestic in character, with some industrial activity areas included within the buildings. Domestic architecture frequently appears to be constructed haphazardly. Buildings were altered to suit the needs of the current occupants. Rooms could be added or subtracted. This practice creates persistent difficulties in defining a grid-wide phasing. Often changes in layout were localized to a single structure, and must be represented by sub-phasing. Given the lack of any direct architectural link between different structures, correspondence between sub-phases is

particularly difficult, especially for structures located on opposite sides of a street. The following preliminary assessment represents our attempt to link the sub-phasing of the structures located on the eastern side of the street with those previously excavated on the west side.

Phase 19 (Iron I)

Little from Phase 19 remained exposed, although future seasons should reveal more architecture in the eastern excavation areas. The Phase 19 bathtub (**64.F963**) from the northern building complex on the west side of the street had, however, been left exposed *in-situ* for several seasons. We made the decision to remove this artifact from the field and conserve it in the laboratory for the purposes of future display under more controlled conditions. The tub was found sitting on remnants of the plaster surface **64.L955** against the N-S fieldstone wall **64.F962**.

Phase 18 (Iron I)

Phase 18 revealed the remains of two large structures, a northern building, hereafter designated the “Potter’s House,” and a southern “Weaver’s House” (see photo—view to the north). Although these were separate dwellings, they shared a wall (**75.F146**), which spanned the exposed length of both structures. *Kurkar* and fieldstone walls comprised their street-side western walls. These buildings were among the earliest features exposed this season along the east of the street, thus their precise sub-phase division remains the least certain.



Street layers, which were typically composed of domestic garbage tossed outside and environmentally deposited debris, accumulated at a faster rate than layers within interior spaces, which were typically cleaned out. Thus, over time, residents would be forced to step *down* into their homes. Ultimately, to avoid the influx of exterior debris or a rush of muddy water during rainstorms, they

would raise the entrance to their home by leveling the interior with fill and rebuilding at a higher elevation.

The street (**75.L383**) outside the Phase 18 structures was lowered through excavation, but never to an elevation below either the founding levels of the buildings or the interior floors. No foundation trenches were visible for the walls. Curiously, the pottery recovered from the lower levels of the street appear to contain a high percentage of monochrome pottery, typical of Phase 20 (see photo), and little of the bichrome pottery expected for Phase 19-18. Perhaps the stone western walls were reused features from earlier phases. Several courses of stone have been exposed. The only other substantial Iron Age I stone walls consisting of more than four courses belong to Phase 20. Further investigation is necessary to determine the precise phasing or reuse of these western walls (**75.F198** = **65.F135**, **75.F354**, and **75.F341**).

The northern “Potter’s House” remains incompletely excavated; however, a single large room (**Room 365**) and portions of others to its north and east were revealed. It appears that residents could enter **Room 365** from the street at the southwest corner through a gap in the western wall **75.F198** = **65.F135**. The northern closing wall, **65.F180**, divided this large space from another room (unexcavated) to the north. A mudbrick wall with fieldstone foundation, **75.F146**, which served as the southern wall for the northern structure, also operated as the northern wall for the southern “Weaver’s House.” The stone foundation indicates the structural importance of this shared wall, and distinguishes it from a simple interior room-divider, which is often constructed simply of mudbrick without foundation. Wall **75.F260** closed **Room 365** on the east, creating a large space measuring approximately 5.0 by 6.0 meters. A portion of a third room, **Room 310**, was exposed to the east. The walls and floor of this east room were plastered white, indicating it may have been a clean, high quality inner room. It contained a plastered low bench, **75.F308**, constructed against the wall. An intact copper-alloy spearpoint (**MC57378**) was discovered upon the laminated plaster Floor **75.L310**.

Several items of interest were revealed within the large **Room 365**. The east wall was faced by a mudbrick bench (**75.F363**) and the southern wall by double-chambered Bin **75.F339** (ca. 2 meter long). The main floor (**75.L365**) was resurfaced (**75.L335**) and covered by a significant depth of occupational debris (incl. **73.L333**, **352**, **356**, and **357**). The occupational debris included a potter’s kit containing both the upper stone wheel and lower socket

stone (MCs **57199** and **57219**) along with burnishing tools (see photo in-situ and assembled). It is the presence of this full kit in the southeast corner of the room that prompted the designation of the structure as “the Potter’s House,” although there were no additional details noted



for active pottery manufacture in the building. A flattened stone (**75.F382**) located at the bottom of a shallow pit near the southern end of the room may represent a pillar base. By itself, it is difficult to understand the stone as a roof-support. It would be more logical structurally if paired with a second pillar. Pit **65.F100**, located to the north, may hold such a feature but as yet remains unexcavated. A cobblestone installation (**65.F181**), found with a stone carinated dome weight (**MC57484**), was located in the northwest corner. A round mudbrick hearth (**75.F362**) appeared about two meters from the street entrance. Numerous small pits and postholes cut into the occupational debris. It thus appears that **Room 365** functioned as a major activity area for the building. The depth of occupational build-up was likely the result of the activities taking place in the room, but also from debris kicked in from the street through the threshold/opening in Wall **75.F198**. There would have been less need for resurfacing cleaner interior rooms. Hearth **75.F362** and Bin **75.F339** were covered by the debris on the floor.

A fieldstone-covered pit (**75.F372**) located next to the street entrance produced a discovery of particular interest. An inscribed storage jar (**MC57399**) discovered lying on its side within the pit held the skeleton of a human infant (**75.F375**) estimated to have died at an age under 6 months. The vessel was prepared for the burial by removing the neck and smoothing the edges. A parallel example of a jar with reworked neck for use as an infant coffin was found in the 2000 excavation season, also dated to Phase 18 (**74.F881/882**). Further, additional intramural infant burials have been revealed throughout Grid 38 associated with Phase 18 architecture. All others examples, however, lack a reworked jar. Instead infants were typically placed into a simple pit within buildings along the walls. Jar **MC57399** was further worked to

remove the base of the vessel, creating a cylinder. The infant’s lower legs extended outside of the vessel’s bottom. Additionally, the white slipped exterior of the vessel was inscribed with graffiti (post-firing) on both sides. One side bore the symbol of a horned viper or jackal, while the other bore the image of



staff or horned-standard surmounted with two circles (shown in photo). It is uncertain if the graffiti was added at the time of the burial and thus holds significance, or appeared on the vessel prior to its reuse as a coffin. The edges of the scratched-in symbols are not, however, heavily worn, suggesting the work was done immediately before burial. Little is known about Philistine burial practice. Infant jar burials are known from MB Levantine sites, also oriented to architecture with the jar-neck broken to enable insertion (Ilan 1995), and from the Cyprus sites Salamis and Kition-Bamboula dated to the beginning of the Iron Age (Steel 1995). The Cypriote examples also placed the infant in a reused Canaanite jar in domestic structures with no grave goods. The stone-capped pit was covered by the rising debris layers of **Room 365**.

The building located south of the Potter’s House, was designated the “Weaver’s House” after the discovery of a cache of over 20 unperforated loom-weights in one of the structure’s three rooms. Two small rooms bordered the street and a large room was located to the east. These rooms, much like the structure, were given name-designations to facilitate discussion, but should not be taken as definitive titles or attribution of room function. Room number-designations may be applied in the future once excavation of the structure is completed. The walls of the “Weaver’s House” generally appear to have been constructed in linear segments specific to individual rooms, rarely carrying along the full length of the structure. The exception appears to be the northern shared wall **75.F146**. The southern wall **75.F343** may have continued the length of the structure (equaling wall **75.F400**); however later construction severed the connection. All E-W oriented walls continue to the street, proceeding through the western stone wall.

The southwest “Weaving Room” was bounded by walls **75.F343**, **75.F341**, **75.F307/F403**, and **75.F296**. The earliest floor, **75.L347**, was a beaten earth surface associated with a cache of loom-weights discovered near the center of the room (see photo—volunteer excavator Andrea Creel shown). There was little else of note from within the small space (approximately 3.0 by 2.5 m.). The floor was covered and reestablished at a higher elevation (floor **75.L370**), which apparently necessitated the rebuilding of the northern wall. The earlier wall, **75.F403**, was dismantled and replaced with Wall **75.F307** and a mudbrick bin (**75.F349**) was added to the southeast corner. A long string of multi-colored beads (**MC57173**) that included numerous rosette beads, was found coiled in the fill. The upper and lower floors (and the associated rebuilding of the northern wall) may be divided into distinct sub-phases (18a and 18b), although this must be tested by future excavation.



The large “Main Room” also held few items of note. Later Phase 17 construction heavily disrupted the area, damaging both walls and floors. The southern wall, **75.F400** was perpendicularly joined by pier wall **75.F401**, which extended into the room to divide the southern half of the space. The lowest floor associated with this pier wall, **75.L358**, was only partially exposed, and remains to be investigated. An upper beaten earth floor, **75.L360**, was added above, at which time the pier wall was dismantled and covered. The southern edge of the floor is uncertain, apparently disrupted before meeting the southern wall. However, it rose up in the southwest corner, suggesting the presence of a corner installation, which was not recovered. It also appears that the floor rose to meet the bench **75.F374** located along the west wall **75.F296**. Bin **75.F381** and bench **75.F384** are set on **Floor 360**, presumably against the east wall of the structure, although it remains under the east balk.

The “Activity Room” in the northwest, unlike the other rooms of the “Weaver’s House,” included numerous curious features. It is uncertain if the small space (approximately 3.5 by 3.0 meters) functioned as the main entrance vestibule for the structure. There appears to be a break in the eastern wall **75.F296**, which could have operated as the threshold between the Activity and Main Rooms. An unusual mudbrick installation, **75.F303**, appeared in the street, adjacent to the northwest exterior wall of the room. While this feature had the appearance of

a mudbrick storage bin, its presence against an exterior wall is unusual. In addition, the stones of the wall **75.F354** at the location of the feature were large and may represent a threshold. An infant, less than six months old, was buried in a simple pit (**75.F386**) alongside the west wall, to the south of this proposed threshold. Much like **Room 365** of the “Potter’s House,” the room included thick floor accumulations, perhaps built up from activity in the room and debris from the street. A round, mudbrick hearth **75.F390** rested on lowest known floor, **75.L392**, and a built mudbrick installation (**75.F402**), perhaps a bench, was located in the southeast corner. The floor was cut by several small pits and postholes. One pit (**75.F393**) located near the northwest corner contained the forelimb of a caprid sealed with a packing of clean clay. Identical examples of these forelimb deposits have been found elsewhere in the grid in Phase 18 contexts in previous excavation seasons, particularly in the northern building complex on the west side of the street (cf. **63.F810** and **63.F818**). The early floor, associated installations, and pits were sealed by new debris and installations. New floor **75.L366** appears to have been in use at the time of the southern wall replacement (**75.F307**). Bin **75.F369** also functioned at this time against the north wall. This floor and bin were in turn covered by another floor, **75.L336**, while benches of stone and mudbrick were constructed to line all the walls of the room (**75.F320**, **321**, **322**, **323**, **324**).

Although the above descriptions presented the architecture within the context of a single phase, it should be apparent that minor changes were notable within individual rooms, particularly the accumulation of occupational debris and the construction of interior installations such as bins and benches. On the west side of the street, changes in Phase 18 were more substantial, visibly altering the building floor-plans with the addition or subtraction of walls, and facilitating the identification of stratigraphic sub-phases. Additional excavation will be necessary to accurately sub-divide the stratigraphic features discovered within the buildings on the east side of the street, but certain patterns have emerged. The practice of intramural infant burial and caprid forelimb deposits has been associated with Phase 18b architecture on the west side of the street. In both the Potter’s and Weaver’s Houses these features appear cut into the lowest excavated floor. Although there was little architectural change within these buildings, new floors were laid over these earlier features and new installations were constructed. It may be fruitful to tentatively associate Floor **75.L365** in the Potter’s House and Floors **75.L392**, **347**, and **358** in the Weaver’s House with Phase 18b. The later floors and related installations should then be considered Phase 18a. Again, this may be tested with further excavation.

Phase 17c (late-Iron I)

Previously, the architecture of Phase 17 on the east side of the street was noted to include numerous adjacent and intersecting walls. Although it was recognized that all the walls were not the product of a single construction phase, the nature of the construction hindered an understanding of the precise stratigraphic sequence. The excavation of the remaining Phase 17 features resulted in a clearer understanding of the occupation, which was largely discussed in 2000. In general, Phase 17c was characterized by the sub-division of the Phase 18 **Room 365** in the “Potter’s House” and the leveling and filling of the “Weaver’s House,” possibly to address the issue of street accumulation. Construction of features appeared directly on the previous layers and features indicating the direct continuity of occupation. The later sub-phases saw continued use and build-up of occupational debris layers. In the final sub-phase (17a), the southern structure was rebuilt again (discussed in 2000).

In the “Weaver’s House,” all rooms were covered with leveling fills prior to the founding of new walls. The division between the northwest and southwest rooms was eliminated and the combined space appears to have become a partially open courtyard. The fills (**75.L305, 306, 275**) were covered by the main courtyard surface **75.L232**. The western street-side wall was replaced only with a low curbing of cobblestones and mudbrick (**75.F300, 361, 202, 170/171; 65.F151**), which frequently failed to keep the rising street ash and debris from spilling into the courtyard (cf. **75.L195, 275** excavated in 2000). The curbing was fairly insubstantial and required frequent repair. Its footprint shifts in the courtyard debris over the period of its use. Over a dozen small pits and postholes cut into the courtyard, indicating a high level of activity in this area along the street.

The Phase 18 “Main Room” was covered by fill **75.L236** and new walls were laid. All walls appear to consist of yellowish mudbrick set on fieldstone foundations. This construction and brick color is consistent with Phase 17 construction noted elsewhere in the grid. Wall **75.F292** divided the former large space into two separate rooms, **Room 328** in the south and a larger room to the north. Little of **Room 328** was exposed and few items of note were discovered on its hard packed beaten earth surface. The stone feature at its west end (**75.F334**) is poorly understood. It may be a contemporary structure, or possibly the foundation of a later construction. Additional excavation is necessary to clarify this relationship. The floor of the northern room was excavated previously. The western wall **75.F273** (foundation trench **75.F346/=371**) was placed over and cut into Phase 18 bench **75.F374**. It is uncertain if it originally extended fully to meet the

northern wall **75.F263/233**. The eastern wall remains under the eastern balk.

The Phase 18 shared wall, **75.F146**, continued to function as the main division between the northern and southern houses. The large main **Room 365** of the “Weaver’s House” was sub-divided in Phase 17c by the construction of the E-W wall **75.F82** directly upon the Phase 18 occupational debris (**75.L335**). Bench **75.F340** was constructed against the north face of wall **75.F82** by setting mudbricks on edge to create a bin-like chamber and filling the hollow with debris. The top of the bench was capped with horizontally laid brick. It appears, at this time, to be the only architectural feature of the new northern main room. The room’s northern wall was rebuilt as **65.F94**, closely along the line of the previous wall **65.F180**. It continued to divide the space from another (largely unexcavated) **Room 141** located further to the north. Wall **75.F116** further sub-divided the new southern space into small east and west rooms. The west room appears to have functioned as the entrance vestibule of the structure, maintaining the street entrance from Phase 18. Numerous small pits, postholes and installations were discovered in the west entrance room.

Iron Age II and Late Period Occupation

The continuous occupation of Ashkelon has resulted in numerous disturbances of underlying strata. Later period pits, wells, and deep foundations frequently sever the connections of earlier walls and create a heavily pock-marked landscape for the excavators to negotiate. The deepest disturbances cannot be safely excavated to their full depth. Instead, these features are excavated in stages; their elevations lowered enough to remove the possibility of contamination of earlier strata by late pottery, but not enough to create a risk of fall or collapse. In general, the continued excavation produces additional pottery example and the occasional small-find, but offers no new information to our stratigraphic understanding of the site. The numerous examples of these late period deep disturbances, which were partially excavated in the 2007 season, will not be discussed here. Readers are encouraged to investigate individual reports for details.

We returned this season (after a hiatus of 10 years) to an area of excavation in the southeast of the grid (square 38.85) that was heavily marred by later period disturbances. Although only a small excavation area survived undisturbed (approximately 5 by 6 meters), it was able to reveal substantial architectural remains and

greatly add to our plan of the Iron II occupation. Only the discoveries from this season will be discussed here.

Phase 16/15 (Iron II—9th-8th c. BCE)

The substantial Phase 14 construction heavily damaged the features of preceding Phase 16 and 15 across the grid. The current plans for these phases are patched together from the various wall fragments and partial surface remains. In general, it appears that the layout established in the Iron I period continued—buildings lined a central N-S oriented street. The pottery dates predominately to the 9th-8th c. BCE.

Phase 16 was represented this season solely by a substantial mudbrick wall (**85.F170**) and small patch of street debris (**85.L171**) located to its west. The wall is oriented N-S, likely representing the exterior western wall of a building standing on the east side of the street. Although the top of this feature was noted within the excavated area of square 38.85, it is far more visible in the slightly eroded eastern balk of square 38.84. Several courses of mudbrick have emerged, hinting at a substantial wall to be uncovered in coming seasons.

Fieldstone foundations for a later Phase 15 building were revealed cutting into the Phase 16 remains. These foundations represent the partial remains of three to four separate rooms. The exterior street-side wall **85.F169** cornered with Wall **85.F164** to enclose **Room 178**. A complete 8th c. BCE storage jar was found resting on the floor (**85.L178**—see photo). This room appears divided by N-S oriented mudbrick wall **85.F173**. Two wall stubs,



85.F172 and **85.F165**, attached to the north side of wall **85.F164** indicate the presence of additional rooms. **Room 175** in the northwest held the eroded remains of a

mudbrick bench (**85.F174**). Little was preserved of the northeast room. It is unclear at present if the rooms belonged to the same residence, or a separate residence that shared wall **85.F164**.

As noted earlier, the Phase 14 construction heavily damaged the underlying material. The Phase 15 structures were dismantled, backfilled, and leveled to create a relatively horizontal constructional surface (cf. **85.L160.161, 167, 168, 176, and 177**). This new architecture was itself heavily damaged at the end of the 7th century during the siege by Nebuchadnezzar of Babylon and by later Persian period construction (Phase 13). Phase 14 walls were removed (robber trench

85.LF32) and pottery debris leveled out over the area (cf. **85.L156=L33**). Most of these constructional fills remnants were removed to expose the Phase 15 architecture this season; although, some Phase 14 fill remains above the largely unexposed floor **85.L178**.

Conclusion

The 2007 Leon Levy Expedition to Ashkelon employed an extremely dedicated and hardworking team to address a series of focused research questions, with great success. We tested and implemented a new, networked data system that will undoubtedly improve scholars' access to the excavation results and speed the research and publication process. We have narrowed the gaps in our knowledge of Philistine occupation at the site and moved closer to an understanding of settlement prior to the Philistine arrival. I am extremely proud of the work conducted this season and excited for the possibilities held for future excavation.

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Appendix:

The following pages include copies of the preliminary phase plans produced at the close of the 2007 excavation season. Room and building designations given in the above discussions do not appear on the plans. Readers are provided instead with the labels of excavated layer (L), feature (F), or the generic unit (U) designations. Red lines mark the 10 by 10 meter square lines, providing a very accurate relative scale. Note that not all section/balks were cut to the true edge of these square designations. The full extent and elevations of excavated layers are not always represented. Given the nature of overlapping strata, such fully rendered plans become unintelligible. The drawings were thus simplified to improve their readability. Further refinement of these plans is expected for future publications.

Grid 38 Square 63 2007 Final Report:
Michael Press

Introduction

Unlike in Square 64, the majority of Phase 20 material had already been removed in the 2004 season; in many cases only the walls of that phase remained. In addition, over the course of the 2007 season it became clear that much of what had been phased as 20 was in fact LB, probably 22; thus there was even less Iron Age material extant than we had anticipated. As a result, relatively little attention was paid to this square relative to square 64. The goal of removing the final Iron Age remnants, then, was largely successful due to the contributions of assistant supervisor Eric Prins and volunteers Mychal Chapman, Christina Evans, Walter Foster, Karen Jurkovich, and John Noble. Their mixture of good humor and dedication led ultimately to an enjoyable and worthwhile season.

Phase Pre-20

As mentioned above, pre-20 has now been divided gridwide into phases 21 and 22, although the exact relationship between the two is still unclear. In particular, it is noteworthy that square 64, at least in the south, saw deep fills associated with Phase 21, while in much of square 63 it appears that the Phase 20 occupational buildup may have sat directly on top of Phase 22 buildup. Below I will discuss the LB remains in square 63 according to the broad outlines of Phases 21 and 22 as they are understood throughout Grid 38, with special attention to the problems mentioned above.

Phase 22 remains were encountered primarily in the southern end of the square, where a deep buildup of surfaces and occupational debris occurred. **L896**, possibly subfloor fill for this buildup, was the earliest unit reached this season. Above this fill, the deposits were of two basic types: an layer of orange mudbrick detritus with surface laminations (generally white phytolith surfaces), and above this a layer of gray ashy occupational debris. An exact discussion of the detailed horizontal and vertical stratigraphic relationships is not possible, for two reasons: 1) much of this material was removed in a hurried manner at the end of 2004, without detailed records; and 2) the individual laminations were often localized, with some areas seeing deep buildups (especially in the southeast corner, in the tabun area) and others more shallow. The basic sequence is as follows: the earliest surface, at least so far identified, is **F893**, which is probably contemporary with (if not equivalent to) **F877**. This surface (or surfaces) is in fact the lowest portion of the orange brickly surface buildup, marked by three contemporary or equivalent layers (**L878**, **L890**, and **L876**). Above this was the gray ash of **L851=L889** (=73.L605, 64.LF1035). This ash was thickest in the southeast corner, where it was likely deposited from tabun **F853 L854**. It built up against **F886**, a single line of stones in a brickly matrix, forming the only possible Phase 22 architecture in the southern end of the square.

The basic sequence largely matches that encountered in squares 73, 74, and 64. The gray ashy occupational debris **L851=L889** is the eastern continuation of 64.LF1035, the surface running up to wall 64.F1082. Meanwhile, the orange (or brown) brick detritus forms the floor makeup for the major plaster surface 74.F1101, which

corresponds to 64.LF1035. The row of stones F886, to which L851=L889 runs up, lines up with a row of mudbricks in square 73, 73.F598. Again, there appear to be localized buildups in various areas that do not exactly match, but only roughly correspond, to those in adjacent areas: thus there is no clear plaster surface in square 63 (or squares 64 and 73) as there is in square 74; the ashy buildup is thickest in the southwest of square 63 and northwest of square 73 (probably from tabun F853); and the orange bricky material does not have the same thick surface buildup in square 74 as it does in squares 63 and 73. Nevertheless, the basic reconstruction is clear. It therefore appears that square 63 was part of a much larger open area in Phase 22, with various localized activities (such as cooking) in particular areas of this open space.

Elsewhere, little material was encountered that could be attributed to Phase 22. **F891** is an E-W row of mudbricks that could not be associated with any other architecture or any occupational buildup. Fills **L894** and **L895** to the north were not excavated in 2007, and are only certainly below the 20B material (foundation trench F887 and plaster surface LF862, respectively). They have been tentatively phased in 22, but could belong anywhere from 20B (at least for L895) to 22. **U885** is a somewhat arbitrary unit, consisting partially of the gray ashy buildup with yellow kurkar layer that continues L851=L889, and partially of the silty fill and sand layers cutting L851=L889 (and probably associated with the founding of the Phase 20 walls).

There appears to have been very little buildup of Phase 21 in square 63, particularly in the south; this does fit with our current understanding of 21 as a very brief phase. A layer of fill, **L897**, has been phased as 21, but like L894 and L895 it could also belong to Phase 22. The chief reason we have placed it in Phase 21 is that it is cut by the probable Phase 21 pit/silo cuts **F870 L871**, **F879 L880** (=64.F1047 L1048), and **F892**. These silos and pits, generally filled with Egyptian pottery, are typical of Phase 21 gridwide, and are also usually cut from fill layers. The only question for L897 is whether the pits were cut from this fill, or cut from an upper level and cut through what would then be an earlier fill layer. As this area was not excavated with extreme care in 2004, resulting in much of the fill below LF862 being removed as part of LF862, we may not be able to answer this question fully.

F870 L871 was excavated in 2004, while F879 L880 and F892 have not been excavated.

Phase 20

Most of our work in Phase 20 this season involved removal of the earlier 20 buildup, Phase 20B. The defining feature of this phase, as noted for square 64, is the large E-W fieldstone wall **F832** (=64.F985). The wall was laid into foundation trench **F887**, which was cut particularly deeply on the north side, and cut much of the Phase 22 material. **F874**, a wall stub or stone platform, was constructed at roughly the same time along the south of the wall. Otherwise, the only clear 20B activity was on the north side of F832. **L875** was a possible subfloor fill layer (though again it might also be earlier fill from Phase 21 or 22, like L894, L895, and L897), on top of which a large plaster surface was constructed, **LF862=LF872** (=64.LF1029, 64.LF1039, 64L.LF200). This plaster surface covered a large portion of squares 63 and 64, and was the floor associated with the suggested monumental building (see square 64, Phase 20B, above). In square 63 there appears to have been a thicker deposit or use of this floor, as occupational debris

L861=L869 accumulated on top of the surface.

In 20A the plan of the area changed, with the large room being broken up into smaller units; in square 63 this consisted of wall **F828**. The wall had a mudbrick threshold **F881**, to the north of which the wall continued as **F882**. On the other side of wall **F832**, **F842** was a N-S fieldstone wall serving as a “windbreak,” partially enclosing the area of the tabuns (**F845 L847** and **F883 L884**) in the southeast corner of the square.¹ Thus it appears that the southeast corner of square 63 was a cooking area in Phase 20A, just as it had been in Phase 22.

Conclusion

In square 63, unlike square 64, we were almost completely successful in removing all of the remaining Iron Age material (save for a small amount of fill, in foundation trench **F887** and perhaps in **L875**). Excavation this season helped illuminate the LB-Iron I transition, although many of the details of this process (as mentioned above) remain obscure. The next season of digging may help to clarify the details of the transition, as more sustained work in square 63 will solidify the exact phasing. Finally, work in square 63 helped add to our understanding of the nature of Grid 38 in the thirteenth century, and Canaanite Ashkelon more generally.

¹ Neither tabun was excavated this season. **F883 L884** was newly identified in the baulk by Egon Lass, after having apparently been missed in excavation of this area in previous seasons.

Grid 38 Square 64 2007 Final Report:
Michael Press

Introduction

The 2007 season saw a return to Tel Ashkelon after three seasons. In that time the Leon Levy Expedition, which had been considered completed in 2004, was renewed, and a new set of goals and research questions for the site were developed. Nevertheless, the excavation of Grid 38 continued largely in the same manner and on the same scale as in previous seasons. The primary goal for the 2007 season was to remove the remains of the earliest Iron Age phase (Phase 20), which had been the focus of investigation in 2004. In this we were ultimately not successful. Confusion concerning features in the eastern half of the square slowed progress, and even now the phasing in this area is not entirely clear; according to our current understanding, however, the walls in place in the eastern half still belong to Phase 20.

In other respects, however, our work in square 64 this season was very productive. Given the focus in 2004 on the “weaving room,” and the hurried nature in which excavation that season was concluded (as it was then thought to be the final season of excavation), much of Phase 20 – particularly in the southern and eastern parts of the square – was poorly understood. Our six weeks in the field this summer have contributed a great deal to clarifying the stratigraphic relationships in these areas, to the point that even the enigmatic features in the eastern end appear to make sense.

As much as we were successful in this work, credit is due to the contributions of assistant supervisor Eric Prins and volunteers Mychal Chapman, Christina Evans, Walter Foster, Karen Jurkovich, and John Noble. Their mixture of good humor and dedication led ultimately to an enjoyable and worthwhile season.

Phase Pre-20

In 2007, the pre-20 material in Grid 38 as a whole was much better understood than in 2004. This material was considered to consist of two separate phases: Phase 21, the material associated with the Egyptian wall in squares 83 and 84 (considered to date between Merneptah’s conquest of Ashkelon c. 1208 BCE and the invasion of the Sea Peoples c. 1175); and Phase 22, the pre-Egyptian LB material (13th century BCE). In square 64 it is still difficult to separate this material, as it was not excavated (let alone understood) in any great depth. Moreover, the exact gridwide definition of these two phases is not yet established. As a result, we are still grouping this material together under the label “pre-20.” Unlike in 2004, however, we are now making a first attempt at separating this material preliminarily into phases 21 and 22.

The earliest material excavated this season, and the only likely Phase 22 remains, are found in two small areas along the south baulk. In the western part of the square, an ashy surface buildup, **LF1035** (=63.L851, 74.U1101),¹ runs up to **F1082**, a segment of a

¹ In 2004, LF1035 was tentatively placed in Phase 20, as the earliest Iron Age surface south of F985; we did note the possibility, however, that this surface was in fact the latest LB one in this area. The crux of the problem was the relationship of this surface – and the fills to the west – to F985. We noted in 2004 that the surface neither ran up to nor was cut by F985. This season, however, we observed that in the west baulk LF1035

N-S fieldstone wall (= robber trench 74.F1111). In the eastern end of the square, **F1098** appears to be a portion of another N-S fieldstone wall (revealed in part of square 74 as F1129).

The later pre-20 material in square 64, probably Phase 21, is more substantial. Only one clear feature, however, was identified: **F1015**, an E-W fieldstone wall (of one row and 2 courses).² The eastern end of this wall was founded directly on top of wall F1082, while the rest was built on top of leveling fill (or possible foundation trench?) **L1083**. The other accumulations in this phase were largely fills, with some pits cut into them. Adjacent to F1015 was **L1079**, a layer of mostly deliberate fill (with occasional sandy striations), some of it extremely dense and with the consistency of clay.³ Two pits were cut from the top of this layer: a small ash pit (**F1066 L1067**), and a much larger and deeper pit, **F1077 L1078** (=74.F1106 L1108). The latter pit had a series of partially intact large vessels towards its bottom. L1079 was equal to, or at least contemporary with, **L1051**, another layer of partially dense bricky fill; on top of U1051 on its northern edge was **L1062**, a small fill layer with brick pieces. These fills were also equal to or contemporary with **L1095** and **L1053**, fills along the eastern edge of the square. **F1060** was a series of stones that marked the extent of a pottery splay in L1053. The material on the northern end of the excavated area was somewhat different: LF1040=64L.LF230 (not excavated this season) appears to have been a large outdoor activity surface with traces of ash and burning. Cut into this surface were at least three pits (**F1090**, **F1091**, and **F1092**). In general, then, most of square 64 seems to have functioned as a large open area in Phase 21, with prepared outdoor surfaces marked by periods of natural accumulation (in the form of sandy buildups).

Phase 20⁴

As in 2004, the bulk of the material excavated in square 64 was from Phase 20. The major Phase 20 feature in the square, as recognized in 2004, was the massive E-W fieldstone wall **F985** (=63.F832), with its foundation trench **F1094** (=63.F887) cutting much of the Phase 21 material, especially on the north side. In 2004 we excavated a

appeared to stop short of the wall, while in the east section of probe L1046 the surface ran directly under F985. Moreover, it appears that the later (Phase 21) fills, particularly L1079, did not run up to F985; while there were no good lines for a foundation trench, we still concluded that these fills/buildups were cut by F985. Perhaps most significantly, LF1035 was clearly associated with wall F1082, which is just below the founding levels of F985.

² In 2004 we considered this wall to be part of Phase 20. Its proximity to F985 therefore presented problems in its interpretation (see 2004 report). With the dissociation of L1079 and other fills to the south from F985, however (see note 1 above), F1015 can now be placed safely in Phase 21 – although its exact function remains enigmatic.

³ Compare the 2004 square report, where the material in this area was phased as part as 20; for explanation of the changed interpretation, see footnotes above.

⁴ In general, Phase 20 is divided in the grid as a whole into two phases, 20A and 20B. In square 64, the subphasing of 20 is marked only by localized changes within areas of the square, meaning that no square-wide subphasing of 20 can be confidently achieved. As a result, rather than discussing 20B and 20A as coherent subphases, we will discuss each local sequence together as a unit.

series of floors in the “weaving room,” on the north side of the wall (in the middle of its extent in square 64), between walls F1018 and F1011. This season, we excavated a series of surfaces in fills to the east, on the east side of N-S mudbrick/stone wall **F1011**. This area is the southern continuation of the corridor between the “H-shaped” and “L-shaped” buildings excavated in 1988-1990 in 64 Lower. Unlike the area excavated to the west in 2004, this area did not yield a series of surfaces and occupational debris within a clearly defined room; instead, the corridor was characterized by patches of surfaces among fill layers throughout Phase 20, often without a clearly defined extent (particularly on the east side). Our findings therefore do not match exactly the excavation records of the continuation of this corridor in 64 Lower, where a series of surface and occupational debris buildups were recorded. Nevertheless, it is still possible to make some rough equations between these two areas.

In its earliest phase, the corridor was bounded on the west (as always) by F1011 (with possible foundation trench fill **L1093**), and on the east by N-S fieldstone wall **F1069**.⁵ The earliest surface in this area may have been **U1073**, although as noted above for the area in general much of what was excavated as U1073 appeared to be simply fill; below was possible subfloor fill **L1096**. U1073 was notable for containing a largely intact bronze blade with tang (MC # 57214). Above this fill with traces of surface was another, clearer surface **LF1070**, and its occupational debris **L1068** [equation with 64L.LF198 – is this for 1070 and/or 1068?]

Afterwards (in 20A), F1069 went out of use (being covered by fill **L1076**), and the eastern limits of this “corridor” become unclear. Only one surface seemed to extend over the majority of this area, namely **LF1061** (=64L.L142, LF177, LF180). Below this surface were two fill layers with only small traces of surfaces, **L1065** and **L1063**; the latter contained **F1064**, originally thought to be a stone installation but now understood to be simply stones in fill. Built directly on surface LF1061, and in use with it, was mudbrick feature **F1058** (=64L.F173=F179). This enigmatic feature, possibly a platform(?), consisted of two rows of bricks (each with three full bricks and then a fourth shaved brick on its side to the south) running N-S and built up against wall F1011. Above LF1061 were two additional fill layers, **L1059** and **L1057**, marking the end of Phase 20 in this corridor.

The only other Phase 20 architecture excavated this season was in the eastern end of the square. In 20B, a room was tacked on to the east of the join of F985 and F1069.

⁵ LES has suggested that the join of F985 and F1069 marked the southeast corner of a monumental Phase 20B building including pillar base F???; the northern end of this building would have eroded away and was therefore not found in the excavation of 64 Lower, while the western end would lie beyond the west baulk of square 63. Certainly there was a very large room here in 20B, as the large plaster surface marking the earliest floor associated with F985, LF1029=LF1039 (=63.LF862, 64L.LF200/206??), traced at least from F1011 west to the west baulk of square 63. This plaster surface, however, was not found in the corridor between F1011 and F1069 and appears to have stopped at wall F1011. It certainly did not trace underneath F1011, as it did underneath F1018 and 63.F828. Another problem for the reconstructed corner of the monumental pillared room is that F985 and F1069, while abutting, do not corner well, as the south edge of F1069 comes up only to the middle of the east edge of F985. The stones continuing F1069 to the south may have been robbed out, but we found no sign of a pit or trench.

The room was bounded on the east by **F1071=F1080**, and on the south by **F1072**. As with F985, F1069 did not corner well with F1071; in this case, **F1097**, a line of stones whose exact function is unclear, formed the join between the two walls. On the north face of wall F1072, a possible mudbrick bench, **F1081**, was built along most of the room's extent. Above the subfloor fill **L1089**, there was a significant occupational buildup in this room, consisting of floor **LF1088** and occupational debris **L1049**.⁶ The floor contained little material; it was most noteworthy for four postholes (**F1084**, **F1085**, **F1086**, and **F1087**) as well as three beads (MC # 57396, 57402, and 57444; a fourth bead, MC # 57473, was found in the fill of posthole F1084). The occupational debris L1049 contained at least one surface intentionally laid, a patch of plaster floor sloping up towards F1081. After the end of this buildup, the floor was covered with fill **L1044=L1076** (=64L.L207), including **F1050** (simply a group of stones in fill), and then a small, thin surface, **LF1075**, was laid along F1081. The center of this floor consisted of a dense patch of shells. LF1075 was most noteworthy for pieces of monochrome laying on it, marking the earliest clear Iron Age pottery in the eastern half of the square.⁷

After LF1075 went out of use, the eastern room was reorganized. The old walls went out of use, with F1071 replaced by **F1038**, and F1072 replaced by **F911**. While F1069 also went out of use, there was no clear west wall to this room. F911 was erected farther north than F1072, but its foundation appears to have involved a deep trench cutting into the northern half of F1072 (and F1081). The fill of this trench would have been **L999**, with **F959** serving as a bench against the south face of F911. The area south of F911, including bench F959, may have served as an outside area in 20A, but an additional N-S wall, **F991**, was built off of F911 to the south. No surfaces were identified in the material south of F911; instead, it appears that the upper courses of the southern end of F1072 was still standing (having been cut away in the northern end by the foundation trench for F911), perhaps rebuilt now (or, more likely, in Phase 19) as

⁶ In 2004, the occupational debris was originally designated as L1049; at the end of the season, however, with a rush to understand this area, a probe was dug in one part of the room and the floor and occupational debris were excavated as a single unit, LF1049. With the renewal of excavations this season, it was possible to excavate this room more systematically, and therefore the occupational debris and floor were again separated (as L1049 and LF1088). We had originally thought in 2004 that L(F)1049 marked a pre-20, LB buildup, associated with a possible stone wall F1050. It is now clear, however, that what we had identified as F1050 was simply a group of stones sitting in fill, additionally confused by the stones of F1069 coming up below the western end of F1050. L1049 is clearly running between F1071 and F1069, and up to F1081 in the south. The phasing of this room (as 20B, or pre-20) is not entirely certain, but an association with the earliest Phase 20 material is the best interpretation at this point. While no monochrome or other clear Iron Age pottery was found in L1049 or on floor LF1088, it was not found on LF1029=LF1039 to the west either; in addition, the founding levels of F1071, F1072, and F1069 (roughly the same as those of F985 and F1011), and the join of F1069 and F985, suggest that this room is roughly contemporary with the earliest Phase 20 occupation in the western half of square 64.

⁷ In addition, several monochrome sherds, joining as a bowl (RP 10751) preserved rim to base (that had been smashed in antiquity), were removed with the fill L1074 above, but was probably sitting on floor LF1075.

F997, a possible mudbrick platform. The floor and occupational debris of this room, LF1041 and L1037, were excavated in 2004; see the 2004 square 64 report for more details. The most notable 20A find in the eastern part of the square was not in this occupational buildup, but in wall F1038: an Egyptian or Egyptianizing statue (MC # 56971). The interpretation of this statue -- including whether it depicts a male or a female -- is unclear. What is certain, however, is that the statue was in secondary context as a stone in the wall, presumably laid there by the Philistines after its original use at the time of the Phase 21 Egyptian presence.

In general, there was no clear indication of the use of these areas in Phase 20, as there was in the Phase 20 room excavated in 2004. At the very least, there were no finds to contradict our general understanding of this area as domestic in nature.

Phase 19

Little Phase 19 material remained in square 64 in 2007, except the material pedestalled under the bathtub F963. In this area, N-S fieldstone wall **F962** was laid down, over a bedding consisting of mudbricks and mudbrick pieces, **L1054**. After the erection of this wall, the Phase 20 buildup just to the west was covered over by layers of fill: **L1005**, **L1052**, and **L1056**. On top of these fills a plaster surface, **F955**, was laid, and then the bathtub **F963** was set on this surface. The finds in this room from previous seasons, including loomweights, again suggest a domestic/industrial character to this building; the bathtub could either be a purely domestic installation, or perhaps one involved with the industries of weaving and dyeing.

Phase 1

The only post-Phase 19 material excavated in 2007 was **U1055** (= **F757**, 74.F519), part of the foundation trench for well **F751** (= 74.F60).

Conclusion

This season saw the final removal of the Phase 19 material, and a fuller understanding of the Phase 20 remains. With the clear delineation of the boundaries of the probable 20B room in the east of the square, the final Iron Age remains (also including foundation trench F1094) are nearly ready to be removed. As a result of work this season in square 64, the plan of the earliest Philistine settlement at Ashkelon is now better understood. In addition, we have shed additional light on the nature of the transition between LB and Iron I, among Canaanite and Egyptian and Philistine presence, at Ashkelon.

Grid 38 Square 73 2007 Final Report:
Dana DePietro

The 2007 season marks the beginning of a new chapter in the history of the Leon Levy expedition to Ashkelon. Not only have we been given the renewed opportunity to address several of the questions left unanswered at the end of the 2004, but we have incorporated several new methods and technologies to assist us in doing so. While the shift from paper records to the entirely digital format of OCHRE, bar-coding of material culture, introduction of micro morphology and ground penetrating radar have proved tremendously successful, our most valuable resource remains the exceptional skill of our volunteers. It is with that in mind that I would like to thank Taylia Staten, Deyland Wing, Larry Largent, Ashley Echard, Alex Silk and Elise Jakoby for their diligence, hard work and good humor, without which we would not have been able to accomplish our goals this season.

Foremost among these goals in square 73 was to gain an understanding of how the transition between periods of Philistine (Phase 20A and 20B), Egyptian (Phase 21) and Canaanite (Phase 22) occupation took place. Despite extensive pitting and the intrusion of later features such as Islamic cistern/well which literally divides the square in half, we were able to gain insight into these relationships and remove the final vestiges of phase 20 architecture and their associated fills in the north and south of the square. What is more, we have also revealed a number of interesting fills and features associated with the Phase 22 architecture in the northern half of the square along with a pre-phase 22 burial which we will now turn our attention to.

Phase Pre-22:

Very little is known about this phase as we encountered it at the end of the season in a deep and isolated area. Our tentative Pre-22 phase consists of a single layer of hard, compact brown fill interspersed with a large amount of animal bones designated **L73.624**. This layer, cut by the foundation trench of Islamic cistern/well **F73.586** to the south, was placed in a Pre-22 phase due to the large amount of MB 2c/LB I pottery within it. It is within this layer that we encountered burial **F73.629**, the long bones of which were first observed protruding from the northern section of the cistern as we excavated its foundation trench. This early observation of a possible burial influenced much of our later work in the north of the square as we sought to excavate portions of the layers directly above in order to expose and preserve the skeleton before the end of the season. While there appears to be some evidence of a possible mud brick enclosure around the burial seen in section, no burial cut or associated grave goods were found and the body was covered with rubble, animal bone and MB 2c/LB I pottery sherds. The skeleton itself lay in a flexed position on its right side and was oriented facing north. While the right foot, both tibias and fibulas (29cm) both femurs (45cm), right radius and ulna (28cm), right hand and skull (height of 20cm X width of 17cm) were all intact, all other bones were cut away by the construction of the cistern to the south. The skeleton may have been male as it appears to have been quite tall, however without an intact pelvis it is difficult to sex. More concrete is the fact that it had a full set of beautiful teeth that exhibited little very little sign of wear, perhaps indicative of a younger person. As the bones were still

articulated, the burial appears not to have been disturbed -one wonders about the circumstances of this individual and why he or she was disposed of in such a way.

Phase 22:

The fact that all Phase 22 features and fills exposed in square 73 currently lie in the northern half is not unusual; as seen in the western baulk, a clear slope from south to north exists, so while we have exposed phase 22 in the north, we have yet to excavate it in the south. Our earliest layer of Phase 22 sub floor (**L73.623**) is made up of grey/white sandy soil that appears to extend across the northern half of the square directly above **L73.624**. Like the darker ashy grey/brown layer of **L73.618** directly above it, the western extent of this layer is unknown as it is cut by phase 21 pits to the west. While **L73.623** most likely continues under **L73.618** to the north, its northern extent is unknown as only the southern third of **L73.618** was excavated in order to expose the burial. **L73.618** on the other hand extends northward to meet phase 22 wall foundation **F73.581** and appears to be another layer of sub-flooring containing all LB II pottery. To the east of this layer lies an orangey/brown compact fill designated **L73.619** that lenses up to meet it. It appears both **L73.618** and **L73.619** formed a surface as the first has a curious stone half-circle installation with evidence of burning inside built atop it (**F73.614**) and the second is capped by trace plaster surface surrounding posthole **F73.621**. The relation between these two features remains unclear at the moment, however they appear to be contemporary with one another and may relate to stones **L73.622**. **L73.609**, built atop **L73.618** consists of a thick, rich brown layer of mud brick mortar. The western edge of this layer was at a higher level and may have contained two very eroded large rectangular mud bricks, however other mudbrick chunks and inclusions lead us to believe this was a fill layer and not an installation in its own right. This layer appears to be the foundation of **F73.598**, a small wall that consists of a single row of 3 long thin mudbricks running south from the southeast corner of wall **F73.581** where they abut and form a right angle. These mud bricks are in line with a row of stones in square 63 (**F63.886**) but a direct connection could not be established. It is clear from the stones and pottery sherds pushed up against the western side of the bricks that this bin or leveling platform was constructed to contain the light brown and grey/white fill of **L73.599**- a layer essentially equivalent to **L73.617** to the east, but initially divided as **L73.617** was capped by a fragmentary plaster surface, fragmentary lenses of which were still visible continuing across the surface of **L73.599** and especially present in the thin layers of occupational debris above (**L73.590** and **L73.591**). These fragmentary plaster layers seem in turn to relate with the thick plaster accumulation of **L73.616** which runs up to wall foundation **F73.581** in the west. It seems all of these formed a uniform plaster surface on top of the leveling platform which related to the wall foundation before being cut by phase 21 pits and phase 20 foundation trenches. To the east of the mud brick platform, this theory is further justified as two thin layers of dark ashy occupational debris (**L73.615** and **L73.605**) lie on top of **L73.619** and clearly slope up to the mud bricks from a lower elevation in the east. While relations between squares 73 and 74 remain somewhat unclear, it appears layer **L73.605** is equivalent to **F74.1101** to the east, and extends around the east and northern edges of wall foundation **F73.581** where it was found to be equivalent to **L73.582**.

Phase 21:

The Phase 21 occupation of Square 73 fits perfectly within the spectrum of activity taking place in square 63 to the north and 83 to the south, mainly extensive pitting and construction of mudbrick-lined silos to the north of the Egyptian garrison wall. In the southern half of the square, **L73.610** is our only phase 21 surface lying directly beneath phase 20b. This surface is cut by pits **L73.625**, and **L73.627**, the latter of which is cut by a smaller pit **L73.620** and appears to be a good candidate for a brick lined silo, complete with a ring of bricks, sloping plaster and a possible mudbrick cap. Aside from **620**, none of these layers or features have been excavated, however we may have missed the floor and overcut layer **L73.606** into **610** as there was a marked shift in pottery from the IR I to LB II. Regardless, it is clear that the southern half of square 73 now remains firmly within phase 21. In the north, two Phase 21 fills were found, **L73.631** and **L73.601**. The first is the remnant of a loose brown phase 21 fill lying above the thick phase 22 flooring of **L73.616** that presumably covered the entire area at one time. It appears the majority of this layer was removed in last season's attempt to float the phase 20a walls built above it and this fragment was preserved in the far south due to the upward slope clearly visible in the western baulk. This, in combination with the cutting of later phase 21 pits **F73.592** and **F73.602** left only trace amounts of the layer in existence. Both pits were filled with LBII and Egyptian pottery, the latter also filled with rubble and large stones designated **L73.600**. The second phase 21 surface appears to be **L73.601** which consists of a compact medium brown soil interspersed with grey/white inclusions and runs up to the eastern side of mud bricks **F73.598**. Although lower than its phase 21 counterpart in the far west, it should be noted that just as there is a sloping up from south to north, so is there one from east to west. **L73.601** is most likely the higher continuation of **L74.1101** to the east and appears to be cut by another phase 21 pit/silo **F73.630**. This last feature was first observed after the removal of **L73.601**, but is thought to cut it as the pitlines are visible somewhat higher-up in the eastern baulk. This may warrant more attention next season when the baulk it runs under can be removed and its exact nature and relations can be determined.

Phase 20b:

Aside from fills **L73.574**, **L73.577**, which were residual layers left over from 2004, fills **L73.545** and **L73.588** are our only layers associated with phase 20b in the north, the latter of which lies directly beneath the phase 20a walls. In the south, phase 20b is well attested, with two large mudbrick-on-stone foundation walls, **F73.540** and **F73.527** running north-south, east-west respectively, and forming a corner where **540** abuts **572** from the south. Two additional stone installation walls, **F73.584** and **L73.596**, were built inside of this corner where they formed a three sided installation with **F73.540**, associated with floor **L73.594**. Dark ashy layer **L73.587** was initially thought to have filled this installation, however in removing the top mud bricks from **F73.584**, it was discovered that the ash ran under the bricks and to the western baulk, indicating that at least this part of the installation was built in two phases. The installation was then filled yet again with a hard, bricky yellow-brown layer filled with IR I pottery (**L73.583**) and then perhaps covered by amorphous feature **F73.567** left over from last season which we could not find, but may very well be a 2004 misdrawing of **F73.584**. It should also be noted that mislabeling in 2004 led to some initial confusion between the stones of **F73.596** and **L73.527**, however this was rectified in later top-plans. To the north and east

of the outer walls **L73.606**, a thick grey/tan series of laminated floors contemporary with floor **L73.594** not only reached the northern side of wall **F73.527**, but also extended under later phase 20a features reaching wall **F73.540** as seen in the northern section of Sq.83. Most interestingly, two Philistine bowl-lamp-bowl deposits (**F73.607** and **F73.608**) were uncovered half under the eastern and western end of wall **F73.527** respectively. The deposits' exact relation to **L73.606** is somewhat unclear as the edges of foundation pits could not be found, however this feature must have cut the surface or was covered by it at some point.

Phase 20a:

In the next phase of Philistine occupation, wall **F73.558** was built on top of surface **L73.606** along the southern edge of **F73.540** and another layer of plaster-like occupational debris, now designated **L73.604**, was built up against the wall from the east. Both of these superimposed surfaces were clearly seen running south-north in the eastern section of well **F73.373** where they merged into a single layer in the section's north, passing the northern edge of **F73.540**. In addition to wall **F73.558**, wall **F73.595** was added as a northern extension to **F73.540**. Both of these phase 20a walls have foundations that are much higher than the phase 20b architecture already discussed, and their relations to the upper surfaces clearly place them in a later phase. **L73.597**, a laminated accumulation contemporary with and not dissimilar from **L73.604** accumulated in a similar fashion along the northern edge of wall **F73.572** during this period, as did grey fill layers **L73.604** and **L73.572**, the latter of which was cut by taboon **F73.579** excavated in during the 2004 season. **F73.562** also lies to the east and is a floating phase 20a wall fragment left over from last season whose relations have never been clear. In the north, the only remaining Phase 20a features were walls **F73.536**, **537**, **538** and **539** which were drawn, photographed and pedestaled at the end of the 2004 season. In dismantling them, we happened upon two stones at a lower elevation designated **F73.589** which we thought might have some relation to phase 22 wall **F73.581**. Upon further investigation however, it became clear that these stones were probably related to phase 20a wall **F73.539** instead. As expected, the smattering of sherds from within the wall were entirely Iron I.

Byzantine:

Our single feature from this period is well **F73.373** a feature divided in half by the gridline and shared in the south with Square 74. After cleaning and defining the area, we dug the fill of the well going down several courses of stones (most 20X40cm) and then removed them layer by layer to expose and excavate the foundation trench **L73.374**. Soil matrix consisted of light brown grainy/silty soil containing a tremendous amount of mostly Byzantine pottery. In all we removed 3 tiers of stones which appeared to be constructed in a more or less spiral formation in order to excavate the well's foundation trench. As indicated elsewhere in this report, the western section of this trench was instrumental in gaining insight into the relations between layers and phases of Square 73 south.

Islamic:

Again, our only feature from this period is **F73.104** the Islamic cistern which

dominates the center of square 73. Over a week was spent in the beginning of the season significantly lowering the fill within it in order to create northern and southern sections that would give us an indication of layers to come. It was during this initial process that we first discovered the Phase pre 22 burial- proof positive of the section's utility and ironic that we should come full circle, beginning and ending in the same place! After carefully excavating the collapsed upper layers of the cistern this season, we found it necessary to assign numbers **L73.585** to the cistern fill and **F73.586** to its robber trench as the feature was more complex than we had anticipated. We uncovered a highly complex mode of construction consisting of an inner ring of finely cut and plastered stones (approx. 60 X 30cm each) and an outer ring of rougher stones bound together and to the inner ring with thick layers of cement. It appears that after the cistern construction trench was dug, the inner ring was carefully laid and plastered and then the space between the ring and the cut was filled with layers of rougher stone and cement. While this second part would traditionally be considered a "foundation trench" and be labeled separately, its intrinsic design and function as a support structure warrant its inclusion as part of the feature. While both inner and outer rings are extent in the majority of the feature, a single section approx. 1.5 meters long of both rings has been reduced to rubble in the north, seen clearly in the cut edges of both rings. It was here we excavated of the remnants of the outer ring in this area, cutting back the section in an attempt to gain a window into the undisturbed phase 21/22 material lying to the north. The process was extremely labor intensive as the fill in this area was very compact dark brown, and the discovery of a nice piece of Philistine Bichrome next to a bronze coin and pin is an excellent indication of just how disturbed this construction trench fill was. After dropping down almost 2 meters and removing the last of the foundation trench material, we were able to cut beautiful sections on each side which, as noted, were tremendously useful.

Closing remarks and directions for future research:

The 2007 inaugural season of renewed excavations at Ashkelon was a tremendous success and the progress made in square 73 was no exception. Despite a tremendously complex area which has been highly disturbed over the millennia, we were able to meet this seasons goals and exceed them. Like most successes however, mistakes are made along the way that should be accounted for in the end. It should be noted that in processing material from the square we found an occasional tag labeled square 74 instead of 73. While these errors have been corrected, it remains possible there are some we were unable to catch. Additionally a few elevations appearing on working top-plans appear to be incorrect in a few cases- Closing elevations on the final top plan and those registered in OCHRE are correct and should be the numbers to go by. In terms of burning questions left unanswered at the end of the season, most revolve around the nature of phase 21 and the extensive pitting and silo construction seen throughout the grid during this period. The nature and function of these silos -indeed all of phase 21- remains unclear in the south of square 73 and warrants further investigation. The same is true of pit/silo **F73.630** in the north which by all accounts looks to be a phase 21 feature cutting 22 layers, however its nature and relations should be established. Indeed, the three bricks of **F73.598** bear a striking resemblance to Phase 21 feature **F83.638** to the south, and may be related to cistern construction during the period. While we believe we understand the sloping relations between the fine plaster surface **L74.1101** and our northern phase 22

layers and features (mainly that it continues into 73 as **L73.605**), the relation is far from concrete and could be established with certainty through the removal of the 73/74 baulk. As this would also shed light on **F73.630** underneath, it should be considered a high priority for next season. This season has shed light on a number of intriguing questions and has posed several new ones- With luck, we will have the same success in answering them as we did this season.

Grid 38 Square 74 2007 Final Report:
Dana DePietro

The 2007 season marks the beginning of a new chapter in the history of the Leon Levy expedition to Ashkelon. Not only have we been given the renewed opportunity to address several of the questions left unanswered at the end of the 2004, but we have incorporated several new methods and technologies to assist us in doing so. While the shift from paper records to the entirely digital format of OCHRE, bar-coding of material culture, introduction of micro morphology and ground penetrating radar have proved tremendously successful, our most valuable resource remains the exceptional skill of our volunteers. It is with that in mind that I would like to thank Taylia Staten, Deyland Wing, Larry Largent, Ashley Echard, Alex Silk and Elise Jakoby for their diligence, hard work and good humor, without which we would not have been able to accomplish our goals this season.

One of our primary objectives for square 74 this season were to remove the last vestiges of Phase 20 architecture so that we might gain an understanding of how the transition between periods of Philistine (Phase 20A and 20B), Egyptian (Phase 21) and Canaanite (Phase 22) occupation took place. Since the majority of the square had already been lowered to phase 21 courtyard fill at the end of last season, another key objective was to understand the nature of these fills and their relation to the Egyptian garrison wall in square 83 to the south. Not only were we able to shed light on these questions, but we also revealed a number of very intriguing Phase 22 architectural features which we will now turn our attention to.

Phase 22:

In addition to being the earliest phase 22 feature we excavated this season, **F74.1128** was also one of the most interesting. This pit, covered by a dark brown, roughly rectangular mud-mortar cap containing quite a bit of pottery was discovered while excavating phase 21 pit **F74.1110**. In excavating **1110**, we overcut the pit's edges slightly and encountered a large intact vessel in the western section.

The vessel and pit were clearly sealed by silty grey **L74.1122** as remnants of the plaster-like surface lay across the cap. Excavating further, we encountered deposits of yellow-green soil in and around the shattered vessel. The vessel itself turned out to be a large Canaanite amphora which had been flipped upside-down. While very fragmentary, the vessel was complete, with both handles intact and a thick base. Upon excavating the contents we found the green/yellow material to be caked along the inside of the vessel and while we first thought we may be dealing with a cremation burial filled with ashy contents, it appears now that this amphora was buried and used as a toilet similar to another upside-down vessel found in later in phase 20. In sifting the contents (an interesting task) a frit Egyptian game piece and frit scarab were discovered inside that were perhaps accidentally lost down the drain. While **L74.1122** seals this entire deposit, the layer is cut by posthole **F74.1124** which was in turn filled with grey/black ash contained a piece of unworked Iron. To the northwest, **L74.1122** became patchy, however it appears to have been bound by a clear and curious line running SW to NE from well **F74.424** where it is quite visible running down the western section. Here it appears that everything to the southeast of this line was cut and refilled like a giant pit,

however the nature and extent of this cut -if that is what it is- have yet to be determined [Note(Aja)—*May be the robber trench of the E-W oriented southern closing wall.*] To the NW of the line, the light grey compact soil which accumulated in many layers before being cut was designated **L74.1123**, and lies at the same elevation as **1122**. To the east, **L74.1122** runs into **L74.1119**, the lowest grey ashy level of an east-west trench we cut after surveying the entire square with ground-penetrating radar. The radar proved to be quite accurate and was able to pick up the outline of the stones of **74.1118** which lie along the southern edge of **F74.1114**. Composed mainly poor quality kurkar stones, these appear to be set upon the grey surface layer of **L74.1119** while others appear to float above it. It looks as though these may be part of a wall collapse or robber trench, although we still have yet to find any evidence of a change in soil composition that would indicate such a trench- still, they appear to be part of a phase 22 architectural feature. A much clearer candidate for a robber trench extends north from **L74.1122** all the way to the northern baulk and has been labeled **F74.1111**. While some foundation stones remain, the majority appear to have been robbed out and possibly reused during Philistine occupation. To the east of this trench lies one of the nicer finds of the season. Over the course of several days we were able to expose a very large plastered surface consisting of several laminated grey ashy and white crushed shell surfaces 5-7cm in thickness, and extending over 20 square meters of the NW corner of the square. While bound to the east by robber trench **F74.1111**, is it interesting to note this plaster surface has no limiting southern architectural boundary despite the fact that it forms a beautiful sloping corner in the SE before tracing west [Note (Aja)—*The end of the surface may indicate the robbing of the wall against which it was constructed –cf. F1123?*]. It should also be noted that the aforementioned line separating **L74.1122** and **L74.1123** appears to run under the plaster surface. Is it possible this was a free-standing platform? We spent quite a long time working in this area and were unable to find any feature, robber trench or otherwise, that accounts for the clear east-west running edge of surface of **L74.1101**. There is scant evidence of possible mud brick mortar construction under the floor where it has been cut in the NW that may be a foundation of sorts beneath the floor. While that warrants further investigation, what is known is that this floor was cut by an intentional deposit in the southwest designated **74.1105**. Initially thought to be a burial, this mudbrick capped pit turned out to contain 8 complete vessels. These were stacked and arranged on an east/west axis in 2 groups of three and one group of two in the familiar bowl-lamp-bowl formation (the final set missing its bottom bowl) The deposit also contained a ceramic “horn” from a Cypriot vessel. If this foundation deposit was intended for a wall, wall **L73.562** would seem to be in the right position, however since we think it belongs to Phase 20 this seems unlikely. What appears to be much more likely [Note (Aja)—*although not stratigraphically connected or related to the bowl-lamp-bowl foundation deposit. The walls are associated with different rooms to the east of Robber Trench F1111.*] is the existence of an east west wall beginning with the central stones of **F74.1111** continuing east to the patch of stones designated **F74.1126** and then east again to the crosswall of wall foundation **F74.1129**. The edges of these features are in perfect alignment and in all probability form a phase 22 wall. While we have yet to fully excavate **F74.1129**, the foundation appears to have a mudbrick superstructure and continue north into square 64 as **F64.1098**. It’s southern limits and possible relation to the stones in **L74.1118** will have to be determined next season.

Phase 21:

In the southwest corner of square 74, Phase 21 begins with **L 74.1109**, a compact brown and grey, bricky layer which lies above **L74.1122** and **L74.1123** and directly south of **L74.1101**. Quite a bit of pottery was uncovered here including a jar handle incised with a Cypro-minoan sign and a stone weight fragment with what appears to be a stylized Philistine boat painted on its base. This layer exists at the same elevation as **L74.1101** to the south, however it appears to post date it as the layer is cut by two phase 21 pits/silos **F74.1120** and **F74.1110**. We have yet to excavate the first, but the second was capped with a few medium sized stones resting on the surface of black ash which contained quite a bit of LB II pottery and burnt bone. To the east lie **L74.1117** and **L74.1114** - the first lying below the second. Both layers are composed of light brown, coarse silty soil, and contain Egyptian LB II pottery, however a layer of Glycimerous shells scattered across the surface of **L74.1117** indicates there was a surface in-between them at one time. While we were able to make this distinction later in the season while digging north of the east-west trench, it is quite possible that we missed this distinction when digging trench itself, hence **L74.1114** in the trench bottoms out on phase 22 fill **L74.1119**. This shell scatter is fairly uniform, can be seen as a layer across the eastern baulk and looks very much like a natural deposition. Sandy striations and lenses of actual beach sand accompany **L74.1117** raising the possibility of flooding in the area. One of the more interesting developments this season was the discovery of a gigantic cut running from the southern baulk all the way to the north, where it can be seen in the northern and southern sections of well foundation trench **F74.519**. First observed in our scan of the area with ground penetrating radar, this cut, designated **F74.1127** was first exposed in the east-west trench and given the designation **L74.1113**. In both northern and southern sections of the trench the cutting of **L74.1114** was very clear, and the cut filled with several thick layers of silty grey ash and LB II pottery sloping up against it from the east. This “great cut” contained quite a bit of Egyptian pottery including several beer-jars and was clearly created during Phase 21. The reasoning behind making such a massive pit remains elusive however- perhaps it bears some relation to the construction of the Egyptian garrison wall? Equally elusive is the nature of **F74.1088**, a remnant of a two course mudbrick wall or platform with a flagstone (10-15cm) foundation, left over from last season’s excavation. Its relations and function remain unclear and we were unable to locate any kind of robber trench or adjacent features to go along with it. This feature appears to have been cut by adjacent phase 21 pits **F74.1108**, **1090** and **1058**, and rests upon Phase 21 layers both of which place the feature firmly in phase 21. North of **L74.1109**, the loose, silty brown soil of **L74.1099** swept in and covered phase 22 plaster floor **F74. 1101**. This layer was then cut by what appears to be a fine bricklined silo running under the baulk into square 73, designated **F74.1130**. While we did not notice this feature until excavating the surface of **L74.1101**, the pit clearly cuts the layer above as seen in both sides of the baulk it runs under. **L74.1099** differs little from somewhat darker and more compact **L74.1082** above it, which is in turn identical to **L74.1089** which covered the entire eastern half of the square. It was these final two phase 21 layers the 2004 season exposed throughout the square, along with contemporary layers **F74.1102** and **F74.1103** which were left unlabeled at the end of last season.

Phase 20a/b:

While Phase 21 and 22 were somewhat complex, Phase 20a is quite straightforward in comparison. With the exception of a section of cobble flooring belonging to **74.1081** that was not removed at the end of last season, all layers relating to this phase were removed in 2004. Walls on the other hand were not, and a feature **74.F1107** consisting of a bright orange burnt mudbrick layer and a clearly defined mud brick was found under wall **F74.1098**. While the function of this feature remains unclear [*Note (Aja)*—*May be the earliest Philistine mudbrick hearth*], it is interesting to note that there appears to be a layer of shell underneath the bricks. Monochrome pieces found within the feature date it and the wall above it (**F74.1098**) to phase 20, IR I. East west running **F74.1098** abuts wall **F74.1103** which runs north/south emerging from the southern baulk and is composed of flagstones bound in mud matrix. In excavating the wall we retrieved a fragment of a horizontal-handled carinated bowl, firmly dating **F74.1103** to the IR I. This wall lay directly under wall **F74.1097** and was of separate construction as seen in the 2-3cm layer of mud mortar that separated the two. **F74.1097** was of identical extent and construction as the Phase 20b wall below it, but as it a later construction it has been placed in phase 20a.

Byzantine:

Our only features from this period are **F74.353** and **F74.60**, two Byzantine wells divided by the gridlines and shared by squares 73 and 64 respectively. After cleaning and defining **F74.353**, we dug the fill of the well going down several courses of stones (most 20X40cm) and then removed them layer by layer to expose and excavate the foundation trench **L73.374**. Soil matrix consisted of light brown grainy/silty soil containing a tremendous amount of mostly Byzantine pottery. In all we removed 3 tiers of stones which appeared to be constructed in a more or less spiral formation in order to excavate the well's foundation trench. As indicated elsewhere in this report, the eastern section of this trench was instrumental in gaining insight into the relations between layers and phases in the south of Square 74. In the north we took the same approach with well **F74.61** and noted that while this well has been described in the past as feature from the Islamic period, it is interesting that pottery from that period is entirely absent. After removing four courses of stone from the well, we began to excavate the foundation trench finding the Soil matrix was of a very compact red/brown nature and containing only Byzantine pottery. It was on this basis that we decided to rephase the well alongside **F74.353** as a Byzantine feature as both are similar construction and appear to be contemporary.

Closing remarks and directions for future research:

The 2007 inaugural season of renewed excavations at Ashkelon was a tremendous success and the progress made in square 74 was no exception. Not only were we able to meet this seasons goals of better understanding the fills and layers associated with the Egyptian garrison wall, but we were able to exceed them through the discovery of a number of phase 22 architectural features. Like most successes however, mistakes are made along the way that should be accounted for in the end. It should be noted that in processing material from the square we found an occasional tag labeled square 73 instead of 74. While these errors have been corrected, it remains possible there are some we were unable to catch. Additionally a few elevations appearing on working top-plans appear to

be incorrect in a few cases- Closing elevations on the final top plan and those registered in OCHRE are correct and should be the numbers to go by. It should also be noted that while we did excavate three square meters of the NW corner of **F74.1101**, the cut does not appear on the final top plan, nor has the material below been assigned a number. In terms of burning questions left unanswered at the end of the season, most revolve around the nature of phase 21 and the extensive pitting and silo construction seen throughout the grid during this period. Foremost in question remains the nature of the great cut **F74.1127** in the east of the square. Why so much material was removed and covered with ashy fill in phase 21 remains unclear, however both northern and southern ends of the cut have yet to be excavated and should be considered a high priority for next season. Without doubt, partial walls in **F74.1111**, **F74.1126** and **F74.1129** appear to be part of a promising east-west phase 22 wall and should be investigated further. The possibility of flooding as seen in **L74.1117** should be explored further as should the function of plaster floor **L74.1101**. Was this an interior surface? If associated with the silos, a raised platform for sprouting barley in beer making perhaps? This surface also appears to have localized burning at regular intervals- could these be associated with burnt posthole **L73.621** which shares the same elevation in square 73? All of these questions remain to be answered in seasons to come. With luck, we will have the same success in doing so as we did this season.

Grid 38 Square 75 2007 Final Report:
Joshua Walton and Janling Fu

PURPOSE AND GOALS:

This year the purpose of excavations in square 75 was to answer questions involving the use of space on the eastern side of the street separating squares 75 and 74 in order to gain a more complete understanding of the Philistine settlement patterns. Our goal was to finish removing the latest Iron I (Phase 17) material left over from the last season of excavation (2000) and to continue to excavate the square in phase to the earlier occupational phases. As always is the case in excavations, results achieved throughout the season could not have been possible without the exceptional work and tireless effort given by the volunteers: Andrea Creel, Brian Coussens, Ulla Dixon, Brian Doak, Kathryn Hooze, Mike Resig, and Laura Wright with help from Jonathan Wylie and Brian Brisco. Their dedication and labor allowed us to accomplish these goals and more this season.

Before we could begin to target our long term goals we first had to focus on the rehabilitation of the area. Square 75 had last been dug in the 2000 excavation season, and thus had little semblance to the plans we had available. For this reason we chose to renumber many of the layers left open from the end of the 2000 season because we were not convinced that the material we were excavating was the same material that they had identified at the end of that season. Additional problems were caused by last minute dismantling projects at the end of the 2000 season which we were not always able to fully understand. These problems were eventually solved, but during the first week of excavation the top plans contains many divisions remaining from 2000 which we were never able to identify.

This report will give our phase by phase analysis of the stratigraphic relationships noted by the excavators during our 6 week field season in an attempt to contribute to an analysis of Philistine settlement.

PHASE 18:

The earliest coherent phase we reached this season was phase 18. Because the material in 75 is independent from the material excavated in previous seasons in square 74 due to the street the sub-phasing of this area is quite difficult, and is often redone multiple times, and dependent on complete removal of a phase to understand. Therefore all of our phasing designations are to be seen as tentative, and the focus should instead be on the relationships of the various layers and features, which can be moved as blocks from one sub phase to another as necessary.

Phase 18 in square 75 has what we have interpreted as two buildings; the first consisting of one large northern room extending from the street in the west to almost the eastern balk and a part of a northeastern room in the northeast corner of the square. South of this is the second building. There is a large room in the southeastern corner, partitioned by a wall segment, but not divided, and a central and southern set of rooms on the western side. (see phase plan for 18).

The northern room of the northern building is the largest, seeming to extend beyond the northern balk into square 65, with a proposed northern extent of **wall 180**

(square 65). This room is bordered by mudbrick **walls 146** (south), **260** (east), and a stone wall on the west (**198**) which stretches from the balk line halfway to **wall 146**, leaving an opening from the street into this room in the south. Within this phase there were multiple floor levels, and various laminations of each floor. We created a new floor number only when new architectural features appeared, leaving all other laminations as part of a parent floor that was related to architecture. The earliest of these identified surfaces is **floor 365**. This floor level was traced lipping up to **wall 146** and **wall 198**, however it was never traced as far as **wall 260** this season. Associated with this floor are a number of features including a Philistine mudbrick hearth (**U362**), east of it a pillar base (**U382**), and a large bin (**U339**). Cut into this floor was posthole **U364** as well as the pit (**U372/373**) containing the infant burial (**U375**), which was found in a cut store-jar (possibly Egyptian), incised with decorations including a jackal and another unidentified design featuring 2 circles above a semicircle connected by a line (**MC#57399**).

Running on top of these features was another floor level (**U335**). This floor level consists of 3 separately excavated but equal surfaces **U335**, **U359**, and **U259**. These were originally excavated as separate because they were divided by phase 17C architecture (**W82**, **W116**) when originally dug. The surface, however, was traced beneath these two walls, thus indicating that rather than three separate surfaces we were dealing with one surface to a much larger room. All three units were merged under the name **U335**, because it was the largest section and the one which we traced out from connecting with the other two. Stratigraphically, **floor 335** covers pit **U372** and hearth **U362**. A feature, possibly a bench, but its exact identification is unclear, **U363**, is built on top of this floor surface against **W260**. Bin **339** is reused in association with this floor, but not its full extent. Its reuse is about half the size of the feature used with **floor 365**. Cut into this floor are a number of pits and postholes: **U326/327**, **U268/269**, **U264/265**, **U266/267**, **U241/242**, and **U397/398**. Many of these were from the 2000 season and associated with **Floor 259** (**U268/269**, **U264/265**, **U266/267**, **U241/242**).¹

While these two floors have separate features they share the same walls, and are in our opinion from the same sub-phase of 18. This is in part due to a section from pit **297** where a good 20cm of layered surfaces are visible from **335** downwards. Only the first 5cm or so of this collection were excavated this season, but all of them seem to be from one phase of occupation. For this reason both **Floor 335** and **Floor 365** should be phased as 18a. 17C **walls 116** and **82** as well as bench **U340** were all built immediately on top of **U335**, indicating that **U335** is immediately earlier than they are.

It is also hypothesized that this northern room is from a separate building than the southern rooms, divided by **W146**. This is because there are some features like hearths (**U362**-north, **U392**- south) on both the south and the north, as well as some differences in height and slope. The likely reuse of **W146** in 17C to maintain this barrier even after the southern rooms were leveled to a courtyard also supports this view, as does the redivision of space in the north as opposed to the filling of space in the south. N-S walls do not run the length of the square but rather stop at **146**. The only line of walls that continues north-

¹ Many units from 2000 are labeled here with the 2007 Uxxx label despite the fact that they were originally tagged with an L,F,or LF prefix tag. These should be understood as overlapping labeling systems and thus U146 is the same as wall 146 or W146, and U268/269 is the same as L268F269. The use of U has been used in all cases outside of walls or layers first described for consistency.

south borders the street, and this is clearly 3 individual wall segments, not one long wall. The construction of **W146**, with a stone foundation is also indicative of a major wall, rather than a lesser dividing segment.

In the occupational debris layers on top of **Floor 335 (U333, U252, U356)** a number of finds were excavated including an almost whole cooking jug and a potter's kit (containing both an upper and a lower wheel as well as a hammer stone and some burnishing stones).

The central courtyard room is bordered by mudbrick wall **146** in the north, mudbrick wall **307** in the south, mudbrick wall **296** in the east and stone curbing wall **354** in the west. In this room we identified 3 different surfaces. Unlike with **U335** and **U365** we are not convinced that these must be from the same sub-phase, because there is no section available like the one provided by pit **297** in the northern room. The first of these surfaces, **U336**, is higher than many of the other phase 18 surfaces, and seems clearly associated with the rebuilding phase of **W307** lipping up to the upper courses of bricks which differ from the material of the lower courses. Built on the floor were a number of features and installation, one in each of the four corners (**U320, U322, U324, U323**) as well as along the entirety of the northern wall (**W146, U321**). These features are either mudrick or stone and in addition to the standard benches (**U321, U323**) there is some sort of working installation (**U322**) on which was found a mortar and half of a potter's wheel. The stone feature in the southwest corner has no apparent use and consists of a semi-circle of stones around a platform of small pebbles in the corner of **walls 307** and **354**. This is the highest floor identified with phase 18 in square 75 at a height of 18.30m. Cut into this floor was pit **U337/338** and posthole **U315**. Below this another surface was identified, built on this floor was a mudbrick bin **U369**, underneath floor **336** bench **U321**. A pomegranate from a kernos ring (**RP10783**) was found in association with this floor level, and posthole **U389** was cut into this surface. Because this surface traced poorly against **W307** it is difficult to say whether or not it is associated with the initial phase or the rebuild. Our feeling is that this surface is contemporary with **U370** to the south and is the first surface of the rebuilding phase of **W307**.

The third surface identified with this room was **Floor 392**. On top of this surface were built mudbrick installation **U402** and mudbrick hearth **U390**. Cut into this floor were pits **U387/388, U379/380, U392/393**, and posthole **U396**. Two of these pits contained burials, pit **U387/388** contained an infant burial **U386**, and pit **U394/393** contained the leg and bones of a caprid. Both of these pits were covered up by later surface **U366**. This surface has similarities to **U365** to the north, with the hearth (in this case a keystone hearth) and the infant burials (**U375, U386**), and thus may be contemporary, which would make this still a part of the phase 18a occupation, a hypothesis supported by the two building hypothesis dividing the northern room from the 3 southern rooms. The height of **U366**, however, and its connection with the lower courses of **W307**, parallel to **W403**, suggest its placement in an earlier phase, perhaps 18b, contemporary with **Floor 347** in the room to the south. Further excavation is needed to answer this question.

The southern room, like the central room is a smaller area, bordered on the north by mudbrick walls **W307** and **W403**, on the east by mudbrick wall **W296**, on the south by mudbrick wall **W343**, and on the west by kurkar wall **341**. Other than the kurkar wall dividing the room from the street all of the walls are of a grey-tan mudbrick construction

with fewer inclusions, and lots of pottery sherds in the and possibly even the mudbricks themselves, which has been noted in other phase 18 architecture. These walls also all continue to go down below our current floor levels so the nature of their foundations is unclear, and they may even be walls originating in phase 19 seeing reuse in phase 18. In this room one floor was positively identified, and another was sort of a phantom floor that we believe we have identified but have no certain proof. The problem with this room is that **W343** runs in the southern section ruining our chances of catching any surface in section. The upper floor which we made into a phantom surface is **U370**. The current theory is that this surface (from phase 18a) was laid on top of **W403** as part of the rebuilding phase which saw the addition of the upper courses of **W307**. The one place where we believe to have identified this surface is on top of **W403**, and it is possible that this is nothing more than a thick, well preserved line of mortar. The finds from this approximate height within the room, however, suggest that this is not the case and that a floor really exists at this level. Finds such as a string of beads (bead necklace **MC#57173**), including a number of rosettes, and a vessel in a pit cut into what should be this surface (**U344/345**). Mudbrick bin **U349** appears to be built on this surface and pit **U352/353** was also cut into **Floor 370**. This surface is clearly associated with the rebuilding phase of **W403** and **W307** because it is laid over **W403** abutting the different bricks of **W307**. Below this surface another surface was identified, this one considerably deeper and associated with **W403** in the north, but the same walls as **Floor 370** on all the other sides. On top of this surface no features were found, but a cache of 20-30 clay unbaked Aegean loomweights was discovered, which correspond in type to similar loomweights found in Square 64 (64L.LF191 and 64U.LF1014[=LF182]). No pits were cut into this surface. Unlike the other surfaces which at the end of the season still had laminations exposed **U347** was excavated down to fill (how deep is unclear), which was given the number **U377**. This layer has not yet been dug, so should apply to the beginning of any excavations of this room in upcoming seasons. We have purposefully made at best preliminary observations regarding its nature, as those should be made by next season's excavators.

Finally the eastern room, bordered on the east by the balk, the south by mudbrick walls **W343/W400** (this wall is cut by phase 17 walls **334** and **273** and thus disappears in the middle of the square, and was given a separate number when it reappeared on the eastern side, it appears, however, to be two segments of the same wall), on the north by mudbrick wall **W146**, and on the west by mudbrick wall **W296**. In this room 2 surfaces were identified: an upper **U360** and a lower **U358**. The upper of these surfaces is unclear in its relationships, it seems to clearly be associated with **W146** in the north, but lips up in the south drastically before bench **U374** seeming to lip up to where the phase 17C walls ran. This could perhaps imply the existence of a corner installation, which is also implied by the slight jutting out to the east of a brick of bench **U 374**. The problem with a phase 17C association for this floor is that it continues beneath **U371**, preliminarily identified as a continuation of **U346**, the foundation trench for phase 17C wall **U273**. This identification is by no means certain and this area is one of the more confusing areas of the excavation. The relationship of surface **U360**, foundation trench **U346**, layer (and possible continuation of the foundation trench **U346**) **U371** and cut fill from 17C **U236** is still unclear and requires further clarification through excavation next season. At this point the assumption is that **Floor 360** is lippping up to bench **374** and its associated wall

U296. The surfaces' continuation to the south was disturbed by phase 17C **wall 292** and its possible foundation trench (not identified). According to this interpretation **U374** seems to be built on, or at least associated with **Floor 360**, as are bin **381** and bench **384** in the east. These are built against a north-south wall which is inside the section, likely less than 5cm back which serves as the eastern boundary for this room. No pits were found cut into this surface, and most of the potential surface finds were destroyed by **U236** which was cut into the accumulation above this surface, down to this surface in phase 17C. The reason for this cut is uncertain, but it was obvious in a cross section which we cut, where consistent brown mudbrick fill ran right down to the surface, robbing out any associated accumulation or occupational debris. This floor also seems to run over pier wall **401**, which is associated with lower floor **U358**, but was robbed out by the cut for phase 17C wall **292**. This makes it unclear how this wall relates before more excavation is done. At the moment it seems to be under the level of **Floor 360**, but because of disturbances associated with **Wall 292** this is not solidified, how deep this wall extends needs to be answered in future seasons which will help us gain a better understanding of its phasing.

Floor 358, the lower surface, has only been partially exposed in the middle of the area, and thus its direct relationship to architecture is unclear. It is logical that it extends to the same boundaries as **U360**, but this will not be confirmed until future excavation seasons. This surface seems to definitely be related to pier wall **401**.

The last surface from phase 18 was found in the northeast corner on the eastern side of **W260**. This surface, **U310**, is associated with **W260** and bench **308**. Associated with this floor we found a well preserved bronze spear head (**MC#57378**). Both bench **308** and **363** are built against **W260**, as visible in construction, and for the line of plaster on the eastern face of **W260**. Some later pottery found in the fill above this floor (**U274**) may be due to a pit **U404** cut from a higher, not yet determined level that was discovered when drawing the eastern section at the end of excavation. Due to the presence of foundation trench **F143** it is unclear from which level this pit was cut, and because of the tight space in this corner for excavation it was never caught during excavation.

Finally in the street we excavated only phase 18 levels (**U201**) this season, beginning below the phase 17C floor level **U232** visible in the southern balk to a level still above the height of the phase 18 floors within the rooms. At the end of the season we switched the layer for the street to **U383** for control purposes, and it appears likely that there is still another 10-20cm of phase 18 layers in the street. Either way **U383** has not been excavated and was made for excavation next season, to be interpreted and phased at that time.²

PHASE 18 CONCLUSIONS:

² Phase 19 may have been reached in the street in a few low points this season, and may be the primary phase of street excavation next season. Our heights suggest that this is unlikely, but since the architecture from phase 18, mainly **W341** in the south, reaches to an extreme depth this surfaces identified as 18 may be closer to 19, especially the street, which is usually higher than the floors of the adjacent buildings. While this is unlikely, some of the pottery looked earlier, including some beautiful pieces of monochrome reminiscent of phase 20 so we have to tentatively mention the possibility of a phase 19 street level corresponding with **U383**.

Although sub-phasing is unclear it appears that most of the material uncovered this year is phase 18A, this phase seems to be categorized by rooms with multiple floor laminations and many installations, most rooms have at least one bench and bins and installations are common. Pits are less common than in 17C, but still appear in some rooms, but mostly with very specific functions, like firepit **U397/398**, burial pits **U372/373**, **U393/394**, **U387/388**, and pits for vessels **U344/345**. This is different from the empty pits and postholes that filled the area in phase 17C. Installations commonly appear in the corners of rooms, and the philistine hearth appears in the center of rooms from what we have called two separate buildings, the northern one associated with a pillar base. The walls are commonly mudbrick except when lining the street in which case they are stone (fieldstone or kurkar). Unlike phase 17 where the street was barely separated from the occupational areas, perhaps divided by mudbrick curbing, phase 18 uses large, multi-course stone walls (up to 6 courses in the case of **U341**). The bricks used are grayish-tan with few inclusions, markedly different from the yellow bricks of phase 17C. Hearths appear in both of the buildings we identified (**U362**, **U390**) and one pillar base **U382** was identified. Future excavation is still needed, especially in the southeast room, and around **W260** to clarify the relationships from this phase, but overall our goals of removing the last remains of phase 17 and exposing the phase 18 occupational levels were met. The entire square is now phase 18, with the last of the phase 17C architecture having been removed (note: the stone foundations of 17C W 260 still remain, relating to its suspected 18 reuse). Next year phase 18 will be excavated to better understand its sub-phasing.

PHASE 17C:

Phase 17C is seen earliest in a number of fills used to turn the central and southern rooms into a large courtyard. These fills, **U305** and **U306** (and over them **U275**) were laid to level the area in preparation for the laying of courtyard floor **U232**. These were the fill layers identified by us, on top of these were additional layers of fill and ash material excavated in 2000 (**U195**, **U257**) underneath the courtyard surface **U232** this unit was initially labeled occ deb, but this season it appears to clearly be a surface in the southern section). There are a number of pits and postholes that were identified as being associated with either **U232** or **U257** all of which were likely cut into the phase 17C courtyard surface (**U281**, **U282**, **U284**, **U287**, **U277**, **U278**, **U279**, **U243/244**, **U246/247**, **U256/257**, **U301**, **U196/197**, **U211**, **U213**, **U217**, **U224/225**, **U313/314**, **U315**, **U318/319**, and **U316**). This courtyard area was bordered on the south by the balk, the north by a reuse of **W146** and on the west by a section of poorly identified mudbrick curbing (**U300**). Associated with this curbing, set in slightly to the east was a one course one row line of stones **U361** which continues into square 65 (**U151**) and **U202** and **U170/171** from 2000, the first a set of stone groupings and the second a line of mudbrick curb material originally identified as a foundation trench. **U170/171** was renamed and combined with other groups of mudbrick to form **U300** which ran from the the upper stones of phase 18 wall segment **W198** to the southern balk late in phase 17C, on top of the phase 18 stone walls (**U341**, **U354**).

In the eastern room a large cut **U236** was made into the phase 18 layers down to

Floor 360 and filled with mudbrick material, this was then covered over by the phase 17C floor (**U222,U223**). The reason for this cut is not apparent, and even contradictory to standard building techniques, but is stratigraphically clear from a section cut into **U371**, which revealed a semicircular cut line consistent with the material of **U236**. This material was also distinguished from the material to the west of it **U371** by a straight N-S line, which is indicative of a man made feature or cut. Because this line was not initially seen we excavated our locus **U327** in the east down to **Floor 360** instead of their layer **227** which we were unsure was the same as our material as it was a holdover from when the phase 17A walls were still in place. For this reason we chose to equate **U236**, **U329**, and **U227** as **U236**, representing this phase 17C cut. The walls for this room are **W292** in the south, **W273** in the west and the balk in the east. **W263** and **W233** are northern walls associated with this level. All of these walls are of mudbrick, specifically, the so-called yellow brick construction, with large stone foundations. **U273** and **U263** have identifiable foundation trenches (**U346** for **W273**, the trench for **W263** was only identified in section). The floors for this phase were excavated in the 2000 excavation season. The segment of the western boundary wall in the middle is missing, along the line of **W371**, which we preliminarily called a continuation of foundation trench **U346**, but this has not been confirmed. Support for **U371** as a foundation trench is a complete dipper juglet **RP10772**, which was found on its eastern edge, right against where **U236** was cut in. Most of our work in this phase was spent on the walls and their foundation levels, not on floors and surfaces so there were very few associated finds. The one set of floors which we did excavate **U328** and **U395** were south of **W292** against the southern balk bordered on the west by **W334** as wall foundation which we had no brick courses for because of phase 16 platform **U237**. This floor is well defined in section as it runs right up to floor foundations for phase 17C walls **U273**, **U334**, and immediately under it are the bricks for phase 18 wall **U400**. This solidifies the relationship of **Floor 328** with **Floor 232**, which runs on top of the continuation of **W400**, **W343**, in the west. The bricks of these walls run directly up to the floor indicating that the filling process in phase 17C leveled off all the rooms to this depth, and securely relates **U328** and **U232** despite the differences in elevation. No significant finds were excavated on this floor, and ash pit **367/368** was cut into it as the only associated feature. **U395** was a lower lamination of the same floor as is visible in section.

In the northern room, likely a different building, there were a number of subdivisions which took place in phase 17C. E-W wall **U82** was added, as was N-S wall **116**. These were built directly on top of floor **U335**, thus making them immediately later than this use, and demonstrating that there is only a small time difference between the two occupational phases. Bench **340** was also built on top of floor **335** associated with wall **82**. The floors from this phase were already excavated in the 2000 excavation season.

The building of N-S wall **116** created a smaller room in the northwest in which a number of features were found. Two fill layers were located in this room: **U276(=U351)**, a grey-ashy layer, and above it, another similar layer **U286**. Into these layers a series of pits and postholes were cut, some of which were found during this season (**U288**, **U285**, firepit **U272/289**, **U295** and pit **U297/298/302**), and some remaining from the 2000 season but which were no longer clearly defined (**F/L160/161**, **F/L234/235**, **F230**, **F/L220/221**, **F/L270/271**, **F/L205/206**). Pit **U297/298/302** is especially interesting due to

its great depth and heavy ash content. A number of buckets were taken from here for flotation and additionally some good pottery was collected from within it including several joining pieces of brilliant red Philistine bichrome **RP 10703**.

In the northeast corner room no phase 17C floor was found due to the existence of phase 14 wall **W128=W290** and its foundation trench **F143** which would have cut it away. The fill below the floor, however, **U274**, belongs to phase 17C, having been dumped as leveling fill on phase 18 floor **U310**.

PHASE 17 CONCLUSIONS:

Phase 17C was mostly excavated in the 2000 season, although some phase 17C architecture was misidentified as phase 17A (**W82, W116**). What was left this season were mostly the walls (**273, 233, 263, 82, 116**) which we floated and removed after solidifying their relationships with the material below them. There is some evidence of reuse of architecture in this phase from 18 (primarily **W260, W146**) but mostly the walls were trenched in to phase 18 layers at different places and much fill was added. As all of 17C has now been removed (with the exception of the reused architecture) there are no excavation plans for this material next season.

FUTURE EXCAVATION NEEDS:

More work is needed in the southeast room to understand the relationship of the walls there in relation to the floor levels, as well as the phase 17C disturbances. The surfaces in the northern and central rooms need to be fully excavated down another 15cm or so to get through all of the laminated surfaces. Also **W260** needs to be fully excavated. The mudbrick was removed but the cobble foundation remains and needs to be excavated to understand its relationship to the phase 18 floors and bench 308. More work should also be done in square 65 to define the northern extent of the northern room.

PHASE 17A

Most of this phase had been excavated in the 2000 season. Stone wall **342**, jutting outwards from the eastern baulk, is to be associated with **LF191**, which was seen to abut it in section, and sits beneath **W128**. To its north and south a number of sherds of earlier pottery—red slipped and burnished, as well as later Philistine forms were found in fill, suggesting that there was a foundation trench cut for it. In the southeast corner of the square, bounded by walls **292** to its north, and the east and south baulks, stone installation **F237**, a platform of some kind, is a 17A construction, built over the foundations for **W334** and **W273**. Also the leveling fill **U317** on top of those two walls laid for **F237** belongs to phase 17A. In the southeastern room fill **U291** was laid on top of 17C floor **U299**. This layer had later pottery and seems to be a 17A fill layer, but since most of these layers extend into the southern baulk, it is unlikely that more will be resolved until or unless Square 85 continues to excavate to greater depths.

PHASE 14

The only remnants of Phase 14 consisted of part of **F 128 (=38.65.F98)** left sloping

outward from the eastern baulk. This had not been clearly noted and was labeled as **U 290**, and then subsequently cut back in baulk trimming. The foundation trench **F143**, assumed for the wall, was never found with certainty.

PHASE 4-5

After a number of years of neglect, pit **F 30/L 109**, the last of the Phase 4/5 features, needed considerable work to reestablish its boundaries to remove winter wash and mud brick detritus from the surrounding walls. Excavation proceeded within fill **L 109** until a more secured context had been reached below the lowest levels of the 2000 season, with two pottery buckets collected at this point, continuing to show Roman pottery.

FUTURE EXCAVATION NEEDS:

The excavation of pit **F 30/L 109** will continue in future seasons, although it will not be a priority, except with respect to removing sources of contamination for the surrounding elements of the square.

Grid 38 Square 83 2007 Final Report:
Kate Birney

The goal for this season was to assess the nature of the Phase 21 Egyptian presence in the area, and to clarify where possible the transition between this period of Egyptian control Phase 21 and Phase 20, which marked the arrival of the Philistines. Our mercenary crew of three (myself, Elise Jacoby and Jeff Arterburn) managed to shed light on some, though clearly not all, of this transition, and this despite a 2-week interruption in excavation to pursue a project in Grid 23. During the available time very little was excavated in 38.83 during this season, the bulk of the attention being focused in 84. As always, we are indebted to a fine team of Ethiopian workers (particularly Daniel and Baruch, whose fine pick work and humor were an invaluable asset to our tiny team.)

The Earliest Phase (“22” , or perhaps 22/21 transition)

Purely speculative – it is possible that the thick ash layer reached at 17.33 in the bottom of the northeast probe sunk in 2004 (not yet numbered) could be equivalent to the thick striations of ash that built up over the deep brown, organic layers visible in the cistern of 73. This marks a change from what lies above this richer ashy material, which the section from the NE probe reveals to be a fairly consistent deposit of silty courtyard buildup (**L 620**, not yet excavated). There seems to be continuity in this courtyard material up to our **L632** (Phase 21). Two possible silos, **F627** cut into the as-yet-unexcavated **L629**, and **F645/L646**, cut into the as-yet unexcavated layer **L620**, appear in the bottom of the northeastern and southern probes, respectively. These features lie well below the founding level of the Egyptian garrison wall **F618**, and are therefore likely to be pre-21.

Phase 21

As in Square 84, Square 83 was an entirely outdoor and industrial area in Phase 21. The earliest excavated courtyard layer, **L610 = L632 (=84.L1109)** was a thick striated deposit of grey silt, patches of ash and sand, and brickly detritus which appears to have spanned the entire square north of the garrison wall **F1080**. A series of pits and installations of varying construction attest to its industrial function. A silo, **F638=73.F627** runs through the baulk in the northwest of the square, and a thick lens of white plaster (**L610**) slopes down into it from the south. The silo may have functioned together with the mud brick curbing **F635**, consisting of three narrow bricks set end-to-end, a pairing which is recognized also in Square 73 (**73.F598** with silo **74.F1130**), and may be mirrored too in the relationship between **84.F1152** and the silo **84.F1133**. Further to the south was a stone-lined pit **F641/L642**, which contained a compact grey-brown fill and had a squarish, flat stone - perhaps a column base in secondary use - set into its base. This may have functioned together with **F570**, a stone platform set to its south. Of similar construction was the “firepit” **F636/L637**, although this appeared to have been set directly onto the surface of **L632** rather than set down into a pit. The wall **F617** was set down directly on top of this in phase 20, which makes accurate reconstruction difficult. No pit lines were visible. What remains of the feature is

depression lined/ringed with kurkar (some burnt to red), four flattened pieces of basalt and a thick section of plaster. A pocket of ash **L637** ash collected in the center and spread out into the surrounding areas of **F632**. Slag (MC# 57011) was recovered from the immediate vicinity.

In addition to these installations **L632** boasted several pits. **F639/L640**, which disappears into the west baulk, contained a compact fill of tan bricky silt. Similarly positioned against the west baulk but slightly to the south was the pit **F651/L652**, (not yet excavated), which seems to be filled with kurkar or perhaps has a kurkar lining. **F649/L650** is a shallow pit abutting the silo **F638** on the east side (not yet excavated), and continues in 73 as **73.F611**.

To the south of **L632**, grey ashy and sandy layer **L644** with heavy debris (ceramic, faunal, and stone) spans the width of the square. This continues in 84 as **84.L1128** and runs parallel to the garrison wall, tapering out towards the east. The quantities of material suggest that this was either an alley or a localized area of trash dumping. The material contains large portions of Egyptian pottery, however, so their presence is attested even before the construction of the garrison wall **F618**. A single stone-ringed pit **F647/L648** (not yet excavated) is cut into the west end of **L644**.

The end of the phase is marked by the construction - even if only partial - of the grey mud brick garrison wall **F618**, which appears only to have been constructed four courses high. Egyptian convention (according to Baruch Brandel) was apparently for a professional architect to lay the first few layers of brick, thereby creating a solid foundation for the wall which could be completed by less-skilled hands. It appears that both in 83 and 84, work stopped after the laying of this foundation.

The nature of the revetment wall **F566** has not yet been clarified in 83. At least two types of construction are visible, large stone foundations to the east, and mud brick construction to the west, but these will have to be disassembled for any further clarification. It is clear the pit **F647/L648** cut into **L644** is put out of use with the construction of the revetment wall **F566**, which confirms too what is visible in the probe **L607** on the east side of the square, where the grey material of **L644** runs under both the mixed stone and mud brick E-W wall **F566** and the garrison wall **F618**. Excavation in 38.84 has confirmed these observations as well.

To the south of the garrison wall **F618**, all the material was excavated in a large probe in 2004. Of particular interest is a large area of sandy striations **L614** in the southwest described in the notes which likely corresponds to **84.L1077=L1052**. This may be late Phase 21 or early Phase 20 erosional activity. In any case the probe sections suggest that the area south of the wall was likely an exterior space.

Apart from architecture there were several material finds confirming the Egyptian presence in the courtyard layer **L632** and the contemporary "trash dump" layer **L644**. In addition to the ceramic assemblage, which included a complement of beer jars and Egyptian kraters, a fragment of an alabaster bowl (MC# 57390) and an heirloom scarab (MC#57391) were both recovered from **L644**. A limestone stamp seal (MC # 56974) was also recovered from the contiguous and contemporary **L632**. The proliferation of flint blades from these layers also likely represents Egyptian preference for these items. In addition to the grain storage and processing, it is possible too that some metalworking was occurring in the area, as represented by some samples of slag recovered. (MC # 56980, MC# 56947).

Phase 20B

The Northern Building

Atop the courtyard fill **L632**, the Philistines laid a thin sub-floor fill of brown silt, **L609**. This was particularly concentrated in the area above the silo **F638**, and may have been primarily devoted to leveling off this feature more than anything else. This fill layer **L609** is noticeably cleaner than the detritus-filled courtyard material below, and is conspicuously lacking in ashy surfaces, marking a total change in the nature of the area. In the northwest, they laid a beaten earth floor **F606**, which was bounded in the east by the N-S stone wall **F543**, in the south by the E-W stone wall **F617**, and to the north by **73.F527**, the western limit being, of course, in the baulk. Both of these walls appear to have been set directly upon the courtyard surfaces with no foundation trenches. It is possible in the case of **F543** that the interruption caused by the foundation trench for the later Phase 20a N-S wall (which immediately abuts **F543**) could have obscured evidence for such a trench on the eastern side; however the relationships, on the west side of this wall appear clearly in section. The wall is set directly on top of **L610**, one of the courtyard lenses of ashy and plaster associated with the Phase 21 silo **F638**.

In the northeast, the floor **LF625 (=84.LF1105)** is similarly limited by **F543** in the west, by **84.F1110** in the east. The northern and southern extents remain unclear. E-W wall **74.F1098** may have operated as an interior room wall divider. If the E-W “revetment wall” **F566** - in particular the portion with visible stone foundation - was constructed in Phase 20 (as indeed it appears to have been in 84), then it is possible that it cornered with **F543** to form a rather large room. Perhaps a pillar base such as the one set into the bottom of **F641** was employed to support such a large span. For a more detailed discussion of the floors and their respective installations refer to 38.83 Final Report from 2004.

In both floors **LF606** and **LF625** there were absolutely minimal amounts of Philistine monochrome pottery - less than a handful. The presence was so meager that in 2004 these floors were placed in the LB Phase 21; however the discovery of a monochrome bowl underneath the wall of Room 625 (**74. F 1098**), proves without a doubt that these are early Philistine floors. It seems that these floors reflect the preliminary nature of this early settlement, at a point when the new arrivals were making use primarily of the local tablewares, before manufacturing their own.

The South

The only evidence for activity south of these rooms stems from 2 small pits, **F630** and **L631** cut into the top of **F618** itself. Their fill layers were eroded and not excavated. Whatever the arrangement, it is clear that the garrison wall was being walked upon and probably used as temporary surface of some kind. In the far south, all of which was excavated in a single probe in 2004, there is little that can be said. The sections indicate only exterior surfaces, but show no clear evidence for installations of any kind.

Conclusion

Given the limited nature of excavation in this square this season, the discoveries in 38.83 serve more to bolster evidence from 38.84 than to show any unique insight. Of particular importance for future seasons will be the deconstruction of the northern revetment wall **F566** with particular attention to varying construction, founding levels, and Philistine monochrome pottery, in order that this wall be precisely phased.

Grid 38 Square 84 2007 Final Report:
Kate Birney

The goal for this season was to assess the nature of the Phase 21 Egyptian presence in the area, and to clarify where possible the transition between this period of Egyptian control Phase 21 and Phase 20, which marked the arrival of the Philistines. Our mercenary crew of three (myself, Elise Jacoby and Jeff Arterburn) managed to shed light on some, though clearly not all, of this transition, and this despite a 2-week interruption in excavation to pursue a project in Grid 23. As always, we are indebted to a fine team of Ethiopian workers (particularly Daniel and Baruch, whose fine pick work and humor were an invaluable asset to our tiny team.)

“Pre-Egyptian” Phases (22 and 23)

Neither Phase 22 nor Phase 23 have been excavated in square 84; our reconstruction relies entirely upon probes and brief glimpses of coming attractions. For the present we can posit that the “silos” visible at the bottom of the SW probe (**F1150/L1151**) and the NE probe (**F1148/L1149**) are pre-22.

The earliest exposed 22 surface, **L1157**, is an outdoor fill only reached at the end of the season. Its lateral extent remains to be determined, but for the present it appears to be a very compact layer of tan silt with small areas of ash. Of particular interest is what appears to be a small lens of black ash (**L1167**) marking the beginning of **L1157** against the north baulk at ~17.30. A series of stones **F1158**, some rather sizeable, may be set on this lens, which is very ephemeral and disappears for the most part only centimeters from the north baulk. An equivalent pairing of large jumbled stones (**74.F1118**) set on a black ash surface (**74.F1119**) occurs at the same elevation (17.34). Also relevant to Phase 22 but not yet fully exposed are a patch of kurkar **F1161** cropping up in the region of FGs 53 and 54, and an area of yellow mud bricks **F1163**, barely visible below the surface of **L1157** in the NW corner. These seem to be diving to the northwest. Finally there is an E-W trench **F1159/L1160** becoming visible just to the north of the garrison wall on the east side. Its western extent is not yet defined.

Phase 21

Phase 21 in square 84 was excavated only in the northern half of the square, north of the garrison wall **F1080**. Functionally, the area was devoted to outdoor activities and industrial use, particularly characterized by grain storage and processing. Materially, Phase 21 layers show sizeable amounts of Egyptian pottery - much of it very new - and the presence of an Egyptian stamp seal and scarab in equivalent courtyard layers in Square 83 (**83.L632**, **83.L644**) are likewise markers of an Egyptian presence. The earliest layers are a courtyard fill layer of dark brown claylike silt **L1140** built up over **L1157** in the northeast, and a brown-and-grey striated exterior fill layer (**L1135**) which built up in the south and west. These are roughly equivalent in elevations, their difference in character perhaps dictated by their proximity to installations and burning facilities (of which there were more in the west, and in particular just across the baulk in 83). **L1140** was punctuated by two pits **F1145/L1146** and **F1155/L1156**, and **L1135** by

the pit **F1136/L1137** and posthole **F1138**. Two of these courtyard installations (**F1136/L1137** and **F1145/L1146**) were of similar character, both constructed as sherd-lined pits with a large stone set into a clay-lined bottom. The remaining pits were unremarkable; **F1155/L1156** contained a brown bricky silt with ash in its base, and the posthole **F1138** was filled with grey silt.

Atop layers **L1135** and **L1140** two new courtyard layers accumulated, although not in precisely the same arrangement. **L1109** (= **83.L632**, **74.L1099**), a courtyard layer of striated grey silt marked by sizeable amounts of orange mud brick detritus, spanned from the west to the east baulk in the north, and was wider in the west than in the east. The brick detritus was likely a combination of thin mud brick curbing (such as **F1152**) or work platforms built to function with the several silos cut from this layer; alternately it could reflect their later leveling or capping.

The Phase 21 silos cut from **L1109** include **F1133/L1144**, **F1122/L1139/L1154**, **F 1143/L1164**, and two possible (not yet defined) silos related to mud brick “caps” **F1141/L1142** in the west and **F1162** in the east. Additional silos appear in 83 (**83.F638**) and 74 (**74.F1130**), cut from the equivalent courtyard layers. We have little clear evidence for how the silos were actually used, although we have some indications from the layout and construction of the nicest and currently best preserved example, **F1133**. The silo itself was constructed by laying a mud brick base and thin layer of sand in the bottom of the cut pit. The sides were ringed either with very poor mud brick or a thick smear of mud brick/clay which was occasionally replenished. There was an accumulation of white plaster - itself organic residue from the silo contents - 2-3 cm thick along the bottom and in fading lenses up the sides.

To the north of this silo **F1133** a thin line of burnt mud brick **F1152** had been set in a rough east-west line on top of an ephemeral ashy lens of **L1109**. The mudbrick was partially carved away on the south side, and a series of ash and thin patchy plaster surfaces (**L1114**) sloped from this edge down towards the interior of the silo. (There may have been some sort of claylike layer sloping away from the north side of **F1152** into the north baulk; unfortunately this feature was immediately underneath and crushed by the foundation stones of a later wall **F1110** (Phase 20B) and so it is difficult to reconstruct.) It may be noteworthy that both in 83 and in 73, a row of mud brick curbing (3 thin bricks set in line) appeared in association with silos in both areas (**83.F635** and **73.F598**). Perhaps these served in a similar capacity. In all, mudbrick detritus was thicker in **L1109** in the areas immediately around the silos **F1133** and **F1143**, suggesting a possible work platform, which was never defined or specifically identified.

In addition to **L1114**, several other patchy plaster lenses were noted around the silo **F1133** exterior both in the east and on the west (**F1112**), along with numerous patches of black ash (although no ash was in the silo itself). A similar plaster surface (**83.L610**) was noted sloping from south to north into the as-yet unexcavated silo **83. F 638**. It seems that in many cases the overall work shape was somewhat bell-shaped (inverted), with the silo body forming the central pit surrounded by a circumference of sloping plastered surfaces [*note (Aja)--The narrower silo shaft may originally have stood higher, but eroded (either through use or exposure) to create a wider mouth. Frequently it was difficult to find a full, regular extent for the wider silo mouths. Only at deeper elevations, were the silo pit edges easier to identify.*].

A number of pits and additional installations (many cut into one another) in

L1109 suggest continuous activity in addition to the silos: **F1131/L1132**, which held a layer of yellow sand, **F1126/L1127**, which held brown rubbly silt, and **Fs 1124/L1119** and **1125/L1120**, both of which held grey ashy silt and a lot of bone. More noteworthy was the pit **F1129/L1130**, a stone-lined pit which held a tremendous stone in its base, a comparable example of which appears on the other side of the baulk in 83 in the same courtyard (=83.F641/L642). **F1115**, cut into the west baulk, was a kurkar and mud brick-filled depression, the function of which remains unclear. Perhaps this too was used as curbing for the silo **F1133**.

Immediately to south of **L1109** appears an area of grey silt thick with debris, patches of sand and laden with pottery and bone (**L1128**). It continues to the west into 83 (=83.L644), and for a broad stretch eastward in 84 where becomes quite thick (10-15cm) in the area of FGs 52-4 but appears to thin considerably in the area of FG 55-6. The southern extent is unknown - the SW probe **L1094** shows that a grey of similar elevation continues somewhat to the south before lensing out. The tremendous quantities of pottery in this **L1128** suggests that it was a localized area of trash dumping. This dumping activity seems to have been contemporary with the courtyard activities of **L1109**, as excavation showed them lensing back and forth into one another.

Near the end of Phase 21 the silo bodies were filled in, **F1133** by a clean mud brickly fill **L1134**, **F1122** by two layers: one of clean sand **L1154** and an upper layer of orange-brown brickly fill (with a lot of pottery) **L1139**. The body of the silo **F1143** was filled by dark brown claylike fill **L1164**, not yet excavated. In each case, either because only the silo centers were filled in and not the depressions formed by the plaster surfaces which ringed them, or perhaps because the courtyard material immediately above them settled to form an inviting depression, the silo tops were home to some subsequent secondary use. Silo **F1143** had a secondary fill layer (**L1144**) composed of brick chunks, pebbles, small pottery and large quantities of dark ash. Flotation samples from this pit revealed evidence of grain and grape pits. The top of silo **F1122** was filled by a huge assortment of complete or near-complete vessels, including Egyptian beer jugs, Canaanite kraters, cooking pots, bowls, a tremendous amount of bone (including intact scapulae), visible botanical remains, and an entire calf skull set near the surface. All was in a jumbled matrix (**L1123**) of orangy mudbrick, sand, and charcoal, and was topped with a thick layer of ash, nearing 10cm in certain parts. It is unclear, in the case of the silo **F1133**, whether the brickly fill of the depression above it (**L1117**) is part of the same filling activity as that which put the body of the silo out of use. Their composition is similar enough that they could be comfortably equated.

At the very end of the phase, the Egyptians laid the foundations of their garrison wall **F1080 = 83.F618**. A number of elements indicate hasty construction. Foremost of these is the fact that rather than being founded on a bedding of clean sand, as was supposed in 2004, the garrison wall appears to have been plunked down directly on top of the "trash dump" **L1128**. Large vessel bodies are visible extending from underneath the lowermost course of grey mud brick, and there is no indication that any leveling took place. Then too, the wall appears only to have been constructed to four courses. Egyptian convention (according to Baruch Brandel) appears to have been for the professional architect to lay the first few layers of brick, thereby creating a solid foundation for the wall which could be completed by less-skilled hands. It appears that both in 83 and 84, work stopped after the laying of the foundation, and no further

evidence of Egyptian presence exists in the area after this point. To the north of **F1080**, the Phase 20 Philistine wall appears to be founded also on **L1128**, at a level identical to that of the garrison wall, with little to no buildup in the surrounding courtyard area, also suggesting an abrupt end to the endeavor. (The “Five Minute Egyptians” Theory). It seems likely that the troops were recalled to Egypt to deal with a threat closer to the heartland.

Phase 20B Enter Philistines

The Great Wall

To the north of the garrison wall **F1080**, the Philistines constructed an E-W wall, **F1061 = F1038 = F1147**. This wall has posed some interpretive difficulties, both given the variety in construction methods from east to west, and the fact that the easternmost portion **F1147** is founded at a level ~ 10cm below that of the central piece **F1038**.

There are at least three different types of construction visible. The central/main body of the wall, **F1038**, has a solid stone foundation one course high and some four rows wide, with larger stones set to the outside. Above this foundation was set a mixed rubble and mud core, and mud brick “capping” on the top and sides, perhaps in a stepped fashion as visible in the east section of 84. It appears to have been set directly onto the surface of **L1128**, with no visible foundation trench. However, the solidly founded stones of the potential southern closing wall **F1038** do not continue. To the west of the square, the large foundation stones stop roughly in line with **F1110**, and although the “wall” continues, the construction is entirely of fieldstone (**F1061**), not well-founded, and stuck up against the face of the garrison wall with mud plaster. To the east of **F1080**, **F1147** has a foundation which appears more like the junky core of **F1038**. The lowest level of this wall was constructed primarily of mud brick set in a row on the exterior/northern edge), and degraded mud brick detritus and small fieldstones on the interior foundation edge closest to **F1080**. On the northeastern edge, two larger foundation stones were found. **F1147** was also founded at a level ~ 10cm lower than **F1038**.

The operative assumption is that **F1061** (stone only) and **F1147** (mud brick foundation with rubble mud brick core) served as a continuation of **F1038** (stone foundation and rubble mudbrick core), and collectively formed a massive E-W wall continuing into western baulk of 83 (**83.F 566**, which from the section of probe **83.F607** appears to have solid stone foundations as well). Given the Egyptian preference for mud brick over stone as a construction material, the presence of stone throughout this wall suggests that it is a Philistine (Phase 20) construction.

An alternative interpretation is that the wall is originally a Phase 21 wall (of which **F1147**) is representative, with a Phase 20 rebuild. **F1147** also was founded at a level some 10cm lower than **F1038**. While this could be a reflection of natural tip lines or erosional water logging (for this same “sagging” seems to be occurring on the E side of the garrison wall **F1080**), it is possible that its lower foundation indicates that it is an original (Phase 21) construction of a poor revetment wall, with mud brick exterior and fieldstone interior foundation, rubble core and mud brick capping. It is possible that in the successive Phase 20, the Philistines cut into and replaced the exterior mud bricks (which would have been eroding badly) with larger foundation stones in an effort to shore

up this eroding wall. If the mud brick capping were truly stepped (as it appears in the 84 E. baulk) then this would have been possible to do while leaving the basic mud brick and rubble core of the body of the wall unchanged, yet still providing additional structural support. Indeed we do have some evidence of scattered pieces of patchy mud brick remaining on the northern edge of F1038 (see especially TP # 18, Dwg ID 12271) which might be the remnants of the original northern exterior mud brick row. Note too that the row of exterior stone foundation begins only in line with the potential joining of the N-S wall **F1099**. Such shoring would have been necessary in order to make the central section of **F1038** suitable as a load-bearing wall, cornering with the north-south wall **F1099**.

There is as yet no explanation which comfortably accounts for the differences in founding levels, the varying construction types, and the preference for building materials, and the fact that the garrison and this hodgepodge wall are founded on the same layer. There was no ceramic evidence for Iron Age construction, but as we now know the material distinctions between Phase 20B and Phase 21 are very slight indeed. One bucket taken from **L1128** (PB # 1503), the layer on which the wall was set, did have some indisputably Iron I pottery, but as this was the first bucket taken from this layer (and it had been left exposed for 3 years) this might be intrusive; subsequent buckets were LB. For the present, we are placing the wall in 20 based on the presence of stone and the viability of its connections to other known Phase 20 walls.

Northwest Room 1105

The E-W wall **F1147=F1038=F1061** likely cornered with the north-south wall **F1110**, itself set in an unsatisfying “foundation trench” **F1121**¹, to form the northwest room characterized by the plastered floor **LF1105 (=83.LF625)**. **LF1105** was bounded on the north by **74. F1098** and on the west by **83.F543**. The southern boundary of the floor is not entirely clear; from section it appears to continue to the south but was seriously disrupted by the erosional activity of the later “Gully” (**L1032**) and as such any relationship with the southern closing wall is totally lost. Rather than a solid extension, it is possible that the stones of **F1061** served as some kind of staircase up to the level of the garrison wall **F1080**, (as the level of the floor **LF1105** was somewhat lower than the top of **F1080** at that time). Alternately, it could simply reflect a later and less-skilled construction effort, much like the eastern extension of this wall, **F1147** (discussed below). No clear leveling sub-floor fill was laid down for **LF1105**; rather the

¹ While **38.83.F543** and **F617** seem to have been set down directly on courtyard surfaces (**83.L610=L632**), the circumstances surrounding the construction of the N-S wall **F1110** are somewhat less clear. A line was visible along the southwest portion of the wall, suggestive of a foundation trench. It is unclear whether or how far this line continued to the north, the other material adjacent to the wall having been removed in 2004. However, the trench is not clearly visible in section on the west side. The lower striations of **L1114=L1109** appear to be interrupted very close to the eastern edge of the wall. There is no clear pit line, however, and the interruption is more marked by an apparent end to the striations than to any obvious division. Above it, however the uppermost laminations of the upper surface **L1105** slope - rather sharply - up to what may be the edge of the pit. This confusion may in part be caused by the fact that the earlier 19 wall was set along similar lines (slightly offset to the west) and the trench for this wall may have interrupted the lines of the 20 trench. To the east all signs of a foundation trench are totally absent from the section, and the laminations of the courtyard (**L1109**) very clearly slope up to the foundation stones of **F1110**. The material adjacent to the wall, inside the N-S line parallel to the southwest portion of the wall, and the material underneath the lowest stones of **F1110** (a rich brown silt), were excavated as a foundation trench **F1121**, however this may end up being better defined as “bedding” for this wall, rather than an actual trench.

occupational debris appears to build up generally right over the 21 courtyard fills.

(For full discussion of the features associated with the use of the floor LF1105, see 38.84 2004 notebook for this layer).

Northern Courtyard

In the northeast of the square, the courtyard layers **L1108** and **L1074** were successively deposited. The former is a striated grey courtyard silt while the latter is a loose brown sandy fill. As the courtyard built up against the exterior of **F1110**, a stone threshold **F1115** was constructed, set directly on the courtyard fill of **L1108** and packed against the eastern stones of **F1110** with mud plaster.

Southern Room 1065

South of the garrison wall **F1080**, a brown, bricky fill layer **L1094** was laid, and above it a kurkar bedding (**F1090**) prepared for the plaster surface **F1065**. This southern “room” was in fact a mix of interior and exterior space. To the east, the floor was clearly bounded by the N-S stone wall **F1099**, which likely cornered with the E-W wall **F1038**. These formed the main structure; however it is unclear that the floor **LF1065** extended over the garrison wall itself. Instead, it is possible that the space was subdivided by a poor stone wall **F1095**, preserved in the west of the square, with only the remains of its “foundation trench” **F1165/L1166** visible to the east. Collectively, this partition could have run more or less the entire length of the south side of **F1080**, as far as the wall **F1099**. (Alternately it is possible that the trench **F1165/1166** was cut as a drainage channel of sorts). To the west, it is clear that there is a gradual transition from indoor to outdoor space. The only extant barrier was a N-S line of grey mud brick with constructed orange mud brick threshold (**F1068**), which must have served to stem the tide of sand which was pouring in in copious amounts further to the west (**L1077=L1052**) from reaching the plastered floor **LF1065**. Within the room itself was a sunken vessel installation **F1091/L1092** and stone curbing (possibly related in use) **F1093**. (For more complete description of the pits and installations in this room see Final Report for 38.84 2004).

Southeast Courtyard

From the southern room **1065**, one could pass out a threshold (the existence of which is presumed based on the slope of street surfaces up to the lower foundation stones of **F1099** visible in the south baulk) in the wall into an area of courtyard. This workspace was probably bounded in the north by **F1147**, which was constructed of a mix of mud brick and stone foundations. On the west, this curious wall stub, where it abutted **F1038**, had mud brick exterior foundation and interior rubble core with stepped mud brick cap,

while on its easternmost end, it had a mix of mud brick and stone on the exterior, with some larger foundation stones thrown in for good measure. Courtyard levels **L1074** and **L993**, both brown silty layers with lots of pottery and bone had already begun to build up over the level of the east end of the wall **F1080** by this time.

There are a few indications of industrial use in this courtyard. A sunken jar installation, **F892**, was cut into the courtyard surface **F993**, and perhaps functioned together with an area of cobblestone paving **F890**. An incised jar handle, **MC# 56483**, was recovered from the sunken jar installation. Also in use was a firepit **F1066/L1067**, built up against the wall **F1099**, and an ash pit **F1033/L1034**. Intense burning in the former had colored the kurkar foundation stones of **F1099** a reddish hue.

Conclusion

This is as far as three and a half weeks of excavation could take us, and there are clearly numerous questions that remain to be addressed. Future work should pay particular attention to the southern area of the square, particularly as the material differences between Phase 21 and Phase 20B are so minimal. It might be worthwhile to do a 1:1 sift on any potential remaining Phase 20 material, such as the sub-floor “fill layer” **L1094** in the south, or the trench **F1165/L1166**. The questions surrounding the oddly constructed “Great Wall” **F1061=F1038=F1147** may be addressed by excavation of its continuation **F566** in 83.

Grid 38 Square 85 2007 Final Report:
Doreen D. Barako

At the outset of the 2007 season, Square 85 lagged behind the rest of Grid 38 in terms of phasing: the trench of a Phase 14 wall, having been robbed in Phase 13, existed alongside a Phase 14 street level. Phase 13 features were dominant throughout the square: **F11** was still in place in the center of **L33** and **F15** still cut the square in half. The Phase 5 Roman drain was the southern, dominant feature (and most likely would remain as such) yet the northern sector still had remains of a Phase 3 wall. Indeed, all said features were contained within a mud brick wall (Phase 16?) which covered the western baulk of 85. Meanwhile, the rest of Grid 38 was well into Phases 17-20; therefore, the primary goal for the season was to bring Square 85 out of the Persian period (Phase 14) and well into the Iron II (Phase 15/16). This goal was mostly met, with the exception of the Phase 5 Roman drain and Phase 13 wall, both which served as convenient baulks and borders. Phase 15/16, then, awaits the excavators of Square 85 next season.

The results of this season could not have been realized without the hard work and tireless effort of the volunteers who worked in Square 85: Brian Coussens, Bill Dixon, Matt Dallas, Mychal Chapman and Ashley Derry. Their skill with the pick axe, horsepower to carry goofahs uphill, and additional commitment to the construction of our own walled dump should stand as testament of their dedication to the success of this excavation.

Phase 16

Although the mud brick wall **W 170**, oriented North-South along the western baulk of 85, had been visible in the eastern section of square 38.84 before the start of this season, features contemporary to it within 85 were not exposed. A Phase 15 wall, **W169**, was cut right into **W 170**. It is possible to see the (as yet unnumbered) foundation trench of **W 169** against the narrow remains of **W 170**. The northern preserved extent of this wall acts as the corner and high-point of Square 85. The full brick width appear here still fully intact and not harmed by the later construction of the phase 15 wall **W 172**. **U 171** was fill material, possible street buildup located to the south west of wall **W170**. It too was cut by the phase 15 stone foundations of wall **W170**. Due to of balk slumping, Fill **U171** is largely located across the balk line into Square 84, which is currently at much lower elevations. It was assigned a unit number and excavated as part of Square 85 to facilitate the removal of this narrow strip of soil.

Phase 15

All of the following features, although belonging to Phase 15, were put out of use by the deliberate fill of later period construction. This fill is worth mentioning here in that it contained material from Phases 15-13 and consumed more of our time than originally anticipated. Not only was the scale of the fill unexpected, but so was its matrix. In addition to what, at times, felt like more pottery than soil, the soil had a very compact, clay-like feel. It was extremely hard to pick through and was heavy with bits of charcoal, kurkar, ash, mud brick, and, of course, pottery. None of this pottery could be reconstructed; it was merely a collection of broken sherds that had been raked and leveled by the Persians for future construction. The details of this fill, most of which belongs to Phase 14, will be discussed later.

Perhaps the defining features of Square 85 this season were its walls. We had hoped that the changing nature of the fill material (from a strictly 7th century fill to that which contained a

fine mix of 7th and 8th century pottery) would serve as an indication that architecture was not far behind. Indeed, shortly after we had reassigned new unit numbers to the fill, we came upon our first Phase 15 wall, **W 164**, which ran east to west. It was uncovered slightly below the area of **F10**, a Phase 3 wall. Wall **W 165**, which ran north to south, was discovered almost immediately after. Based on their size, it was clear that **W 164** was a major, load-bearing wall and **W 165** was a smaller, interior wall. Within days, several more walls were to be discovered. In fact, ten days of excavation and the removal of 20 centimeters of soil revealed a large room (ca. 4.5 by 4.5 m) with stone foundations, with the remains of two additional rooms abutting it to the north. **W 169**, another load-bearing wall perpendicular to **W 164**, formed the western end of a room and/or building (and western edge of our square). **W 169** extended north beyond **W 164** to form **W172** which was parallel and similar in size to **W 165**. Running between **W 172** and **W 165** (north of **W 164**) was a surface (**U 175**), possibly occupational debris above an as-yet-undiscovered floor. A mud brick bench (**U174**) also ran along the north face of wall **W164** between wall **W 172** and **W 165**. The heavy erosion along the northern edge of the square made the excavation and identification of features north of Wall **W164** extremely difficult. Indeed, the eastern extent of bench **U174** is not certain due to this erosion damage. Only a small fraction of a room remains located to the east of wall **W165**. Erosion and later construction has decimated the space. Fill **U166** may represent the floor of this northeastern Phase 15 room, however, this is yet to be determined.

In the center of 85, a mud brick installation, **U 173**, ran from north to south. It may have served originally as an interior wall to divide the larger room. Given the dense, compact brickly fill that covered the remains of Phase 15, Wall **U173**, along with the mud brick superstructures that originally stood above the other stone foundations, may have been dismantled and used as leveling fill (see Phase 14 fill descriptions). Wall **U173** was not realized until a great deal of eroded mud brick had been removed. As disappointing as it was that we could not save this material, the nature of its deposit helps in reconstructing this wall. In the southwestern quadrant of the square, at an elevation of approximately 19.60, we traced the outlines of the mud brick erosion. The remains were concentrated in this quadrant and moved toward **U 173** in the center. This mud brick material was not as evident in other areas.

The date of the mud brick installation is still elusive: pottery bucket 1885 contained material produced specifically by the mud brick erosion of **U 173** and was the only example of Iron 2A pottery this season, yet it was bordered by a probe that contained later material. This probe was the result of the accidental discovery of a full vessel in the western half of the square. We dug a trench reaching from **U 173** westward to **W 169**. After excavating approximately 17 centimeters of soil and reaching an elevation of 19.33 we were able to float what appeared to be a collection of pottery refuse. This pottery ranged in date from 9-8th century to 7th century and included in it a complete 8th century torpedo-style amphora, which rested on surface **U178**. Surface **U178** appears to trace to the foundation stones of Wall **W 173**, but time did not allow for the further investigation of this surface's relationship to the other foundation stones of the Phase 15 walls. Because of the rushed nature of this probe (two days before the end of the season) we were unable to explore the possible lower stone foundation courses of **U 173**. Therefore, the questions remains, was **U 173** a Phase 16 wall contemporaneous to **U 170** or was it an interior, Phase 15, wall to **W 169** and **W 164**? The latter seems more likely in that it is in line with the fallen splay of stones from **W 164**.

Phase 14

The Phase 14 features that awaited us from the 1997 season were **L22** (the remains of the late Iron 2 street) and the “ghost” of an Iron Age wall (seen as **F7** in Sq. 75) which was robbed in the Persian period and left to us as a mere robber trench, **LF 32**. This wall most likely connected to stone foundation **U 153**; thus, we see an indication of a sharp right hand turn of street **L22** as it continued south beyond Square 85. There was no evidence for a Phase 14 interior room floor that related to the use of the wall, which would have stood in **LF 32**. Some sub-floor constructional fills (U156 etc), which covered the earlier Phase 15 remains, were excavated.

What preceded our examination of **L22** was the assertion that it was below a destruction layer that included restorable store jars (parallel to L371 in sq 84) and that it most likely related to the destruction of the Iron Age building excavated in Square 75.¹ The closing comment of the ‘97 season was that **L22** was situated neatly in the 7th century. This was, indeed, the case for us when we began its excavation. It wouldn’t be long, however, before the 8th century nature of the material would require a unit reassignment. Having removed 61 centimeters, we excavated **L22** to the level of neighboring **LF 32** (and, thus, the rest of the square at approximately 20.04), and we began to see large amounts of 8th century pottery. In terms of its matrix, it was similar in all respects to that of Phase 13s **U 150** and **U 152**: the soil contained small amounts of brick, ash, kurkar pebbles, pottery, and sand and was relatively hard to dig. Some layers peeled off in thick bands, suggestive of laminated street accumulation.

Adjoining **L22**, but what appeared to be markedly different, was **U 155**. This small area of free-standing soil along the western edge of square 85 was assigned its own number because it was not clear to us if it was associated with **L22**. We soon realized that we could have called it **L22** and simply separated the soil and finds by a pottery bucket since they were consistent with those of **L22**.

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¹ see Square Summary 1997 38.85 Yasur-Landau.

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The defining features of Phase 14 were, however, not features at all; rather, most of Phase 14 is represented by a series of fills. The builders of Phase 14 leveled the general area in preparation for new building. This leveling operation involved the deposition of various fills (i.e., **U167**, **U176**, **U177**, **U168**, **U160/U161**) with a subsequent raking of 7th century pottery seen in **U 156**. What follows is a brief description of each of these fills in order of their deposition. It should be mentioned here that nearly all of these fills shared the same matrix and pottery samples: they were compact and brickly throughout with high concentrations of 8th century pottery and large mud brick fragments. What dictated the many reassignments were circumstances beyond the nature of the fill itself.

U 167 was the fill debris located above aforementioned **F 174** and **U 175**. It was similar to the mud brick erosion seen throughout the square but lacked the pottery density. **U 176** and **U 177**, just south of **U 164**, were the eastern and western halves of the entire area of Square 85 that was excavated this season. The separation of the area was at first dictated by the emergence of **U 173**; it stands to reason that we would separate the expanse of **U 168** into an eastern and western half in light of the mud brick installation that fell squarely in its center and appeared to run north to south. Also, the lack of any section at all provided us with a great handicap in that we could not conduct any stratigraphic analysis. Of these two units, only **U 176** (the western half) was excavated and produced large amounts of both 8th and 7th century pottery. Its matrix included both loose and compact brown soil with bits of kurkar, charcoal, chalk and mud brick detritus within it.

U 168 was the deliberate fill that covered **U 176** and **U 177**. It, too, contained large amounts of 8th and 7th century pottery and its matrix was not unlike **U 160** and **U 161**, which were laid upon it. The division of **U 160** and **U 161** was solely in respect of the borders of the robber trench and street (**LF 32** and **L 22**) in case we should find further evidence of either of these layers/features. Robber trench **LF32** (Phase 13) was the only evidence for Phase 14 architecture. Along the northwestern edge of **U 161** we discovered a pit, **U 162**, which contained **U 163** ash and 8-7th century material. Once it was clear we were well beyond the outlines of **LF 32** and **L 22**, we combined the two units into **U 168**. At the close of Phase 14, this area was once again leveled to make way for Persian period construction.

Phase 13

Many of the features that awaited us in the 2007 season belong to this phase. Along the eastern border of the Square 85 excavation area stood (and still stands) the north-south wall **F 15**. Even after the removal of 45 centimeters of soil from its foundation trench, **F 41**, we still had not seen the bottom of it. This wall, along with other walls removed by the '97 team, was described by the '97 team as possibly belonging to a building of a domestic nature. Such a hypothesis gains strength if we accept the interpretation of **F11** as a hearth. According to the '97 season summary, **F11** was considered to be a hearth because of a group of flat kurkar stones laid on smaller kurkar stones. In addition, there was evidence for ash and burnt material on the floor

around it.³

The earliest layers belonging to the Persian period are robber trench **LF 32** and fills **U 156** and **U 159**. As already mentioned, robber trench **LF 32** robbed a 7th cent. BCE wall (preserved in sq. 75, **F7**). This area can be defined as a north-south trench, 0.8 M wide, filled with sand, silt and some kurkar gravel. **U 152** was the unexcavated area just south of **LF 32** that, after the excavation of 60 centimeters of brownish-grey, compact soil with bits of chalk, kurkar, and 7th century pottery, would, ultimately, expose the full length of this robber trench and line it up neatly with **U 153**, the Iron Age wall that extended into Square 84.

The last of the fills that preceded Persian construction were **U 156** and **U 159**. Each had a matrix quite unlike what preceded them. The matrix of **U 156** included a pottery density the likes of which were only seen previously by the '97 season in **L33**. This layer contained more pottery than soil and the soil was of a thick, clay-like nature. It is most likely that the 17 cm. of pottery-ridden soil which, ultimately, we had excavated in this unit was a continuation of **L33**. The pottery was thoroughly 7th century; indeed, after we had produced a few buckets of mixed 8-7th century material, we decided to rename the unit to **U 160**.

According to the field books of Square 75, they, too, had come across a similar level of random, but dense, pottery. They suggested that what they were looking at was the result of the Persian practice of raking and leveling; that is, completely destroying and leveling all that remained from the 604 destruction and building on top of it. This is a reasonable explanation for what we found in our square in that two Persian walls, **F12** (removed right before the close of the '97 season) and **F15**, sat neatly on top of this pottery layer, or were cut into it.

Two features contemporaneous to **U 156** are worth mentioning here. The first was a pit, **U 157**, which contained in **U 158** Iron 2, 8-7th century material. Perhaps more importantly we came across a different matrix approximately 2 meters northeast of **W 154**. **U 159** was an enigma in that it was clearly different from that of **U 156**, but as we excavated through it, the underlying layer of **U 156** sloped in a north-easterly direction. What was the original nature of **U 156**? Why was the slope so steep in this corner? If we were, indeed, tracing the true line of **U 156**, it stands to reason that the Persians would level this area for building. As for **U 159**, it was not free of 8-7th century pottery, so the condition of the fallen mud brick must not have been good. The "mud-bricky" soil was compact and full of pottery, although slightly less so than **U 156**.

L33, east of **LF 32**, was excavated by the '97 team. According to the '97 season field notes, their experience with this layer was not unlike what we experienced with **U 156**. Their pottery findings consisted of many sherds of different vessels, none of them intact or restorable. The vast majority belonged to the 7th cent. BCE, although a few Persian period sherds were also found. Their interpretation of **L 33** was that of the disturbed remains of 7th cent. BCE destruction debris which related to the wall which was robbed by **LF 32**. Similar phenomena of disturbed destruction debris can be found in Sq. 75 (**L11** [by **F7**], **L20**, **L58**, **L53**).⁴

U 150 was the large mound of soil located to the north of **W 154**, the Roman drain. It remained unexcavated during the '97 season. **U 150** most likely represented for us the type of material and debris that the '97 season excavated through until they reached **L 33**. This unexcavated mound would be demarcated according to those '97 features which bordered it. For

³ Square Summary 1997 38.85 Yasur-Landau.

⁴ Square Summary 1997 38.85 Yasur-Landau.

example, that mound of soil which was in line with **L33** would be assigned **U 150** and excavated as though it, too, were deliberate fill. That mound of soil which was in line the street, **L22**, would be assigned its own unit number, **U 153**, and excavated as such. The mound of soil which was in line with **LF 32**, **U 152**, would be excavated with the hopes of locating the extent of the robber trench. With these plans in mind, we began our season.

Phase 5

The excavated remains belonging to this period consisted of a drain system which was excavated during the 1990 and 1997 seasons. We spent very little time on this wall, other than removing debris which had collected in the drain over the past several years. We also pedestaled the foundation trench, **U 151**, and over a course of six days, a total of 70 centimeters of soil was removed. The matrix was consistent: a loose, grey fill with a sandy/silty texture. The pottery that had been produced from this area ranged from Persian to the 8th century. This trench extended from its corner with **F15** to the western baulk. At an approximate elevation of 20.00 the trench moved out of sight. Because it is stepped (this can be seen on the western baulk), the trench moved southward, under the line of the wall, and beyond our reach. It was decided to leave **W 154** (the Roman drain in its complete construction) in place for two reasons: its immensity would prove beyond the resources available to this square supervisor, and, it serves as a great boundary and baulk for future seasons.

Phase 3

The only remnant from the Byzantine period left in Square 85 at the beginning of the season was **F10**, which was a southwest-northeast stone and concrete wall foundation (about 2m in width) with drafted stones on both its faces (its northern face was located in Square 75). Much of this wall was removed via a jackhammer in a previous season and had a minimal presence in our square this season. This wall foundation had been related to the 6th/7th century CE basilica structure, based on its similar orientation and mode of construction.⁵

Conclusions

The primary achievements from the excavation of Square 85 can be summarized as follows: a complete phasing of the western half of the square (the only area that will be excavated in future seasons) into Phase 15; exposure of Phase 15 (and possible Phase 16?) architecture with the possibility of floors soon to follow (perhaps U 178 and U 175?); and an interesting assortment of partial and whole 7th and 8th century vessels. The objectives for future seasons include: the removal of that which remains of deliberate fill; the exposure and articulation of Phase 16 architecture; the location of the foundations of W 164 and W 169; the articulation of the relationship between W 173 and W 164; and finally, the location of some floors!! ☺

⁵ Square Summary 1997 38.85 Yasur-Landau.

23.34 Final Report

Dr. Kate Birney

The goal for this season was to dig a probe to assess the possibility of Early Bronze settlement in the square 23.34. Such settlement had long been presumed on the basis of the large numbers of EB sherds which had appeared consistently among the Islamic and Hellenistic assemblages recovered from Grid 23 during previous years of excavation. Square 34, as the lowest point in the grid, was an obvious place from which to sink a probe. This EB excursion was made possible through the consistent and dedicated work of Elise and Jeff, the moral support and comic relief of Brian Brisco and with the assistance of a motley crew of pick-axing heroes who made it possible to reach bedrock ahead of schedule: Adam, Josh, Matt, Larry, Janling, Philip and Alex.

The 2000 excavations of the square 23.34 had reached the Hellenistic phase, and we went in prepared to go through and document many intervening phases of settlement. The surprise in all of this was that there was no intervening settlement, and in fact in this area the Hellenistic walls had been cut directly into unadulterated EB material.

Note: In the few cases where we were picking up excavation of layers or features which had been begun in 2000 we retained their number designations. This was awkward in several cases as the numbering was inconsistently applied (I.e. the use of both a single number and separate layer/feature numbers for robber trenches).

Hellenistic

The remains of the Hellenistic phase were sparse, most having been removed in 2000. What remained were two so-called “robber/foundation trenches” (so identified in 2000), **F49/L50** and **F53/L54**, and one feature identified simply as a robber trench (sans quotes) **F98/L98**. **F49/50** and **F53/L54** were both cut into the Hellenistic floor L85, above . After cleaning, the robber trenches revealed a few courses of the foundation stones of two wall stumps: a north-south wall **F120**, which cornered with an east-west wall **F121**. Apart from the visible corner, preserved to the height of 3 or so courses, the remaining portions of both walls had been robbed out completely. The floor which reputedly went with these walls (2004 L85) had long since been removed.

The “robber trench” **F98/L98** was a huge pit spanning 4 m in length and at least 2 in width, the full extent being unclear as it was cut by the east west robber trench **F49/L50**. All the material that came from it was Hellenistic, and it is unclear what a pit so large could possibly have been robbing, unless it was some sort of monumental wall immediately adjacent/parallel to **F121**. As it stands, the pit contained two distinct fill layers, the cleaner orange-brown silt layer **L98** and a lower, mottled layer **L125**, which was a mix of grey ashy silt and bricky chunks. It is unclear whether this trench was cut into the Hellenistic floor L85 above (excavated 2000) or only into the grey ash (EB) **L122** immediately underneath it.

Early Bronze

Despite the tantalizing presence of Philistine bichrome, an Iron II store jar fragment, and Persian amphora handles, only a series of Early Bronze fill layers appeared beneath the Hellenistic walls (**L122**, **L128**, **L131=132=133**, **L134**, **L135**, **L136=L137**, and **L138**). These fill layers were piled up on bedrock (**L139**), originally mirroring the slope of the bedrock and becoming increasingly level. Only the two uppermost of these showed any signs of activity, in the form of small pits.

Above bedrock, the earliest fill layer was **L138**, a dense mixture of dark brown silt and clay. Above this was set a grey-brown layer (**L136=137**), also of silt with some more grey compact striations

in the west end running into the baulk. **L136** was succeeded by **L134L=L135**, of dark clay-like composition, and then by **L131** (=L132 and the probe layer **L133**). **L131** was also of brown silt but contained scattered lenses - some rather thick - of bright yellowish-green clumped sand, scattered kurkar and kurkar pebbles. (This latter was more common on the south side of the square and was the basis for the original subdivision of the layers). Then followed **L128**, of dark silt and clay, into which was cut the pit **F129/L130**, which contained black ash and a small amount of fieldstone rubble. The latest layer, **L122** was composed entirely of thick striations of grey ash. Two pits, **F126/L127** and **F123/L124** were cut into **L122**, both containing a fill of darker ash and scant pottery.

While devoid of architecture, these Early Bronze fill layers were not altogether culturally sterile. An abundance of EB pottery, currently placed by LES in the EB III, was collected throughout. The vessels recovered included a number of burnished platters, jars with wavy ledge handles, teapots, white-slipped combed wares and some unusual thin ware simple bowls with bright burnish. In addition to the ceramic evidence there were a large number of flints, some merely simple flakes but others quite delicate and well-worked, including several Canaanite blades (MC # 57153, 57161, 57237). Float and geomorphological samples were gathered from **Layers 128 and 131**.

In all, however, 23.34 appears to have been the dumping-grounds from some nearby settlement. The dramatic slope of the bedrock within the square - both from north down to the south and from east to west - however, suggests that this settlement is unlikely to be immediately proximate to 23.34. Subsequent exploration in 23.11 conducted by Egon Lass (who made use of an Islamic well to cut a new probe), indicated that the bedrock slopes up even more dramatically in the north of the grid than in the south. This probe showed no EB surfaces or architecture, and in fact revealed that there is even less EB material in the north of 23 than we recovered in square 34. Indeed, if these samplings accurately reflect the edge of the EB tell, then it is unlikely that any settlement evidence for this period will be found anywhere in Grid 23.

Ground-penetrating Radar Mapping at Ashkelon, Israel: 2007 Season

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Introduction

The near-surface geophysical method called ground-penetrating radar (GPR) has to date seen limited use in Israel, and especially in stratigraphically complicated environments such as Ashkelon. Limited work at Tel Dor, just south of Haifa in 2006 showed that the GPR method had the potential to map walls, floors and other features in this near-shore stratigraphically complex setting (Conyers 2006). It was therefore decided that it would be tested at a number of sites at Ashkelon where a variety of archaeological features composed of different materials at different depths could be used as targets. Some of these test areas had been previously excavated, so it was known that certain architectural features were present at known depths. Others were scheduled for excavation so that exposed materials could be tied directly to the GPR images produced. Some tests were performed in areas where little if anything was known about the subsurface and where subsurface testing might be warranted based on the results of the GPR analysis.

Ground conditions in the tests varied from stratified floors composed of compacted earth, partially decomposed mud bricks and plaster to beach sand, aeolian sand fill, cultivated soils on recent fill, sheet wash sediment, and often a mixture of some or all of these types of soils and sediments. The goal was to compare and contrast the

depth of GPR energy penetration and buried feature resolution in these various conditions as a way to evaluate its potential effectiveness for archaeological mapping. Grids of GPR reflection data, composed of many reflection profiles were produced at all test areas. In some cases horizontal amplitude-slices were also produced from these profiles and both methods of viewing the ground were used in the interpretation. Seven grids of data were collected June 19-26, 2007. A summary of those grids of data are shown below in Table 1. Each data set is interpreted below in the order the GPR data were acquired.

Table 1: Grids of GPR collected at Ashkelon, June 19-26, 2007.

Grid Number (date designation)	Grid Description	Number of Profiles	Time Window (ns)	Maximum Grid Dimensions (meters)	Profile Separation (meters)
06_19_07	Basilica	49	50	36 x 48	1
06_20_07	Basilica Upper Terrace	51	50	42 x 50	1
06_20_07.001	David Roberts Painting Search	31	50	30 x 44	1
06_21_01	Excavation 38: on Egyptian surface looking at latest Bronze Age floor	23	25	5.5 x 8	.25
06_21_07.001	Excavation 38: on latest Bronze Age surface	11	25	2.5 x 8	.25
06_24_07	Rampart	17	50	Various line lengths	various
06_26_07	Beach: harbor test	17	50	13 x 50	1

The GPR Method

The GPR method functions by measuring the elapsed time between when pulses of radar energy are transmitted from a surface antenna, reflected from buried discontinuities, and then received back at another surface antenna (Conyers 2004). When the paired antennas are moved along transects on the ground surface, two-dimensional

profiles of buried stratigraphy can be produced by stacking many hundreds or thousands of reflections together to produce what are termed reflection profiles. Changes in the reflected wave strength (measured as amplitude variations) and the geometry of those reflections in profiles can then be related to the distribution and orientation of subsurface units and features of interest. These changes might be caused by stratigraphic layering, archaeological materials, anthropogenic soils or fill layers and a variety of other objects or biogenic disturbances in the ground (Conyers 2004). Many tens or sometimes hundreds of reflection profiles, collected in a grid can then be analyzed within a three-dimensional “cube” of reflection data as a way to produce complex images of buried materials (Conyers 2004: 148) in ways not possible using other near-surface geophysical methods (Johnson 2006).

Ground-penetrating radar is a geophysical technique that is most effective at buried sites where artifacts and features of interest are located within about 3 meters of the surface, but it has occasionally been used for more deeply buried deposits (Conyers 2004: 16). This depth of penetration, and high degree of subsurface resolution makes it a geophysical method particularly applicable to coastal Israel, as many important archaeological features are buried at about this depth and are often complexly stratified, buried by sand, rubble or fill material.

A growing community of archaeologists has been incorporating ground-penetrating radar (GPR) as well as other near-surface geophysical methods as a routine field procedure for many years (Conyers, 2004, 2006b; Gaffney and Gater 2003, Johnson 2006). When this is done GPR maps and images become primary data that can be used to guide the placement of excavations, or possibly to define sensitive areas containing

cultural remains to preserve. Archaeological geophysicists have also used the GPR method as a way to place archaeological sites within a broader environmental context, test working hypotheses regarding past cultures and to study human interaction with, and adaptation to, ancient landscapes (Conyers and Osburn 2006; Kvamme 2003).

The success of GPR surveys is to a great extent dependent on soil and sediment mineralogy, clay content, ground moisture, depth of burial, surface topography, and vegetation. It is not a geophysical method that can be immediately applied to any subsurface problem, although with thoughtful modifications in acquisition and data processing, GPR methods can be adapted to many differing site conditions

Factors that affect GPR success

Resolution of buried materials and the depth of investigation are the most important factors that must be taken into account at all archaeological sites where the GPR method is contemplated. These two variables are inversely related and an analysis of them is crucial when choosing the appropriate frequency antenna to use for data collection. Higher frequency antennas, above about 400 megahertz (MHz) are capable of better subsurface resolution, but transmit energy to shallower depths (Conyers 2004: 39). For instance, a 400 MHz antenna can resolve objects and stratigraphic interfaces as small as about 20 centimeters in maximum dimension, but are only rarely effective below depths of 3 meters. In contrast, lower frequency antennas (in the 100-200 MHz range) can theoretically transmit energy that penetrates 5 meters or more, but are incapable of resolving objects or interfaces smaller than about 60 centimeters in dimension. In most of the ground conditions at Ashkelon there was good depth penetration to about 2-3

meters using the 400 MHz antennas. Below that depth radar energy was attenuated by materials the ground.

Radar energy attenuation with depth is mostly a function of the electrical conductivity of soils and sediments through which the radar energy must pass (Doolittle and Collins 1995). High electrical conductivity material effectively destroys the transmitted radar energy at shallow depths by removing the electrical component of the electromagnetic wave and therefore propagation ceases (Conyers 2004: 49). Radar energy loss, termed attenuation, always occurs as energy moves into the ground. This attenuation is a function of four general factors (Reynolds 1997). Coupling losses occur when the radar antennas are not placed in direct contact with the ground, or when the ground surface is uneven, allowing radar energy to be scattered and lost before it effectively “couples” with the ground to be transmitted within it. This loss factor can be mostly overcome by making sure antennas are moved slowly and carefully along the ground surface. At Ashkelon this was sometimes a problem when rocks or vegetation was present on the ground surface. Another factor is geometric spreading that occurs as energy moves into the ground. This loss is a function of the conical shape of the transmitted radar pattern that spreads the energy out over a larger and larger surface area as it travels deeper in the ground (Conyers 2004: 62). Spherical spreading with depth decreases the amount of energy that can be reflected back to the surface from any one buried object or interface below the surface, lowering the effective resolution of any reflections generated from it. This is a factor inherent in the method and cannot be adjusted for using standard GPR equipment. A third site-specific factor is energy scattering, which is caused as radar energy reflects in random directions from buried

objects or discontinuities in the ground, redirecting some of it away from the surface receiving antenna so that it is not recorded. This was not a problem at Ashkelon as, for the most part, the ground tested was not composed of large-sized stones. A similar site-specific factor, and the one that is most variable and important factor in determining the GPR method's effectiveness is electromagnetic attenuation. As radar energy is composed of both electrical and magnetic waves, which move in a cojoined fashion (Conyers 2004: 24), the removal of either one or the other by electrically conductive or magnetically susceptible ground effectively destroys the transmitted energy. In general, soils that are moist and have high clay content, especially clays of certain mineralogy, will have high electrical conductivities as measured by their cation exchange capacity (CEC). While no chemical tests were performed on the soils and sediments at Ashkelon, visual analysis showed them to be composed of sandy silts with some clay, and often containing carbonate layers from plaster floors or walls that had become part of the stratigraphic record. The clay and carbonate in the ground at Ashkelon likely caused the energy attenuation at 2-2.5 meters depth noticed in most grids. It is also possible that some salt in the ground, precipitated from coastal fog off the sea might have played a role in raising the electrical conductivity of the ground. For the most part, however, penetration depth at Ashkelon was sufficient to resolve the features of interest, and energy attenuation was not a negative factor.

Ashkelon GPR Tests

In all tests the Geophysical Survey Systems, Inc. (GSSI) Subsurface Interface Radar System model 3000 (SIR-3000) was used to collect the GPR data, with a survey wheel used to place reflections in space along survey transects (Figure 1). The 400 MHz

antennas were used in all tests. Reflection data were transferred to a laptop computer and processed using software that is publicly available (Conyers 2005). This software allowed reflection profiles to be viewed and analyzed for effective depth penetration, and at some sites grids of closely spaced profiles were used to produce amplitude maps of buried features of interest.



Figure 1: 400 MHz antennas with the attached survey wheel for distance calibration.

The Basilica

Reflection data were collected in the open mowed field just south of the 1950s excavation where a Roman brick and stone foundation had been uncovered (reference?). This open area contained many standing columns and column bases that were placed in their locations in recent times, perhaps to make the area look more architecturally or archaeologically pleasing. It was not known if any of these stone columns were in their original position, or even close to them. It was also known that somewhere in this

general area previous excavations had uncovered a mosaic floor, which was then re-buried (reference?).

Velocity analysis was conducted by matching reflection hyperbolas on the computer screen (Conyers 2004: 117). This analysis showed that each 10 nanoseconds (ns) of two-way radar travel time was about 60 cm in real depth, corresponding to a relative dielectric permittivity (RDP) of the ground of about 5.3. Reflection profiles showed that the upper 1 meter or so of fill was composed of mostly homogeneous sand, perhaps clastic material that had blown in from the beach in the recent past. Below this fill are a number of buried features including superimposed floors and column bases and foundations of large buildings, probably of Roman age. In some cases the columns that are still standing in the area are still resting directly on these column bases, suggesting that at least a few are in-place (Figure 2).

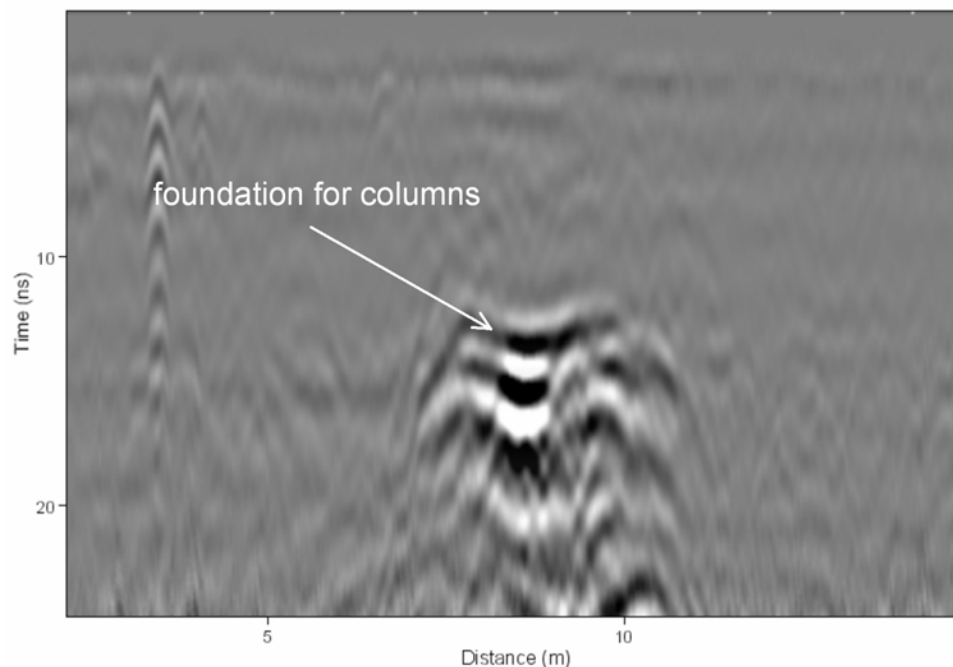


Figure 2: Reflection profile showing the foundation or base for a column that is located directly above.

All profiles in this grid were computer processed to produce horizontal amplitude slices that show the spatial extent of buried features at discrete depths (Figure 3). These maps showed that the column foundations and other buried architecture are located north-south through the grid, at least in the upper meter of ground. All existing columns, bases and other stone architectural features that were visible on the surface were mapped and their locations placed on the slice maps. While there is a general correlation of buried architecture with the surface architecture, there are only a few standing columns that are located directly on their foundations (Figure 3).

Most interesting is the location of two distinct buried floors in the 100-150 cm slice along the eastern margin of the grid (Figure 3). These floors can also be seen in profile (Figure 4) and what appears to be excavations that encountered the upper floor, perhaps during some robbing event, or even archaeological excavations in the past are visible. The GPR profiles are not sufficiently detailed to be able to determine which of these surfaces might be a mosaic, sub floor, or other horizontal surface. Tests done on a buried mosaic in a church in England with a much higher resolution antenna shows that it might be possible to produce an image of the buried floor, if it is in fact a mosaic floor (Utsi, 2006). This might be a possible future GPR project, using the high resolution 900 MHz antennas.

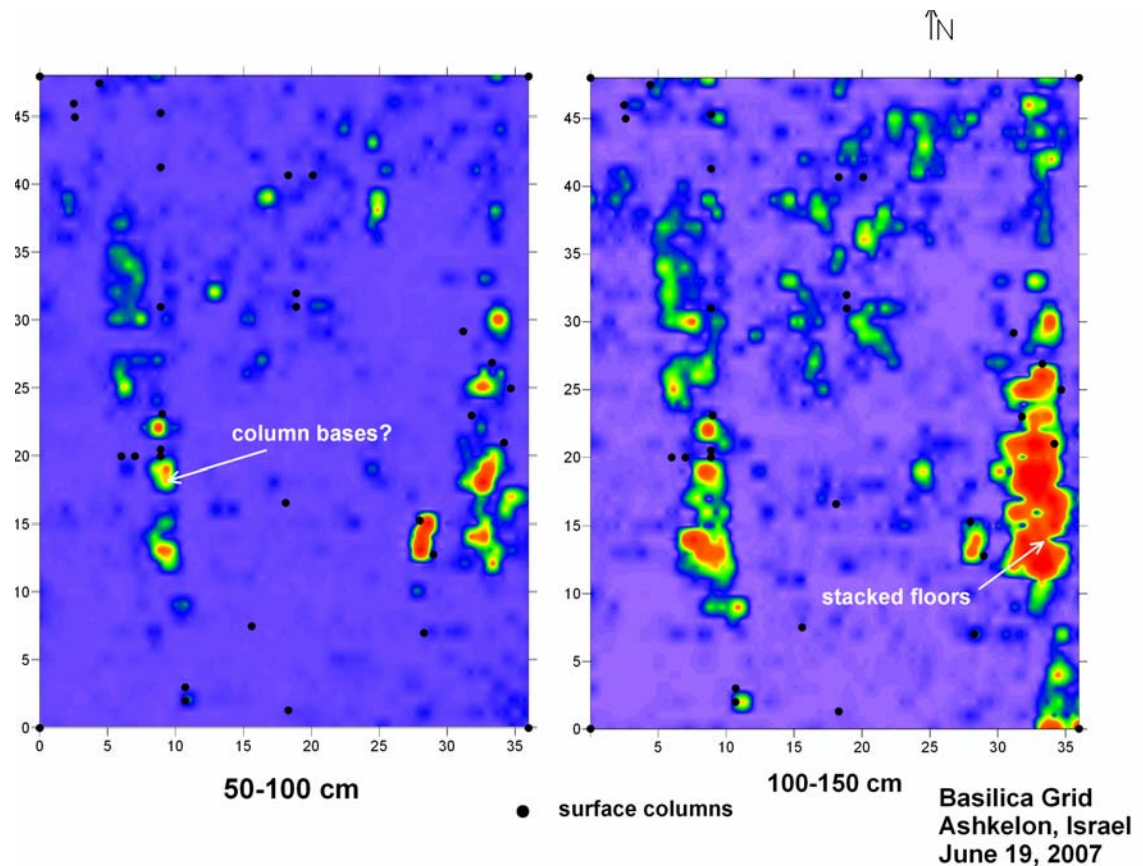


Figure 3: Amplitude slice-maps of the Basilica grid showing high amplitude reflections as red and yellow, with fill material shown as blue.

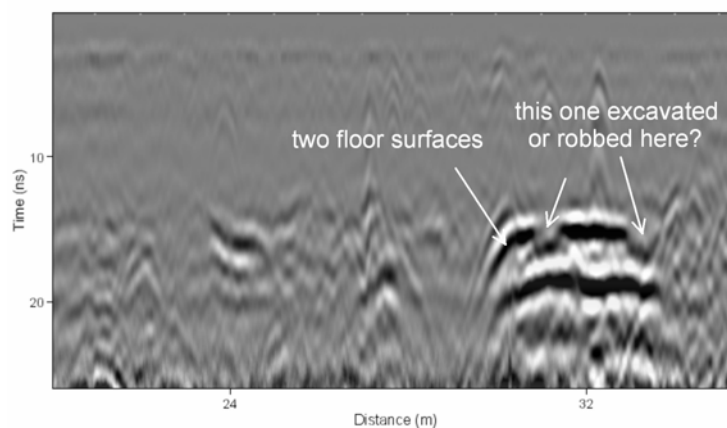


Figure 4: Two stacked floors in the Basilica grid, the upper of which appears to have been truncated by robbing or excavations in the past.

In general the Basilica grid contained the least complicated archaeological features of all the GPR data collected at Ashkelon. A number of walls, column

foundations of bases and floors are visible, probably of Roman age. This grid seems to have been little disturbed by complex robbing or trenching activities in the past, however few of the foundations are aerially extensive. The stacked floors on the east are potentially exciting, and could be studied more intensively in the future with additional GPR tests and limited excavations.

Upper Basilica Terrace

This grid of data was collected just to the east of the Basilica grid on a raised terrace containing olive trees. The eastern wall bounding the Basilica park is located just to the west of the grid. This area proved to be much more complex than the Basilica, with a plethora of buried features, modern utilities and surface complexities caused by the road that transects the area surveyed. Amplitude slice-maps show a very jumbled mixture of features from near the surface to at least 1.5 meters depth (Figure 5). These include walls, floors, piles of building stones and possibly bricks, looters pits and a metal water line that generally crosses the grid from north to south.

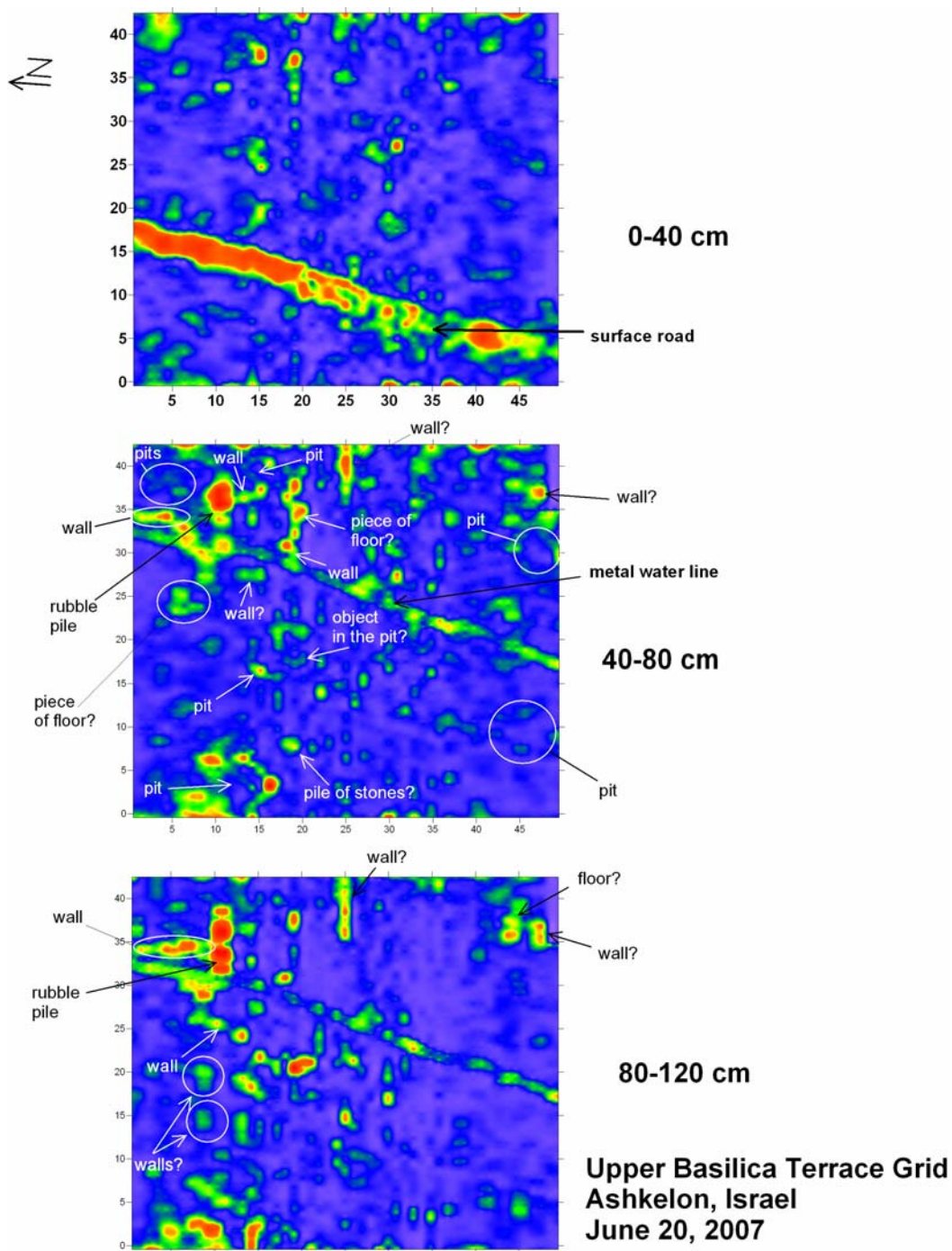


Figure 5: Amplitude slice-map of the Upper Basilica Terrace Grid showing many buried features in the upper 120 cm of the ground.

The features visible in the slice-maps were difficult to visualize in map view as they were so complex, and therefore had to be analyzed in profile. To interpret these data

the reflections were processed into vertical slices, and all features annotated and then correlated to those seen in the horizontal. When this was done walls, pits and the disturbance of the surface road were clearly visible (Figure 6).

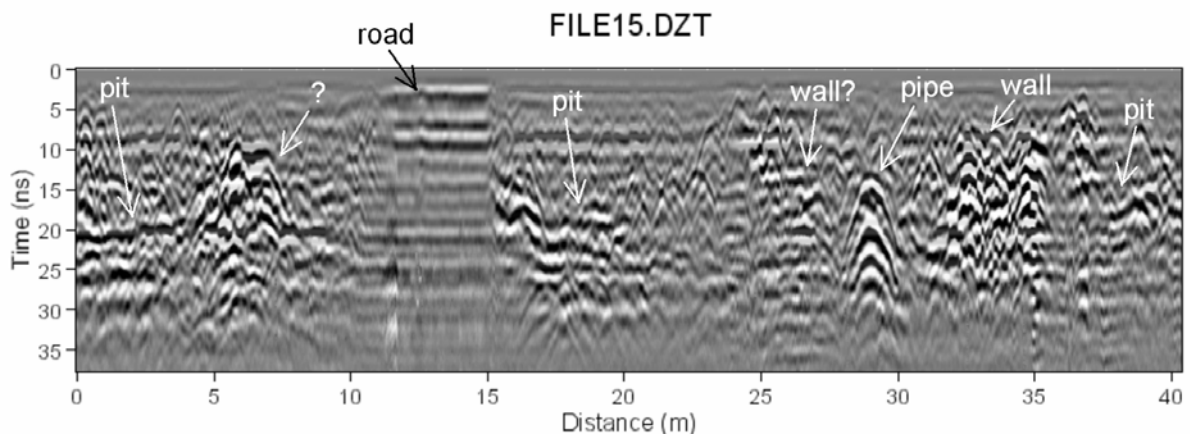


Figure 6: Vertical reflection profile showing a number of pits, perhaps from robbing episodes, some standing walls, the modern metal water pipe, and the disturbance of the modern road.

Some interesting floors were visible in profile, which might be similar to those in the Basilica grid discussed above (Figure 7). Most architectural features, however, were only continuous for a few meters, having been robbed or modified, probably in the ancient past.

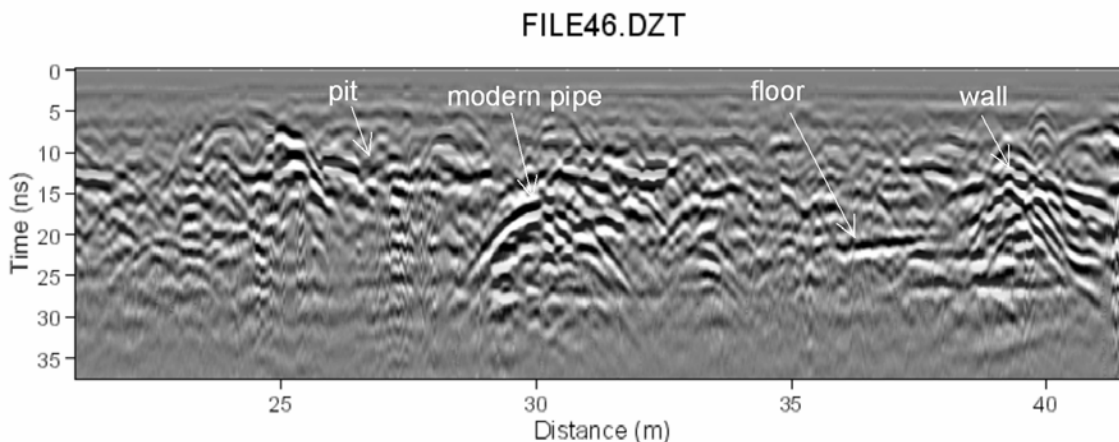


Figure 7: Reflection profile showing floors and walls that are still intact.

One area of particular interest was found at $x=10$, $y=35-40$ meters in the 40-80 cm slice (Figure 5). This is also visible in profile (Figure 8) as a very thick pile of stones, which appears to be layered, perhaps due to wall or floor collapse during one event. Its origin remains unknown, but it is possibly the remains of a large building or tower that was destroyed in one event, and then its constituents were not significantly robbed for building materials in the past.

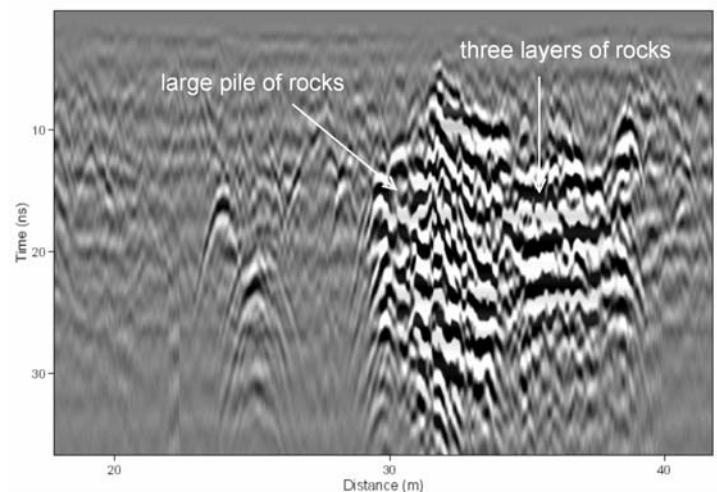


Figure 8: Reflection profile of the large pile of stones or bricks from one destruction event, visible in the 40-80 cm slice map of Figure 5. These layers of architectural debris appear to have been preserved in three distinct layers.

Other areas in the Upper Basilica Terrace Grid were less complex, and showed intact floors that continued for at least 5 meters, with walls of cut-stones that still showed courses or layers of stone blocks (Figure 9). If excavations were to be conducted, this more intact area of the site in the southeast portion of the grid should be chosen for study, as they were not robbed as heavily and therefore likely contain more intact layers.

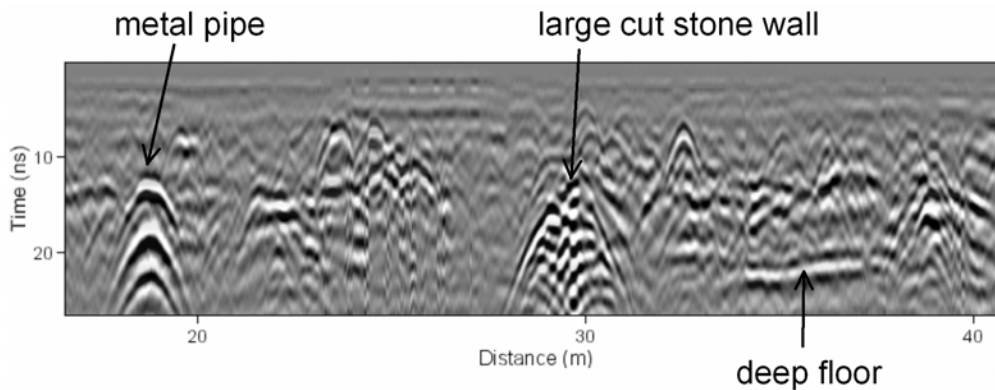


Figure 9: Reflection profile from the Upper Basilica Terrace Grid showing largely intact floors and walls, which do not appear to have been robbed or disturbed.

David Roberts Painting Grid

An 1839 painting of Ashkelon by David Roberts appears to show monumental architecture in an area that was tested with GPR (Figure 10). The large building foundation, which was presumably still exposed in 1839 consisted of stepped and leveled floors, column bases and open flat areas. The area today appears to have been partially leveled, perhaps filled and then terraced in recent times, for agriculture. There have been no archaeological excavations in this area, so nothing is known about the subsurface. A grid of GPR profiles was collected in this area to test whether there are any remains of this monumental architecture, which might be the remains of this temple or other building of this sort.



Figure 10: David Roberts painting from 1839 showing a terraced monumental building with floors and column bases in the distance.

Reflection profiles in this grid showed a variety of stone architectural features, none of which were perfectly flat or terraced, as would possibly be indicated if they were a direct representation of the 1839 painting. These profiles, however, did illustrate some horizontal surfaces that might be floors (Figure 11). The reflections were produced at very distinct surfaces, as might be produced by cut stones or pavers. In some cases these stones appear to have partially collapsed, and rubble fill can be seen on top of some floors. The horizontal surfaces also appear to be preserved in steps or terraces. Below the floor surfaces stones jumbled were used as fill, which might indicate that these features are the remains of the monumental architecture.

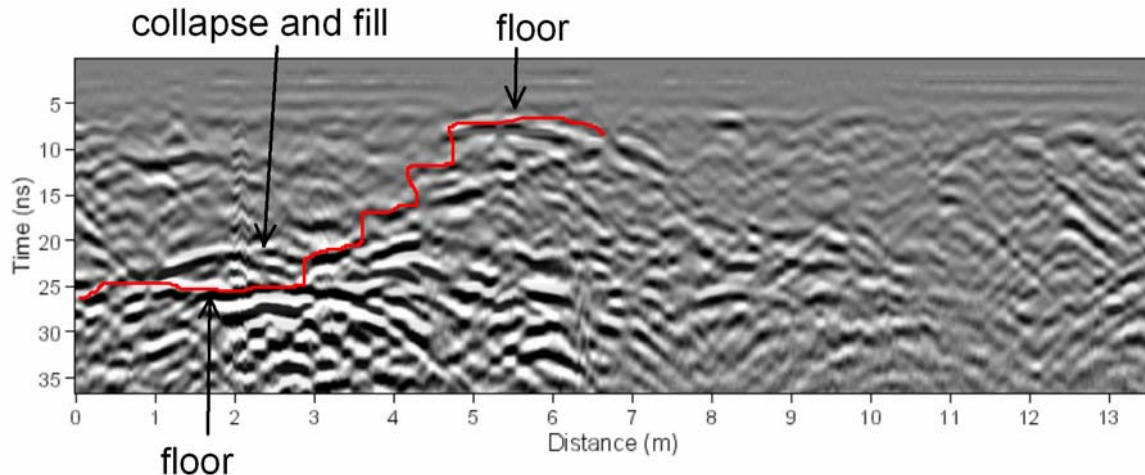


Figure 11: Reflection profile from the David Roberts Painting Grid showing flat floor surfaces at two elevations, with rubble fill and piles of rubble on the floor surfaces.

When all the reflections in this grid are viewed in amplitude slice-maps from the surface to 180 cm depth, distinct high amplitude areas composed of stone are visible (Figure 12). The edges of this possible architecture and the floors are also visible in these maps. While these interpretations are somewhat biased, as the painting from 1839 was used as a model, the correlation between the painting and the GPR maps and profiles is interesting. It appears from the GPR analysis that a large stone feature was partially dismantled, the area leveled, and then covered with fill and soil to make agricultural fields. Other interpretations, however, are possible. It is possible that the rubble piles seen with GPR were not produced from the monumental architecture, but instead produced by other stone fill derived from other areas of the site. The agricultural terraces would then have been produced on this fill. Only future excavations can test these hypotheses.

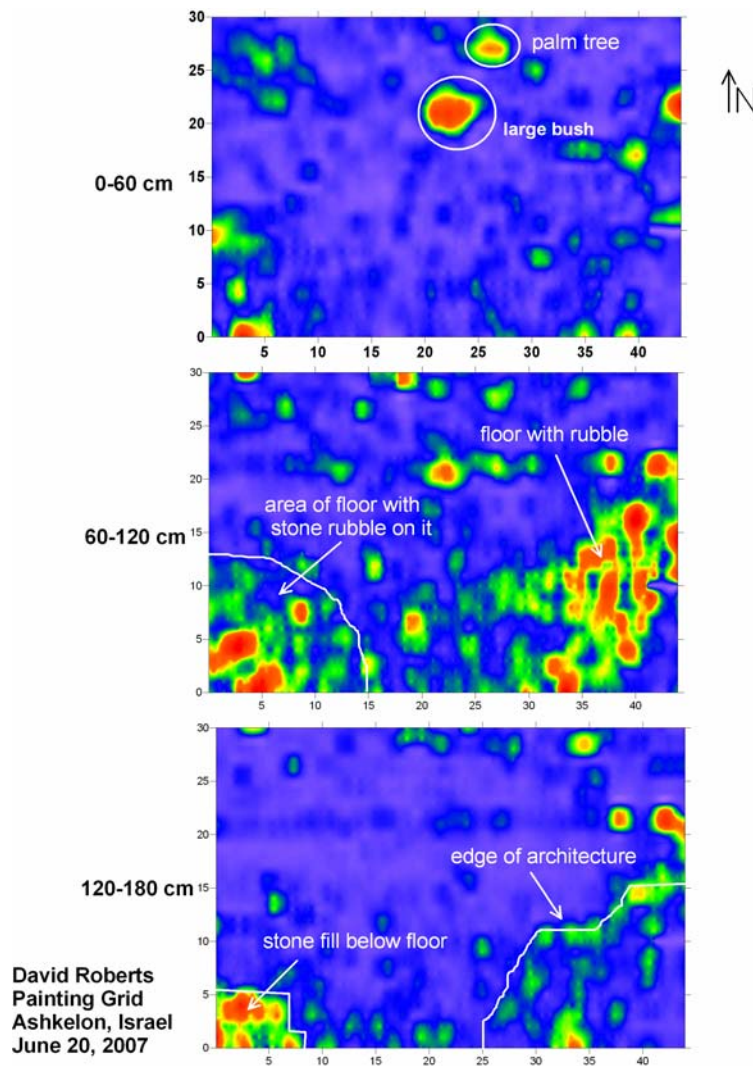


Figure 12: Amplitude slice-maps of the David Roberts 1839 Painting Grid illustrating the edge of the architecture and the stone floors and fill.

Excavation 38 Grids

Two grids of GPR data were collected within Excavation 38 to test the method for predicting and analyzing features and other stratigraphic changes in levels to be excavated in the future. The idea is that if GPR maps and profiles could “see” objects or architectural features in the ground then excavation methods could be adjusted to most efficiently test certain areas. In this way GPR could potentially produce predictive models that could “drive” excavations and become more part of standard archaeological

methods in complexly stratified sites such as Ashkelon. Two tests were made in Excavation 38. Grid 1 was placed on an Egyptian surface (Figure 13) in order to map a latest Bronze Age surface, which had already been exposed to the west (the area covered by Grid 2), which presumably projects eastward.

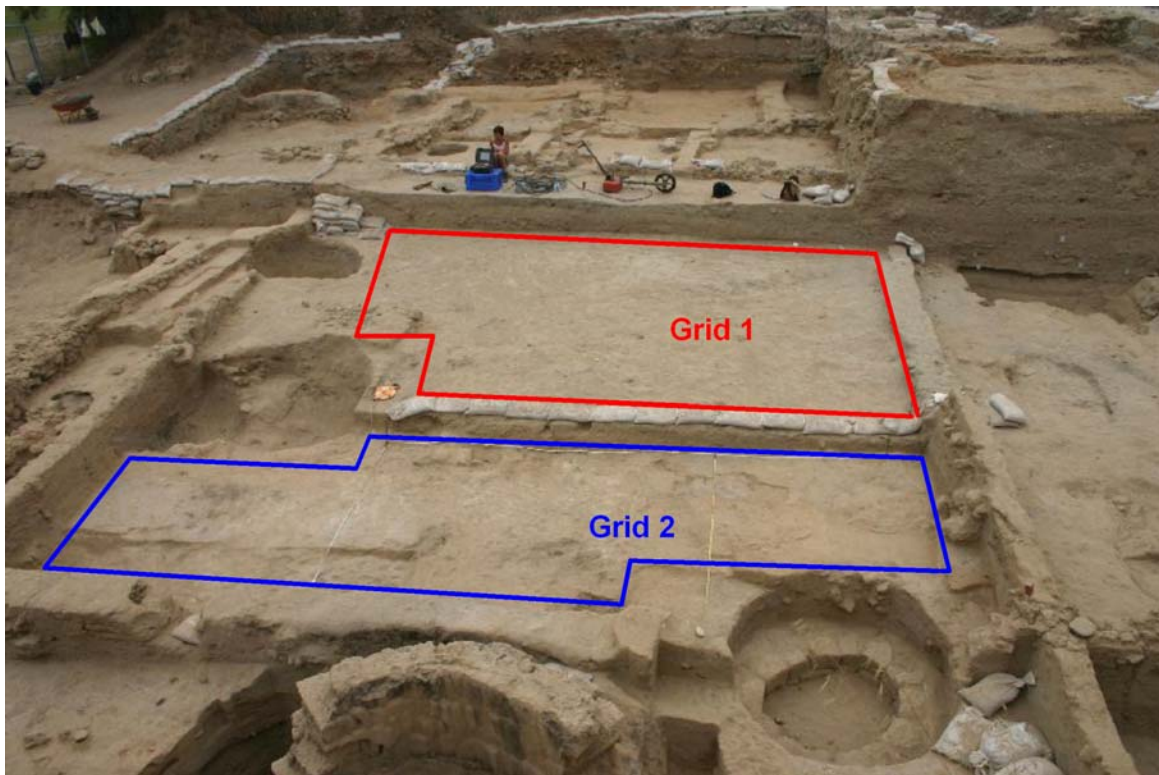


Figure 13: Excavation 38 Grids. Grid 1 was placed on an Egyptian surface and the surface directly below was the latest Bronze Age surface, exposed just to the west where Grid 2 was placed.

Velocity tests were performed within an open excavation just to the south of Grid 1 in order to determine if this area had different sediment and soil characteristics that might change radar travel times. A pipe, one inch in diameter, was driven into the side wall of the trench exactly 50 centimeters below the surface. The antennas were then moved along the ground surface directly above the pipe and an image of the pipe was produced in profile (Figure 14). In these types of tests point source reflections such as

produced from a metal pipe will create hyperbolic shaped reflections, which can be quite reflective (Conyers and Lucius 1996). Using the measured time and depth from this test, a velocity of 5.55 cm/ns was arrived, and all GPR maps were adjusted accordingly, to give depth measurements for maps instead of those measured in two-way radar travel time.

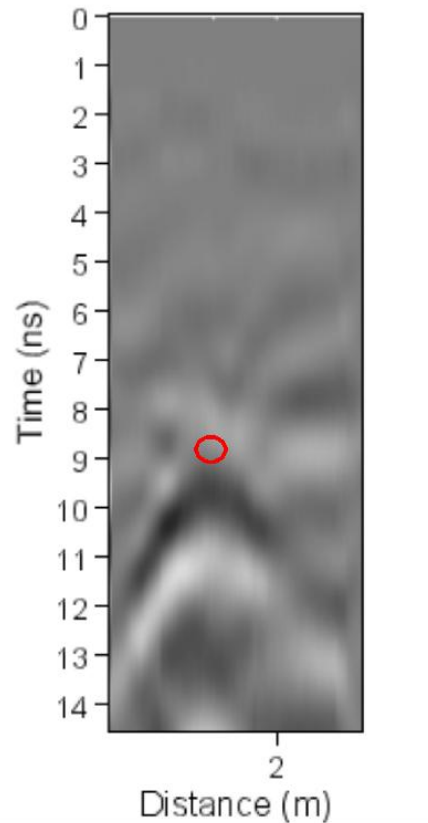


Figure 14: Reflection profile produced from a metal pipe driven horizontally into the wall of a trench in Excavation 38. The red circle is the location of the pipe 50 cm below the surface, which was measured using GPR at 9 nanoseconds. Using both time and depth, a two-way velocity of 5.5 cm/ns was calculated, and all maps in Excavation 38 were adjusted using this value.

In Grid 1 the profiles showed a number of interesting features on the latest Bronze age surface. This surface was identified by measuring this surface's depth (exposed in Grid 2) and correlating it with the radar reflections in profile (using the velocity

determined from the pipe test (Figure 14). In this way it could be determined what radar reflection was produced from this buried late Bronze surface (Figure 15). The floor was visible at about 8 nanoseconds (about 45 cm), and other features were visible on the surface. Each profile was interpreted first in profile (Figures 16 and 17) prior to slicing the data horizontally to look at the aerial extent of reflection amplitudes (Figure 18).

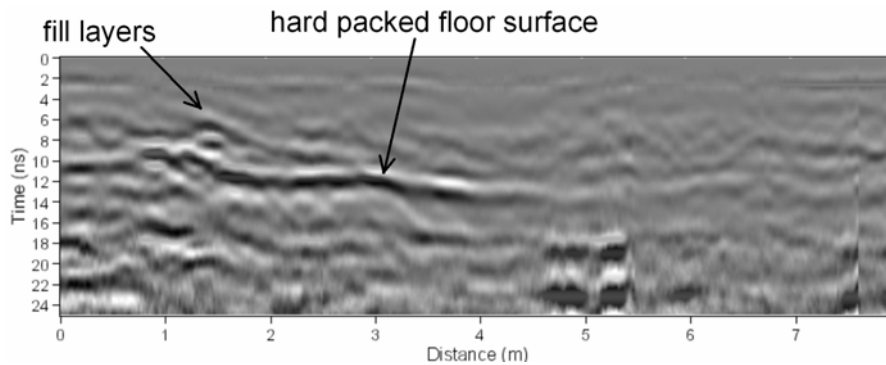


Figure 15: Late Bronze age floor surface at 10 ns, which correlates directly with the surface exposed just to the west, located at 55 cm depth. Fill layers are also visible, which were produced when the area was covered and then built on again during Egyptian times.

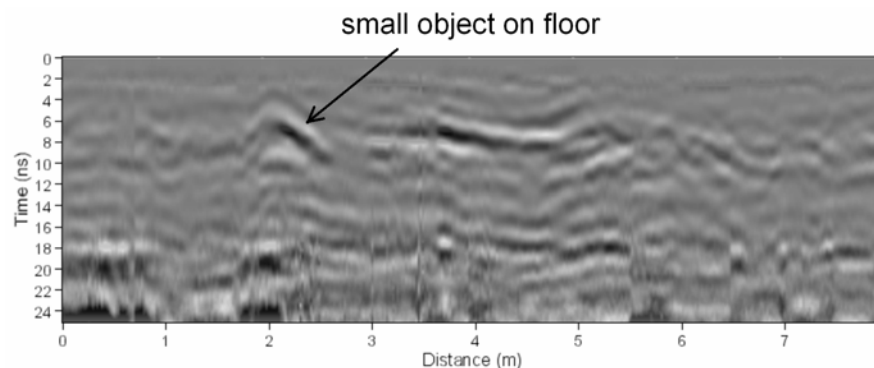


Figure 16: The floor surface is again visible but here as a less reflective surface due to a compositional change. One small object is visible on the floor.

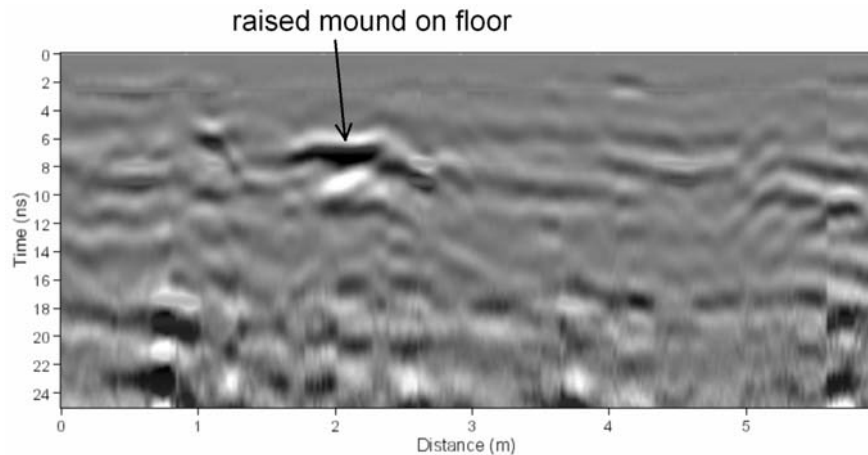


Figure 17: In this profile from Grid 1 in Excavation 38 some sort of raised platform of very reflective material is found on the Late Bronze Age floor surface.

When all reflection profiles were sliced horizontally and viewed in 20 cm thick slices, many of the features visible in profile could be viewed in plan view.

Interpretations were then made of all objects, discontinuities and other changes in the Late Bronze Age surface as well as a surface found below it. This surface was then excavated in July, 2007 by Dana Depierto's excavation team to test the origin of all the interesting features mapped by GPR. Results of those tests will be forthcoming, but not available at the time this report was written. Preliminary analyses suggests that all the features visible with GPR were later uncovered in the locations as predicted.

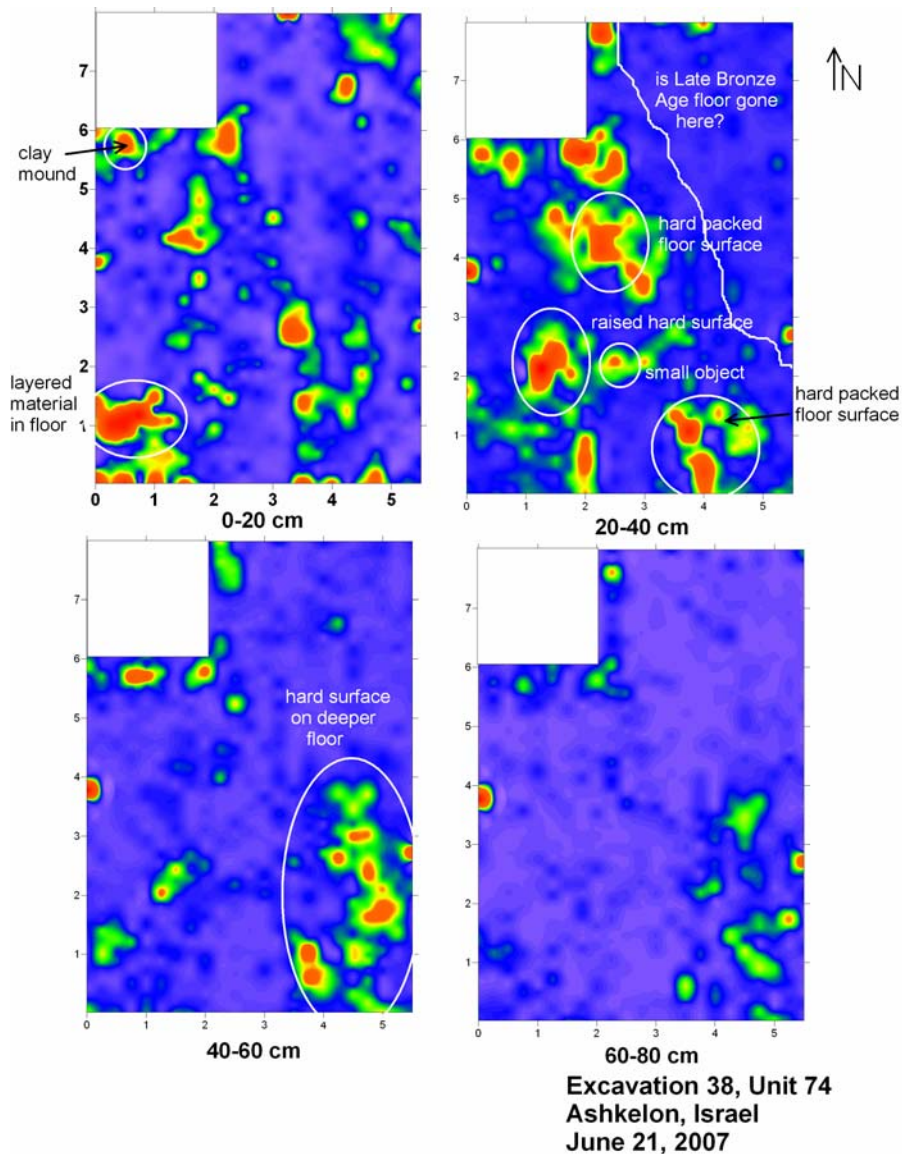


Figure 18: Amplitude slice-maps of Grid 1 (Unit 74) in Excavation 38. Depths were determined by converting radar travel times to distance using a velocity of 5.5 cm/ns.

Similar data analysis was conducted for Grid 2 in Excavation 38. This dataset was somewhat more complicated due to the un-even surface over which the antenna was moved. Similar features were visible in profile here, but in this case the surface is the next earlier Late Bronze Age surface from that imaged in Grid 1. A compact or clay-rich surface was visible in profile at about 8 nanoseconds (45 cm) depth (Figure 19). Small

objects were found on the surface, as well as pits that had been dug through it (Figure 20).

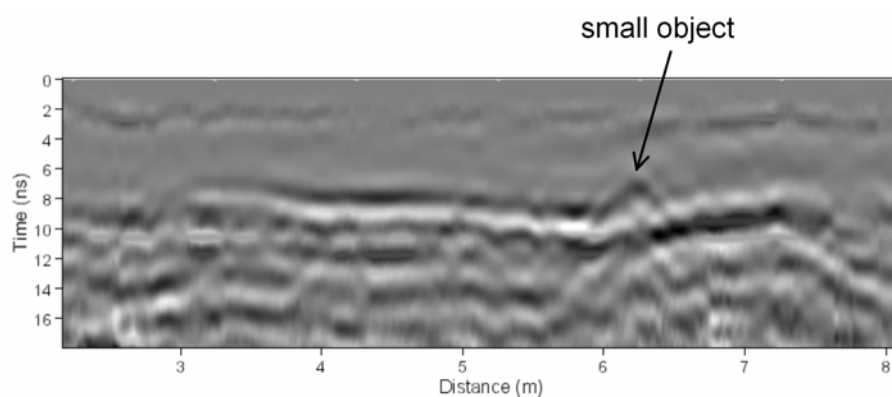


Figure 19: The Late Bronze Age surface below the one exposed at the surface in Grid 2 of Excavation 38 is visible at about 8 ns depth, with a small object on it.

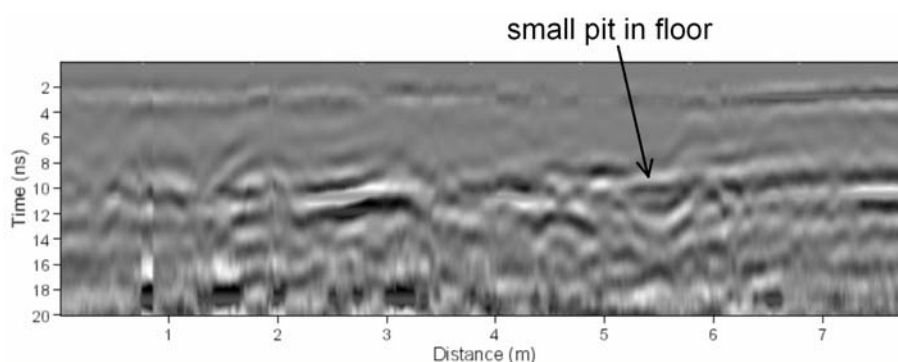


Figure 20: A small pit can be seen truncating the surface in this profile.

All features visible in profile were then mapped using the amplitude slice-map method to show the spatial variation in these features (Figure 21). Slices were constructed in 20 cm levels, just as in Grid 1.

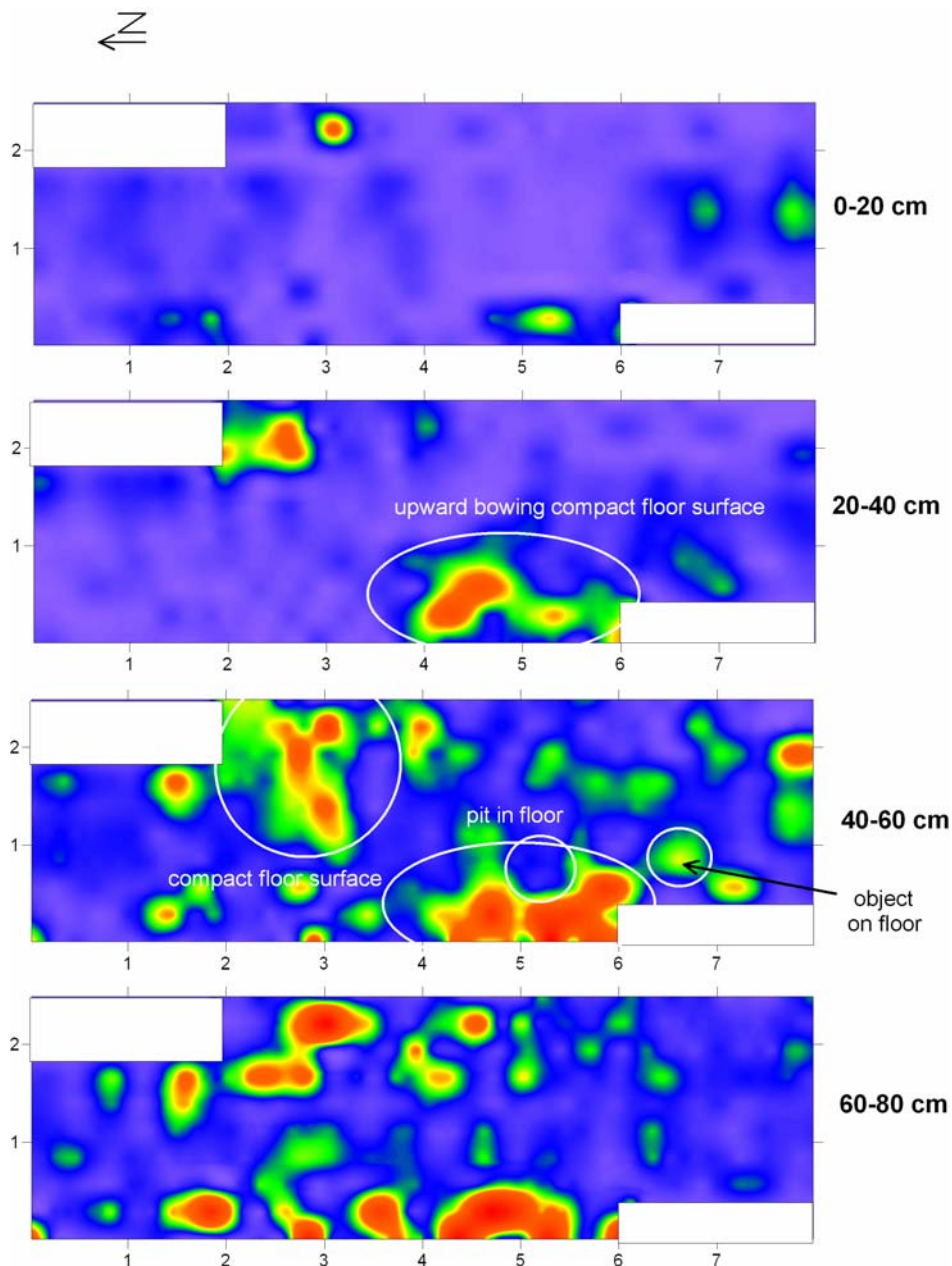


Figure 21: Amplitude slice-maps of Grid 2 in Excavation 38.

Rampart

To test whether any of the town ramparts might be located along the eastern portion of the city wall, seventeen reflection profiles were collected in all open areas where the antenna could be moved in long transects (Figure 22). The end locations of all profiles were marked with stakes and later surveyed with the total station to obtain

elevations and exact locations within the site grid. All profiles were collected going downhill and because of the slope of the ground, energy was transmitted at an angle going back into the sloping face.



Figure 22: Location of GPR reflection profiles in the Rampart grid.

All profiles were analyzed first using standard processing methods, which showed reflections from the ground as if the ground were horizontal (Figure 23). When this was done a noticeable high amplitude reflection was visible in both Profiles 8 and 9, which was roughly parallel to the sloping surface of the rampart (only Profile 8 is shown in Figure 23). This surface was hypothesized to be a paved or compact surface of the Islamic Age rampart, which roughly parallels the modern ground surface, but varies in

depth due to the terracing and possible filling some areas in recent times for agriculture. A lower rampart might also exist below the Islamic surface, perhaps of Late Roman or Philistine Age.

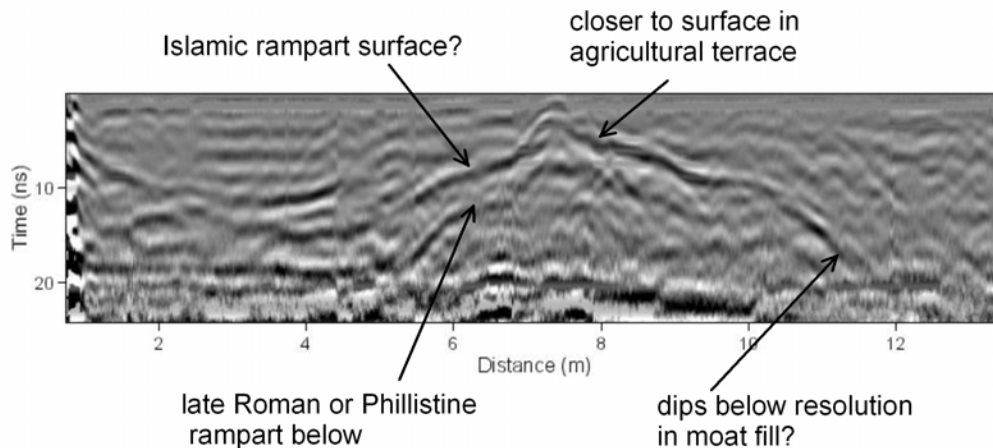


Figure 23: Reflection Profile 8 from the Rampart grid that is un-corrected for topography. The high amplitude reflection was hypothesized to be the Islamic Age rampart, which is exposed along this same topographic feature farther to the north.

The ground surface in Profiles 8 and 9 was then surveyed again with the total station to record all the topographic variations from the agricultural terracing (Figure 24). These profiles show the terraces and steeper slopes of the ground along the transects, which needed to be taken into account in order to view the reflections correctly in space. When these corrections were made, a very different view in profile was produced (Figures 25 and 26). In this profile the possible rampart surface is visible in two areas along the line when the slope is steepest, but disappears under the terrace fill material. It is likely that this fill is a more attenuating soil that will not allow radar energy to move through it, making the rampart invisible in these areas. Along the lower slopes the possible rampart surface is below the resolution depth of the 400 MHz energy, likely due to burial by slope wash over the centuries. A very similar set of features is visible in Profile 9 (Figure 26), just 5 meters or so to the south of Profile 8 (Figure 22).

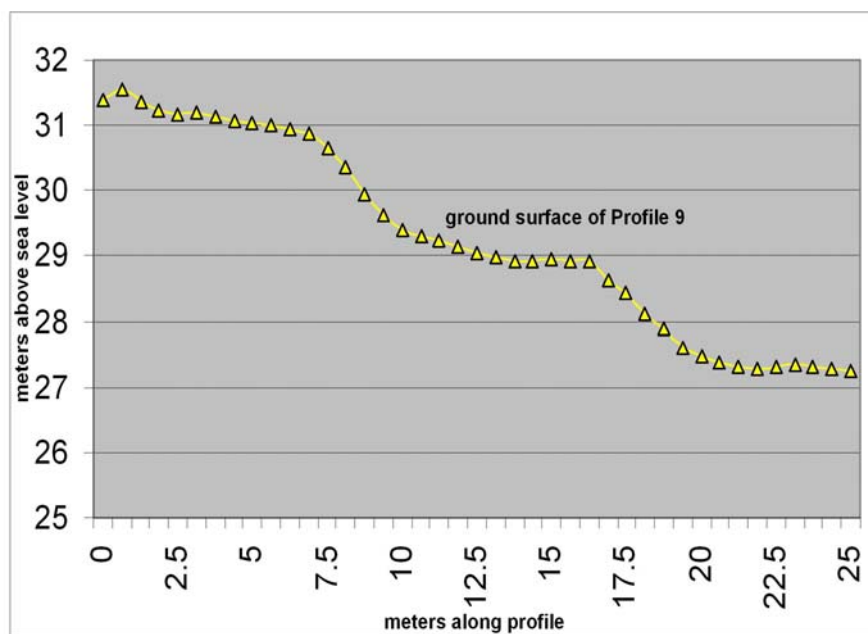


Figure 24: Topographic variation of the modern ground surface along Profile 9 in the Rampart grid showing terraces produced by agricultural leveling.

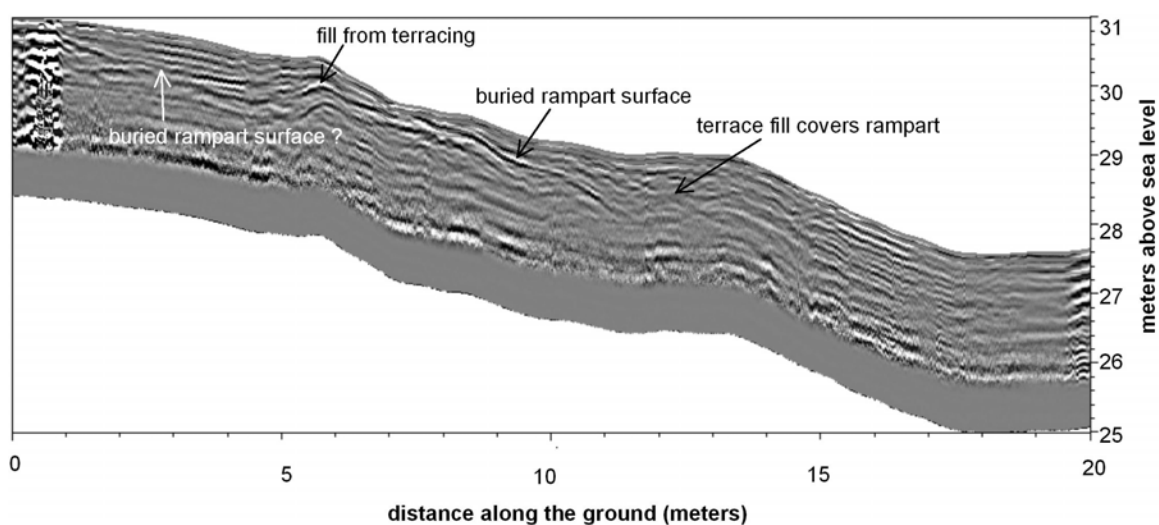


Figure 25: Reflection Profile 8 adjusted for topographic variation.

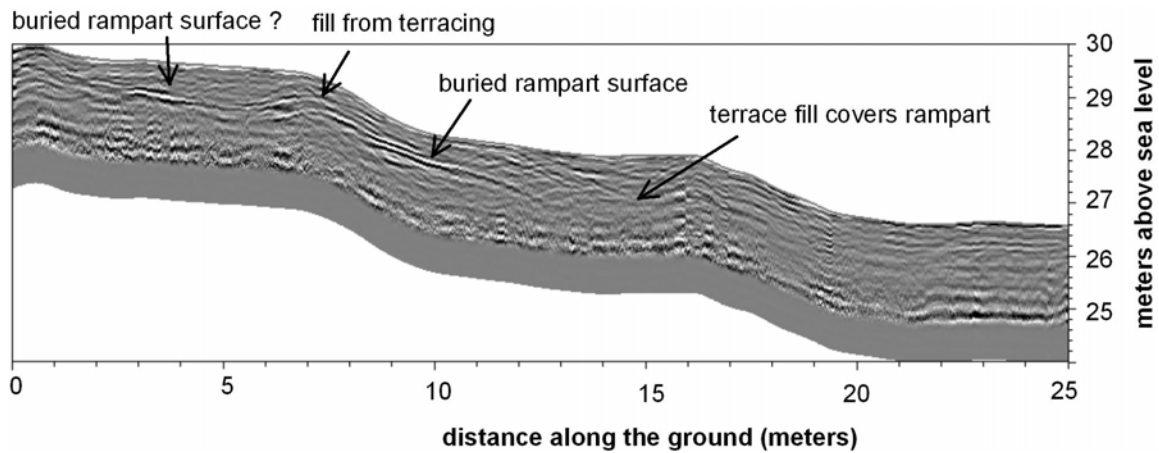


Figure 26: Reflection Profile 9 adjusted for topographic variation.

After returning from the field Federica Boschi performed additional analyses on these reflection data and noted that Profile 7 in this grid also showed sloping surfaces similar to those noted in Profiles 8 and 9 (Figure 27). This surface was not noted in the field, and therefore topographic data were not collected along this transect with the density necessary to adjust these reflections for topography. The area of Profile 7 along the rampart should also be considered as prospective for the preservation of this sloping rampart surface.

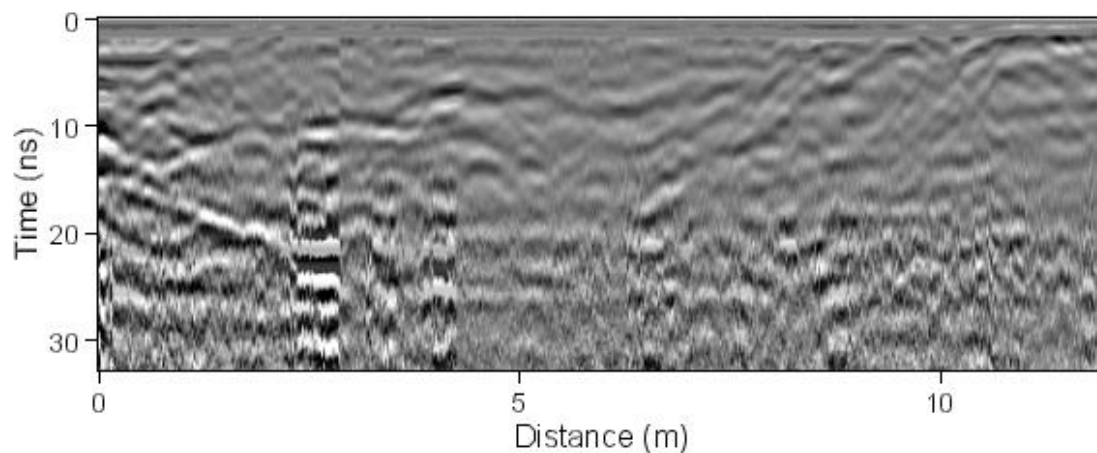


Figure 27: Rampart Profile 7 showing at least two reflective surfaces that slope downhill. This profile is not adjusted for topography, and therefore this is a distorted view of these surfaces.

Beach: harbor test grid

Along the beach, near where the Roman columns project horizontally from the Islamic harbor fortifications a long GPR test line was collected to test ideas proposed by researchers at the University of Haifa about the ancient harbor being located in this area (Raban and Tur-Caspa...date?) . Both Dr. Lawrence Stiger and Ross Voss remember conducting test excavations in this area in the late 1970s and finding dark clay about 2-3 meters down, of unknown origin. That clay was hypothesized as being a shallow, quiet water deposit, perhaps deposited in an area within the protective breakwater of a port. It could also be a Pleistocene age clay, deposited in a nearshore environment when sea level was much lower than today, perhaps a lake or marsh.

As a test of the GPR method's ability to look through the beach sand, one test profile was conducted from the sea water back toward the sea cliff (perpendicular to the stand line) to determine salt water attenuation of transmitted radar waves (Figure 28). The antenna was placed directly in the salt water and moved up over the beach ridge toward the cliff. When analyzed in profile the dramatic energy attenuation from the salt water is visible only about a meter away from the beach ridge, and 1.5 meters from the swash zone. These results are quite surprising, and not documented before in the GPR literature. It shows that GPR can be used effectively very close to the salt water in beach environments, and good reflections obtained from at least 2-3 meters depth only a few meters from the swash zone.

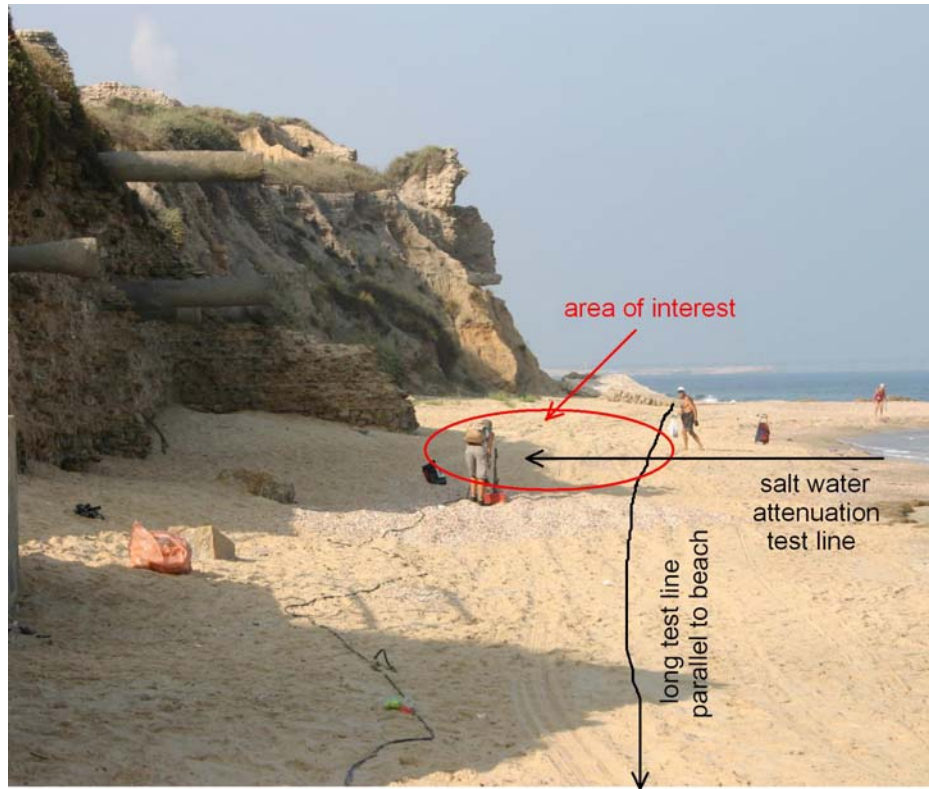


Figure 28: Photograph of the beach, harbor test area. The test line to measure salt water attenuation is annotated, as well as the 225 meter long line along the beach to prospect for features under the sand.

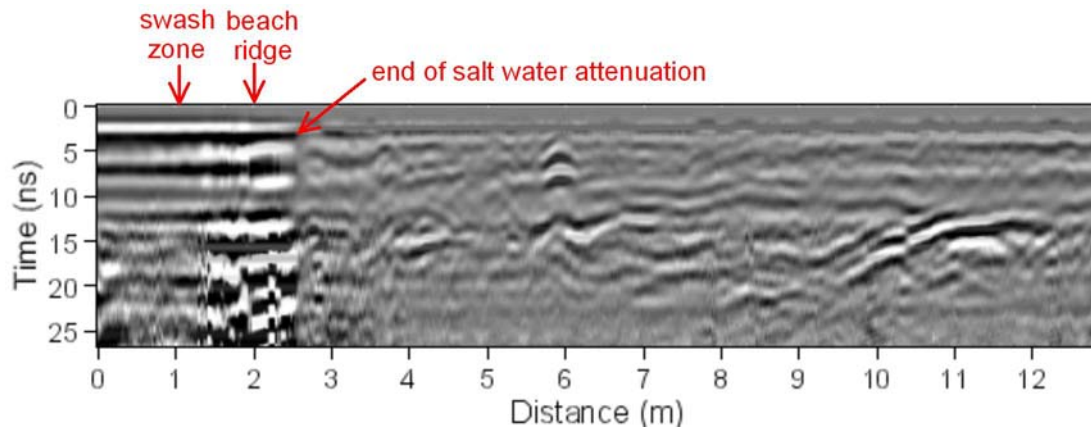


Figure 29: Reflection profile from the salt water toward the sea cliff, showing that salt water attenuation only affects the reflections about a meter away from the beach ridge. Good energy penetration was obtained to at least 2 meters depth.

To prospect for interesting features along this wide expanse of beach a 214 meter long profile was collected along the beach about 5-10 meters away from the swash zone

(Figure 28). When viewed during collection beach sand was visible to about 3 meters depth, devoid of reflections except in one area of interest near where the Islamic Age walls jutted out from the cliff in the vicinity of the horizontal Roman columns (Figure 28). In this area a distinct high amplitude reflection could be seen, which was truncated in one location (Figure 30). In this truncated area a large accumulation of objects is located, which are probably building stone, and perhaps even some metal objects. As bedrock outcrops directly on the beach in this general area, it was hypothesized that this continuous reflection could be the bedrock surface. However, discussions with Dr. Stiger and Mr. Voss indicated that it could also be the enigmatic clay layer that was excavated somewhere nearby in the 1970s.

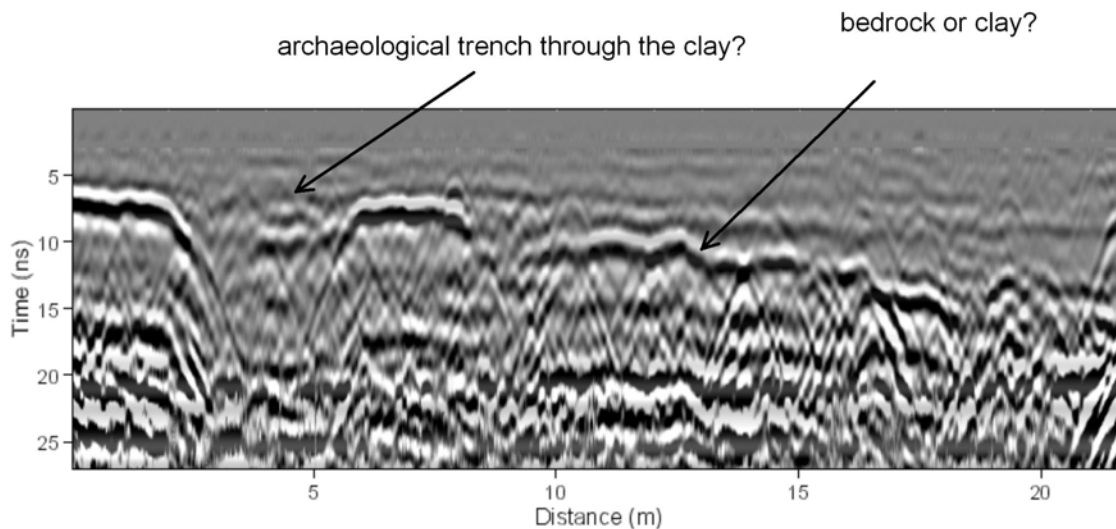


Figure 30: Reflection profile on the beach showing a possible trench through either bedrock or clay located just 50-100 cm below the surface of the beach sand.

A large grid was then set up around this area of high reflections and numerous profiles collected systematically. These data were collected, but only after returning from the field and packing up the equipment was it determined that the survey wheel had malfunctioned dramatically along most of the profiles. Some of the transects were as

short at 42 meters (along what was thought to be a 50 meter transect) and others were similarly affected. It is possible that sand got into the axle of the wheel, clogging it up or slowing it down along some transects in un-determinable ways. As a result the profiles showed a number of interesting features in this grid, but their exact location could not be determined. Amplitude slice-maps were therefore not constructed for this grid, and only two-dimensional profiles were interpreted.

The GPR profiles showed a number of interesting features in this area of the beach. In much of the grid a very strong reflection occurs at about 50 cm (5-10 ns) below the surface of the sand (Figure 30). It was initially hypothesized that this was produced at the bedrock-sand interface, as there is a consolidated aeolianite unit (bedrock in this area) along the swash zone nearby. But after consulting with Ross Voss and Lawrence Stiger, it appears that this unit might be the dark greenish clay that was exposed in a trench in this general location in the 1970s. The interesting vertical trench (Figure 30) that appears to truncate this clay might be that excavation, although the memories of Voss and Stiger put it about 20 meters farther north along the beach. It is possible that this feature could also have a different origin, which remains obscure.

In other areas of the grid the same high amplitude layer is visible, but appears to be sloping into a very large trench, similar to a boat slip or some other feature excavated into this layered material (Figure 31). In the bottom of this trench is an accumulation of large objects of unknown origin. While it is tempting to interpret this feature as a boat slip with the remains of a boat in it, there are other equally plausible hypotheses. One is that this is a natural erosion channel perhaps cut by waves or a storm surge along the beach and the objects are rocks or pieces of architecture that have fallen from the nearby

sea cliff into this depression. These features could have been produced by a violent storm that modified the coastline sometime in the past. Whatever the case, these features and objects are interesting, and should be followed up on in the future by more precise GPR data collection or excavations.

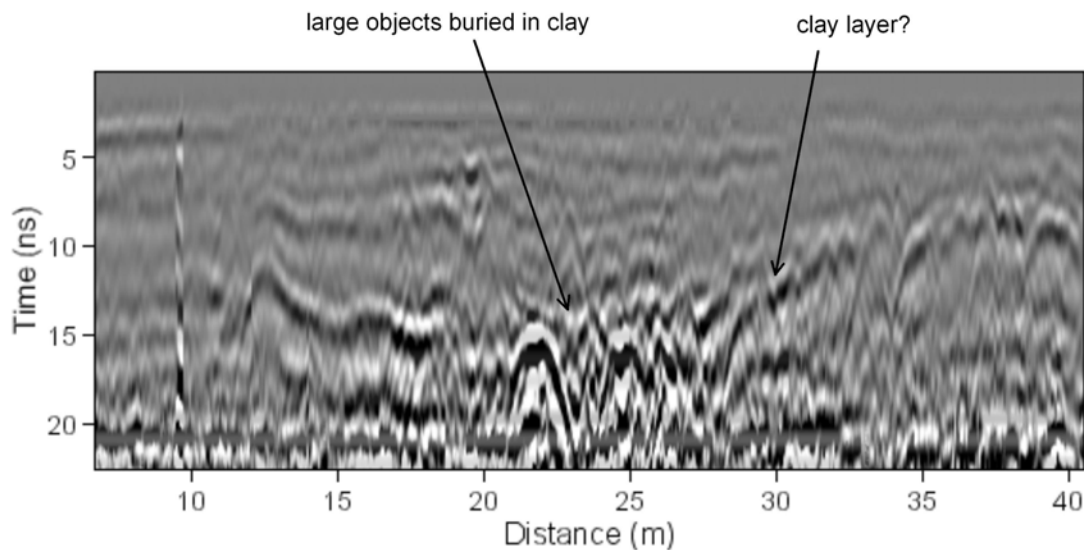


Figure 31: Reflection profile on the beach showing a channel of some sort with objects located in it.

Conclusions and Recommendations for the Future

A number of interesting features were discovered and mapped with GPR at Ashkelon. Radar energy was transmitted between 2 and 3 meters in the ground at all locations tested and radar reflections were capable of delineating features as small as about 20 cm in diameter. This resolution was sufficient to map architectural stones and other building materials at some sites, pits, trenches, walls, floors and rubble piles in most grids. Even along the beach a similar depth of energy penetration occurred as close as about 2-3 meters from the salt water.

At the Basilica the most interesting feature is a possible series of stacked floors, possibly of Roman origin, which could be the remains of what was reported as a mosaic

floor during excavations in the 1950s. It is possible that a follow-up GPR survey on this floor with very high resolution antennas could produce an image of the floor surface as has been successful for buried surfaces in churches in England.

The Upper Basilica Terrace proved to hold a very complex collection of modern pipes, ancient walls, floors and architectural debris piles as well as a plethora of robber's trenches and other less distinguishable features. This area likely contains archaeological materials of many different periods within a complex stratigraphy common to the site in general. One area of the grid, however, appears to be less complex than the rest, and if excavations were to take place here, that area in the southeast corner should be concentrated on. That area contained partially standing walls, intact floors, and other possible undisturbed features of unknown age.

The interesting stone features in the David Roberts Painting Grid, which were hypothesized to be the remnants of monumental architecture painted in 1939 should be tested. This area appears to contain horizontal floors, stone rubble and possible terraces, much like appear in his painting. There are other plausible hypotheses, however, such as filling and terracing the area for agriculture in the last century, and only excavations can determine the origin of these interesting GPR features.

One area along the rampart most likely to contain the intact rampart of Islamic age, occurs in the vicinity of Lines 7, 8 and 9. While this area has also seen agricultural terracing and soil fill, topographically corrected reflection profiles indicate a sloping high amplitude surface that is likely the paved rampart surface. Archaeological testing could quickly determine the origin of this sloping surface.

Testing of the GPR maps and profiles within Excavation 38 occurred in the summer of 2007, and will continue in future seasons. Preliminary results suggest that the GPR maps are an excellent method for predicting and modeling features for future excavations, as a way to carefully plan areas to test. Additional work that incorporates both excavation information and the GPR in Grids 1 and 2 within Excavation 38 will occur in the coming months as additional excavation data becomes available.

The reflection data collected on the beach in a search for the port produced images of many interesting but enigmatic buried features. Poor collection methods created problems with three-dimensional mapping there due to the soft sand and survey wheel problems. The surveys did, however, produce excellent profiles of the buried stratigraphy, which showed either bedrock or a Pleistocene clay layer just below the sand surface. That surface appears to have been altered by natural erosion processed or human modification, and the lower topographic areas contain some large objects of interest. Further GPR testing in this area with better collection methods is warranted, along with some subsurface testing to determine the origin of these strata and objects.

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