

AN EARLY ISLAMIC SETTLEMENT AND A POSSIBLE OPEN-AIR MOSQUE AT EILAT

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INTRODUCTION

During the period of flourishing prosperity in Jund Filastin at the beginning of the Early Islamic period (Helms 1990; Betts 1993; Whitcomb 1995), a number of settlements sprang up in the southern desert regions of the Negev and the 'Arava. The ruins of one such settlement extend from the northern outskirts of the city of Eilat to the grounds of Kibbutz Eilat, 3 km to the north (Fig. 1). Salvage excavations were carried out in 1989 on behalf of the Israel Antiquities Authority in the southernmost sector of the settlement (map ref. OIG 1457/8870; NIG 1957/13870), within the industrial zone of Eilat. The archaeological remains were fully excavated and removed in order to make way for construction of a factory and a road.¹

The settlement is situated upon an alluvial plain dissected by ravines, south of Nahal Roded. The rocky soil is composed of wadi alluvium and gravel. The site was surveyed in 1965 by Rothenberg (1967:284–285) in the framework of the Eilat district survey. One sector of the settlement was excavated in 1973 by Rudolph Cohen (1973) and another sector was excavated in 1993, subsequent to the completion of our excavations, by Rina Avner (1996; 1998). Both of these undertakings were carried out to the north of our excavations.

The excavations uncovered three separate building units situated in close proximity to one another (Plan 1). Each unit was composed of rectilinear architecture, comprising rooms in conjunction with walled courtyards. Some of the outlying portions of the building units suffered damage by earth-moving machines

during preparation for construction in the area, preceding the commencement of our excavations. Consequently, the plans of the building units could not be reconstructed in their entirety. The walls of the rooms and courtyards were usually preserved up to four or five courses high, and only W25, the eastern wall of Room 10 in Building Unit 3 (see below), had survived to eight courses. The walls were constructed of large undressed stones with smaller stones fitted between them, and were bonded together with mud mortar

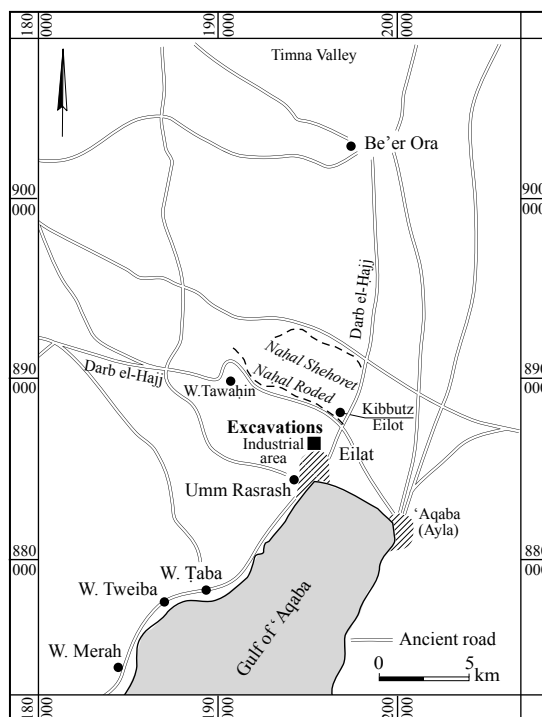
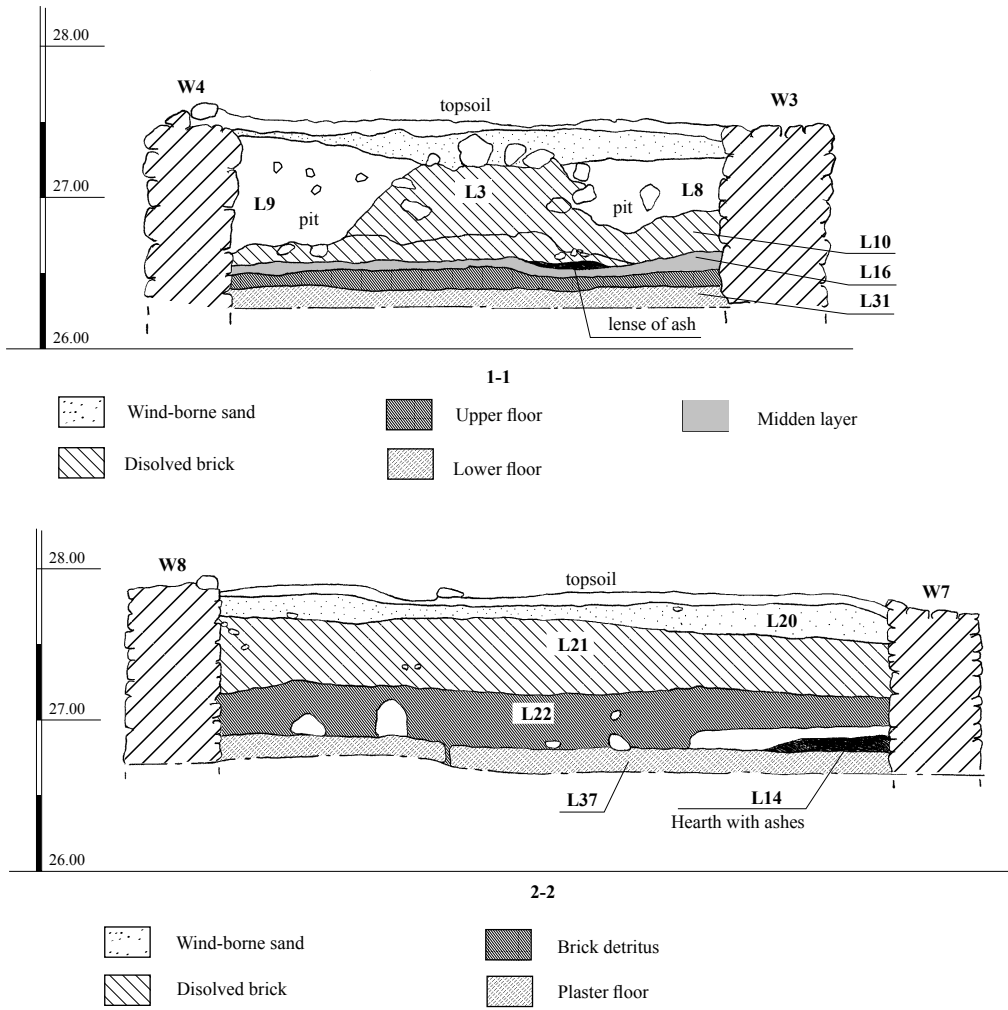


Fig. 1. Location map of Early Islamic sites in the Eilat area.



containing much sand and salt. The stones were mostly limestone, but also included granite, schist, gneiss and porphyry. It was apparent that these stone walls comprised the lower parts of the buildings, and that they originally carried a mud-brick superstructure. While this brick superstructure was not preserved, fragments of unbaked bricks were recovered and deposits of hard-packed, sandy brick detritus were often encountered. The interior faces of the stone foundations were usually plastered with an adhesive muddy material that was originally faced with potsherds or pebbles. The roofs

of the structures were probably made of light materials, either thatching or tent fabric. This may account for palm fibers found upon the floors of the buildings.

THE SITE

AREA A (Plan 2)

Building Unit 1

Two rectilinear rooms with a quadrangular courtyard between them were preserved (Fig. 2). Room 1, situated on the southeastern side

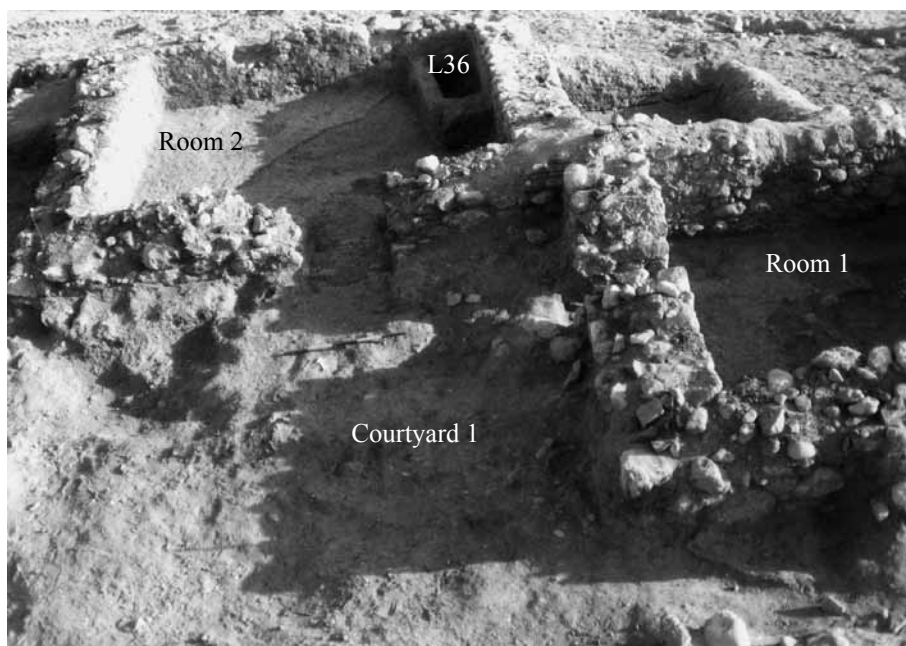


Fig. 2. Area A: Rooms 1 and 2 and Courtyard 1, looking north. The brick-constructed compartment L36 is visible in the northeastern corner of Room 2; a somewhat wide crack runs across the plaster floor in Room 2.

of the complex, and Room 2, northeast of Room 1, shared a corner. Courtyard 1, to which both rooms had access, was located on the southwestern side of the complex. The western side of Building Unit 1 had been damaged prior to the commencement of our excavations. Walls extending west of Room 2 and Courtyard 1 suggest that two or three more rooms or enclosures originally existed on the western side of the compound.

Room 1 (Figs. 2, 3)

Room 1 was square in shape, c. 2.90×2.95 m. It had access to Courtyard 1 through an entrance in the center of its western wall (W4). The uppermost layer within Room 1 (L1) comprised wind-borne sand, 2–8 cm deep. Below this, a rectangular-shaped block of hard-packed, yellowish-brown sandy soil (L3; 0.4 m deep) lay obliquely to the walls and filled the better part of the room. It most likely represented the brick superstructure of one of the walls, which



Fig. 3. Area A: Section through Room 1, looking north. The thick deposition of brick detritus and the thin midden layer above it rest upon the two superimposed plaster floors.

had toppled as a single huge slab into the center of the room. In the middle of this dense deposit of material were two barely distinguishable pits (0.25–0.50 m deep): L8 on the east and L9 on the west (see Plan 2: Section 1–1). On the

floor of these two pits, a few bone fragments were strewn, the most notable of which was the mandible (or mandibles) of a large animal or animals (a camel?). Below the hard-packed sandy conglomerate (L3) was a layer of coffee-brown midden material (L10; c. 0.1 m deep). This material consisted, for the most part, of sheep or goat dung along with some plant twigs and fibers. Patches of carbonized material within this layer were evidence that small, confined fires had at one time burned within the room. This midden deposit probably resulted from the use of this room to shelter sheep and/or goats. The pattern of deposition observed in Room 1 was repeated, with some variation, in other main rooms of the site. Beneath the layer of organic material, two mud-plaster floors (L16, L31) were superimposed, both in a relatively poor state of preservation. Above the floors, numerous finds were recovered, including potsherds, textile fragments (see Schick, below), two small chunks of iron, glass-like slivers of slag circles (similar to other samples found on floors and in installations at the site, see below), and a grain of barley(?). In the southwestern corner of the room, resting on the lower floor, was a basalt millstone, the

lower stationary component of a domestic hand mill (Fig. 4; see also Fig. 25:1). It seems that when the millstone was set here, the upper floor had already eroded away in this spot. A second millstone, made of beachrock, apparently the upper rotating component of the same domestic mill (Fig. 5; see also Fig. 25:2), was found in secondary use as a building stone in the eastern 'pilaster' attached to the outer face of the southern wall (W2) of Room 1 (see below). The lower basalt millstone had been placed so close to the walls of Room 1 that it would have been inconvenient, if not impossible, to turn an upper stone upon it. This suggests that it, too, may have been reused, possibly as a hearth (although no signs of carbon were detected on or around it). On the southern side of the room were two deep pits (L19, L18; Fig. 4), sunk from the upper floor. The walls of these pits were plastered and faced with pebbles and pottery sherds, and the mouth of each pit had a raised apron around it, made of plaster and pebbles. The eastern pit (L19) had a round mouth and the shaft was c. 0.16 m in diameter and c. 0.75 m deep. The western pit (L18) had a square-shaped mouth and the shaft measured 0.18 × 0.21 m and c. 0.7 m deep. Within the pits were

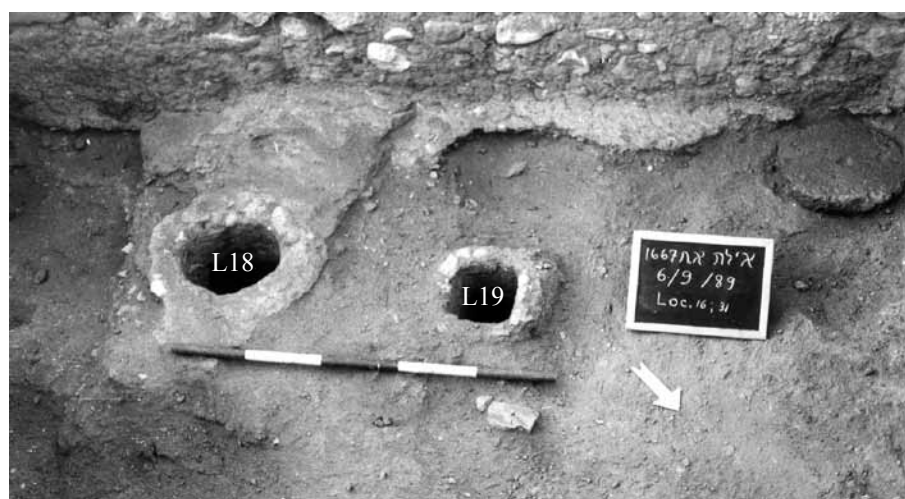


Fig. 4. Area A: Interior of Room 1, looking south. The two pits (silos?), L18 and L19 on left, penetrate the two superimposed plaster floors; the lower half of a millstone rests in the southwestern corner.



Fig. 5. Area A: Room 1, looking northeast; the upper millstone is seen in the eastern pilaster of the southern W2 in the lower right.

numerous potsherds, fragments of carbonized wood, plant fibers, seashells and glass-like slivers of bronze slag (see Segal, below). The remains of rodents and beetles suggest that these pits had at one time contained foodstuffs, possibly grain. A single melon or gourd seed was recovered from Pit 19. In the northwestern corner of the room, a depression may have been a fireplace. Against the southern wall (W2), the edge of the upper floor curved up the inner face of the wall. The presence of the hand mill, the two pits that may have been used as silos, and the grain recovered from above the floor, suggest that the milling and storage of grain may have taken place in this room.

Room 2 (Fig. 2)

Room 2 was nearly square (3.65×3.75 m). The entrance to the room from Courtyard 1 was in its southern wall (W6). In the northern wall (W5) were two small windows set c. 0.5 m above the floor and c. 1.2 m apart. The eastern window measured c. 0.4 m wide, while the western window was slightly smaller, 0.35 m wide. As in Room 1, the uppermost layer (L20) was of wind-borne sand, below which was a 0.28–0.52 m deep layer (L21) of light brown,

mud-brick material that had first dissolved and then subsequently coalesced into a hard-packed mass. Below this was a surface composed of chunks of mud-bricks and detritus (L22), which may have been the remains of the later floor of the room. In the northeastern corner, a roughly rectangular, mud-brick installation (L36; 0.75×2.00 m) was found intact, its walls two courses high. Within this installation were the remains of a twisted palm cord and strands of goat-hair yarn (see Schick, below). Similar constructions were uncovered within rooms of the Early Islamic farm at Nahal Mitnan, which the excavator suggested may have been used as beds (Haiman 1995b:4).² In an Early Islamic building at Pella, stone-lined installations resembling ours were identified as ‘food bins’ (McNicoll and Walmsley 1982:341–342, Fig. 1).

Below the brick surface and installation was a hard, mud-plaster floor (L37). A rather wide crack ran down the middle of the floor from the northeastern corner to the southwestern corner of the room; it was apparently caused by a shifting of the earth beneath it. Against the eastern wall, running partly beneath Installation 36, was a shallow fire pit (L14)

with much ash. At Naḥal Mitnan, a similar association between one of the installations that Haiman suggested was a bed and a pile of ash, was noted in Room 106 (Haiman 1995b:4). On the southern side of the room were two features on the floor, comprising fist-sized fieldstones covered with plaster; they may be the remains of cooking stoves. The recovery of fragments of a cooking vessel and a lid upon the floor further strengthens the impression that this room may have functioned as a kitchen. If Installation 36 was indeed a bed, as Haiman suggests for the Naḥal Mitnan platforms, then this room functioned as a sleeping chamber as well.³ There were no pits cut into the brick detritus as in Room 1, nor was a midden layer found in Room 2.

Courtyard 1 (Figs. 6, 7)

This quadrangular open courtyard, comprising L7 and L11, was located in the southwestern corner of the building unit. The walls enclosing it on the south were narrow and rather flimsy, preserved no higher than three courses. The main entrance to the complex was through the eastern wall of the courtyard (W11), just south of W2 of Room 1. Two pilaster-like

protrusions projected from the outer face of W2 (Fig. 6), set 1.6 m apart. At the base of the eastern pilaster, the beachrock upper millstone (Fig. 25:2) was discovered. Constructed in line with the northern gatepost of the main entrance, these pilasters may have formed the northern side of a small enclosure in front of the entryway, the southern side having disappeared altogether (evidently comprised of perishable materials). Extending eastward from the entrance was a rough, cobblestone pavement, 1.6 m wide. Opposite the pilasters in W2, places where stones were absent in the pavement could be discerned. These negative impressions likely represent the location of posts, probably of wood, which had supported the southern side of the enclosure in front of the entryway. Built into the southeastern corner of Courtyard 1, just south of the entrance, was a small rectangular installation constructed of undressed fieldstones, measuring 0.50×0.65 m (L33; Fig. 6). Inside it were found a worked agate bead (see Fig. 24:6), fragments of slag circles and bits of ostrich eggshell.⁴ This installation was in line with the negative impressions within the pavement, and it most likely held the westernmost post of the southern



Fig. 6. Area A: Courtyard 1, looking north. The entrance to the courtyard on the left; in front of Installation 33, to the left, is the pavement of the verandah preceding the entrance.

side of the enclosure.⁵ Thus, it seems that the main entrance to the complex was preceded by a sort of paved verandah, open on its southern side, with a roof of tent fabric or thatching supported by a row of posts. The presence of the beachrock millstone in secondary use in the eastern pilaster suggests that the verandah may have been added sometime after the original construction of Room 1, when the upper grinding stone no longer operated in conjunction with the lower basalt grinding stone (found inside the room, see above), but before the collapse of the superstructure of one wall filled the room (L3, see above).

Below the sandy surface layer covering Courtyard 1 were two superimposed floors that were not easily distinguished. The upper floor (L7) was made of hard caliche. Over the surface of this upper floor were areas of blackened earth and ash left by open fires. The lower floor (L11), comprising patches of caliche, was difficult to differentiate from the sandy soil beneath it. Resting upon the lower floor in the southwestern corner of the courtyard, was a circular platform (diam. c. 0.4 m) composed of a single layer of fieldstones, potsherds and seashells (L13; Fig. 7). It probably functioned as a hearth (cf. Shaefer 1989:35–36, Fig. 3). That there had been a second platform, c. 0.5 m east of the first, was suggested by the presence of several loose stones and potsherds within a circular patch of reddened earth, apparently oxidized by heat.

Extending westward from Room 2 was another room or enclosure (L35), encompassed by W12 on the north (an extension of W5 of Room 2) and W13 on the south. No remains of a western wall were discovered. Wall 12 was founded higher than W5 and there was a clear seam between the two walls, indicating that L35 was an addition to the western side of Room 2. A surface (L25) was associated with the northern face of W12. This surface lay at approximately the same height as that of the brick surface in Room 2 (L22, see above). The remains of a *tabun* (L41; diam. 0.43) were located just south of W13. Its wall (0.1 m thick)



Fig. 7. Area A: Section through Courtyard 1, looking north. In the foreground, two circular hearths on the lower floor made of fieldstones, potsherds and shells (L13 on the left is complete).

was built of an outer ring of fist-sized stones and an inner ring of clay that had been fired to a brick-red color by internal heat. Within the *tabun* were ashes and carbonized twigs.

On the southwestern side of Courtyard 1 was another enclosure (L28), enclosed on the north by W51, on the south by the outer wall of the courtyard (W9) and on the east by W10; once again, the western side of the enclosure was missing.

AREA B

Area B, situated to the east of Area A (Fig. 8), consisted of Building Units 2 and 3 (see Plan 1).

Building Unit 2 (Plan 3)

Building Unit 2 comprised two large rooms (Rooms 7 and 8), two smaller rooms built close together (Rooms 11 and 12) and a chain of three small enclosures (L66, L67 and L71), whose boundary walls of fieldstones were preserved no higher than one or two courses.

Room 7

This room, on the northern side of Building Unit 2, was roughly square (3.40 × 3.42 m). The entrance to the room was in the middle of the southeastern wall (W15). Below the various surface layers of wind-borne and alluvial sand (L42) was a densely packed, spongy-textured

surface (L49), which may have served as the floor of the room. The layers of brick material and organic matter that were discovered in Room 1 of Area A (see above) could not be clearly distinguished within the fills of Room 7.

Room 8

This room (3.7×3.7 m), south of Room 7, was oriented somewhat obliquely to the other structures at the site. The entrance to the room was located in the southeastern wall (W22), slightly south of center. The deposition of fills within the room followed in general the same pattern as that in Room 1 in Area A. There were pits excavated within the layer of brick detritus (L57) similar to those in Room 1 (L8 and L9, see above). A double burial of a woman, determined to be about 23 years old, and an infant, presumably mother and child, was discovered on the southern side of the room, within one of the pits, c. 0.6 m below ground level (Figs. 9–13; see Hershkovitz, below).⁶ Several items of jewelry were found on and near the skeleton



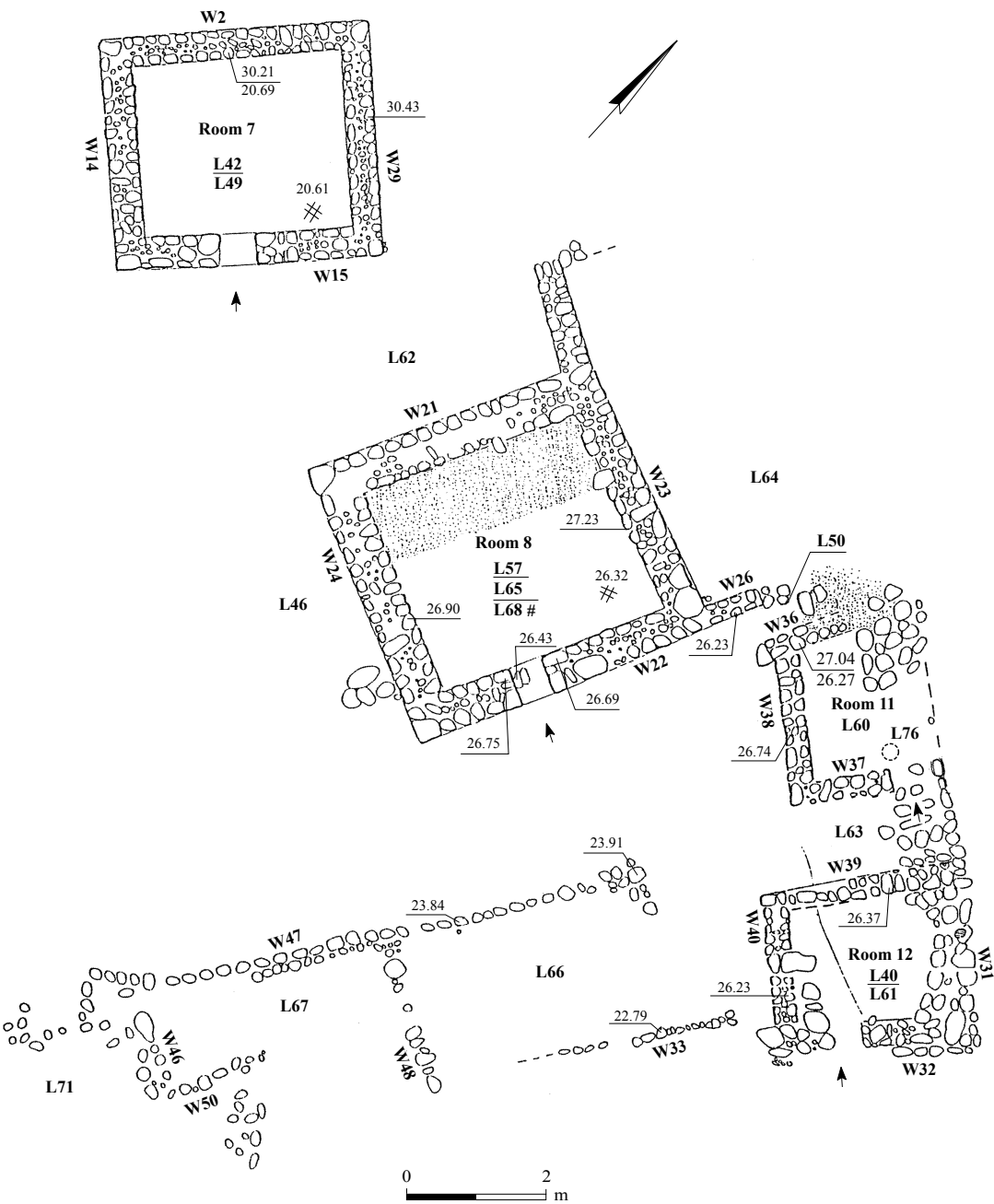
Fig. 8. Area B: General view after excavation, looking south.



Fig. 9. Area B: Double burial of a young woman and an infant in Room 8, looking southwest.



Fig. 10. Area B: Close-up of the double burial, looking southwest.



Plan 3. Area B: Building Unit 2.

of the woman: an iron bracelet on her right arm (Fig. 11), a bronze anklet on her left leg (Figs. 12; 23:1) and a double ring of bronze and iron beneath the pelvis. Fragments of textiles were

also recovered from the area of the burials (see Schick, below). On the northern side of the room, within a pit in the layer of brick detritus, a number of interesting small finds were



Fig. 11. Area B: Burial of the woman, detail, showing iron bracelet on right arm.



Fig. 13. Area B: close-up of burial of child, looking southwest.



Fig. 12. Area B: Burial of the woman, detail, showing bronze anklet on left leg.

recovered: a single earring (Fig. 23:2), a glass bead (Fig. 24:5), a rounded, polished, glass-like chunk cut from a slag circle (Fig. 23:3), and a poorly preserved, bronze, Roman provincial coin (IAA No. 31105) of the first to second centuries CE.⁷ It is not clear whether these were directly associated with the burials. In another pit, just inside the eastern end of the southern wall (W22), c. 0.9 m below ground level, were a few scattered animal bones along with a small number of seashells. Below the layer of brick detritus was a midden layer (L65) mainly of sheep/goat dung, similar to that in Room 1 of Area A (see above), resting upon a hard, mud-plaster floor (L68; 1.5 m thick).

The Burials in Room 8

Israel Hershkovitz

The remains of two individuals buried in the southern part of Room 8 were examined in the field.⁸ One was the skeleton of a woman, 23 ± 1.5 years of age, the second was an infant

that had apparently died immediately after birth, although to determine this would require further examination, which was unfortunately not possible. The adult skeleton was well-preserved and fully articulated. It lay on its back, in a general east–west direction, the head to the west, facing south. The legs were together, one upon the other, and the arms were also together, with the hands under the head in the form of the letter ‘V’. There was an iron bracelet on the right arm and a bronze anklet on the left leg. The condition of the teeth was good, with little wear and no indications of hypoplasia. About 0.2 m south of the woman was the skeleton of an infant lying on its right side. Part of the lower right leg was missing, and the left leg was entirely missing; therefore, it is not clear if the infant lay in a flexed position. The arms were found extended. Half of the dome of the skull of the infant had collapsed inward producing a double dome. There were no special pathological indications on the skeleton based on the impression at the time of excavation.

Room 11

Southeast of Room 8 were two small rooms, 11 and 12, connected by a small enclosure or antechamber (L63; 0.5 × 3.4 m), which was open on its western side. The two rooms and the small enclosure shared a continuous eastern wall (W31). Room 11 was nearly square (2.10 × 2.27 m) and the entrance to the room from Enclosure 63 was in the southeastern corner in W37. In the debris filling the room, possibly the collapse of W31, were numerous large chunks of bronze slag circles. In the floor, on the eastern side of the room close to collapsed W31, was a circular pit (L76; diam. 0.26–0.29 m, c. 0.2 m deep). It was probably used for storage of foodstuffs, as were Pits 18 and 19 in Room 1 (see above) and Pit 74 in Room 10 (see below).

Room 12

Room 12 was almost square (2.42 × 2.45 m). The entrance to the room was in its

southeastern wall (W32), slightly south of the wall's center. On and beside the southern end of the southwestern wall (W40), several large stone slabs had apparently toppled over from their original places where they had stood on end, in a row, on top of the wall (Fig. 14). We restored these stones to their approximate original positions (Fig. 15). Two more stones in southeastern W32 were found *in situ*, standing upright directly upon the sandy soil. A white granite slab (see Fig. 24:4), the form of which seems to suggest the head and upper torso of a person, was found on the surface in Area B before the excavations. It may have been used as a grave marker associated with the pit burials in Room 8 (see above) or Room 10 (see below).⁹ However, it is just as likely that this slab originated among the stones in the southern or western walls of Room 12. A number of structures dating to the Early Islamic period in the Negev and the ‘Arava contained upright stones employed as *mazzevot* (Cohen 1981: Site 107; 1985: Site 95; Nahlieli 1992:107–112; Haiman 1995a:11; 1995b:37; Avni 2007). Occasionally, *mazzevot* have been discovered in open-air mosques (see below; Jobling 1989:21; Rosen and Avni 1989).¹⁰ In the upper layer of the room (L40), a small, complete ceramic pipe was found (see Fig. 22). Below this layer was a sandy floor surface (L61).

Locus 64

Remains of walls extending from the northern and southeastern sides of Room 8, to the north of Room 11, suggest that the space east of Room 8 (L64) may originally have been an additional room. A blocked entrance was found in W26 on the southern side of the locus, which led into an indirect entrance or antechamber (L50) similar to Enclosure 63 between Rooms 11 and 12. Inside the entrance in W26, slightly below the level of the top of the material blocking the entrance, a complete Mahesh Ware bowl with in-curving walls (Fig. 19:9) was discovered, broken and charred. Its pieces had been laid out in a circle and it was evidently reused as a hearth, similar to the hearth in L13 of



Fig. 14. Area B: Room 12 of Building Unit 2, looking east; note how the slabs of southwestern W40 have toppled over.



Fig. 15. Area B: Room 12, looking northeast; the slabs in W40 are restored to their original positions.



Fig. 16. Area B: Building Unit 2 with stone enclosures extending southwestward from Room 12, looking northwest.

Courtyard 1. The practice of reusing the fragments of a bowl as a hearth may explain the charring of other sherds as well.

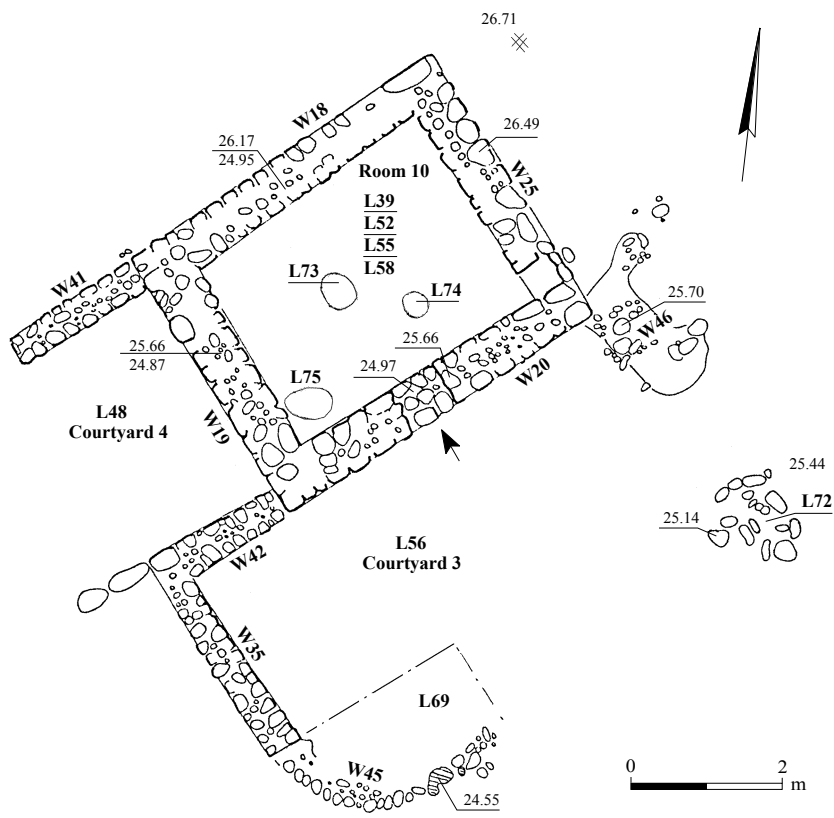
Chain of Stone Enclosures

A chain of three pen-like enclosures extended southwest of Room 12 (Fig. 16). Each enclosure was delineated by a stone border, the remains of which were one, or at the most, two courses high, and no more than one or two stones wide. The northeasternmost enclosure (L66), just southwest of Room 12, measured 2.65×4.25 m. Southwest of Enclosure 66 was Enclosure 67, measuring 3.5 m at its widest point and 3.5 m at its longest point. Only the western side of the southwesternmost enclosure (L71) was exposed by our excavations. These stone borders, little more than long rows of stones, can hardly be described as walls. They may have outlined small vegetable gardens or the like. Alternatively, they possibly marked the location of temporary shelters, perhaps tents (Rosen and Avni 1989; Helms 1990:30, Fig. 7; 76; Rosen 1992). Haiman (1995a:33, 42, 44)

reports that in the Negev Highlands, temporary structures were often found abutting permanent ones, although these temporary shelters were usually round or 'curvilinear'.¹¹ He suggested that these temporary structures may reflect the transitional process from seasonal to sedentary dwelling¹² (see also Bailey and Shmueli 1997:34–36). Rina Avner, in her excavations to the north of our site, identified T-shaped stone pegs measuring 5.0–12.5 cm, all found in a single location next to an oven. She interpreted them as rope holders for tents (Avner 1998:31*, Fig. 5:7–10), and compared them to similar objects found in the Sahara Desert and at A-Risha in Jordan, where they were dated to the seventh–twelfth centuries (Helms 1990:164, Figs. 86:2; 87).

Building Unit 3

This third building unit, located southeast of Building Unit 2 (Plans 1, 4; Fig. 17), consisted of a single room, Room 10, and a courtyard to the southeast (Courtyard 3), below which was



Plan 4. Area B: Building Unit 3.

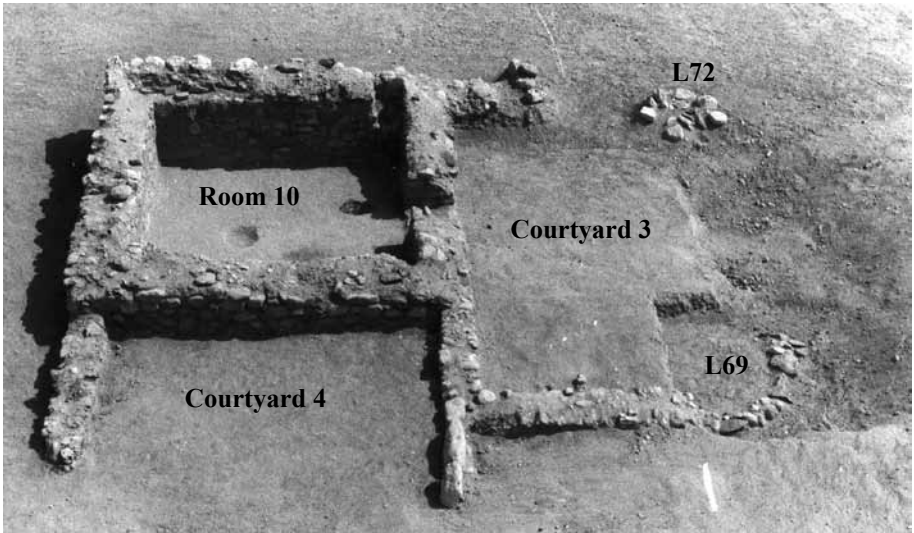


Fig. 17. Area B: Building Unit 3, looking northeast.

an earlier structure with a circular wall (L69). To the southwest of Room 10 was another open courtyard (Courtyard 4).

Room 10

Room 10 was rectangular in shape (3.65×3.75 m). The entrance to the room was in the middle of its southeastern wall (W20), accessible through Courtyard 3. The stone foundations of the northwestern (W18), northeastern (W25) and southwestern (W19) walls were apparently constructed in two stages. A niche (0.40×0.67 m; 1 m deep) was built into the eastern corner of the room, in its northeastern wall (W25), at the time of the second stage. The floor of the niche was the top of the lower, earlier phase of the socle wall. The levels of fills within the room were similar to the deposition pattern observed in Rooms 1 and 8 (see above). Below the surface layers of L39, was the usual hard-packed, brick material (L52) on top of which were patches of caliche (L51). Within L52, pits had been dug. Within one of the pits, c. 1 m below the surface in the southeastern corner of the room, was the burial of a youth. The

remains were found in rather poor condition. The legs were articulated and flexed, located partially within the niche in W25.¹³ Among the bones was a piece of textile (see Schick, below). Again, as in Rooms 1 and 8, a layer of coffee-brown midden material (L55), with burnt patches in it, covered a hard, mud-plaster floor (L58), similar to that of Rooms 1 and 8, which was in very good condition. Two plastered depressions were found in the floor (Figs. 17, 18): L73 (diam. 0.5 m, 0.12 m deep in the center of the room)—in it were retrieved carbonized wood and a seed; and L75 (diam. c. 0.24 m, 0.03 m deep) in the southwestern corner of the room—within it were found textile fragments (see Schick, below) and charred seashells. On the southern side of the room, sunk in the floor east of the entrance, was a round pit (L74; diam. 0.25 m, 0.6 m deep). Within this pit were the bones of a sheep or goat, potsherds, seashells, a fruit pit, carbonized wood and glass-like slivers of bronze slag. In the northwestern corner of the room, directly on top of the floor, was a raised ring composed of plaster and fist-sized fieldstones (5 cm high, diam. c. 0.43 m). This



Fig. 18. Area B: Interior of Room 10, looking northeast.

apparently represented the remains of a cooking stove, similar to that found on the lower floor of Room 2 (see above).

Courtyard 3

This open courtyard, immediately to the southeast of Room 10, measured c. 3.07×7.25 m. It was delimited on the northwestern side by W20, the southeastern wall of Room 10 and its extension southwestward (W42), and on the southwestern side, by W35. On the northeastern side of the courtyard, outside the eastern corner of Room 10, was a feature composed of a mass of caliche with fieldstones adhering to it. In line with this feature, 3.25 m to the southeast, was a circular installation (L72; diam. c. 1.2 m) that comprised mainly head-sized fieldstones. This installation is also in line with the end of W25 of the courtyard. The concrete-like feature and Installation 72 likely represented two supports for wooden uprights on the northeastern end of the courtyard, which held up a roof over at least part of its expanse. The southwestern side of the courtyard may have been left open. The floor of Courtyard 3 was somewhat similar to that of Courtyard 1 in Area A (see above), composed of a thin compacted surface with patches of concrete-like material in it. Above the floor of the courtyard, abutting the northern end of the interior face of W35, were a row of three fire pits, approximately 0.5×0.4 – 0.9 m in size. Just south of the entrance in W20, lying on the floor of the courtyard, was a large stone (0.19×0.76 m), probably the fallen lintel of the doorway into Room 10.

Structure 69

Approximately 0.35 m beneath the southern side of Courtyard 3, partly below W35, an earlier structure came to light (L69), surrounded by a circular stone wall (W45), in which a chunk of slag circle was incorporated. This wall, with a radius of c. 2 m, was preserved to a height of only a single course and lay directly upon the sandy desert soil. We could not distinguish any floor associated with this structure and no pottery was found in this locus. As mentioned

above, temporary curvilinear structures have been discovered in surveys of the Negev, standing alone or associated with permanent structures (Haiman 1995a:33, 42, 44). It has been noted that these structures comprised a low stone wall topped with a covering of thatch or tent cloth (Avni 2007:128). As Structure 69 clearly predated Courtyard 3, it represents the earliest phase of construction in the area of Building Unit 3.

Courtyard 4

West of Room 10, Courtyard 4 (3.80×4.15 m) was open on its western side. Its floor was composed of an argillaceous soil.

FINDS

POTTERY

The scanty and very fragmentary pottery recovered from the excavations can be divided into two general groups. The larger group represents nearly all the ceramic finds. It is especially homogeneous in nature, with a limited repertoire of forms manufactured in a monotonous, coarse, pink or cream-colored ware, often with a greenish cast, which was dubbed at 'Aqaba "Mahesh Ware" (Whitcomb 1989b). Sherds of this ware were recovered throughout the site: inside and outside the building units, on the floors of the rooms and courtyards and in the pits and installations within the floors.

The second group included sherds that are generally much thinner and better levigated than those of the first group, and some have a white or cream-colored exterior slip. However, the most distinguishing feature of this group is a rudimentary lead glaze found on some of the sherds. This pottery was found outside and inside the rooms, restricted to the upper layers and the pits dug into the brick detritus of Rooms 1 and 8.

The pottery illustrated in the figures represents the best preserved examples and is accompanied by a selection of parallels. The

color description as given in the Munsell chart is noted, although in some cases the verbal description within the text varies from that of the chart.

Group 1

The most significant collection of this group was retrieved in plaster-lined Pit 19 in Room 1, comprising some of the most important pieces. Nearly all the diagnostic sherds recovered in the excavations represent bowls.

Basins and Large Bowls (Fig. 19:1–5)

The basins (Fig. 19:1, 2) are of a form termed by Whitcomb ‘bowls with flattened, vertical rims’, for which there are close parallels at Samara (Whitcomb 1989b:273; see also Northedge and Falkner 1987: Figs. 10:36, 38; 11:39). The rim is decorated with band combing that is typical of Mahesh Ware in general and of this form in particular. A band of wave combing is framed by bands of straight combing above and below. The wave combing is interrupted at intervals, suggesting that the design may have been made

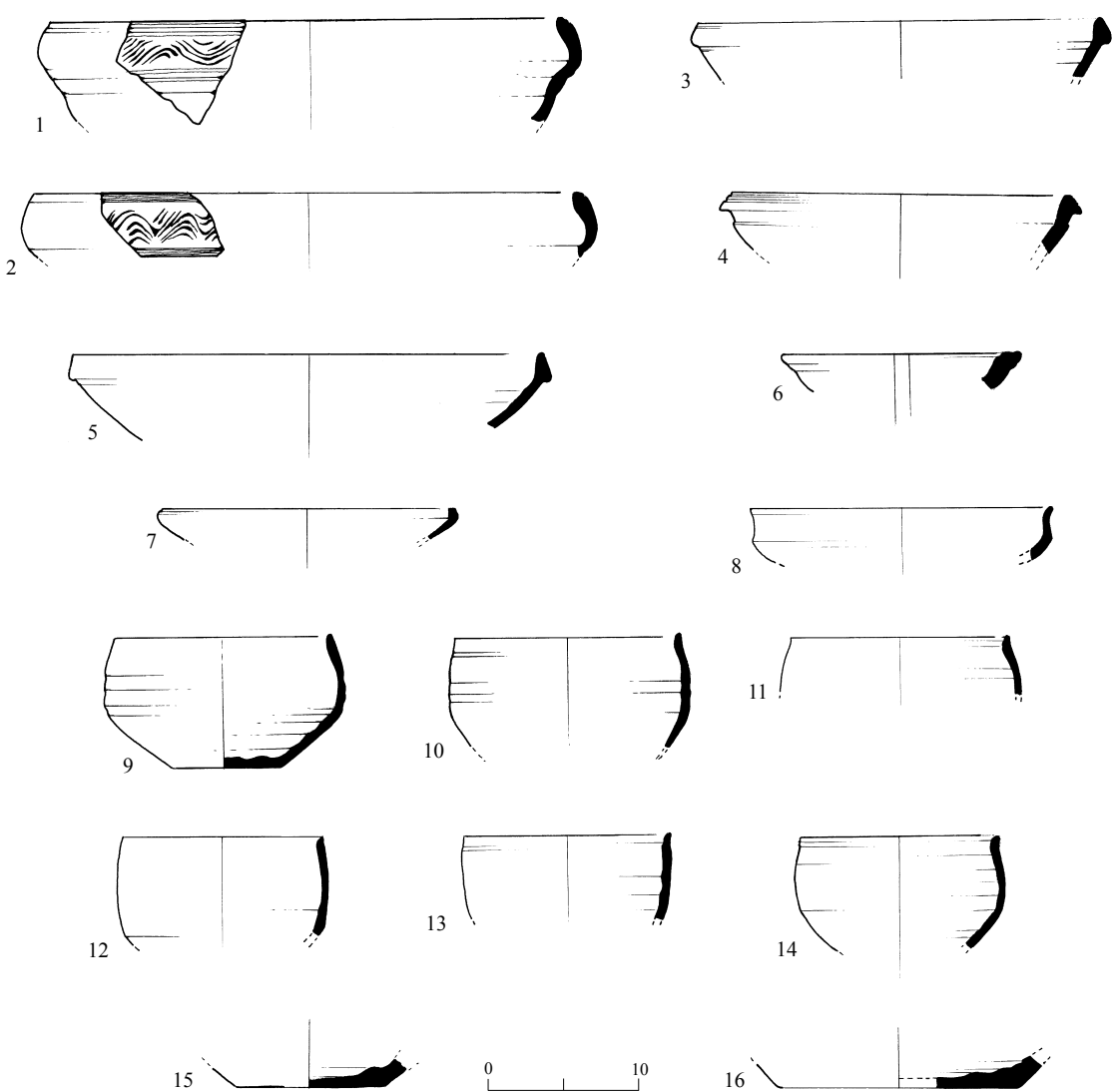


Fig. 19. Pottery Group 1: basins and bowls.

◀ Fig. 19

No.	Object	Area	Locus	Basket	Description	Selected Parallels
1	Deep basin	A	15	78/1	Pink (7.5YR 7/3) ware; white (2.5Y 8/2) slip on int. and rim ext.; few small to large sand inclusions	Schaefer 1989: Fig. 4:7, 8 Whitcomb 1989b: Fig. 2:a (c. 750–early 9th c.)
2	Deep basin	B	57	246/2	Pink (7.5YR 7/4) ware; few small to large sand inclusions	As No. 1
3	Large deep bowl	B	68	272/1	Light gray (2.5Y 7/2) ware; white (2.5Y 8/2) int. and ext slip; few small to medium sand inclusions	Schaefer 1989: Fig. 4:2 Whitcomb 1989b: Fig. 3:b (c. 750–early 9th c.)
4	Large deep bowl	B	61	278/1	Light gray (2.5Y 7/2) ware; few, small to large sand inclusions	Ball et al. 1986: Fig. 1:5 (Umayyad: 2nd quarter of 8th c.) Whitcomb 1989b: Fig. 3:d (similar profile; c. 750–early 9th c.)
5	Large deep bowl	A	7	43/1	White (2.5Y 8/2) ware; few small to large sand inclusions	As No. 3
6	Small deep bowl	A	7	45/2	Light red (2.5YR 6/6) ware; few small to medium sand inclusions	
7	Small deep bowl	A	43	164/2	Light red (10R 6/6) to light brown (7.5YR 6/4) ware; pale yellow (2.5Y 8/4) band (slip?) on ext. rim; few inclusions	Hamilton 1940: Fig. 8:7, 13 (no earlier than 2nd half of 7th c., perhaps later) Olávarri-Goicoechea 1985: Fig. 23:6, 7 Melkawi, 'Amr and Whitcomb 1994: Fig. 8:a
8	Shallow carinated bowl	A	26	100/1	Very pale brown (10YR 7/4) ware; white (2.5Y 8/2) ext. slip; some small to large sand inclusions	Gawlikowski and Musa 1986: Fig. 5:2 (late 6th c.)
9	Cup-bowl	B	W26	234/1	Pink (7.5YR 7/3) ware; white (2.5YR 8/2) int. and ext. slip; few small to medium sand inclusions; charred on int. floor and ext. base	'Amr 1986: Fig.10 (Umayyad) Whitcomb 1989b: Fig. 4:c, i (c. 750–th9 c.)
10	Cup-bowl	A	W9	96/1	Pink (7.5YR 7/4) ware; white (5Y 8/1) int. and ext. slip; burnished band on wall toward base; few small to large sand and white inclusions	Sauer 1973: Drawing 123 (Umayyad) Olávarri-Goicoechea 1985: Fig. 15:6, 7 (Umayyad) 'Amr 1986: Fig. 11 (Umayyad) Gawlikowski and Musa 1986: Pl. XII, upper left (late Umayyad and Abbasid) Whitcomb 1989b: Fig. 4:m, n (c. 750–9th c.)
11	Cup-bowl	B	49	247/2	Light gray (5Y 7/2) to very pale brown (10YR 7/3) ware; few small to large sand inclusions	Baramki 1942: Fig. 7:11 Sauer 1973: Drawing 124 (Umayyad) Olávarri-Goicoechea 1985: Fig. 15:5 (Umayyad) 'Amr 1986: Figs. 12, 13 (Umayyad) Whitcomb 1989b: Fig. 4:d
12	Cup-bowl	B	47	210/1	Light gray (5Y 7/2) ware; few small to large sand inclusions; ext. and int. and section charred after breakage	Olávarri-Goicoechea 1985: Fig. 15:10 'Amr 1986: Fig. 35 (Umayyad) Ball et al. 1986: Fig. 1:4 (Umayyad: 2nd quarter of 8th c.) Whitcomb 1989b: Fig. 4:o (c. 750–9th c.)

◀ Fig. 19 (cont.)

No.	Object	Area	Locus	Basket	Description	Selected Parallels
13	Cup-bowl	B	57	271A/5	Very pale brown (10YR 7/3) ware; white (10YR 8/2) ext. and int. slip; few small to large sand inclusions	As No. 12
14	Cup-bowl	A	19	166/7	Pink (7.5YR 7/4) ware; white (10YR 8/2) ext. and int. slip; few small to medium sand inclusions	Olávarri-Goicoechea 1985: Fig. 15:1 Whitcomb 1989a: Fig. 4:k, l (Coptic glazed ware)
15	Base	B	42	186/3	White (5Y 8/2) ware; few small to large sand inclusions	Whitcomb 1989b: Fig. 4:r (c. 750–9th c.)
16	Base	A	19	166/1	Light reddish brown (2.5YR 6/4) ware; very pale brown (10YR 8/4) ext. slip; few small to large sand and white inclusions	

by pressing the upper part of the bowl into a mold rather than with an actual comb. This same effect can also be seen on the first three of Whitcomb's examples (Whitcomb 1989b: Fig. 2:a–c).

The thickened triangular rim of the large bowls in Fig. 19:3, 5 is a characteristic feature of Mahesh Ware (Whitcomb 1989b:273, Fig. 3). The example in Fig. 19:3 has a single groove on its rim. Although executed in the typical coarse, sandy Mahesh Ware, the profiles of our examples bear a remarkable resemblance to those of Egyptian Red Slip Forms J and A (Hayes 1972: Fig. 86:j), from which they may have derived their inspiration. 'Amr (1992: Fig. 5) presented an example of another bowl with a strikingly similar profile produced in a cream-colored ware of the Nabatean period from Khirbat adh-Dharih.

The bowl in Fig. 19:4 also has a thickened triangular rim, which is decorated with a single band of straight combing. The rim is offset by a narrow indentation, whose lower junction with the wall forms a carination. A bowl with a similar profile was recovered from the portico of the North Theater at Jerash, Phase 3 (Trench JNT-CIII), which was designated as Umayyad and dated to the second quarter of the eighth century CE (Ball et al. 1986: Fig. 1:5). It is

possible that it developed from another, earlier type of bowl dated to the Byzantine period, also from Jerash (Gawlikowski and Musa 1986: Fig. 8), which shows a somewhat similar rim profile.

The base in Fig. 19:16, with deep rills in its floor, probably belongs to a large bowl or a basin.

Small Bowls (Fig. 19:6–8)

The small thick bowl in Fig. 19:6 is made of a reddish brown sandy ware, for which no close parallel was found. The bowls in Fig. 19:7, 8 are related to the cup-bowls (see below).¹⁴ The example in Fig. 19:7 has a stout, internally folded, slightly inverted rim. The outside of the bowl is slipped and the lower wall bears a band of burnishing that exposes the ware beneath the slip.¹⁵ A similarly shaped bowl with a slightly taller rim was known in the Negev as early as the Nabatean period (Lender 1990:138, Fig. 1:2).¹⁶ This type of bowl was also found in Jerusalem from the end of the late Byzantine/early Umayyad periods (Hamilton 1940: Fig. 8:7, 13) and continued into the Abbasid period and possibly beyond (Olávarri-Goicoechea 1985: Fig. 23:6, 7; Tushingham 1985: Fig. 26:27). Magness (1993:198–199) classified this type of bowl within her Fine Byzantine Ware

bowls, Form 2B, which she dates between the mid-seventh century and the ninth/tenth centuries CE. Whitcomb recovered another example of this type of bowl from the kilns at 'Aqaba (Melkawi, 'Amr and Whitcomb 1994: Fig. 8:a) and questions whether this vessel may be an example of Mahesh Ware. Support for arguing in the affirmative may be lent by its appearance at Eilat, and the predominance of Mahesh Ware vessels at our site. Band burnishing is also found on our cup-bowl (Fig. 19:10; see below), which is an explicitly Mahesh-Ware form (Whitcomb 1989b:273). Thus, band-burnishing of the lower wall of the vessel should probably also be considered a trait of Mahesh Ware. The carinated bowl in Fig. 19:8 appears to be a squat version of the cup-bowls (Figs. 19:9–14). The concave rim is a longer variant of the somewhat concave rims of the examples in Fig. 19:10, 12, 13. The carination formed by the bottom of the concave rim is analogous to that on the lower wall of the cup-bowls. This vessel may have developed from a type of bowl found under the narthex pavement at the Church of Bishop Marianos in Jerash, dated to the end of the sixth century (Gawlikowski and Musa 1986: Fig. 5:1–6, especially Nos. 2 and 4). A bowl very similar to ours from the excavations in the Armenian Quarter of Jerusalem (Tushingham 1985: Fig. 35:1), was dated to the Ayyubid period or earlier. It is described as having band-burnishing on its lower part. Our example lacks any trace of band-burnishing, although the sherd may have simply broken off above it. Nevertheless, the burnishing on the parallel from the Armenian Quarter further demonstrates an association between our bowls in Fig. 19:7, 8 and the cup-bowls.

Cup-Bowls (Fig. 19:9–14, and possibly 15)

Cup-bowls are by far the most common vessel type in our assemblage. The illustrated examples are mainly distinguished from one another by the slight variations of their internally beveled rims. The upper walls of these vessels are rounded, while the lower

walls are carinated at the transition to the base. These bowls had flat bases, as demonstrated by the single complete example (Fig. 19:9) and the base (Fig. 19:15), which probably also belonged to a cup-bowl. The complete bowl in Fig. 19:9 was found charred, broken in pieces and laid out as a circular hearth on the floor (see above). In fact, many of the bowls and lids (see below) were blackened on their interior and/or exterior surfaces. This charring often discolored the section of the sherd, indicating that it had been burnt after it had been broken.

The ceramic form of the cup-bowl has a long history, which can be traced as far back as the Early Roman period (de Vaux 1954: Figs. 3:5, 6; 4:6). The profiles of our bowls have proportions typical of those of the late Umayyad/early Abbasid periods, which tended to be wider and more squat than those of the preceding Byzantine period (e.g., Baramki 1942: Fig. 7:4, 5; cf. Magness 1993:193–197).¹⁷ Whitcomb has already pointed out the similarity in form between the Mahesh Ware bowls and the 'painted-ware' bowls of the late Umayyad and Abbasid periods (Whitcomb 1989b:273; see also Baramki 1942: Figs. 6, 7; Olávarri-Goicoechea 1985: Figs. 15; 16:1, 4, 11, 14; 52:4; 'Amr 1986). These cup-bowls, along with their related forms (bowls in Fig. 22:7, 8), developed within the pottery family known as Fine Byzantine Ware (Gichon 1974; Magness 1993:193 ff.), which first appeared in the sixth and seventh centuries CE and continued to develop throughout the Umayyad and into the Abbasid periods.

Lids (Fig. 20:1–3)

Another very common form among the scanty ceramic finds was that of lids. While only the lower parts of the lids were recovered, it may be assumed that the tops were similar to those normally found in this period (e.g., Whitcomb 1989b: Fig. 4:v). These lids were made of a sandy, reddish cooking-pot ware, sometimes with a cream-colored slip (Fig. 20:2, 3). The cupped rim in Fig. 20:2 is a common profile of lids from the Roman through Early Islamic

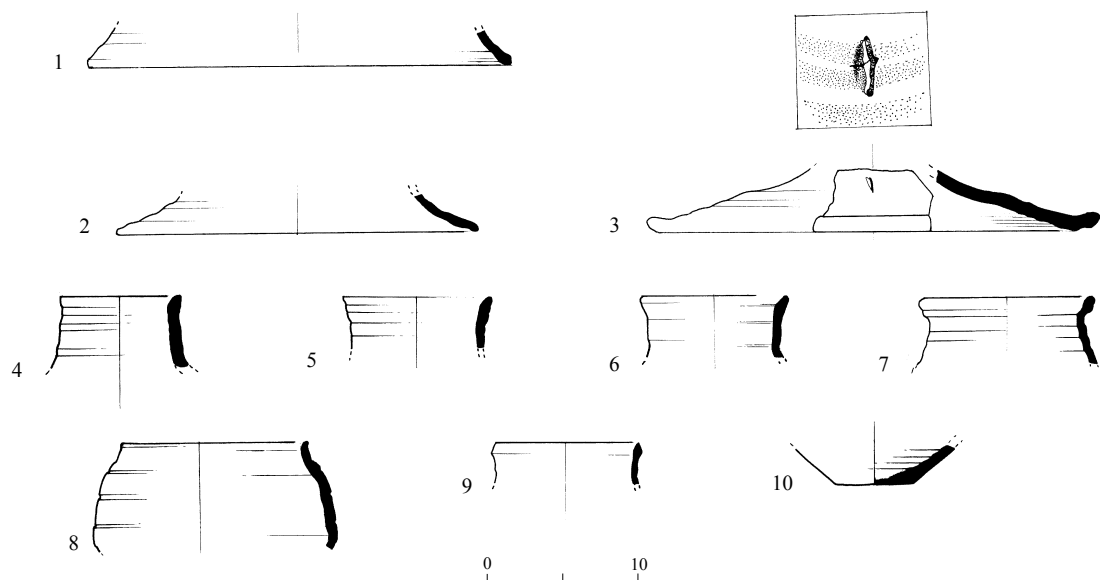


Fig. 20. Pottery Group 1: lids, jars and jugs.

No.	Object	Area	Locus	Basket	Description	Selected Parallels
1	Lid	A	18	117/2	Light red (2.5YR 6/8) ware; few small to large sand and white inclusions	
2	Lid	A	19	90/1	Light reddish brown (2.5YR 6/4) ware; very pale brown (10YR 8/3) ext. slip; few small sand inclusions; charred int.	
3	Lid	B	59	224/3	Light red (10R 6/6) ware; pink (7.5YR 7/4) core; white (2.5Y 8/2) int. and ext. slip; few small to large white and sand inclusions; charred on int. rim	Whitcomb 1989b: Fig. 4:v, w (c. 750–9th c.)
4	Storage jar	A	19	167/3	Pinkish gray (7.5YR 7/2) ware; white (10YR 8/1) slip; some small to medium sand inclusions	Cohen 1981:52, Fig. 3:3 (Byzantine) Haiman 1995a:150, Fig. 4:13 (Byzantine)
5	Storage jar	B	57	271/2	Pink (7.5YR 7/3) ware; ext. and int. white (10YR 8/2) slip; few small sand inclusions	Whitcomb 1989b: Fig. 5:1 (c. 750–9th c.) Lender 1990:4, Fig. 1:17 (Nabatean period)
6	Storage jar	B	48	226/1	Light red 2.5YR 6/6 ware; few small to large sand and white inclusions	As No. 5
7	Jar or jug	A	19	169/1	Pale yellow (2.5Y 7/3) ware; white (5Y 8/2) slip; few large to small sand inclusions	Whitcomb 1989b: Fig. 5:b, g, h (c. 750–9th c.)
8	Jar	A	19	167/1	Very pale brown (10YR 7/3) ware; white (5Y 8/2) ext. slip; few small to large sand and red inclusions	Melkawi, ‘Amr and Whitcomb 1994: Fig. 11:k
9	Jug or jar	A	27	101/2	Light brown (7.5YR 6/4) ware; white (5Y–8/2) int. and ext. slip; few small to medium sand inclusions	
10	Base of jar or jug	?	19	166/5	Pale yellow (2.5Y 7/3) ware; white (2.5Y 8/2) ext. slip; few small to large sand inclusions	Haiman 1986:49, Fig. 3:21 Whitcomb 1989b: Fig. 5:b (c. 750–9th c.)

periods, while the everted rim in Fig. 20:1, which ends in an abrupt vertical edge, is unusual. The lid in Fig. 20:3 was clearly of a cooking vessel, as its wall was slit while still leather hard, before firing, to permit steam to escape through it. A similar lid with a knife-slit wall was found at 'Aqaba, also apparently of Mahesh Ware (Whitcomb 1989b: Fig. 4:v).

Jars and Jugs (Fig. 20:4–10)

The storage jars depicted in Fig. 20:4–6 have variations of internally-beveled rims and a tall, ridged, more-or-less cylindrical neck. A more complete example of this type of Mahesh Ware jar from 'Aqaba (Whitcomb 1989b: Fig. 5:i) is a bag-shaped vessel that developed from prototypes of the Byzantine and Umayyad periods. The jar or jug illustrated in Fig. 20:7 has a slightly everted, carinated or internally cupped rim, which is also characteristic of Mahesh Ware jars and jugs (cf. Whitcomb 1989b: Fig. 5:b, g, h). The unusual squat, neckless jar from Pit 19 (Fig. 20:8) has a restricted mouth, beveled rim, straight sides, and a carinated lower wall—features that are very similar to those of the cup-bowls (see especially Fig. 19:10, 12, 14). A jar of this same type from 'Aqaba (Melkawi, 'Amr and Whitcomb 1994: Fig. 11:k) has an incurved rim and three grooves at mid-body like our example, but they are grouped closer together. Another example of this type of vessel was found at Khirbat el-Mefjar and was identified as a carinated bowl (Baramki 1942: Fig. 5:11). The shape and ware of the jar in Fig. 20:8, its discovery in Pit 19, and the occurrence of similar types at 'Aqaba in association with Mahesh Ware, all suggest that this is a Mahesh Ware form. The jug in Fig. 20:9, with a triangular rim and a slightly bulging neck, was executed in the same sandy, crumbly ware with a pock-marked surface as the other Mahesh forms. No exact parallel was found. The flat base in Fig. 20:10 is apparently that of a jug (for a similar example, see Whitcomb 1989b: Fig. 5:b).

Group 2

As noted above, pottery of this group was recovered outside the rooms and in the upper layers inside the rooms, as well as in the pits dug into the brick detritus of Rooms 1 and 8. None was found in the lower levels of rooms with distinct plaster floors (Rooms 1, 2, 8, 10). For the most part, this group consisted of small body sherds, very few of them diagnostic.

Bowls (Fig. 21:1, 2)

The only example of a bowl was the rim of a plate (Fig. 21:1), recovered in the layer of brick detritus in Room 8 (L57). Its profile is typical of glazed bowls from the ninth century onward, for instance, a Coptic Glazed Ware bowl from 'Aqaba (Whitcomb 1989a: Fig. 4c). The plate illustrated here was manufactured of pinkish buff fabric (Munsell 5YR 6/4 reddish brown), which is difficult to distinguish from Mahesh Ware. It has a white, flaky slip characteristic of that used as a ground for glaze. Although the surface of our bowl shows no trace of any glaze, it may simply have worn off. The flat base with a thickening in the center forming a slight rise (Fig. 21:2) is made of a pinkish brown ware (Munsell 5YR 5/6 yellowish red), and its interior surface bears traces of a clear glaze attesting that it was an open vessel, in all likelihood a bowl. Half of this base was found in the brick detritus layer of Room 8 (L57), while the other half came from the enclosure (L50), between Rooms 8 and 11.

Jar (Fig. 21:3)

The ribbed shoulder of a bag-shaped jar found in the sandy floor of Room 12 (L61), was made of pinkish brown ware with a white slip covered by transparent, yellow-green glaze.

Jug (Fig. 21:4)

A fragment of a jug with a tall, narrow neck that constricts toward the top was found on the surface above the northern wall of Room 7 (W28). It is decorated with three

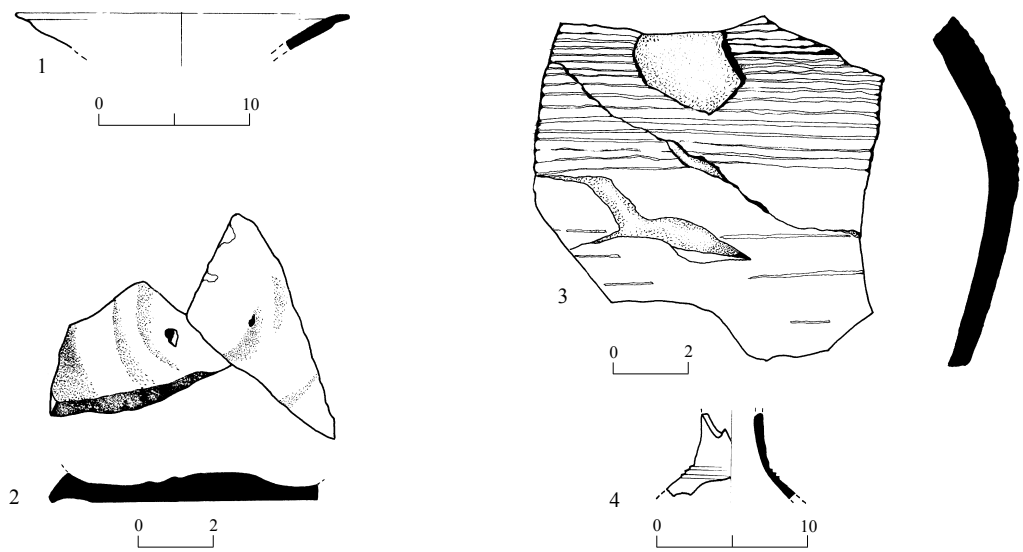


Fig. 21. Pottery Group 2: bowls, jar and jug.

Fig.	Object	Area	Locus	Basket	Description	Selected Parallels
1	Shallow bowl	B	57	251//1	Light reddish brown (5YR 6/4) ware; white (5Y 8/1) int. and ext. slip; few small to large sand and white inclusions	Whitcomb 1989a: Fig. 4:c (Coptic Glazed ware)
2	Base	B	50	193/1	Yellowish red (5YR 5/6); green paint under clear glaze on int. and clear glaze on ext.; few small to large sand and white inclusions	
3	Storage jar	B	61	227/1	Light red (2.5YR 6/6) ware; pale yellow (2.5Y 7/4) slip under clear glaze on ext.; pink (7.5YR 7/4) int. slip; few small to large sand and white inclusions	
4	Jug neck	B	W28	139/1	Light brown (7.5YR 6/4) ware; yellowish green glaze on ext.; few small to large sand inclusions	

incised grooves at the joint between the neck and shoulder. It is made of a well-levigated, pinkish brown ware and the exterior surface is covered with a thin, transparent green glaze.

Miscellaneous

Notable among the non-diagnostic body sherds (not illustrated) is a shoulder sherd of a jar or jug recovered in the brick detritus layer of Room 8 (L57), made of well-levigated, pinkish brown ware. Its exterior surface is rippled and decorated with glazed green spots and dark purple glazed bands on a white background, covered with a transparent glaze (B246/4). Another sherd from the same locus (B271A) is

made of the same ware, but has only an off-white slip on its exterior surface. Another very small fragment (B37/2), found in Pit 8 in Room 1, seems to be the only example of this group from Area A. It is of similar ware to those found in Area B, although it is plain, lacking both white slip and glaze.

Ceramic Pipe (Fig. 22:1)

The small, handmade pipe discovered in the upper layer of Room 12 is unique. It is cylindrical in shape with one end swelling into a cupped rim. Near the opposite, narrow end, the wall of the pipe is pierced with a single hole. The narrow end is also decorated with a

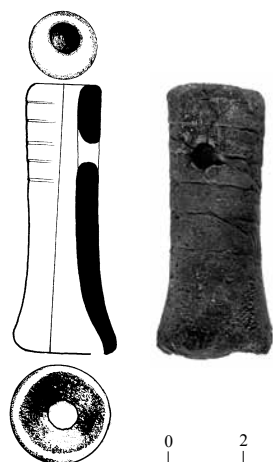


Fig. 22. Ceramic pipe (Area B, L40, B143/1).

single groove that begins at the rim and spirals down around the pipe reaching nearly half way down the shaft. It is made of pale yellow ware (2.5Y 7/3), with few small to large sand inclusions; its interior and exterior are charred. No parallel for this object was found.

Summary of the Ceramic Finds

The first group of pottery, consisting almost entirely of Mahesh Ware sherds, was found throughout the site, on the floors and inside the installations within the floors. It apparently represents the pottery of the main phase of occupation at the site, the phase which saw the establishment of permanent dwellings and the original floors in Rooms 1, 2, 8, 10 and Courtyards 1 and 3, and the subsequent small additions and repairs that were made to Rooms 1 and 2 and Courtyard 1. Morphologically, this pottery belongs to the end of the Umayyad and the beginning of the Abbasid periods. Whitcomb dates Mahesh Ware at 'Aqaba to c. 750 CE (Whitcomb 1989b; Melkawi, 'Amr and Whitcomb 1994:5). It is most likely that the pottery from Eilat was produced either locally in the Negev or the 'Arava—kilns were noted at Naḥal Roded and Naḥal Sheḥoret (Avner and Magness 1998:45; see Fig. 1), although it is unclear if they were for firing pottery—or at nearby 'Aqaba, where kilns in which Mahesh

Ware was evidently manufactured were discovered (Melkawi, 'Amr and Whitcomb 1994:5). The charring of many of the Mahesh Ware bowls and lids apparently resulted from their use in small hearths, probably after the buildings had been abandoned and were being used as temporary dwellings and sheep pens.

It is noteworthy that a single, early channel-nozzle type oil lamp was recovered by Avner (1998:29*, Fig. 13:4) in her excavations in the northern portion of the site, dated to the seventh or eighth century (see Magness 1993:255–258).

The second group of pottery, comprising scant and fragmentary sherds found exclusively outside the rooms, within the upper layers of the rooms, and in the pits dug into the brick detritus of Rooms 1 and 8, represents the final phase of the site. At the time of this post-occupation phase, the superstructures of the buildings had already collapsed and disintegrated, and migrant sojourners, probably semi-nomads, occasionally visited the site. The dearth of diagnostic potsherds makes precise dating very difficult. The poor, rudimentary glazes on some of the sherds, along with the profile of the bowl in Fig. 26:1, suggest that this pottery should be dated within the Early Abbasid period, probably in the ninth century or slightly later. Avner recovered a green and yellowish brown, glazed body sherd of Early Relief Ware, for which she cites a parallel dated to the ninth century (Avner 1998:31*, Fig. 13:7).

OTHER FINDS

Bronze Jewelry

A bronze anklet was found on the left leg of the skeleton of the woman in the burial in Room 8 (Figs. 19; 23:1). The ends of the anklet terminate in loops, a device that apparently functioned as a simple clasp for the closing of the anklet by means of passing a cord through the loops.

The crescent-shaped earring (Fig. 23:2) was found in the same layer of brick detritus (L57) as the grave of the woman, but in the northern half of the room.

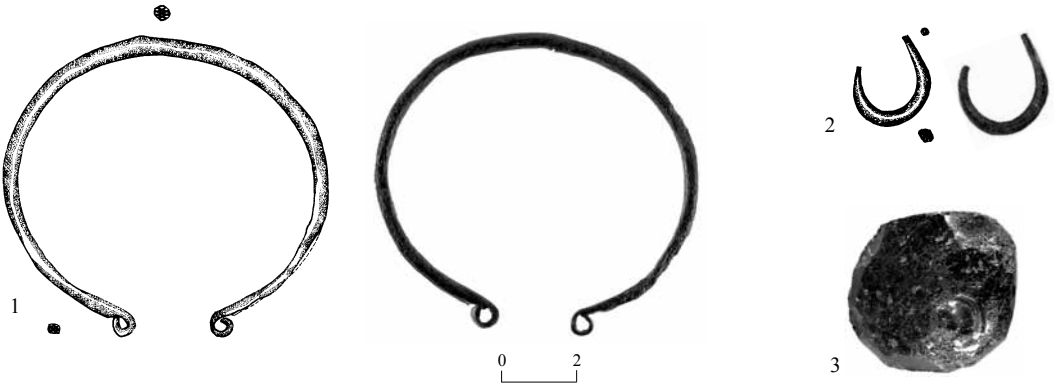


Fig. 23. Small finds.

Fig.	Object	Area	Locus	Basket	Description	Selected Parallels
1	Anklet	B	57	218/1	Bronze	Pella: Smith and Day 1989: Pl. 63:12, 13 for bracelets of a similar form
2	Earring	B	57	271A/6	Bronze	
3	Chunk of slag	B	57		Black, glass-like, spherical in shape	

Chunks of Slag Circles

Chunks and slivers of slag found throughout the site were analyzed by Irena Segal (see below). Numerous fragments of slag circles were employed as building stones in the rooms and courtyards. An especially large number of these were found in Room 11 (see above). The glass-like fragments may have been used in the manufacture of jewelry and inlays. Further materials found at the site that may have been used in jewelry production include a considerable number of seashells¹⁸ and glass and agate beads (see below).

A number of copper smelting camps have been discovered in the Eilat area, the largest of which was located in a valley near Be’er Ora. However, the fragments of slag circles at our site most likely originated from a camp north of Kibbutz Eilat or a relatively large camp near Umm Rashrash, located within municipal Eilat (Avner and Magness 1998:40–41).

Metallurgical Analysis

Four samples from the three building units were submitted to the laboratory for metallurgical analysis:

Sample 1. L18, B88II. Dark green, glass-like fragments recovered from Pit 18, which was sunk from the upper floor of Room 1 in Building Unit 1, Area A.

Sample 2. L57, B271-AIII. A roughly spherical, reddish brown to black, glass-like chunk, c. 4.5 cm in diameter (Fig. 23:3), recovered from the layer of brick detritus (L57) in Room 8, Building Unit 2, Area B.

Sample 3. L74, B270. Glass-like chunks from Pit 74 in the floor of Room10, Building Unit 3, Area B.

Sample 4. L52, B232. Chunk of a slag circle from layer of brick detritus in Room10, Building Unit 3, Area B.

All the matrices are iron silicates (glassy), in conformity with the composition of bronze slag, in which there are many copper drops and prills.

Wooden Pestle

This wooden tool with a long cylindrical handle and a bulbous head (Fig. 24:1) was found just

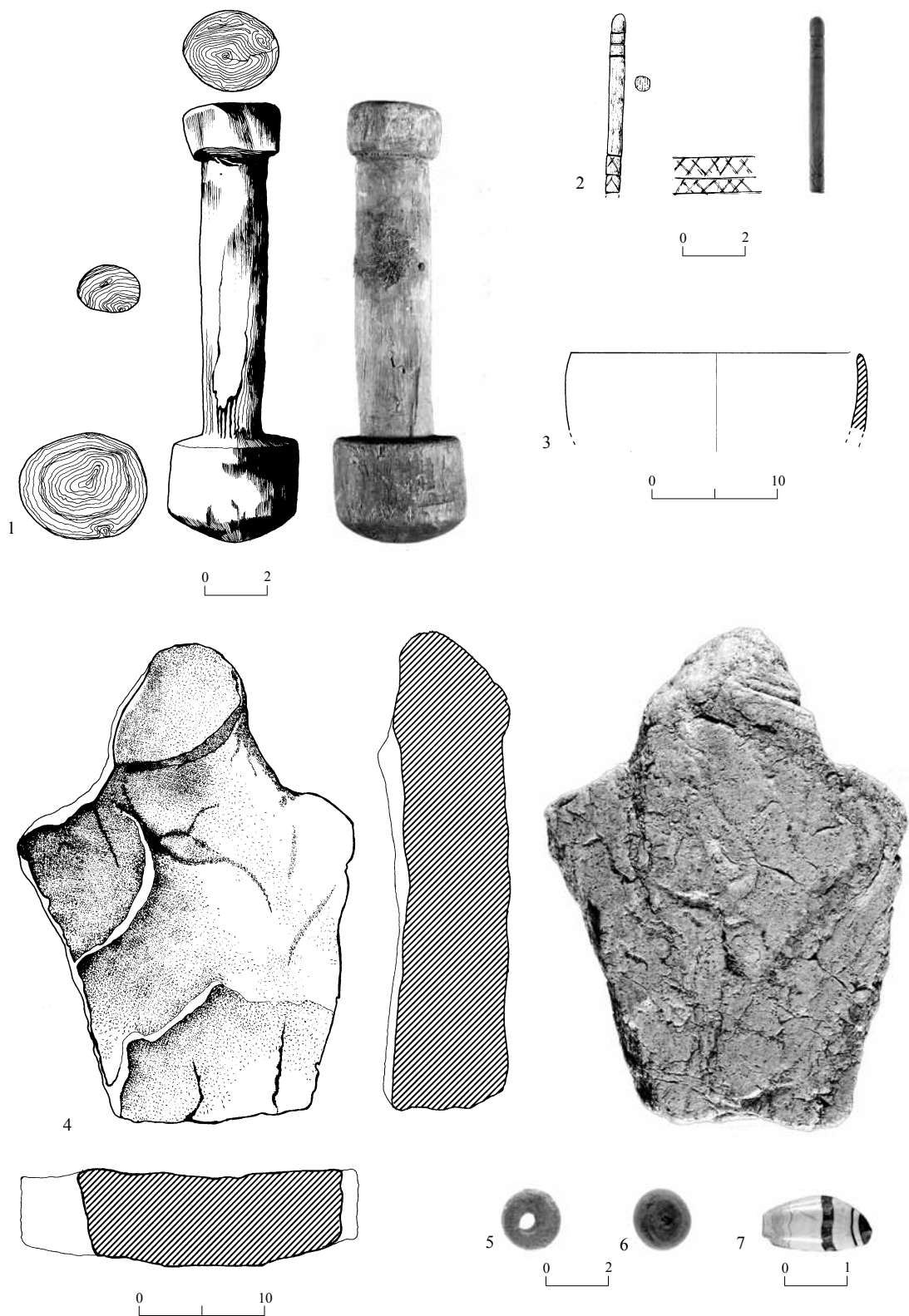


Fig. 24. Small finds.

◀ Fig. 24

Fig.	Object	Area	Locus	Basket	Description	Selected Parallels
1	Pestle	B	46	189/1	Carved wood wrapped in goat's hide	
2	Handle	A	45	163/2	Carved bone	Clark, Bowsher and Stewart 1986:265–266, Pl. XXV.1
3	Stone bowl	B	W15	142/1	Gray steatite	Meshel 1989: Fig. 2 Melkawi, 'Amr and Whitcomb 1994: Fig. 11:r
4	Anthropomorphic slab	B	Surface	281/1	Granite	
5	Bead top	A	7	44/1	Glass	
6	Bead bottom	B	57	271/7	Glass	
7	Bead	A	33	110	Agate	

outside W22 of Room 8. The handle of the pestle bears traces of goat's hide, which apparently enabled a better grip of the instrument.

Bone Pin

A small, finely carved bone handle of a pin was found above the floor of Room 1 (Fig. 24:2). A linear design is incised on its surface. Parallels have been found at Jerash (Clark, Bowsher and Stewart 1986:265–266, Pl. XXV.1).

Stone Objects

The rim of a steatite bowl was recovered in W15, the southern wall of Room 7 in Building Unit 2 (Fig. 24:3). Such stone bowls apparently date to the Abbasid period or somewhat earlier (Haiman 1995b:9; Melkawi, 'Amr and Whitcomb 1994:3–4). Magness (1994:203) has dated them to the eighth and ninth centuries CE.

The granite slab (Fig. 24:4; 8.0 × 27.5 × 37.0 cm) was a surface find discovered in Area B prior to the excavation, and its exact provenance within the area is uncertain. It may have served as an anthropomorphic grave-stone to mark the location of one of the burials within the buildings, as the shape of a head and shoulders can be discerned. Anthropomorphic tombstones appear at a number of sites from the Late Roman period, most notably at Bet She'an (Tsafrir 1984:210; Foerster 1993:234). In Sinai, tombstones depicting the head and shoulders

and some schematic features have been found that date to the Byzantine period (Ovadiah 1978). On the slab from Eilat, no attempt was made at depicting any facial features, nor is there any indication of gender. Alternatively, this stone may have been a kind of *mazzeva* that stood upright in the row of stones in W40 or W32 of Room 12 (see above).

Beads

Three beads were recovered, two are of glass and the third is a worked agate pebble. One glass bead (Fig. 24:6, bottom) was recovered together with the earring (Fig. 23:2), the slag chunk (Fig. 23:3) and the Roman provincial coin (see above) in the northern side of Room 8. It cannot be determined with certainty that these objects were associated with the burial of the woman in the same room, although they were apparently deposited during the final phase of the site. The second glass bead (Fig. 24:5, top) was found on the surface of Courtyard 1 (L7). Half of a worked, polished, agate bead (Fig. 24:6) was recovered within Installation 33 in the southeastern corner of the same courtyard.

Millstones

The basalt lower stone of a hand mill (Fig. 25:1; diam. 36.5 cm, 8 cm thick) was discovered on the upper floor, on the southern side of Room 1 (L16), close to the interior face of W2 (see Fig.

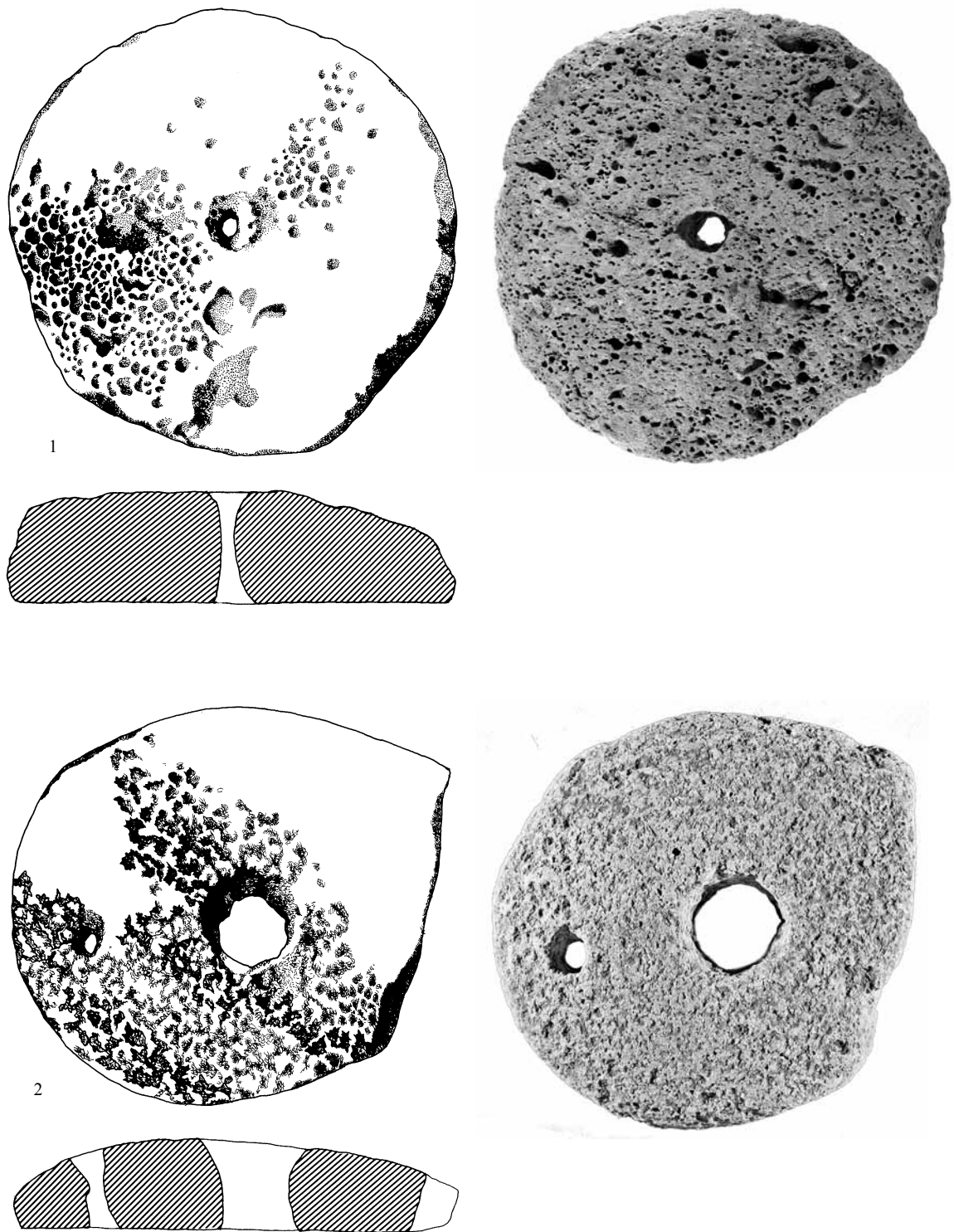


Fig. 25. Millstones.

◀ Fig. 25

Fig.	Object	Area	Locus	Basket	Description	Selected Parallels
1	Lower disc of millstone	A	I6	179/1	Basalt	Avitsur 1976:74–76
2	Upper disc of millstone	A	W2	178/1	Beachrock	As No. 1

4). It had a single hole in its center (diam. 4 cm) for a peg to anchor it in position and provide a pivot for the upper stone.

The beachrock upper millstone (Fig. 25:2; diam. 36.5 cm, 7 cm thick) was found in the eastern 'pilaster', against the exterior face of W2 of Room 1 (see Fig. 5). This upper stone had two holes, one in the center (diam. 7 cm), for the peg around which it pivoted, and a second one, 4.5 cm from the outer edge of the stone, to hold a wooden handle with which it was rotated. The stone seems to have been broken or worn on the side opposite the handle hole. Avitsur (1976:74–76) notes that this type of hand mill, which first appeared in the second century BCE, entered mainstream use only at the end of the Byzantine period and the beginning of the Islamic period.

Textiles

Tamar Schick

A few much deteriorated textile remains were retrieved from the floors of several rooms in Areas A and B, dating to the early Abbasid period (eighth–ninth centuries CE). A number of fragments were associated with burials from a post-occupational phase (dating somewhat later than the main phase).

From Room 1, on the northern half of the floor (L45, B162), a fragment of a plain, yellowish woven cloth, 22 × 20 mm, was recovered. The fibers were tightly spun in 'S' direction in the warp and 'Z' direction in the weft. The weave is warp-faced tabby, 16 threads per cm (tpc) in the warp, 1 tpc in the weft. A short tape, 16 mm long, rolled and sewn from the same textile, was found together with this specimen.

From Installation 36 in the northeastern corner of Room 2 (L36, B125), a cream-colored cloth, 12 × 12 mm, was retrieved. The fibers

in both warp and weft were tightly spun in 'S' direction. The weave is warp-faced tabby, 24 tpc in the warp, 12 tpc in the weft.

Other remains from the same baskets comprise short fragments of dark brown, goat-hair threads, plied 'S2Z', and a knotted fragment of cordage made of date-palm leaflets that were twisted in a final 'S' direction. A small bunch of deteriorated, multi-colored threads, found above the floor of Courtyard 1 (L34, B111), seem to have been brought to the site by birds or small animals.

Recovered from the dismantling of Room 8 after its excavation, apparently from the floor (L68, B272), was a cream-colored cloth, 66 × 54 mm. The fibers were light- to medium-spun in 'S' direction. The weave is warp-faced tabby, 20 tpc in the warp, 12 tpc in the weft.

From the layer of brick detritus in Room 8 (L57, B238), three fragments of the same, cream-colored cloth were associated with the burial of the woman and child that was dug into this room during a post-occupational phase. The fragments are much deteriorated, the largest measuring 26 × 16 mm. The fibers were 'S' spun and the weave is a plain, balanced tabby, 14 tpc in both warp and weft.

From the depression in the southwestern corner of the floor of Room 10 (L75, B261), a beige-colored fragment, 23 × 5 mm, was retrieved. The fibers were 'S' spun, the weave is balanced tabby and the tpc is undetermined.

Associated with the burial of a youth in the southeastern corner of Room 10, within the post-occupational phase (L52, B243), was a beige-colored cloth. The cloth, 28 × 30 mm, is identical to the preceding specimen, with 'S' spun fibers, balanced tabby weave, 14 tpc in both directions. Several odd, deteriorated, cream and brown fibers were also retrieved from this room.

Discussion of Textiles

Despite the arid climate, the organic finds from the site in the industrial zone of Eilat are small and deteriorated fragments, too little to be dated by ^{14}C , and do not add to our knowledge of textiles from the Early Islamic period in the 'Arava (Baginski and Shamir 1995; Shamir 1995).

The finds consist of scraps of simple, undecorated cotton cloth in plain weave tabby, probably from shrouds or garments of the Abbasid period. The few fragments from the burial, apparently of a later date, are the same as the rest of the material.

As cotton has never been grown in this region, it was imported as fibers, yarn or finished cloth. While the spin direction of cotton from India was traditionally 'Z', the 'S' spun cotton fibers in the textiles from Eilat probably reflect the millennia-long, local spinning tradition of flax. Only one textile is of mixed 'S' and 'Z' spin direction. The short goat-hair threads and cordage of date palm found at the site testify that other raw materials were also used in the textile crafts.

THE EARLY ISLAMIC VILLAGE: DISCUSSION

The site was the largest of six villages dated to the Early Islamic period discovered in the vicinity of Eilat (Avner and Magness 1998:39–40), including two villages to the north of our site at Naḥal Sheḥoret and Be'er Ora, and three villages to the south of our site at Wadi Ṭaba, Wadi Tweiba and Wadi Merah. Avner and Magness (1998:40) note that "the degree of uniformity among the buildings of the six villages suggests a common architectural experience and social organization."

The Early Islamic settlement on the northern periphery of Eilat consisted of clusters of very simple, one- or two-room dwellings with open courtyards. Botanical finds from this excavation, indicative of the foods consumed by the inhabitants of the settlement, include melon or gourd seeds, date and fruit pits and grain (barley?). It is clear from the

accumulation of sheep/goat dung in several of the rooms that during at least part of their history, these rooms were used by pastoralists. No water cisterns were found at the site.¹⁹ The closest water source to the site was located at Tell el-Kheleifeh, c. 2.5 km to the southeast, which may have been ancient 'Ezyon Gaver. Avner and Magness (1998:40) suggest that the population of the larger villages may have reached 250 to 400 individuals.

The reason for the existence of this settlement must be sought in its proximity to the Early Islamic port city of Ayla (modern 'Aqaba; see Whitcomb 1989b:270), and in its location on the main artery, the *Darb el-Hajj*, connecting Ayla/'Aqaba with Gaza—and ultimately Damascus—in the north, and thus linking Palestine with Egypt and the Hijaz. The occupants would have had a diversified economy, engaging in agriculture, mining and metallurgy (Avner and Magness 1998:46, 51), and would have relied heavily upon the city, in a manner similar to that of modern Bedouins (Helms 1990:10; Haiman 1995a:29, 44). In addition, the villagers would have traded with wayfarers upon *Darb el-Hajj*, possibly offering them a measure of security as well.

Historical sources of the Tulunid period (late ninth century) attest to the use of *Darb el-Hajj* by pilgrims to Mecca. Pottery collected along this road and at camps adjacent to it by Uzi Avner may indicate the movement of pilgrims already in the eighth century (Avner and Magness 1998:50, and references therein). Rock inscriptions demonstrate that a great deal of activity occurred in the Negev from the early eighth through the ninth centuries CE (Sharon 1990), and the current ceramic chronology for the southern Negev and 'Arava villages points to an eighth–ninth centuries range, although the radiocarbon readings indicate a wider range (Avner and Magness 1998:51). Our settlement on the northern periphery of Eilat reflects a time of vitality in the Early Islamic period in the region (Helms 1990; Betts 1993; Haiman 1995b:11).

A Possible Open-Air Mosque

Room 12, a small structure in Building Unit 2, warrants particular attention due to the row of toppled standing stones that had originally stood in the western side of the southwestern wall (W40). Two more stones in southeastern W32 were found *in situ*, standing upright.

When Room 12 was first uncovered, Uzi Avner (pers. comm.) commented that the unusual structure might have served as an open-air mosque. Indeed, the presence of standing stones suggests that the room had likely served a cultic function. The most characteristic feature of an open-air mosque is normally a *miḥrab*, a niche facing southward toward Mecca. Other indications of the southern direction of prayer include, for instance, a large slab flanked by two smaller upright stones inserted into the center of the southern wall in an unroofed cultic structure at Naḥal 'Oded (south of the Ramon Crater in the Negev; Avni 2007:134). In Room 12, there was an opening in the center of the southeastern wall, but it is difficult to construe this opening as a *miḥrab* (it appears more likely to have been an entrance). Despite this, the standing stones in the southern end of the southwestern wall and the southeastern wall of Room 12 possibly indicated the southern direction of prayer. The chain of stone enclosures (L66, L67 and L71; see above) extended southwestward from Room 12. If these represented the remains of temporary structures, they may have served as a courtyard or porch to the building.

CHRONOLOGY OF THE SITE

A review of the limited stratigraphy of the site permits us to suggest a tentative reconstruction of the stages of the settlement.

The Earliest Occupation

The round structure, L69, on the southern side of Building Unit 3, apparently represents the earliest activity at the site. As we have seen at other sites in the Negev, these are the remains of a typical, simple, temporary shelter of semi-

nomads. No datable finds were recovered from the round structure.

The Main Occupation Phase

The round structure was replaced by the establishment of permanent rectilinear dwellings of stone and adobe. The units, comprising one or two rooms, each with its own entrance, had developed only a step or two beyond a Bedouin tent (Bailey and Shmueli 1977:34). Figure 26 presents an isometric reconstruction of Building Unit 1 during its main occupational phase.

The chain of stone enclosures in Building Unit 2 possibly represents the continuance of temporary structures (tents) at the site, indicating an unwillingness to totally abandon the former semi-nomadic way of life.²⁰ Nevertheless, changes in the structures—a new, second floor in Rooms 1 and 2 and Courtyard 1, along with various repairs and additions to the buildings (e.g., the addition of L35 to the western side of Building Unit 1, the blocking of the entrance L64 in W26 in Building Unit 2, and the construction of the upper parts of W18, W20 and W25 in Building Unit 3)—all suggest that occupation of the village may have lasted a generation or two. The open-air cult installation (possibly an early mosque) can be associated with this phase. The pottery of this principal phase of occupation comprised mainly Mahesh Ware, dated by Whitcomb to c. 750 CE (Whitcomb 1989b; Melkawi, 'Amr and Whitcomb 1994:5). The seventh- to eighth-century lamp discovered by Rina Avner (see above) evidently belonged to this phase.

The midden layer comprised mainly sheep/goat dung lying over the floors in Rooms 1, 8 and 10; it may indicate an increase in the number of flocks of the inhabitants. A greater reliance on pastoralism would have necessitated a wandering of the members of the community farther from the site to seek natural pasture (see Bailey and Shmueli 1977:35).²¹ Consequently, the inhabitants would have returned only occasionally to the site and some of the former dwelling and work rooms were turned into pens for sheep/goats.²²

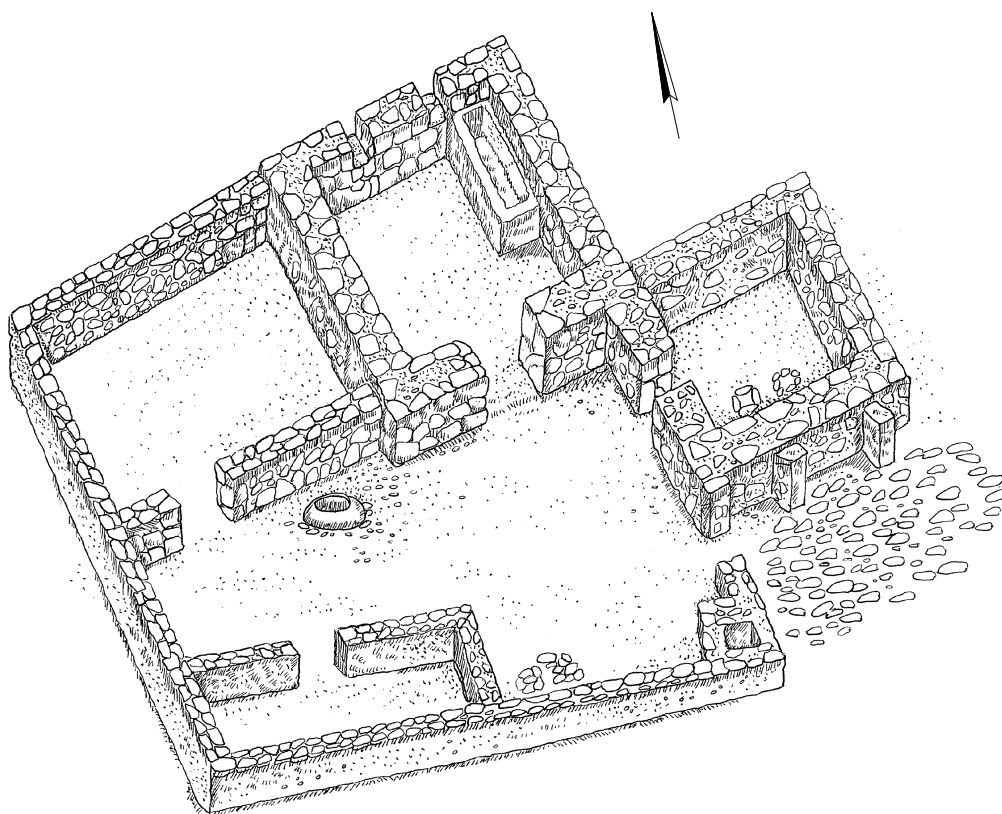


Fig. 26. Isometric reconstruction of Building Unit 1.

This growing reliance on pastoralism may be a sign that the settlers had been forced to seek additional income.

The Initial Abandonment of the Village

In time, the site was abandoned and the buildings neglected, resulting in the collapse and disintegration of their superstructure. This was most dramatically demonstrated in Room 1, where the upper part of the wall, represented by L3, had toppled over as a single slab into the middle of the chamber.

The Final Phase of the Site

The pits dug into the brick detritus in Rooms 1, 8 and 10 testify that the site was, in its final phase, frequented once again by semi-nomads. The few sherds of pottery recovered from outside the building units and from the pits and upper layers within the rooms and

courtyards, probably date to the ninth century, suggesting that not many years elapsed between the main occupation of the site and its revisitation. Schick (above) also notes the similarity of the textiles recovered from the main and post-occupational phases. In their sojourn, these folk hollowed out pits, some of which served as graves to bury their dead. It may well be that these were the descendants of the previous occupants of the site, who returned to inter family members in their hereditary property (Schaefer 1989:55).

Final Abandonment

Avner and Magness (1998:52) connected the abandonment of the southern Negev and 'Arava villages with a series of human and natural disasters that brought about Ayla's decline beginning in the eleventh century. This date, however, seems far too late to

account for the desertion of our site, as none of the pottery or other finds clearly postdate the ninth century.

Of the four radiocarbon samples recovered by Avner from the portion of the site that she excavated, all but one yielded dates ranging between the seventh and eighth centuries (Avner 1998:36*). The single example that produced a result outside of this range was extremely divergent from the others, dating between 1514 and 1654, and may be simply explained by contamination or some other aberration in the sampling and testing process. Avner cites the Bedouin revolts of the eighth and eleventh centuries as possible causes for the abandonment of the village (Avner 1998:37*; see also Amiran, Arich and Turcotte 1994:269). While the eleventh century is too late, the eighth century is reasonable for the initial abandonment of the site. After being frequented by semi-nomads, evidently in the ninth century, the site was abandoned altogether.

SUMMARY AND CONCLUSIONS

The Early Islamic village located between Eilat and Kibbutz Eilot, was part of a wider phenomenon of settlements that flourished on the desert periphery, in the shadow of the ancient port city of Ayla. Situated on the main highway of *Darb el-Hajj*, the inhabitants of this village and the neighboring settlements were engaged in activities such as agriculture, mining, metallurgy and trade. At the height of its prosperity, the village may have supported as many as 250 to 400 people. After its abandonment in the later eighth century, there was a brief reuse of the site, evidently in the ninth century, marked by pits, some of which contained burials.

Over the uppermost layers of occupation within the rooms of the village, the desert sands accumulated, eventually reclaiming the entire site for more than a millennium, until it was uncovered by present-day excavations.

NOTES

¹ The excavation was conducted from August through October 1989 (Permit No. A-1667), under the direction of the author, with the assistance of Uzi Avner, then Eilat district archaeologist, and Rivkah Yavlonka. Other archaeologists who offered much valued assistance include Shlomo Gudovitch, Yigal Israel, Yaron Ben Na'eh and Uri Moran. The fieldwork was carried out through the efforts of hired youth and workers from Eilat, Bet Shemesh and the Jerusalem area. Hanna Tzetlin acted as registrar for the excavation. The plans of the site were prepared by Matthew Schrantz, Teddy Mazzola and Israel Vatin. Isometric reconstructions of the site were drawn by Teddy Mazzola, the small finds were drawn by Olga Orshnikov and Daniel Fiansinger and photographed by Clara Amit. The site was photographed by Yehudah Rapuano and Uzi Avner. The anthropological field analysis of the double burial in L57 was performed by Israel Hershkovitz; pottery restoration was carried out by Frieda Raskin;

cleaning and conservation of the bronze finds, by Ella Altmark; metallurgic analysis, by Irena Segal; and textile analysis, by Tamar Schick. The single coin was identified by Gabriela Bijovsky.

² The constructions that Haiman discovered were built of stone rather than brick. He described them as "raised beaten-earth platforms bordered by a row of stones, one course high".

³ Compare the use of the rooms in simple, modern-day Bedouin houses (Bailey and Shmueli 1977:34–35).

⁴ Ostrich eggshells have been found at Negev sites and in greater numbers in the 'Arava and Sinai, likely the natural habitat of ostriches in antiquity (Haiman 1995b:9).

⁵ Haiman described a similar installation adjoining the outer courtyard at the Naḥal Mitnan farm (Haiman 1995b:3–4, Installation 112), near the entrance (which, like that at our site, was on the east). This installation was approximately twice the

size of ours. Haiman suggested that it was used as a trough or a stall.

⁶ On burials in abandoned sites, see Schaefer 1989:55.

⁷ The coin was identified by Gabriela Bijovsky.

⁸ Due to pressure exerted by the religious authorities, the human remains found at the site were reburied without undergoing laboratory anthropological examination.

⁹ Similar crude funerary busts have been found at sites of the late Byzantine and Early Islamic periods, e.g., Ovadiah 1978.

¹⁰ Haiman (1995a:37) interpreted these as reflecting a transition from paganism to Islam.

¹¹ Nevertheless, compare the stone remains of the Bedouin tent (Helms 1990:30–31, Fig. 7).

¹² Haiman noted “Research has found that the transition from tents to permanent dwellings was part of a gradual process that continued for one or two generations. During that time, some members of a nomad family would continue living in temporary structures while younger members of the family moved to permanent houses built nearby” (Haiman 1995a:44).

¹³ Due to pressure exerted by the religious authorities, the human remains were reburied without undergoing laboratory anthropological examination.

¹⁴ Magness classified cup-bowls similar to ours within the ceramic family of Fine Byzantine Ware (cf. our Figs. 21:9–14 with Magness 1993:196, FBW bowls Form 1E) along with the same type of bowl as our Fig. 21:7 (cf. Magness 1993:199, FBW bowls Form 2B).

¹⁵ Hamilton (1940:12) describes this form of decoration, while Gichon (1974:120) notes this surface treatment as being typical of Fine Byzantine Wares.

¹⁶ But note Haiman’s (1995a:31) opinion that most of the sites identified as Byzantine in this survey do not contain any indications of that period.

¹⁷ Although, in some cases, the narrower, hemispherical form persisted. For examples of cup-bowls of the Early Islamic period that retained the Byzantine form, see, e.g., Baramki 1942: Fig. 7:2, 3; Walmsley 1988: Ill. 9:16).

¹⁸ Large quantities of shells found at Wadi Tweiba and the village at Wadi Taba may have been used for the manufacture of jewelry and inlays (Avner and Magness 1998), as suggested by the presence of inedible, intentionally broken and retouched shells.

¹⁹ Haiman (1995b:11) notes that “the distribution of cisterns in the Negev Highlands reveals a virtual absence of cisterns in farms located as much as 4–6 km from a natural water source. Their number increases as the distance from the water source grows.”

²⁰ Bailey and Shmueli (1977:38) note that “a major transition is required of the sedentarizing Bedouin in his material culture and social values; a transition that can only be accomplished gradually”. Haiman (1995b:44) points out that research has revealed the transition from a semi-nomadic habitation to a permanent dwelling continued for one or two generations.

²¹ Bailey and Shmueli describe how as modern Bedouin change to a sedentary lifestyle, they diminish the size of their flocks of goats. In our case we may be observing the reverse process.

²² Bailey and Shmueli (1977) describe a modern situation where twenty yards from a Bedouin dwelling was an abandoned one-room adobe house used to shelter the owner’s flock.

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