NGSBA Archaeology

Volume 5 — 2020

HEBREW UNION COLLEGE JEWISH INSTITUTE OF RELIGION
NELSON GLUECK SCHOOL OF BIBLICAL ARCHAEOLOGY
Y.G. Contract Archaeology Ltd.

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Cover Illustrations:

Front: A bronze plaque from Tel Qishron (photo: Tal Rogovsky).

Back: A Byzantine period wine press at the Ashqelon train station site (photo: Tal Rogovsky).

Letter from the Editor

Our fifth volume of excavation reports is devoted, as usual, mainly to salvage archaeology—projects that YG Archaeology and the NGSBA have executed over the last ten years or so. The Ashqelon (east) and Horvat Hermas (Rehovot) excavations were necessitated by the construction of railway infrastructure. The Qishron excavation involved highway widening. The Nahal Shalva and Horvat Nin excavations preceded expansions of industrial zones outside Kiryat Gat and Afula, respectively. The Holot Yavne excavation was carried out prior to the laying of a water pipe. Many hundreds of salvage (mitigation) excavations are carried out every year due to Israel's rapid development of infrastructure and residential and industrial construction. Most of these projects are small in scale—a few hundred square meters or so—but some involve the excavation of tens of hectares—what the Israel Antiquities Authority is calling "mega-excavations". The excavation reports presented here are all of the smaller variety (the NGSBA and YG Archaeology carried out a "mega-excavation" at Route 38-Tel Beth Shemesh in 2018–19, which is currently being processed for publication). The whole subject of salvage excavation (contract archaeology, mitigation archaeology, rescue archaeology)—who expedites, who should be expediting, who pays, who supervises—should be the subject of an open, public debate. The issues are political, economic and ideological.

The article written by Yron, Yalon and Govrin describes a new software package—GeoGenie—for digital GIS-based archaeology, developed by Benny Eli Etkes Measuring Devices Ltd., with YG Archaeology and the NGSBA. There are a number of digital archaeology packages out there—effective to varying degrees. Some are powerful and versatile but complex. Others suffer from bugs and performance limitations. After lots of tweaking and trial and error in the field, this platform is revolutionizing our work, cutting the time required to acquire 3D measurements and to enter the data in a cloud array, in a way that allows easy access of the data for queries and for the generation of graphic presentation. It requires fewer people to generate the data and the reports. The version published here is in Hebrew, for the present. I encourage the authors to prepare an English version for wider distribution.

This volume was collated during the Covid 19 pandemic. I was on a sabbatical year at the University of Colorado in Boulder when things shut down. Aside from this, our previous excellent publication coordinator, Conn Herriott, departed for Ireland. Michal Yron has now taken over and has learned the ropes. But coordinating the editing process turned out to be more difficult than anticipated and this volume has come out a year later than planned. On the more positive side, the issues have been resolved and our next volume, *NGSBA Archaeology* 6, is already taking shape.

Since the last issue of *NGSBA Archaeology* the school has published two full-fledged excavation reports in the NGSBA Annual series: *Excavations at Maresha – Subterranean Chamber 169* (Ian Stern) and *Dan IV – the Early Iron Age Levels, the Avraham Biran Excavations 1966–1999* (David Ilan). *Dan V – the Middle Bronze Age Fortifications and Mudbrick Gate* should be ready for publication at the end of 2021. Published volumes can be purchased at ISD: https://www.isdistribution.com.

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Map of reported sites.

Horvat Hermas (Khirbet Hermas)

Conn Herriott and Gideon Suleimani

During the months of October–November 2011 a salvage excavation (license number B375/2011) was conducted at the site of Horvat Hermas (Arabic: Khirbet Hermas, New Israel Grid reference 180497/644855, Figs. 1–2). The excavation was directed by Conn Herriott on behalf of Y.G. Archaeology Ltd. under the academic auspices of The Hebrew Union College. The excavation was funded by the Israel Railway Company. The expedition staff was comprised of I. Bransburg and G. Suleimani (field supervisors). C. Herriott (photography and surveying). A. Cohen-Tavor (ceramic analysis), M. Chernin (ceramic analysis), R. Kehati (archaeozoology), D. Ilan (stone vessels), K. Raphael (glass), A. Tsipin (object illustration) and Y. Govrin (archaeological consultation and logistics), K. Rafael (translation from Hebrew)

The excavation, part of a larger archaeological project involving the Israel Antiquities Authority (IAA) and Tel Aviv University, was conducted in order to allow the laying of railway tracks at the western edge of the city of Rehovot. The excavated area measured 265 x 20 m. The field to the south was excavated by Tel Aviv University (directed by M. Edrey) and the initial trial excavation, in the center, was carried out by the IAA (directed by M. Ajami).

Previously, a series of excavations was carried out by the IAA at Horvat Hermas in 1999 and 2001 (Elisha 1999; Sion and Parnus 2006). These

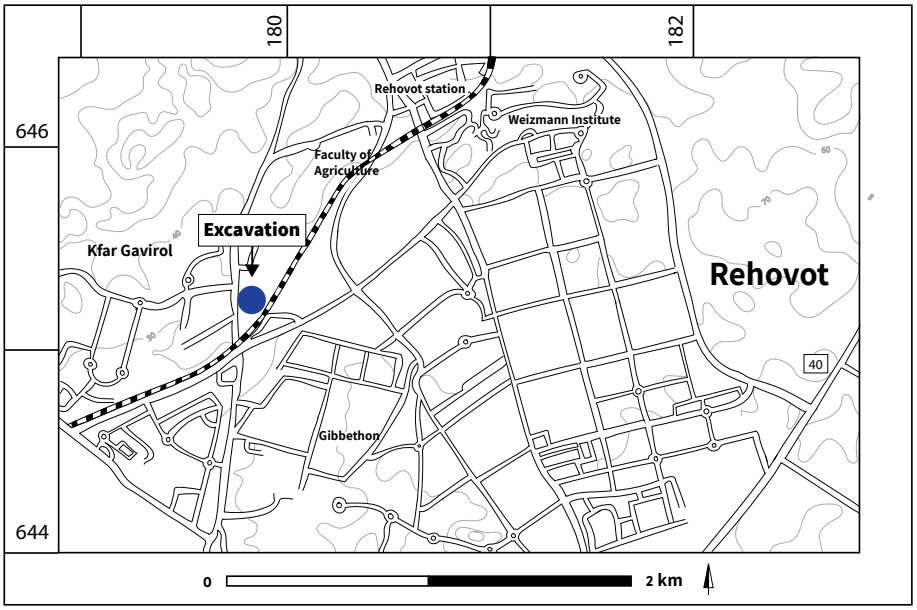


Figure 1. Horvat Hermas – location map.

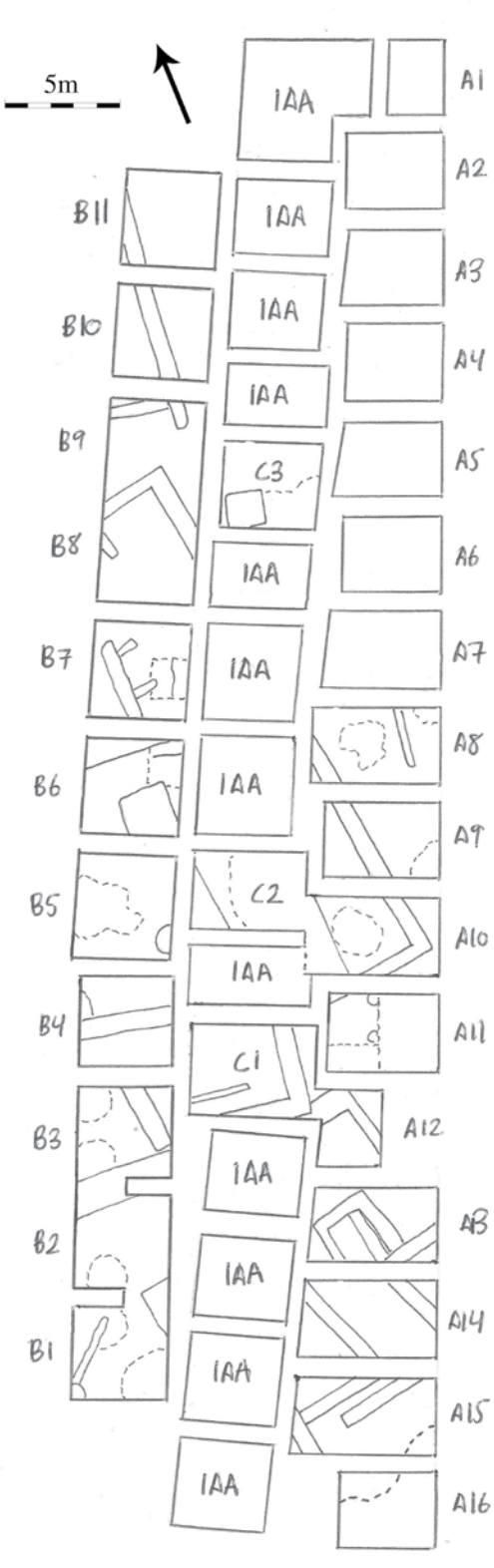


Figure 2. A schematic plan of the excavation area, with archaeological features outlined. Note the IAA-excavated squares in the central strip.

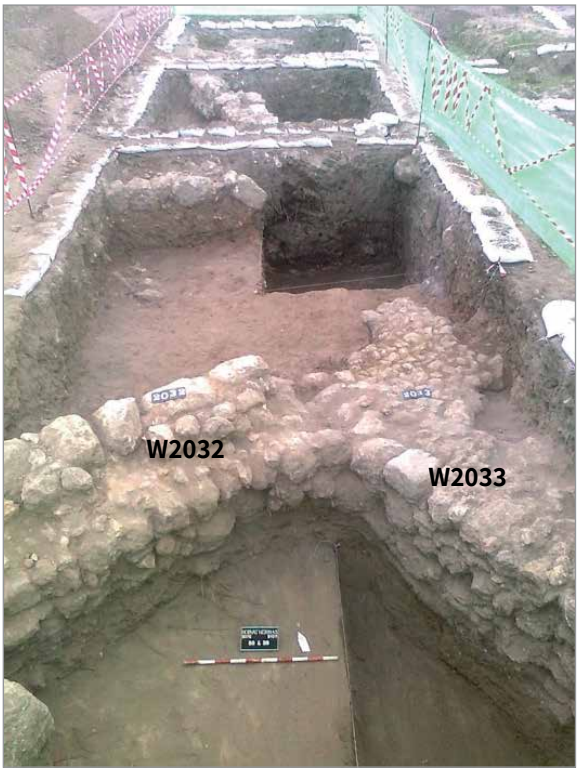


Figure 3. Horvat Hermas: general view looking north.

excavations revealed remnants of Persian period buildings as well as ceramic and glass kilns from the Roman and Byzantine periods. However, most of the finds, the well, buildings and remnants of structures of a large industrial area, dated to the Early Islamic period.

The site is located on sandy soil with pockets of the rusty red Hamra soil, which is typical to the area. The excavated buildings were encountered at a depth of 0.5–1.0 m from the surface and were constructed with roughly dressed stones. The floors were of tamped earth, plaster and flagstones (Fig. 3).

Four main strata were identified in the three excavated areas (A, B and C; Figs. 34–36):

Stratum I dates to the Crusader/Mamluk period and includes remnants of walls with flagstone and plaster floors. Large amounts of pottery and remains of fire and charcoal were found on

and above the floors. The complex probably served as living quarters. At least some of the refuse pits probably belong to this stratum, though others have been assigned to Stratum III.

Stratum II dates to the Crusader period, it includes a large public building divided into small rooms. The building was constructed of large dressed stones with small stones packed between them. The northwestern part of the building is missing. No floors were found and the few finds did not provide clues as to the building's function.

Stratum III dates to the Early Islamic period (late Umayyad, Abbasid and Fatimid) and includes a complex of rooms constructed around a central structure. The main building and the rooms on its north side are well built of large stones. The southern part of the complex is poorly built with medium-sized stones. Large refuse pits containing fragments of jars were excavated all across the area between the central building and the rooms around it, as well as in the open space of the complex.

Stratum IV, the earliest excavated, dates to the Byzantine/Early Islamic period but has no clear structures and lacks stratified contexts.

It is likely that earlier Persian, Hellenistic and Roman period strata lie under Stratum IV.

STRATUM I (Figs. 4–5, 9, 34–36)

This stratum included fragments of walls and flag stone surfaces which abut them. The remains of the buildings can be seen clearly on the western, central and eastern sides of the excavation, in Squares B1–5, A10, and C3 (Figs. 4–5). The probe excavation carried out by the IAA in the center (Squares F and C) ended 0.5 m above the top level of Stratum I, such that the architectural picture is lacking.

Walls (2006, 2007) were preserved to a length of 2 m and are 0.5 m thick and abutted by cobble floors (L2024). The floor of the building in Square B4 (Fig. 5) incorporated both small and medium sized field stones (L 2009, L2054, L2011, L2026).

More fragmentary rooms, in at least two phases, were uncovered in Square B1 (Figs. 6–7). Wall 2077, built in Stratum III, continued into Stratum II. A plaster floor (L2085) was excavated between Squares B1–2. Additional surfaces of small packed stones (L1565 and L1551) were revealed in Squares A10 and A16 (Figs. 8–9).

Figure 4. Square B3, Walls 2006 and 2007, and cobble surface L2014.

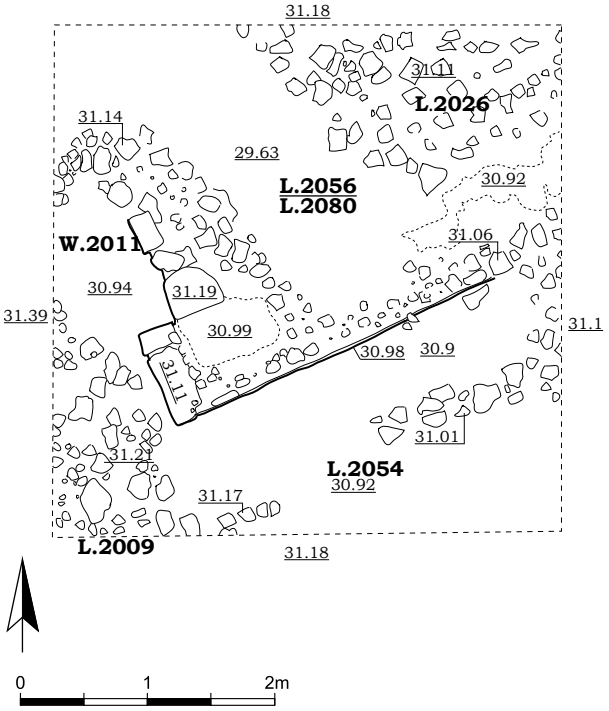


Figure 5. Square B4.

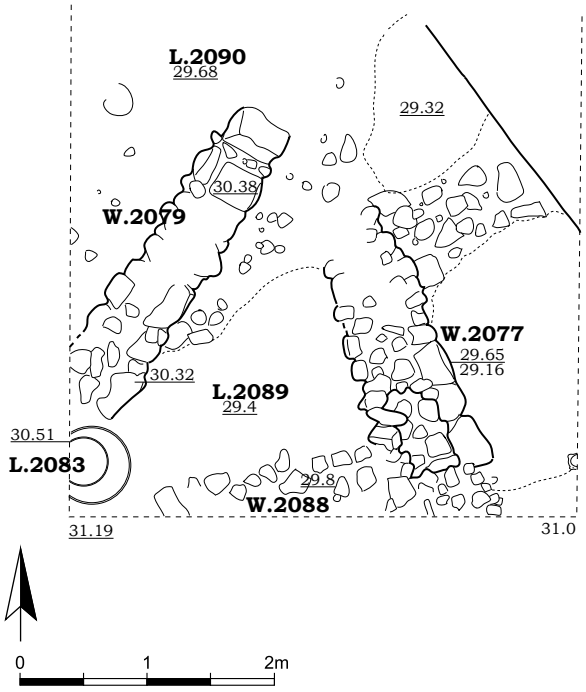


Figure 6. Square B1.

Figure 7. Wall 2079 and plaster floor L2085.

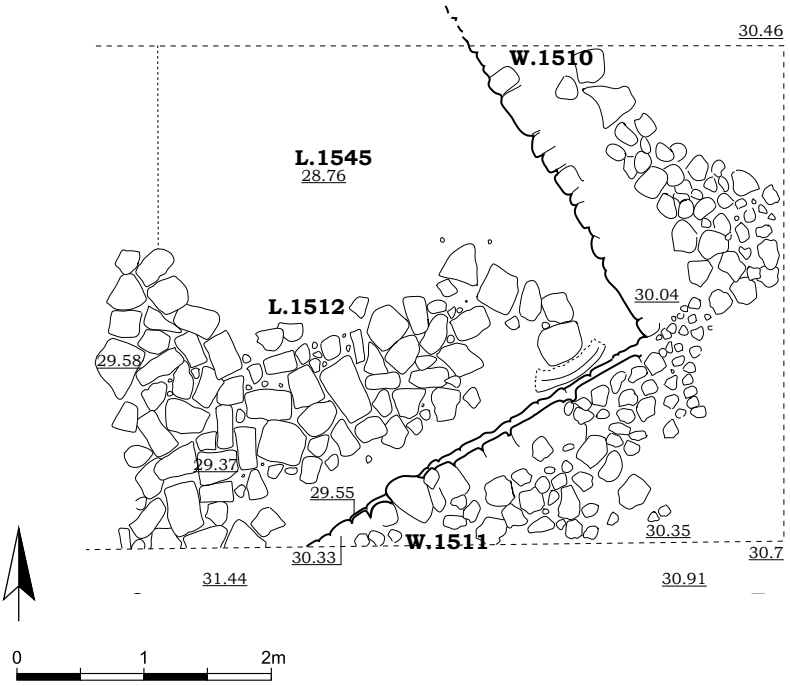


Figure 8a. Square A10.

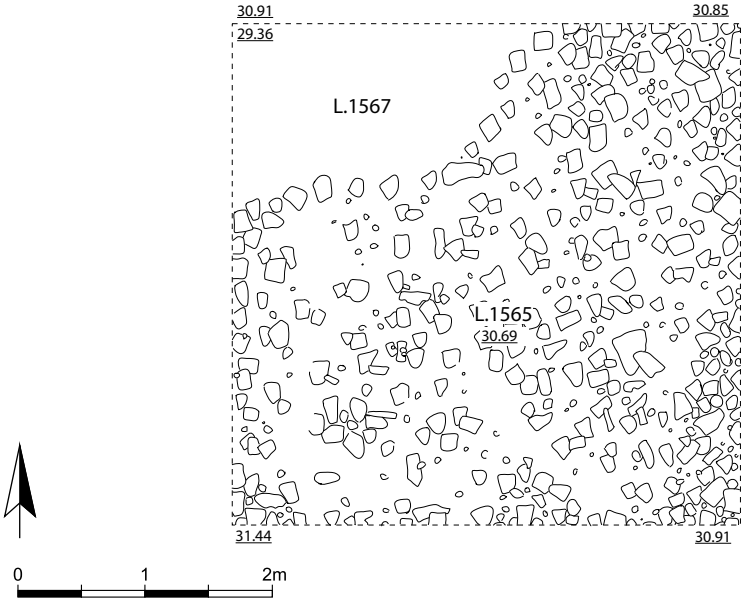


Figure 8b. Square A16.

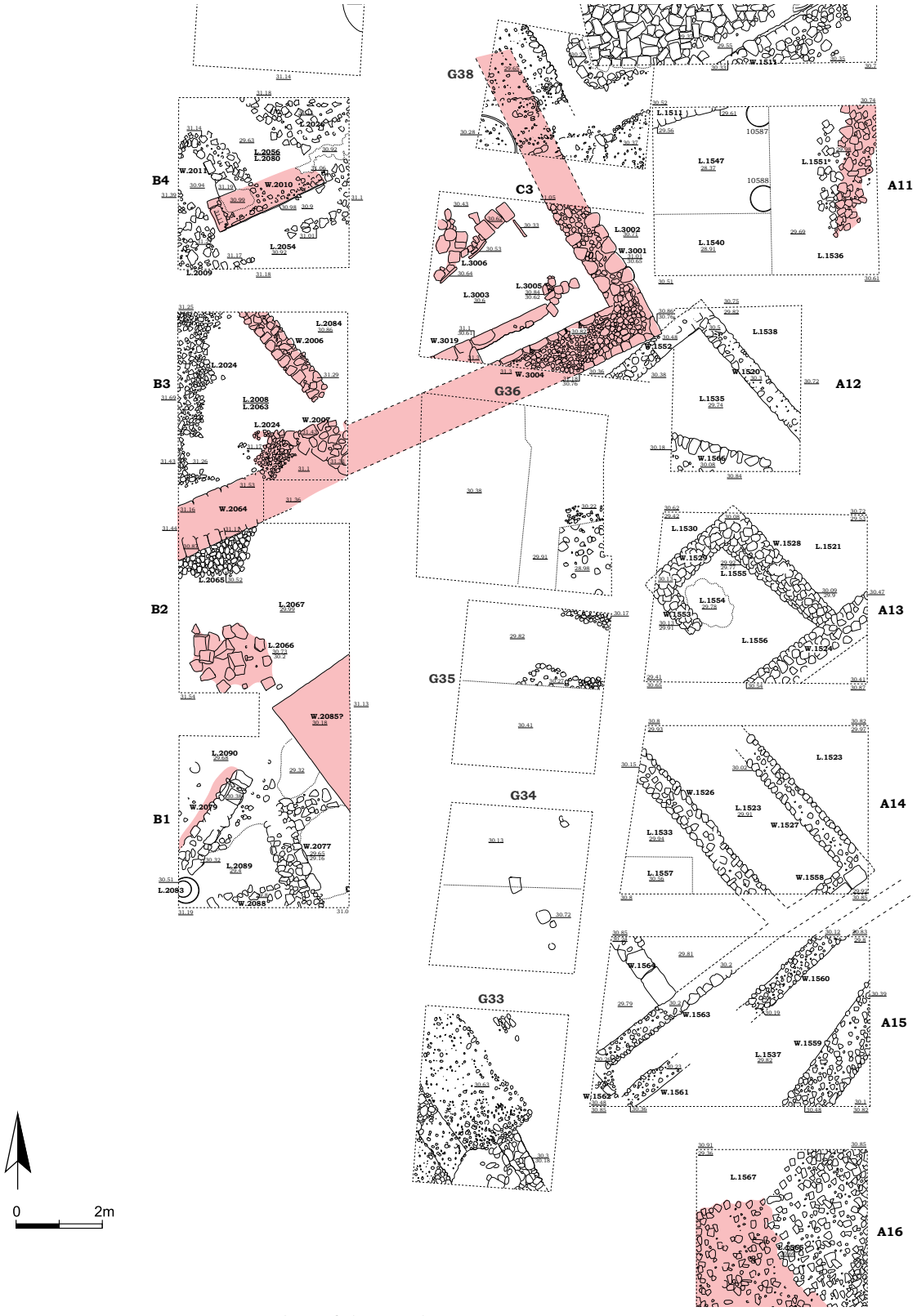


Figure 9. Horvat Hermas, plan of the southern part of the site, Stratum I/II (pink).

Figure 10. Looking south, Stratum II Walls 3001 and 3004 and fragments of ceramic vessels, stones and charcoal (L3005).

Figure 11. The building's walls 3001 and 3004. Wall 3019 is parallel to wall 3004.

STRATUM II

Stratum II, a Crusader level, was revealed below the Mamluk remains of Stratum I and is present mainly in Squares B2–4, C3, and A16. The thick (0.8–1.0 m) stone walls of a building (Walls 3001, 3004, 2064) make a corner. They were constructed of well-dressed and partially dressed stones with a rubble fill between courses (Figs. 9–10). The north-western part of the building is missing.

The floors that abutted the building were made of packed earth (L3003) and small stones (L2065). Part of a building was uncovered in Square C3; its wall was built of a single course of large stones plastered on the inner side (W3019 parallel to W3004, Figs. 9–11). Wall 2010 (Square B4), built of medium size stones and partially plastered along its southern half was an integral part of Complex C3. Floor L2080 abuts W2010 (Fig. 9).

The size of the building and the quality of construction suggest that this was a public structure. Very little pottery was found here.

Refuse pits (Figs. 13–14)

Refuse pits (L2051, 2030, 2044) of various sizes were found in the central area of the excavation in Squares B5–6 (Pit 2030/2051), C1 (Pit 3014) and A11 (Pit 1547, Fig. 14). The pits contained sherds, whole vessels, glass slag, and ash. All the pits abutted the earlier walls of Stratum III (e.g. in Square B5–6, Fig. 35). We have placed the discussion of these pits in the section describing Stratum II, but the pits could equally belong to Stratum I.

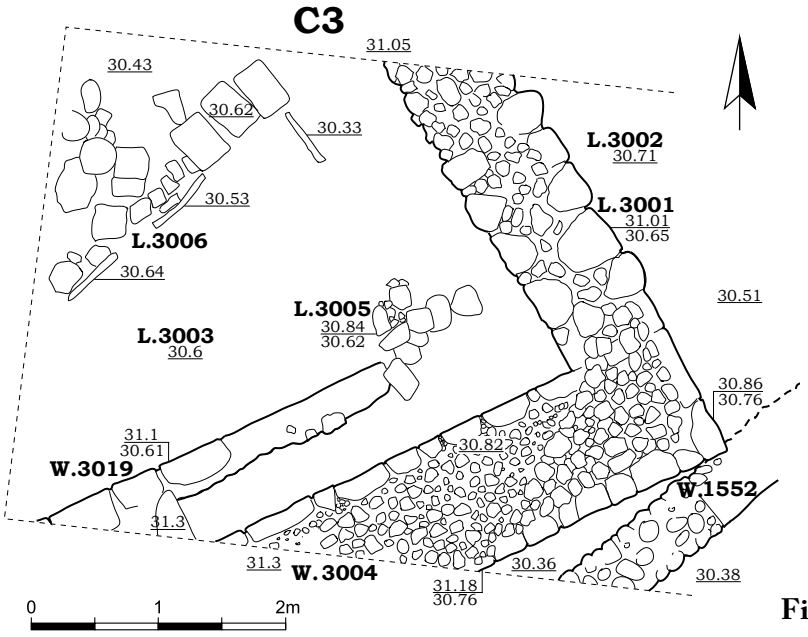


Figure 12. Square C3.

Figure 13. Square B5. Refuse pit 2030/2051. Plaster floor L2048 seals the pit.

Figure 14. Square A11, looking east. Refuse pit L1547, containing whole vessels. Floor 1551 can be seen above. .

STRATUM III

The Central Building (Figs. 15–18, 35)

Stratum III yielded a Late Byzantine and/or Early Islamic Period building complex—a central building surrounded by rooms. The complex clearly had two phases, each with its own building style. The main building and the northern rooms were carefully constructed from large stones, while the southeastern part of the complex was constructed from medium size stones. Refuse pits with large quantities of pottery (mainly jars) were excavated in the open spaces/courtyards.

The central building (plan Figure 34) was excavated in Squares A9–10, C2, B6 and its walls (3012, 2069, 1511, 1510) were constructed of two courses with a fill of small stones between courses. The length of the walls runs between 10 m (W1510) and 3 m (W1511); their width measures 1.5 m. Wall 1511 has two distinct phases that can be identified by offset courses.

We reconstruct the corner of surface 3012 as the southern side of the entrance into the central building (Figs. 16–17, 34).

The building's floor (L3013, L1512, Figs. 18, 34), was constructed of flagstones, and fragments of columns and capitals.

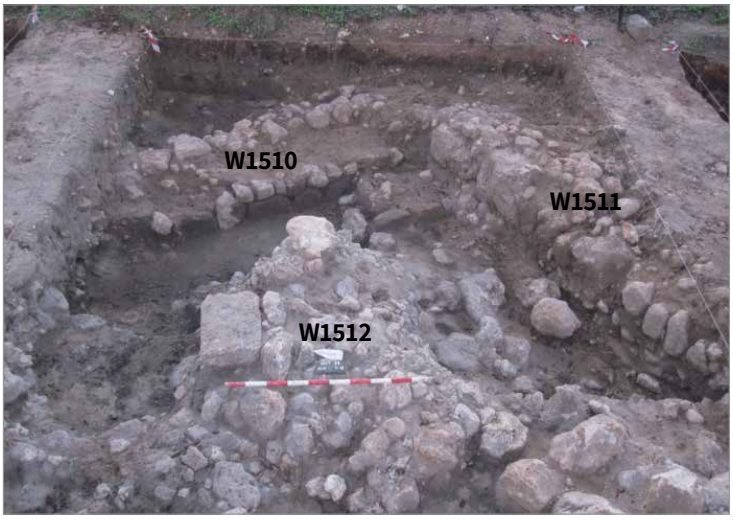


Figure 15. Square A9, walls in Structure 1511, 1510 with its floor and a layer of collapse.

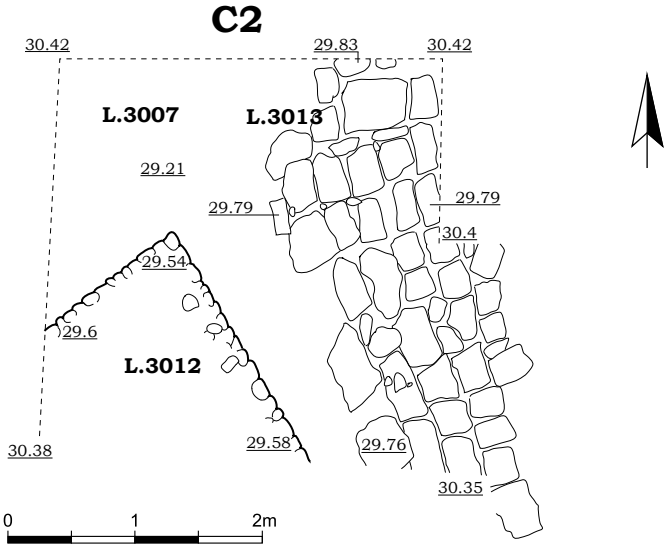


Figure 16. Square C2: the entrance to the building at its north, W3012.

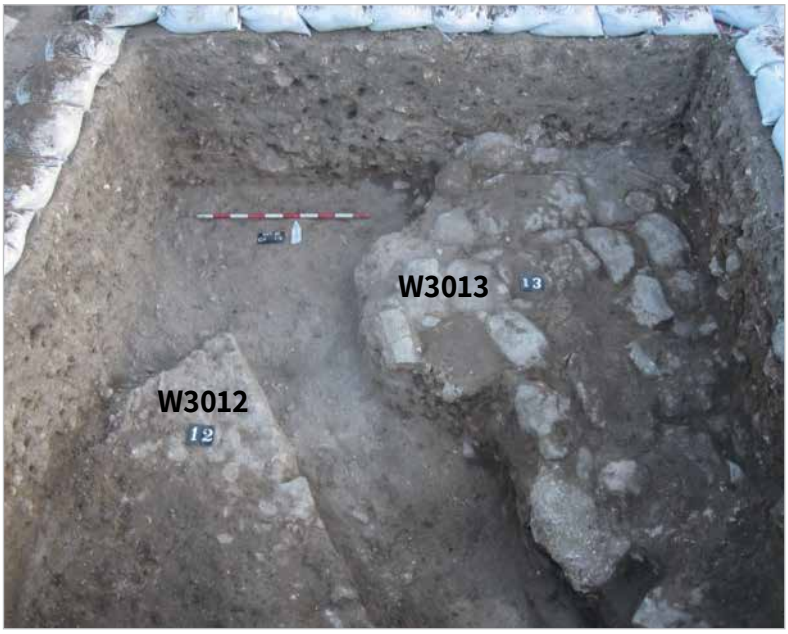


Figure 17. Square C2, walls 3013, 3012 and the building's floor L3013.

Figure 18. Squares A10 and C2, the building's floor L3013 and L1512 and the structure's walls (1510, 1515). The floors of the eastern and northern part of the building are missing.

The Northern Complex (Figs. 19–20, 35)

An asymmetrical square building was revealed in Squares B6-B8; its measurements were as follows: width 3.5 m. in the north, its southern wing measures 4.5 m and its length 6 m. Walls 2070, 2072, 2032, 2033 are preserved to a length of 1.5–4 m their thickness runs between 0.7–1m (Figs. 19–20). They are constructed from two lines of large dressed stones with a fill of small stones between them.

An alleyway/corridor (width 1.10 m) divided the area between the southern walls of the building (W2070 and W2071, sq. B7 northeast) and the central complex (Fig. 21).

Figure 19. The corner of the northern complex; walls 2032 and 2033.

Figure 20. Square B8, L2045, the building's floor with clay vessels upon it and walls 2032 and 2033..

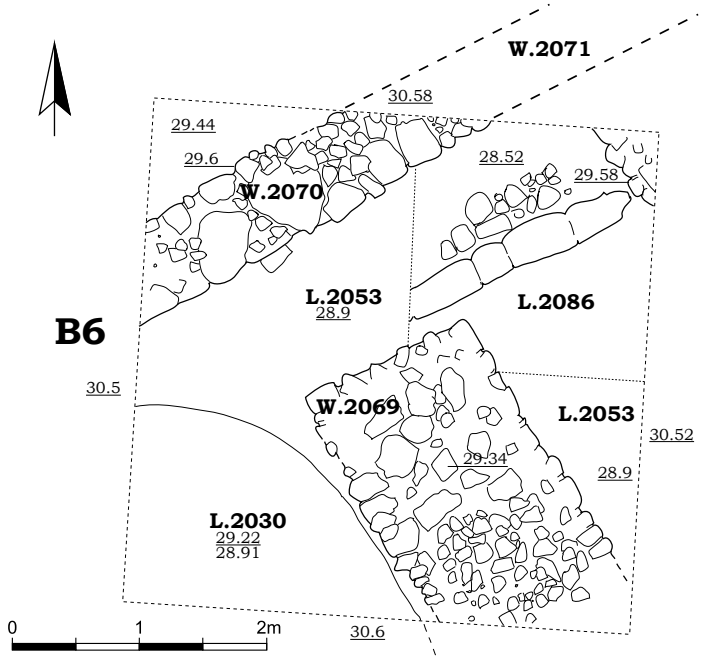


Figure 21. The alleyway/corridor.

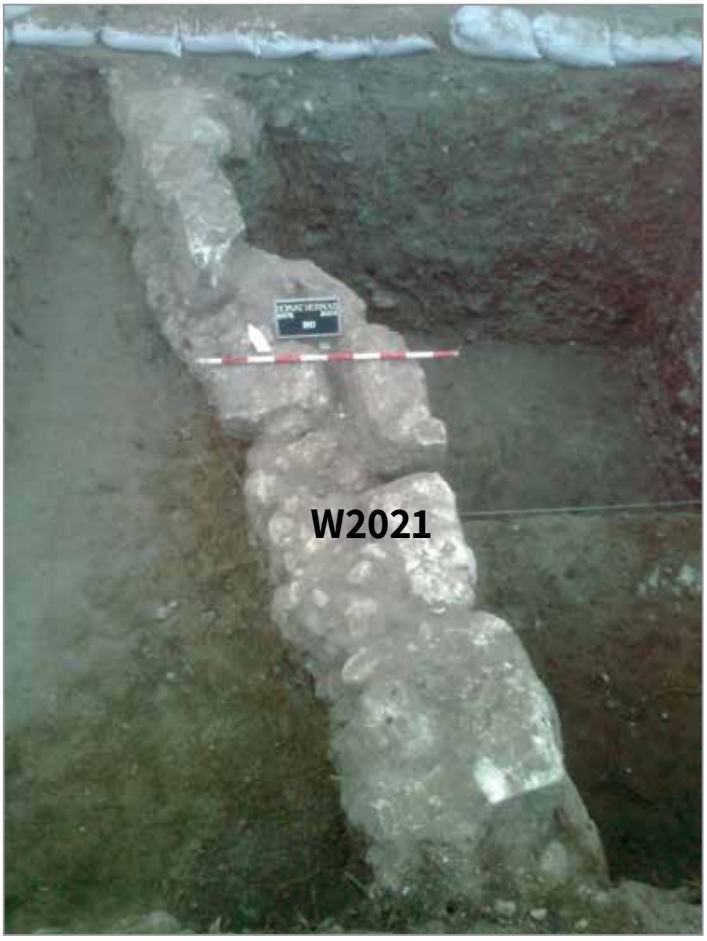


Figure 22. Square B10, Wall 2021.

Wall 2037 in Square B7 (Fig. 35) may have supported an arch that was part of the roof structure. The building's floor (Loci 2045, 2046, 2049, Fig. 18) was made of tamped earth.

Segments of walls (2033, 2036) and floors that belong to this phase (L2038) were revealed in Squares B9–10 and C1 (Figs. 34–35). Wall 2021, running southeast to northwest (Fig. 22), was constructed of large dressed stones and small field stones; only its eastern part and a tamped earth floor (L2023) remained. This wall continues to the north (W2040); a floor of tightly packed small stones abutted it (L2041, Fig. 23).

Wall 3016 and floor L3017 belonged to this building. A pillar with a square section was incorporated in the middle of the floor.

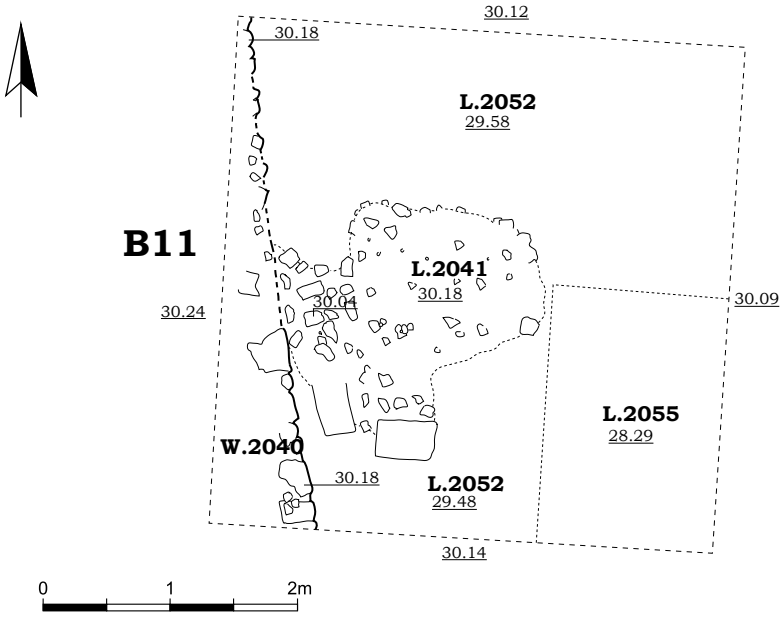


Figure 23. Square B11, Floor L2041.

Figure 24. Square C1, Wall 3016 and cobble floor L3017.

The Southern Complex

This complex was revealed in Squares A8–9, A11–15, B1, south and southeast of the central building (Figs. 37–38). A complex of square rooms orientated southeast-northwest was revealed, poorly built of medium size stones.

All that remained of the rooms on the east were Wall 1548/1549, constructed parallel to W1510 (part of the central building). The walls were 0.5 m thick and 1.2–2.8 m long. An entrance 1 m wide led into a rectangular room (L1508) with an installation constructed of flat dressed stones incorporating a stone grinding quern. Four compartments were uncovered, measuring 0.4 m x 0.5 m, incorporated into the northern part of the surface (Figs. 25–26). We interpret these as bins for grain to be ground into flour in the grinding installation. The floor of the room (L1550) Square A9, was made of small and medium field stones; its southern part was missing.

In Squares A12-A16 only part of the complex could be exposed; most of its western side was left uncovered by the IAA excavations (excavated by M. Ajami) which culminated about 0.5 m above this stratum's elevation. One could clearly see that the orientation of the buildings was different from that of both Stratum II and Stratum IV. The latter can be seen clearly in the plan (Fig. 36) and in Fig. 27.

Several construction phases are visible in the plan of the southern complex rooms. In Square A13 an entire rectangular room 1.9 m wide was revealed, its walls (1528, 1529, 1553) surviving to a length of 1.0–2.8 m. Their width measures 0.5 m and they were constructed from medium size stones. Floor L1544 abuts the walls of the building. Wall 1555 was revealed below W1528 and is earlier. Wall 1524 to the south crossed above floor 1554 and was later than the building (Fig. 28).

In Squares A14–15 we uncovered fragments of a building orientated southeast-northwest. Its eastern and southern walls were excavated, but

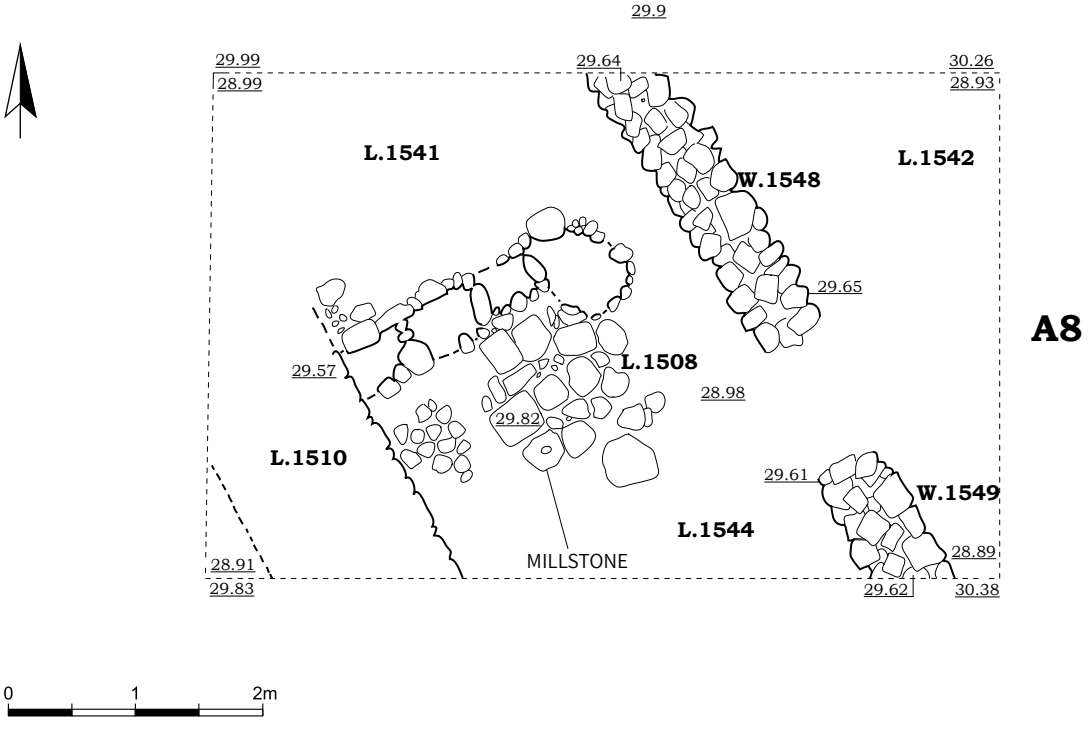


Figure 25. Square A8, entrance and the installation to its south.

Figure 26. Walls 1549, 1548 and the grain grinding installation L1508.

Figure 27. Looking east. Walls 1552 and 1520 of the Stratum III southern complex. Wall 1566 may be a stranded remnant of Stratum IV (Late Byzantine).

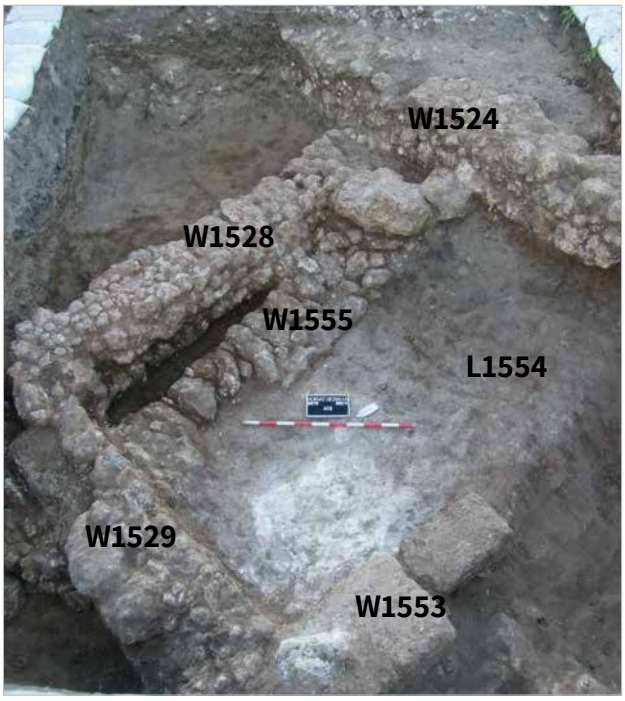


Figure 28. Looking east. The walls of Room 1528–1530–1553. The earlier wall (1555). In the southern part (top right), one can see W1524 from the last building phase.

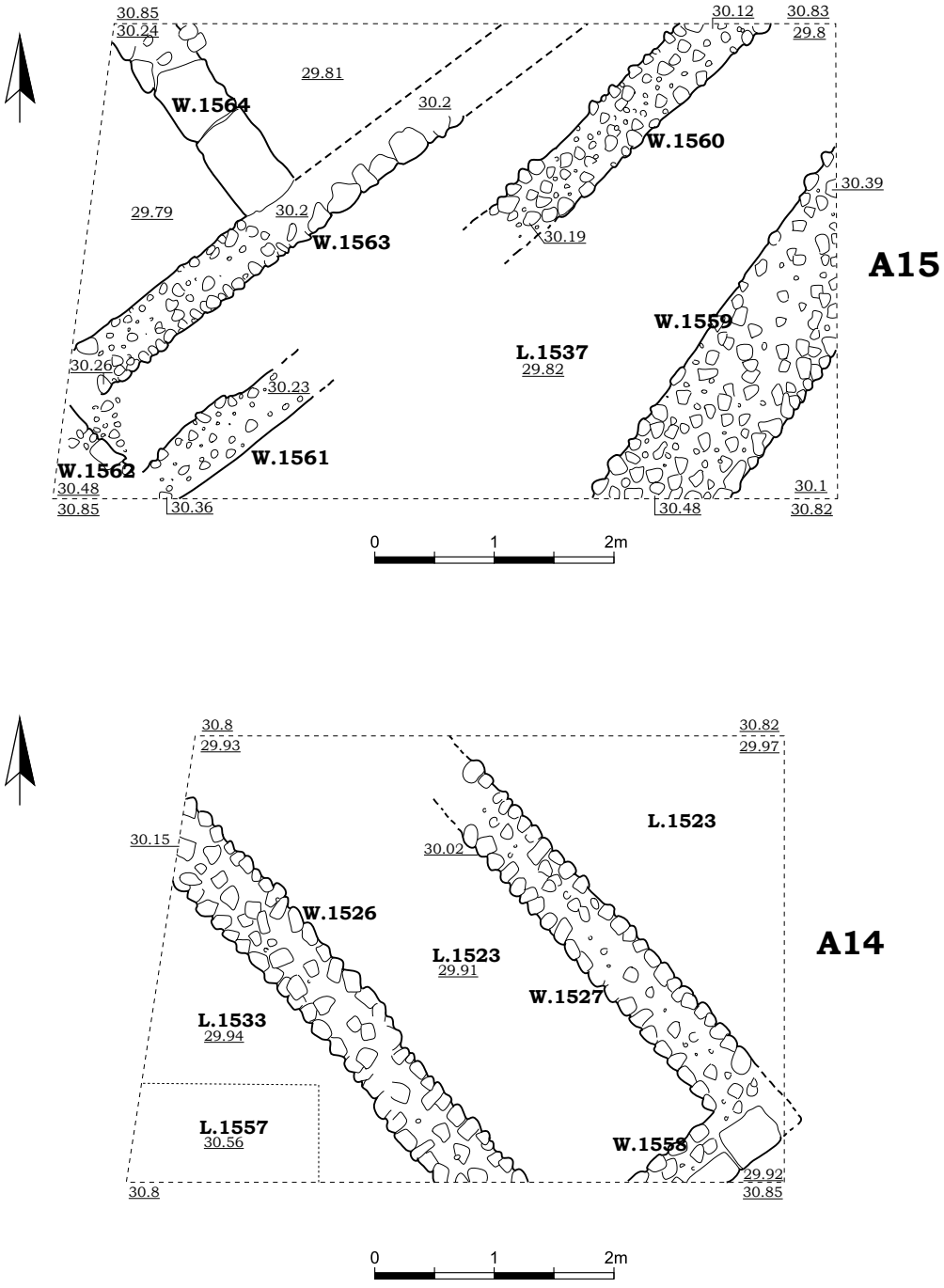


Figure 29. Squares A15 and A14.

Figure 30. The walls of the structures in Squares A14–15 (looking west).

Figure 31. Square A15 and W1559 in the south (top), which appears to belong to the complex.

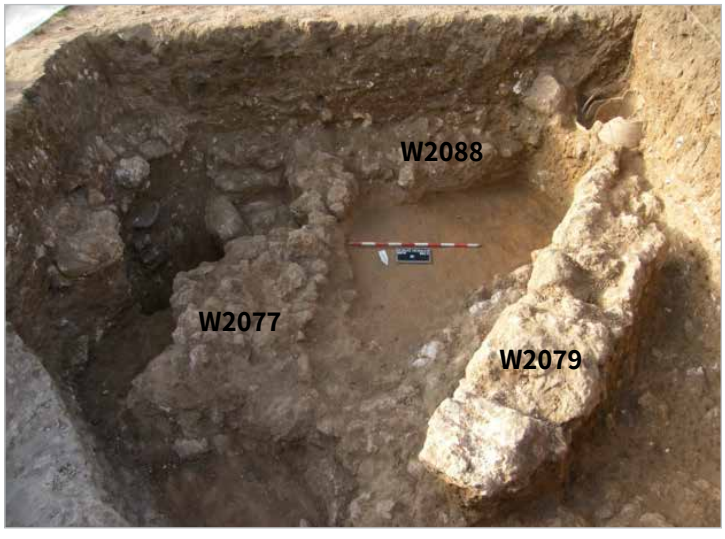


Figure 32. Square B1, looking south.

its western part was not revealed (Fig. 29). Walls 1526, 1527 and 1558 created a space 1.6 m wide with a floor (L1523) that abutted its walls.

Wall 1558 appears to continue as W1563 to the southwest. Close to and parallel to this wall to the south is Wall 1560–1561. The width of the corridor measured 0.70 m. The complex was closed on the south by W1559, which was 3.5 m long and 1 m wide (Figs. 29–31).

A corner of another building was revealed in Square B1 (Figs. 32, 38). A tamped earth and stone floor (L2090) abutted W2079.

STRATUM IV

Wall 2062 in Square B7 can be linked to this phase that dated to the Byzantine period. W2062 was revealed 0.80 m below Strata III. It was constructed from large and medium stones and measured 1.0 m in width and 1.5 m in length. The wall was found when opening a sounding in the eastern half of the square. In contrast to the buildings in Strata III and II, its direction was north-south. Another sounding in Square B6 yielded W2087 (Fig. 33).

Several other features may belong to this stratum, such as W1566 in Square A12.

Figure 33. Square B6, wall 2087 fourth phase (left bottom of the square). Wall 2069 to the south and wall 2070 to the north are later and were constructed above an early wall (see Fig. 19).

Figure 34. Hebrew Union College Horvat Hermas excavations, northern sector.

Figure 35. Hebrew Union College Horvat Hermas excavations, central sector.

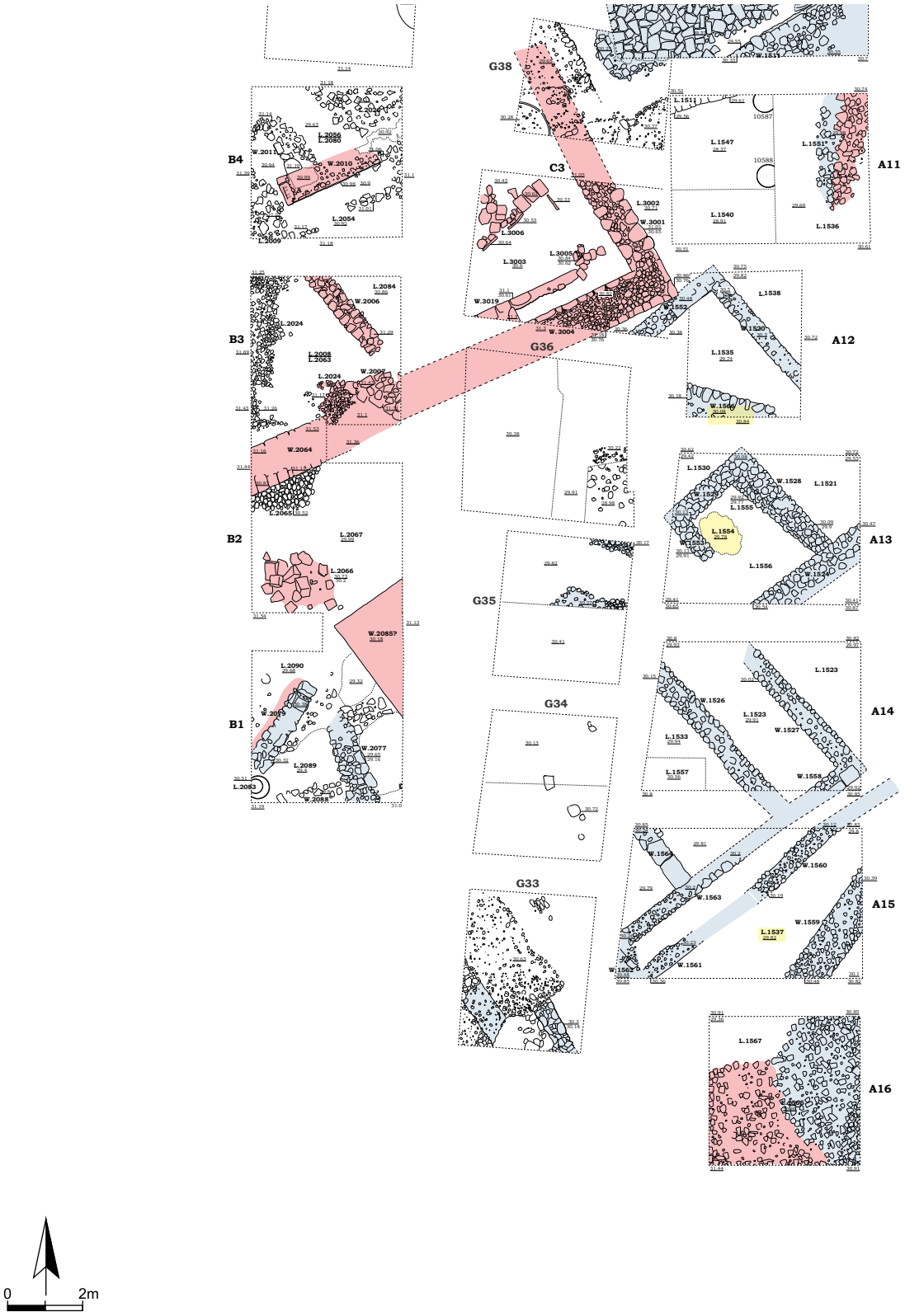
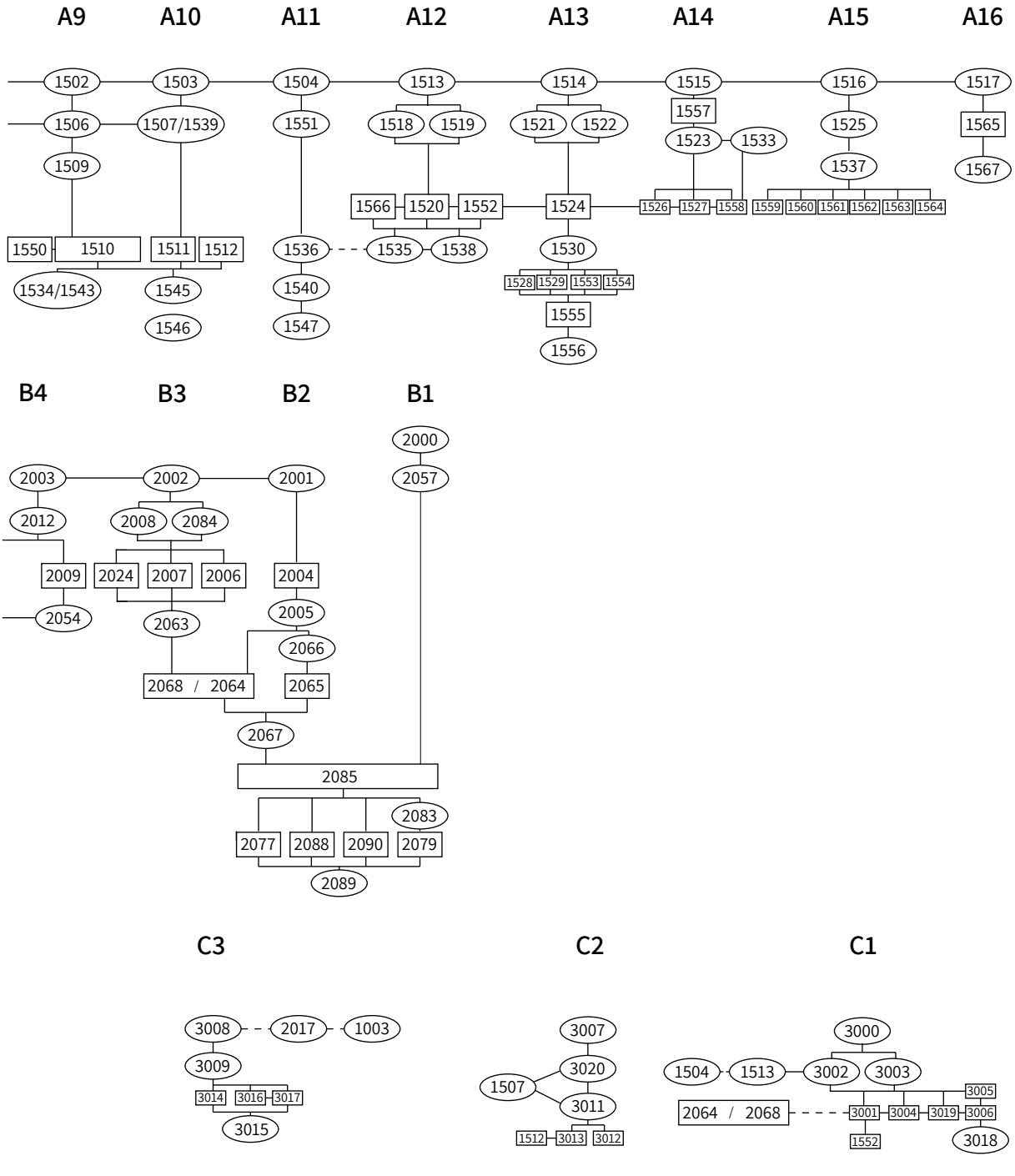


Figure 36. Hebrew Union College Horvat Hermas excavations, southern sector.

Figure 37. Locus matrix of the Horvat Hermas excavations.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SUMMARY

The settlement at Horvat Hermas existed from the late Byzantine period through the Mamluk period, with a peak in the Early Islamic period. During this peak period it included several building complexes, courtyards, an industrial area, and refuse pits. The excavation provides a significant addition to the material culture corpus of the period and the region and supplements the settlement picture in the region of Rehovot in late antiquity.

While most of the features were poorly preserved, we can say that some structures, particularly those in the central part of our excavation (Fig. 35), appear to have been public in nature, having substantial walls with dressed stone façades, often plastered. In various locations we found large deposits of ceramic wasters, and glass and glass slag, which may mark the presence of pottery and glass workshops. The southern part of the excavation field (Fig. 36) exhibits more modest architecture of the Byzantine/early Islamic period, which, together with the artifact inventory, suggests domestic functions. The north side of the excavation field (Fig. 34) preserved much less substantial remains.

When this 265 × 20 m area is combined with that excavated by the IAA some years ago (Sion 2005), we see a larger portion of the late Byzantine-early Islamic period village identified as 'Khirbat Hermas', which, prior to this archaeological work, was known only from historical sources (Fischer, Taxel, Amit 2008). The sub-area we excavated is at the settlement's northern edge, while the southern edge of the IAA sub-area may represent the village outskirts on that side (Elisha 1999). Thus, the combined IAA-HUC excavation site appears to have uncovered a north-south strip of the Horvat Hermas settlement. Our sub-area is distinctive in its more massive architecture and signs of industrial activity, while the IAA sub-area appears to have exposed a more central part of the ancient village, as well as some specialized activity areas. The IAA site (Sion 2005) to the east revealed more of the settlement, and at its eastern edge, a cemetery. Together, these archaeological investigations have brought to light a significant portion of Horvat Hermas.

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Table 1. List of loci from the Hebrew Union College Horvat Hermas excavations.

Number	Square	Type	Stratum
1000	A2	sediment	I
1001	A3	sediment	I
1002	A4	sediment	I
1003	A5	sediment	I
1004	A6	sediment	I
1005	A7	sediment	I
1006	A1	sediment	I
1007	A3	sediment	I-II
1008	A4	sediment	I-II
1009	A5	sediment	I-II
1500	A7	sediment	I
1501	A8	sediment	I
1502	A9	sediment	I
1503	A10	sediment	I
1504	A11	sediment	I
1505	A7	sediment	I-II
1506	A9	sediment	I-II
1507	A10	sediment	I-II
1508	A8	surface	III
1509	A9	sediment	III
1510	A-8-9-10	wall	III
1511	A10-11	wall	III
1512	A10	surface	III
1513	A12	sediment	I
1514	A13	sediment	I
1515	A14	sediment	I
1516	A15	sediment	I
1517	A16	sediment	I
1518	A12	sediment	I-II
1519	A12	sediment	I-II
1520	A12	wall	III
1521	A13	sediment	I-II
1522	A13	sediment	I-II
1523	A14	sediment	III
1524	A13	wall	II?
1525	A15	sediment	I-II
1526	A14	wall	III

Number	Square	Type	Stratum
1527	A14	wall	III
1528	A13	wall	IIIA
1529	A13	wall	IIIA
1530	A13	sediment	II
1531	A7	sediment	II
1532	A7	sediment	III?
1533	A14	sediment	I-II
1534	A9	stone concentration	III-IV
1535	A12	sediment	II-III
1536	A11	sediment	I-II
1537	A15	sediment	II
1538	A12	sediment	II-III
1539	A10	sediment	I-II
1540	A11	sediment	III
1541	A8	sediment	III
1542	A8	sediment	III
1543	A9	sediment	III-IV
1544	A8	sediment	III
1545	A10	sediment	III-IV
1546	A10	sediment	III-IV
1547	A11	deposit	II
1548	A8	wall	III
1549	A8	wall	III
1550	A9	possible surface	III
1551	A11	possible surface	I-II
1552	A12	wall	III
1553	A13	wall	IIIA
1554	A13	surface	III
1555	A13	wall	IIIB
1556	A13	sediment	III-IV
1557	A14	surface	III-IV
1558	A14	wall	III
1559	A15	wall	III
1560	A15	wall	III
1561	A15	wall	III
1562	A15	wall	III
1563	A15	wall	III

Number	Square	Type	Stratum
1564	A15	wall	III
1565	A16	possible surface	IIIA
1566	A12	wall	IV
1567	A16	sediment	IIIB
2000	B1	sediment	surface
2001	B2	sediment	surface
2002	B3	sediment	surface
2003	B4	sediment	surface
2004	B2	surface	I
2005	B2	sediment	I
2006	B3	wall	I
2007	B3	wall	I
2008	B3	sediment	I
2009	B4	surface	I
2010	B4	wall	II
2011	B4	wall	I
2012	B4	fill	I
2013	B5	sediment	I-II
2014	B6	sediment	I
2015	B7	sediment	I
2016	B8	sediment	I
2017	B9	sediment	I
2018	B10	sediment	I
2019	B11	sediment	I
2020	B10	sediment	I-II
2021	B10	wall	III
2022	B5	sediment	I
2023	B10	debris on surface	III
2024	B3	surface	III
2025	B8	sediment	I-II
2026	B4	surface	I
2027	B9	surface	III
2028	B6	sediment	II
2029	B9	sediment	I-II
2030	B6	pit	I-III
2031	B8	sediment	II
2032	B8	wall	III
2033	B8-9	wall	III

Number	Square	Type	Stratum
2034	B8	fill	II-III
2035	B7	sediment	I-II
2036	B9	wall	III
2037	B9	wall	I-II
2038	B9	linear feature	III
2039	B11	sediment	III-IV
2040	B11	wall	III
2041	B11	surface	III
2042	B7	fill	II
2043	B7	sediment	II
2044	B5	pit	I-III
2045	B8	possible surface	III
2046	B8	deposit	III
2047	B6	deposit	II-III
2048	B5	surface	II
2049	B5	sediment	III
2050	B5	deposit	III
2051	B5	deposit	I-III
2052	B11	sediment	III
2053	B6	sediment	III-IV
2054	B4	sediment	I
2055	B11	sediment	IV
2056	B4	sediment	I
2057	B2	sediment	surface
2058	B7	sediment	III-IV
2059	B9	sediment	III-IV
2060	B10	sediment	III-IV
2061	B7	sediment	IV
2062	B7	surface/wall	IV
2063	B3	sediment	I-II
2064	B2	wall	I-II
2065	B2	floor	I-II
2066	B2	rubble	I
2067	B2	sediment	II
2068	B3	wall	I-II
2069	B6	wall	II-III
2070	B6	wall	II-III
2071	B7	wall	II-III

Number	Square	Type	Stratum
2072	B7	wall	II-III
2073	B7	wall	II-III
2074	B7	wall	II-III
2075	B7	cancelled	cancelled
2076	B10	possible masonry feature	IV?
2077	B1	wall	IIIB
2078	B7	sediment	II-III
2079	B1	wall	III
2080	B4	sediment	II
2081	B8	sediment	III-IV
2082	B8	wall	II
2083	B1	jars	III
2084	B3	sediment	I
2085	B1-2	possible wall	II
2086	B6	sediment	III
2087	B6	wall	IV
2088	B1	wall	IIIB
2089	B1	sediment	III
2090	B1	surface	IIIA
3000	C1	sediment	surface
3001	C1	wall	I-II
3002	C1	sediment	I
3003	C1	fill	I
3004	C1	wall	I-II
3005	C1	tabun/kiln	I-II
3006	C1	surface	I-II
3007	C2	sediment	I
3008	C3	sediment	I
3009	C3	sediment	I
3010	C2	rubble	I-II
3011	C2	sediment	II
3012	C2	wall/surfaces	III
3013	C2	surface	III
3014	C3	pit	I-II
3015	C3	sediment	II-III
3016	C3	wall/architectural feature	II-III
3017	C3	surface	II-III
3018	C1	sediment	III

Ceramic Finds[1]

Achia Kohn-Tavor

Three strata were identified at Horvat Hermas. The pottery will be presented in a chronological order. The few sherds that do not relate to the stratigraphy (dated to the 2–4 BCE) will be discussed separately.

Stratum III dominates the site and dates to the late Byzantine-Umayyad period (c. 7th century), until the Fatimid period material (11th century). It is possible that industrial activity took place in this area prior to the Stratum III construction. This phenomenon is well known from villages surrounding Ramla, the capital of Jund Filastin, founded early in the 8th century.

Stratum II dates to the Crusader period and continues into the Mamluk period (12th–15th century). The ceramic assemblage has a long range and contains both Crusader and Mamluk types. The poor preservation of the architecture precluded the identification of stratigraphic phases and separating the pottery of the two periods was impossible.

The pottery from the meager remains of **Stratum I** dates to either the late Mamluk or early Ottoman period. Thus, the latest date of Stratum I may well be the 16th–17th centuries.

Since the excavation did not yield pristine loci, we have chosen to present the pottery typologically in three general assemblages: Persian-Hellenistic, Late Byzantine-Early Islamic, and Crusader-Mamluk.

The pottery found at Horvat Hermas is typical of assemblages from the southern Shephelah and the coastal plain. The majority of the vessels presented in the current report are well known. Parallels are taken from the main publications of sites in the vicinity in the field of medieval pottery—various publications on Ramla for the Early Islamic pottery, and the catalogue produced by Miriam Avissar and Edna Stern (2005) for Crusader and Mamluk pottery, and Khirbet el-Ni'ana for the Mamluk period (de Vincenz and Sion 2007).

It is important to note that the number of types does not represent the quantity of vessels.

THE PERSIAN-HELLENISTIC PERIODS (4th and 2nd Centuries BCE)

A small number of sherds were dated to the Persian and Hellenistic periods; pottery and architecture from the Persian period (5th–4th century BCE) were found during the 2006 excavation at Horvat Hermas (Sion and Parnos 2006: 21*). The sherds presented here date to the 4th and to the 2nd centuries BCE; there are no 3rd century finds at Horvat Hermas. This small group of sherds was perhaps deposited at this part of the site by later plowing or fertilizing activities.

The Ptolemaic Black Ware bowl (Fig. 1:1) is an imported bowl from Egypt, dated to the 2nd Century BCE. Bowl Fig. 1:2 is made from a rather coarse clay. It could also be a lid (Sandhaus and

1 I wish to thank Y. Arnon, I. Taxel, D. Sandhaus (Re'em) and R. Rosenthal-Heginbottom for their kind advice. All the mistakes are mine.

Kreimerman 2015 Fig. 2:3). Mortaria Fig. 1:3 is a grinding bowl. The high ring base is characteristic of the 4th century BCE in the coastal region (Kapitaikin 2006 Fig. 2). Krater Fig. 1:4 has a typical folded rim and vertical handles (Sandhaus and Kreimerman 2015 Fig. 2:6). The small juglet in Fig. 1:5 with the carinated body is dated mainly to the 4th century BCE (Kapitaikin 2006 Fig. 10). Jug Fig 1:6 has a high neck and is dated to the 5th–4th centuries BCE (Kapitaikin 2006 Fig. 9:5–7).

STRATUM III – THE BYZANTINE AND EARLY ISLAMIC PERIODS (7th–11th Centuries)

The first part of the assemblage is dated according to vessels with a relatively well-defined life span. Samarian oil lamps (Fig. 23:1–4) and slipper oil lamps (Fig. 23:5, 8) date to the late Byzantine, but mainly to the Umayyad period (7th-mid 8th centuries CE). Conical lids (Fig. 20:1–4), Khirbet el-Jiljil pottery (Fig. 7:17), and the southern jugs (Fig. 7:18), are typical to the late Byzantine period. However, none of the above provide sufficient evidence to date the settlement to the Byzantine period proper.

A number of vessels are more typical to the Umayyad period, e.g. the Coptic bowls (Fig. 2:1–6) and the Egyptian jars (Fig. 8:4). It seems more than likely that an additional Egyptian jar and an amphora should be dated to the Umayyad period as well (Fig. 8:5–6).

All the above vessels probably date to circa the 7th –8th centuries.

A large number of sherds came from middens or pits (L1547, L2030, L2044, L2051), of the late Byzantine-Umayyad periods and include Gaza storage jars (Fig. 8:7–8) and southern bag-shaped storage jars (Figs. 8:9–12; 9:1). They may relate to industrial activity on or near the site.

Most types date to the Abbasid and Fatimid periods (mid 8th–11th centuries) and are well known from the Ramla region. These are domestic types and include vessels for serving and preparing food. The glazed bowls and buff ware jugs stand out. They were produced in Ramla.

Although the assemblages clearly show continuity from the Early Islamic period to the Crusader period, we cannot rule out the existence of a gap in the settlement between Stratum III and Stratum II. In any event, the double-slipped bowls with sgraffito (Fig. 3:12) are typical of the early 11th century.

Bowls (Figs. 2–3)

Painted-glazed bowls– 'Coptic Glazed Ware' (Fig. 2:1–6). These are among the earliest types of glazed bowls, appearing in Jund Filastin from the beginning of the 8th century CE to the mid–9th centuries. Most of the bowls have a flat base and carinated walls. The clay is fine and pinkish with small golden flakes. These bowls are mostly slipped. The glaze is opaque, sometimes shiny and is applied by brush. The paint is usually purple-brown or green on a straw-yellow background (Arnon 2008: Type 221; Avissar 1996: 75, 'Coptic glazed ware'; Kohn-Tavor 2107: Fig. 2.1).

Common glazed bowls (Figs. 2:7–9; 3:1–2) are characterized by a concave wall, a flaring, pointed rim, and, usually, a low ring base. They are made of buff clay; the color runs from yellow to pink. The internal side, and sometimes the external side, are slipped and glazed. The glazing is green on a straw-yellow background, with brown-purple stains, sometimes in patterns. The quality of the fabric and decoration vary. These usually date to the late 8th–early 9th to the 11th centuries; they are one of the hallmarks of Abbasid-Fatimid assemblages (Avissar 1996: 7881; and see further in Kohn-Tavor 2017: 25–28). Some have no decorative glaze (Fig. 3:4-5).

Double-slipped bowls with sgraffito (Fig. 3:3). This is a rather common bowl type, but only few shards were found here. Forms are simple with an upright and thickened or flattened rim. The decoration is a monochrome yellow or polychrome glaze, with sgraffito. Date: first half of the 11th to mid–12th century (Avissar and Stern 2005: Type I.1.1; Kohn-Tavor 2017: Fig. 2.9).

FBW bowl form 2B (Fig. 3:4-5). These are flat bowls with a variety of rims: flared, concave, thin, and thickened. The wall is concave or carinated, with a flat base that is sometimes decorated with concentric incisions. Some are worked on the outside, using sharp tools. Some are decorated with black and white paint. Date: 8th to 9th/10th centuries (Kohn-Tavor 2017: Fig. 2.41).

FBW bowl form 1E (Fig. 3:6–7). This FBW type includes wide goblets that are common at many sites. The orange clay sometimes has a gray core. The wall is thin, upright or concave, with a simple rim. The base is flat, mostly with concentric circles on the outside. The outside is worked with a sharp tool, sometimes incised with wavy lines. Several bear red or black painted designs on a white background. Their date is debated—Umayyad to Abbasid periods (Arnon 2007: Type 1.3a; Kohn-Tavor 2017: Fig. 2.42).

Egyptian Red Slip A bowls (Fig. 3:8). This is the Nilotic fabric version of African Red Slip Ware. A thin reddish slip is applied, sometimes only inside the vessel. The interior is also sometimes burnished (Hayes 1972:387–401, Types J, K; Hayes 1980: 530–532). Hayes dates them to the 6th–7th centuries, but more recent research dates them to the 8th–9th centuries (Arnon 2007: Type 1.1d Egyptian red-slipped bowls; Cytryn-Silverman 2013: Fig. 7.1:1).

Cypriot Red Slip bowls (CRS) (Fig. 3:9–10). These are rather common imported bowls, known as Hayes Type CRS 9, dated to the late 6th century (Hayes 1972: Form 9). More recent dates show that this type continues into the Early Islamic period.

Buff hemispherical bowls (Fig. 3:11–13). These plain bowls of coarse clay are very common at the beginning of the Early Islamic period. They vary in size and profile; the wall is concave and the rim is in-curving, mostly thickened and sometimes flattened. The base is a simple disc. Found in Ramla (Arnon 2007: 3839, Type 1.1a Hemispherical Bowl; Kohn-Tavor 2017: Fig. 2.11). The type is dated by Arnon to the 9th century.

Hemispherical bowls (Fig. 3:14–16). One complete, well-fired, simple bowl of this type was found. At Caesarea, the type is dated to the 8th–9th centuries (Arnon 2008: Type 122A).

Buff deep bowls (Fig. 3:17–21) are coarse and characterized by an upright, carinated wall. The rim is thickened or folded. Some of the more closed vessels might be defined as kraters (Fig. 3:20–21). Buff deep bowls were made in the north of Palestine (Avissar 2013 Type PLB12). Date: end of 9th-early 11th centuries (Kohn-Tavor 2017: Fig. 2.12:1–10).

Chisel-decorated bowls (Kerbschnitt) (Fig. 3:21). Only one piece of this distinctive type was found. These bowls have an upright wall and a flat base. The rim is simple or flattened. The clay is orange, sometimes with a grey core. The exterior surface is densely chiseled with geometric patterns. Sometimes red, blue, or white paint and an orange slip were applied. These bowls are found throughout Israel in small numbers. Date: 8th–10th centuries (Avissar 1996: Type 11: bowls with 'Kerbschnitt' decoration; Tal and Taxel 2008: Fig. 6.82:1).

Basins (Figs. 4–5)

Small basins with a folded rim (Fig. 4:1–5) could be defined as bowls, but their folded rim (in some cases with one ridge or more) links them to the basin family, as does the combed decoration that can be seen on some. The forms and clay vary. These vessels were found at Ramla (Kletter 2005: Fig. 15:3; Kohn-Tavor 2017: Fig. 2.17) and other Abbasid-Fatimid sites.

Small basins of buff clay (Fig. 4:6–8): a variety of deep small basins (or large bowls). These simple basins are common in the south of Palestine and were in circulation from the Umayyad period through the 11th century (Kletter 2005:70, Fig. 14; Avissar 2013: 8790; Kohn-Tavor 2017: Fig. 2.18).

Arched rim basins (Fig. 4:9–10) though it does not precisely fit this group, these might be a local version of those basins, very common in Jerusalem at the late Byzantine and Umayyad periods (Magness 1993: 206; de Vincenz and Sion 2007: Fig. 1.3, 1.4; also Cytryn-Silverman 2010: Ware OV–III).

Large basins (Figs. 4:11–16; 5:1–6) are very common throughout the Byzantine and Early Islamic periods. They are made of coarse brown-red clay, most with pale self-slip. These basins come in a range of sizes and shapes. Many have a combed decoration (Figs. 4:11-15; 5:3,5-6 Kohn-Tavor 2017: Fig. 2:19).

Cooking Vessels (Fig. 6)

Cooking pots with neck (Fig 6:1–4, 14). This handled cooking pot type dates from the Byzantine period and continues into the Early Islamic period. The body is spherical with a short upright neck. Most of the rims are simple or flat. Handles can extend from the rim or neck to the shoulder. The body is ridged. In general, the Byzantine period vessels have longer handles and shorter necks.

Casseroles (Fig. 6:5–8) are very common vessels, part of a long tradition which extended from the Late Roman through the Fatimid period. Casserole shapes hardly changed. The fabric is brown-red and well fired. The walls are thin, straight, concave and sometimes carinated, with a round base. Most of the vessels bear soot. The rim is cut in such a way that a lid will fit (below, casserole lids). Below the rim are attached two horizontal twisted handles (Avissar 1996: Type 12: Unglazed Cooking Bowls; Arnon 2007: Open Cooking Ware-Casseroles) Two of the vessels are exceptionally small (Fig. 6:5–6).

Casserole lids (Fig. 6:9–13) were made together with the vessel. The profile is convex, standing at various heights, and the rim is cut horizontally. At the top of the lid is a knob handle with a ridge, to help lift the lid. Some are ridged, a few with wavy combing (Avissar 1996: Type 23 Lid for Cooking Vessels; Kohn-Tavor 2017: Fig. 2.22). Some vessels here have thicker wall and are made of sandy clay and a rounded rim; they may be locally made (Fig. 6:11–12).

Fine Byzantine ware (FBW) globular kraters (Fig. 6:14-15) are not usually classified as FBW, but they have the same fine, metallic, orange clay. The base was most probably rounded, and the rim flared to a ledge or triangular profile. They probably had two handles (Kohn-Tavor 2017: Fig. 2.43:6). These vessels were common in the south of Israel in the 9th and 10th centuries, along with other FBW types. It is reasonable to assume that these kraters were indeed used for cooking (Kohn-Tavor 2017: Fig. 2.43:4–8). The rounded fine lids are associated with these cooking vessels (Fig 6:15); they are rather thick lids, made of orange clay and with a gray core, with a round flat knob surrounded by incised circles (see Kohn-Tavor 2017: Fig. 2.40:34).

Cooking pots with straight neck (6:) these closed cooking pots have a short straight carinated neck with a slightly thickened rim. The bottom is glazed in brown-purple glaze, with drippings on the upper parts. It is assigned to the Abbasid-Fatimid periods (Avissar 1996: Cooking Vessel Type 2).

Glazed globular cooking pot (Fig 6:17) globular-shaped vessels with a short neck and short, upright, and rounded rim. At the base of the neck there is a ridge dividing it from the body. The quality of clay and firing is better than in other cooking vessels. The bottom is glazed purple brown, with splashes around. They are quite common. They first appear at the 9th century and change their form in the 11th–12th century (Avissar 1996: cooking vessel Type 5; see Avissar and Stern 2005: Type II.2.1).

Small Containers (Fig. 7)

White painted jugs (Fig. 7:1–3) are characterized by a metallic, red-brown clay that has a gray-black color on the external side as a result of a secondary reduced firing, a technique that is typical of the north. The most outstanding aspects of this type apart from the wavy and straight white lines are a wide straight neck with a rectangular rim. They have a nozzle and an omphalos base (Avissar 1996: Small Container Types 15, 16). These vessels were common at the Ramla South excavations, and it was suggested that they were produced there (Tal and Taxel 2008: Jug Type 9)

Buff/cream ware jugs and juglets (Fig. 7:4–11) are one of the dominant vessels of Abbasid and Fatimid assemblages. It appears first in Umayyad contexts, becomes widespread during the Abbasid period, and disappears at the end of the Fatimid period (Arnon 2008 Type 521; Stacey 2004: 130, Jars and Jugs in Pale Cream ware). The decoration of these vessels indicates they served as table ware. The jugs with combing beneath the rim usually have a carinated body (Fig. 5:5; Kohn-Tavor 2017: Fig. 2.30). The jugs with incised decoration usually have spherical body (Figs. 8–10; Kohn-Tavor 2017: Fig. 2.31). Less common in this group are small globular juglets with a narrow neck (Fig. 7:8; Kohn-Tavor 2017: Fig. 2.32:3–4). A few fragments of the distinctive mold made jugs were also found (Fig. 5:9–11; Kohn-Tavor 2017: Fig. 2.33). Circles of flowers or grape clusters are usually impressed on buff ware jars (Fig.5:16; Kohn-Tavor 2017: Fig. 2.35).

Other jugs (Fig. 7:12–15) some jugs are not related to a specific family and are generally dated to the Byzantine-Early Islamic periods by fabric and form.

Khirbet el-Jiljil Pottery (Fig. 7:17) this roulette-decorated body sherd of a jug, known from Khirbet el-Jiljil, is associated with the Bet Shemesh region. Date: late Byzantine period (De Vincenz 2005: Fig. 8–9).

Flasks (Fig. 7:18–21) are common in assemblages of the 8th–10th centuries and are mostly made of buff ware (Arnon 2008a: Type 528 Pilgrim Flasks). The body is made of two bowls, to which a neck was attached above a perforation in the upper part. The handles are attached to the vessel at the shoulder.

One of the flasks has a long neck with two wide handles (Fig. 5:18). Found in late Byzantine context in a number of southern sites (Erickson-Gini et al. 2006: Fig. 28:3–4).

Large Containers (Figs. 8–9)

Buff ware jars (Fig. 6:1–3). Some of these could be categorized as jugs. Similar jars were found in Ramla (Arnon 2007: Fig. 23:8; Kohn-Tavor 2017: Fig. 2.28:1–6).

Egyptian Jars (Fig. 6:4–6). Egyptian imports are quite common during the Umayyad and Early Islamic Period, e.g. 'Coptic Bowls' (Fig. 2: 1–6), and small storage jars (Fig. 8:4). Also presented here are amphorea, a rare find in Israel (Fig. 8:5–6). They date to the 4th–7th centuries and are found in Egypt in the 7th century (Egloff 1977: Fig. 22:9, Late Roman Amphora Type 7).

'Gaza' jars (Fig. 8:7–8) are jars with a long body, no neck, thickened rim, and pointed base. Thick ribbing covers the body and fragments of clay are prominent around the rim. This type was produced in the 3rd through the 8th centuries (Adan-Bayewitz 1986: Type 2).

Southern bag-shaped storage jars (Figs. 8:9) have a short, slightly swollen neck, sloping shoulder, and wide bag-shaped body. The body is ribbed, with two handles attached at the shoulder. The clay is coarse, red-brown, and sandy. It is common in southern sites in the 6th–9th centuries (Kohn-Tavor 2017: Fig. 2.25:1–5). One vessel was punctured after firing, perhaps attesting to wine making (Fig. 8:12). Another has an exceptionally long neck (Fig. 8:9). A workshop of these jars was found at At Ramla-South (Tal and Taxel 2008: 63).

Central Hill Country storage jars (Fig. 9:1-6). This group has been manufactured in the central hill country. These jars have fine, well-fired orange clay, in some cases with a gray core. The form is large and bag-shaped. A wide neck often bears a ridge at its base. Combing is also common. The neck form might be tall, short, narrow, wide, swollen, ridged, or combed. One jar here has a flaring short neck (Fig. 9:6). Most rims are simple and pointed (Tal and Taxel 2008: storage jar Type 2: Kohn-Tavor 2017: Fig. 2.26, 2.27). Many of these jars' handles were stamped (Amitai-Priess, below). The typical pithoi of the Early Islamic period are related to this family by matrix.

These are massive hand-made vessels with a wide body and no neck. The form of the rim varies (Fig. 6:7; Avissar 1996: 149, storage jar Type 6; Kohn-Tavor 2017: Fig. 2.28: 4–5). One jar, of exceptional material, might be related to this family (Fig. 9:6).

Northern bag-shaped storage jars (not drawn). Very few shards of this type were found. Common in the north of Israel, they have red-brown, metallic clay with a grey-black exterior created by reduced firing. The neck is straight, the rim is squared off and it sometimes has a gutter. The body is decorated with wavy white stripes. This type began in the Byzantine period and continues into the Early Islamic period (Avissar 1996: storage jar Type 4). They are quite common at Ramla South (Tal and Taxel 2008: storage jar Type 4). It finally disappeared in the Crusader period (below).

Amphora (Fig. 9:8). This is a rare type here and from an unknown provenance. Similar vessels were found at Khirbet Qatara (Gedera) in recent excavations (I. Taxel, personal communication).

Amrit/ Tartus pithos (Fig. 9:9). The identification of this vessel is not certain, but it seems to be an Amrit/Tartus pithos, manufactured at northern Syria at the Late Byzantine period. It was exported to other Levantine sites (e.g. the Homs region, Reynolds 2014: Fig. 9d), though it is rare in the southern Levant.

Lids

Cone-shaped lids (Fig. 20:1–4). These are massive and crude, probably made to cover the mouths of storage jars. Their fabric is sandy, resembling that of the southern Palestinian and Gaza jars. They have a ridged cone form with a large knob on the top. One lid has a perforated handle, made for attaching a string (Fig. 20:3; cf. de Vincenz and Sion 2007: Fig. 4:3–15). They were found in Byzantine period contexts. Only one bell-shaped lid, of the type common in Early Islamic sites in the region of Ramla, was found here (not drawn; cf. Kohn-Tavor 2017: Fig. 2.39:1–5).

Oil Lamps (Figs. 23–24)

Late "Samarian" lamps (Fig. 23:1–4) decorated with simple geometric decoration. According to Hadad's division, Variant 1 has a round filling hole (Fig.23:1-3), while Variant 2 is noticeable for the horseshoe shaped filling hole (Fig. 23:4). They are dated from late 6th century reaching a peak at the Umayyad Period (Hadad 2002 Type 32). Variant 1 is the common one here.

"Candlestick" lamps (Fig. 23:5–8) are a common type from the 5th to early-mid 8th century (Hadad 2002 Type 28). This is the most common type in this excavation. One specimen (Fig. 23:7) is made of well-fired, grey clay and decorated also on its base.

"Tongue Handle" lamps (Fig. 24:1–3*)* are often made of buff ware similar to the buff clay of the Early Islamic period jugs. The mold decoration is rich and varied, mainly vegetal and geometric. They are very common from the late 8th-early 9th to the 11th century (Hadad 2002 Type 37). Umayyad oil lamps of this type (cf. Hadad 2002 Type 36) have not been recorded, but this is probably only by chance.

Roof tiles (Fig. 21:15–16).

Two types of roof tile were found here, differing in their ridge profile. Roof tiles were common in the Byzantine period and in the Early Islamic period for roofing public buildings such as churches. The tiles attest to the existence of a public edifice at the site. Fragments of columns and capitals were found in Square C2, which may be related to the hypothetical public building. A public building from the Byzantine period was excavated in another area of Horvat Hermas (Elisha 2007).

Miscellania

Sphero-conical vessel (Fig. 21:20). Many speculations have been forwarded as to the purpose of these vessels and their possible contents, ranging from 'Greek fire', beer, perfume, mercury, to hashish (Amitai-Preiss 2017: 194). The body is rounded, sometimes oblong. The base is narrow, with a button-like or ring base. The neck is short, narrow, and sometimes has a ridge at its base. The rim is thickened. Many are decorated with incised patterns. They are found from the Umayyad to the Mamluk periods (Kohn-Tavor 2017: Fig. 2.37: 8–9). This example is made of grey, well fired clay, more in line with the earlier types.

Industrial vessel? (Fig. 22:5) is a bi-conical vessel with a horizontal handle and a strainer pierced through the center (not drawn). It is made from cooking pot material, similar to the casseroles of the Byzantine-Early Islamic periods. The inside is covered by a white material, perhaps plaster. Therefore it might be related to industrial activity.

Thumbed bowl (Fig. 22:6). This small, fine bowl has thumbing decoration around the rim. It is rather flat compared to other bowls. No parallels were found. Dated by the fabric to the Early Islamic period.

Incense burner (Fig. 22:7). Ceramic incense burners were common in the Islamic period in the Middle East (Le Maguer 2011). The form, dark ware and incised decoration of this one has early Islamic parallels and belongs to Le Maguer's Type C1 (e.g. Le Maguer 2011: Fig. 1:2; and see Kohn-Tavor 2017: 2.12:18).

Zoomorphic vessel (Fig. 22:9). A few fragments of zoomorphic vessels were found. They first appeared in the Late Byzantine period (Vilozny 2010: 325) and were common in the Umayyad, Abbasid and Fatimid periods (Stacey 2004: 141; Avissar 2013: 116). Many were recovered in the Ramla vicinity and further south. The vessels probably depict a donkey. Zoomorphic vessels are most probably toys (see further discussion at Kohn-Tavor 2017: 47–48, Fig. 2.45).

STRATA II–I: THE CRUSADER TO MAMLUK PERIODS

(12th to 15th Centuries)

Imported vessels characterize Strata II–I—vessels such as the Byzantine Sgraffito Ware (Fig 11:1–4), Aegean Ware (Fig. 11:5–7), Cypriot Slip-Painted Ware (Fig. 12:1–2), North African Blue and Brown Ware (Fig. 12:3) , cooking bowls (Fig. 14:5), and the amphora (Fig. 19:7). The above vessels date to the Crusader period and are common in many Frankish sites. The location of Horvat Hermas bordering the coastal plain suggests that the site may have been a Frankish settlement. There is no evidence of a gap in the settlement between the Frankish and the Mamluk periods. And it is more than likely that the site was settled also during the short Ayyubid period. The imports cease in the Mamluk period. The Mamluk glazed bowls are made locally: double slip bowls (Fig. 10:1–2), bowls with molded decoration (Fig. 10:3–4), monochrome glazed bowls (Fig. 10:5–10), handmade soft-paste monochrome glazed bowls (Fig. 10:11–13), bowls with slip-painted decoration (Fig. 11:8–14). The Mamluk period is also characterized by simple, coarse, handmade vessels: cooking pots, bowls,

jars, and jugs. Bowls with molded decoration (Fig. 10:3–4) are a good 14th century example of Mamluk material. The simple, coarse, handmade vessels (jars and bowls) continue into the Ottoman period. It is thus difficult to provide accurate dates. The site may well have been settled in the Early Ottoman period, in the early 16th century.

Bowls (Figs. 10–13)

Double slip bowls (Fig. 10:1–2) are of low quality; most have a brown-red clay. The walls are curved and ridged, and the base is a wide disc. The entire bowl has a light slip that covers the dark clay. The inner part of the bowl was coated in preparation for the glazing. The majority have a Sgraffito decoration with a green or yellow glaze. They appear in the Early Islamic period through the early 11th century (see above) and vanish in the mid–12th century (Avissar and Stern 2005: Type I.1.1).

Bowls with molded decoration (Fig. 10:3–4) were produced in Jerusalem; a group was found in a kiln in the Jewish quarter. They appear in the 14th century and do not continue into the Ottoman period. The bowls are deep with a thick inner flaring rim and a high ring base. Made in a mold and carefully glazed both inside and out, they have a fine slip below the glaze. A mold of floral or geometrical decoration was used for the small bowls and a geometric design and script on the larger bowls. The clay is orange, pink or yellow (Avissar and Stern 2005: Type I.1.7).

Monochrome glazed bowls (Fig. 10:5–10) are shiny monochrome green-glazed bowls in a variety of profiles. They show a thick white slip below the glaze and have a thick, rounded, ring base. Their clay is usually orange-brown and their glaze usually green. Monochrome glazed bowls were produced from the 13th century and all through the Ottoman period (Avissar and Stern 2005: Type I.1.4). Two of the bowls (Fig. 7: 5,10) are of low quality and the glaze only partially survived. In Caesarea they date to the 13th century (Arnon 2008: Type 271E).

Handmade bowls of soft-paste Monochrome Glazed Ware (Fig. 10:11–13) are conical bowls with a ring base made of a soft whitish paste. They date to the 12th–13th centuries. One is of the monochrome transparent glazed type (Avissar and Stern 2005: Type I.2.2.1), and another is painted in blue under a turquoise glaze (Avissar and Stern 2005: Type I.2.3.1).

Byzantine Sgraffito Ware (Fig 11:1–4). Glazed bowls imported from the Byzantine Empire to the Kingdom of Jerusalem occur here as two types: the first is of Fine Sgraffito Ware, which is the more common Byzantine type in Israel. These bowls are curved or carinated with a simple rim and a ring base. The glaze is transparent yellow to green and laid on a white slip, which is finely incised to make a Sgraffito design (Avissar and Stern 2005: Type I.4.3). The other type is incised Sgraffito Ware, which has curving body, a vertical rim and low ring base, and a transparent yellow to green glaze laid on a white slip, which is gouged to make a wide Sgraffito design. Its date falls in the mid–12th to 13th centuries (Avissar and Stern 2005: Type I.4.5).

Aegean Ware (Fig. 11:5–7). Similar to the Byzantine bowls, this was imported into the Kingdom of Jerusalem at the end of the 12th–early 13th centuries. The bowls are often coarse, with a variety of profiles and are made from red clays with white grit. Its lead-based glaze is green or yellow with patches of green above a white slip. The external side has a white slip (Fig. 11:6–7); Avissar and Stern 2005: Type I.5.2). One of the bowls has a fairly common incised decoration (Fig. 11:5; Avissar and Stern 2005: Type I.5.3).

Bowls with slip-painted decoration (Fig. 11:8–14) have most often a flat base and a shelf rim. The clay is brown-red and coarse. Dated from the mid–12th century, they were popular all through the Mamluk period. Similar bowls were produced

in the Ottoman period (Avissar and Stern 2005: Type I.1.6.1–2).

Cypriot Slip-Painted Ware (Fig.12:1–2) bowls show a variety of forms; they were imported from Cyprus in the 13th century. Their glaze is a shiny, transparent green or yellow on a white slip, and applied in decorative forms (Avissar and Stern 2005: Type I.8.1).

North African Blue and Brown Ware (Fig. 12:3) occur in a variety of vessel types made of buff sandy clay. Linear patterns of blue and brown glaze are applied on a white background. Date: end of 12th–13th century. They are rather rare in Israel (Avissar and Stern 2005: Type I.10.1).

Other bowls (Fig. 13:1–2). These bowls' fabric suggests that they date to the Crusader-Mamluk period; they might be a local glazed type.

Small plain bowls (Fig. 13: 3–12*)* vary in shape and usually have a ring base—a feature common in Mamluk and Ottoman assemblages. They are also found in later contexts (Avissar and Stern 2005: Type II.1.1.1–3).

Large plain bowls of the Mamluk period (Fig. 13:13–14) have an incurving wall, a flattened, projecting rim, and a smoothed surface. Date: mid–13th to mid–16th century; they might continue into the Ottoman period (Avissar and Stern 2005: Type II.1.2.3).

Handmade bowls (Fig. 13:15–18). A variety of handmade bowls with a variety of decoration was produced in the Mamluk and Ottoman periods, beginning in the 12th century. They can only be dated according to their context. The clay is light, coarse and fired at low temperatures. The walls are thick, the rim simple, and the base a flat ring. These bowls have a slip and burnished decoration, some are painted brown and have a plastic decoration (Avissar and Stern 2005: Type II.1.4.1). Some have a brown to red painted geometric design on a white slip (Avissar and Stern 2005: Type II.1.4.2). The above-described decorations appear on both jars and jugs as well.

Basins (Fig. 14:1–3)

These basins and large bowls are made of coarse ware, with thickened rims and a slight carination. These profiles are common to the Mamluk and Ottoman periods (de Vincenz and Sion 2007; Fig. 10).

Cooking Vessels (Figs. 14:4–12; 15)

Cooking bowls or frying pans (Fig. 14:4–6). One variant (Fig. 14:4) is Avissar and Stern's (2005) Type II.2.3.6, rather common it the later part of the early Islamic period. In complete examples the bottom and wall are glazed in dark purple or brown-yellow, with drippings. The rim is folded out to form a triangular profile. Two horizontal handles are attached below the rim, as well as two thumbed ledge handles. The clay is red-brown, darker than in casseroles. They first appear at the late 9th or 10th century. The glazing to the top of the rim dates approximately from the second half of the 12th to the first half of the 13th century. Fig. 14:5 has two horizontal handles attached below the rim: this is Avissar and Stern's Type II.2.3.2. The clay is, again, red-brown. This type first appears in the late 9th or 10th century and continued into the Crusader period (the late 12th-late 13th century; Avissar and Stern 2005: Type II.2.3.1–2). The third variant (Fig. 14:6) has a simple curved wall and a flat rim. The clay is crude with large grits and the interior is burnished. This type was in use during the Mamluk and Ottoman periods (Avissar and Stern 2005: Type II.2.3.7). Two of the vessels here (Fig. 14: 11-12) might be Deep Cooking Pots, dated to the second half of the 13th century (Avissar and Stern 2005 Type II.2.1.4).

Globular cooking pots with an out-turned rim (Fig. 14:7–12), which has a fine red-brown clay, a tradition that continued from the Fatimid period. It displays an out-flaring rim with no neck and horizontal ribbon handles on the shoulder. The bottom of the vessel is glazed purple–brown with splashes on the walls (Avissar & Stern 2005 Type II.2.1.2). Petrographic studies of vessels from Acre

have showed they were made in Lebanon (Stern and Waksman 2003: 173–175). These date from the mid–12th to the mid–13th centuries (Avissar and Stern 2005: Type II.2.1.2).

Handmade cooking pots of the Mamluk Period (Figs. 14:13–15; 15:1–12). Cooking pots were first imported from Cyprus during the Crusader period. However, the Mamluk period pots at Horvat Hermas were made locally. The clay is light with large grits, quartz, and straw. They are burnished on the inside and coated red on the outside. They are globular with a flaring rim. Two ribbon handles start from the shoulder and are often decorated with incised dots or plastic decorations. Date: mid–13th–end of the 16th centuries (Avissar and Stern 2005: Type II.2.2.2).

Small Containers (Fig. 16)

Simple jugs (Fig. 16:1–7). The jugs of the Mamluk and Ottoman periods share characteristics, but the lack of published material impedes comparison and sub-division. Therefore, the Mamluk jugs are presented here as one group. Most of them have a thick rim, swollen neck, and ridges around the neck. The body is squat with a low ring base, a form that becomes prominent in the Ottoman period. The clay is coarse, with pale self-slip (de Vincenz and Sion 2007 Fig. 12). Some have a long narrow neck (Fig. 16:6). One jug has a sharp carinated body (Fig. 16:9), which seems to be less common in the Mamluk period than in the later Ottoman period. Another jug has an exceptional rounded form and short flaring neck (Fig. 16:11).

Small table jars (Fig. 16:8) in the Mamluk period are squat with a wide neck. The handle descends from the neck to the shoulder. A perforated strainer is located at the bottom of the neck. The clay is bright, usually with self-slip. Date: late 12th-first half 13th century (Avissar and Stern 2005: Type II.4.1.2).

Jug with stamped neck (Fig. 16:12). As a complete vessel this would have a globular or bi-conical body, a ring base, a broad swollen neck, and a nozzle. A handle sould descend from the center of the neck to the body. A stamped design of a round net or a star can be seen at the base of the neck. The clay is green-yellow or buff. This jug appears in both Ayyubid and Mamluk assemblages from the early 13th century. They vanish before the end of the 14th century (Avissar and Stern 2005: Type II.4.2.2).

Jug spout (Fig. 16:13–14). Spouted jugs of the Mamluk period have a long thick spout attached to the body. The form of the jug itself may vary (de Vincenz and Sion 2007 Fig. 12:37–39).

Handmade jugs and table jars with geometric painted decoration **(**Fig. 17:1–6) first appear at the end of the 12th century. They become popular during the 13th–14th centuries and hardly change in shape and decoration all through the Ottoman period. The clay is coarse and light brown with straw. The surface has a light burnished slip, with painted geometric designs in red, brown or purple; sometimes there are multicolored shades on the one vessel. The jugs have a globular shape with a slightly swollen neck and a handle that stretches from the center of the neck to the shoulder. The base is flat or curved (Avissar and Stern 2005: Type II.4.4.1).

Jug with straitgh neck (Fig. 17:7). The handle descends from the neck to the body. Date: 13th-15th centuries (Avissar and Stern 2005: Type II.4.2.3).

Flasks (Fig. 17:8–10). Flasks can be viewed as a distinctive type of jug by virtue of the way the neck is attached to the body. With no direct parallels, these flasks are related to the Crusader-Mamluk period by their fabric rather than by form. But, they may in fact date to an earlier period.

Large Containers (Figs. 18–19)

Mamluk Period jars (Figs. 18:1–24; 19:1–3). A variety of jars were found throughout the site. Their clay and forms are consistent; the clay is coarse, reddish with a gray core, and a light slip or wash. Many have a swollen neck, thick rim, and ridges along the neck. The handle descends from the base of the neck to the shoulder, a trademark in both the Mamluk and Ottoman periods (de Vincenz and Sion 2007: Fig. 11). As with other types it is difficult differentiating Mamluk from Ottoman period jars, especially since there are very few publications that present assemblages of both periods in stratigraphic sequence.

Most of the jars presented here have a simple or rounded rim (Fig. 18:1–14) or a folded rim that creates a rounded profile (Fig. 18:15–21); some have an adze shaped profile (Fig. 18:22–24). Jars with an everted rim (Fig. 18:12) and buff ware jars (Fig. 18:4) are an exception in this group.

Globular neckless jars (Fig. 19:4–6) have almost vertical, thick walls, and flattened rims. The matrix resembles that of cooking vessels, but none of these jars have soot marks (de Vincenz and Sion 2007: Fig. 11:1–3).

Amphora (Fig. 19:7) has a distinctive high handle, going far above the simple rim. The neck is narrow. The workmanship is careless. It was found in a Crusader context and is probably imported (Avissar and Stern 2005: Type II.3.2.1).

A few other large container types were recorded, in addition to those described above:

- large jars with a wide mouth and a thick wall and an outflaring rim that should perhaps be defined as pithoi (Fig. 19:1-3);
- handmade jars with painted geometric designs, similar in their decorations to the bowls and jugs of the Mamluk period (Fig. 19:9);
- a small number of white painted jar shards (Fig. 19:10), a tradition that first appears in the Byzantine period (Avissar and Stern 2005: Type II.3.1.1).

Miscellanea (Figs. 20–22)

Stoppers (Fig. 20:5–7) are ad-hoc artifacts common in many periods, made of sherds. One, made of an unrecognized vessel base, is dated here by its matrix to the Byzantine-Early Islamic Period (Fig. 20:5), but as a secondary-use artifact it could date to any period represented at the site. One stopper, made of Nilotic clay, appears to be made from a vessel's base (Fig 20:6). The fabric of another stopper appears to belong to the Mamluk Period (Fig. 20:7).

Antiliya jars (Fig 21:1–5) were used for drawing water from wells. At Horvat Hermas they were dated to the Crusader-Mamluk period according to their fabric, which is a reddish-brown clay with white grits. Early period *antiliya* jars are made of lighter fabric. The vessel is a simple cylinder with a neck and a button base (Avissar and Stern 2005: Type II.3.1.7, dated only to the Crusader period). Some of the vessels presented here were not necessarily used as *antiliya* jars (Fig. 21:1–3).

Pipes (Fig. 21:6–10). Only a few pipe shards were found here. One type is rather common in the Early Islamic period (Fig. 21:10) and is found in small numbers in many sites (e.g. Ramla-South, Tal and Taxel 2008 Fig. 6.10:13; Kohn-Tavor 2017: Fig. 2.38:910). Other types presented here (Fig. 21: 6–8) resemble pipe forms but they are not necessarily pipes (cf. Taxel and Feldstein 2006: Fig 3.10: 9–10).

Tabuns (Fig. 21:11–14). This baking installation is widespread geographically and chronologically. We chose to present here two rims which attest a relatively wide opening, one grooved, perhaps to accommodate a lid (Fig. 21:11). Two bases are made from tabun material and might be portable tabun fragments (Fig. 21:13–14).

Spouts (Fig. 21:17–18). Fig. 21:18 has the clay matrix of the buff ware jugs of the Early Islamic period. The other (Fig. 21:17) appears to be the short spout (as drawn) of a Crusader or Mamluk

jug, to judge from the clay matrix. It could also be bottom end of a funnel.

Ad-hoc object (Fig. 21:19). This artifact shows abrasion and seems to have been made from an Early Islamic buff ware jar handle.

Miniature bowls (Fig. 22: 1–2). These small, hand-made bowls are associated with the Mamluk period by virtue of their matrix. They may have been used in the kitchen or as toys.

Fig. 22:3 is a base (?) of an unfamiliar vessel, which may have been a lid.

Spinning bowls (Fig. 22:4), known from the Bronze and Iron Ages, were used for spinning wool and other textile threads. The matrix of this vessel dates it to the Mamluk period.

Oil Lamps (Figs. 23–24)

Mamluk Period "Tongue Handle" lamp (Fig. 24:4) these oil lamps continue the tradition of Tongue Handle lamps of the Early Islamic period (above). The handle is curved from the body, the lamps are bigger and flatter than the earlier Islamic period types, and the quality poor. They are dated from the second half of the 13th to the 14th century and apparently made in the vicinity Jerusalem (Hadad 2002 Type 45). Only a few were found here.

Glazed lamp with a long nozzle (Fig. 24:5). This wheel made lamp has a squat body, a narrow handle, and a long nozzle. The reddish clay is characteristic of the Mamluk period. This specimen is not glazed (Avissar and Stern 2005: Type III.1.2.1).

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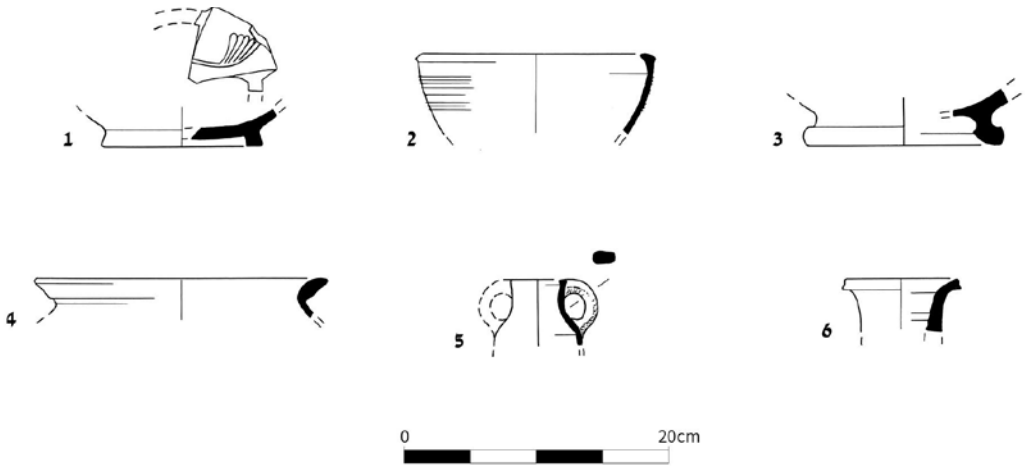

Figure 1. Pottery of the Persian and Hellenistic periods.

No.	Type	Reg. no.	Locus	Description
1	Black Ware bowl	10543/1	1539	Gray, burnished, incised decoration
2	Bowl/lid	20199/1	2057	Reddish, large white grits
3	Morataria bowl	30019/1	3007	Coarse pink, black grits
4	Krater	10541/1	1531	Metallic orangs, white grits
5	Juglet	20237/1	2030	Metallic orange, black grits
6	Jug	20114/1	2029	Metallic pink, white grits, mica

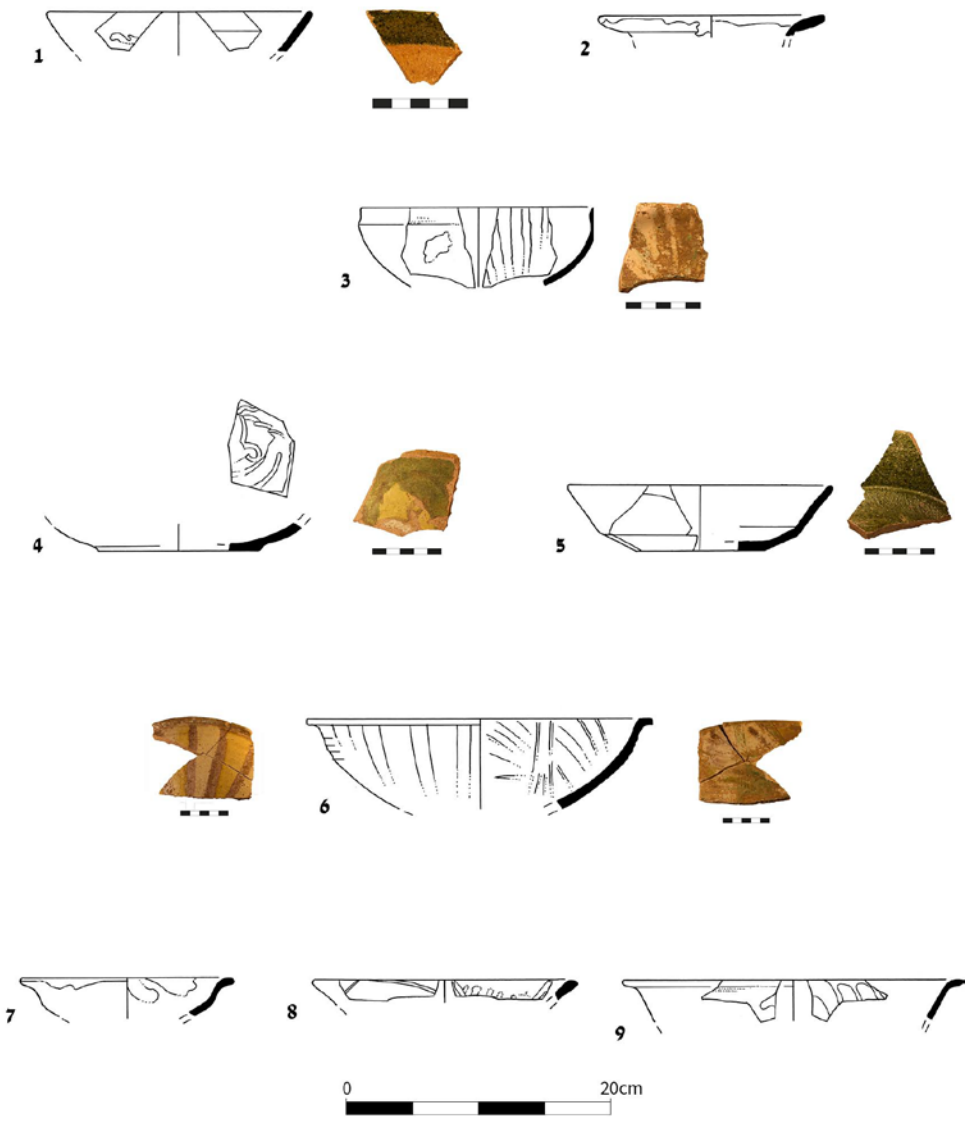

Figure 2. Byzantine-Early Islamic Period bowls.

Figure 2. Byzantine-Early Islamic Period bowls.

No.	Reg. no.	Locus	Description
1	10547/2	1540	Pink, yellow / green glaze on white slip
2	20201/1	2005	Pink, yellow / green glaze on white slip
3	10537/1	1516	Pink, yellow / green glaze on white slip
4	10547/1	1540	Pink, yellow / green glaze on white slip
5	20094/1	2049	Pink, yellow / green glaze on white slip
6	10531/1	1519	Pink, yellow / green glaze on white slip
7	10531/2	1514?	Buff pink, white slip, peeling glaze
8	10536/2	1515	Buff, yellow, remains of glazing in strips
9	20161/1	2055	Buff yellow, yellow / green / brown glaze on white slip

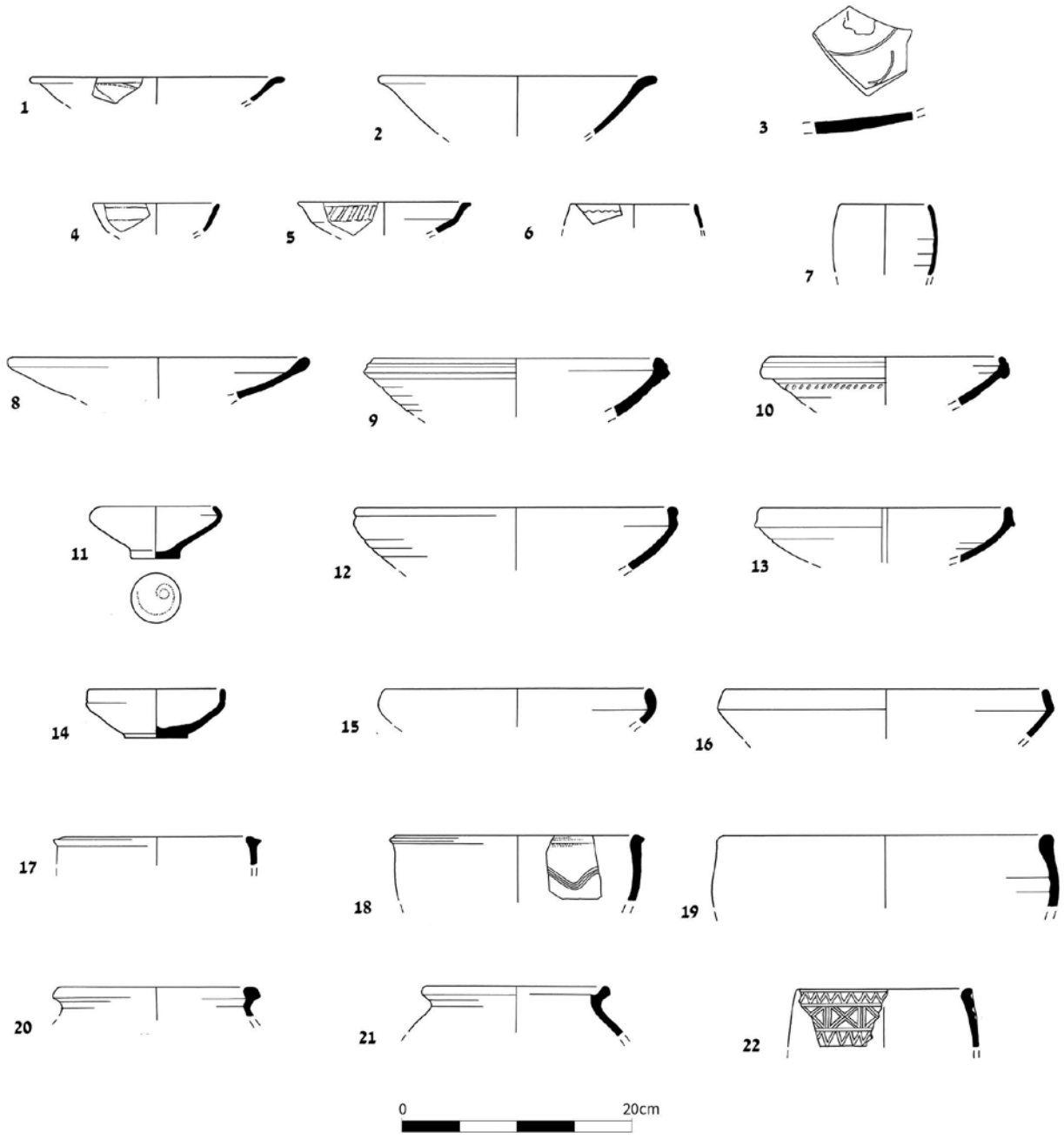

Figure 3. Byzantine-Early Islamic Period bowls (continued).

Figure 3. Byzantine-Early Islamic Period bowls (continued).

No.	Reg. no.	Locus	Description
1	10536/3	1515	Yellow, pale green glaze
2	20038/1	2022	Buff, pink, black grits
3	20178/1	2005	Buff yellow, yellow / green / brown glaze on white slip, sgrafitto
4	20203/5	2005	Fine pink, metallic, smoothed
5	20220/1	2080	Fine pink, metallic
6	10590/1	1521	Fine pink, metallic, smoothed, incised decoration
7	20189/1	2008	Fine pink, metallic, white strips decoration
8	20063/1	2039	Metallic pink, large grits, mica
9	20038/2	2022	Fine pink, red slip
10	20198/1	2045	Fine pink, red slip
11	20210/1	2061	Buff gray, large white grits
12	20022/1	2013	Buff pink
13	10545/7	1509	Buff yellow
14	10544/1	1539	Orange, gray core, large white grits
15	10554/1	1540	Pink, black grits
16	20078/1	2028	Pink, metallic
17	10529/2	1517	Orange
18	30012/1	3009	Coarse orange
19	10539/1	1523	Buff pink, self-slip
20	No number	No number	
21	No number	No number	
22	10573/1	1543	Coarse pink, large white grits, chisel-cut decoration

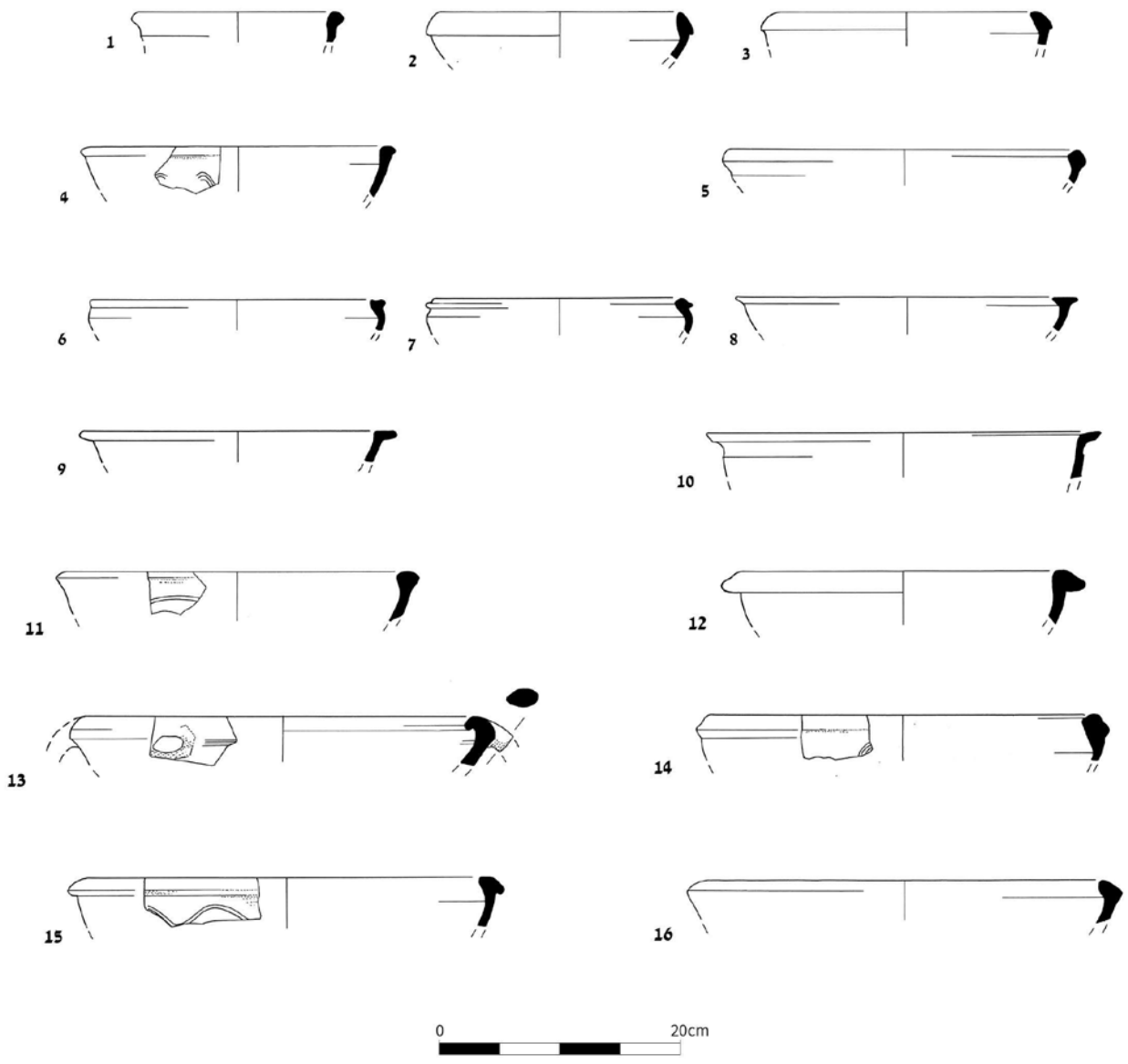

Figure 4. Byzantine-Early Islamic period basins.

Figure 4. Byzantine-Early Islamic period basins.

No.	Reg. no.	Locus	Description
1	20073/1	2030	Sandy orange
2	10528/1	516	Sandy orange
3	20139/1	2000	Pink, white grits
4	10198/1	2045	Coarse red
5	20020/1	2020	Coarse gray
6	200103/4	2008	Pink, black grits
7	10509/1	No number	Buff yellow
8	20028/1	2017	Buff yellow
9	15019/1	1512	Pink, black grits
10	20068/1	2043	Coarse orange
11	10502/1	1502	Coarse orange
12	20099/1	2023	Coarse gray
13	10561/1	1531	Coarse orange
14	20220/3	2080	Coarse orange
15	20020/2	2020	Sandy red
16	10502/2	1502	Coarse orange

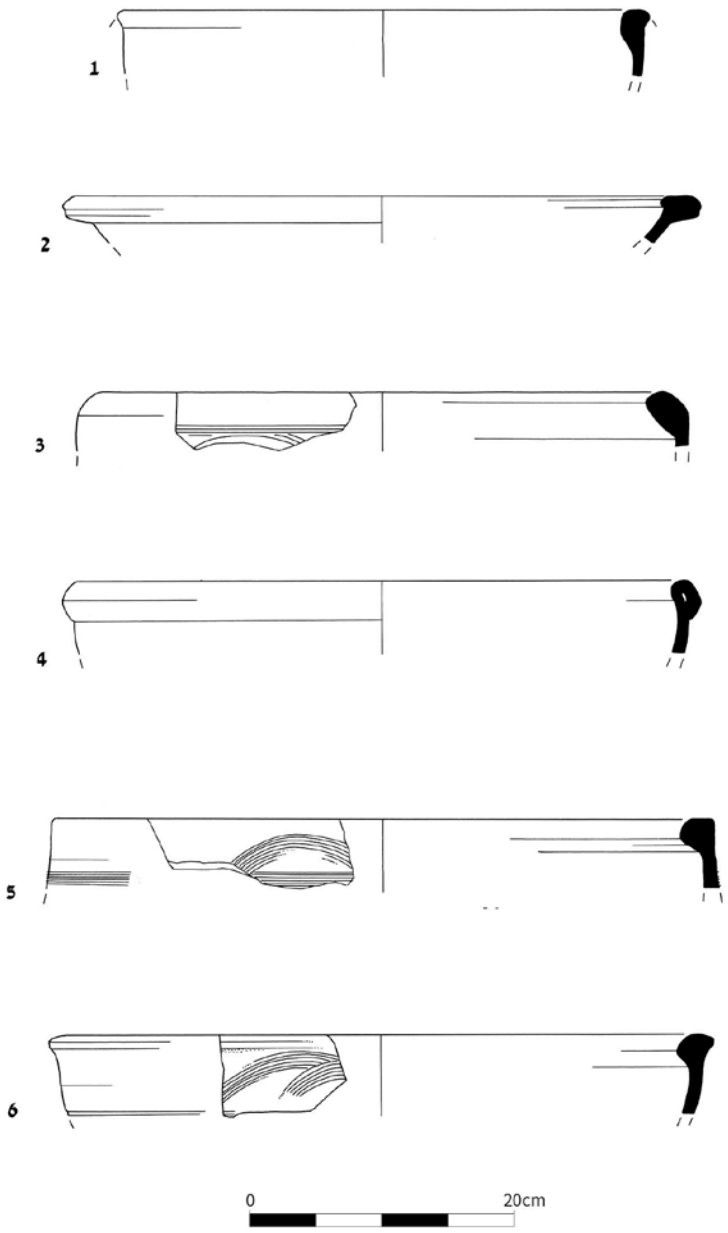

Figure 5. Byzantine-Early Islamic period basins (continued).

Figure 5. Byzantine-Early Islamic period basins (continued).

No.	Reg. no.	Locus	Description
1	10546/1	1539	Coarse gray, red outside
2	30021./1	3009	Coarse orange, large grits
3	10543/2	1523	Coarse orange
4	No number	No number	
5	10535/1	1530	Coarse red
6	10573/2	1543	Coarse gray

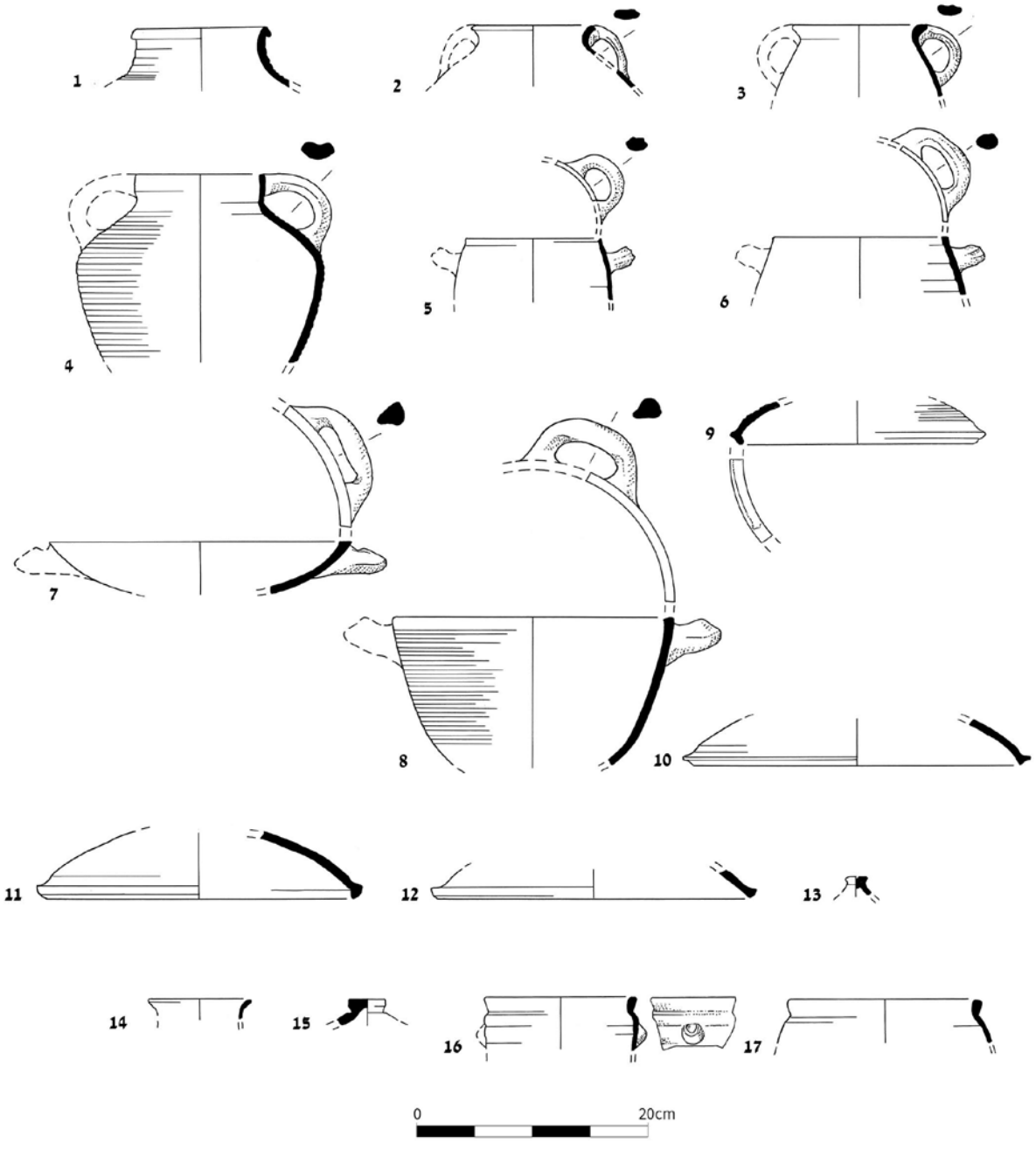

Figure 6. Byzantine-Early Islamic period cooking vessels.

Figure 6. Byzantine-Early Islamic period cooking vessels.

No.	Reg. no.	Locus	Description
1	10581/1	1546	Metallic red
2	10535/2	1530	Metallic red
3	20046/1	2030	Metallic gray, red exterior
4	20168/1	2051	Coarse sandy red
5	30028/1	3006	Coarse brown, black and white grits
6	10531/3	1514	Coarse brown, black and white grits
7	20175/1	2030	Coarse brown, black and white grits
8	20177/2	2051	Coarse brown, black and white grits
9	20148/1	2051	Coarse sandy orange, mica
10	10574/1	1545	Coarse brown, black and white grits
11	20177/3	2051	Coarse red
12	20175/2	2030	Coarse brown, black and white grits
13	10542/1	1508	Sandy orange
14	20161/2	2055	Metallic orange
15	20182/1	B10	Fine orange
16	10526/1	1514	Metallic red, dripping brown glaze
17	10531/4	1514	Sandy red

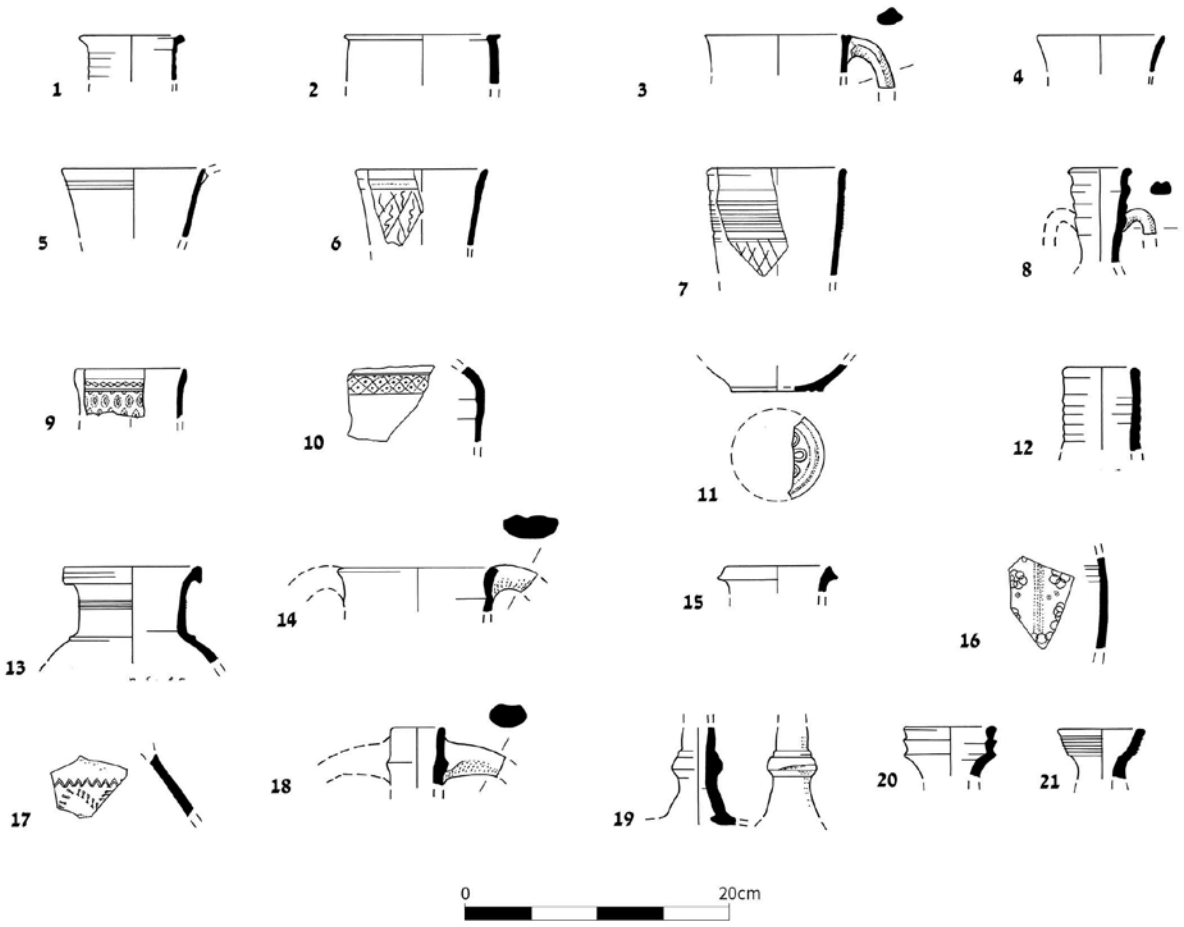

Figure 7. Byzantine-Early Islamic period small containers.

Figure 7. Byzantine-Early Islamic period small containers.

No.	Reg. no.	Locus	Description
1	10580/1	1543	Metallic orange, gray exterior
2	20170/7	1542/2008	Metallic pink, white grits
3	20220/2	2080	Metallic red
4	20172	2000	Buff yellow
5	20139/2	2000	Buff yellow
6	20196/1	2060	Buff pink
6	20162/1	2023	Buff yellow, mould made
7	20105/1	2000	Buff yellow
8	10536/4	1595	Buff yellow
10	20033/1	2032	Buff green, mould made
11	20184/1	2056	Buff yellow, mould made
12	15019/2	1512	Metallic pink
13	20150/1	2051	Orange, white grits, mica
14	20170/1	2008	Metallic orange, white grits
15	10536/5	1535	Sandy orange
16	20022/2	2013	Buff pink
17	10575/1	A11	Sandy orange, rollete decoration
18	20132/1	2051	Sandy orange
19	20171/1	2005	Buff green
20	10561/2	1531	Buff green
21	30013/1	3007	Metallic orange

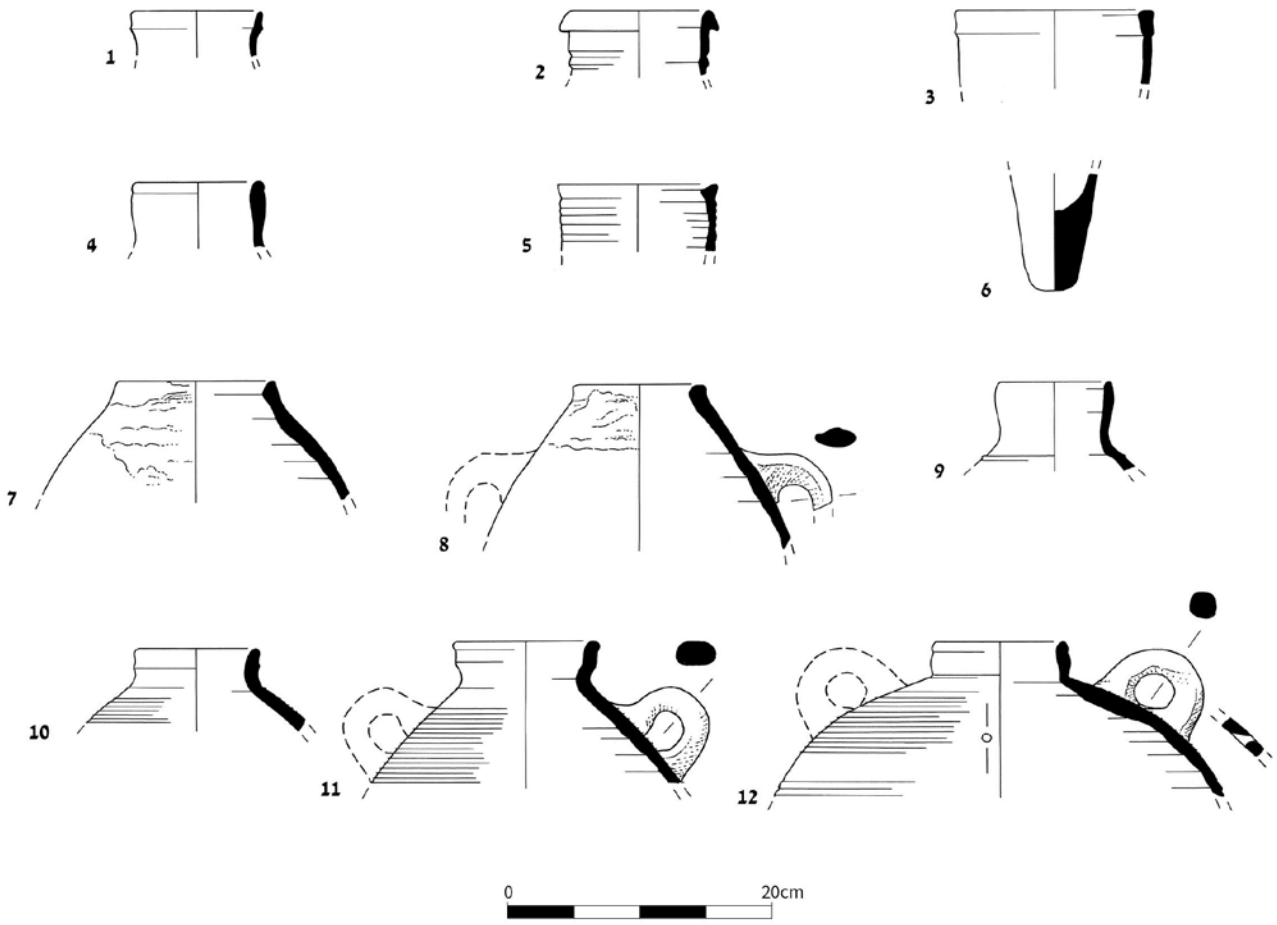

Figure 8. Byzantine-Early Islamic period large containers.

No.	Reg. no.	Locus	Description
1	10504/5	1504	Buff yellow
2	10345/1	1541	Buff yellow
3	10527/1	1515	Buff yellow
4	20103/1	2008	Metallic orange, mica
5	10577/1	1545	Sandy orange, white grits
6	10566/1	1545	Coarse red, large grits, mica
7	20179/1	2051	Sandy orange, large grits
8	20167/1	2051	Sandy orange, large grits
9	10586/1	A12-13	Sandy orange
10	10565/1	1540	Sandy orange
11	20183/1	2050	Sandy orange
12	20139/3	2000	Sandy orange

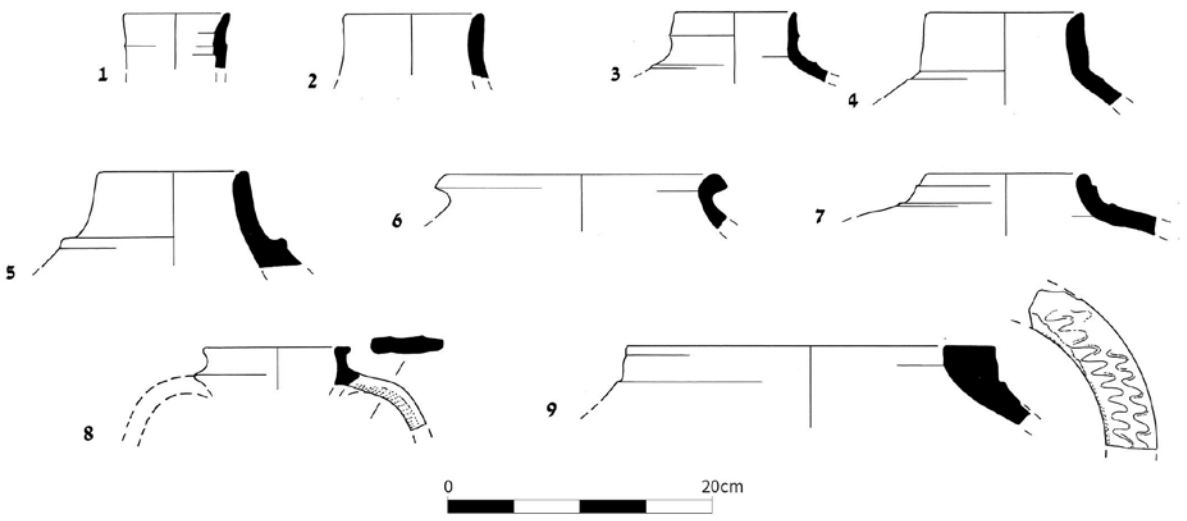

Figure 9. Byzantine-Early Islamic period large containers (continued).

No.	Reg. no.	Locus	Description
1	20192/1	2053	Metallic orange
2	20114/2	2029	Pink, white grits
3	20526/2	1514	Fine orange
4	10529/1	1517	Fine gray, orange outside
5	10553/1	1525	Metallic pink, white grits
6	10545/3	1059	Coarse orange
7	10561/3	1531	Fine orange
8	10542/2	1508	Metallic pink, mica
9	10524/1	1505	Gray, red slip?

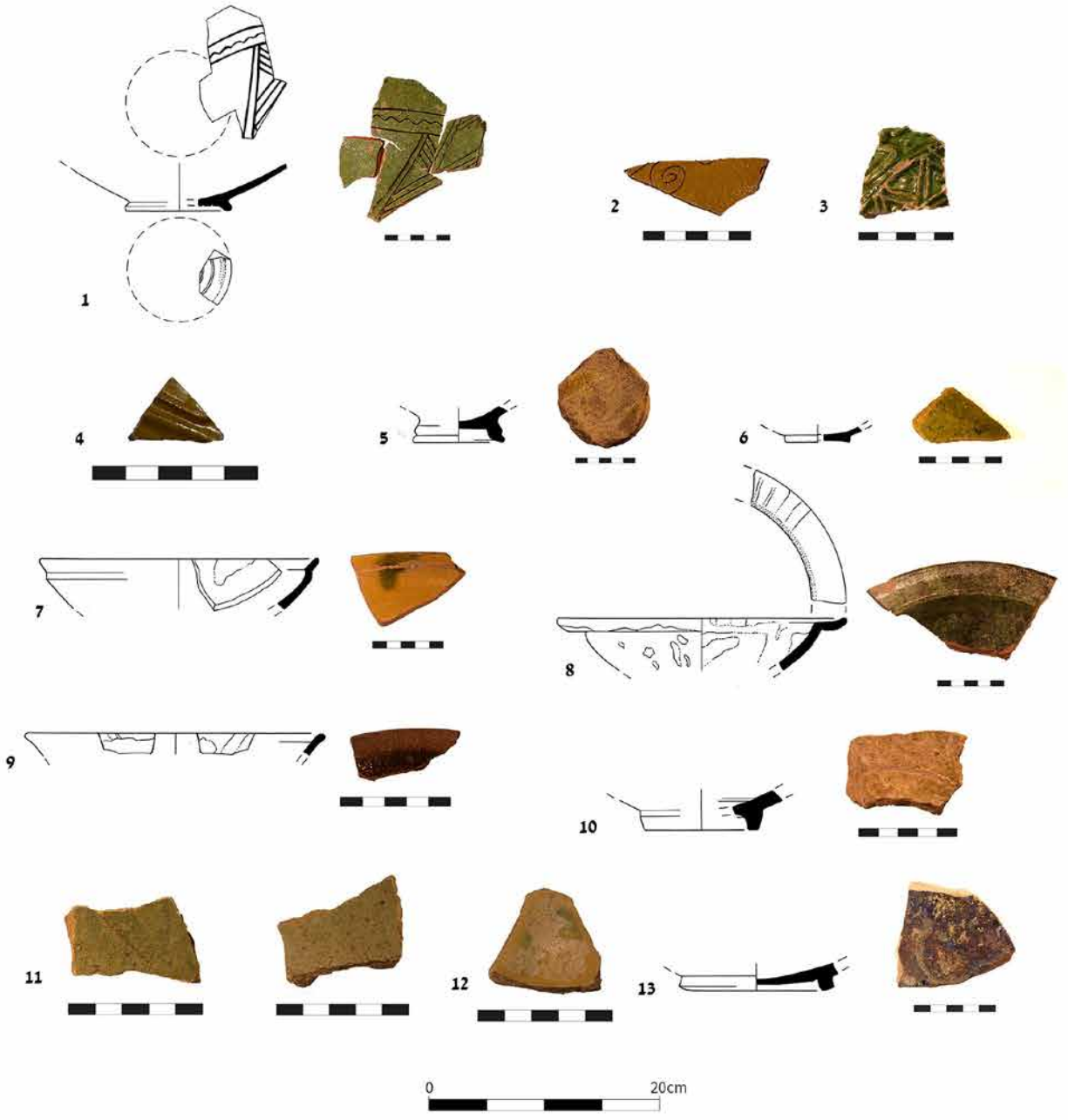

Figure 10. Crusader and Mamluk period bowls.

Figure 10. Crusader and Mamluk period bowls.

No.	Reg. no.	Locus	Description
1	20082/1	2019	Reddish, white grits, green glaze on white slip
2	10542/3	1508	Reddish, yellow glaze on white slip, sgrafitto
3	20017/1	2017	Pink, white grits, green glaze on white slip, mold made
4	10578/1	surface	Pink, yellow/ green glaze on white slip, mold made
5	200234/1	2001	Coarse gray, white grits, peeling yellow glaze
6	20184/2	2056	Yellow, green glaze (no slip)
7	20022/3	2013	Pink, green / yellow glaze on white slip
8	20016/1	2016	Reddish, white grits, green-brown glaze
9	20016/2	2016	Reddish, white grits, green-brown glaze on white slip
10	10544/2	1539	Coarse gray, green glaze
11	20137/1	2008	Yellow soft paste, pale green glaze
12	No number	No number	Yellowish soft paste, shiny turquoise glaze inside and outside
13	10542/4	1508	Coarse pink, thick blue glaze

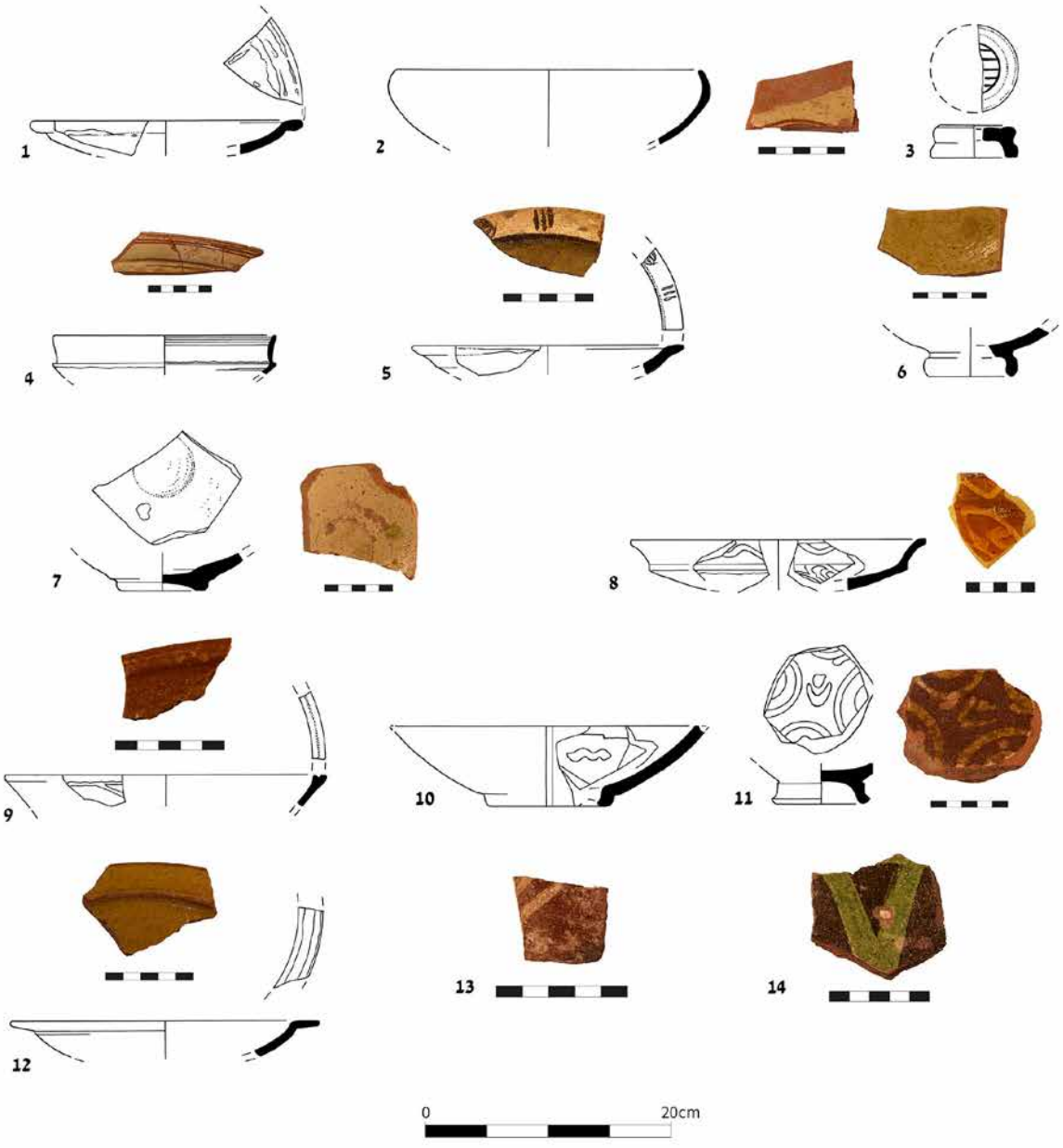

Figure 11. Crusader and Mamluk period bowls (continued).

Figure 11. Crusader and Mamluk period bowls (continued).

No.	Reg. no.	Locus	Description
1	No number	No number	Pink, black grits, peeling pale yellow glaze, sgrafitto
2	10586/2	A12-13	Reddish, yellow glaze on white slip, sgrafitto
3	10504/1	1504	Red, white grits, yellow glaze on white slip, sgrafitto
4	10586/3	A12-13	Red, white grits, peeling yellow glaze on white slip, sgrafitto
5	20015/1	2015	Dark orange, yellow glaze on white slip, sgrafitto
6	10504/2	1504	Pink, pale yellow glaze on white slip
7	20188/1	2005	Pink, large white grits, pilling pale yellow glaze
8	20192/2	2053	Light Reddish, white grits, yellow-brown glaze on white slip
9	20073/2	2030	Reddish, white grits, brown glaze on white slip
10	10577/2	1053	Reddish, white grits, peeling yellow-brown glaze on white slip
11	10516/1	1058	Reddish, white grits, peeling yellow-brown glaze on white slip
12	15011/1	1504	Reddish, white grits, yellow glaze on white slip
13	20192/3	2053	Reddish, white grits, brown glaze on white slip
14	10521/1	1509	Reddish, white grits, green-brown glaze on white slip

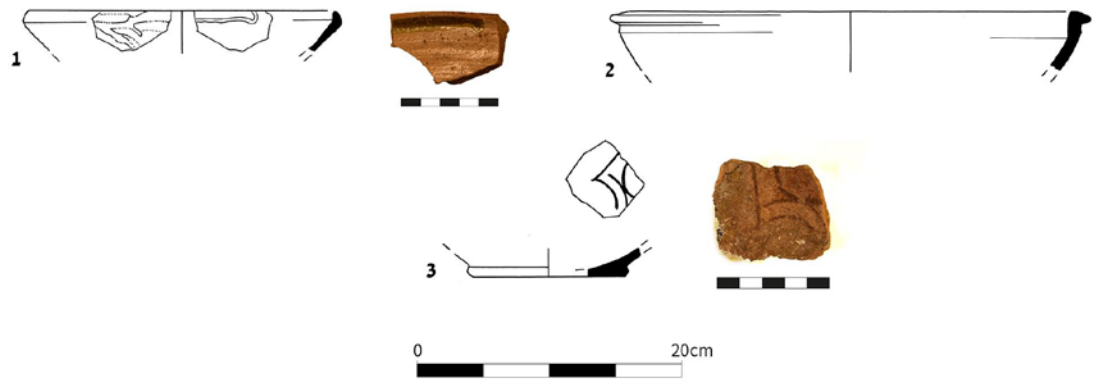

Figure 12. Crusader and Mamluk period bowls (continued).

No.	Reg. no.	Locus	Description
1	20169/1	2054	Reddish, white grits, pinkish/ green glaze
2	20236/1	2054	Buff, pink, white grits, self-slip
3	20189/3	2008	Buff yellow, blue/ brown glaze on white slip, sgrafitto

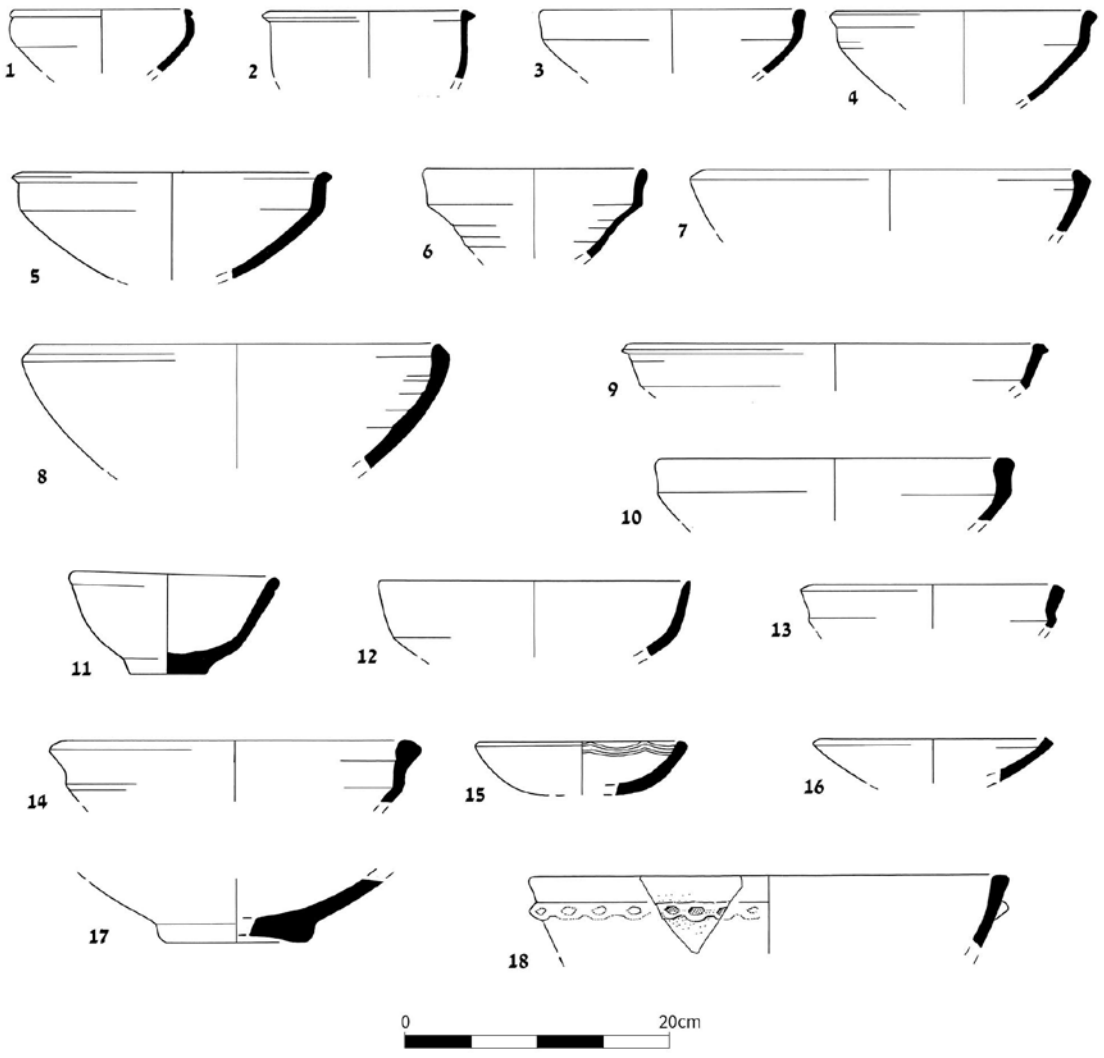

Figure 13. Crusader and Mamluk period bowls (continued).

Figure 13. Crusader and Mamluk period bowls (continued).

No.	Reg. no.	Locus	Description
1	20004/1	2001	Red, white grits
2	10564	1537	Pink, self-slip
3	20073/5	2030	Coarse brown
4	20057/1	2034	Reddish
5	10013/1	1009	Coarse brown
6	20073/3	2030	Coarse red, self-slip
7	10581/2	1546	Pink, black and white grits
8	10541/2	1531	Red, white grits, self-slip
9	20192/4	2053	Pinkish, gray core
10	20231/1	2016	Coarse brown, metallic
11	20176/1	2051	Coarse pink, large white grits, self-slip
12	20032/1	2022	Coarse crumbly orange
13	20138/4	2005	Metallic orange, white grits
14	20191/1	2051	Coarse red, self-slip
15	20018/1	2018	Coarse punkish, large grits, red paint on white slip
16	20137/2	2008	Coarse punkish, large grits, red paint on white slip
17	10572/1	1544	Coarse punkish, large grits, red paint on white slip
18	20002/1	2002	Coarse pink, burnished, hand made

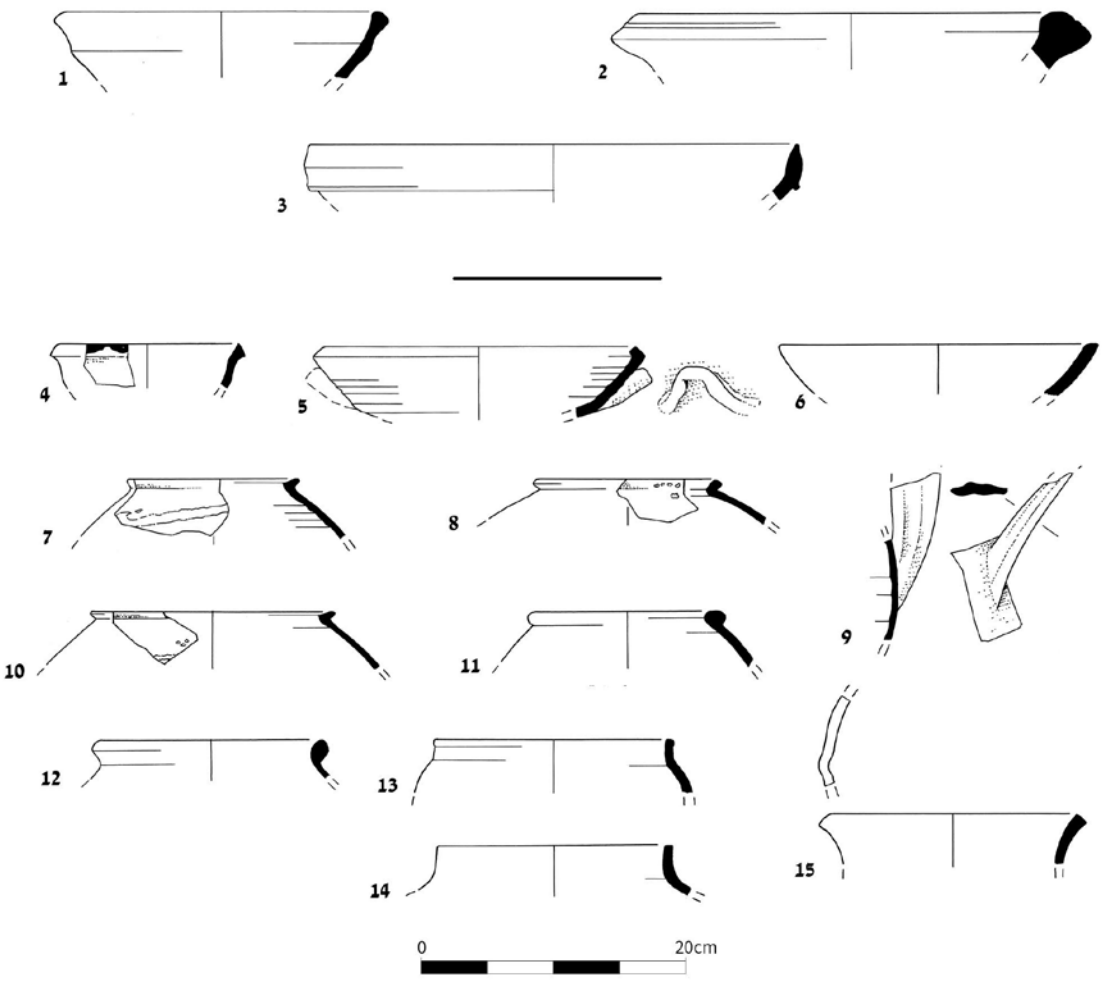

Figure 14. Crusader and Mamluk period basins (1-3) and cooking vessels (4-15).

Figure 14. Crusader and Mamluk period basins (1-3) and cooking vessels (4-15).

No.	Reg. no.	Locus	Description
1	-	1003	Coarse orange
2	20022/4	2013	Coarse gray, large grits
3	10011/1	1004	Coarse orange
4	10535/3	1530	Metallic red, brown glaze
5	20112/1	2052	Metallic red, brown glaze to the rim
6	20170/2	2008	Coarse gray, black and white grits, many crushed quartzite, hand made
7	30005/1	3003	Metallic red, dripping brown glaze
8	20169/2	2054	Metallic red, dripping brown glaze
9	20041/1	2015	Metallic red
10	10545/4	1509	Metallic red, dripping brown glaze
11	20173/1	2008	Metallic red, dripping brown glaze
12	30026/1	3014	Sandy red, brown glaze inside
12	10005/1	1005	Coarse orange, crushed quartzite, hand made
13	10504/3	1504	Coarse gray, large white grits, hand made
14	10013/2	1009	Coarse orange, sooth outside, hand made

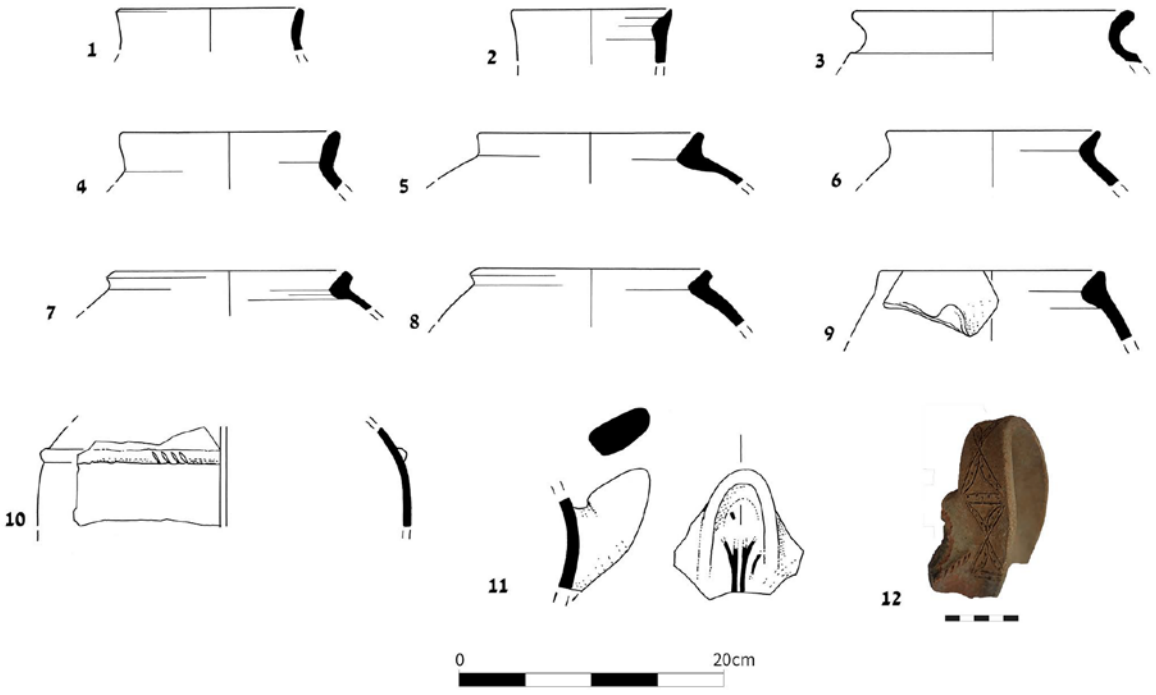

Figure 15. Crusader and Mamluk period cooking vessels (continued).

Figure 15. Crusader and Mamluk period cooking vessels (continued).

No.	Reg. no.	Locus	Description
1	20103/5	2008	Coarse gray, burnished, crushed quartzite, hand made
2	10566/2	1546	Coarse gray
3	20103/2	2008	Coarse gray, hand made
4	20113/1	2023	Coarse gray, burnished, crushed quartzite, hand made
5	20073/4	2030	Coarse red, burnished, crushed quartzite, hand made
6	20182/2	B10	Coarse gray, hand made
7	20095/1	2025	Coarse gray, burnished
8	30013/2	3007	Coarse gray, burnished, crushed quartzite, hand made
9	20085/1	2029	Coarse gray, burnished, crushed quartzite, hand made
10	20138/5	2005	Coarse gray, burnished inside and outside, crushed quartzite, hand made
11	10586/4	A12-13	Coarse gray, burnished, crushed quartzite, hand made
12	No number	No number	Coarse gray, crushed quartzite, hand made

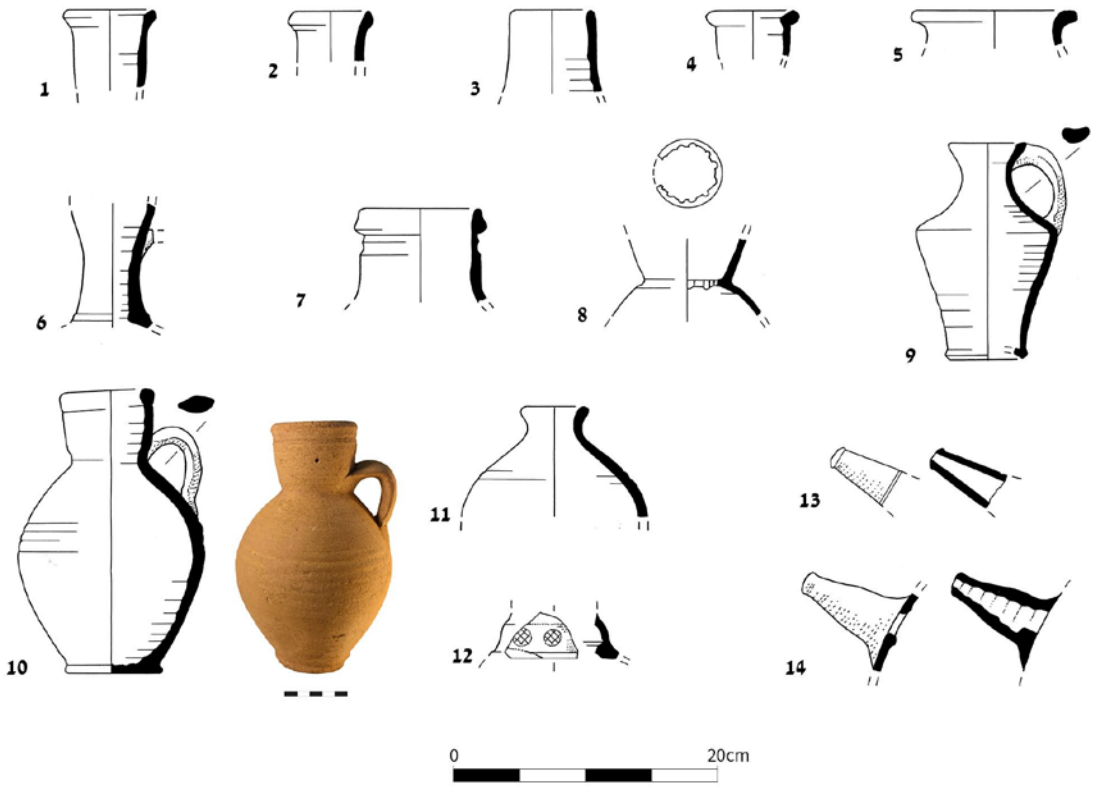

Figure 16. Crusader and Mamluk period small containers.

No.	Reg. no.	Locus	Description
1	20138/1	2005	Buff yellow
2	20049/1	2031	Coarse red, self-slip
3	200017/1	2017	Gray
4	20189/4	2008	Coarse gray
5	10511/2	1504	Orange
6	30003/1	3003	Metallic orange, self-slip
7	20182/3	B10	Buff yellow
8	20192/5	2053	Metallic pink, self-slip
9	10582/1	A11	Brown, white grits, self-slip
10	10555/1	1541	Red, self-slip
11	20016/3	2016	Coarse gray, self-slip
12	30000/1	3000	Metallic pink, white grits
13	20194/1	2054	Metallic orange, white grits, self-slip
14	20016/4	2016	Orange

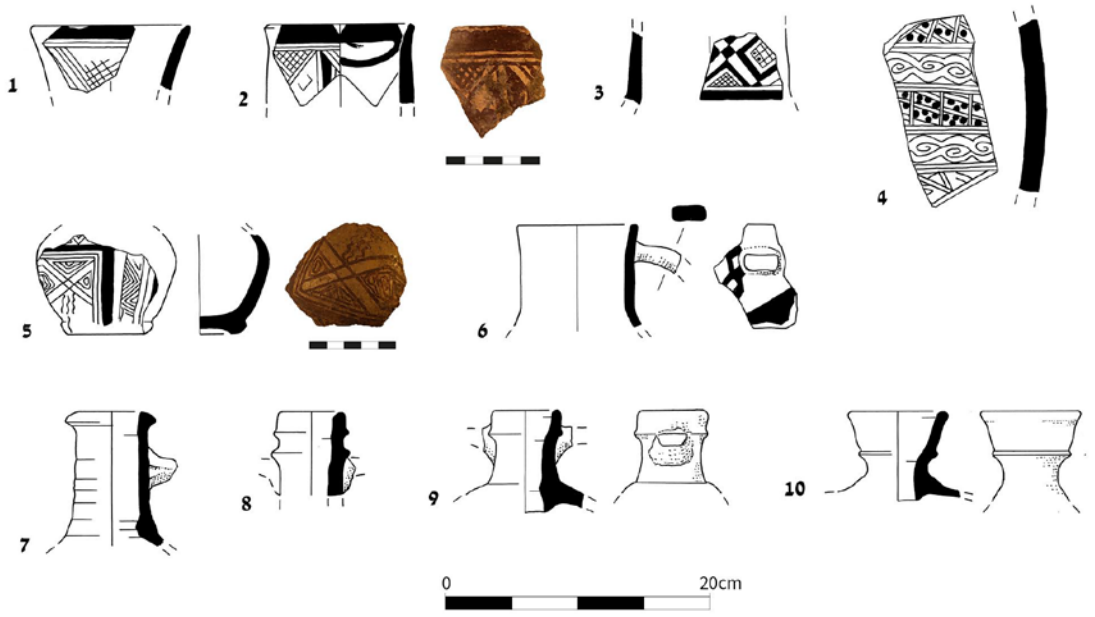

Figure 17. Crusader and Mamluk period small containers (continued).

No.	Reg. no.	Locus	Description
1	No number	No number	
2	10541/3	1531	Coarse grey, large grits, red painting on white slip
3	20103/6	2008	Coarse grey, large grits, red painting on white slip
4	10575/2	A11	Coarse grey, large grits, red painting on white slip
5	20103/5	2008	Coarse grey, large grits, red painting on white slip
6	30026/2	3014	Coarse grey, large grits, red painting on white slip
7	20194/2	2045	Orange, white grits, self-slip, mica inclusions
8	20224/1	2060	Coarse grey, red exterior
9	20207/1	2045	Coarse red
10	10574/7	1545	Pink

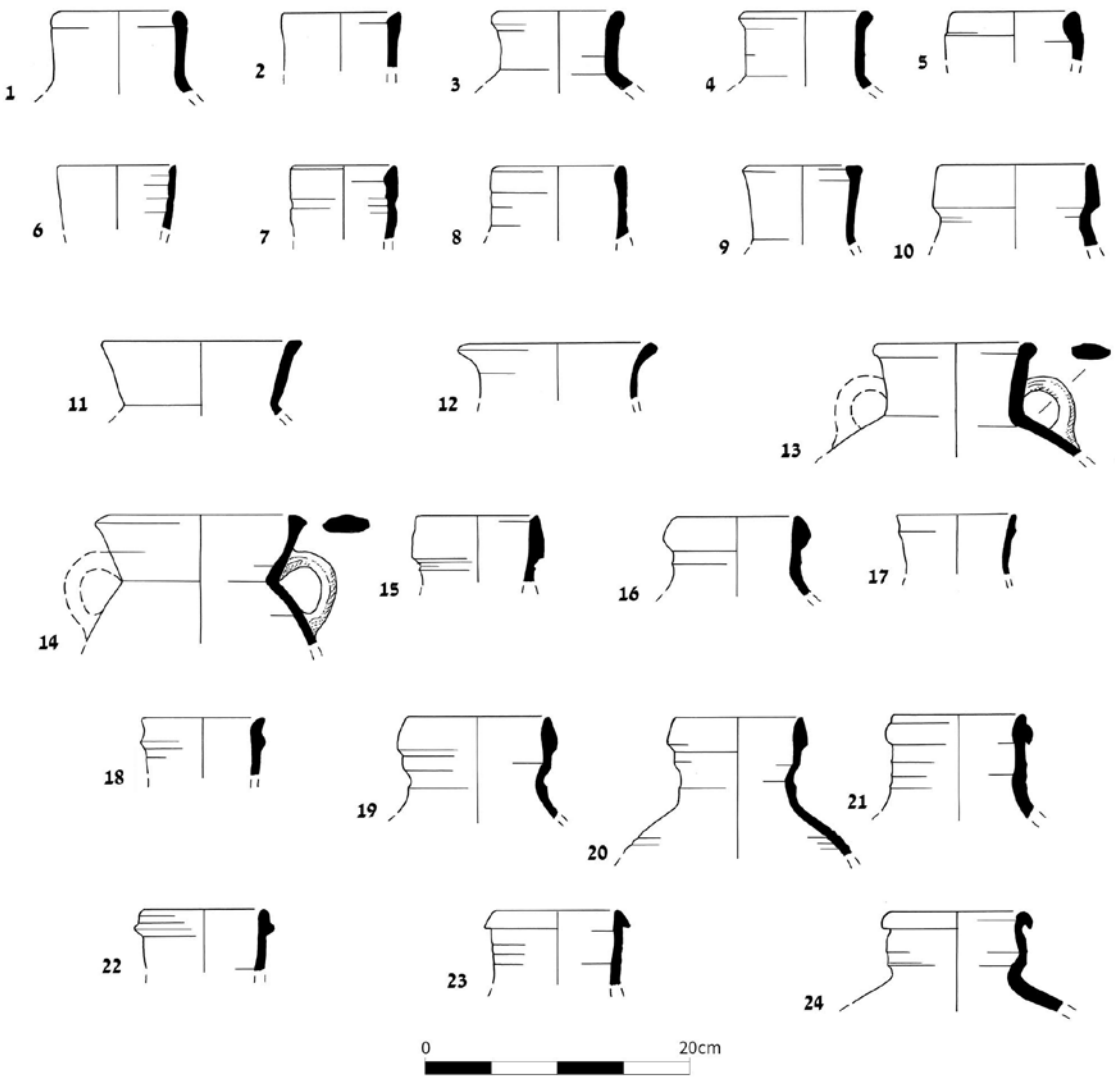

Figure 18. Crusader and Mamluk period large containers.

Figure 18. Crusader and Mamluk period large containers.

No.	Reg. no.	Locus	Description
1	10581/3	1546	Metallic gray
2	20203/1	2005	Metallic red, white grits
3	20170/3	2008	Metallic orange
4	10285/1	2084	Sandy orange, white grits, self-slip
5	30021/2	3009	Orange, gray core
6	No number	3006	Metallic red, white grits, self-slip
7	20010/1	3008	Sandy orange, white grits, self-slip
8	20103/3	2008	Reddish
9	20022/5	2013	Metallic pink
10	20112/2	2052	Metallic orange
11	20162/2	2023	Metallic orange
12	20138/2	2005	Gray, self-slip
13	10003/1	1003	Sandy orange, white grits, self-slip
14	20203/2	2005	Coarse red, self-slip
15	20020/3	2020	Sandy orange, white grits, self-slip
16	30012/2	3009	Metallic orange, self-slip
17	10001/1	1001	Orange, white grits, self-slip
18	20203/3	2025	Sandy grey, self-slip
19	20138/3	2005	Gray, self-slip
20	20203/4	2005	Reddish, grey core, white grits, crushed quartzite
21	20170/4	2008	Greenish, self-slip
22	20136/1	2054	Metallic orange, self-slip
23	30013/3	3007	Red, gray core, self-slip
24	20169/3	2054	Sandy brown

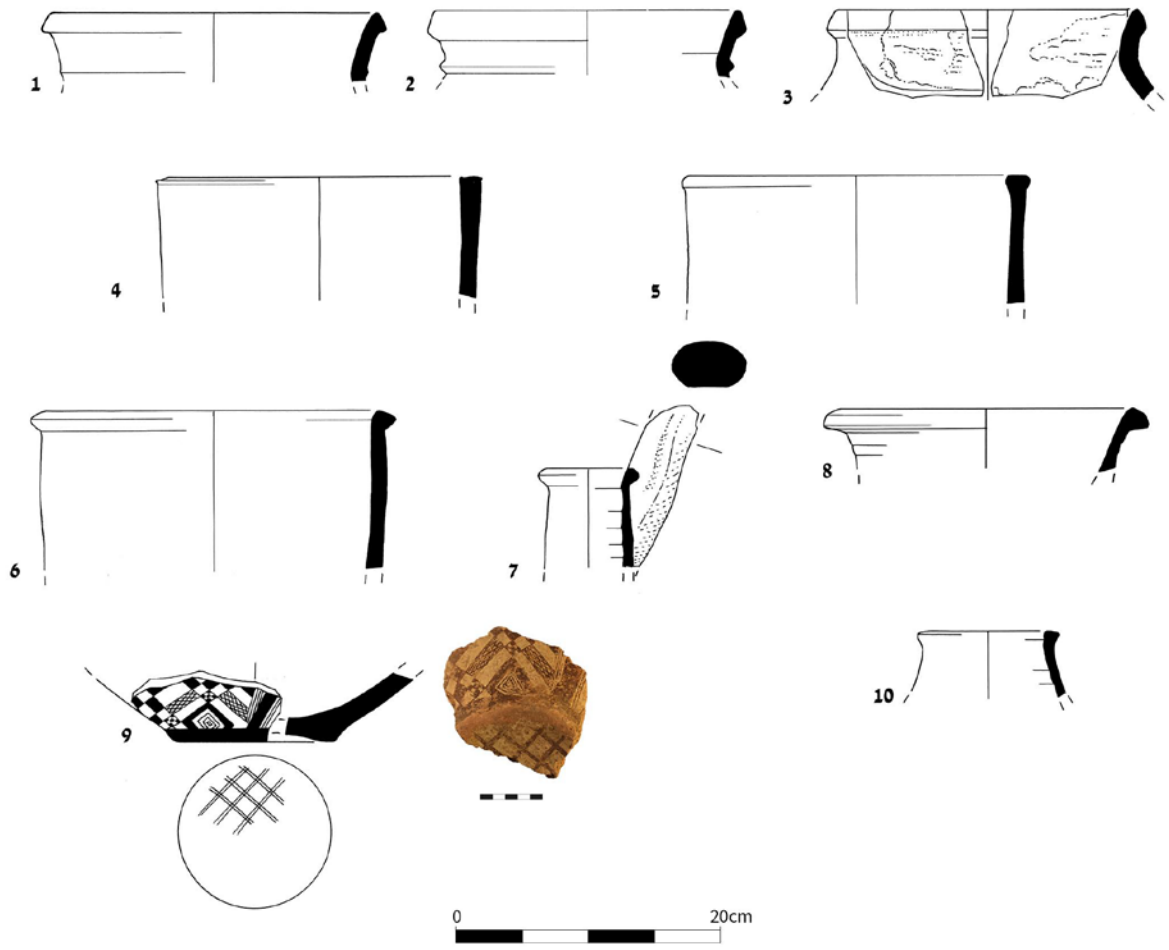

Figure 19. Crusader and Mamluk period large containers (continued).

No.	Reg. no.	Locus	Description
1	20019/1	2019	Coarse gray, orange outside
2	30026/3	3014	Coarse gray, self-slip
3	10541/4	1531	Red, gray core, self-slip
4	10549/1	1533	Sandy red, gray core
5	No number	2038	Metallic coarse gray, black grits
6	10584/1	1523	Coarse orange
7	10544/3	1539	Metallic orange, white grits, self-slip
8	20033/1	2014	Coarse red, self-slip
9	20223/1	2059	Very coarse pink, large grits, hand made
10	10573/3	1503	Red, gray outside

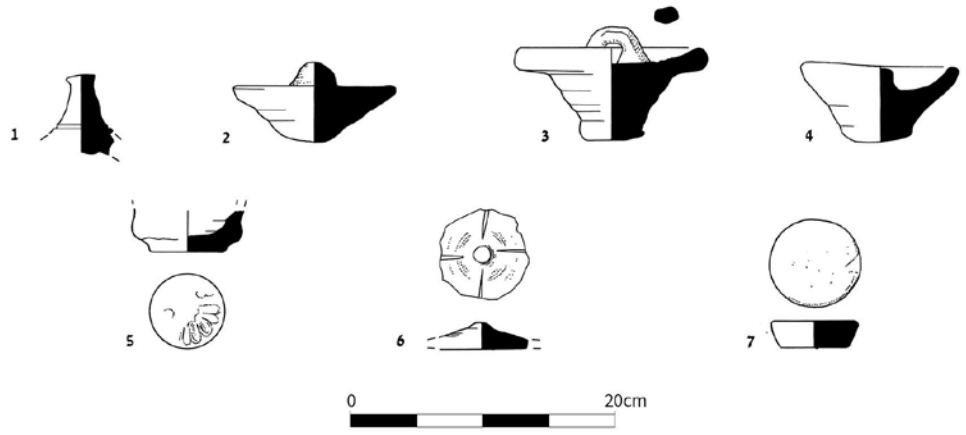

Figure 20. Lids.

No.	Reg. no.	Locus	Description
1	No number	No number	Sandy coarse orange
2	20180/1	2053	Sandy coarse orange
3	20240/1	2016	Sandy red, large grits
4	20184/3	2056	Sandy coarse grey
5	30565/1	1540	Sandy orange
6	10576/1	1058	Coarse gray, mica
7	20170/5	2002	Gray, small black grits

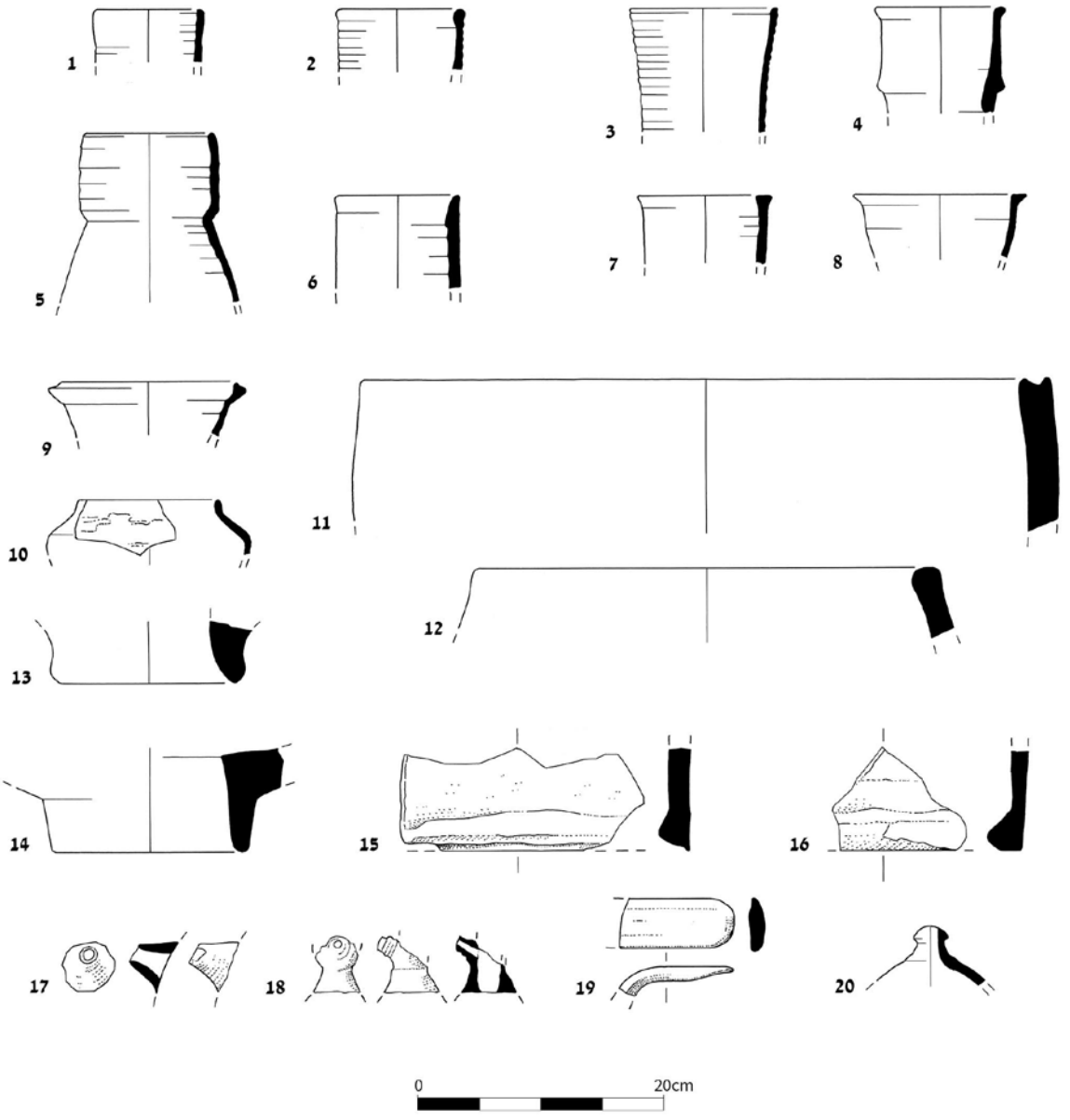

Figure 21. Byzantine, Early Islamic, Crusader and Mamluk period miscellaneous ceramics.

Figure 21. Byzantine, Early Islamic, Crusader and Mamluk period miscellaneous ceramics.

No.	Type	Reg. no.	Locus	Description
1	Antiliya jar	30026/4	3014	Metallic orange
2	Antiliya jar	20109/2	2049	Sandy orange
3	Antiliya jar	20109/1	2049	Sandy red
4	Antiliya jar	20202/1	2030	Coarse orange, white grits, mica
5	Antiliya jar	20177/1	2051	Coarse orange, white grits, mica
6	Pipe	20041/2	2015	Sandy red, gray core, mica
7	Pipe	10574/2	1545	Coarse grey, mica
8	Pipe	10574/3	1545	Brown, white grits
9	Pipe	10574/4	1545	Orange, white grits, mica
10	Pipe	10561/4	1531	Orange, white grits
11	Tabun	10581/4	1546	Coarse red
12	Tabun	10581/5	1546	Coarse red
13	Tabun	30001/1	3000	Coarse brown
14	Tabun	20170/6	2008	Coarse brown
15	Roof tile	10544/4	1525	Sandy red (Byzantine/Early Islamic)
16	Roof tile	20130/1	2000	Metallic orange, grey core, white grits (Byzantine/Early Islamic)
17	Funnel	20021/1	2022	Sandy reddish
18	Funnel	20229/1	2054	Buff yellow
19	?	10547/3	1540	Buff yellow
20	Sphero-conical vessel	10553/2	1517	Metallic gray (Byzantine/Early Islamic)

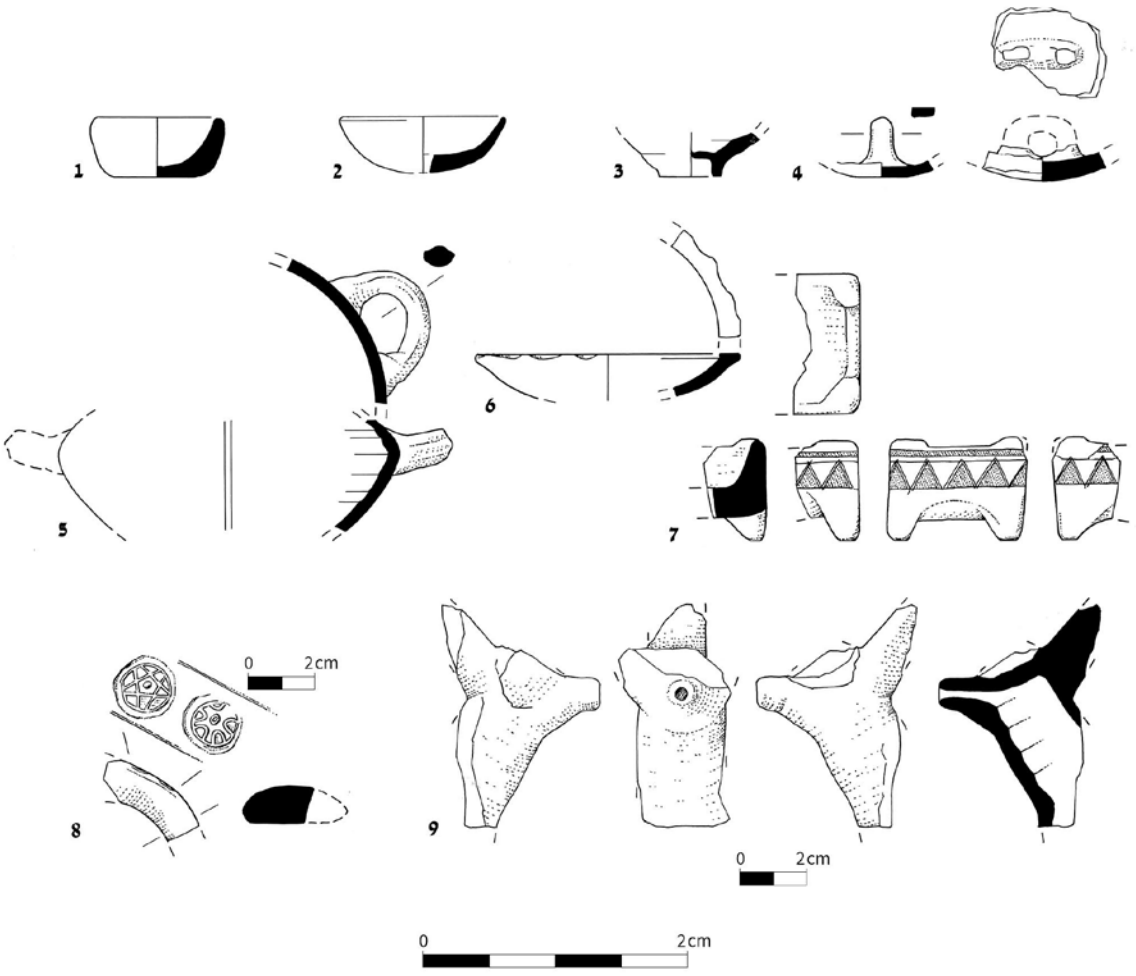

Figure 22. Byzantine, Early Islamic, Crusader and Mamluk period miscellaneous ceramics (continued).

Figure 22. Byzantine, Early Islamic, Crusader and Mamluk period miscellaneous ceramics (continued).

No.	Type	Reg. no.	Locus	Description
1	Miniature bowl	10560/1	1544	Pink
2	Miniature bowl	30026/5	3014	Coarse gray, large grits, handmade, wet smoothed
3	Stopper on reused base	20180/2	2053	Sandy orange
4	Spinning bowl	10504/4	1504	Coarse pink, large white grits, hand made
5	Industrial vessel	20167/2	2051	Coarse brown, black and white grits (Byzantine/Early Islamic)
6	Thumbed bowl	10542/5	1508	Metallic orange, sooth outside of rim, thumbing (Byzantine/Early Islamic)
7	Incense burner	10553/3	1517	Coarse orange, large white grits, incised and red decoration (Byzantine/Early Islamic)
8	Jar handle with seal impressions	30300	surface	Metallic orange, white and black grits
9	Zoomor-phic vessel	15077/2	5015	Metallic orange, grey core, white grits (Byzantine/Early Islamic)

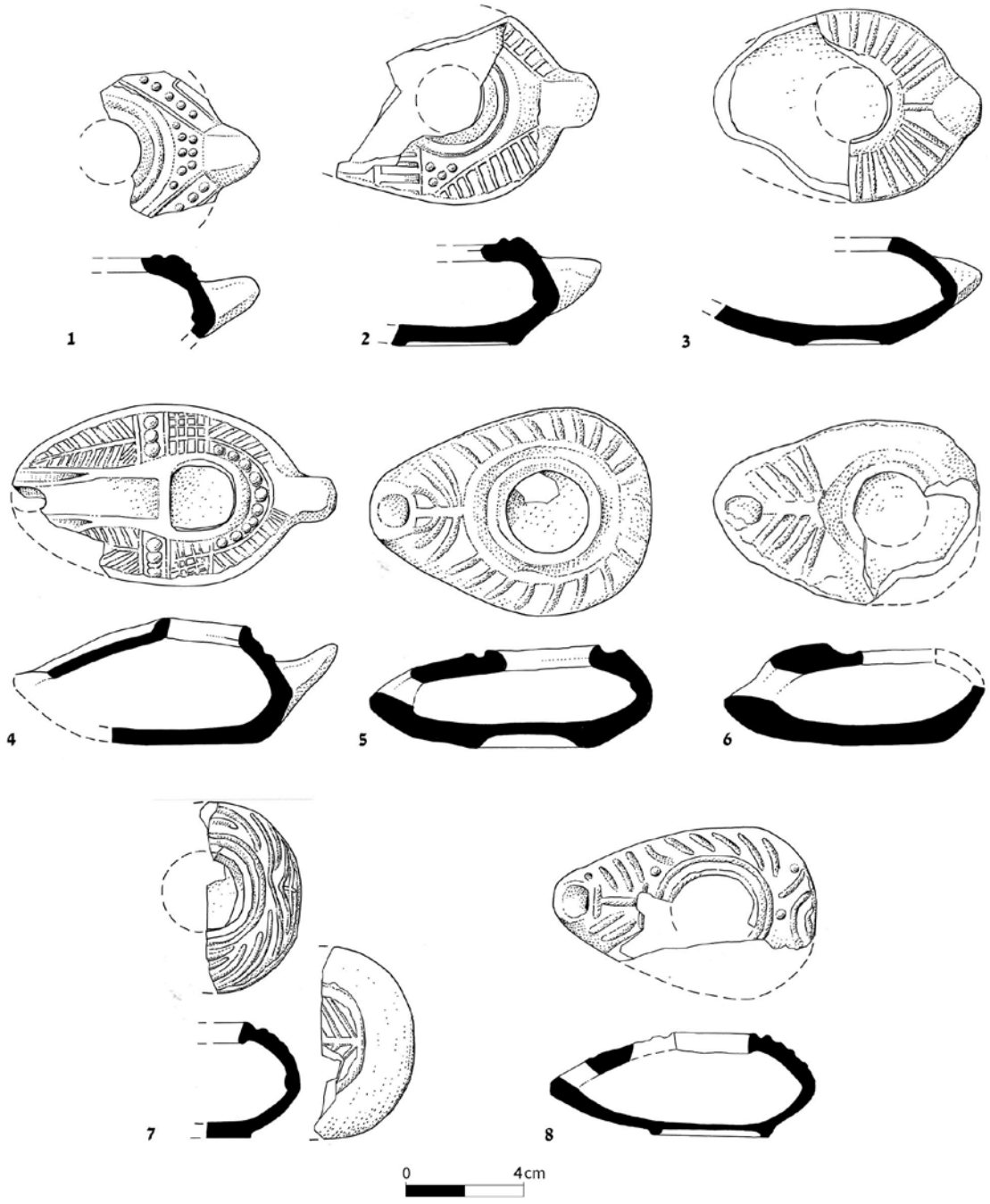

Figure 23. Oil lamps.

Figure 23. Oil lamps.

No.	Reg. no.	Locus	Description
1	20191/2	2051	Sandy pink
2	20167/4	2051	Sandy gray
3	20167/3	2051	Sandy pink
4	25058/1	2015	Peeling pink, white grits
5	20134/1	2051	Sandy pink
6	20134/2	2051	Sandy pink
7	10582/2	A11	Gray, decoration on base
8	20230/1	2051	Orange
9	15077/3	5015	Buff yellow
10	10545/5	1509	Gray
11	20054/1	2022	Buff yellow
12	20136/2	2054	Buff greenish
13	10574/5	1545	Red

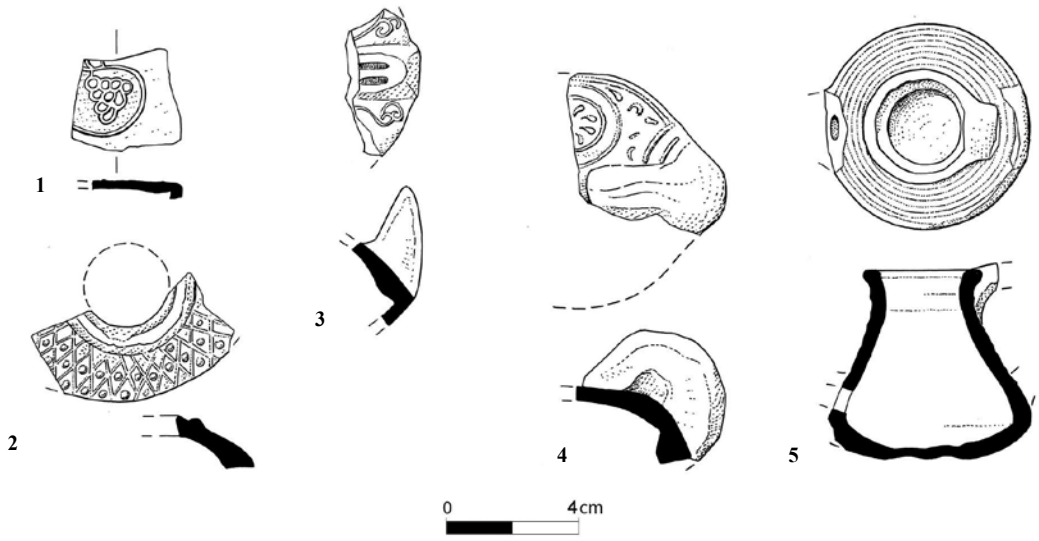

Figure 24. Oil lamps (continued).

No.	Reg. no.	Locus	Description
1	15077/28	5015	Buff yellow
2	10545/6	1509	Gray
3	20054/2	2022	Buff yellow
4	20136/3	2054	Buff greenish
5	10574/6	1545	Red

An Early Islamic Period Stamped Jar Handle from Horvat Hermas

Nitzan Amitai-Preiss

A handle with two different star designs along the length of the center of the handle (Fig. 22:8) was found at Horvat Hermas on the surface. One design is paralleled by two identical stamped pentagrams with stemmed edges from Ramla, Hez Street (Amitai-Preiss 2015: Handle 4, Fig.19:4). The other stamp on this handle (15 mm in diameter) has a design not known from anywhere else: a special kind of pentagram of five isolated triangles with their bases on the line of the circle and their apexes pointing toward the middle of the stamp, where a small bold circle is engraved. A petrographic analysis of the Horvat Hermas handle would be recommended to determine its origin.

Only two handles have been published that exhibit two stamped impressions. One was unearthed at Ramat Rahel where one impression is a design and one is an inscription (Taxel and Amitai- Preiss 2016: 557-558, Fig. 36:2, No. 3). The other published handle has two identical impressions that run the length of the center of the handle. The two distinct impressions are hexagrams consisting of two intertwined inverted triangles. Each seal impression was stamped at a slight incline of several degrees with respect to the other stamping. The points of five of the six

Figure 1. Early Islamic period stamped jar handle from Horvat Hermas..

triangles in the pattern are not closed; this is not a common characteristic of the triangular patterns of seal impressions appearing on jar handles from the eighth–ninth centuries CE. This latter handle was recovered from Ramla, Hez Street (Amitai-Preiss 2015: Handle 4, Fig.19:4).

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The Early Islamic Glass Finds from Horvat Hermas

Kate Raphael

The size and scale of the settlement at Horvat Hermas are difficult to assess due to the poor preservation of the architecture. However, the pottery and glass industry and the public buildings attest to the existence of a relatively wealthy settlement (cf. Sion and Parnus 2007). The two excavations at Horvat Hermas conducted by Sion and Elisha, respectively, unearthed evidence of a thriving glass industry; Elisha's excavations uncovered the remains of a glass furnace containing lumps of raw glass, waste, deformed glass vessels, glass drops and glass refuse from the blow pipes (Elisha 2007). The large quantities of slag, furnace debris, and the sections of the kilns walls coated with glass, all point to a large and well-developed glass industry. The industrial area where the glass workshops were unearthed was dated to the end of the sixth–beginning of the seventh century CE—the late Byzantine-Early Islamic periods (Gorin-Rosen 2005). Although a large number of glass fragments was found during the excavation the vessels' state of preservation was poor, and only very few were published (Gorin-Rosen 2006).

The following report presents the finds from the 2011 excavations at Horvat Hermas, conducted by Conn Herriott and Gideon Sulimani on behalf of Y.G. Contract Archaeology.[1]

The excavation yielded 663 fragments; 75 diagnostic fragments where selected for this publication. It is important to note that not a single vessel was found intact. All the vessels are free-blown, apart from two that are made in a mold: a jar decorated with lozenges organized in a honeycomb design (Fig. 4:3), and a bottle with vertical ribs (Fig. 5:28). Molded vessels with similar designs were common throughout the Byzantine period, but continued all through the Umayyad period.

Pontil marks are common and vary according to the size of the vessel. On simple, low-cost domestic ware pontil marks were left alone. In higher quality vessels the pontil mark was ground off and the bottom of the vessel was left smooth (Kröger 1995: 21, 23).

Regarding colors, shades of light blue, pale green and greenish blue are dominant. According to Kröger (1995: 21) vessels for domestic everyday use were usually green tinged, while high quality ware often colorless. Most of the vessels have a relatively thin gray, silver or black crust, produced by a chemical reaction. The latter tends to flakes off easily. This state of affairs contrasts to glass items in burial contexts, which tend to be better preserved (if the grave was not plundered). Taking into consideration the fineness of the glass vessels and their archaeological context—i.e. public and domestic settings—it is perhaps not surprising that none of them were found intact or could be reassembled from the fragments.

1 The drawings in the plates are by Mannie Goodman, and the photographs were taken by Hanan Shafir. I would like to thank them both for their marvelous work.

The vessels will be presented in typological order from open to closed forms: bowls, cups, beakers, wine glasses, jugs, jars, bottles, phials, and lamps. Not all the vessels described in the tables are illustrated in the figures.

THE GLASS ASSEMBLAGE TYPOLOGY

Bowls

Within this group, shallow and deep bowls with tubular rims and large bowls with a tubular ringed base are dominant. The tubular rim bowls, which continue a well-established Roman-Byzantine tradition, were common throughout the Umayyad period (Gorin-Rosen 2010: 220). However they appear to go out of fashion in later periods.

Cups, Wine Glasses, and Beakers

While the actual cup and rim rarely survive, the thick solid bases of beakers and wine glasses are almost indestructible. Wine glasses were a common vessel throughout the Levant during the Byzantine and early Umayyad periods. The shape and design of the Byzantine period wine glasses continues with few changes in the early Umayyad period and later during the Fatimid period (Gorin-Rosen 2010: 213; Hadad 2005: 28; Lester 2004: 173). They were made locally and are found in numerous sites across Israel (Gorin-Rosen 2005: 30–31). The stems in this group are all solid. Beakers have a heavier and thicker base and are more dominant in this collection. Some are flat, others are somewhat more delicate and have a concave base. During the 4th century, beakers appear to be more common in Egypt, Syria and Palestine than in any other region in the Roman Empire (Gorin-Rosen, Y. and Katsnelson 2007: 90–93). Beakers gradually replaced wine glasses/goblets in the later medieval periods (Lester 2004: 174; 2005: 28).

Jugs

Relatively few jugs were found in this group. Most are fairly small and have funnel-shaped rims and narrow necks with a thumb rest. According to Hadad, jugs were relatively rare in the Umayyad period and became popular only during the Abbasid and Fatimid periods (Hadad 2005: 28).

Jars

All the jars in this group have a relatively wide diameter and cylindrical upright necks. One of the two examples of a mold-blown vessel is a jar decorated with lozenges organized in a honeycomb design (Fig. 4:3). Molded vessels with similar designs were common throughout the Byzantine period, but continued all through the Umayyad period.

Bottles

Rims and bases of bottles form the largest group of vessels in this assemblage: none are fully preserved. While their sizes vary, the forms are relatively simple. The quality of the work varies; symmetry is sometimes questionable, and the glass in some vessels has sand deposits and air bubbles that were trapped during the production. Within this group is a small number of bottles with high narrow necks decorated with dense bands of fine horizontal threads. The molten glass threads were wound or trailed onto the body of the hot vessel in a spiral pattern. The latter is a well-established form of decoration that goes back to the Byzantine period. It continued into the Umayyad period and became a popular decoration technique (Matheson 1980: xvi; Brosh 2001: 377; Hadad 2005: 24–25). Six bottles with funnel-shaped rims are presented here. According to Hadad (2005:76) they were common in the Byzantine period, but are relatively

rare in the Umayyad period. The range of colors is modest—shades of light green and pale blue. The simple forms and lack of decoration clearly suggest they were made for everyday use, as containers for cosmetics liquids and powders; perhaps the larger vessels served as tableware

Phials

Two tubular phials w ere recorded, both fragmented and only the thick base remains. These were used for storing liquid medicines (Lester, 2004: 188), perfumes, or oils.

Lamps

Glass lamps are relatively few in comparison to the ceramic lamps (see Kohn-Tavor this volume Figs. 23–24) which are a more common find in most archaeological excavations of the periods under discussion. Two types of lamps were found; one has a hollow tube and the other has a solid stemmed leg. In all three artifacts the upper bowl did not survive.

Chunks of Glass and Lumps of Slag

A small quantity of raw material—glass chunks and slag—was found during the excavation. Evidence of both small and large scale glass production centers and workshops has been discovered in numerous sites across Israel: Beth Shean, Bet Eli'ezer, Appolonia, Tel Aviv, Beth She'arim and others (Gorin-Rosen 1995; 2000, Figure 2: map of glass production sites; Phelps 2018; Freestone, Gorin-Rosen and Hughes 2000; Tal, Jackson-Tal and Freestone 2004). While centers for the production of raw glass were located close to the source of the raw material, workshops for the production of glass ware were constructed in industrial areas or market places in both towns and villages (Gorin-Rosen 2000: 50). The few slags and lumps of raw glass clearly indicate that the settlement had a workshop; the raw glass, however, was probably imported from elsewhere.

DISCUSSION AND CONCLUSIONS

None of the glass vessels are imported. The homogeneity of this assemblage of well-known common table ware, the similar fabric, quality and the shape of the vessels suggests they were made locally, perhaps even in the glass workshops on the site. This group is similar in its forms, designs, style of decoration, and production techniques to glass assemblages found in numerous Late Byzantine and Umayyad sites across Israel.

The bottles are by far the most numerous type. Most are medium or small in size and they contained medicinal or cosmetic ointments, oils, or liquids that were consumed in small quantities.

While glazed pottery was by far more common than glass and perhaps cheaper "glass vessels were obviously preferable or better suited for a number of domestic purposes…" and "the range of the shapes for glass differed from that of vessels in other mediums." (Kröger 1995: 31–32). While the above may be true, in most excavations, even when the site yields large amounts of glass, the volume of the glass finds is considerably smaller than the pottery. It seems glass was relatively expensive and even the common domestic wares were only used by a relatively small percentage of the population.

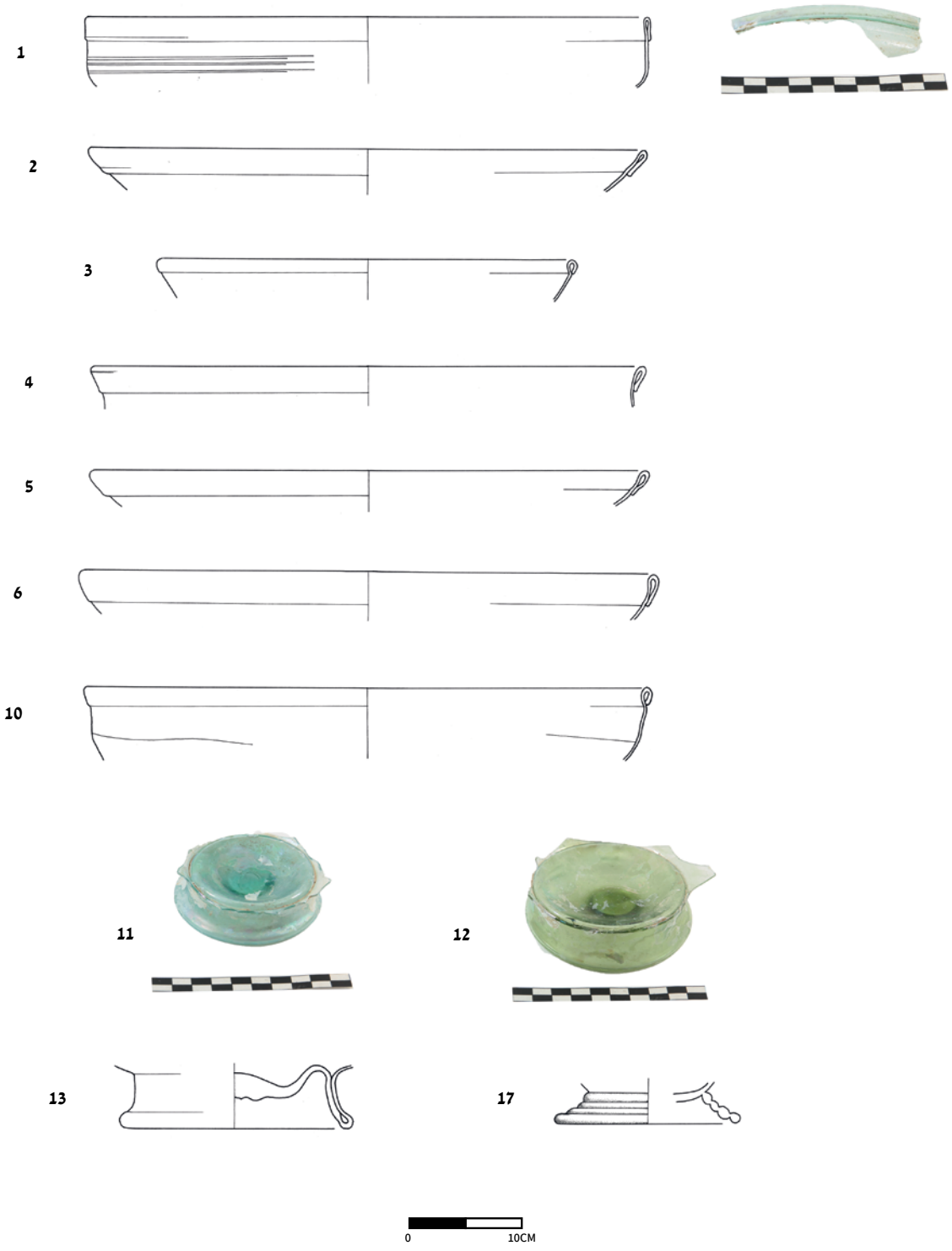

Figure 1. Bowls.

Table 1. Bowls.

No.	Vessel	Square	Locus	Basket	Description
1	Bowl	B6	2030	20175	Shallow bowl; Tubular rim with a decorative band of very fine incised lines below it. Color: pale green, body almost translucent. Parallels: Beth Shean Hadad 2005: Pl. 2:30 similar in shape, simple rim and no decoration; Tiberias Lester 2004: Fig. 7.1:23. Dated 800–900 CE.
2	Bowl	B6	2030	20046	Shallow bowl with folded out hollow rim. Color: pale bluish-green. Parallels: Khirbat el-Thahiriya, Jackson-Tal 2012: Fig. 1:3; Beth Shean, Hadad 2005: Pl. 3:66.
3	Bowl	B6	2030	20175	Rounded tubular rim. Color: pale blue. Parallels: Beth Shean, Hadad 2005: Pl. 2:47; Tiberias, Lester 2004: Fig. 7.1:22.
4	Bowl	B6	2053	20116	Hollow rim, almost straight concave walls. Color: light blue. Parallels: Tiberias, Lester 2004: Fig. 7.1:5.
5	Bowl	B6	2014	20024	Shallow bowl with folded out rim. Color: pale green. Parallels: Khirbat el-Thahiriya, Jackson-Tal 2012: Fig. 1:3.
6	Bowl	B6	2014	20024	Shallow bowl with folded out rim. Color: pale green. Similar to previous bowl.
7	Bowl	B8	2045	20194	Shallow bowl, rim folded out and hollow. Color: pale green. Parallels: Beth, Hadad 2005: Pl. 1:21; Tiberias Lester 2004: Fig. 7.1:17. Not illustrated.
8	Bowl	C2	3007	30017	Folded out rim that creates a hollow tube. Color: pale green.
9	Bowl	B5	2013	20022	Shallow bowl or perhaps a plate. Thick, wide folded out rim that creates a hollow tube. Color: light green.
10	Bowl	B5	2051	20125	Deep small bowl. Thick rim folded our creating a hollow tube. Color: light green. Parallel: Beth Shean, Hadad 2005: Pl. 3:68, 70.
11	High ring base bowl	B6	2053	20180	Large tubular ring base. Fragments of the flaring wall of the bowl can still be seen. Color: light green. Parallels: Yoqne'am, Lester 1996: Fig. XVII.5:7.
12	High ring base bowl	B5	2051	20125	Large tubular ring base. Fragments of the flaring wall of the bowl. Color: light green. Parallels: Yoqne'am, Lester 1996: Fig.XVII.5:7; Beth Shean, Hadad 2005: Pl. 3:73–74.
13	High ring base bowl	B6	2030	20175	Large tubular ring base. Fragments of the flaring wall of the bowl. Color: light green. Parallels: similar to previous item.
14	High ring base Bowl	B8	2016	20240	Fragment of a large tubular ring base. Color: light green-blue. Not illustrated.
15	High ring base bowl	B6	2030	20202	Fragment of a large tubular ring base. Color: light green-blue. Diameter:7.6. Parallels: similar to previous item. Not illustrated.
16	High ring base Bowl	B8	2045	20197	Fragment of a crude tubular ring base. Due to the thick coat of black silvery and iridescence weathering it is difficult to distinguish the original color. Diameter: 8. Parallels: Ramla, Gorin-Rosen 2010: pls. 10.1:9.
17	Ring base bowl	B6	2053	20192	Fragment of a ring base with ridges Color: pale blue. Diameter: 6.6. No parallel found.
18	Ring base bowl	B1	2057	20185	Fragment of a ring base with ridges, base slightly warped. Color: pale blueish-green. Diameter: 5. Not illustrated. No parallel found

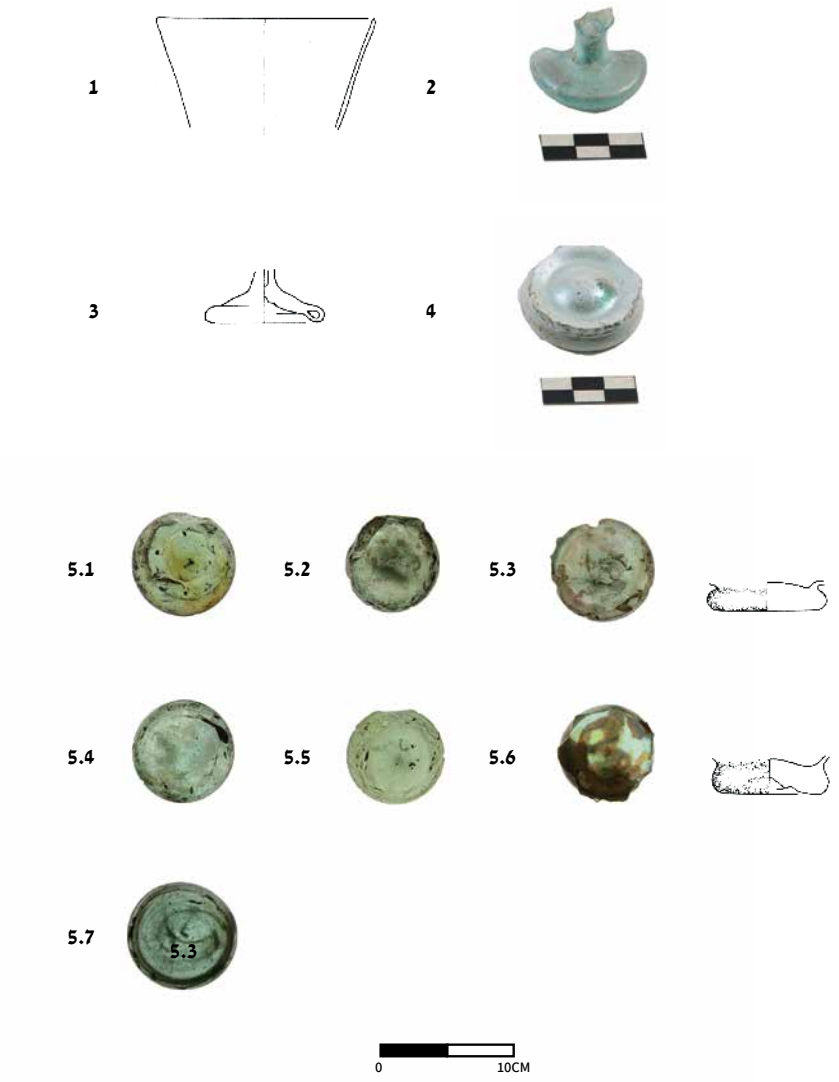

Figure 2. Cups, Wine Glasses and Beakers.

Table 2. Cups, Wine Glasses, and Beakers.

No.	Vessel	Square	Locus	Basket	Description
1	Cup	B7	2043	20072	Delicate rounded rim with thin walls almost straight. Color pale green almost translucent. Parallels: Ramla, Gat 2017: Fig. 3.3:2. Umayyad.
2	Wine glass	C2	3007	30013	Concaved base tubular rounded at the edge. Stem hollow but thick. Color: pale blue. Parallels: Beth Shean Haddad 2005: Pl. 21: 402; Shiqmona, Gorin-Rosen Fig. 2:7; 'Illut, Gorin-Rosen 2009: Fig. 14:3.
3	Wine glass	B6	2028	20092	Concaved base with incised decoration along the edge. Hollowed stem. Color: Light green. Parallels: Khirbat el-Batiya, Gorin-Rosen 2005: Fig. 1:7. Ha-Bonim, Winter 2017: Fig. 2:5.
4	Beaker	B6	2086	20244	Solid flat base of a beaker. Color: light green. Parallels: Bet Shean, Katsnelson 2014: Fig 2:10–11.
5:1	Beaker	B8	2016	20231	Solid heavy concaved base of a beaker. Color: dark green. Diameter: Parallels: Tel Hashash, Tal and Taxel 2010: Fig. 17:5.
5.2	Beaker	C1	3000	30000	Solid concaved base of a beaker. Color: light green. Diameter: Parallels: Tel Hashash, Tal and Taxel 2010: Fig. 17:4.
5.3	Beaker	B3	2084	20235	Solid base of a beaker. Color: light green. Parallels: Tel Hashash Tal and Taxel 2010: Fig. 17:4–5
5:4	Beaker	A16	1517	1029	Solid flat heavy base of a beaker. Color: light green. Diameter: Parallels: Similar to 5.2.
5.5	Beaker	B5	2051	20168	Solid heavy flat base of a beaker. Color: dark green. Diameter: Parallels: Similar to 5.2.
5.6	Beaker	B6	2053	20180	Solid heavy flat base of a beaker. Color: light green. Diameter: Parallels: Similar to 5.2.
5.7	Beaker	B8	2031	20049	Solid heavy flat disk base of a beaker. Color: dark green. Diameter: Parallels: Ramla, Gorin-Rosen 2010: Pl. 10.1:7–8.

Figure 3. Jugs and a juglet.

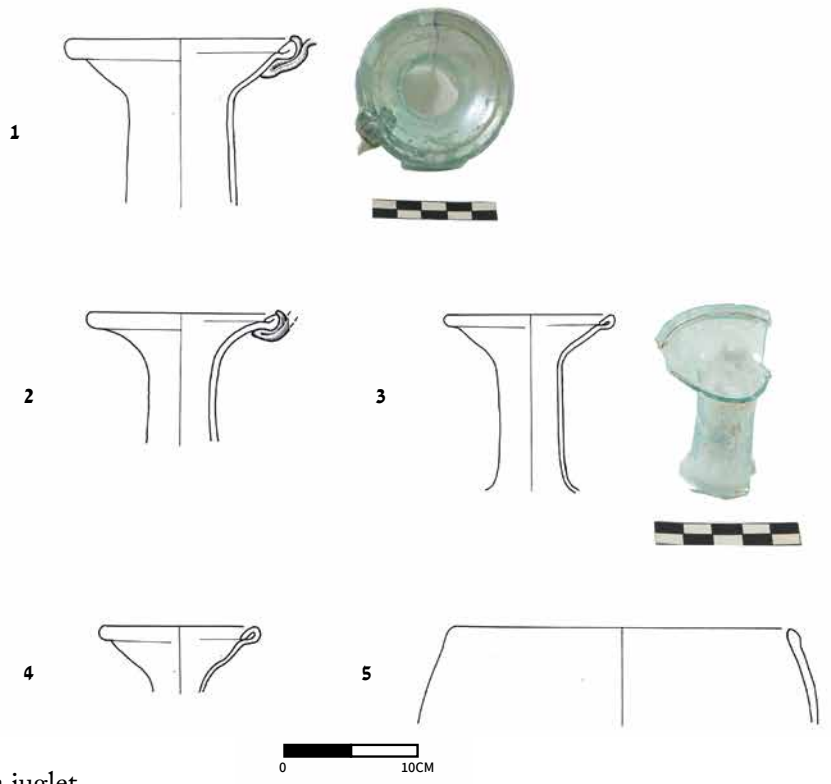

Table 3. Jugs and a juglet.

No.	Vessel	Square	Locus	Basket	Description
1	Jug	B5	2051	20190	Body completely missing, and only the mouth and neck of the large jug have survived. Funnel-shaped rim, with fragmented thumb rest. Color: light blue. Parallels: Beth Shean, Hadad 2005: Pl. 20:382. Date Umayyad.
2	Jug	B7	2043	20072	Body completely missing, and only part of the mouth and neck survived. Funnel-shaped with tubular rim incised with fine line. and stump of a handle. Color: light blue. Parallels: Beth Shean, Hadad 2005: Pl. 20:382.
3	Jug/Bottle	B6	2047	20089	Body completely missing, and only the mouth and neck of this medium size jug have survived. Funnel-shaped with thick shelf tubular rim and stump of a handle. Color: light blue. Parallels: Bet Shean, Hadad 2005: Pl. 20:382; Bett Shean, Gorin-Rosen 2010: Fig. 5:4 Dated to the 10th century CE.
4	Juglet	B6	2053	20230	Body completely missing, and only the funnel-shaped mouth with an out folded tubular rims survive of the medium size juglet. Color: pale greenish-blue. Parallels: Tirat HaCarmel, Pollak 2005: Fig. 5: 45; Tell Musa Shahin, Kefar Gevirol, Ouahnouna 2018: Fig. 9:4; Khirbat el-Fatuna, Jackson-Tal 2007: Fig. 3:7; Dated to the early Byzantine period.
5	Jug	A15	1537	10564	Thick rim relatively narrow diameter. Color: pale greenish-blue.

Figure 4. Jars.

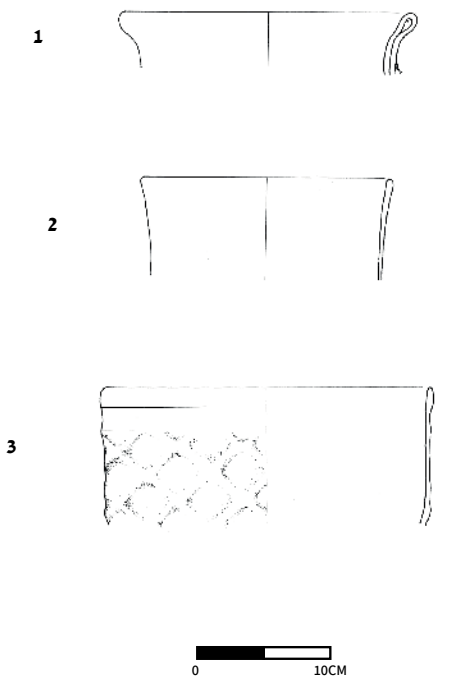

Table 4. jars.

No.	Vessel	Square	Locus	Basket	Description
1	Jar	B6	2047	20089	Thick tubular rounded rim. Color: light blue. Parallels: Yoqne'am, Lester 1996: Fig. XVII.1:2; Beth Shean, Hadad 2005: Pl. 2:49.
2	Jar	A9	1543	10563	Wide moth, plain rim straight up right neck. Color: pale green. Parallels: Not found
3	Jar	A13	1530	10557	Made in a mold. Out turned rim, upright walls. Decorated with shallow lozenges organized in a honeycomb design. Color: Pale green almost colorless. Parallels: similar pattern can be seen on a vessel from Beth Shean, Katsnelson 2014: Fig. 9:3.

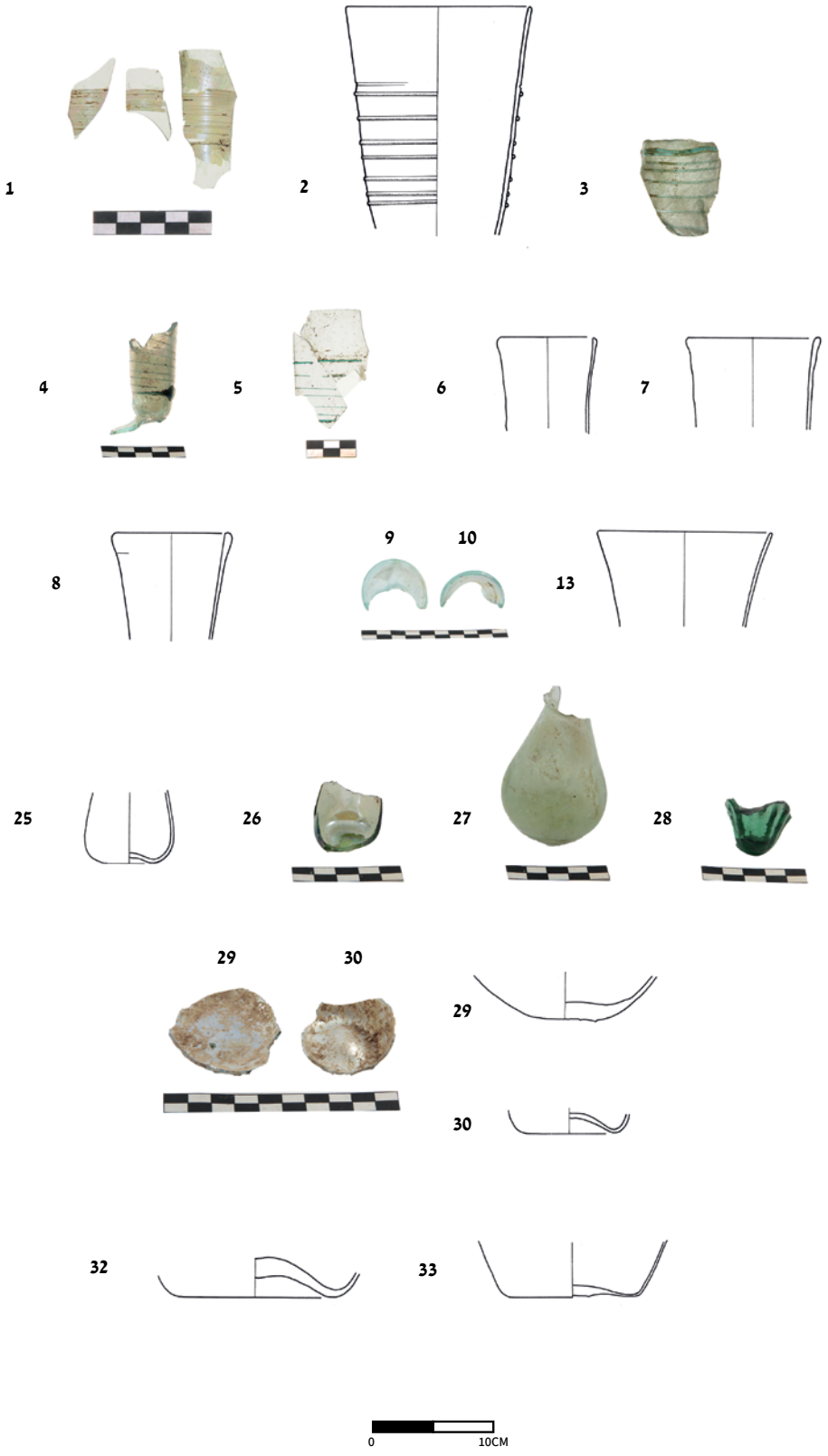

Figure 5. Bottles.

Table 5. Bottles.

No.	Vessel	Square	Locus	Basket	Description
Necks					
1	Bottle	B6	2053	20206	Three fragments of a fine thin straight rim, decorated with threads. Color: pail green almost translucent. Diameter: Parallels: Beth Shean, Haddad 2005: Pl. 13: 243; Ramat Yshai, Porat 2007: Fig. 9:1.
2	Bottle	B8	2034	20074	Thin, straight neck with plain rim. Fine thread decoration in dark green spaced along the neck. Diameter: Color: pale tint of green. Parallels: Similar but not identical. Beth Shean, Haddad 2005: Pl. 13: 243.
3	Bottle	B6	2030	20202	Relatively thick neck plain rim decorated with a wavy thread below the rim and fine dark green threads along the neck. Color: Pale green. Parallels: Similar but not identical. Beth Shean, Haddad 2005: Pl. 13:243.
4	Bottle	B6	2028	20106	Conical shaped neck, narrowing shortly before the shoulder. Decorated with fine threads, at the end of the spiral the thread thickens. Color: Pale blue. Parallels: Beth Shean, Haddad 2005: Pl. 12:229.
5	Bottle	B8	2034	20074	Plain straight walled with slightly thickened rim. Body probably elongated. Diameter: Color: Pale green. Parallels: Beth Shean, Haddad, 2005: pl. 8:144.
6	Bottle	B5	2051	20166	Plain cylindrical narrow neck, simple rim. Diameter: Color: Pale blue. Parallels: Beth Shean, Haddad 2005: Pl. 8:155 similar not identical.
7	Bottle	B5	2051	20166	Plain straight walled narrow neck, simple rim. Diameter: Color: Pale green. Parallels: Beth Shean, Haddad 2005: Pl. 8:155 similar not identical.
8	Bottle	C2	3007	30014	Plain relatively thick straight rim of a bottle's neck. Diameter:2.7. Color: pale blue. Parallels: Beth Shean, Hadad 2005: Pl. 18:338. Similar in shape but not identical.
9	Bottle	B6	2053	20230	Plain rim. Cylindrical neck. Color: light green. Poor quality glass. Diameter: 3.7. Nahlat Ahim Quarter Jerusalem, Kigan-Zehavi 2006: Fig. 8:38.
10	Bottle	B6	2053	20230	Plain rim. Color: light green. Poor quality glass. Diameter: 4.8. Parallels: a similar but not identical vessel dated to the Roman-Byzantine period was found in Kefar Shemaryahu, Gorin-Rosen 2017: Fig. 10:2.
11	Bottle	B6	2053	20230	Plain slightly thicker rim. Cylindrical neck. Color: light blueish. Poor quality glass. Diameter: 3.3. Parallels: Similar rim dated to the Byzantine period found at Khirbat El-Ni'ana, Gorin-Rosen and Katsnelson 2007: Fig. 14:4. Not illustrated.
12	Bottle	B6	2053	20230	Plain rim. Cylindrical neck. Color: light green. Poor quality glass. Diameter: 2.3. Parallels: Possibly belongs to a bottle with a fine narrow neck. Beth Shean, Haddad 2005: Pl. 7:140. Not illustrated
13	Bottle	B8	2045	20194	Plain rim. Relatively wide, slightly tapering neck. Color: light green. Diameter:4.8. Parallels: Beth Shean, Haddad 2005: pl. 7:108.
14	Bottle	B8	2045	20194	Plain rim cylinder neck. Color: pale blue. Diameter:4. Ramla, Gorin-Rosen 2019: Fig. 3:17. Not illustrated.
15	Bottle	B6	2030	20202	Thick plain rim of a narrow funnel neck. Color: pale green. Diameter:1.5. Parallels: Beth Shean, Haddad 2005: Pl. 8:158. Not illustrated.
16	Bottle	B6	2053	20230	Thick flaring rim funnel shaped neck. Color: pale green. Diameter: 4.5. Parallels: Beth Shean, Haddad 2005: Pl. 9:168–169. Not illustrated.

No.	Vessel	Square	Locus	Basket	Description
17	Bottle	B6	2053	20230	Thick flaring rim funnel shaped neck. Color: pale green. Diameter: 4.3. Parallels: Beth Shean, Haddad 2005: Pl. 9:168–169. Not illustrated.
18	Bottle	A12	1519	10530	Thick flaring rim funnel shaped neck. Color: pale green. Not illustrated.
19	Bottle	C2	3007	30017	Thick flaring rim narrow cylindrical neck. Color: pale blue. Diameter: 3.3. Parallels: Beth Shean, Haddad 2005: Pl. 11:201. Not illustrated.
20	Bottle	B6	2053	20180	Fine funnel shaped, flaring rim with a narrow cylindrical neck. Color: pale yellow-greenish. Parallels: Horvat 'Ofrat Winter 2018: Fig. 2:12. Late Roman –Early Byzantine; Beth Shean, Haddad 2005: Pl. 11:200. Not illustrated.
21	Bottle	B9	2017	20028	Fragment of a cylindrical neck with a folded ridge that creates a hollowed tube that protrudes out. Color: green. Parallels: Tiberias, Lester 2004: Fig. 7.6: 71; Ramla Gorin-Rosen 2010: Pl. 10.1:15; Tirat HaCarmel, Pollak 2005: Fig. 6:63. Not illustrated.
22	Bottle	B6	2086	20244	Funnel shaped neck decorated with thick thread just below the rim. Color pale blue. Parallels: Beth Shean, Hadad 2005: Pl. 13:255, 256, 257. Not illustrated.
23	Bottle	B7	2043	20068	Simple upright rim, neck wall slightly tapers downward. Diameter: 4. Color: pale blue. Parallels: Bat Galim Haifa, Pollak 2008: Fig. 2:12
24	Bottle	B7	2035	20066	Simple upright rim, neck wall slightly tapers downward. Diameter: 4. Color: pale green. Not illustrated.
Bases					
25	Bottle	B6	2053	20116	Thin concave base with slightly tapering walls. Diameter of base: 2.6 Color: pale green. Parallels: Beth Shean, Haddad 2005: Pl. 8:150.
26	Bottle	B6	2030	20202	Relatively thick concave base with almost straight walls. Diameter: of base: 2.5. Color: dark green. Parallels: Beth Shean, Haddad 2005: Pl. 8:150
27	Bottle	B6	2030	20202	Rim missing. Thin concave base pear-shaped body, narrow short neck. Diameter of base:5. Color: pale green. Parallels: Beth Shean, Haddad 2005: Pl. 8:150.
28	Ribbed Bottle	B9	2059	20223	Flat base, blown in a mold producing vertical ribs. Color: Dark green. Parallels: Beth Shean, Hadad 2005: Pl. 16:324 similar not identical; Shiqmona, Gorin-Rosen 2010: Fig. 5:2.
29	Bottle	B5	2051	20166	Simple concaved base with rounded walls. Color: pale Parallels: Beth Shean, Hadad 2005: Pl. 11: 213, 216.
30	Bottle	B5	2051	20166	Simple flat base with rounded walls. Color: pale green. Parallels: Beth Shean, Hadad 2005: Pl. 11: 213, 216.
31	Bottle		Mixed	20575	Concaved base, almost straight walls. Color: pale green. Parallels: Beth Shean, Hadad 2005: Pl. 11:215. Not illustrated
32	Bottle	C2	3007	30014	Deep concave base with remains of only fragments of the wall. Color: light blue. Parallels: Ashdod-Yam, Ouahnouna 2014: Fig. 30:1.
33	Bottle	A10	1545	10574	Flat, wide simple base. With fragments of the straight wall of the bottles body. Could belong to a variety of bottles. Color: pale blue. Parallels: Ramla, Gat 2017: Fig. 3.5: 5.

Figure 6. A phial.

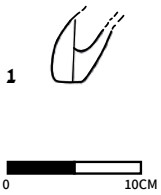

Table 6. Phials.

No.	Vessel	Square	Locus	Basket	Description
1	Phials	B6	2014	20033	Thick round tube with crude uneven base. Color: bluish-green. Diameter: 1. Parallels: Tiberias, Lester 2004: Fig. 7.9: 111–113; Beth Shean, Hadad 2005: Pl. 35:690. Dated to the Abbassis period.
2	Phials	B2	2057	20199	Thick round tube flat base. Color: light green. Diameter: 1.3. Parallels: Identical to the previous object. Not Illustrated.

Figure 7. Lamps.

Table 7. Lamps.

No.	Vessel	Square	Locus	Basket	Description
1	Lamp	B5	2051	20153	Wide solid leg/stem of an oil lamp. Type 4. Color: dark green. Parallels: Beth Shean, Haddad 2005: Pl. 22: 435, 438 441; Tirat HaCarmel Pollak 2005: Fig. 4:41.
2	Lamp	B5	2050	20183	Wide Solid leg/stem of an oil lamp. Type 4. Color: pale green. Shiqmona, Gorin-Rosen 2010: Fig. 2:10. Not Illustrated.
3	Lamp	B5	2051	20177	Smooth hollow stem narrow at the bottom wide towards the top where the bowl begins. Type 5. Color: pale green. Parallels: Beth Shean, Haddad 2005: Pl. 23: 444, 448.

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The Ground Stone Assemblage from Horvat Hermas

David Ilan

The ground stone assemblage recovered from Horvat Hermas (N=27) is not particularly large relative to the area and number of occupational levels excavated. The types present are also standard for Late Antiquity and Medieval period contexts.

Rotary mill stones (N=15)

Most of the ground stone assemblage consists of fragments of round rotary mill stones, and most of these are fragments of upper stones. Eight of the rotary millstone fragments are made of local beachrock and seven of vesicular basalt. The two lower stones are both of vesicular basalt.

The upper stones (N=13) would have ranged from 35 cm to 44 cm in diameter, when whole, though most are 40–42 cm (see Table 1). Upper stone thickness ranges from 2.5 to 7.0 cm. Ten of them show flat grinding surfaces and three show concave grinding surfaces, which indicate a convex lower stone grinding surface. This configuration of the pairs moves the cracked grain and flour more easily down the lower stone to the collection surface or gutter below the lower stone. The upper surfaces are mostly flat as well, at least up to the collared hopper perforations (the perforation where the grain was fed). One of the upper stones exhibits a convex upper profile (Fig. 1:9). Five of the upper millstones preserve a portion of the hopper's collar. Two of these are illustrated in Fig. 1:1–2. The rest are fragments from closer to the circumference of the stone. The only millstone that shows grooving on its lower grinding surface is that in Fig. 1:8.

The lower stones (N=2; Fig. 2:1–2) are small (thick) fragments whose diameter cannot be determined. It is surprising that so few lower rotary grinding stone fragments were recovered relative to the number of upper stones; perhaps being course secondary building material, they were not identified in the field.

No handle attachments or sockets to accommodate such attachments were observed in any of the stone fragments. Since none of the upper millstones is whole it is likely that stones with handle sockets have not been found. None of the millstones show evidence for a rynd fitting, something one would see in the upper stone.[1] It is possible that wooden rynds, which have not preserved, were fitted within the hopper. But I can see no evidence for this.

The hand-operated rotary millstone was introduced into Judea/Palestine in the 1st century CE, probably by the Roman army,[2] and became the standard household milling apparatus from the Byzantine period until modern times (Alonso and Frankel 2017: 8; Ebeling 2019).

1 Cf. a fine metal example from a Byzantine monastery in Nahal Kidron (Zelinger and Barbè 2017: 77–79; Figs. 29–30) and for different possible variants see Alonso and Frankel 2017: 6–8, Fig. 4a.

2 Cf. Runnels 1990 regarding the same means of introduction into Greece.

Pompeian mill stone (N=1)

Fig. 1:10 is a fragment of the lower rim of the upper, hourglass-shaped, hopper stone of a Pompeian mill stone—what would be called the *catillus* in Latin (Alonso and Frankel 2017: 9). Made of a poor-quality vesicular basalt with quite a few inclusions, the interior face was heavily pitted; the resulting groats or flour would have contained lots of grit that would have required sieving to remove. With an interior rim diameter of approximately 45 cm the height of the complete stone would have been around 60 cm or so—a small *catillus*. Perhaps this one served a large household rather that a bakery. The Pompeian mill appears to have originated in the central Mediterranean and was introduced into Palestine by the Hellenistic period (e.g. Magen 1993: Fig. 36.1). It was used until the Byzantine period (e.g. Ad et al. 2005; Fiema 2016: 382–383).

Olynthus mill stone (N=1)

This small fragment (Fig. 2:3) appears to be the corner of an upper Olynthus mill stone (which is the hopper stone). It bears no grooving on the base. This type was commonly installed the corners of rooms in the Hellenistic and Roman period houses of Palestine (Frankel 2003:8–9). It appears to have originated in the Aegean region in the Hellenistic period and its use apparently ended in Palestine in the 6th century CE (Alonso and Frankel 2017: 5). The Pompeian and rotary-type mills replaced the Olynthus mill in the Byzantine period (Frankel and Syon 2016: Fig. 11:17). This fragment probably originates in the Hellenistic or Roman levels of Horvat Hermas.

Mortars (N=2)

One of the mortars (Fig. 2:7), a small one, is of silicified limestone. It is a ubiquitous type in all periods and places. This could also be a doorpost socket. The other fragment is of a large basalt mortar with walls close to the vertical and what appears to be a broad base (Fig. 2:5). Parallels are found at Byzantine and Early Islamic sites such as Tel Ira (Fischer and Tal 1999: Fig. 10.1:7–12), Ramla (Herriot 2017: Fig. 6.1:10; Chachy-Laureys 2010: Pl. 14.1:2), and El-Khirba (Adama et al: Fig. 12), and Roman Zeugma in Anatolia (Parton 2013: Figs 4–5).

Pestle (N=1)

The pestle in Fig. 2:6 weighs 532 gm and has a chip missing. It has six smoothed faces and, on two opposing sides, depressions that probably served as grip enhancement—a well-known feature of Late Antiquity and Medieval period pestles, e.g. at Ramla (Herriott 2017b: Fig. 6.1:5), el-Khirba (Adama et al. 2019: Fig. 13) and at Late Roman Zeugma (Parton 2013: Figs. 1, 3). A pestle of this sort, with multiple faces, would be useful in conjunction with stone bowls and mortars, such as Fig. 2:4–5.

Coarse bowl (N=1)

The coarse bowl of Fig. 2:4 is fabricated of somewhat vesicular basalt and it would have been approximately 50 cm in diameter. This would have made it a stationary installation. Perhaps it was a large grinding bowl—a sort of mortar. The fact that the raw material was imported from some distance (probably from Jordan, the Galilee or the Golan Heights) suggests that it was imported for its functional properties—grinding in particular. Were it just intended as a receptacle a more accessible material would have been used—limestone or beachrock. There is also a possibility that this is another rotary mill upper stone; just a very large one with more concavity, to be placed and rotated over a convex lower stone.

Fine bowl (N=1)

Three fragments of an open bowl made calcite (Fig. 2:8) were recovered from Locus 2030—a pit in Square B6. It has a ring base and a thickened

rim with an interior gutter—perhaps to accommodate a lid. The crystalline stone contained several pebble-sized limestone inclusions, a feature of flowstone. The source of this calcite flowstone is probably local.

Steatite cooking pot (N=1)

Fig. 2:9 is a body and handle fragment made of steatite ("soapstone", "gneiss-schist"). It has been identified as a cooking vessel in the literature (below) and by the soot covering the exterior of the example here. It is also sometimes labeled a bowl, at Byzantine Tel Ira, for example (Fischer and Tal 1999: Fig. 10.1:1–2). Other parallels are found at Byzantine Mt. Nebo (Saller 1941: 300–301, Pl. 133:2), and Early Islamic Ramla (Chachy-Laureys 2010: 304–305, Pls. 14.3–14.4; Herriott 2017a: Fig. 5.2:1–3). It is a fairly common find in Late Antique and medieval contexts in the Levant (Hallett 1990; Harrell and Brown 2008: 41–42). The nearest sources of steatite are Arabia and Egypt, both of which had expansive steatite quarries and vessel manufacturing industries (Harrell and Brown 2008: 63). Steatite vessels were efficacious for slow cooking.

Small column fragments (N=2)

Fig. 3:1 is a fragment of a small column base and Fig. 3:2 is a fragment of a small column. They are both of limestone. Small columns of this sort are most likely to have been incorporated into ecclesiastic architecture—in altar canopies and chancel screens of the Byzantine period (cf. Acconci 1998: 474–475, 477; Habas and Amir 2004: Fig. 12:6; Taxel and Amit 2019: 113–115, Fig. 32:3, 6). But a balustrade is an option as well.

Marble fragments (N=2)

These small fragments (not illustrated) were probably part of a Byzantine-period chancel screen or altar in a church.

Burnishing stone? (N=1)

This item (Fig. 2:10) is made of dense, fine-grained basalt. Its shape and breakage suggest that it might have started out as the foot of a footed bowl (cf. those from the Roman period El-Khirba: Adama et al. 2019: Fig. 5:1–6). In its present state it is highly polished and was perhaps used as a burnishing tool.

CONCLUSIONS

All the stone artifacts are fragments. This suggests that the intact objects were removed when the settlement's successive occupations were abandoned. What remained were broken pieces that were used secondarily as building material—flat rotary mill stone fragments make good paving stones.

It is remarkable that no saddle querns were found—not even fragments. The most frequent type by far was the rotary mill stone (N=16). This can be construed as evidence for intensive grain processing, though not on an industrial level. This is borne out by the installation found in L1508 (Stratum III) in Square A8. Perhaps there was a small local bakery here, an elite residence of a large family, or an inn that served food. The three fine fragmentary stone bowls might support the elite residence hypothesis, as would the column fragments. The Pompeian mill stone fragment, on the other hand, might suggest commerical milling at some point in the history of the site.

Remarkably few prosaic stone artifacts were recovered—one large mortar, one small mortar, one pestle—again, all fragmentary. This may reflect the curation of such artifacts, when intact, and their removal with abandonment. But it may also suggest that the activities that required these artifacts (pounders, weights, handstones, cuboids, spheroids, whetstones, rings, drill sockets, and cobbles) were not executed in this area.

Basalt was the rock type utilized most (N=12) and beachrock was the second most (N=8). As far as I can tell, all the upper rotary quern stones were of beachrock. Other rocks present in small quantities are limestone, silicified limestone, calcite, steatite and marble.

Table 1. Ground stone objects from Horvat Hermas

No.	Type	Reg. no.	Locus	Square	Stratum	Material	Diam. cm	Figure	Comments
1	Upper rotary millstone	20241	2066	B2	I	Beachrock	40	1:1	Half of stone
2	Upper rotary millstone	20075	2034	B8	II-III	Beachrock	39	1:2	Complete except for two broken edges
3	Upper rotary millstone	10534/1	1521	A13	III	Beachrock	44	1:3	Fragment
4	Upper rotary millstone	10012	1004	A6	I	Beachrock	40	1:4	Fragment
5	Upper rotary millstone	10509/2	no number		?	Basalt	42	1:5	Fragment
6	Upper rotary millstone	10509/3	no number		?	Basalt	42	1:6	Fragment
7	Upper rotary millstone	20187	2005	B6	I	Basalt	35	1:7	Fragment, grooved
8	Upper rotary millstone	20071	2043	B7	II	Basalt	36	1:8	Fragment; grooving in grinding face
9	Upper rotary millstone	30028	3006	C3	I-II	Beachrock	?	1:9	Fragment
10	Upper rotary millstone	10559	2016	B8	I	Beachrock	43	none	Fragment
11	Upper rotary millstone	15012	1507	A10	I-II	Beachrock	42	none	Fragment
12	Upper rotary millstone	20020	2020	B10	I-II	Basalt	?	none	Fragment
13	Upper rotary millstone	10546/2	1504	A11	I	Beachrock	?	none	Fragment
14	Upper millstone (catillus) of Pompeian mill	10500	1500	A7	I	Basalt	54	1:10	Fragment
15	Lower rotary millstone	20153	2051	B5	IV	Basalt	?	2:1	Two hollows in top
16	Lower rotary millstone	20109/3	2049	B5	III	Basalt	?	2:2	Fragment

No.	Type	Reg. no.	Locus	Square	Stratum	Material	Diam. cm	Figure	Comments
17	Olynthus millstone	20083	2028	B6	II	Basalt	n/a	2:3	Corner fragment
18	Large bowl	10534/2	1521	A13	III	Basalt	48	2:4	Fragment
19	Mortar	20186	2057	B2	surface	Basalt	26	2:5	Fragment
20	Pestle/rubber	10586/5	A12-13	A12-13	surface	Silicified limstone	n/a	2:6	Fragment
21	Small mortar or door socket	20138/6	2005	B2	I	Silicified limstone	8	2:7	1/2 vessel
22	Fine bowl	20175/3	2030	B6	III	Calcite	22	2:8	Fragment
23	Cooking bowl	20213	2057	B2	surface	Steatite	?	2:9	Fragment
24	Rubbing stone? Weight?	20231/2	2016	B8	I	Basalt	n/a	2:10	Fragment
25	Column base	10545/1	1541	A8	III	Limestone	28	3:1	Fragment
26	Colonette	10545/2	1541	A9	III	Limestone	?	3:2	Fragment
27	Architectural fragments	20170/7	2008	B3	I	Marble	n/a	none	Fragment

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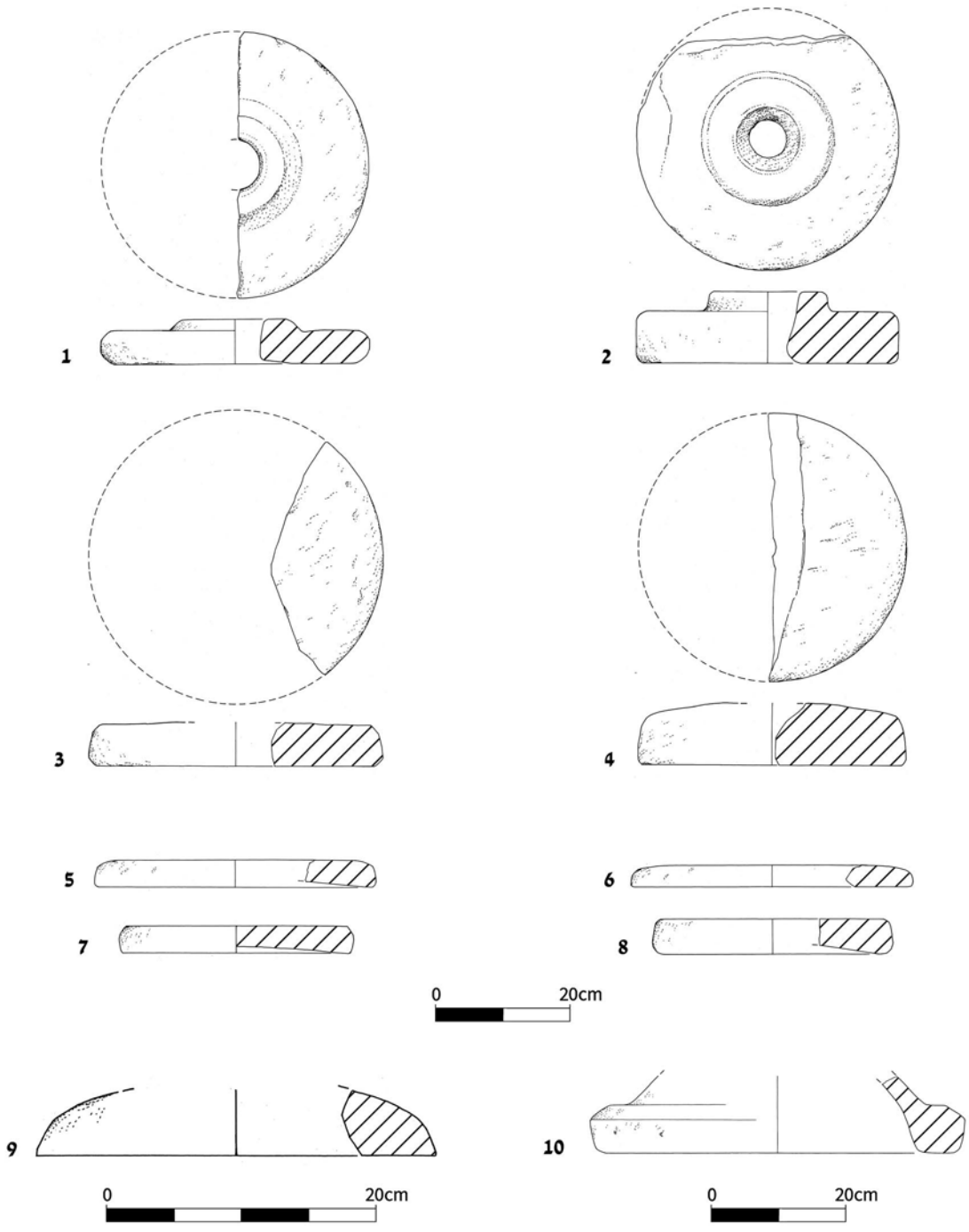

Figure 1. Rotary mill stone fragments (1–9, hopper stones) and a Pompeian upper mill stone fragment (10 – *catillus*).

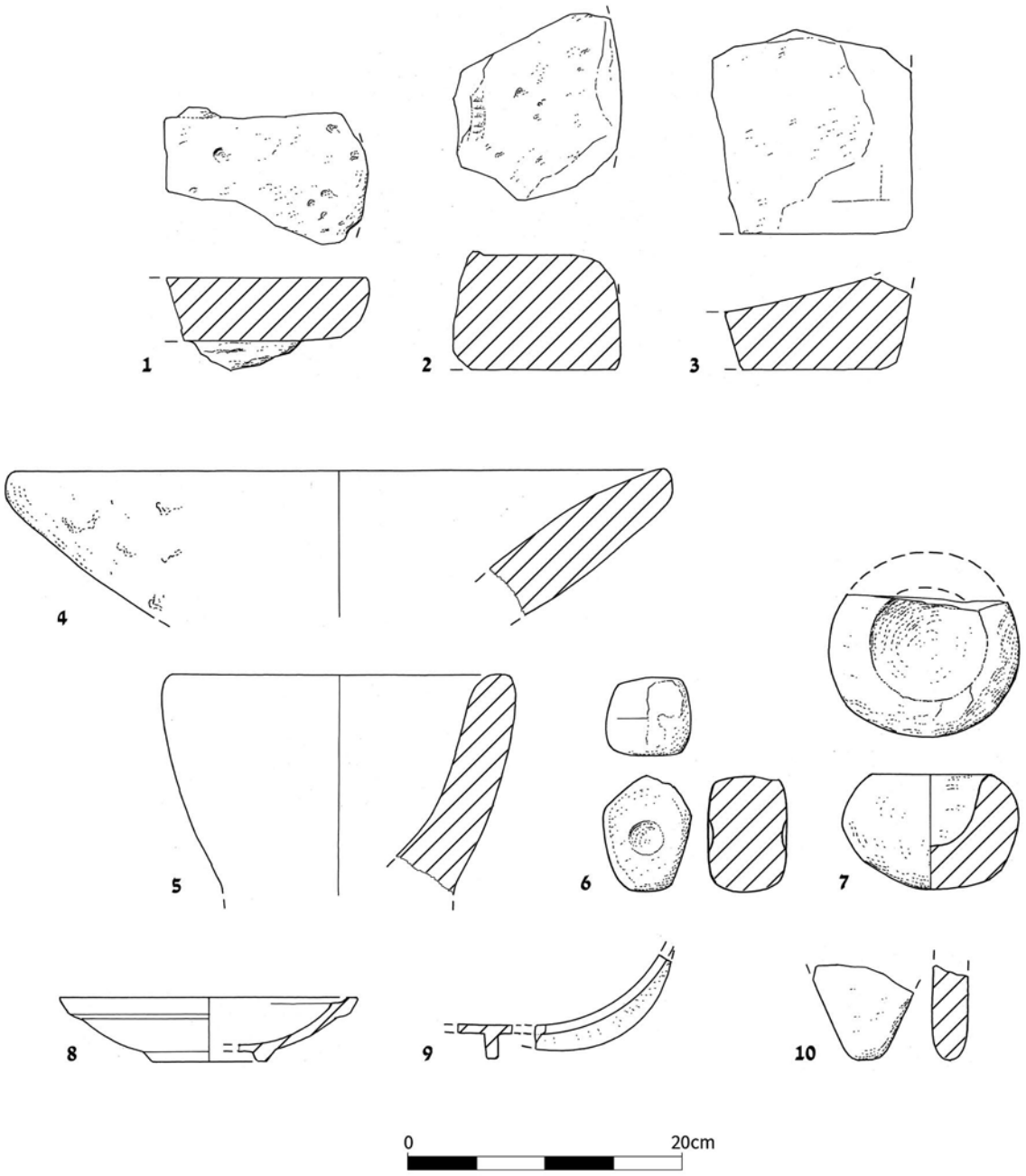

Figure 2. Rotary mill stone fragments (1–2, basal stones), an Olynthus mill stone fragment (3), mortars (5, 7), a pestle (6), bowls (4, 8), a cooking pot (9), and a burnishing tool (? 10)

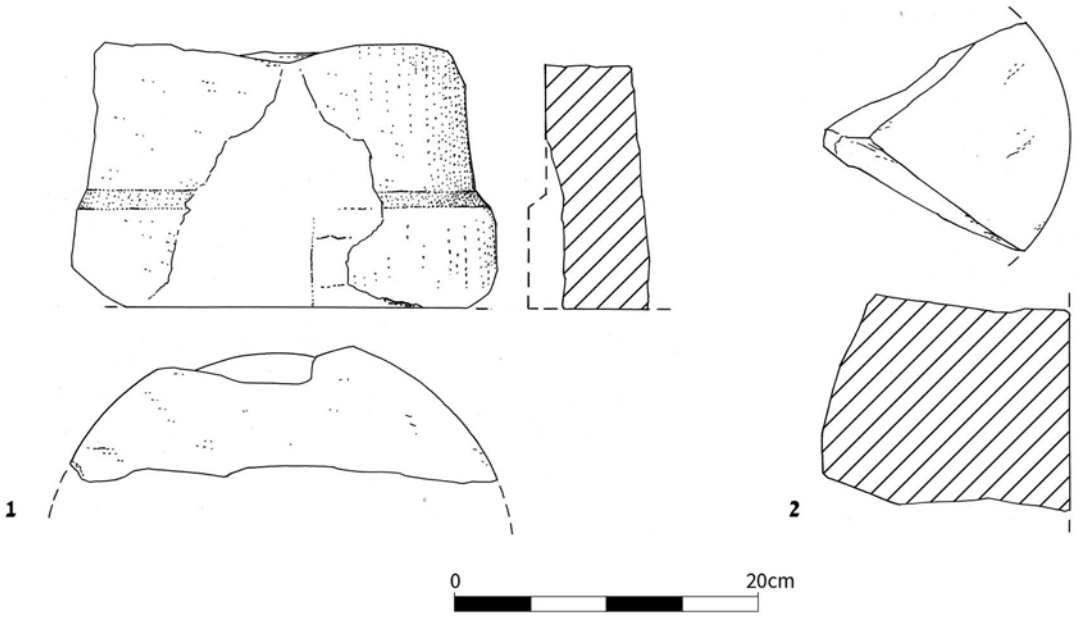

Figure 3. Small column fragments

The Faunal Assemblage from Horvat Hermas – Rehovot

Ron Kehati

The findings of the excavation at Horvat Hermas reported here indicate that this area contained public buildings and industrial elements, with evidence for glass workshops (see Raphael, this volume). Most of the finds were dated to the late Byzantine and early Islamic periods and some to the Crusader/Mamluk period. Two hundred and twenty nine bones (N = 229) were curated in all. The bones were washed and those that could be were refitted. Each item was examined with several criteria in mind.

Table 1. Representation of animal species

Species	**Common Name**	**Name in Hebrew**	**All Areas**	
			NISP*	%
Ovis/Capra	Sheep/goat	צאן (עז/כבש)	19	8.3
Sus scrofa domesticus	Pig	חזיר	46	20.1
Bos taurus	Cattle	פרה	44	19.2
Equus c.	Horse	סוס	1	0.4
Equus africanus asinus	Donkey/ass	חמור	4	1.7
Canidae	Dog-like mammals	כלביים (משפחה)	2	0.9
	Small mammal	יונק קטן	0	0.0
	Medium mammal	יונק בינוני	33	14.4
	Large mammal	יונק גדול	77	33.6
	Mammal	יונק	1	0.4
Gallus gallus	Chicken	תרנגולת הבית	1	0.4
Unidentified		לא מזוהה	1	0.4
NISP Total			**229**	**100.0**

* number of identified specimens

It can be seen in Table 1 that the two species that lead the species list on the site are pig and cattle. It can be assumed that many of the bones defined as "medium mammal" are likely to belong to the dominant medium-size species on the site, the pig. The bones defined as "large mammal" are likely to be cattle bones. If so, the dominant species in the site will be cattle. Table 2 is an illustration of this reasoning.

Table 2. Possible pig and cattle

Identified species + unidentified bones	**NISP**	**%**
Identified pig + medium mammal	79	39.5
Identified cattle + large mammal	121	60.5
Totals	**200**	**100.0**

Pig Bones

It can be seen in Table 3 that the pig bones represent all the body parts of the pig: meat-rich parts and even those that are considered slaughter and butchering waste (head, limbs). The pigs represent a domestic pig (*Sus scrofa domesticus)* at a very young age. The jaws and teeth indicate 3–12-month-old pigs.

Table 3. Representation of pig elements

Element in the body	Total
Cranium	4
Femur	6
Humerus	2
Mandibula with teeth	3
Mandibula without teeth	1
Maxilla with teeth	2
Metapodial	4
Pelvic, Acetabulum + Ischium	3
Radius	4
Scapula	6
Tarsal, Calcaneus	1
Tibia	8
Ulna	2
Total	**46**

Cattle Bones

It can be seen in Table 4 that the cattle bones represent all the body parts of cattle: a few meat-rich parts and many bones that would be slaughter and butchering waste (head, limbs). The cattle represent a domestic cow (Bos taurus) from animals of a variety of ages.

Table 4. Representation of cattle elements

Element in the body	Total
Atlas	1
Axis	1
Cranium	2
Cranium, Zygomaticus	2
Femur	1
Humerus	3
Mandibula – loose tooth	2
Mandibula with teeth	5
Mandibula without teeth	5
Maxilla – Loose tooth	1
Maxilla without tooth	1
Metacarpus	2
Metapodial	1
Metatarsus	1
Phalanx 1	2
Premaxillary	1
Radius	3
Scapula	1
Sesamoid bone	1
Tarsal, Calcaneus	1
Tarsal, Talus	3
Tibia	2
Ulna	2
Total	**44**

Shells

Seven shells were found in the complex:

- 2 shells of banded dye-murex *(Hexaplex trunculus*),
- one Mother of Pearl clam (probably Pinctada)
- 4 *Glycymeris nummaria* (insubrica) from the Mediterranean Sea

No shells exhibitied any signs of use or processing.

SUMMARY

Only four bones were found with cut marks, all of which were cattle. No pig bones had any cut marks. This, and the fact that the pigs were young, could be indicative of pigs who died at a young age and were thrown into this area and are not scraps of food. Although the much of the assemblage dates to the Islamic period, the large percentage of pig bones indicates that the population of the site raised and ate pork. One is tempted to attribute the pig bones to a Christian population of either the Byzantine/Early Islamic period or to the Crusader period. Elisha (2007) noted the possibility of a cross in a fragmentary Byzantine mosaic he uncovered (and see, too, Fischer, Taxel and Amit 2008: 26–27). On the other hand, Kohn-Tavor has suggested possible Frankish Christian settlers at Horvat Hermas on page 34 of this volume). The evidence at hand does not connect the faunal remains to the industrial activities of the area.

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Nin (East): A Multi-Period Rural Settlement at the Foot of Givat HaMoreh

Achia Kohn-Tavor

The site of Nin (East) is situated at the base of Givat HaMoreh's north slope (Fig, 1).[1] Archaeological remains were first identified here by Y. Tepper, during monitoring of construction works.

Givat HaMoreh is primarily formed from lower and intermediate basalt (Miocene) penetrating Eocene limestone and chalk. It rises to an elevation of 517 masl—that is, 300 m above the current archaeological site. To the west of the site is a gulch which drains the northern slope of the hill, revealing the geological layers of conglomerates, limestone, and basalt which comprise Givat HaMoreh. The gray soil overlies *nari* rock, as well as exposed strata of limestone and basalt. Drainage from the hill has brought down an overburden of *terra rossa* soil mixed with pebbles of various sizes. According to the extent of surface finds (potsherds and anthropogenic sediments), the site is of moderate size and stretches from the excavation area to the upslope forest on Givat HaMoreh (approx. 1 ha/10 dunam). Along the northern fringes of the site runs a convex perimeter wall or terrace 50 m long.

To the north of the current excavation site another excavation was carried out by I. Bashsarat of the Israel Antiquities Authority (IAA; permit A-5894). This revealed 11 wine presses dating to the Iron Age through Persian periods, as well as Roman-era tombs (Bashsarat, personal communication).

There are two known ancient settlements in the vicinity of the current site. These are Tel Agol (approx. 1 km east) and Nin (1 km west). At Nin pottery was identified from the Middle Bronze to the Roman, Byzantine, and Mamluk periods (Gal 1998: Site 11). Tel Agol has yielded ceramic finds dating to the Intermediate Bronze Age, Iron Age I and II, Persian and Byzantine periods (Gal 1998: Site 14). In 2014 N. Feig of the IAA excavated a nearby Iron Age fortification (Feig, personal communication), details of which are yet to be published.

The current excavation focused on the area between several plots of an expanding industrial zone (Plan 2; Plots 72/1, 74 and 75). This area had been leveled at 5–7 m below the current surface, forming high sections around. Prior to excavation the area was prepared under IAA supervision, removing sediment along the southern and western sides of Plots 74 and 75. Excavation squares were opened around the plots, according to finds in trenches and on the surface (Plan 2, Squares 1–6). Also, two features on the surface were cleaned to better understand the site.

1 The excavation was commissioned by the Gadish Group and carried out in August 2015, around Plots 74–75 of the Alon Tavor industrial zone. The excavation was directed by Achia Kohn-Tavor, with the aid of Y. Govrin (administration), I. Ladel (geological survey), Z. Gal (archaeological consultation), S. Wolff, D. Ilan, and R. Bar-Natan (ceramic consultation).

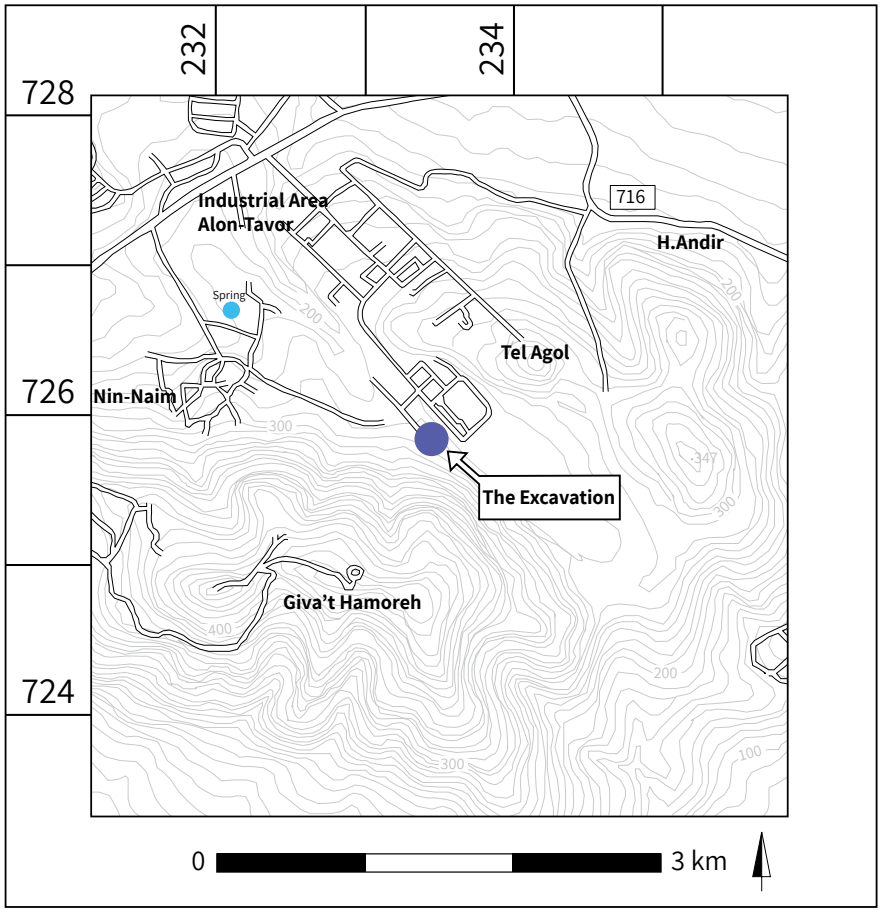

Figure 1. Location of the site.

Figure 2. General view of the site (looking north), showing the current excavation site (left middle-ground), the ancient settlement (center), the Alon Tavor industrial zone (center, background), Tel Agol (upper right), and Mt. Tabor (upper left).

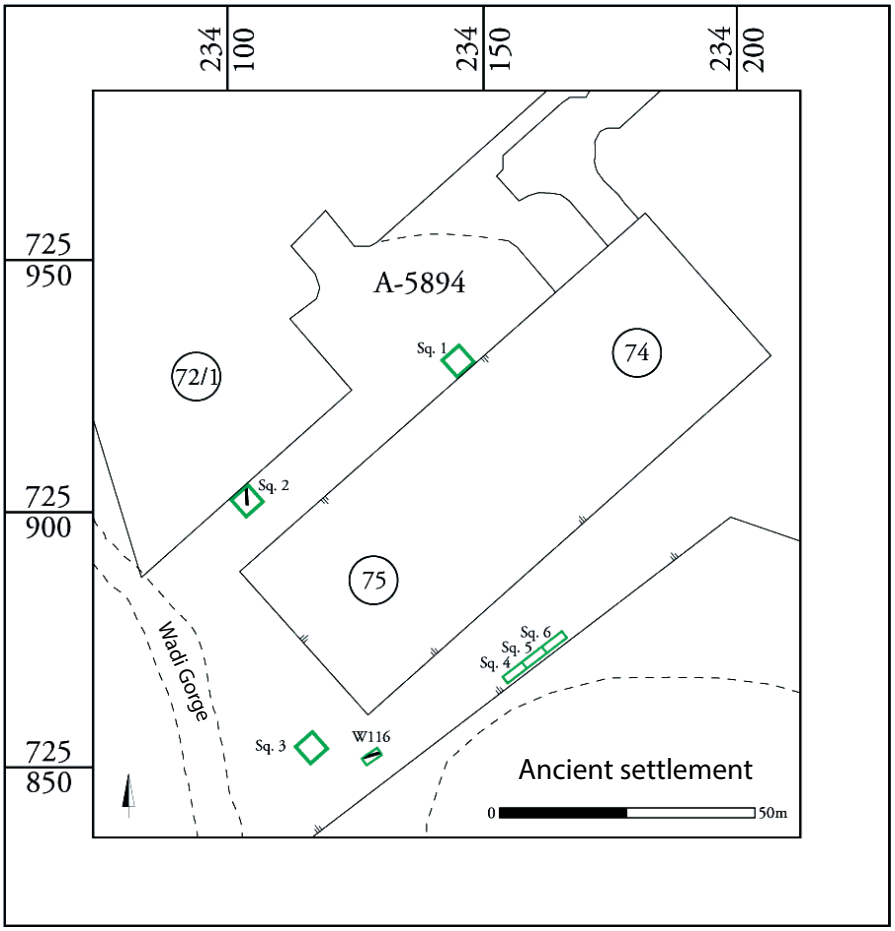

Figure 3. Plan of excavation.

STRATIGRAPHY AND ARCHITECTURE

Square 1 reached the bedrock (Figs. 3–4). Some irregular pits hewn into the rock were cleaned. These pits reached depths of 0.5–1.0 m. It appears that they were partly natural features—the cavities formed by the weathering of carbonate rock—which people may have expanded by chiseling. Similar pits were visible in plot sections around the excavation area. The fill of these pits included *terra rossa* soil, stones and a few potsherds dating to the Late Bronze Age and the Roman period. In the south section of Plot 72/1 a similar pit was discerned, cut from the *terra rossa* level, and penetrating down to washed-in settlement debris which contained second and first millennia BCE pottery. The pits therefore appear to date to the Roman era. Rock-hewn pits of various types are known from around the country; they are commonly viewed as planting pits for orchards and vineyards (Getzov 2004).

Figure 4. Pits in Square 1 (looking west).

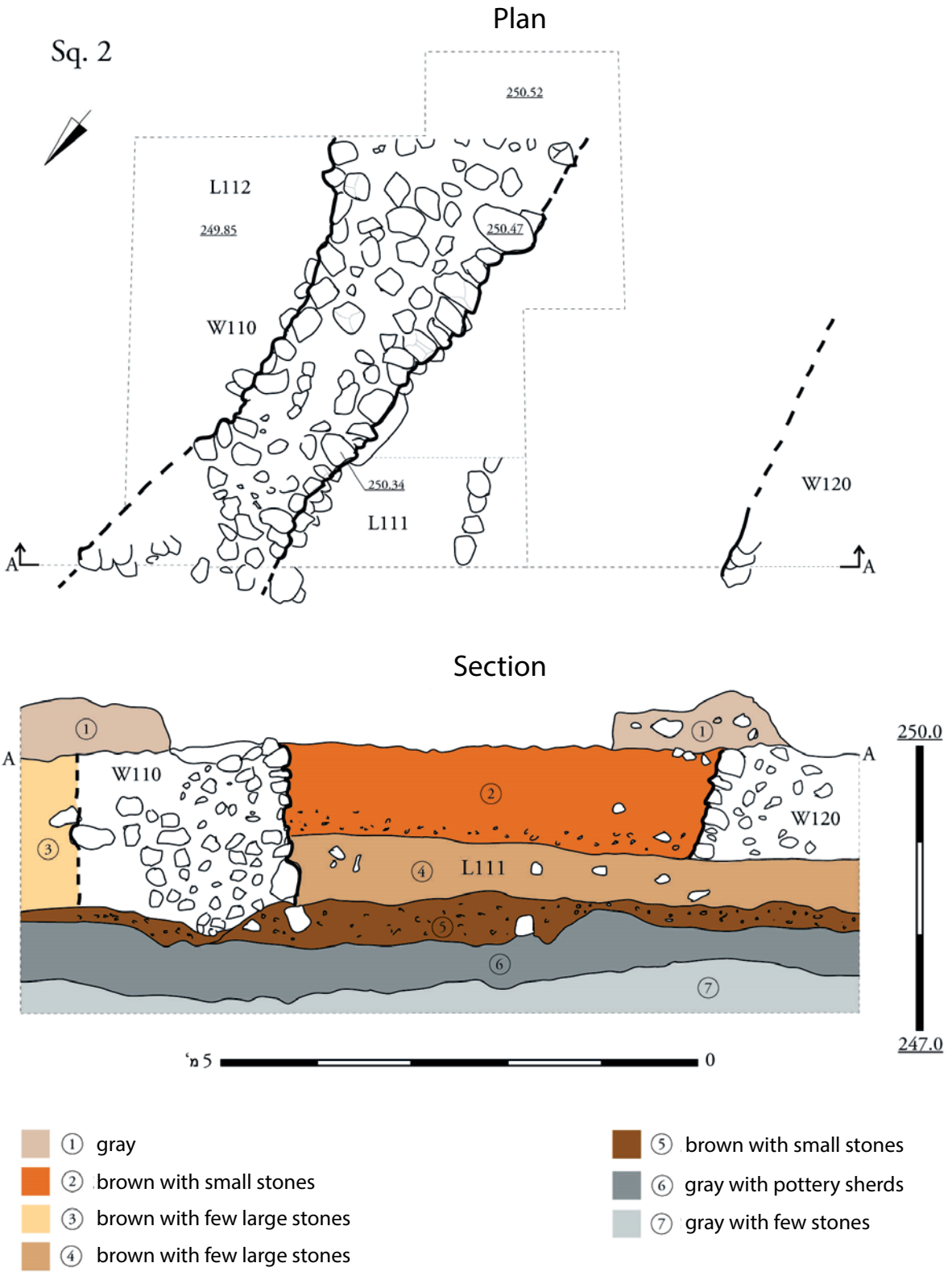

Figure 5. Square 2 plan and section.

Square 2 was opened around a point where two walls were visible in the southeast-facing section of Plot 72/1. In the square a large terrace wall was exposed, running north-south (W110; 1.8 m wide; Fig. 5–6). By the section, the wall was founded in *terra rossa* fills containing pebbles of various sizes, blocking an ancient natural drainage channel 30 m wide which had cut into the *nari* bedrock.About 25 m west of the square runs the current gulch, which cut a horizon of occupation sediment, containing second and first millennia BCE pottery, that was washed in from the upslope settlement. The fills abutting the wall from both sides contained pottery from the Roman period. Similar material was found in the gray soil which covered the wall after it fell into disuse. This sediment rested against the east side of a parallel wall, built at a higher level (W120, not excavated), which was also apparent in the section. The first wall (W110) was built from fieldstones of various sizes. Its west side—the terrace façade—was exposed for 4m, and, as is common in terraces, it leaned back into the slope for additional strength. The east side—the unseen interior of the terrace wall—was much more crudely built. The wall got higher from south (0.8 m) to north (2.5 m), respective of the topography. The base is more leveled. Revealed only in the section and in surface traces, the second wall (W120) appears to have run parallel to the first. It was delimited on its east side by an inactive shallow drainage channel.

These walls terraced fields on the east side of the gulch, which shifted west at some point in antiquity. The earlier course cut into bedrock and became filled with second and first millennia BCE pottery, as well as later deposits which contained Roman-era sherds. The first terrace was built on this sediment, presumably during the Roman period. Subsequently, the terrace wall's west/outer façade was filled with alluvium and the gulch shifted westward. A new terrace wall, of unknown construction date, was built. This new gulch by the wall was, in turn, also filled with alluvium, resulting in the current channel to the west.

Square 3 was opened in the southwest corner of Plot 75, at a point where archaeological finds had been noted. The square contained anthropogenic sediments. The upper layer was *terra rossa* alluvium which included fieldstones of various sizes, as well as occasional Roman-period potsherds. In the west side of the square this alluvium cut into a level of gray soil (0.3–0.5

Figure 6. Square 2 (looking southeast). Note the horizons of alluvium in the section.

Figure 7. W166 (looking southwest).

m thick), which appeared to be related to an occupation and contained pottery from the second and first millennia BCE. This sediment was almost certainly disposed of here or was washed down from the settlement. Below this our excavation reached an archaeologically sterile soil layer.

Squares 4–6 comprise a line of half-squares on the southeast side of Plot 75. A 0.5–1 m-deep layer of soil was removed mechanically before excavation. Our subsequent investigation found no archaeological remains, only *terra rossa* without artifacts, ancient natural water drainage channels, and below this an archaeologically sterile, virgin grey soil. The *nari* bedrock was exposed in Square 4, at a depth of 1.2 m. It appears that any archaeological remains in this area were removed before excavation.

Between Squares 3 and 4 a section of W116—well-built of basalt stones—was cleaned (Fig. 7). The wall survived to a height of one course. Pottery found above and beside it dates to the Late Bronze Age and late Persian/early Hellenistic period. A possible parallel wall was discerned a few meters to the south. These are probably remains of a dwelling on the northern fringe of the settlement.

THE CERAMIC FINDS

The pottery falls into two groups: one dates to the second and first millennia BCE (specifically the Late Bronze Age II through late Persian/early Hellenistic period) and is attributed to the settlement upslope. The other group is Early Roman in date and appears to be associated with agricultural activity. The indicative early Roman pottery was found in Square 2. The ceramics are presented in Figs. 8–9.

CONCLUSIONS

This excavation—the first in the settlement of Nin (East)—uncovered scanty remains from the Late Bronze Age II, Iron Age I (?), Iron Age IIA, the late Persian or early Hellenistic period (late 4th century BCE?), and the early Roman period. A small settlement existed here in these periods,

situated adjacent to the agricultural lands of the valley. The nearest identified water source is the spring at the site of Nin. The excavation revealed several architectural features and anthropogenic deposits relating to this occupation, as well a structure on the settlement outskirts. Small villages from this period have been found across Israel. The closest coeval urban site in the vicinity is Tel Qishion (Covello–Paran 2014).

According to the potsherds from the Late Bronze Age, Iron Age and Persian period, some unidentified activity took place at the site or nearby. The later periods represented here may have been associated with some agricultural activity we uncovered. As mentioned, wine presses from the Iron Age II–Persian period have been excavated nearby.

After an occupational hiatus in the 3rd–1st centuries BCE, the area came under cultivation in the early Roman period, including the construction of terraces. Upslope from the site, several wine presses and a cistern are visible; these may have been related to the terrace cultivation. The origin of the sherds from this phase may be an as–yet unknown farmstead, or perhaps the soil containing them was brought here to improve the terraces' soil. The farmers used the terrace wall to retain the alluvial soil transported by the gulch.

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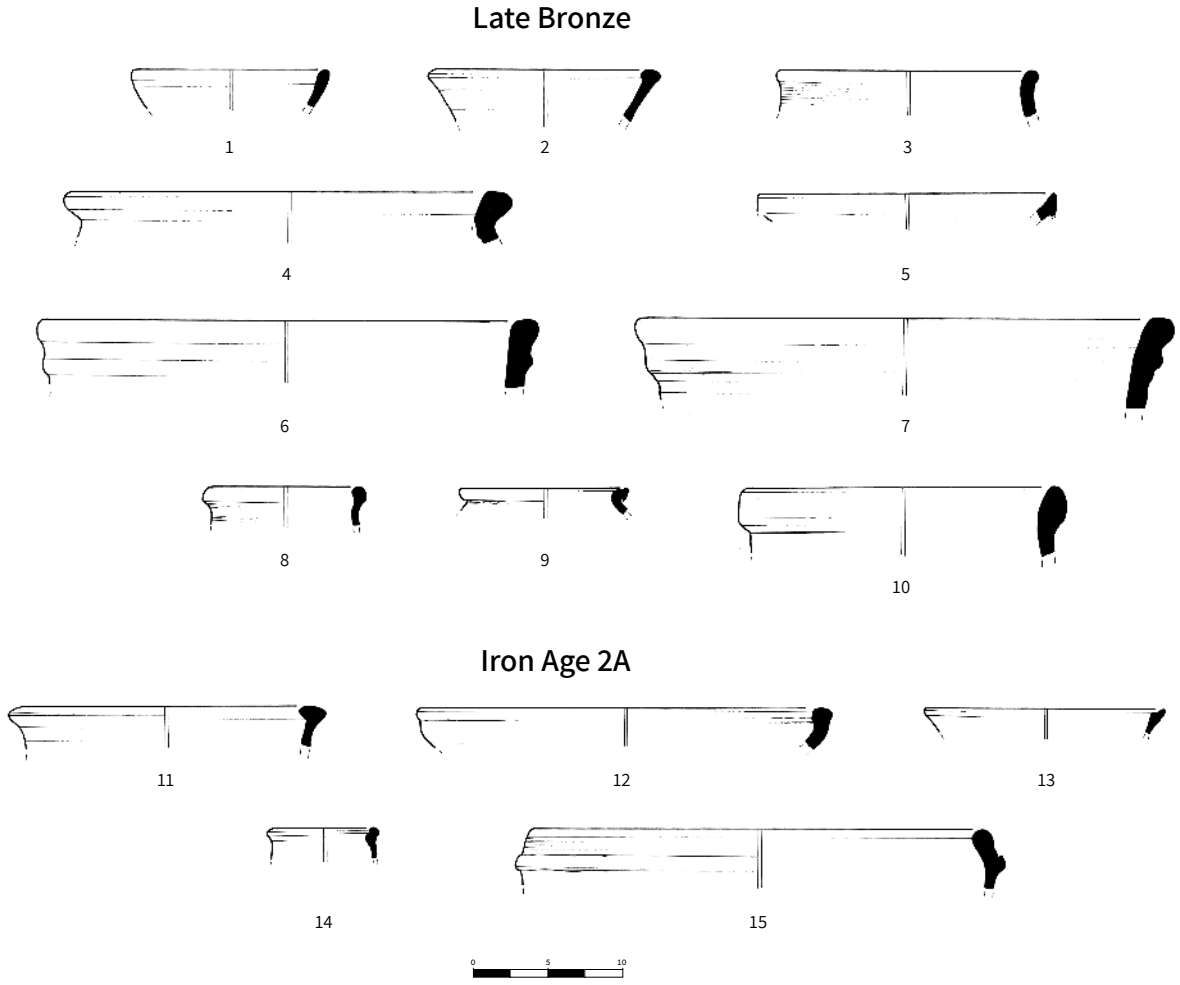

Figure 8. Late Bronze Age and Iron Age pottery.

No.	Object	Reg. no.	Locus	Description	Parallel references
1	Bowl	1011/8			Mullins and Yannai 2019: Pls. 3.1–3.2
2	Bowl	1010/2			Mullins and Yannai 2019: Pls. 3.2:2; 3.3:13
3	Krater	1013/4			Mullins and Yannai 2019: Pls. 3.13:1–2
4	Krater	1031/4			Mullins and Yannai 2019: Pls. 3.12:6; 3.18:2–3; 3.19:1–2
5	Cooking pot	101/5			Mullins and Yannai 2019: Pls. 3.20–3.23
6	Pithos	1021/1		"Hazor-type"	Mullins and Yannai 2019: Pl. 3.24
7	Pithos	1002/2		"Hazor-type"	Mullins and Yannai 2019: Pl. 3.24
8	Jug	1043/3			Mullins and Yannai 2019: Pls. 3.34–3.38
9	Biconical jug	1069/2			Mullins and Yannai 2019: Pls. 3.31–3.33
10	Pithos	1023/6		Collared rim pithos	Mazar 2015: Pls. 1.1.12–1.1.14
11	Bowl	1031/2			Ben-Tor and Zarzecki-Peleg 2015: Pl. 2.2.2:2
12	Bowl	1021/2			Ben-Tor and Zarzecki-Peleg 2015: Pls. 2.2.1:1–2; 2.2.2:16,18
13	Bowl	1021/3			Ben-Tor and Zarzecki-Peleg 2015: Pl. 2.2.2:11
14	Krater	1023/1			Ben-Tor and Zarzecki-Peleg 2015: Pl. 2.2.4:5–14
15	Krater	1043/2			Ben-Tor and Zarzecki-Peleg 2015: Pl. 2.2.4:1–3; Tappy 2015: Pl. 2.3.3:3

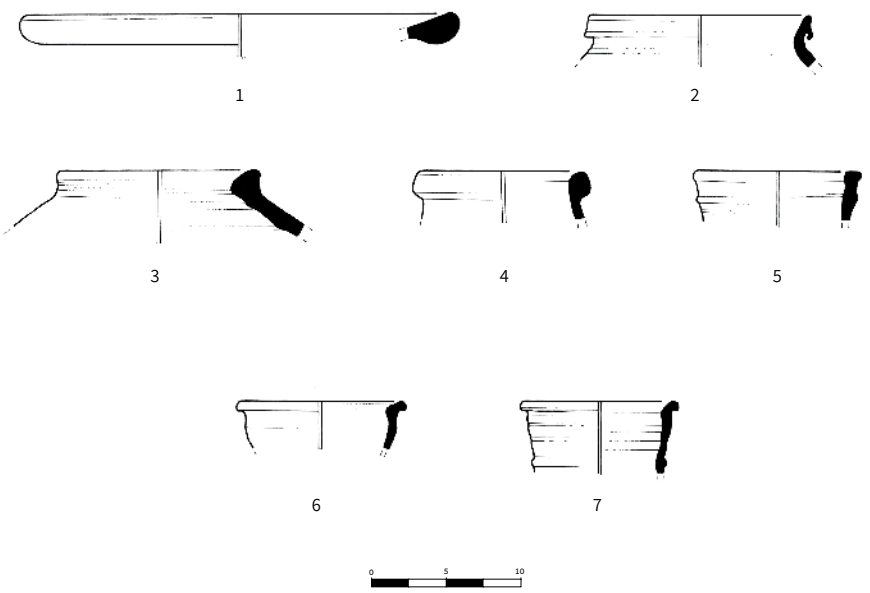

Figure 9. Late Persian/early Hellenistic and Early Roman pottery.

No.	Object	Reg. no.	Parallels
1	Morataria bowl	1042/3	Stern 2015: Pl. 5.1.2:10
2	Cooking pot/jug	1032/2	Stern 2015: Pl. 5.1.6:9 or Berlin 2015: Pl. 6.1.5:6–8 (jug)
3	Storage jar	1042/1	Stern 2015: Pls. 5.1.9:5; 5.1.10
4	Storage jar	1021/1	Stern 2015: Pls. 5.1.8–5.1.11
5	Jug	1037/4	Berlin 2015: Pl. 6.1.13:1
6	Bowl	1039/1	
7	Jug	1016/1	Bar-Natan (*Masada VII*: Pls. 17–20

Excavations at Nahal Shalva

Baruch Yuzefovsky

INTRODUCTION

The site reported here is located to the south of the Qiryat Gat– South industrial zone, on the western bank of Nahal Shalva (Fig. 1). Remains of the Chalcolithic and Byzantine periods were exposed during earthworks expedited in 1995. A number of salvage excavations have been conducted at the site; Byzantine-period cist graves were exposed but not excavated (Varga 2002: 144–145) and a number of Chalcolithic bell-shaped pits were discerned in the sections (Israel, Aladjem and Milevski 2014). Upon completion of the work, soil was piled up high between the excavation areas and the Byzantine-period site.

A salvage excavation was carried out at eastern part of the site, following a test excavation of the Israel Antiquities Authority (IAA). The salvage excavation directed by B. Yuzefovsky (Permit B – 444/2016) was commissioned by Green Logistic Company, and was carried out by Y. G. Contract Archaeology, with the academic sponsorship of the Hebrew Union College. Scientific guidance for the excavation was provided by Dr. Y. Govrin, accompanied by E. Cohen (drawings and maps).

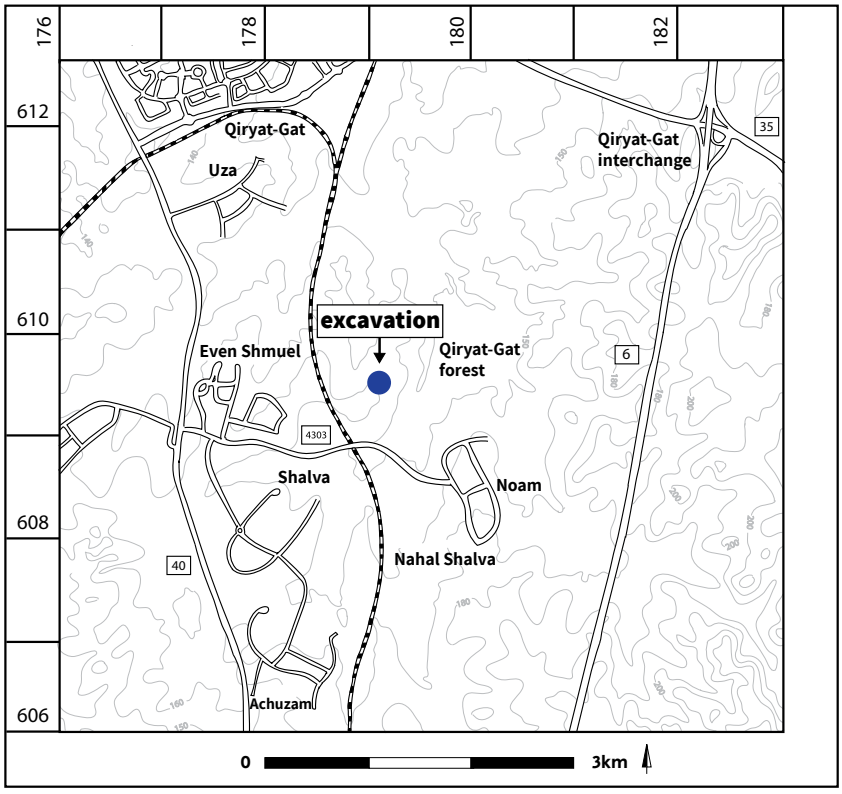

Figure 1. Location of the site.

THE EXCAVATIONS

The excavations covered an area of ca. 300 m^2 (eleven 5x5 m squares, with enlargements). The topsoil in the area is heavy and clayey, and most of the site is overlaid with a thick layer of soil containing pottery shards dated to Chalcolithic and Byzantine periods, moved recently from the west area to fill a lower area to the south-east. Below this a fill, a layer containing limestone chunks, which overlaid the subsoil, was exposed in most squares. All the building remains and pottery sherds were found in seven soundings opened in various parts of the site (Figs. 2–3).

At the northwestern part of excavated area (Soundings 6–7 and 10) were found four tombs dated to the Late Roman/Byzantine period (Fig. 4).

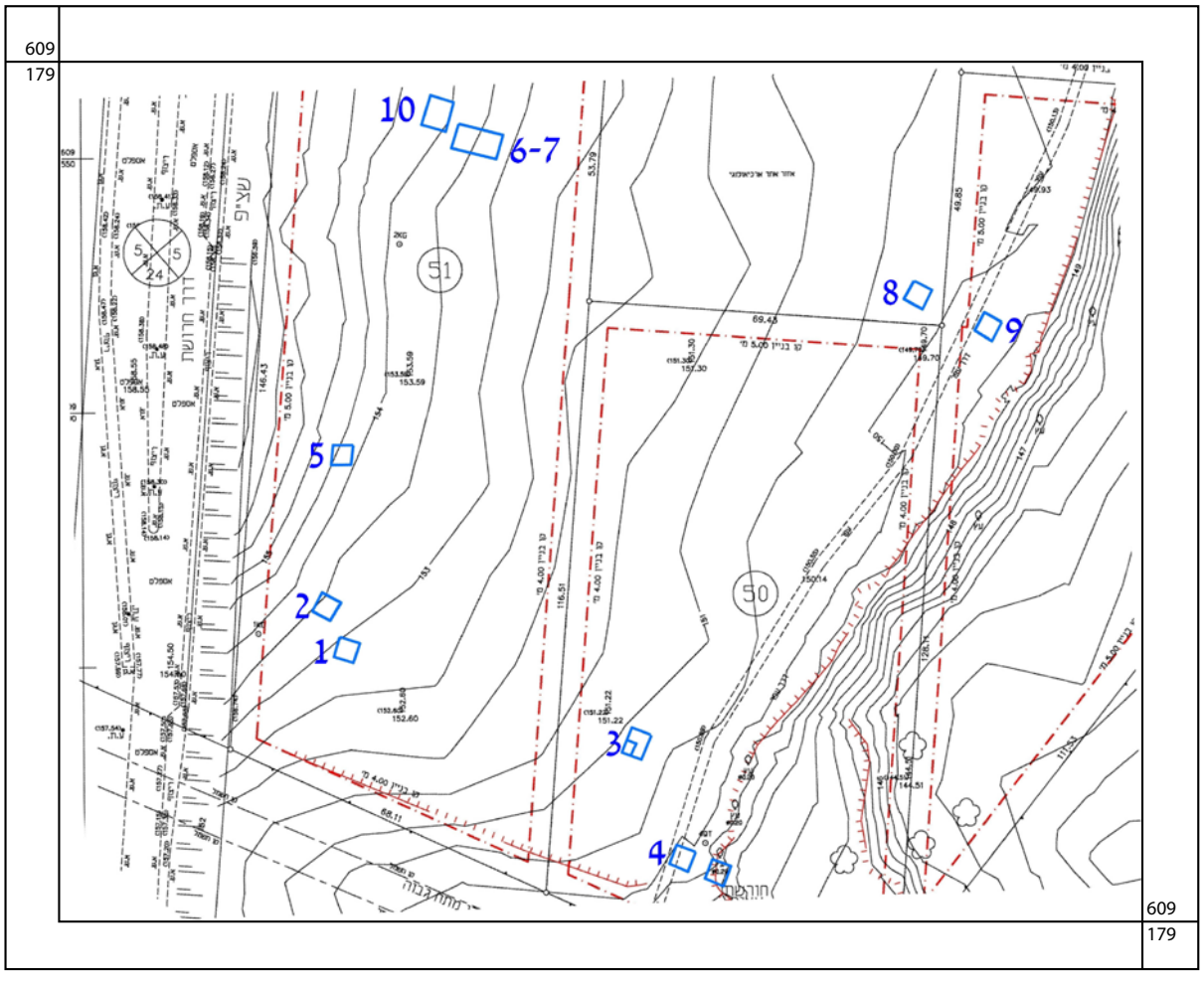

Figure 2. Map of excavated site.

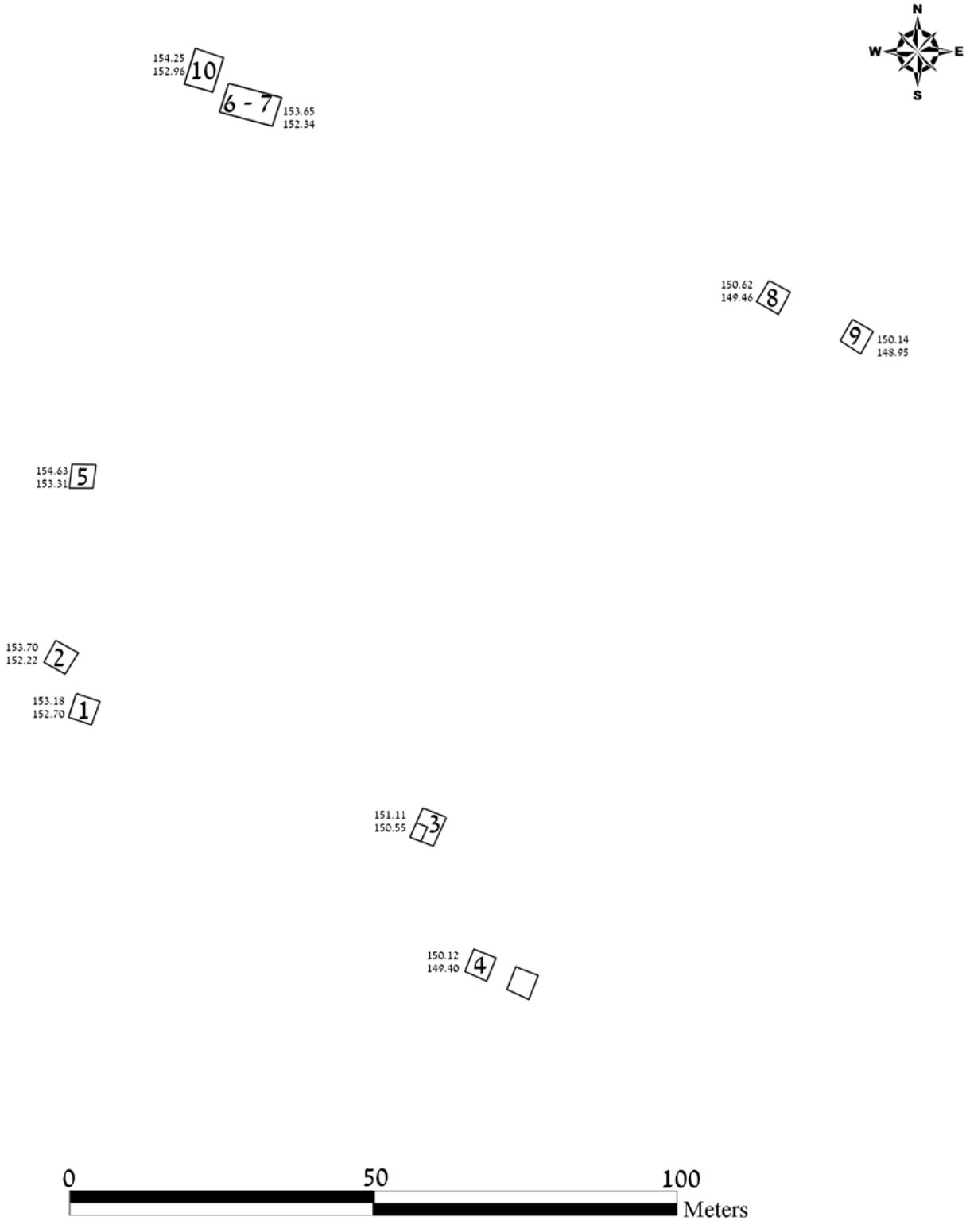

Figure 3. Plan of excavated site.

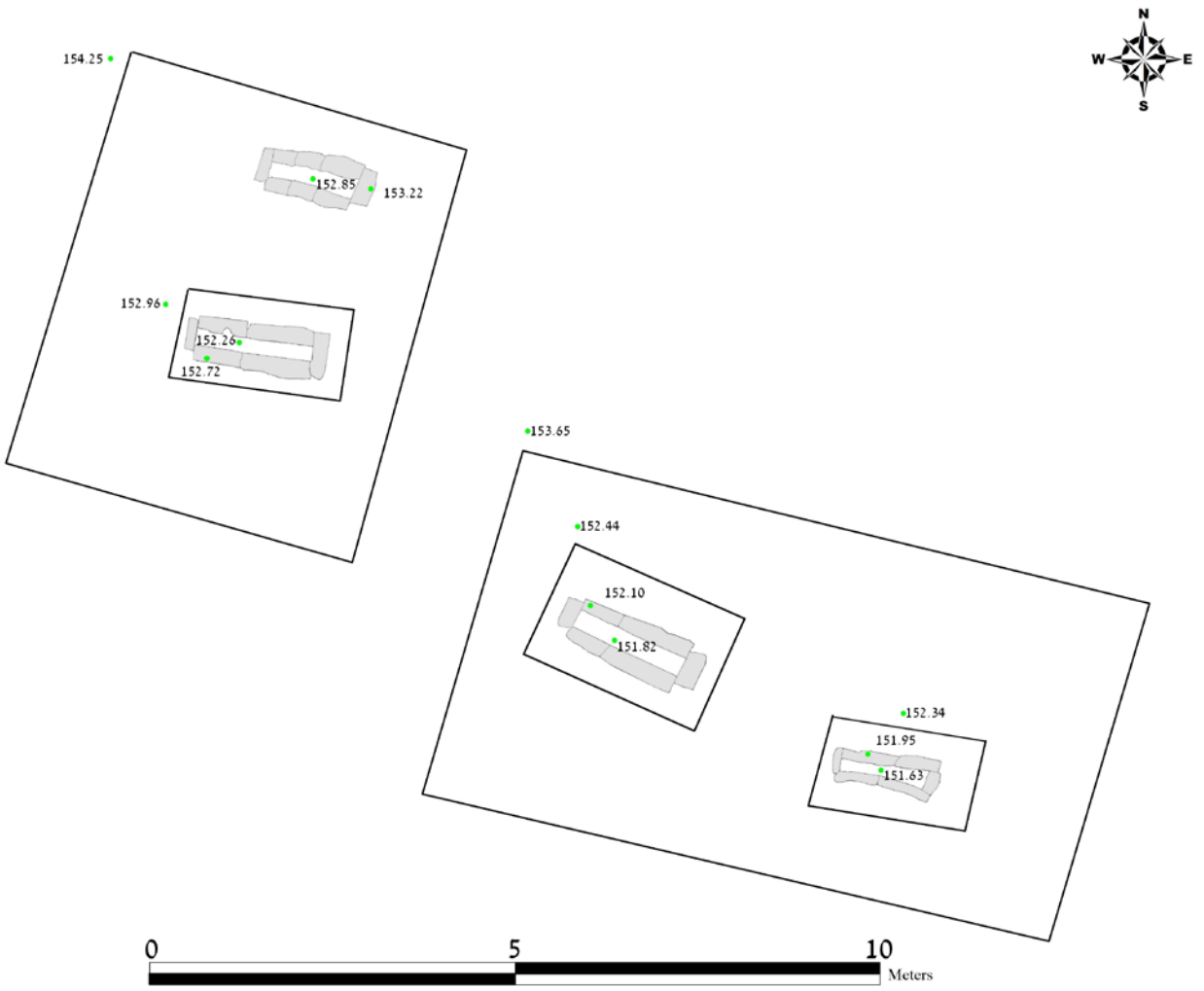

Figure 4. Plan of Tombs 38, 39, 40, and 41.

Cist Tomb 38 was constructed in loess soil at a depth of 1.3 m below the surface, on an east-west axis (Figs. 4, 5). The grave (length 2.16 m, width 0.86 m) was built of dressed rectangular chalk stones (thickness 0.16–0.28 m) and covered with thick hewn slabs (width 0.45–0.6 m, thickness 0.3 m). On the tamped earth floor was found a single individual in a supine position; the head of the deceased was to the west.

Figure 5. Tomb 38, looking north.

Figure 6. Tomb 38, looking west.

Figure 7. Tomb 39, looking north.

Figure 8. Tomb 39 opened, looking north.

Cist Tomb 39 was constructed east of Tomb 38, at a depth of 1.3 m below the surface, on an east-west axis (Figs. 7–8). The grave (length 1.6 m, width 0.6 m) was covered by five hewn slabs of chalk (thickness 0.3 m). The walls of the tomb were built by dressed rectangular chalk stones (thickness 0.12–0.14 m). The tomb was filled with clayey soil and soft limestone pebbles without any finds.

Two other cist tombs were oriented east west (Figs. 9–10). Tomb 40, at the northern edge of the excavations, was found at depth 0.6 m. below surface. The grave (length 2 m, width 0.8 m) was covered by five semi-hewn slabs of chalk (thickness 0.3 m). The walls of the tomb were constructed of dressed chalk stones (width 0. 5–0.6 m, thickness 0.2–0.3 m). On the tamped earth floor was found a single individual in a supine position with the head of the deceased to the west.

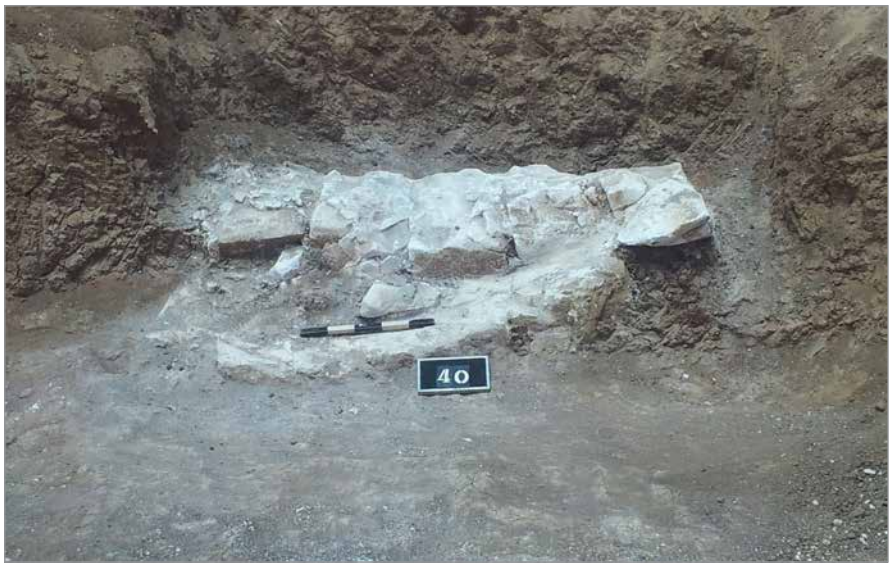

Figure 9. Tomb 40, looking north.

Figure 10. Tomb 40 opened, looking west.

Figure 11. Tomb 41, looking south.

Figure 12. Tomb 41 opened, looking north.

Tomb 41 (length 1.96 m, width 0.6 m) was placed to the south of the Tomb 40, at a depth of 1.3 m below the surface (Figs. 11–12). The grave was built of dressed rectangular chalk stones (thickness 0.15–0.25 m) and covered with thick hewn slabs (width 0.44–0.52 m, thickness 0.29 m). On the soil floor was found a single individual in a supine position; the head of the deceased (lacking) was to the west.

Figure 13. W 36, looking to the south.

Wall 36 was found at the western part of the site, below the fill layer, at a depth of 1.1 m (Fig. 13). The wall was constructed of field stones (width 0.3 m) and survives to a height of one course (0.4 m high). The wall was constructed on the subsoil in a north-south direction. No diagnostic sherds were found.

SUMMARY

Most of the site had recently been covered by earth containing sherds. The only *in situ* ancient remains are Wall 36 and the cist tombs. The W36 cannot be dated because of absence any related finds.

Likewise, no *in situ* diagnostic finds were found associated with the excavated tombs. We can date these tombs to the Byzantine period based on the similar tombs reported at the site by Varga (2002). The same type of constructed cist tomb, dated to the Byzantine period, was found and partly excavated at Beersheva (Nikolsky 2004; Israeli 2009) and at other sites in the region (Nahshoni and Nagar 2002; Kogan-Zahavi 2009; Peretz 2011; Israeli, Aladjem and Milevsky 2014). These tombs are part of the cemetery of the Byzantine village located to the south of the present excavations.

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Remains of a Byzantine Agricultural Estate North of Ashqelon Junction

Baruch Yuzefovsky

Mitigation excavations were carried out in a cultivated field located north-west of the Ashqelon junction, due the construction of an Israel Railways depot (Fig. 1). The excavation site lies c. 4.5 km east of Tel Ashqelon, in the agricultural hinterland of the Byzantine city. Previously, scant remains, probably of winepress complexes, were uncovered southeast of the site (Nahshoni 2009) and in the northwest part of the site (Varga 2018).

Two seasons of excavation were carried out by the Y. G. Contract Archaeology Company on behalf of the Nelson Glueck School of Biblical Archaeology of the Hebrew Union College, and funded by the Israel Railways Authority, under the author's supervision, with the assistance of Y. Govrin (adviser), A. Davidesku (area supervisor), J. Rosenberg and M. Kahan (surveying and drawing), and T. Rogovsky (aero photography).[1]

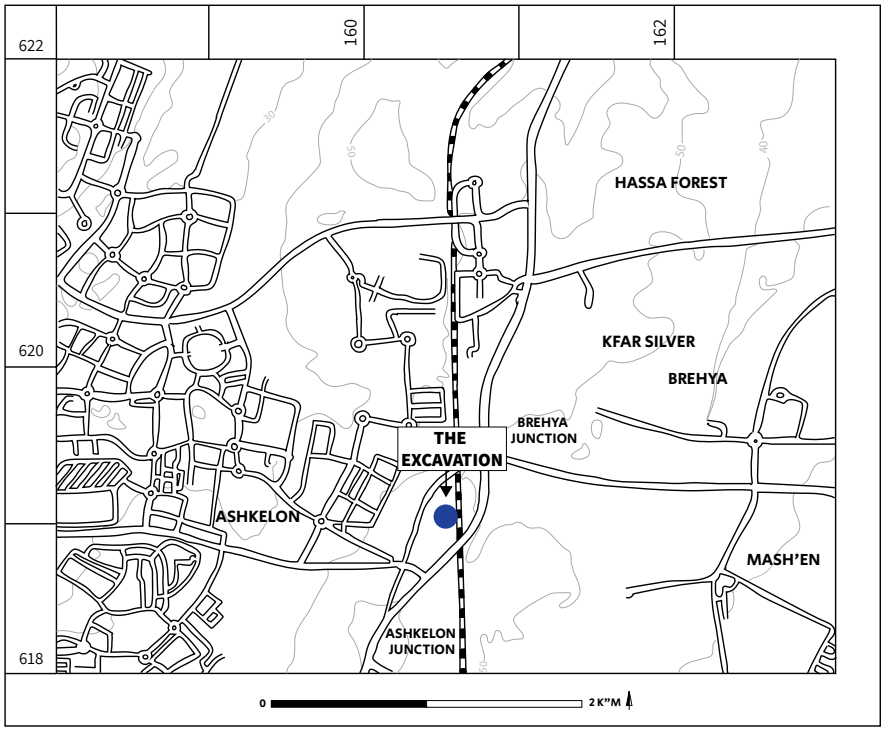

Figure 1. The site location.

1 The author thanks Michal Yron for her contribution in the publishing of this article, Anna Tsipin (pottery drawing), Kate Raphael (glass), Yoav Farhi (numismatics) and Yael Govrin (graphics).

The first excavation (Permit B 455/2017, map ref. 162600/619000) exposed the area south of the winepress discovered in previous excavations (Varga 2018). Our excavation was conducted in three fields (Fig. 2). Remains of architecture, partly exposed during Vargas' trial excavations, were uncovered (Area A), together with scant remains of another structures (Area B) and refuse dumps (Area C). In the second excavation (Permit B 473/2019, map ref. 162580/619000) a complex winepress has uncovered (Fig. 10).

REMAINS OF A BYZANTINE ESTATE

The estate buildings were constructed of a combination of well-hewn calcareous sandstone (*kurkar*) and a cast concrete-like mixture. A *debesh*-type construction, made of *kurkar* fieldstones and rubble set into concrete, was also evident. Most of the architectural remains survived only one or two courses high or just at their foundations, made of small fieldstones. Damage caused by extensive cultivation made it almost impossible to identify the purpose of the buildings.

Area A

Area A (600 m^2, Fig. 3) is located to the south of the winepress excavated by Varga (2018). Fieldstone foundations of walls were uncovered, constructed on sterile ground. Walls 15, 211, and 215 formed part of a rectangular building, partially exposed in previous excavations (Varga 2018). No real floor was encountered inside the building (220), but scant remains of rectangular, coarsely dressed stone slabs (Pavement F209) abutted W15 from the southeast. A line of small stones set in white mortar was identified as the foundation of W216, running from the stone pavement F209 eastward across L110.

In the east part of excavated area were found remains of a rectangular stone pavement F259 based on the layer of white mortar. The pavement

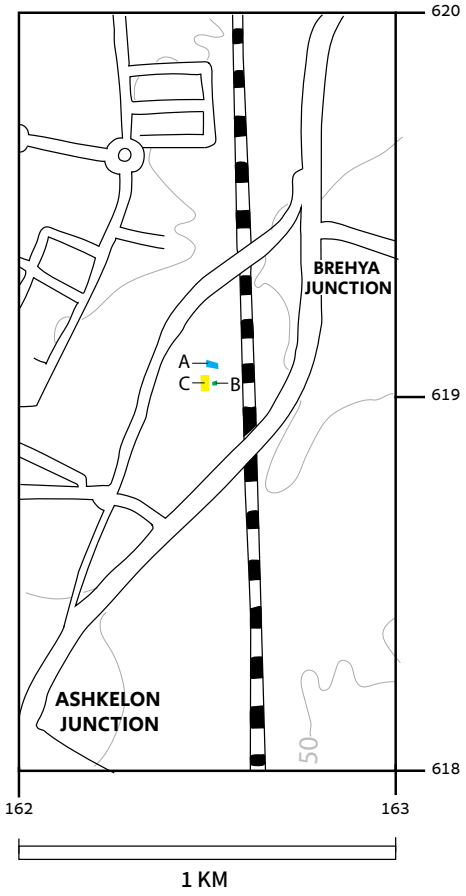

Figure 2. The excavation fields.

reaches the north side of wall W16 and extends eastward. In the southeast part of the excavated area were uncovered scant remains of white mosaic floor F231, based on a white mortar foundation. The mosaic appends to two rectangular compartments. The north compartment is covered with white plaster floor (F246, 1.8 x 1.6 m).

In the south part of the field remains of a white plaster floor were detected (F264. 1.6 x 1.4 m). A mortar barrier W244 (0.2 m width) which separates two compartments, has survived to 0.15 m high (Fig. 4). To the east of the compartments were remains of foundation wall W244 and two rectangular stone slabs of pavement (F229) south of it.

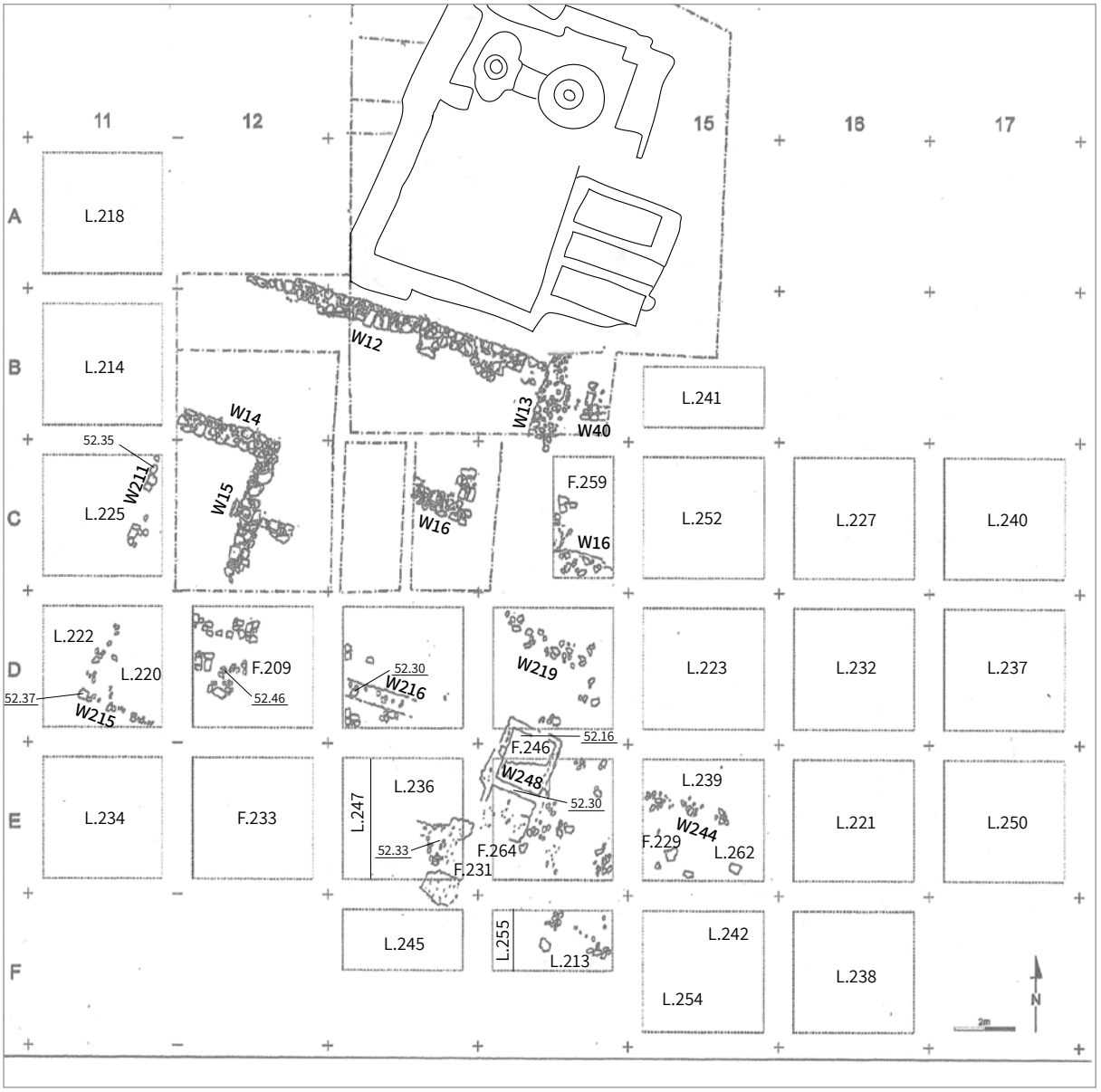

Figure 3. Plan of Area A.

Figure 4.
Compartments F 246 and F 264.

Area B

Area B (150 m^2) is located in the southeastern part of the excavation site (Fig. 5). Poor remains of structures were uncovered (only the walls' foundations) built of fieldstones mixed with mortar, surviving 0.45 m high (Fig. 6). No floor abutted the walls.

Wall 308 (0.7 m wide), runs northeast-southwest and was exposed for 6 m. At the south edge, W308 cornered with W316 (0.8 m wide) which extends eastward 1.5 m. At the north edge W308 was the eastern wall of room L307 (1.7 x 1.7 m). The north wall of Room 307, W320, had an opening of 0.5 m at its eastern edge.

Remains of the Walls 313, 318, 319 and the foundations of Floors 301, 302, 303, constructed with small stones and gray mortar, were uncovered to the east of W308. Remains of floor foundation F312 were found to the north of it.

Area C

Area C (100 m^2) was situated at the southwest part of the excavation. It contained some walls and floors without connection to each other (Fig. 7). W411 (0.6 m wide) runs in a northwest-southeast direction and was exposed for 1.4 m. It was built from dressed limestone and survives one course high. Floor 401, constructed of small stones set in gray mortar, abutted the wall from the south. Wall 406 (0.8 m wide) runs in a northwest-southeast direction and was exposed for 3.5 m. The fieldstone foundation survives one course high (0.11 m). At the eastern edge of W406, W413 (0.6 m. width) cornered with it and extends 1 m southward.

Wall 409 (0.5 m width), runs in a northeast-southwest direction and is exposed for 1.5 m. The wall is made of one course of dressed limestone (0.3 m. high). To the east the fill L404 was excavated to the depth of 0.22 m, where sterile soil was encountered. A large concentration of potsherds was found in L404, possibly part of refuse dump.

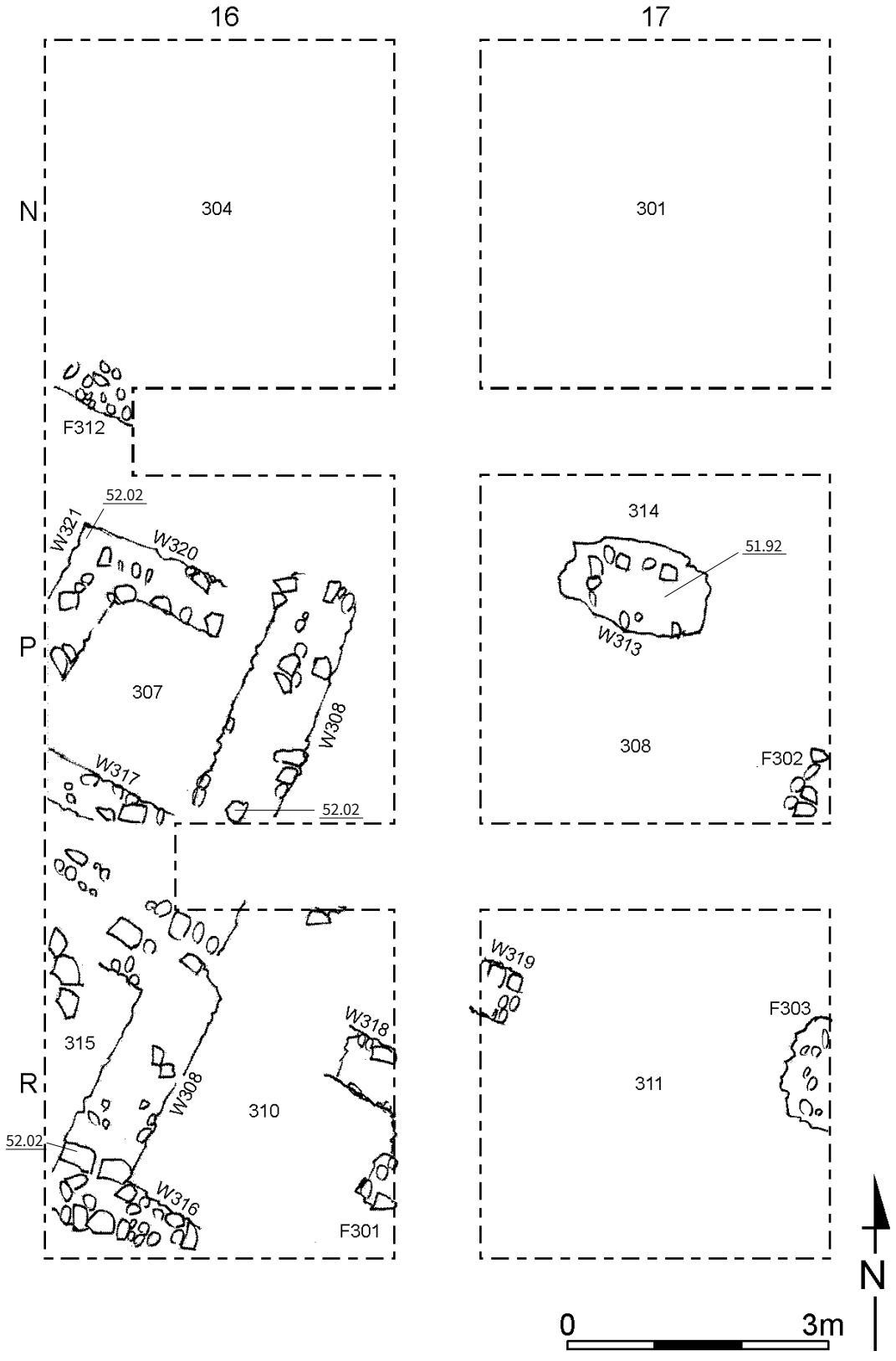

Figure 5. Plan of Area B.

Figure 6. Photo of Area B (looking south).

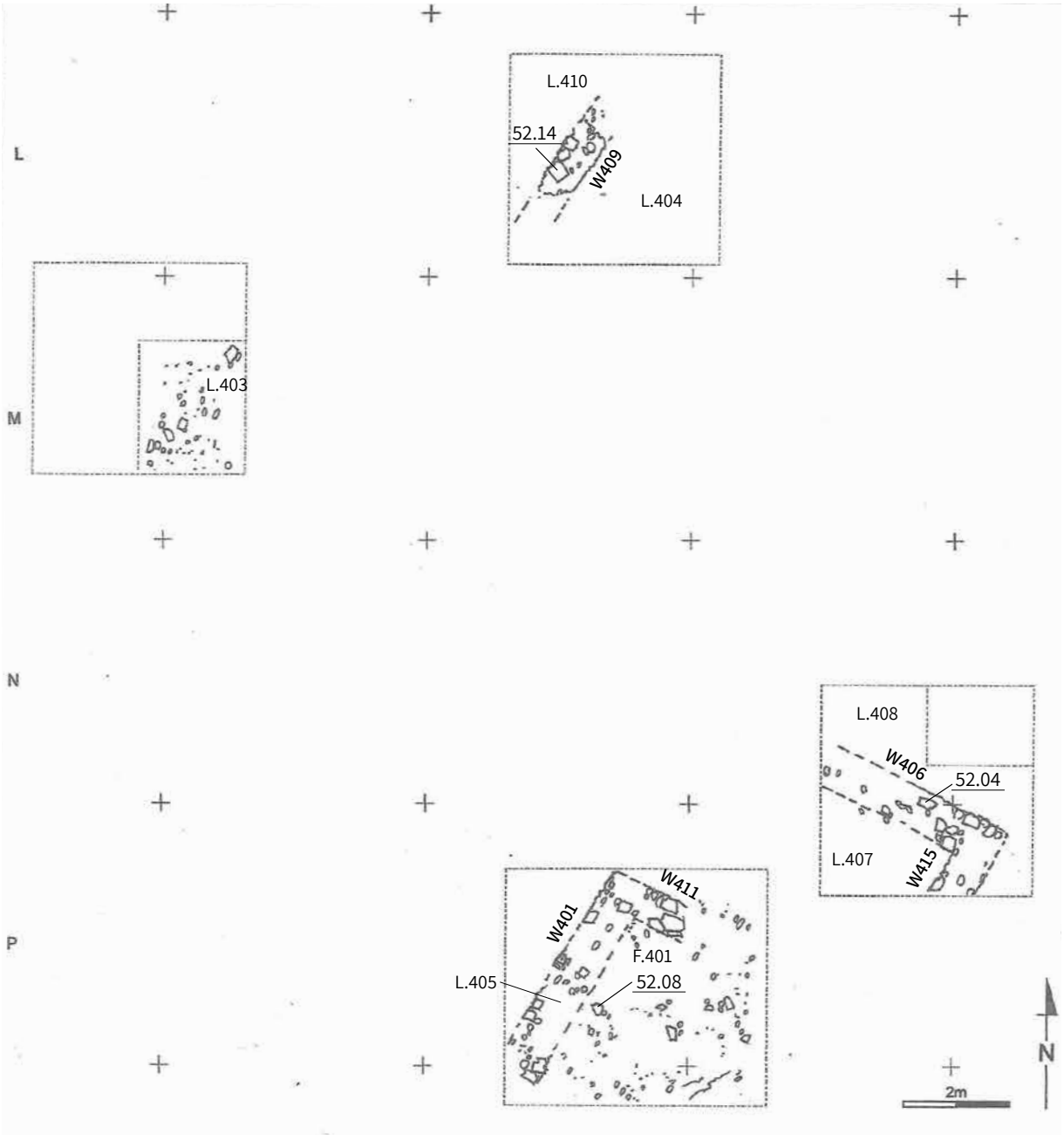

Figure 7. Plan of Area C.

POTTERY FINDS

Most pottery found in the excavation dated to the late Byzantine period. A few fragments of Hellenistic period pottery were found in Fill 304 above the remains in Area B. Possibly, they derive from soil or manure brought from the seashore area closer to Tel Ashqelon to enrich the soil for agriculture. The first is a black glazed Eastern Terra Sigillata bowl (Fig. 8:1), dated to the 2 c. BCE. Similar bowls were found at "Third Mile" Estate in northern Ashqelon (Israel and Erickson-Geni 2013: 170, Fig. 3:7) and at Agammim Neighborhood (Michael and Ben Ami 2019: Fig. 3:1–2). Another bowl, with an incurved rim, belongs to Eastern Terra Sigillata (Fig. 8:2), and is dated to the late 2nd–1st centuries BC. Similar bowls were found at "Third Mile" Estate (Israel and Erickson-Gini 2013:170, Fig. 3 2), Agammim Neighborhood (Michael and Ben Ami 2019: Fig. 3:3–4), and Dor (Rosenthal-Heginbottom 1995: 219, Fig. 5.7:3).

Late Roman Wares

Two bowls belong to different types of the Late Roman Ware. One (Fig. 8:3) was found to the west of W211, inside the building partially excavated by Varga (2018). It belongs to Late Roman Ware C (LRC) 10C, dated to the first half of the 7th c. CE (Hayes 1972: 343–346, Fig. 71:11). A similar bowl was found at "Third Mile" estate in north Ashqelon (Israel and Erickson-Geni 2013: 206, Fig. 34:3).

A bowl with an incised wavy line on the rim (Fig. 8:4) was found below the remains of stone paved Floor 209. It belongs to Cypriot Late Roman Ware 9 dated to the second half of 6th–end of 7th. CE (Hayes 1972: 379–383, Fig. 81:12). Similar bowls were found at Horvat Be'er Shema' (Erickson-Gini, Dolinka and Shilov 2015: 227, Fig. 26:2–3) and at the Be'er Sheva North Train Station (Israel, Seriy and Feder 2013: 59*, Fig. 12:11).

Basins

Basins have a square, inward rim (Fig. 8:5). Similar basins of the late Byzantine period were found at pottery workshop near Tel Ashdod (Baumgarten 2000: 73*, Pl. 4:1), at "Third Mile" Estate (Israel and Erickson-Gini 2013: 209, Fig. 35:1) and northwest of Ashqelon (Kogan-Zehavi 1999: 119*, Fig. 8:4).

A basin with a thickened, in-turned rim that bulges slightly outward was found above the plastered floor F246 (Fig. 8:6). Similar basins were found at "Third Mile" estate (Israel and Erickson-Gini 2013: 209, Fig. 35:6), at Migdal Neighborhood of Ashqelon (Nahshoni 1999: 103*, Fig. 5:9), and at Be`er Shema` (Erickson-Gini, Dolinka and Shilov 2015: 227, Fig. 27:5).

Cooking Ware

An open cooking pot with a ribbed body and horizontal, slightly drooped handles attached a few centimeters below the rim, was found to the south of W219 (Fig. 9:1). Similar casseroles were found at Be`er Sheva (Ustinova and Nahshoni 1994: 162, Fig. 6:7), Horvat Ma`on (Nahshoni and Seriy 2014: 29*, Fig. 11:10) and at Be`er Shema` (Erickson-Gini, Dolinka and Shilov 2015: 235, Fig. 30:3).

A closed cooking pot (Fig. 9:2) was found above the stone paved floor F259. It is a small, ribbed pot with a tall neck and a simple neck common in the Late Byzantine period. Similar pots were found in Jerusalem (Rapuano 1999: 178, Fig. 6:82), in Ashqelon at HaBalut Compound (Kobrin 2019: Fig. 14:5) and at Barnea (Milevsky et al. 2018: 173, Fig. 12:9), and at Be`er Sheva (Ustinova and Nahshoni 1994: 162, Fig. 6:19).

Gaza Jars

Most of the jars that were found in the excavations belong to different types of locally manufactured Gaza ware. These are the most common jars

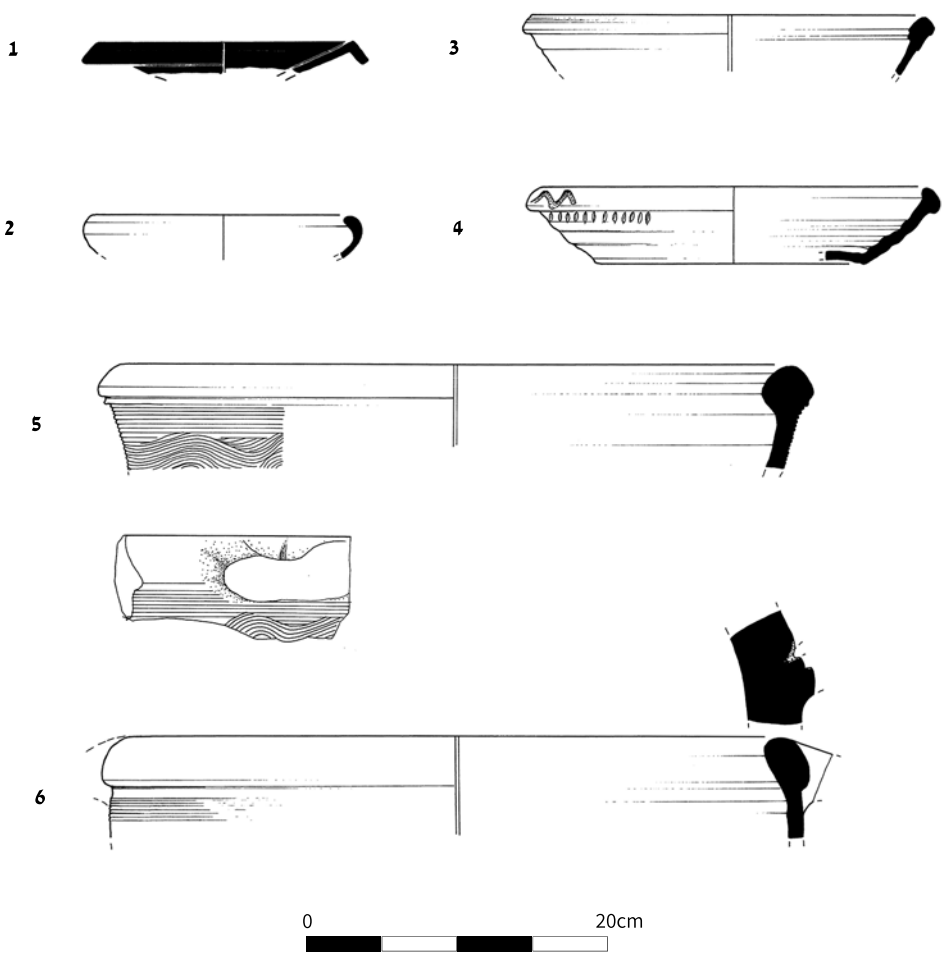

Figure 8. Bowls and basins from the 2017 excavations.

No.	Type/Ware	Locus -Reg. No.	Description
1	ETS Bowl	304–1154/1	5YR 7/4 pink; black glaze
2	ETS Bowl	304–1154/2	7.5YR 8/2 pinkish white
3	LRC 10C	235–1084/1	2.5YR 6/6 reddish yellow
4	Cypriot LRW 9	209–1024/1	5YR 6/6 reddish yellow
5	Basin	252–1150/2	5YR 6/6 reddish yellow
6	Basin	260–1196	buff

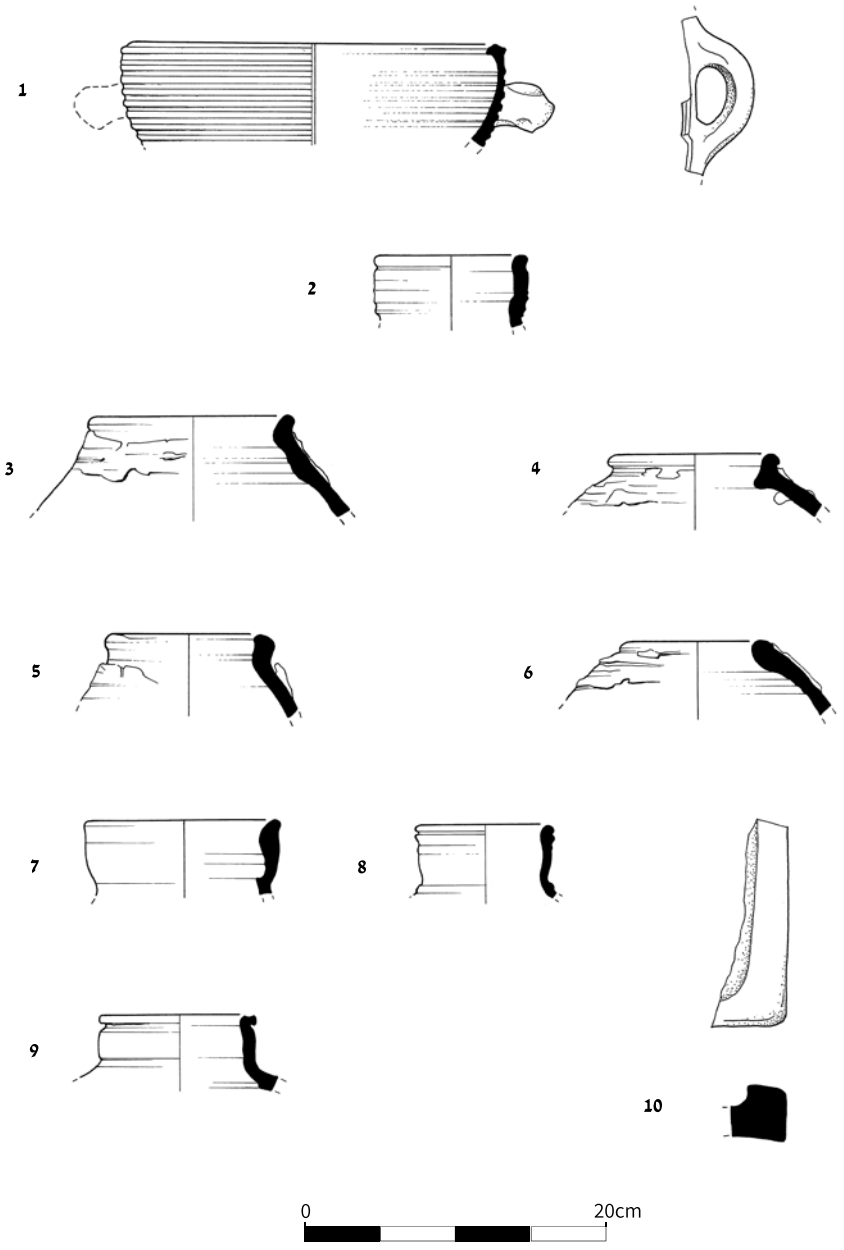

Figure 9. Cooking pots and jars from the 2017 excavations.

used for the storage of wine and oil. Majcherek has proposed a typology in which elongated jars, divided into three subtypes, are dated from the 4th to the 7th centuries CE (Majcherek 1995: 165). A new typology has been proposed by Oked, who divided the type into seven forms (Oked 2001). Jars with an elongated cylindrical body and a straight, or slightly inturned, sometimes concave rim (Fig. 9:3–6), belong to Oked's Type 6 (2001: 233, Pl. 1) and Majcherek's Form 3 (1995: 168–169, Pls. 3:3; 6). This type is dated to the late 5th–6th centuries CE (Oked 2001: 237; Majcherek 1995: 168). Similar jars were found in a pottery workshop at the `Ad Halom Site (Baumgarten 2000: 70*, Fig. 3:7) and at Ashqelon (Milevski et all 2018: 173, Figs. 11:4; 14 4–5; 15:4).

Bag-shaped Jars

Bag-shaped jars have a short, thick, upright neck and a raised ridge at the base of the neck, and usually, an everted rim. This was a common jar in southern Palestine in the Byzantine period. One such jar (Fig. 9:7) was found near W244. A similar jar was found at Horvat Maon (Nahshoni and Seriy 2014: 30*, Fig. 15:10). Another jar (Fig. 9:8) was discovered above Cells 246 and 264. Similar jars were found also in Ashqelon (Nahshoni 1999: 108*, Figs. 4:18; 5:19) and Be`er Sheva (Ustinova and Nahshoni 1994: 161, Fig. 4:4). The third jar (Fig. 9:9) was found on the paved floor F259, providing the *terminus post quem* for the building. A parallel example comes from Be`er Sheva (Ustinova and Nahshoni 1994: 161, Fig. 4:7).

Fig. 9:10 is a tile, a common artifact of the late Byzantine period. Similar tiles have been found in the Byzantine church at Gan Yavne (Rapuano 2016: 117–118, Fig. 1:12) and at Be`er Sheva (Ustinova and Nahshoni 1994: 161, Fig. 4:5).

Figure 9. Cooking pots and jars from the 2017 excavations.

No.	Type/Ware	Locus -Reg. No.	Descriptions
1	Open CP	221–1037–2	2.5YR 5/6 red
2	Close CP	259–1197/4	2.5YR 5/6 red with white incisions
3	Gaza Jar	209–1012/3	5YR 6/6 reddish yellow
4	Gaza Jar	209–1015	5YR 6/6 reddish yellow
5	Gaza Jar	236–1129/2	5YR 6/6 reddish yellow
6	Gaza Jar	254–1746/1	5YR 6/4 light reddish brown
7	Jar	239–1120/2	5YR 5/4 reddish brown
8	Jar	258–1186	2.5Y 8/2 white with black incisions
9	Jar	259–1193/1	5YR 7/3 pink
10	Tile	259–1193/3	10YR 7/4 very pale brown

THE WINEPRESS (Figs. 10–12)

The winepress had a square marble-paved treading floor (Loci 125, 127; 36 m^2). Only several marble slabs were preserved along it is perimeter. At the center of the treading floor was the *in situ* rectangular stone base of a screw press (L138). The treading floor was flanked by the walls constructed *kurkar* pebbles on concrete foundations. The north wall A12, 10 m long) preserved to 0.8 m. height and the west wall (B32, 11 m long) to the height of 0.7 m. Grey plaster covers both sides of the walls. To its east the treading floor was flanked by two collecting vats and a rectangular settling vat between them (L158, 2.5 x 1.5 m). A plastered channel (L160) runs under the treading floor; it drained the liquids from the screw press into the setting vat. Three vats were lined with limestone slabs and connected by lead pipes. The southern collecting vat (L157, radius 2.7 m) is octagonal with two-tiered sumps. The northern collecting vat (L159, 2x1.5 m) is rectangular with a round sump.

A plastered floor runs between the walls and vats. The eastern wall (A42) was detected only in the southeast corner. It was constructed of *kurkar* blocks and stood 1 m high. Four rows of limestone slabs cover it, making a paved surface to the east of winepress. At the eastern part of the northern wall (A12) a door opening was found, leading with one plastered step down to the plastered floor which surrounded the northern collection vat. In the south, Wall A41 (3 m. long; 0.25 m preserved height) joined the southern wall of the winepress (Wall B31).

Figure 10. Aerial photograph of the winepress.

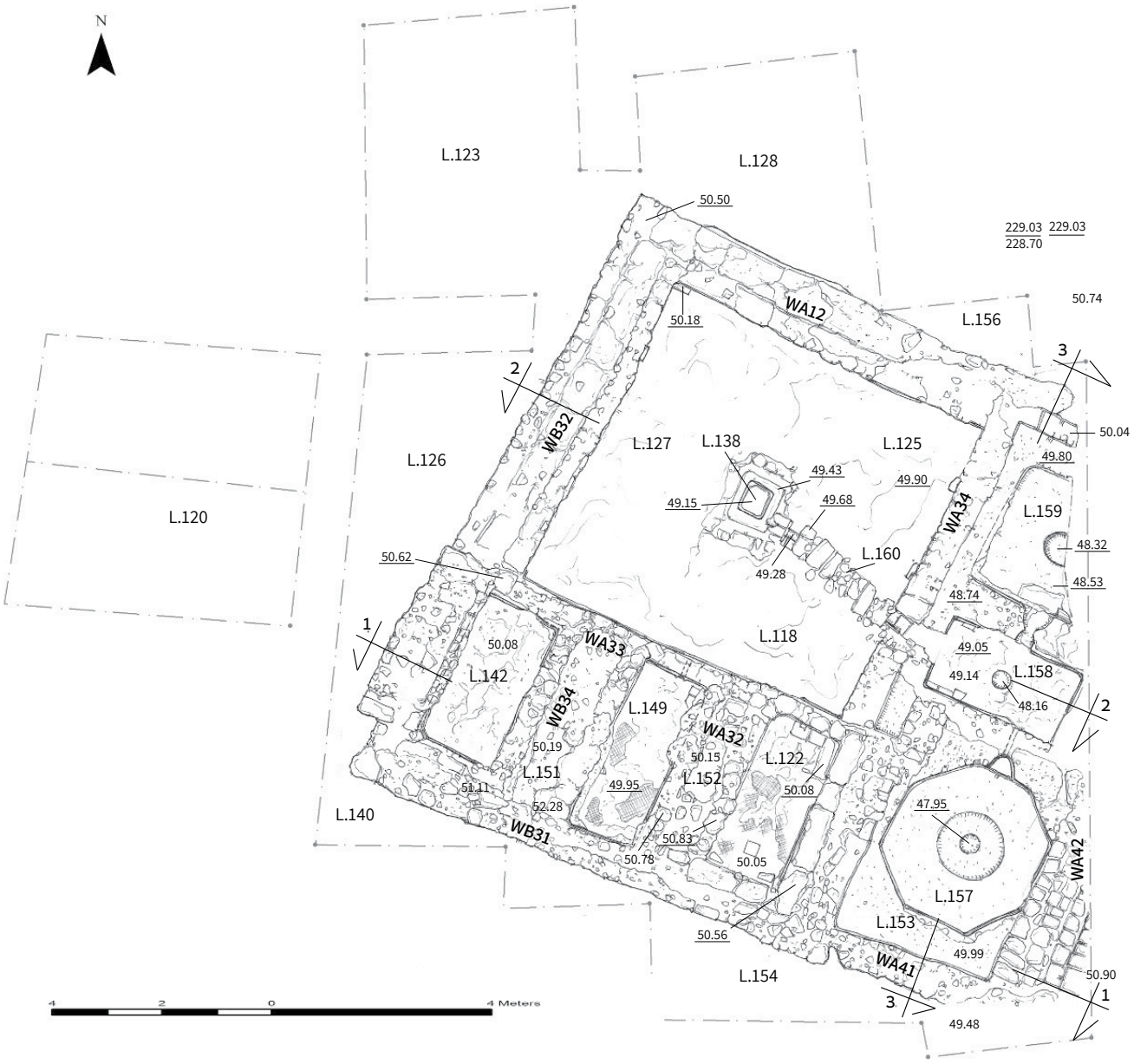

Figure 11. Plan of the winepress.

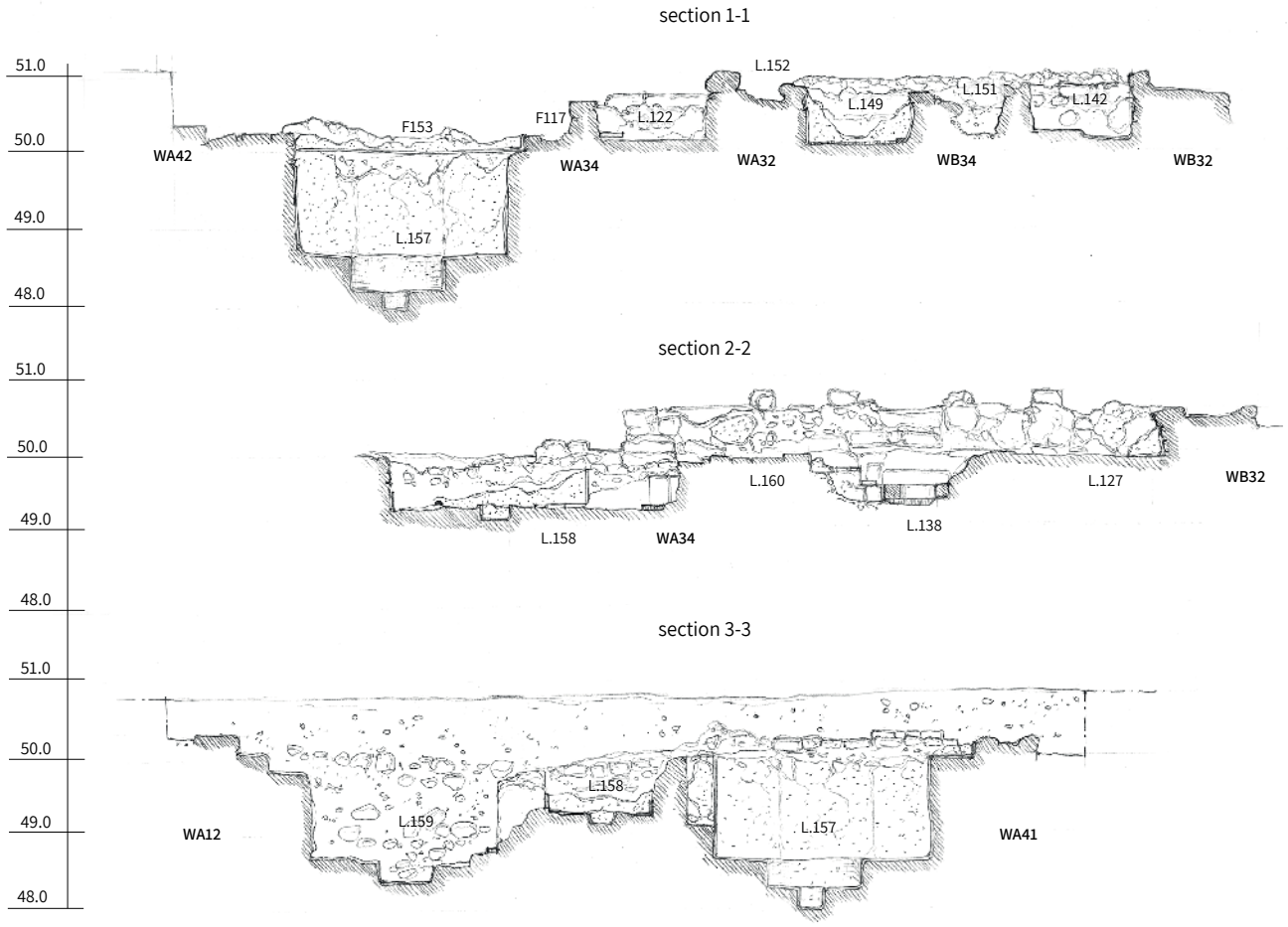

Figure 12. Section drawings through the winepress.

The treading floor was flanked to its south by three rectangular compartments. The north wall of the compartments abutting the treading floor (Wall A33) was built of cast concrete and was preserved to a height of 0.8 m. Inserted into Wall A33 were three lead pipes that allowed the juice to flow from the compartments to the treading floor. The compartments' walls were constructed of *kurkar* rubble set into concrete (Walls B34 and A32). They supported a thick barrel-vaulted ceiling. Two probes into the walls, L151 and L152, were made to understand the construction technique.

The west compartment (L142, 2.5 x 1.5 m) had a white plaster base that preserved the imprints of stone slabs. The central compartment (L149, 3.0 x 1.5 m) was covered with a simple white stone mosaic, which partly survived. The east compartment (L122, 3.0 x 1.5 m) was the best preserved. It had two building phases. In the first phase it was paved with a colorful mosaic, made of white stone and red pottery *tesserae*. In the southern portion, a square marble slab was incorporated into the mosaic (L122) probably to protect the mosaic from falling liquids (Fig. 12). In the second phase, the mosaic floor was covered with thick layer of plaster paved over with stone slabs, which survived mostly in the northern part of the compartment. These compartments were

Figure 13. The east compartment of the winepress, looking north.

used as fermentation cells for the wine that was pressed on the upper treading floors. (Fig. 13).

The winepress was sunk one meter below the surrounding surface level. The wall foundations were constructed in trenches filled with poured concrete. The southern trench was apparently dug too wide and was backfilled with yellowish-reddish soil or sand as a correction (L154, Fig. 14).

The barrel-vaulted ceilings above the compartments described above may have carried an upper-level treading floor or floors which has/have not survived (Fig. 15). This/these hypothetical upper-level treading floors were drained by a pipe or opening leading down into the east compartment (L122). We suggest that the square stone slab in the southern part of mosaic floor of the east compartment was inserted to protect the mosaic from the force of falling liquid (Fig. 13).

Part of basalt rotary (donkey) mill was uncovered on the ancient surface near the northwest corner of the winepress complex (L134, Fig. 16).

Figure 14. Wall A41 and the reddish-yellow sand backfill of L154.

Figure 15. The west wall of compartment L142. Note the lower section of the vaulting.

Figure 16. The donkey mill in L134.

POTTERY FROM THE WINEPRESS

The pottery vessels discovered in the winepress are typical to the southern coastal plain in the sixth and seventh centuries CE.

LRW bowls

A wide bowl with a thickened, elongated, incurved triangular rim was found in the foundation trench of W32 (Fig. 17:1) belongs to the African Red Slip (ARS) Form 61a, dated from the second quarter of the 4th to the early 5th centuries CE (Hayes 1972: 100–107). A similar bowl was found in Area C of the Ophel excavations in Jerusalem (Fleiman and Mazar 2015: 213, 241, Fig. I.5.1:186). The stamped base of a wide bowl belongs to the African Red Slip ware too (Fig. 17:2).

Two bowls (Fig.17:3–4) belong to the Cypriot Red Slip Type 9, dated to the end of 6th– end of 7th centuries CE (Hayes 1972: 382). Similar bowls dated to the late Byzantine period (6th–7th centuries CE) were found in Horvat Be`er Shema' (Erickson-Gini, Dolinka and Shilov 2015: 227, Fig. 26:2), and Be'er Sheva (Israel, Seriy and Feder 2013: 59*, Fig. 12:11).

Bowl Fig. 17:5 belongs to the LRC 10C type, dated to the first half of 7th century CE (Hayes 1972: 343–346, Fig. 71:11–14). Similar bowls were found in the Monastery of Martyrius near Jerusalem (Yuzefovsky 2015: 264, Pl. 1:10) and in Ashqelon (Kogan-Zehavi 1999: 119*, Fig. 8:2).

A shallow bowl of Fine Byzantine ware has a downward-tilting, descending ledge rim (Fig. 17:6). Magness defines it as Form 2C, dated to the 7th–9th centuries CE (Magness 1993: 198). However, these

bowls appear before the Arab conquest. Similar bowls dated to the beginning of the 7th century CE were found in the Monastery of Martyrius near Jerusalem (Yuzefovsky 2015: 265, Pls. 2:7–16; 3). In Ashqelon it was found north of the Migdal Neighborhood (Nahshoni 1999: 103*, Fig. 4:10).

Basins

One large, deep basin has straight walls and a thick, horizontal ledge rim (Fig. 17:7).

Similar basins were found in Jerusalem in a context dated to end of 6th- first half of the 7th century CE (Reuven 2015: 296, Fig. I.6.1:7) and in Ashqelon (Nahshoni 1999: 103*, Fig. 4:10).

Two basins have upright walls with thickened, inturned rims that bulge slightly outward (Fig. 17:8–9). This type was common at the late Byzantine period in Southern Israel. Similar basins were found in various sites: at Ashqelon (Kogan-Zehavi 1999: 19*, Fig. 8:4; Nahshoni 1999: 103*, Fig. 5:9), Beer Sheva (Ustinova and Nahshoni 1994: 163, Fig. 3:18), and Horvat Be`er Shema' (Erickson-Gini, Dolinka and Shilov 2015: 227, Fig. 27:5).

Fig. 17:10 is a deep basin with thick inward rim. Similar basins dated to the late Byzantine period were found at Kh. Khaur el-Bak to the north of Ashqelon (Talis 2011: Fig. 9:4) and in Horvat Be`er Shema' (Erickson-Gini, Dolinka and Shilov 2015: 227, Fig. 27:6).

Cooking ware

Fig. 18:2 is a small, open cooking pot with a beveled rim and horizontal handles attached to the body a few centimeters below the rim. Similar pots, dated to Byzantine period, were found in the Monastery of Martyrius near Jerusalem (Yuzefovsky 2015: 267, Fig. 12:6), Kh. Khaur el-Bak, to the north of Ashqelon (Talis 2011: Fig. 9:7) and north of the Migdal Neighborhood, Ashqelon (Nahshoni 2007: 92, Fig. 15:1).

Fig. 18:3 is a closed cooking pot with a drawn-outwards rim and a short-rounded neck, with two thick handles with two ridges extending along their length, descending from rim to shoulder. Similar pots were found in Jerusalem (Fleitman and Mazar 2015: 248, Fig. I.5.1:216); Horvat Maon (Nahshoni and Seriy 2014: 41*, Fig. 16:17), and Be`er Sheva (Ustinova and Nahshoni 1994: Fig. 6:10–12).

Fig. 18:1 is a cooking pot lid. Various forms of cooking pot lids were common in the Byzantine period. A similar lid was found in the Monastery of Martyrius near Jerusalem (Yuzefovsky 2015: 267, Fig. 13:12) and at Ashqelon (Milevski et all 2018: 172, Fig. 13:2).

Jars

Fig. 18:4 is a bag-shaped jar with a plain rim, and a high, straight, plain neck with a ridge at its base. Magness identified this type as Storage Jar Form 6a, dated from the late 6th to the early 8th century CE (Magness 1993: 226–227). Similar jars were found in Jerusalem in a context dated to end of the 6th- first half of the 7th centuries CE (Reuven 2015: 296, Fig. I.6.1:8). A jar lid (Fig. 17:7) was found in the debris covering the base of the screw press (L138).

Gaza Jars

Two Gaza ware jars have cylindrical bodies, plain shoulders and simple rims (Fig. 18:5–6). They correspond to Oked's Type 7 and Majcherek's Form 4, common in the late 6th–7th c. CE (Oked 2001: 233, Pl. 1:7; Majcherek 1995: 169, 177, Pls. 3:4; 4; 8:2). Similar jars were found at the "Third Mile" estate in north Ashqelon (Israel and Erickson-Gini 2013: 212, Fig. 37:1–2) and at the Migdal Neighborhood, Ashqelon (Nahshoni 1999: 106*-108*, Fig. 5:17).

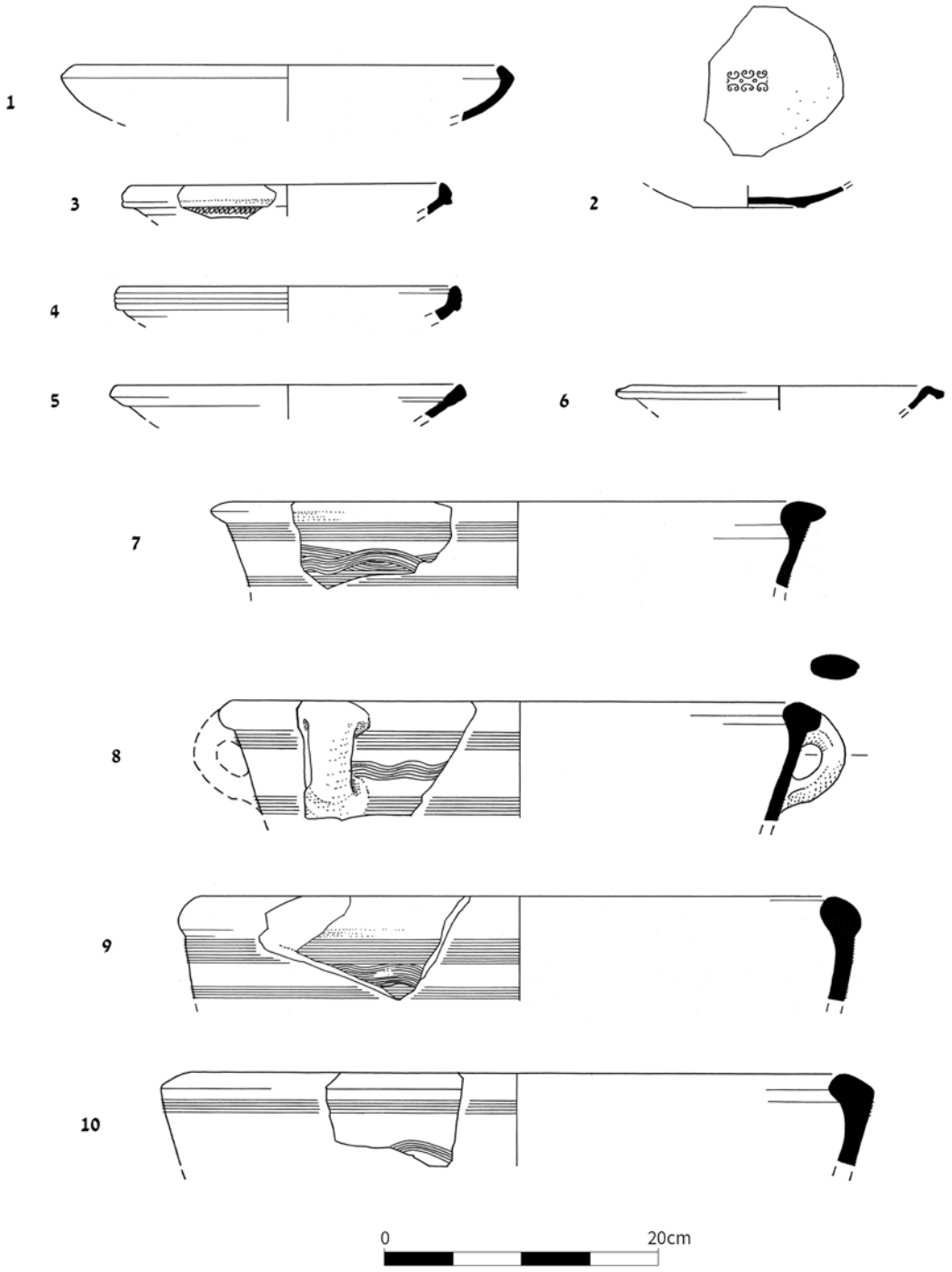

Figure 17. Bowls and basins from the winepress.

Figure 17. Bowls and basins from the winepress.

No.	Type/Ware	Locus-Reg. no.	Description
1	ARS	140–1142	2.5YR 6/6 light red
2	ARS	111–1017	5YR 6/8 reddish yellow
3	LRC 3	157–1160	5YR 7/6 reddish yellow, red slip, paint less lip
4	LRC 3	159–1162/1	5YR 5/6 yellowish red
5	LRC 10	158–1161/1	2.5YR 6/6 light red
6	Bowl	157–1158/1	5YR 7/4 pink
7	Basin	107–1026/1	7.5YR 8/2 pinkish white, 5YR 7/6 reddish yellow core
8	Basin	150–1127	7.5YR 8/2 pinkish white, 5YR 7/6 reddish yellow core
9	Basin	149–1124	7.5YR 8/2 pinkish white, 5YR 7/6 reddish yellow core
10	Basin	159–1163	5YR 6/4 light reddish brown, 5YR 6/1 gray core

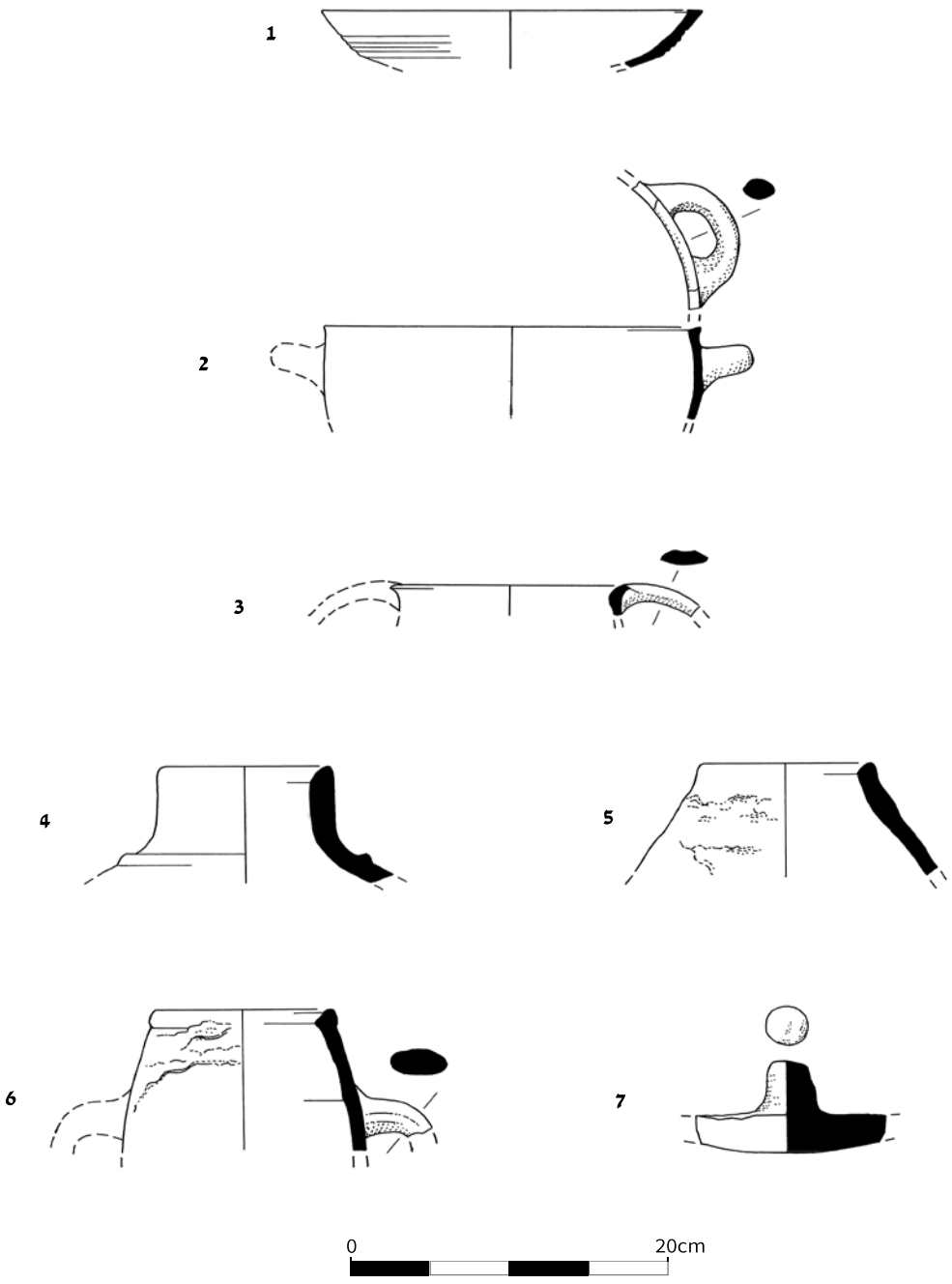

Figure 18. Cooking ware and jars from the winepress.

Figure 18. Cooking ware and jars from the winepress.

No.	Type	Locus-Reg. no.	Description
1	Cooking pot cover	157–1158/3	2.5YR 5/2 weak red
2	Open cooking pot	157–1158/2	2.5YR 5/4 reddish brown
3	Closed cooking pot	107–1026/2	2.5Y 6/8 light brown
4	Jar	157–1158/4	7.5YR 8/3 pinkish white
5	Gaza jar	158–1161/2	7.5YR 5/4 brown
6	Gaza jar	132–1092	7.5YR 6/4 light brown
7	Jar lid	138–1098	5YR 6/4 light reddish brown

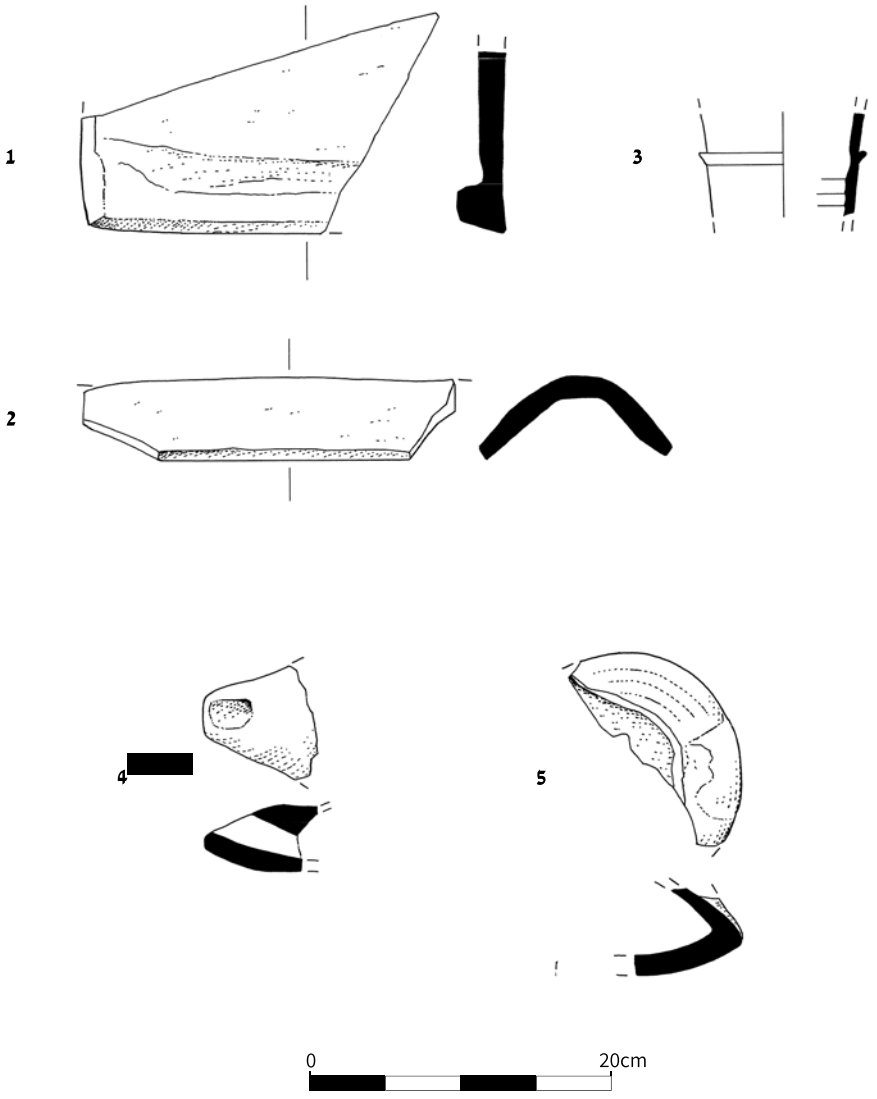

Figure 19. Tiles, a pipe and lamps from the winepress.

No.	Type	Locus-Reg. no.	Description
1	Tile	110–1018/1	10YR 7/3 very pale brown
2	Tile	110–1018/2	10YR 7/3 very pale brown
3	Pipe	159–1162/2	10YR 6/2 light brownish gray core with white inclusions, 7.5YR 7/4 pink; light gray wash
4	Lamp	130–1063	5YR 6/6 reddish yellow
5	Lamp	148–1132/2	7.5YR 7/2 pinkish gray

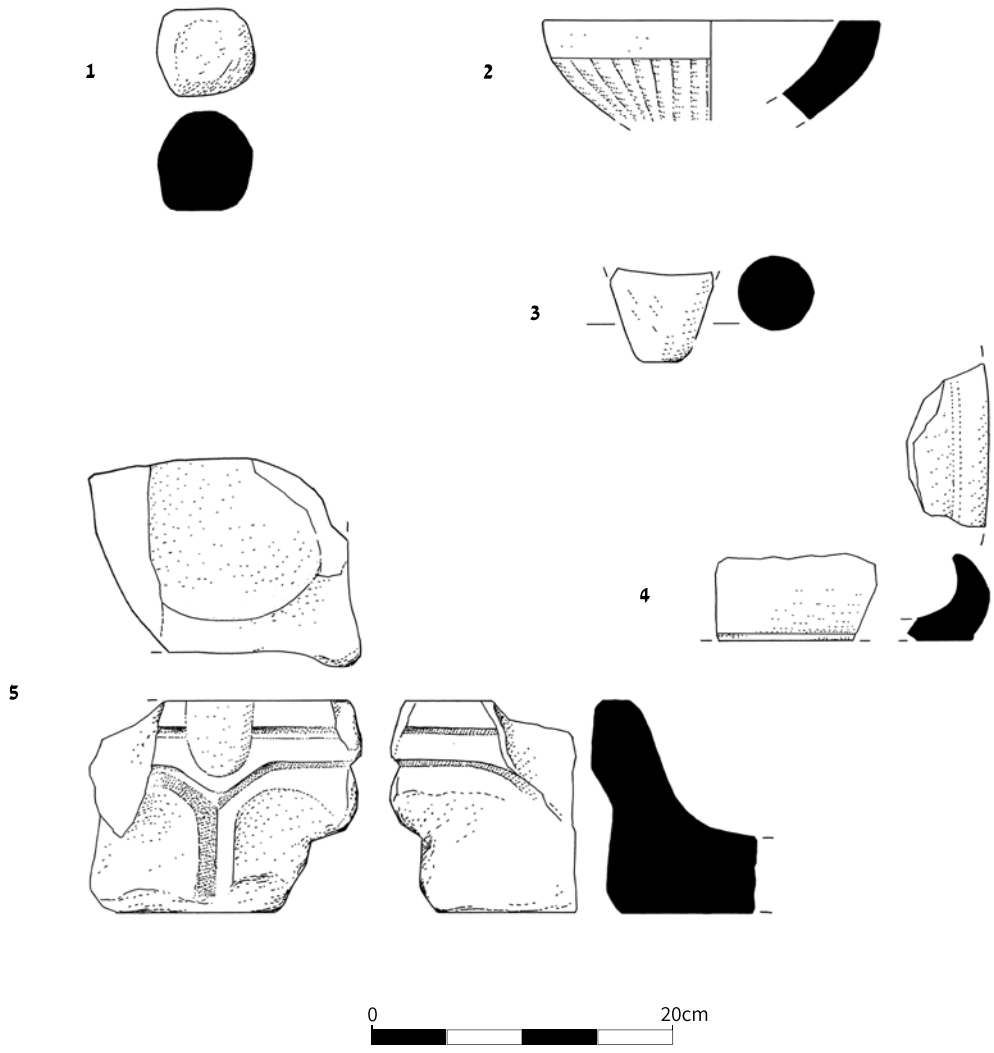

Figure 20. Stone and marble finds from the winepress.

No.	Type	Locus-Reg. no.	Material
1	Pestle	135–1097/1	Limestone
2	Bowl	117–1134/2	Marble
3	Vessel (altar fragment?)	148–1132/3	Marble
4	Vessel (plate?)	118–1038/1	Marble
5	Capital	159–1262/1	Marble

Tiles

Two types of tile were found in association with the winepress: a flat *tegulae*, and a convex *imbrices*. The *tegulae* were rectangular in shape, with raised edges along the long sides (Fig. 19:1). The convex *imbrex* overlapped the seam between two *tegulae*, connecting them (Fig. 19:2). Similar tiles were found in the Monastery of Martyrius near Jerusalem (Yuzefovsky 2015: 377–378, Pls. 60–62).

A fragment of a ridged **clay pipe** (Fig. 19:3) was found in the northern collecting vat (L159). A similar fragment of a ridged pipe was found in the Monastery of Martyrius near Jerusalem (Yuzefovsky 2015: 271, Pl. 30:1).

Lamps

Two fragments of sandal lamps were found in the fills overlaying the winepress: a nozzle and a heavily ridged body shard, made from a brittle, cooking-ware fabric (Fig. 19:4–5). These fragments correspond to Rosenthal and Sivan's Variant A of sandal lamps, which was very common in southern Israel during the late Byzantine period (Rosenthal and Sivan 1978: 122). A parallel has been reported at the "Third Mile" Estate in north Ashqelon (Israel and Erickson-Gini 2013: 215, Fig. 39:2).

STONE FINDS

A limestone pestle (Fig. 20:1), was found in the fill above Wall A12. Similar limestone pestles, from Late Byzantine-Umayyad contexts, were found at Khirbet Es-Suyyagh (Taxel 2009: 152, Fig. 5.1:1–3).

A number of marble fragments were found in the fill inside the winepress: a bowl fragment (Fig. 20:2); the round foot of feature, probably an altar (Fig. 20:3), and a fragment of a plate (Fig. 20:4). The fragment of a marble capital (Fig. 20:5), probably part of colonette, was found inside of the collecting vat sump (L159).

DISCUSSION AND SUMMARY

Four excavations at the site of Ashqelon north have uncovered an agricultural estate with two complex winepresses and remains of industrial activity. The remains were damaged by deep plowing, such that most of the finds come from below the floors, making it almost impossible to identify the functions of most buildings. Some of them were dwellings and others storage facilities, but it is impossible to say more. The most we can say is that this was an agricultural estate with various facilities.

The Ashqelon region in antiquity was famous for its viticulture. Two complex winepresses were discovered at the site and, probably, a third one as well (Nahshoni 2009). One of the main features of these winepresses is the pair of collecting vats which were constructed in the same form—rectangular or octagonal. Winepresses with a pair of rectangular collecting vats have been unearthed at Horvat Basha (Peretz 2018) and Giv'aty Junction (Paran 2009). Octagonal collecting vats have been discovered in Hafez Hayym ('Ad 2011), H. Hamame (Taxel, Paran and Kogan-Zahavi 2019) and Givat Arnon (Meiron 2009). Both types were found at the Third-Mile Estate site (Israel and Erickson-Gini 2013). The winepress reported here is the only one that includes both forms together (Figs. 10–11). It is possible that the octagonal collecting vat was added after the rectangular one.

The three presses uncovered at Ashqelon north represent the exigencies of ancient wine-making; the grape harvest is short and pressing must be carried out quickly. This made it necessary

to build several winepresses at each estate for processing commercial-sized volumes. Estates with two or more winepresses are well known in the Ashqelon region, e. g. at the Third-Mile Estate (Israel and Erickson-Gini 2013); Kh. Hamame (Taxel, Paran and Kogan-Zahavi 2019), and Barnea North (Varga 2010).

Barrel-vaulted ceilings (where the cell roof was used as an upper treading floor) and stone slabs incorporated into mosaic floors are other recognized features in contemporaneous wine production. Similar features have been found at the winepresses excavated in Horvat Shelach (Haiman 2009), Khirbet Mulbis (Gudovitch 2009), and Givat Arnon (Meiron 2009).

The winepresses were dismantled in the early Muslim period. The screw press and nearly all the paving slabs were removed for secondary use. Once the robbery of building materials was completed, the winepress was deliberately backfilled. We see the same procedure at other sites such as at Khirbet Hammame (Taxel, Paran, Kogan-Zahavi and Fraiberg 2019) and Horvat Basha (Peretz 2018: 42*).

The pottery refuse pits found at the site may be associated with a pottery kiln, still undiscovered. A jar-producing kiln has been unearthed, together with complex winepresses in Byzantine estates near Ashqelon, such as the Third-Mile Estate (Israel and Erickson-Gini 2013).

The agricultural estate discovered at this Ashqelon hinterland site flourished in the Byzantine period and ceased to exist in Early Islamic period.

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The Glass Finds from the Ashqelon Train Depot

Kate Raphael

This modest collection consists of common domestic vessels that were locally produced. Similar vessels have been found in excavations across the country. This small group comes from a poorly preserved complex that belonged to a Byzantine agricultural estate which included an industrial area, storage chambers, a winepress (Area A), and some meagre, indeterminate architectural remains in Area B. Most of the glass finds were unearthed in Area A in various fills; only one artifact comes from Area B.

The excavation yielded 34 glass fragments, 13 of which are diagnostic. The finds include three thick bases of beakers, a fragment of a base and the beginning of the stem, two bowl rims, three fragmented handles, several bottle fragments, a wine glass fragment, and three fragmented tube-shaped bases of oil lamps. It is important to emphasize that many shapes of bottles, cosmetic vessels, wine glasses and beakers did not change much over the centuries. Many of the Roman period vessels maintain their basic shapes all through the Byzantine and Early Islamic periods. The vessels are all made in the same technique—free blown. The glass colors are translucent pale blues and greens. The vessels are presented in typological order. Parallels are cited only for the first vessel in each category.

Bowl

1. Bowl (Area A L206 B1009)
A plain, large, and shallow, almost straight-walled bowl with a folded, slightly thickened rim. Color: light green. Parallels: Khirbat El-Ni'ana (Gorin-Rosen and Katsnelson 2007: Fig. 1:3-4). Not illustrated.

Wine Beakers

Wine beakers are a common find at Byzantine sites across Israel (Gorin-Rosen 2005: 30-31). While the actual cup and rim rarely survive, the thick, solid bases are almost indestructible. Beakers usually have a heavier and thicker base. The shape and design continue with few changes until the Fatimid period (Gorin-Rosen 2010: 213; Hadad 2005: 28; Katsnelson and Jackson-Tal 2004: 99-109; Lester 2004: 173). They were made locally; the glass color is light green and blue. According to Gorin-Rosen and Katsnelson beakers of this type also served as lamps (Gorin-Rosen and Katsnelson 2007:92).

2. Concave base of a beaker (Area A L233, B1074).
Base diameter 4.5 cm; folded, tubular, splayed ring (base. Remnants of a wide short hollow stem. Color: relatively dark green. Date: Byzantine 6th -7th centuries. Parallels: Bat Galim (Pollak 2008: Fig. 1:2-3); Bet Shean, dated to the Umayyad (Haddad 2005:Pl. 4:10-11); Khirbat El-Ni'ana (Gorin-Rosen and Katsnelson 2007: Fig. 8:11).

3. Fragmented base of a concave beaker base (Area A L239, B1114).
Only about a third of the base remains. The edges are completely missing. Color: light bluish-green. Not illustrated.

4. Coarse base (Area A L264, B1095)
Thick, badly chipped at the edges. Color: dark green.

5. Fragment of stem (Area A L206, B1009)
Color: translucent pale bluish-green. Parallel: Ras Abu Ma'aruf (Gorin-Rosen 1999: fig. 2: 26). Not illustrated.

Wine glass

6. Fragment of a wine glass base (Area A L149, B1141)
As noted above, the solid base is a common find. It seems these vessels were used by almost all the various classes of society in the Roman, Byzantine, and Early Arab periods. As in most glass vessels, they come in shades of green and blue most are fairly crude in shape and craftsmanship. Parallels: Beth Shean (Katsnelson, 2014: fig. 6:4). Not illustrated.

Bottles

7. Bottle (Area B, L301 B.1166)
Fragment of a funnel-shaped, rounded rim. Color: translucent light green. Parallels: Khirbat El-Ni'ana (Gorin-Rosen and Katsnelson 2007: Fig. 11: 9); Tirat-HaCarmel (Pollak, 2005: Fig. 5:45).

8. Bottle rim and neck (L123, B1051/1)
Body completely missing, and only the mouth and neck of this medium size vessel have survived. Funnel-shaped with thick shelf tubular rim and stump of a handle. Color: light blue. Diameter 3.6cm. Diameter of neck 2.2cm. Parallels from the Early Islamic periods: Beth Shean (Hadad 2005: Pl. 20:382; Gorin-Rosen 2010: Fig. 5:4).

9. Bottle base (L148, B1153/1)
Fragment of a slightly concaved base, with slightly tapering walls. Color: pale blue, Base diameter 2.4 cm. Height 1.1cm. Thin concave base Parallels: Beth Shean (Haddad 2005: Pl. 8:150). Not illustrated.

Lamps

Stemmed, bowl-shaped oil lamps were widespread during the Byzantine and Umayyad periods. The three stems presented below were hollow. Oil lamps of this type were used in both domestic and religious spaces (synagogues, churches, and mosques). The two lamps presented below are poorly preserved and all that remains is the base of the cylinder.

10. Lamp (Area A L214, B1020-1)
Flat thick base of with remnants of the cylinder walls. Base diameter 1.4 cm. Color: turquoise green. Parallels: Bet Shean (Katsnelson 2017 Fig. 11: 8-9); Bet Shean (Haddad 2005: Pl. 22: 439) , Nahal Kidron (Winter 2017: Fig. 1:9); Nir Gallim Gorin-Rosen 2002: Fig. 2: 3-4); Ra Abu Daud (Katsnelson 2010 Fig. 6:15); Ashqelon (Katsnelson and Jackson-Tal, 2004: Fig. 3:3).

11. Fragmented rounded thick cylinder lamp (Area A L207, B.1210). Not Illustrated.

12. Oil lamp base (L130, B1003/1)
This thick-walled hollow base of an oil lamp is, according to Gorin-Rosen, a most typical and common lamp type in the 6th and 7th centuries. Parallels: Kh. Asafna (Gorin-Rosen 2019: Fig. 7:4).

Handles

13. Handle (Area A L254, B. 1201)
Long, plain, slightly curved handle. While the bottom edge has a flat and wide base which was fastened to the body of the bottle or the jug, the upper part of the handle is narrow and was attached to the neck of the vessel. Fine parallel grooves decorate the length of the strap. Length: 7cm. It is difficult to know the exact type of vessel this handle belonged to. Color: light green. Parallels: Similar handles can be seen in the Umayyad assemblage at Bet Shean (Haddad 2005: Fig. 21: 385)

Figure 1. Byzantine Period glass finds.

SUMMARY

The excavations at the Ashqelon train depot yielded a relatively small number of glass fragments. This was probably due to the fact that the excavated area was an agricultural-industrial zone and not a domestic building. The material was dated mainly to the Byzantine period according to the coins and pottery, though an early Islamic element is present. The glass finds are of a local nature and are common vessel types.

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The Coins from Ashqelon (Railway Depot)

Yoav Farhi

Twenty-three bronze coins where found during this salvage excavation at Ashqelon. Some of the coins were found in clear archaeological contexts while others were found on the surface. Many of the coins are in a poor state of preservation and the majority are worn; some seems to have disintegrated during conservation. However, based on numismatic criteria such as the size, thickness and shape of flans, it was possible to identify many of them with some certainty, at least to a certain era. All the coins are listed chronologically in Table 1.[1]

The assemblage includes three main groups of coins: late Roman (Nos. 1–12), Byzantine (Nos. 13–17) and Islamic (Nos. 18–22). The chronological distributions of 17 of the 22 identified coins (Nos. 1–17) conform to the main settlement phase at the site, from the Late Roman and Byzantine periods. Five other coins (No. 18–22) are dated to the Umayyad and Abbasid periods and suggest some occupation or use of the site during the early Islamic period.

Most of the coins are of known types, commonly circulated in the region during the late Roman, Byzantine and early Islamic periods. Some of the late Roman and Byzantine coins bear similarities to coins from other excavations in the region, such as those in the 'Third Mile Estate', the 'Hammama Conduit' or those found in the nearby excavations at the 'Ashqelon, Industrial Zone (North)'.[2] A few coins from the Byzantine period are deserving of further elaboration. Nos. 14–15 are *pentanummium* type coins; both seem to be unofficial imitative issues employing a variation of the chi-rho symbol. One of them (No. 15) was probably overstruck on an Alexandrine *dodecanummium*. Based on the high concentration of this type of *pentanummia* in the region of Ashqelon it was suggested by Bijovsky that these imitations were struck in that city. She dates their production to c. 522–540 CE and suggests, based on excavated finds, that they remained in circulation until the early decades of the 7th century (Bijovsky 2012: 294–295). The finds from our excavation strengthen Bijovsky's suggestions, both regarding the distribution of the *pentanummia* imitations and regarding their period of circulation, as the latest Byzantine coins in our assemblage (Nos. 16–17) were struck under Maurice Tiberius in the early 7th century.

The archaeological evidence from the excavation suggests that the structures were dismantled during the Early Islamic period, probably in order to reuse the building stones. Coins Nos. 18–22 support this date. Coin No. 18 is part of a group known as the 'standing Caliph type' (Goodwin 2018) or the 'Muhammad type' (Foss 2008: 69) since the obverse legend on these coins, around the standing figure, usually names the prophet Muhammad (*Muḥammad rasūl alla*). These coins were struck in several mints in the region, probably under the Caliph Abd al-Malik. Our coin, from the mint of Yubnā (Yavneh), is worn and

1 The coins were conserved by Orna Cohen and photographed by V. Naikhin.
Abbreviations used in the table: l. = left | r. = right | stg. = standing | adv. = advancing

2 For the coins from the first two sites see Ariel 2013; for the third see Bijovsky 2009.

the obverse legend is illegible, apart of two letters which appear to the left of the figure, downward, which seem to be part of the word '*rasūl*'. This group was recently studied in depth by Goodwin, who did a comprehensive die study, and identified 47 obverse and 42 reverse dies for this series. Based on his study it seems that our coin was struck by unknown obverse and reverse dies.[3] Only a small fragment of coin No. 22 survived. However, based on the shape of the few surviving letters, and on the fact that the flan is extremely thin, it seems to be a late Umayyad, or more probably, an Abbasid issue.[4] This is the latest coin in our assemblage. An Abbasid coin was also the latest one found in the 'Third Mile Estate',[5] suggesting occuptation at both sites during this period as well.

To conclude, the numismatic evidence, together with the archaeological finds, suggest that the site was established in the late 4th or early 5th centuries CE. It seems that it functioned until the early 7th century, when it was abandoned. During the early Islamic period, under the Umayyads and probably under the Abbasids as well, the structures were dismantled and the marble and limestones were taken and reused for building elsewhere. This was probably the last activity at this site until the current excavations.

Table 1. Catalogue of the coins[6]

No.	Area, Locus, Reg. No.	Wt. (g)	Diam. (mm)	Axis	Obverse	Reverse	Date of coin	Mint	References and Notes
LATE ROMAN 4th Century CE									
1*	A 223 1030	1.37	15–17	11	[—] Head r., pearl-diademed	VOT/XX/ MVLT /XXX In wreath. Illegible mintmark	341–346 CE		*Cf. LRBC* II: 31, No. 1398.
2	B 125 1147/1	0.47	11	-	Illegible	[—] Victory adv. l., carrying trophy and dragging captive. Illegible mintmark.	383–395 CE		Worn
3	A 237 1112	0.82	11	-	[—] Bust r.	Illegible	Late 4th cent. CE		Worn
4	A 265 1159	0.51	13	-	Illegible	Illegible	Late 4th cent. CE		Worn. Partly broken
5	A 105 1004	0.41	13	-	Illegible	Illegible	Late 4th cent. CE		Worn. Half coin

3 I would like to thank T. Goodwin for discussing this coin with me.

4 I would like to thank A. Berman for discussing this coin with me.

5 Ariel 2013: 236, No.46.

6 Coins bearing an asterisk are illustrated in Figure:1.

No.	Area, Locus, Reg. No.	Wt. (g)	Diam. (mm)	Axis	Obverse	Reverse	Date of coin	Mint	References and Notes
6	B 149 1136	1.16	13–14	-	Bust r. (?)	Illegible	Late 4th cent. CE (?)		Worn
5th Century CE									
7	A 236 1090	0.31	12	6	[—] Head r.	[—] Two figures stg.	400–402 CE		*Cf. LRBC* II: 90, No. 2214 (?) c. half coin, broken to two pieces.
8*	B 155 1155	0.79	9.5	12	[—] Bust r., pearl-diademed	Cross	c. 404–455 CE		*Cf.* Bijovsky 2012: 113, Figs. 15–16.
9	B 126 1067/2	1.41	11	-	Illegible	[—] Cross, in wreath (?)	c. 404–455 CE (?)		Worn
10*	B 116 1042/2	0.98	10	11	[—]N[—] Bust r., pearl-diademed and draped.	Monogram in wreath.	450–457 CE		*Cf. LRBC* II: 90, Nos. 2250. Marcian (392–457 CE)
11	A 99 1000	0.34	9	-	Illegible	Illegible	5th cent. CE		Worn
12	A 207 1006	1.24	12	-	Illegible	Illegible	4th–5th cent. CE (?)		Worn
BYZANTINE (official and unofficial coinage) Anastasius I (491–518 CE)									
13*	A 237 1111	15.95	30–32	7	DNANAS-TA-SIVSP-PAVG Bust r., with diadem, cuirass and paludamen-tum.	M Above, cross. To l. and r. stars; beneath, Γ; in ex., CON	498–518 CE	Constan-tinople	*DOC* 1: 19–20, Type No. 23d.
Under Justin I (518–527 CE) and/or Justinian I (527–565 CE)									
14*	B 141 1152/1	0.24	10	-	Illegible	Chi-rho	*C.* 522–540 CE	Ascalon?	*Cf.* Bijovsky 2012: 291–297, Figs. 111–113. *Pentanummi-um* imitation
15*	B 147 1118/1	2.19	14	-	Illegible	Chi-rho	*C.* 522–540 CE	Ascalon?	*Cf.* Bijovsky 2012: 293, Fig. 114. *Pen-tanummium* imitation. Overstruck?

No.	Area, Locus, Reg. No.	Wt. (g)	Diam. (mm)	Axis	Obverse	Reverse	Date of coin	Mint	References and Notes
Maurice Tiberius (582–602) CE									
16*	B 141 1112/3	4.30	19–22	6	[—]-TIbЄ[—] Bust facing, wearing cuirass and crown. In r., hand, globe cruciger.	K Above, cross; below, A or Δ; to l., A/N/N/O; to r., X/ϟII	599/600 CE	Constantinople	*Cf. DOC* I: 315, No. 61 (variant)
17*	B 116 1042/1	5.99	22	5	ONmAURI – [—] PPAVG Bust facing, wearing cuirass and crown. In r., hand, globe cruciger.	K Above, cross; to l., A/N/N/O; to r., A (?) X/X; Below: TES	601/2 CE	Thessalonica	*Cf. DOC* I: 323, No. 89 (variant)
ISLAMIC **Umayyads**									
18*	B 147 1117/1	2.89	16–23	12	Standing Caliph image with sword and prominent headdress; on l., downward: [—] سو[—]	Cursive **m**; On r., يبني	Late 680s to early 690s CE	Yubnā	Foss 2008: 70–71, 142–143, Nos. 93–100 (variant); *CHL*: 137, No. 1 (variant); Goodwin 2018: 55, Fig. 6a (variant). Worn
19*	B 147 1118/3	1.54	14–16	3	Arabic legend in three lines: لا اله/ الا الله/ وحده	Tree, around illegible Arabic legend.	c. 700–750 CE		Ilisch 1993: 46, Nos. 542–546.
20	B 141 1112/2	2.77	15–16	-	Traces of Arabic legend (?)	Traces of Arabic legend (?)	c. 700–750 CE		Worn
21	B 116 1036/1	0.29	11	-	Traces of Arabic legend	Traces of Arabic legend	8th–9th cent CE (?)		Worn. Broken (very small part of the coin).
Abbasids									
22*	A 265 1160	0.13	10	6	Traces of Arabic legend	Traces of Arabic legend	c. 800–850 CE (?)		Broken (small fragment of the coin). Very thin flan.
Unidentified									
23	B 130 1090/1	3.33	14–15	-	Illegible	Illegible			Worn

Figure 1. The Coins from Ashqelon.

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LRBC II = Carson R.A.G. and Kent J.P.C. 1965. Part II: Bronze Roman Imperial Coinage of the Later Empire, A.D. 346–498. In *Late Roman Bronze Coinage A.D. 324–498*. London. Pp. 41–114.

Excavations at Tel Qishron – The Lithic Assemblage

Francesca Manclossi

The lithic assemblage of Tel Qishron can be divided into two components discovered in the same layers, but which belong to different periods: the Middle Paleolithic and the 3rd millennium BCE, respectively. The first group, recognized during the excavation but not analyzed in detail, is composed of patinated flakes and blades produced using the Levallois technology (Fig. 1:1). These items, clearly intrusive in the Intermediate Bronze Age strata, show strong analogies with the lithic assemblage of the Middle Paleolithic quarry site found few meters away.[1] The second group, identified during the excavation by virtue of the flint not being patinated, is comprised of ten Canaanean blades, the only diagnostic items studied in detail and the subject of this analysis.

THE RAW MATERIAL

The Canaanean blades discovered at Tel Qishron are made using homogeneous flint with a fine to medium-fine grained texture. The flint is generally matte and opaque. Color varies from light grey to light beige/brown, and is usually not uniform, having darker grey/brown bands. The presence of inclusions, quite large in several items, comprises a variable which may derive from different geological formations. This raw material seems to be characteristic of the Canaanean blades found in Northern Israel (Shimelmitz 2009; Shimelmitz and Rosen 2014), and differs from the chocolate-brown flint typical of the Shephelah and surrounding areas (Futato 1996; Manclossi *et al*. 2016, 2019).

Several pieces show irregular black lines on their surfaces, produced by contact with metallic plow points (Fig. 1:3–5). These elements indicate that the blades were found close to the surface, which was affected by modern cultivation.

TECHNOLOGICAL ANALYSIS

Canaanean blades are large, regular blades, generally having a trapezoidal cross-section. In our assemblage, most of them have parallel edges and dorsal ridges, a straight profile, and a relatively thin section (Fig. 1:3). These elements are characteristic of the pressure technique, and the dimensions of the blades—larger than 21-22 mm—suggest the use of a lever-pressue system (Pelegrin 2012b). Indeed, with the exception of one narrow blade (20 mm), all the blades are at least 30 mm in width (and as large as 36 mm). Nevertheless, some blades are more irregular (especially in the delineation of the edges and nervures) and the use of indirect percussion cannot be completely ruled out (see Pelegrin 2006, 2012a).

In addition to the morphometric aspect, the use of the lever-pressure system is suggested by the proximal end of one blade (Fig. 1:7 which shows

1 The lithic assemblage from Area F will be published separately.

the typical short, hight, and thick bulb. Moreover, the inclination of the dorsal ridges in relation to the knapping axis indicates the use of a vice which immobilized the core in order to exert pressure. In addition to this blade, another one (Fig. 1:6) preserves its original proximal end. Although the morphology of the bulb is not distinctive of the lever pressure systen (it is not protruding, but rather widespread), the regularity of the edges and its profile suggest the use of this technique platform preparation and other technical features seem to suggest differences in the way removal pressure was exerted. In the first case, the butt is plain and quite large. Its dimensions, and the presence of a lip, indicate the use of an antler point (Fig. 1:6a). On the other blade, the butt is facetted, with an impact point that is quite small and well inside of the pressure surface. The absence of a lip and the presence of cracks on the bulb indicate the use of a copper pressure point (Fig. 1:7a).

Very little information concerning the knapping method is available. All the blades have a trapezoidal cross-section, (usually showing intercalated order of the dorsal negatives), and do not preserve any cortical elements. This seems to suggest that the blades were detached in the central part of the reduction sequence (e.g., Manclossi *et al*. 2016). Only one blade (Fig. 1:2) differs from the others, and it was probably detached among the first removals. On its right side, it shows part of the preparation of a crest, and indicates a preliminary shaping of the core in order to obtain the adequate convexities. The presence of a big inclusion in the flint explains the irregularity of the detachment, which removed part of the core.

CANAANEAN BLADE BLANKS AND TOOLS

The Tel Qishron Canaanean blade assemblage includes incomplete blades, all of which are retouched or show some traces of utilization. The blanks were generally little modified, and the main typological distinction is the presence/absence of glossy edges. This luster is typical to Canaanean blades and suggests their use as sickle elements or reaping knives.

The glossy-pieces

The assemblage includes three blades with a single glossy edge, and one blade with luster on both the edges. In most of the cases the glossy edges are re-sharpened, and the retouch which removes the luster is rather short. The non-glossy edges are not retouched but show some macrotraces of utilization. Excluding the retouch of the glossy edges (which is not connected with the manufacture of the tools, but rather with the maintenance of the cutting edge), minimal modification characterizes the manufacture of Canaanean sickle blades. The blanks were, indeed, snapped in shorter segments either by controlled and intentional breakage or by truncation, although there doesn't seem to be a standardized length (the longest piece is 13.8 cm long and the shortest is 5.7 cm long, with an average of 8.3±3.8 cm).

The non-glossy pieces

The assemblage also includes six Canaanean blades without glossy edges. Excluding the longest blade, almost complete and fractured at the proximal end (L=13.7 cm), and another long blade with a distal fracture (L=7.3 cm), this group is comprised of segments with a more uniform length (between 4.5 and 5 cm), created with an intentional breakage at both extremities. Truncated pieces are, indeed, absent among the non-glossy Canaanean segments. All the unretouched edges are damaged and, with the exception of one retouched blade which shows fine and regular denticulation similar to the re-sharpened sickle elements, all the other edges are retouched, creating a couple of generally symmetrical notches on both the edges (Fig. 1:4-6).

DISCUSSION

Although the lithic assemblage collected at Tel Qishron represents a small, selected sample, it provides information that is important for reconstruction of the chipped-stone tool system during the Intermediate Bronze Age. Excluding the presence of Middle Paleolithic remains, this single-period site was occupied at the end of the 3rd millennium BCE, and the lack of possible contamination by Early Bronze Age components allows for a better characterization of the IBA Canaanean blade production and distribution system.

While Canaanean blades are diagnostic tools of the Early Bronze Age, their presence during the Intermediate Bronze Age has been recognized at different sites (e.g., Betts 1991; Dever 1973; Payne 1983; Rosen 2012). In most of these studies, the continuation of Canaanean blade production was primarily identified based on typological considerations, and less emphasis has been assigned to the technological aspects. The recognition of the lever pressure technique, one of the most sophisticated knapping techniques, has important implications for reconstructing the socioeconomic structure associated with their production and distribution. Considering the skills and knowledge required to master this technology, only a few flint knappers were able to produce long and regular blanks and supply the great demand for Canaanean blades, which were then transformed into tools directly by the users (e.g., Manclossi and Rosen 2019). The continuation of this technology during the Intermediate Bronze Age indicates that these specialists continued to produce and exchange their products with farmers, despite the great transformation of society at the end of the 3rd millennium BCE. Although the data are still scarce, the use of different raw materials, and the attestation of different modalities in the preparation and procedures for detaching blades, may indicate that the production and distribution system of the Early Bronze Age continued unchanged in the Intermediate Bronze Age (but see Shimelmitz and Rosen 2014).

On the other hand, the Canaanean blade assemblage from Tel Qishron seems to suggest that blade dimensions increased through the time (e.g., Weacher 1958; Hanbury-Tenison 1986; Betts 1992; and see also Rosen 2012). Although the number of Canaanean blades dated to the Intermediate Bronze Age is quite small for any statistical conclusion, and large blades occurred also in earlier periods (Manclossi *et al.* 2019), wide blades are more common at the end of the 3rd millennium, when narrow blades are almost absent. Another metric difference observed of Tel Qishron Canaanean blades is related to their thickness (T= 7.6± 1.6 mm). These blades are significantly thicker than those of older assemblages (the average thickness of Canaanean blades during the Early Bronze Age is 5mm). This variation in blade size may be related to the manufacture and maintenance system of Canaanean blade tools, notably to the hafting modalities and re-sharpening procedures (see also Rosen 2012).

Production and distribution of Canaanean blade blanks, and the manufacture and maintenance of Canaanean blade tools are two complementary aspects of the same specialized system, based on the division of labor between flint knappers and farmers. Technological continuity, attested by use the lever technique, seems to suggest substantial stability in the production and distribution system until the end of the Intermediate Bronze Age. But further research is needed to better understand if and how farmers' roles changed in the manufacture and maintenance of their tools.

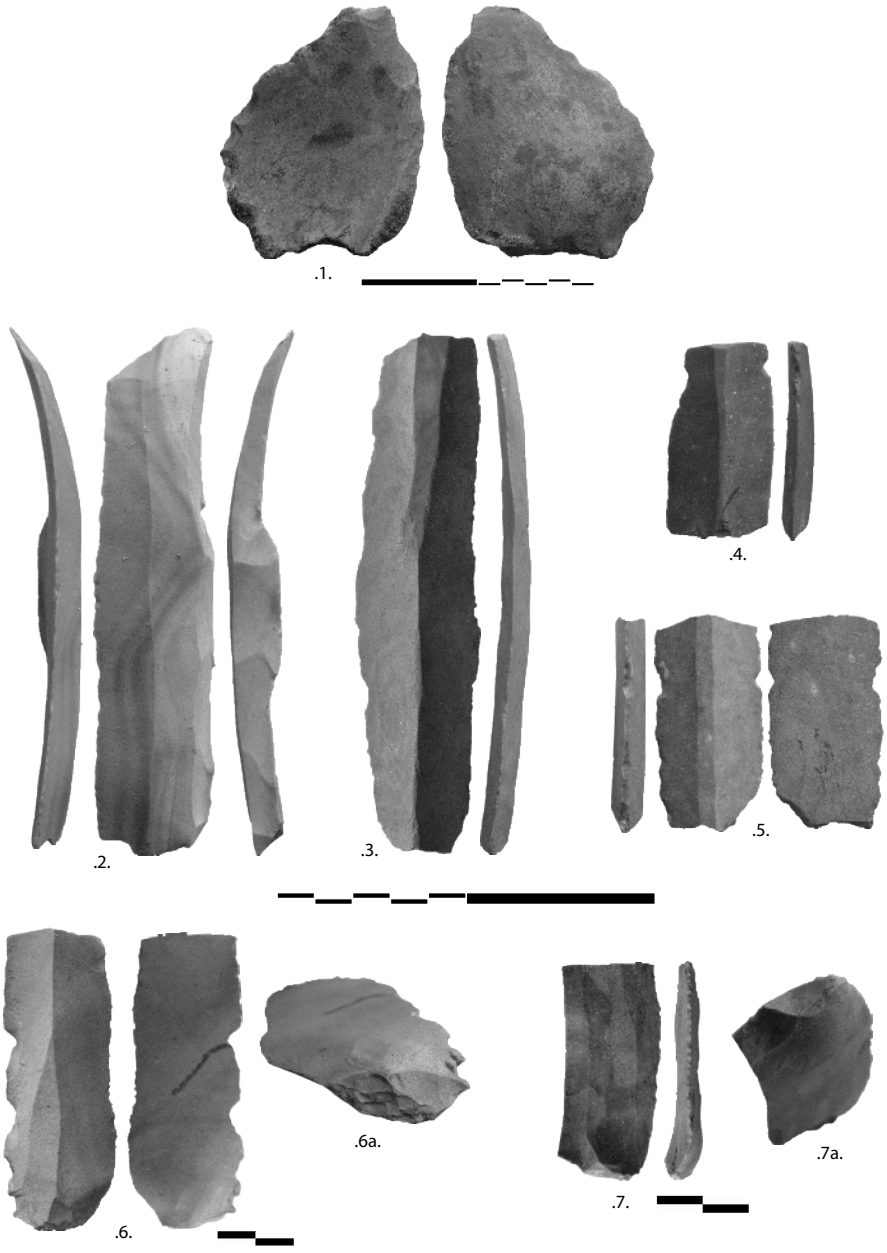

Figure 1. A sample of the lithic assemblage from the Intermediate Bronze Age village at Tel Qishron. 1. Middle Paleolithic Levallois flake; 2. Neo-crest Canaanean blade with marginal retouch on the left edge; 3. Canaanean blade with marginal retouch on both the edges; 4-5. Fragment of Canaanean blade with marginal retouch on both the edges; 6. Retouched Canaanean blade with a denticulated delineation on the left edge; 6a. Details of the facetted platform preparation with visible crack indicating the use of metallic point; 7. Canaanean blade with marginal retouch on the left edge; 7a. Details of the plain platform preparation with visible lip indicating the use of antler point.

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ENGLISH ABSTRACTS OF HEBREW ARTICLES

Excavations at Tel Qishron

Tel Qishron is a 12 dunam site located west of Route 65, 1.2 km south of the Golani Junction. The excavations reported here were carried out in 2014, at a site located on the eastern slope of the tel. The excavations revealed an expansive Intermediate Bronze Age (IBA) village similar to others in northern Israel, such as Sha'ar Hagolan, Morkhan and especially Ein Helu. The architecture consisted mostly of agglomerations of small rectilinear chambers separated by alleyways. A number of mortars and grinding slabs were documented, as well as possible grain storage bins. The IBA settlement at Tel Qishron appears to be that of an egalitarian society with little in the way of conspicuous consumption or grandiose construction.

Colluvium and Byzantine period terraces overlie the IBA village remains. The colluvium and the retained soil of the terraces contained sherds of the many periods represented on the upslope tel: Pottery Neolithic, Early Bronze, Middle Bronze, Late Bronze, Iron Age, Persian, Hellenistic, Roman, Byzantine and Early Islamic.

Excavations at Holot Yavne

Salvage excavations were carried out at the site in 2015. Previous probes carried out by the Israel Antiquities Authority uncovered what appeared to be two cist tombs of the Chalcolithic or Early Bronze I period and two pits filled with clayey soil. Our excavations revealed a layer of clayey soil, further pits and fragmentary installations of kurkar stones and very few artifacts: a few weathered sherds of the Chalcolithic or Early Bronze I, Late Bronze and Roman periods. All this was covered subsequently by dunes of sand blown in from the seashore to the west.

GeoGenie – a New System for Archaeological Documentation

This article describes the GeoGenie digital documentation system, developed by Dor Yalon of Benny Eli Etkes Measuring Devices Ltd. and Michal Yron and Yehuda Govrin of Y.G. Archaeology and the NGSBA. GeoGenie provides an effective platform for the collection and archiving of contextual, spatial and geographical data. Having utilized and fine-tuned the GeoGenie platform we revisit and reconsider traditional excavation and archiving methods: the "Israeli" method as discussed by Yohanan Aharoni and the "Wheeler-Kenyon" method. GeoGenie allows us to maximize the advantages of each and minimize data loss and data entry lacunae and error, with the additional benefit of requiring less manpower and less time for better results. We believe that GeoGenie is the archaeological digital platform of the future.