

RESULTS OF A SURVEY CONDUCTED IN THE AREA OF THE JIYEH MARINA RESORT HOTEL COMPLEX IN THE 2012 SEASON

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Abstract: In 2012, an initial reconnaissance was conducted of the area north of the Jiyeh (Porphyreon) site. This coastal region is heavily urbanized and progressing building investment is causing the destruction of archaeological remains, which until quite recently were relatively well preserved in places. Subsequent investments involved the expansion of the Jiyeh Marina Resort hotel complex into terrain lying to the north of the Polish excavation area. Earlier construction work connected to the hotel complex was carried out in an area originally occupied by a pottery workshop from the late Hellenistic and early Roman periods, as well as at the site of a Roman–late antique necropolis. Further construction work, conducted without archaeological supervision, revealed more ancient structures which were in all probability connected with wine production.

Keywords: winepress, rescue archaeological research, late antiquity, collecting vat, wine production

Intense construction work in the vicinity of the bay of Jiyeh, south of Ras al-Saadiyat cape, has led to major changes of landscape in the prospected coastal fragment, resulting in major destruction of existing archaeological remains. A reconnaissance conducted in the area by the Polish–Lebanese Archaeological Mission working at Jiyeh (Porphyreon) in Lebanon in 2012 checked the conditions on the ground and aimed to evaluate areas of possible research interest and key project locations.

Areas for future research include, among others, the as yet undeveloped terrain lying next to the Ras al-Saadiyat

cape, most probably used in the past as a quarry, the fragment of the bay located north of the Jiyeh site, and the terrain situated to the east of the coast, outside the range of modern-day buildings. Most of the land with few or no buildings lies in the northern part of the discussed area, i.e., to the north of the archaeological site excavated by the joint team from the Polish Centre of Mediterranean Archaeology, University of Warsaw and the General Directorate of Antiquities of Lebanon.

Remains of ancient structures were located also beneath the modern-day Jiyeh Marina Resort hotel complex, which

continues to be enlarged and is situated about 200 m to the north of the site [Fig. 1].

The first information on ancient remains in this vicinity came in 2003 and 2004 when Polish archaeologists investigated a Roman–Byzantine necropolis exposed during construction work for the hotel complex. Remains of a pottery production workshop were documented in the vicinity of the necropolis (Waliszewski et al. 2006: 40–47). Pottery encountered within the production complex was dated to the late Hellenistic and early Roman periods (Wicenciak et al. 2003; Domżański et al. 2005; Waliszewski et al. 2006: 51–66; Wicenciak 2013).

Enlargement of the hotel complex in 2012, conducted without archaeological supervision, uncovered more traces of ancient human activity in this area. An archaeological prospection of the site

immediately to the south of the hotel buildings had identified a complex of ancient structures which later proved to be the remains of an installation related in all probability to wine production [Fig. 2]. The construction site exceeded 1000 m² (approximately 50 m by 20 m). The remains of the installation were found in the northeastern part of this area, but the intense nature of the construction work has resulted in extensive destruction of the ancient substance [Figs 2, 3].

Remains of a room or basin with a preserved surface not exceeding a few square meters were exposed in the dig area, directly adjacent to the northeastern profile (about 12.41 m a.s.l.) [Fig. 4 left]. The surviving fragment of room floor indicates that it was in all probability adapted to the rectangular plan of the basin. The floor consists of a layer of hydraulic mortar. It seems that the walls were also covered by impermeable



Fig. 1. The Jiyeh coast with a view of the Jiyeh Marina Resort hotel complex situated north of the Jiyeh (Porphyreon) site; white arrow marks the area documented extensively in 2012 (Photo Google Earth)

hydraulic mortar, which is evidenced by the remains, preserved to a height of a few centimeters. Short sections of two walls enclosing the room/basin from the south and west have also survived. A slight ledge, 1 cm high, can be seen inside the basin [Fig. 4 right], running along the wall of the room, as well as remains of white mortar covering the layer lining the basin, which can be interpreted as the bedding for another level of mosaic floor(?).

Two vertically standing stone blocks were found in the wall enclosing the basin on the south. The space between the blocks was filled with small round stones plastered with white mortar [Fig. 5]. To the west of the room/basin but beyond its limits, at a height of 11.90 m a.s.l., a small fragment of mosaic floor was preserved [Fig. 6]. The mosaic consisted of white tesserae averaging 2 cm to the side (about 36 tesserae fitted into a fragment 10 cm by 10 cm in size). No remains of the walls enclosing this fragment of floor were preserved.

Lying directly on the paved floor of the basin were remains of an approximately 5-cm-thick layer of earth mixed with significant amounts of ash and charcoal. This layer was deposited evenly throughout the exposed fragment of the room.

The stratigraphic sequence can be followed in the east trench wall, cutting north-south through the room [Figs 2, 7]. Starting with the topmost layer:

- 1 – Level of basin floor
- 2 – Layer of hydraulic mortar
- 3 – Layer of fairly compact white lime mortar mixed with small stones
- 4 – Mosaic (same level as fragment preserved in the western end of the room)

5 – Layer of lime mortar underneath the mosaic

6 – Layer of grey-colored lime mortar

7 – Layer of small irregular stones

8 – Layer of brown soil with small number of stones

9 – Layer of reddish-brown fine-grained compact soil.

South of the basin, in an area situated lower ($h=11.10$ m a.s.l.), remains of five collecting vats were uncovered. The circular vats were constructed of lime mortar directly on the bedrock. Individual basins were situated a few meters apart, in a section about 13 m long. Details of how the vats were structured (in their present poor state of preservation) are limited. They had circular floors/bottoms (about 1.00 m–1.20 m in diameter) with sumps in the center, measuring 17–20 cm in diameter and about 20 cm deep with walls flaring out at an angle of about 60 degrees.

The walls and bottoms of four out of five collecting vats were lined with white tesserae [Fig. 8: Nos 1, 2, 3, 5] of irregular size (about 1.5 cm by 1.7 cm/1.3 cm by 1 cm in size; about 42 tesserae fitting in a surface measuring 10 cm x 10 cm). The bottom of one collecting vat [Fig. 8: No. 4] was covered with pinkish-brown hydraulic mortar. Significant damages to the mosaic floors was observed in all but one of the vats.¹ The remains of white mortar are visible around the preserved fragments of the vat bottoms [see Fig. 3 center right and bottom].

The exact shape and dimensions of these collecting vats, including their original height, cannot be reconstructed. Parallels from southern Phoenicia suggest

¹ A few smaller irregularly-placed openings were situated in the same rocky terrain as the individual collecting vats. These openings were a few meters deep and almost round in section, very much like natural holes observed in rocky coastal areas. They were formed by natural processes of erosion in all likelihood and may have been put to use later.

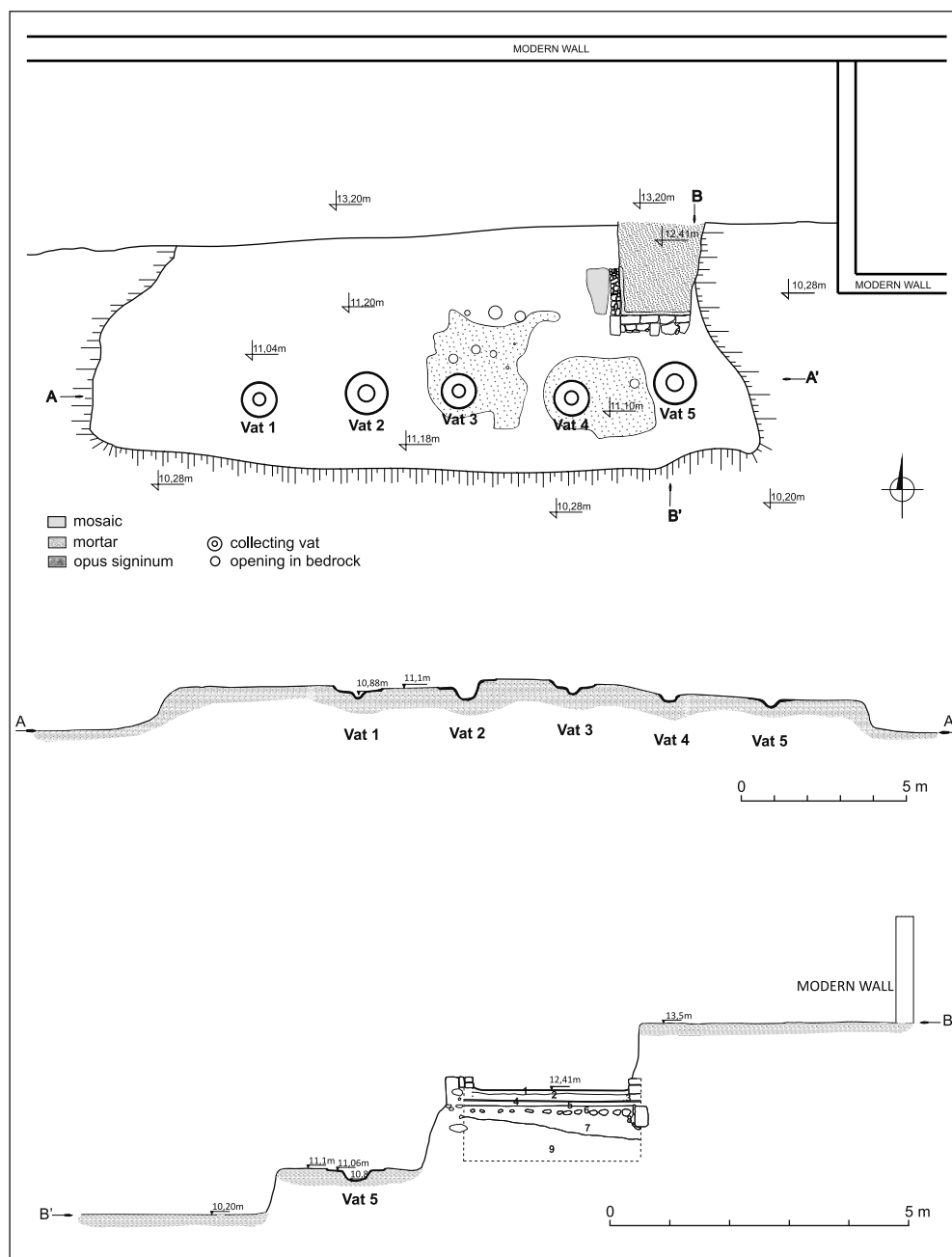


Fig. 2. The site: top, plan; center, E-W section looking north; bottom, N-S section looking west (Drawing S. Lenarczyk, Z. Kowarska)

a depth of about 1.20–1.30 m (see Syon 2009: 35; 'Ad 2011; Haiman 2009; Weksler-Bdolah 2012; Kletter 2010: 174). This estimated depth has been confirmed by the survey data, which has shown the difference between the level of the basin

floor and the bottom of the collecting vat to be about 1.30 m. Despite the lost context, it can be assumed on these grounds that the vats were functionally connected to the basin situated on a higher level [see *Figs 2 bottom, 3*].



Fig. 3. Basin and collecting vats documented in 2012: viewed from the west (top left), east (top right), north (center right) and north (bottom) (Photos Z. Kowarska)



Fig. 4. Basin with mortar floor, view from the north; right, close-up of the southwestern corner with slight ledge (Photos Z. Kowarska)



Fig. 5. Outside face of walls enclosing the basin/room, seen from the southern side (Photo Z. Kowarska)



Fig. 6. Fragment of mosaic floor found west of the room with basin (Photo Z. Kowarska)



Fig. 7. Fragment of a basin floor cut by construction work (Photo Z. Kowarska)

The small mosaic fragment preserved near the wall enclosing the basin from the west turned out to be located about 0.50 m below level of the basin but about 0.80 m above the level of the collecting vats. It may have been associated with the vats or constitutes proof of an earlier phase of usage. Such modifications of an

installation linked to wine production have been observed, among others, in research conducted in Israel (see Syon 2009: 35; Parnos, Milevski, and Khalaily 2010: 49–52).

The sumps in the bottoms of the collecting vats served in all probability to collect the sediment from the product/

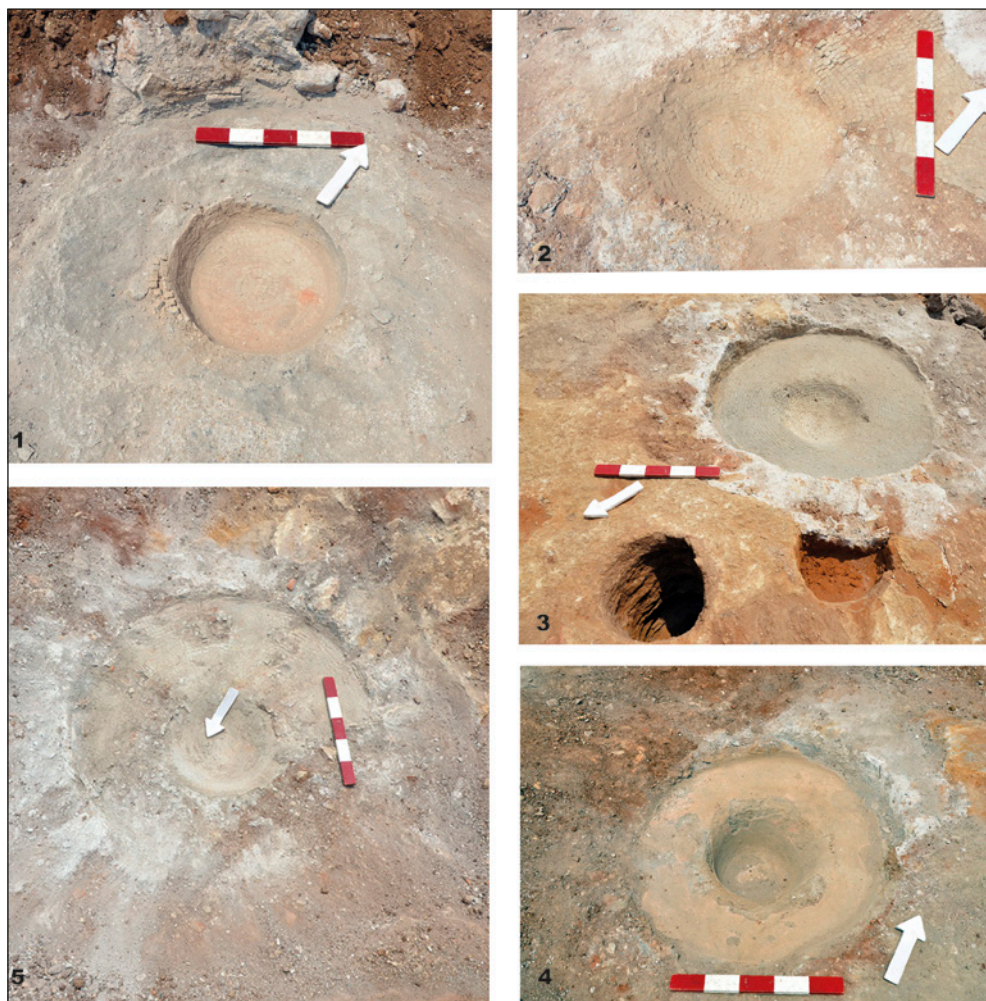


Fig. 8. Collecting vats (clockwise): nos 1, 2, 3, 4, 5
(Photos Z. Kowarska)

liquid. Little more can be said about the function of the complex due to the state in which the features were found and the lack of opportunities for further exploration (the area was destroyed completely by the hotel construction project). However, data collected on numerous analogical structures from southern Phoenicia indicate that the structures in question were part of an installation used for wine production (see below).

Wine production facilities on most of the known sites, as in Israel,² present a range of traits that are repeated from site to site: treading floors/treading vats situated on a higher level and taking on the form of large flat surfaces, usually of a shape similar to a rectangle or square;³ surfaces, often covered with a mosaic, on which the fruit juice would be extruded; this might also have been where the first fermentation process was conducted. Grape juice was directed to narrow distribution vats or directly, through special channels or pipes, to the collecting/fermentation vats situated below, where the fermentation process took place, spices were added, etc.⁴ The collecting vats were also often covered with a white mosaic (see Tepper 2013: Fig. 5; Avshalom-Gorni, Frankel, and Getzov 2008: Fig. 3; Dray 2011; Arbel 2011: Fig. 8; 'Ad 2011: Figs 3, 4, 6;

Haiman 2009; Zissu, Moyal, and Ganor 2009; Avner 2007; Re'em and de Vincenz 2006; Parnos, Milevski, and Khalaily 2010; Kletter 2010; Seligman 2006: 51).

Collecting vats differed in shape, being frequently round (Arbel 2011: Fig. 8; Sion 2012: Fig. 5; Avshalom-Gorni, Frankel, and Getzov 2008: 65, Fig. 8), almost square-shaped (Zissu, Moyal, and Ganor 2009; Thatcher and Gal 2009: Fig. 27, Plan 8), octagonal ('Ad 2011: Figs 3–5; Haiman 2009: Figs 1, 3, 5, 12, 13) or horseshoe-shaped (Zissu, Moyal, and Ganor 2009). Their depth was usually about 1.20–1.30 m (see Syon 2009: 35; 'Ad 2011; Haiman 2009; Weksler-Bdolah 2012; Kletter 2010: 174). The sumps were often furnished with additional round holes in the center, in some cases substituted by a vessel (Tepper 2013: Fig. 5). In the case of some of the larger installations, small stairs or steps led down to the collecting vats enabling the cleaning of the basins (Zissu, Moyal, and Ganor 2009; Parnos, Milevski, and Khalaily 2010: 50–51; Kletter 2010: 174).

Most of the listed features are characteristic of winepresses constructed and used in the late antique period.⁵

In the case of the documented structures, the round bottoms/floors can be interpreted as the remains of collecting

² E.g., Mishmar Ha-'Emeq, Horvat Qastra, Horvat Sumaq, Horvat Siv, Khirbet Deiran, Khirbet Jaladiya, Ashqelon, Negba, Eshtemoa', Haluza, Shivta, Avedat, all in Israel. At the Mishmar Ha-'Emeq site, a large complex of wine production presses was uncovered, described by the excavators as representing the highest stage in the development of this type of presses in Israel during late antiquity, before the Muslim conquest (Avshalom-Gorni, Frankel, and Getzov 2008).

³ The press at the Horbat Siv site is of a unique shape (round treading floor) and unusual dimensions (about 22 m in diameter), but it has not been dated precisely (Sa'id and 'Ad 2011: 68; see Dray 2011: Fig. 1).

⁴ A slightly different opinion concerning the system of wine production is presented by Yehoshua Dray, who emphasizes that not all the installations containing treading floor surfaces and collecting vats were necessarily winepresses (Dray 2011).

⁵ One of the closest analogies geographically for the finds in Jiyeh (Porphyreon) is a large complex of presses, one of the largest from the Israeli area, uncovered at the Achziv site. The large size of the installation suggests extensive wine production in southern Phoenicia during the late Roman period (prior to the end of the 4th century AD when it was most

vats, while the basins (or fragment of mosaic floor) as the remains of treading floors. One of the most similar presses in terms of dimensions was discovered at the Shiqmona site (Kletter 2010: 174). Interestingly enough, pithoi fragments were encountered there inside the press (Calderon 2010: 187, Figs 1.1, 3.27), which would be an analogy to this type of vessels uncovered in large amounts at the Jiyeh and Chhîm sites (Kowarska and Lenarczyk 2012; 2014: 127–128).

Due to the nature of the discovery, it is difficult to determine the chronology of the studied remains. If we take into

account the analogies, the installations documented at Jiyeh probably come from the late antique period. The lack of small finds connected to the stratigraphy of the documented remains signifies that these ideas can be treated merely as hypotheses.

At a distance of about 20 m from the described production installations, in the western section of the north trench wall of the construction dig, one context stood out as containing significant quantities of locally produced pottery [Fig. 9]. The characteristic funnel-shape of the deposit might suggest that it was a post-production



Fig. 9. Deposit of coarse-ware sherds in the north trench wall of the construction dig (Photo Z. Kowarska)

probably abandoned) (Syon 2009: 35). In terms of chronological parallels, there are many sites in present-day Israel associated generally with late antiquity (Avner 2007; Yannai 2009: 52; 2010), or dated more precisely to the 5th–early 6th centuries AD (Arbel 2011), 6th–7th centuries AD (Ad 2011; Haiman 2009; Kletter 2010: 175) or 5th–8th centuries AD (Parnos, Milevski, and Khalaily 2010). According to Weksler-Bdolah, mosaic floors in vats and the presence of beam or screw presses are probably characteristic of installations from the late antique period (Weksler-Bdolah 2012).

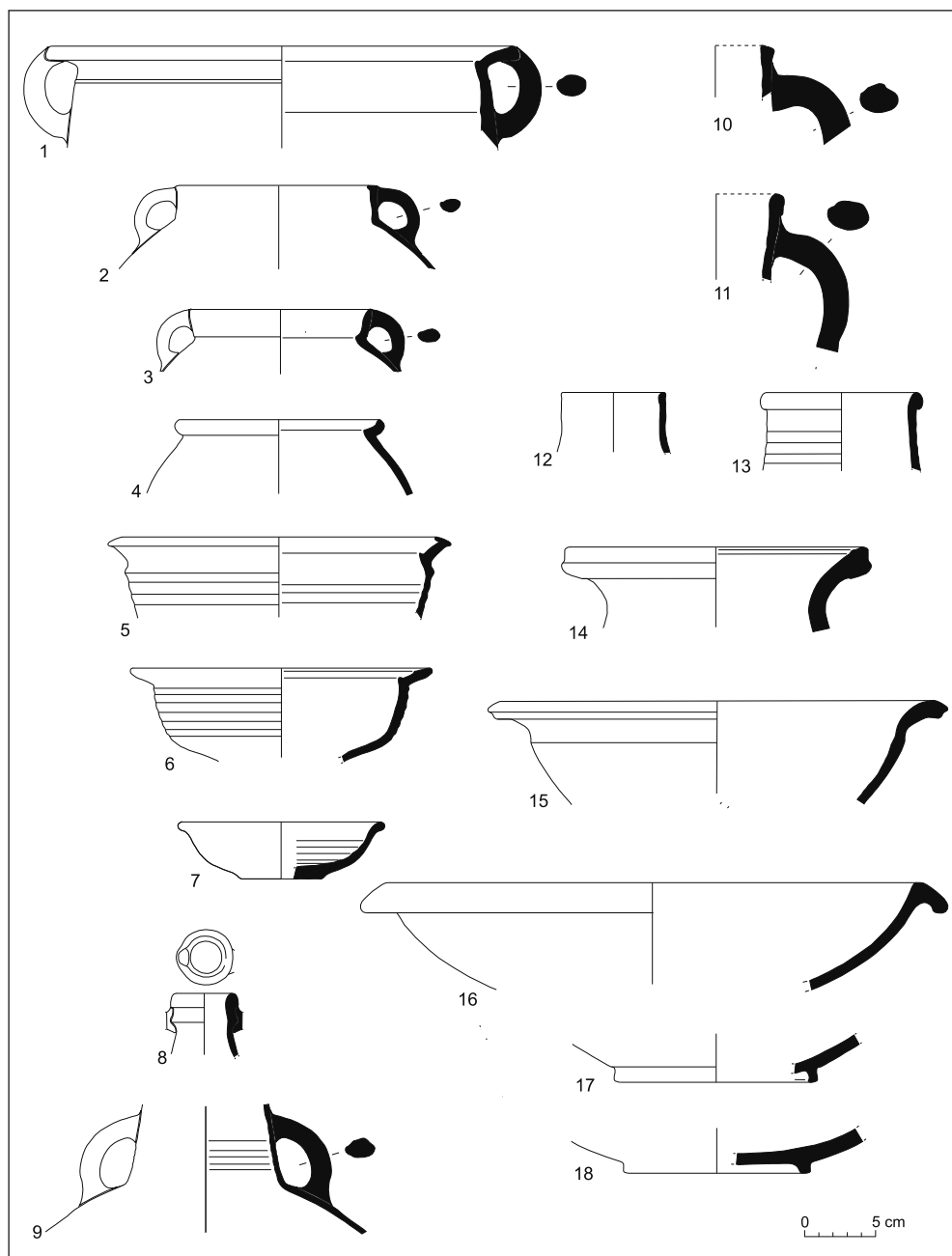


Fig. 10. Examples of pottery vessels found in the north trench wall
(Drawing A. Dzwonek; digitizing Z. Kowarska)

chute or levelling layer. It extended over a distance exceeding a dozen meters and the thickness was up to 2.50 m. Diagnostic vessel fragments were sampled, about 20 sherds, the aim being to identify and characterize the archaeological material from this area.

The initial inspection of the material indicated that the layer may have been connected to the production area from the survey conducted by Polish archaeologists in 2004, and that the material is analogical to the finds documented at that time. The described collection of vessel fragments consisted of a large amount of wasters (appropriate in the case of a production area) and fragments of kitchen ware and amphorae produced in local workshops during the late Hellenistic and early Roman periods (Wicenciak et al. 2003; Domžalski

et al. 2005; Waliszewski et al. 2006: 51–66; Wicenciak 2013; 2014). Some exemplary forms of vessel types not encountered earlier at Jiyeh are illustrated here [Fig. 10:2, 12]. Both in terms of the fabrics and forms (pots, casseroles, *lekanai*, bowls, pot stands, pilgrim flasks, amphorae), this material does not differ significantly from the finds discovered a few years earlier.

While it was impossible to connect the items from the north trench wall unequivocally with the production installations located in the western part of the dig, it is more than likely that the installations were in use during the late antique period.

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