

# Excavations in the northern and eastern parts of the Byzantine town at ‘Marea’



**Abstract:** The ‘Marea’ project of the University of Warsaw expanded the program to survey and excavate in the northern and eastern parts of the city in order to establish the character and chronology of the structures there. The eastern waterfront was uncovered, along with the adjacent latrines, streets and buildings, which are presumed to be residential. The structures which were examined were very regularly formed and involved large-scale earthworks. They were built no earlier than the mid-6th century AD, and, although their purpose sometimes changed, they remained in use until about the mid-8th century AD. Accumulations of Roman, Byzantine and early Islamic date were discovered, including the oldest remains this season, that is, a row of locally-manufactured amphorae serving an unexplained purpose.

**Keywords:** Egypt, Roman/Byzantine/early Islamic, architecture, amphorae, terracotta figurine

The Byzantine town located at the site of ‘Marea’ (in the northern part of the modern village of Hawwar-iyā) was an important stopover for pilgrims traveling from Alexandria (which is about 40 km north of the town) to the shrine of Abu Mena (17 km further south), starting from the 5th century through the first half of the 7th century AD.<sup>1</sup> A ground survey of the

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1 The identification of the ancient name of this site is still under discussion. See Rodziewicz 2003: 27–38; Wipszycka 2012.

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The area of the Basilica continued to be excavated by Dr. Krzysztof Babraj and his team from the Archaeological Museum in Kraków in cooperation with the PCMA UW within the frame of the extended Marea project.

site indicated that at the peak of its development the city occupied an area of about 13 ha. Archaeological research initiated in the 1970s led to the discovery of numerous buildings (a church, a house, a mill, two bath complexes, latrines, a sepulchral chapel and buildings assumed to be workshops) (Babraj and

Szymańska 2008 with further references) [Fig. 1]. However, the bulk of the buildings on site have not been recognized in terms of form, function, and date of construction and abandonment. The research program commenced last year (see Gwiazda and Pawlikowska-Gwiazda 2019) aims at reconstructing the topography of the

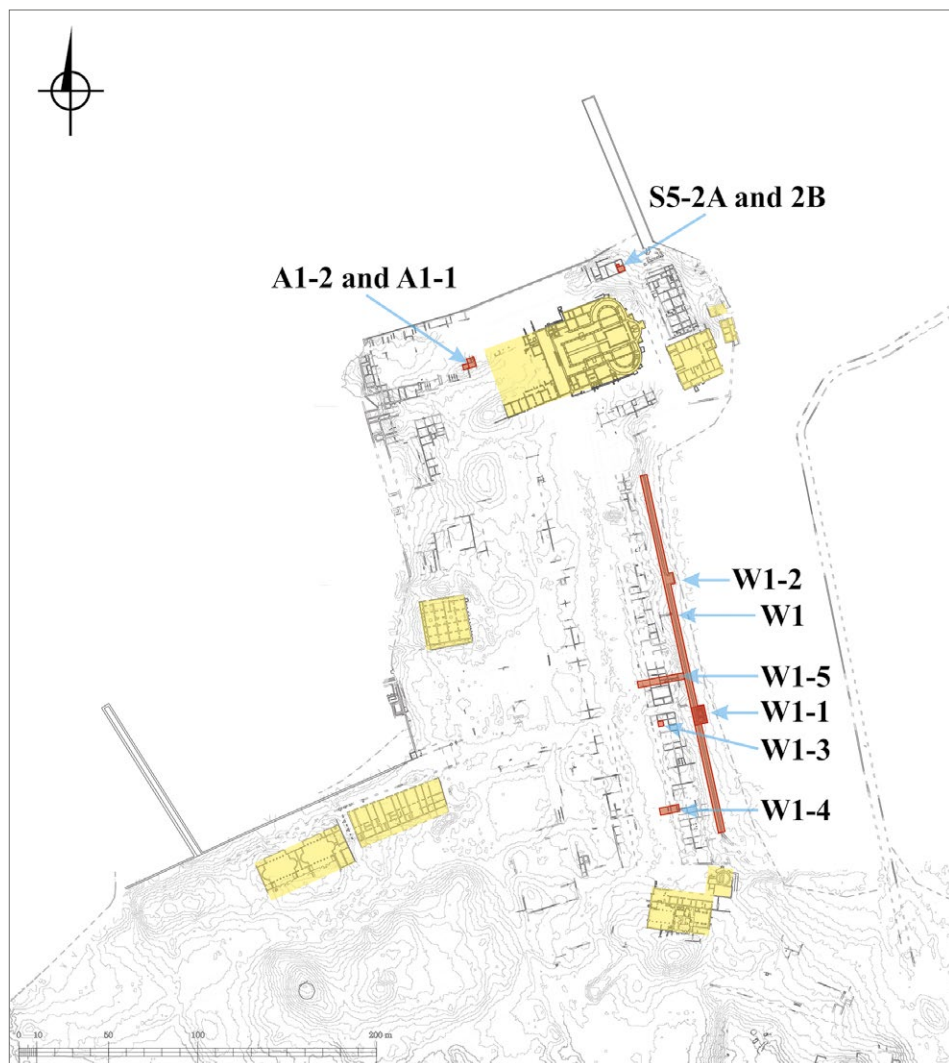


Fig. 1. Site plan marking buildings and trenches investigated in 2019; in red, structures studied in 2018, in yellow, structures from previous seasons (University of Warsaw Faculty of Archaeology Marea Project | drawing A. Kutiak, W. Małkowski, processing M. Gwiazda)

town in areas that were not previously investigated. A second objective is to establish building histories and functions. In 2019, nine large-area trial trenches were

opened in the northern and eastern parts of the site, contributing a considerable body of data on site topography and the date of individual structures.

## TRENCH EXCAVATIONS

### 1.1 AREA S5

Building S5 is located north of the transept of the Great Basilica explored by the Polish mission in a recent season [see Fig. 1], directly next to where one of the quays let off onto land. Clearing of the wall tops in the previous season gave a rough idea of the building plan. Two rooms on the eastern side, S5/2A and S5/2B, were excavated, uncovering a row of amphorae set upside down in vertical position in the southern part of room S5/2A (Derda, Gwiazda, and Paw-

likowska-Gwiazda 2020, in this volume) [Fig. 2]. A floor of small limestone slabs was discovered in the other chamber.

A trial trench (1.10 m by 1.20 m) was excavated under the pavement in the southwestern corner of room 2B, the objective being to examine the foundations. A *terminus a quo* for the floor construction was provided by one of the coins from the bedding layer; it was identified as a Byzantine issue (late 5th through first half of the 7th century AD). The layer also yielded amphorae of



Fig. 2. Row of amphorae in room S5-2A, view from the north (University of Warsaw Faculty of Archaeology Marea Project | photo A. Pawlikowska-Gwiazda)



Fig. 3. Finds from the 2019 season: 1 – resin (Trench S5-2A); 2 – mould (Trench A1-2); 3 – fragment of inscription on plasterwork (Trench A1-2); 4 – terracotta figurines (levelling layer in Trench W1-5); 5 – plaque depicting a reclining woman (levelling layer in trench W1-5) (University of Warsaw Faculty of Archaeology Marea Project | photos T. Derda)

Byzantine date: LRA 1 and 3, and AE 5/6 (Pieri 2005: 67–84, 94–100; Dixneuf 2011: 142–153) and a few residual fragments of AE 3 and LRA 4.1 from the Roman period (Dixneuf 2011: 97–128). The lattermost type is found usually in deposits dating to the 2nd century AD (Pichot and Şenol 2015: 279–282). The bedding layer was laid directly on bedrock and examination of the foundations of the south and west walls of the room indicated that they had also been constructed on bedrock. The trench was backfilled and the slab floor was reconstructed.

The amphorae that had been discovered in Room 2A, eight altogether, formed a row almost 2 m in length [Fig. 2]. The row may have been longer toward the east where it was cut by the foundation trench for the east wall of Room 2A. The vessels were placed neck down, the bottoms and lower bodies damaged. They belonged to a phase preceding the construction of Building S5 and were disturbed by it.

The amphorae were identified as type AE 3, which was known to have been produced in 'Marea' (Gwiazda and Wielgosz-Rondolino 2019). The layer yielded over 200 fragments of LRA 4.1 amphorae as well as lumps of resin [Fig. 3.1] used to impregnate clay containers.<sup>2</sup> Resin was used to waterproof the AE 3 and 4 vessels produced in 'Marea'. The amphorae were probably used to store wine produced in the Lake Mareotis region (Abd el-Ghani 2010: 4–5). Determining the function of

this row of neck-down amphorae requires further study.

No trace of the Byzantine flooring was recorded, presumably because of the well-documented practice of salvaging and reuse of floor elements in the early Islamic period (Gwiazda and Wielgosz-Rondolino 2019). Coins recorded from the overlying fill layers, interpreted as tamped earth floors, were identified as Byzantine and early Islamic issues, suggesting the ultimate abandoning of the structure in the 8th century AD.

## 1.2 AREA A1

Area A1 is located directly west of the northern row of rooms lining the atrium of the Great Basilica [Fig. 4; for the location, see Fig. 1]. Two trenches were excavated, A1-1 on the east (2.45 m by 3.00 m) and A1-2 on the west (3.20 m by 4.00 m), separated by a baulk. The layout of the trenches took into account walls visible on the ground.

### 1.2.1 Trench A1-1

Orange-brown colored sediment not exceeding 0.25 m in thickness covered bedrock, which was found to slope down gently to the south. A layer of soil with large amounts of cockle shells (*Cerastoderma edule*) [Fig. 5] was unearthed above it. Shells of this kind are found in 'Marea' in large quantities, mixed into hydraulic mortar applied in Byzantine construction.<sup>3</sup> They were also used to temper the clay from which amphorae were produced on-site in the Roman period (Gwiazda

2 The same set of artifacts was found at the nearby Akademia site, 2 km southeast of 'Marea', where AE 3 and AE 4 amphorae were manufactured in the Roman period (Pichot and Flaux 2015).

3 Also noted in the southern thermae (Szymańska and Babraj 2008: 28) and in the tank near the *saqia* in the western part of the site (personal observation).

and Wielgosz-Rondolino 2019). The deposit in trench A1-1 did not yield any diagnostic dating material, precluding any advocating of a reliable link between this discovery and the possible applications cited above.

A foundation trench for a wall cut through the layer with shells at the northern end of the trench. The fill contained fragments of LRA 1, 4 and 8 amphorae (Pieri 2005: 67–84, 101–113, 132–136), which indicates a *terminus a quo* in the Byzantine period for the erection of this structure. Patches of a mortar floor were observed adjacent to the north wall and in the southern part of the trench. The center part was completely destroyed by construction work in the next building phase.

An installation of pseudo-ashlars and a reused column shaft bonded in pink, hydraulic mortar cut through the earlier mortar floor [Fig. 6]. It was 0.80 m wide and it followed a line parallel to the north and south walls. No continuation of this installation was found on the western side, but it was visible in the eastern baulk.

The fill covering this installation contained a Byzantine coin and sherds of amphorae dating to the same period. This fill was sealed by the well-preserved mortar floor of a rectangular room, which was traced on the ground surface. The floor was attached to the walls on the southern and eastern sides, and also partly on the northern side; to the west it was continued in the adjacent trench A1-2 (see below). A doorway in the north wall of

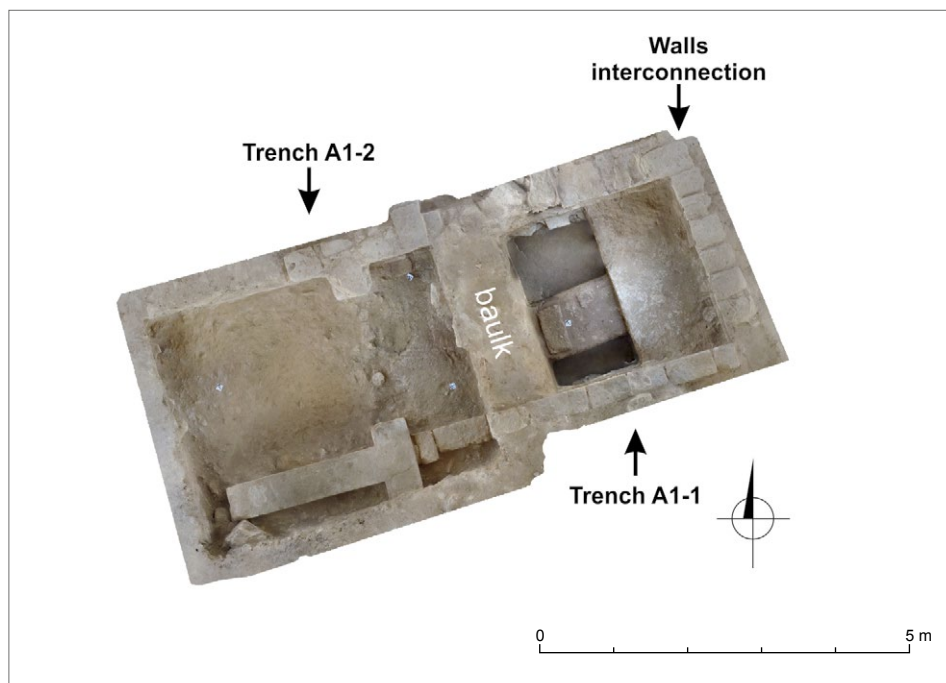


Fig. 4. Trenches A1-2 and A1-1 (University of Warsaw Faculty of Archaeology Marea Project | orthophoto M. Gwiazda)

room A1-1 was walled up at an unspecified time while the room was still in use [see Fig. 6].

The north wall was interlaced with a wall from the western part of the atrium of the Great Basilica [see Fig. 4], showing that this structure was contemporaneous with the construction of this part of the church. The south wall in the trench was not interconnected; it was probably a partition wall built later than the other walls, although during the same building phase.

The tumble of broken limestone pavement slabs (0.45 m thick) lying directly

on the mortar floor was either the floor of an upper room or a flat roof. Broken slabs from damaged roofs were also found in House H1 east of the Great Basilica.

The room ceased to be used in the 7th or 8th century as suggested by sherds of AE 8 amphorae, the production of which is confirmed in Egypt at this time (Dixneuf 2011: 178–179). The *terminus a quo* is supported by the discovery, in the layer with the broken floor slabs, of a bronze coin of Phocas (AD 602–610).

The topmost layer of rubble in this trench came from tumbled walls and consisted mainly of pseudo-ashlars and



Fig. 5. Cockle shells (Trench A1-1) (University of Warsaw Faculty of Archaeology Marea Project | photo A. Pawlikowska-Gwiazda)





Fig. 6. Trench A1-1, looking north; scale 0.50 m (University of Warsaw Faculty of Archaeology Marea Project | photo A. Pawlikowska-Gwiazda)



Fig. 7. Floor in Trench A1-2, looking north; scale = 1 m (University of Warsaw Faculty of Archaeology Marea Project | photo T. Barański)

crushed mortar. It also included two limestone column shafts and an ashlar with openings cut for wooden beams.

### 1.2.2 Trench A1-2

A continuation of the structure from trench A1-1 was discovered in this trench, the mortar floor being associated with two parallel walls oriented east–west. Opposite pillars could have borne an arch supporting the vault. The section on the eastern side was connected with the room uncovered in trench A1-1. The limits of the western section were not determined. A doorway in the south wall of the eastern section was blocked with ashlar in a later phase. Another doorway could have existed in the western part of the same wall.

A hearth was discovered in the north-eastern part of the trench, dug into the mortar floor [Fig. 7]. It contained post-consumption waste, namely animal bones. The floor surface in the western

section was severely worn due to heavy use. A coin from the Umayyad period suggests a *terminus a quo* for the abandonment of the room (around the end of the 7th or 8th century AD).

Wall collapse, continued from trench A1-1 (see above), filled the room, lying directly on the mortar floor. Apart from pseudo-ashlars, the debris included fragments of plasterwork with Greek inscriptions carved in the still wet surface and painted red [Fig. 3.3]. A limestone column coated with plaster was also found with single letters scratched into it. Broken pavement slabs, like those from trench A1-1, lay in the lower part of the destruction layer [Fig. 8].

The tumble was covered with a layer of silt and ash, approximately 0.50 m thick, containing the remains of a dismantled furnace, some waste related to glass production and two molds [Fig. 3.2]. Large quantities of AE 7 amphora sherds and broken ventilation pipes usually used



Fig. 8. Fragments of limestone floor slabs (Trench A1-2) (University of Warsaw Faculty of Archaeology Marea Project | photo T. Barański)

in baths were also found (Szymańska and Babraj 2008: 30, Photo 16). This varied set of artifacts suggests that it was a rubbish dump.

### 1.3 AREA W1

Excavation in the eastern waterfront area, between the Great Basilica and the southern bath [see Fig. 1], included one big trench (W1-5) and three trial pits (W1-1, W1-3 and W1-4). Four features were investigated: a straight wall forming the waterfront (W1), a street with a row of buildings along it, and a street on the western side of this area.

#### 1.3.1 Waterfront (W1) and latrines (W1-1 and W1-2)

The waterfront structure was cleared of vegetation and wind-blown sediment in order to investigate its full length. It consisted of a row of pseudo-ashlars, varying in thickness from 0.60 m to 0.93 m, and bonded in pink hydraulic mortar [Fig. 9].

The structure started in the northwest and ran southeast in a straight line for over 200 m, then turned west to avoid the *saqia* near the southern bath. It may have then joined the Roman causeway, located about 80 m further east and parallel to the waterfront W1 (Pichot 2010: 58) [see Fig. 1]. Together they would have formed an artificial bay in the eastern part of 'Marea'.

Two structures of limestone pseudo-ashlars joined the waterfront on the east, located about 70 m apart [see Fig. 1]. Both were identified as latrines. The southern one (W1-1) was made up of two platforms [Fig. 10]. They were surrounded by sewage channels discarding waste directly into the lake. Testing under the northern platform revealed the foundations of this building. The associated fill contained, among other things, fragments of LRA 4.4 amphorae, the production of which is dated no earlier than the second half of the 6th century AD (Maj-



Fig. 9. Waterfront wall W1, looking south; latrine W1-1 on left (University of Warsaw Faculty of Archaeology Marea Project | photo M. Gwiazda)

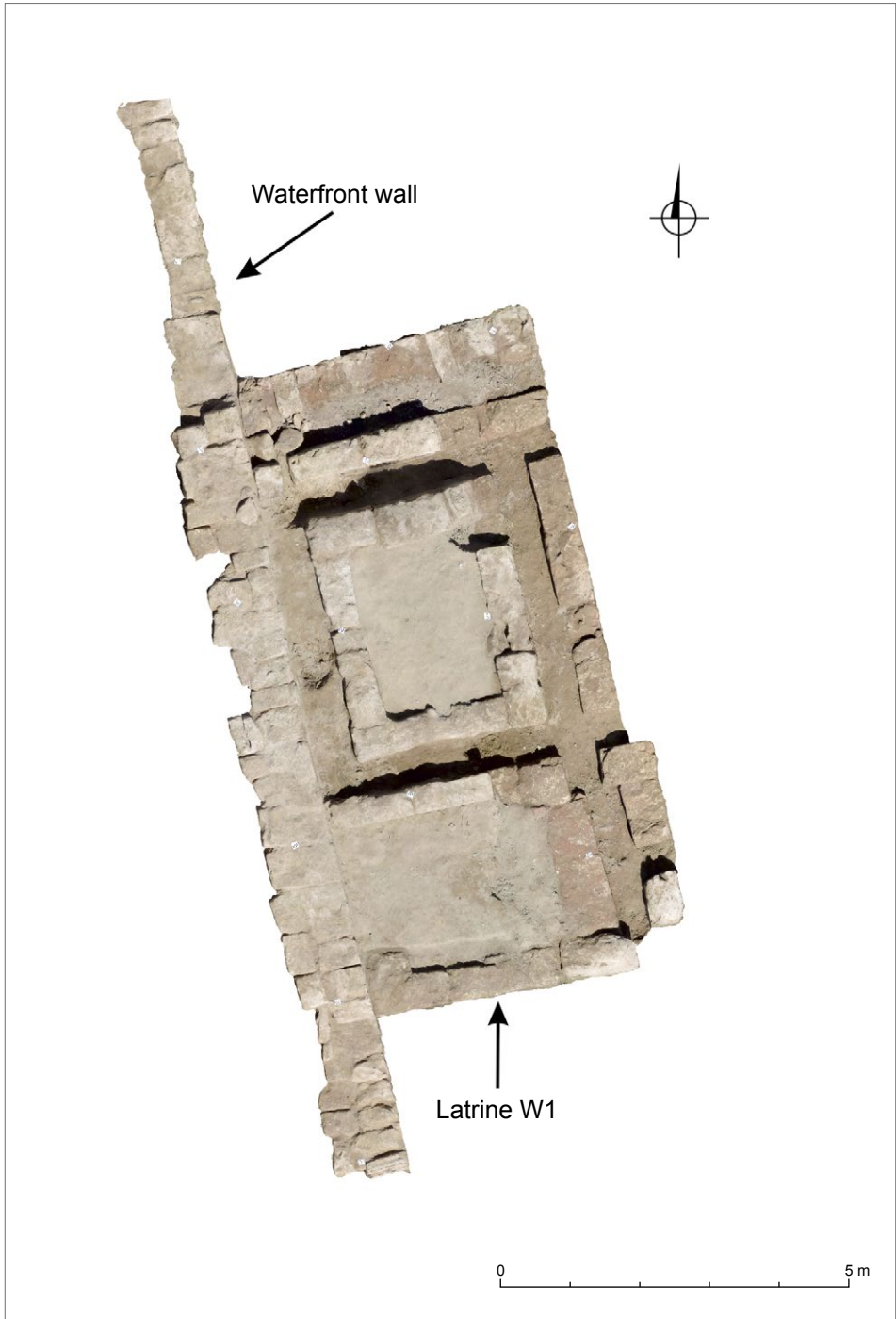


Fig. 10. Latrine W1-1 (University of Warsaw Faculty of Archaeology Marea Project | orthophoto M. Gwiazda)



Fig. 11. Fish remains found on a fragment of an amphorae (University of Warsaw Faculty of Archaeology Marea Project | photo A. Panic)

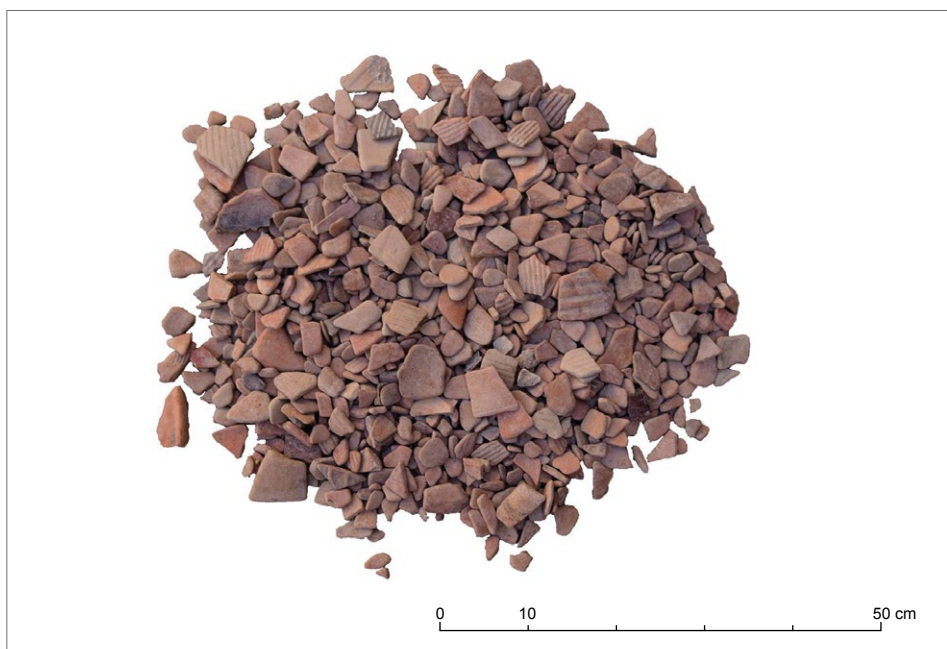


Fig. 12. Pottery sherds with rounded edges found by the east wall of Latrine W1-1 (University of Warsaw Faculty of Archaeology Marea Project | photo J. Cano)



Fig. 13. Waterfront W1 (crossing the trench in the foreground), western street surface and house architecture, looking west (University of Warsaw Faculty of Archaeology Marea Project | photo M. Gwiazda)

cherek 1995: 169; Pieri 2005: 101–111), and sherds of Late Roman D Ware (Form 9A–B, Hayes 1972: 382), also dated after the second half of the 6th century AD. Construction-wise, the latrine is younger than the waterfront itself, since the two structures were not interconnected. The northern structure (W<sub>1-2</sub>) was smaller in size. It was not excavated more extensively.

A concentration of ceramic fragments with rounded edges was found outside the northern part of the east wall of latrine W<sub>1</sub> [Fig. 12]. A similar concentration of ceramic fragments was noted by a wall of House H<sub>1</sub>, east of the Great Basilica, the outer face of this wall also being oriented toward the lake (Gwiazda and Pawlikowska-Gwiazda 2019). Bearing in mind the fact that some fragments bore mortar traces on their surface, it is possible to assume that they were somehow used to finish the external faces of the walls. Nevertheless, only further discoveries of this kind can actually confirm this idea.

The upper parts of the walls, the seats and platform floors of both latrines were robbed at some point. Following on this event, the area of the Latrine W<sub>1-1</sub> (but not W<sub>1-2</sub>) started to be used as a rubbish dump. The layer reached 0.40 m at the thickest, becoming shallower toward the east. The assemblage included many sherds of kitchenware, tableware (Aswan) and amphorae. The latter category included imported LRA 1, 4 and 8 vessels, along with AE 5/6, 7 and 8 containers made in Egypt. A broken amphora of the AE 5/6 type was found to contain many fish bones [Fig. 11], implying use

of amphorae for the preparation of fish products (e.g. *garum*, *salsamenta*, etc.).<sup>4</sup> Fragments of more than 800 glass bottles and flasks were found concentrated in the southeastern corner of the structure. Also recorded were three ceramic incense burners with sooting, fragments of terracotta figurines made in Abu Mina (camel, pregnant woman, male head), animal bones, and mussel and snail shells. The rubbish must have come from nearby (see below) and it started to be deposited here not earlier than in the end of the 7th century or the first half of the 8th century, as suggested by an Umayyad coin in the assemblage.

### 1.3.2 Trench W1-5

In the eastern part of the trench, both sides of the waterfront were explored. The western face, unlike the eastern one, was made of stone material that was irregular and unplastered, which is understandable if one assumes that it was hidden from view by intentionally accumulated fill to raise the ground level. The layer was composed of sediments with large amounts of slag from unidentified production [Fig. 14 bottom; layers W<sub>1-5-16</sub>, 18, 19 and 25]. Pottery from this deposit included sherds of African Red Slip Ware Form 97 (dated AD 490–550, Hayes 1972: 151), Late Roman D Ware Form 9A–B (AD 550–700, Hayes 1972: 382), and LRA 4.4 amphorae (Majcherek 1995: 169; Pieri 2005: 101–111). These finds suggest that the waterfront and the adjacent street, like the southern latrine W<sub>1-1</sub> (see above), were constructed after the second half of the 6th century AD.

4 On fishmeal production involving reused wine amphorae, see Van Neer et al. 2007.

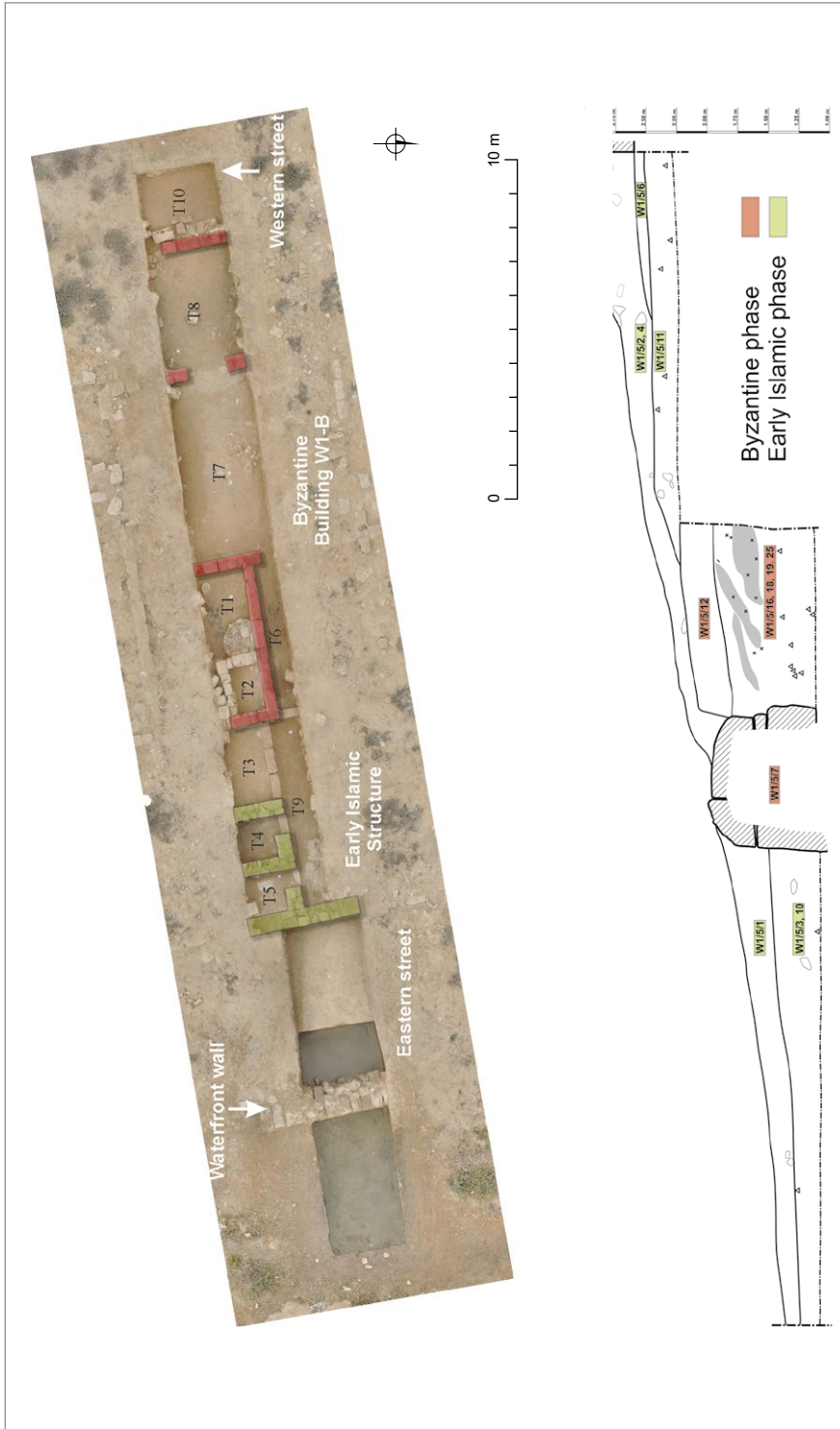


Fig. 14. Trench W1-5 (University of Warsaw Faculty of Archaeology Marea Project | orthophoto M. Gwiazda); southern section of the western part (University of Warsaw Faculty of Archaeology Marea Project | drawing M. Gwiazda)



A street was traced west of the waterfront, running parallel to it. The levelling layer under the street yielded a few broken terracotta figurines, which were produced at Abu Mina from the end of 5th century to the first half of the 7th century AD (Kaminski-Menssen 1996: 115, 153–154) [Fig. 3:4]. Another interesting find was a bone plaque, probably attached to a wooden chest, depicting a naked, reclining woman, possibly a Nereid [Fig. 3:5]. Iconographic motifs of this kind were popular in Alexandria in the late Roman and Byzantine period (Rodziewicz 2007: 71–73). The street surface, noted east of the east wall of Room T5, was of tamped sand and silt [Fig. 14, 16; see also Fig. 13]. Two levelling layers were recorded on the street surface; one contained slag and was identical with that unearthed under room T3 [see Figs 15, 16].

The Byzantine building W1-B adjacent to that street was composed of three rows

of rooms, with the walls made of pseudo-ashlars bonded with mortar. A transverse vestibule (T8) was situated west of it and beyond that a space of considerable size, most probably a courtyard (T7). At least two narrow rooms (T6 and T1–T2) were located east of the building.

The foundations and underlying strata were examined in a trial pit by the south baulk in unit T8 and in another pit in T3. A layer of dense sand and silt was found in both trial pits. It was used to backfill the foundation trenches of the walls of Building W1-B. This layer produced a fragment of a St Menas ampulla and a small number of broken nummulithic limestone chunks imported to ‘Marea’ from other parts of Egypt to produce architectural elements like socles and pillars. The discovery proves that this was a man-made layer, something also confirmed by the fact that the layer partly covered the top

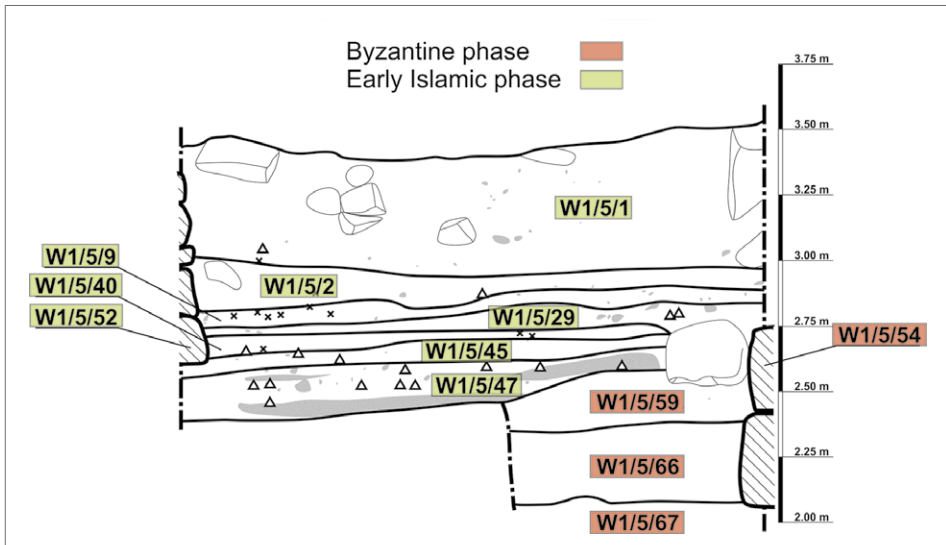


Fig. 15. Room T3, southern section (Trench W1-5) (University of Warsaw Faculty of Archaeology Marea Project | drawing M. Gwiazda)

of a wide wall foundation in the western part of the trial trench in T8. This deposit was at least 1 m thick, but it was not possible to examine its lower part due to the high level of groundwater. A set of 14 Byzantine coins was spotted in the grouting between some pseudo-ashlars of the foundation wall in the eastern part of T8. The coins were illegible, but coins of similar diameter and weight are dated between the end of the 5th century AD and the beginning of the 7th century AD. The assemblage also included a coin substitute, that is, a disk made of lead (for coin substitutes of this kind, see Bijovsky 2012: 44, 128). Such *monnaies de nécessité* were included in the hoard discovered by the wall of House H1, along with coins from the 5th and 6th century AD (Gwiazda and Pawlikowska-Gwiazda 2019). This find suggests a chronology of the foundation

of Building W1-B around this date, definitely not earlier.

Under T3, a levelling layer (W1-5-47) with large quantities of slag from an unknown source was deposited on the previous occupation level (as in the eastern street) prior to building the first wall. It was subsequently covered with another layer (W1-5-45) [see Fig. 15]. A corresponding layer on the western street yielded a fragment of an AE 8 amphora dated no earlier than the 7th century AD. This find suggests that the structure made of broken limestone east of Building W1-B was built in the same century or the next. The east wall of T3 was constructed of broken limestone directly on top of these levelling layers. It turned out that the foundation of the east wall (W1-5-54) was deeper than that of the west wall (W1-5-52) [Fig. 15]. Corresponding to these structures was another tamped earth surface.



Fig. 16. Wall of Room T5, looking west; note levelling layers underlying the feature; scale = 1 m (Trench W1-5) (University of Warsaw Faculty of Archaeology Marea Project | photo M. Żmuda)

Remains of walls from the early Islamic period were traced in the central part of trench W<sub>1-5</sub>. They were attached to the eastern face of Building W<sub>1-B</sub>: T<sub>3</sub>, T<sub>4</sub>, T<sub>5</sub> and T<sub>9</sub> [Fig. 14]. The structure was built using a novel technique: broken limestone, sized approximately 0.20 m across, with no regular row-based arrangement, bonded probably with mud, no trace of which has survived. Thinner limestone ashlar structures, found between these walls, were probably low partitions separating particular sections of this building. All the uncovered rooms had a tamped earth floor. Additionally, part of the floor in room T<sub>5</sub> was paved with a large reused marble slab.

No installations were discovered on the tamped earth floor of the alleged courtyard T<sub>7</sub>. In turn, the northern side of the trench revealed a concentration of marble tiles; the thickness of these slabs (approximately 0.25 m) suggests that they were part of a larger marble pavement broken and were simply left there. In room T<sub>6</sub>, located further east, the tamped earth floor level revealed a concentration of ash in its central part. An Umayyad coin was also found, implying that this building was used in the early Islamic period. In the adjacent room T<sub>1</sub>, a small compartment (T<sub>2</sub>) was attached to the walls of room T<sub>1</sub> [Fig. 14]. It was empty, hence its function remains unknown. Adjoining it on the west was a circular platform of fired bricks and a stone slab, its base approximately 0.20 m above the tamped floor level. A concentration of ash and kitchenware sherds was discovered nearby.

The meter-thick accumulation of layers sloping down from the eastern face of the waterfront (investigated at the eastern end of the trench) (layers W<sub>1-5-1,3,10</sub>) also appears to be waste dumped beyond the wall, probably in the early Islamic period.

At the western end, an early Islamic street was found west of Building W<sub>1-B</sub>. The street surface was covered with debris from the west wall of this building [Fig. 14, T<sub>10</sub>]. At the other end of the trench, the early Islamic level of the eastern street was also buried under debris, which formed after the town was deserted.

### 1.3.3 Trench W<sub>1-3</sub>

Trench W<sub>1-3</sub> was opened to explore Building W<sub>1-A</sub> located south of trench W<sub>1-5</sub> and west of latrine W<sub>1-1</sub> [see Fig. 1]. It was located in the northwestern corner of the alleged courtyard of a complex of rooms that was arranged in a manner similar to that found in the western part of trench W<sub>1-5</sub> (T<sub>1</sub>, T<sub>2</sub>, T<sub>6</sub>, T<sub>7</sub>, and T<sub>8</sub>). However, the registered sequence of layers is slightly different from that recorded in Building W<sub>1-B</sub> (see above).

The excavation reached a depth of 2 m below the ground surface, where it was interrupted without reaching bedrock because of a high groundwater level. The lowest investigated layers were interpreted as levelling layers, which yielded sherds of LRA 1 amphorae, suggesting that the building was not erected before the Byzantine period. The foundation trench of the north wall cut through these layers and was filled with ash and residual fragments of locally manufactured AE 3 and AE 4 amphorae. A similar practice

of reusing Roman pottery production waste to fill in foundation trenches of Byzantine buildings was also confirmed in other parts of the site (Derda, Gwiazda, and Pawlikowska-Gwiazda 2020, in this volume). A deposit of ash and broken Roman amphorae, which had not been

used to fill the trench, was unearthed next to the upper part of the trench.

A doorway was located in the southern part of the west wall. A small section of the paving made of reused limestone slabs and fired bricks was found in the threshold; the rest of the floor was made



Fig. 17. Deposit of LRA 4 amphorae, looking north; scale = 1 m (Trench W1-3) (University of Warsaw Faculty of Archaeology Marea Project | photo T. Barański)

of tamped earth. Two thin walls raised on this floor level formed a rectangular pen abutting the north and west walls of the courtyard. Seven complete LRA 4.4 amphorae, laid close together on their sides, were found inside [Fig. 17].

A set of two tamped earth floors sealed this occupation layer and the amphora deposit. The upper floor yielded three Umayyad coins and the remains of a hearth by the north wall.

A sterile stratum, 0.25 m thick, covered the ruins after the building was ultimately abandoned.

### 1.3.4 Trench W1-4

The trench was opened west of the central part of Building W<sub>1</sub>-A [see Fig. 1]. It encompassed a street to the west and a narrow vestibule adjacent to it. A layer

of sand mixed with silt and lenses of slag from an unknown source were discovered under the first street surface, corresponding in its characteristic to other levelling layers underlying Byzantine-age buildings W<sub>1</sub>-A and W<sub>1</sub>-B, and the waterfront wall. The street surface itself was made of crushed lime or gypsum mixed with soil [Fig. 18, layer W<sub>1</sub>-4-25]. Subsequent street levels uncovered in the trench were non-hardened dirt surfaces, altogether nine surfaces counting the different colors of the soil. The overall thickness, although not uniform and decreasing towards the wall of Building W<sub>1</sub>-A, did not exceed 0.25 m. The layers resulted from a makeshift deposition of small amounts of waste and natural windblown sediments.

Remains of another floor made of reused limestone slabs were found west

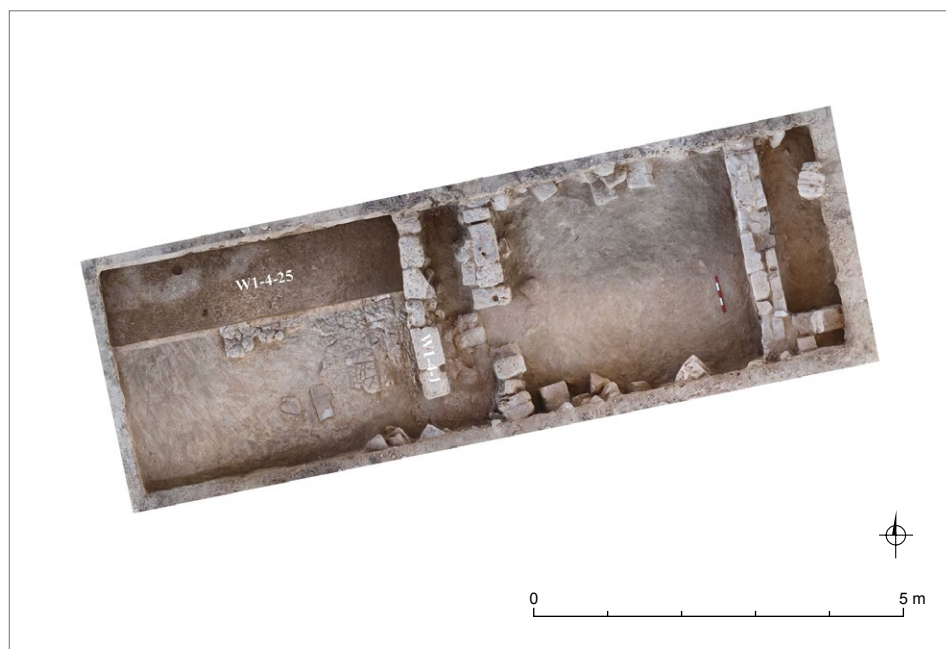


Fig. 18. Street and building W<sub>1</sub>-A (Trench W1-4) (University of Warsaw Faculty of Archaeology Marea Project | orthophoto D.F. Wieczorek)

of the wall of Building W<sub>1</sub>-A. This is the first instance of a street surface of such fine quality in 'Marea'; in all of the other cases, crushed lime or gypsum was used for tamped-earth street surfaces (Gwiazda and Pawlikowska-Gwiazda 2019; Derda, Gwiazda, and Pawlikowska-Gwiazda 2020, in this volume). A makeshift wall appears to have screened the entrance to Building W<sub>1</sub>-A, set approxi-

mately 0.50 m away from the wall façade [see Fig. 18, wall W<sub>1</sub>-4-1].

The remains of a disintegrating wall were found inside the building and on the latest street surface. These layers were dated by sherds of AE 8 amphorae and three Umayyad coins, which provided a *terminus a quo* for the abandonment of this part of the site in the early Islamic period.

## CONCLUSIONS

Excavations in 2019 were extended beyond the northeastern promontory to gain a better understanding of the diverse stratification and occupation history of the eastern part of the Lake Mareotis shoreline.

Occupation levels dated to the Roman period (trench S<sub>5</sub>-2A), later built over in Byzantine times, have been recorded in the northern part of the settlement. Investigation of the eastern waterfront (trenches W<sub>1</sub>-3 and W<sub>1</sub>-5) did not reveal any evidence of structures erected earlier than the Byzantine period. It suggests that Roman-period settlement was probably limited to the northern part of the 'Marea' promontory, to the site of the Byzantine Great Basilica later built in this place; habitation has also been confirmed on an island located about 300 m northeast of the promontory (Pichot 2010). Pottery kilns and amphorae production waste are proof that these containers were being produced at the site in the Roman period (Gwiazda and Wielgosz-Rondolino 2019).

The settlement expanded considerably in the Byzantine era. As indicated by the excavation results, numerous new

structures like streets, residential buildings, public latrines and over 200 m of the waterfront, were built at this time. The regular layout of the buildings points to a centralized investment strategy. In some cases, construction projects entailed large-scale earthworks aimed at levelling the area under new building (trenches W<sub>1</sub>-3, W<sub>1</sub>-4 and W<sub>1</sub>-5).

Habitation was proved to continue until the beginning of the early Islamic period in most of the areas investigated this season (see also Gwiazda and Wielgosz-Rondolino 2019). In Trench W<sub>1</sub>-5, clear indications were found of organized construction activity, entailing new buildings being added to older ones (W<sub>1</sub>-B). At the same time, there is evidence of some of the Byzantine structures (Latrine W<sub>1</sub>-1) being abandoned or destroyed. Makeshift rubbish dumps appeared in various places within the town. Rooms started to be used in different ways. In trench W<sub>1</sub>-3 at least three successive occupation levels were registered, which did not find corresponding levels in the western part of trench W<sub>1</sub>-5. The dynamics of habitation in different parts of 'Marea' were obviously

changing over time. No Abbasid coins were found during the 2019 excavation season, confirming earlier assumptions

that the town was abandoned around the mid-8th century AD (Gwiazda and Wielgosz-Rondolino 2019).

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