

MARINA EL-ALAMEIN

CONSERVATION AND RESTORATION WORK IN 2006

Stanisław Medeksza *et alii*

The PMCA's Polish-Egyptian Preservation Mission to Marina el-Alamein carried out the twelfth season of work from March 10 to May 20, 2006.¹ The program called for further work on house complexes H1, H2 and H21c in the northern part of the ancient Greco-Roman town, the exedra in the main town Square, and tomb T12 in the southwestern necropolis (Fig. 1). Difficulties of a bureaucratic nature interfered with the smooth proceeding of actual building conservation, but the utmost effort was made to complete the main elements of the program. As a result, more emphasis was placed on architectural studies and specialist conservation and restoration activities.

- 1 The team comprised Stanisław Medeksza, director; Rafał Czerner, Małgorzata Krawczyk-Szczerbińska, architects; Wiesław Grzegorek, architect and civil engineer; Grażyna Bąkowska, archeologist; Piotr Zambrzycki and Wojciech Osiak, stone restorers; Małgorzata Mrozek-Wysocka, geologist. Grzegorz Majcherek has kindly provided all the pottery datings and consulted the numismatic finds. Renata Kucharczyk, archaeologist, who participated momentarily in the mission's work, studied the glass finds from the season. The Egyptian side was represented by SCA Site Director Mahmud Yasin and SCA inspector Mustafa Younis Mizanea, to whom we are grateful for their assistance throughout the season.

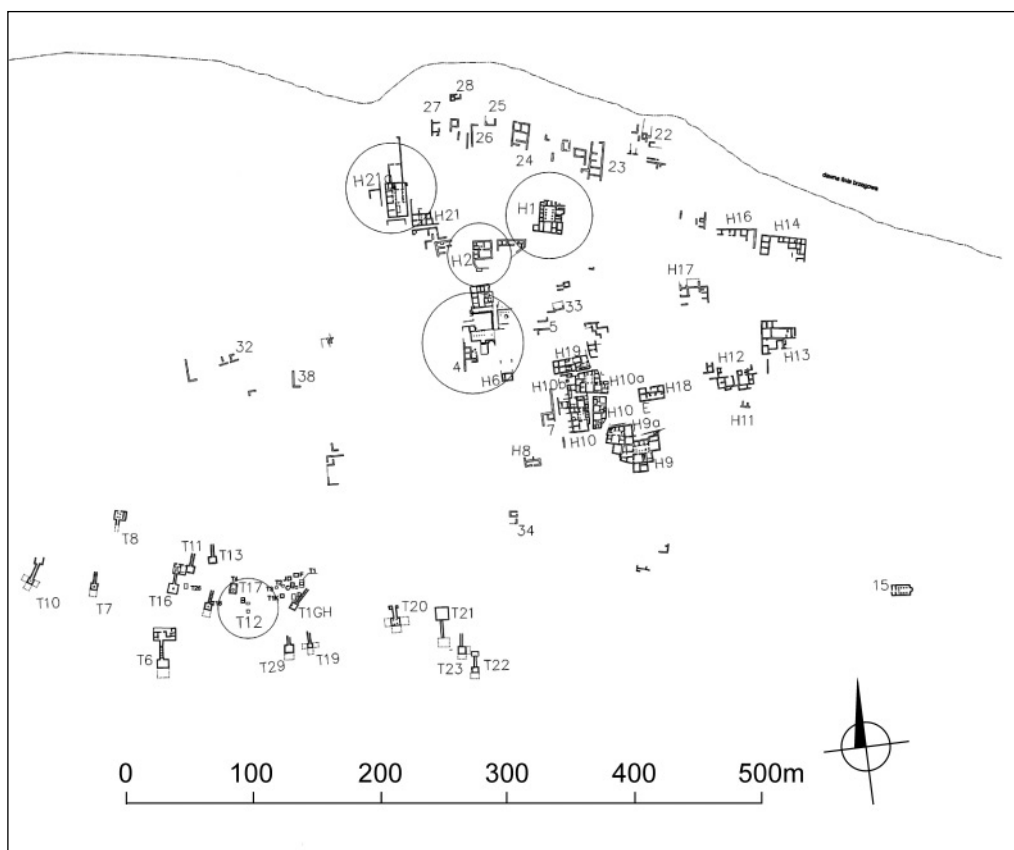
The Mission is indebted, as always, to the Supreme Council of Antiquities and to the Secretary General Dr. Zahi Hawass. AKME Zdzisław Wiśniewski has again provided additional funding to assist in the mission's work. Iwona Zych kindly edited the published version of this report.

RESEARCH, BUILDING CONSERVATION AND RESTORATION

Architectural features prepared for building conservation work were cleaned under archaeological supervision; some archaeological testing was also carried out in order to study and document construction phases.

Methods have not changed from previous seasons, including essentials like wall jointing maintenance, complete rebuilding and protection of consolidated wall tops, adding sections of new wall to

ward off damp and dilapidation. White cement is regularly added to the lime mortar (six parts sand to three parts lime and no more than one part of white cement) to compensate for the poor quality of local lime. Conservation practice over the years has demonstrated that strict adherence to ancient building methods identified at Marina el-Alamein is not possible because of the poor durability of clay and lime-clay mortars and under-



plaster coatings (see interim reports published in PCMA's annual reports, *Polish Archaeology in the Mediterranean*, since 1995).

HOUSE H1

Archaeological clearing and testing continued in the structure which has been prepared for building preservation activities since 2003. In consequence of the present work, especially on the southwestern corner of the building, earlier architectural documentation (Łużyniecka 1998) has been revised and new ideas have been formed concerning its layout and function. Further assessment of quake-related damages has also been made (cf. Medeksza *et alii* 2007: 101-104).

The southwestern course of the perimeter wall was investigated this year and found to be preserved as a foundation at best (at depths of 1.00-1.50 m), sufficiently

however for its rebuilding. The same was not fully possible for the rooms in the northeastern and eastern parts of the building, next to Rooms 15, 14, 22, 13, 24. Tracing of the west wall closing Room 6 completed the outline of the house, which can now be described as rectangular in shape with the longer sides oriented N-S. Room 26, the extent of which was also established in the course of the present work, appears to be of earlier date, belonging perhaps to the 3rd-century construction phase. It was used as a cellar for storing liquids and dry goods in amphorae, dated to the 1st-3rd centuries AD. In the 4th century, Room 6 appears to have been used as a kitchen, a subdivision of it (no. 27) being a small, well-built cellar with stone floor and walls of regular blocks, entered through a trapdoor or well shaft. Traces of the earlier phase, which ended presumably at the turn of the 3rd century to judge by the pottery



Fig. 2. House H1. Reconstructed perimeter wall in the southeastern part of the structure, state in 2006 (Photo S. Medeksza)

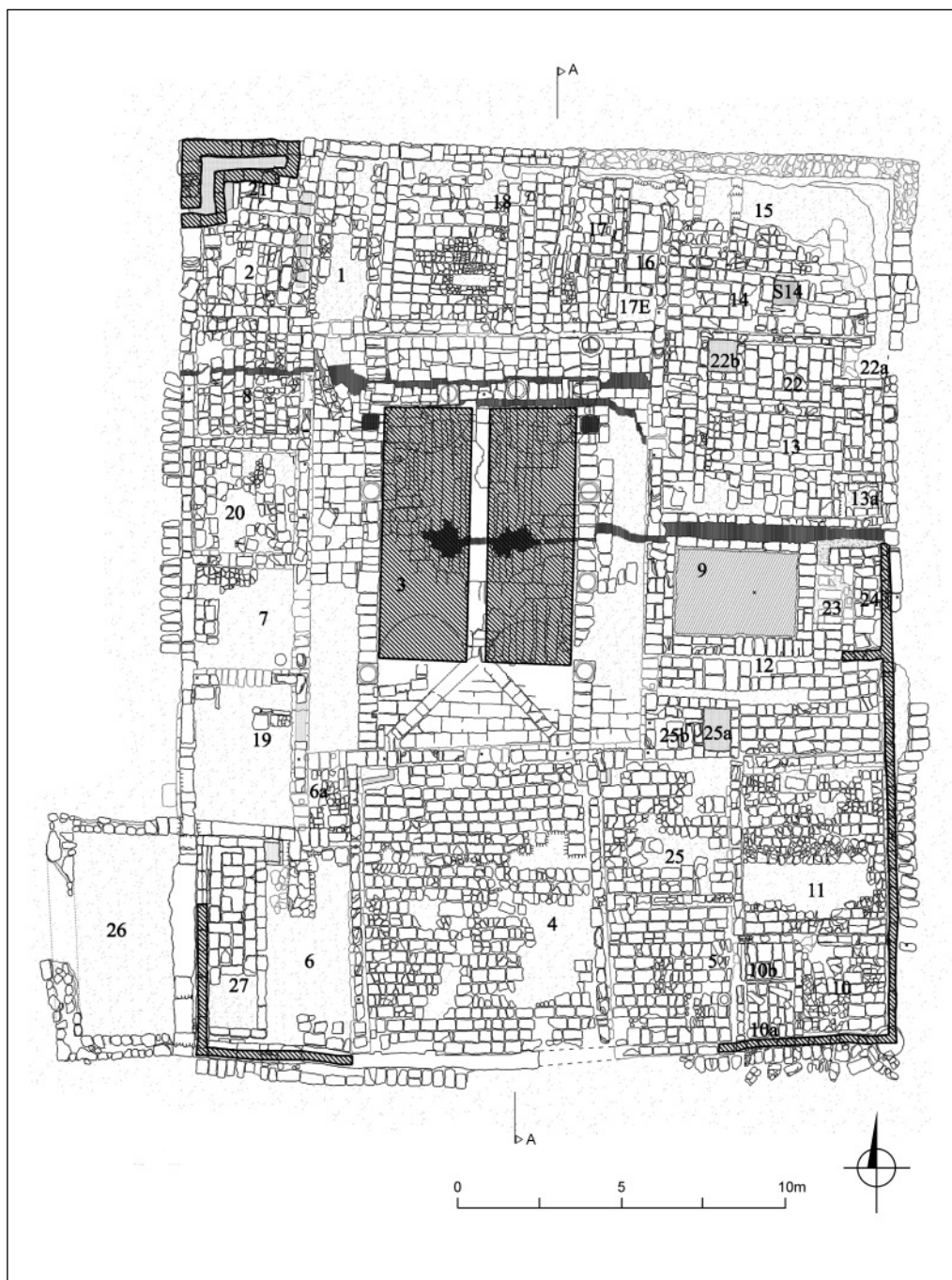


Fig. 3. House H1, extent of building conservation work in 2006
(Drawing M. Krawczyk-Szczerbińska, R. Czerner)

and coin finds, were also discovered elsewhere, c. 0.60-0.80 m below the floor level (area of Rooms 24, 14, 15 and 16). The last phase of use was in the 4th-5th century.

The building conservation work this season concerned the perimeter wall in the southeastern, southern, southwestern and western part of the house, i.e. Rooms 1, 2, 21 and will be continued [Fig. 3]. New parts of the walls are distinguished by their different thickness and the leveling of particular layers, which does not follow the collapsing courses of the preserved original [Fig. 3]. The new blocks are 0.30 m thick and are bonded lengthwise with the run of the wall. Walls were also reconstructed between Rooms 12, 11, 10, 10a, 5, 4, 6 and 27 in order to clarify the general plan of the house.

HOUSE H2

The house lies in the eastern part of an insula, surrounded by passages on the north and south, and on the east [Fig. 5]. Further investigations (for earlier work see Medeksza *et alii* 2007:104-106) were concentrated on the cistern, which turned out to be 4.20 m long N-S and 1.40 m wide E-W. Ground water appeared at a depth of 2.10 m; the actual depth of the cistern was thus impossible to establish. It is evident that the building developed by agglutination. While more clearing is required to establish the phasing of particular sections of the house, it is obvious that the original walls, constructed of a single row of blocks (which measure 0.26 m or half a royal cubit in width), were reinforced with



Fig. 4. House H2. Reconstructed column in courtyard, state in 2006
(Photo S. Medeksza)

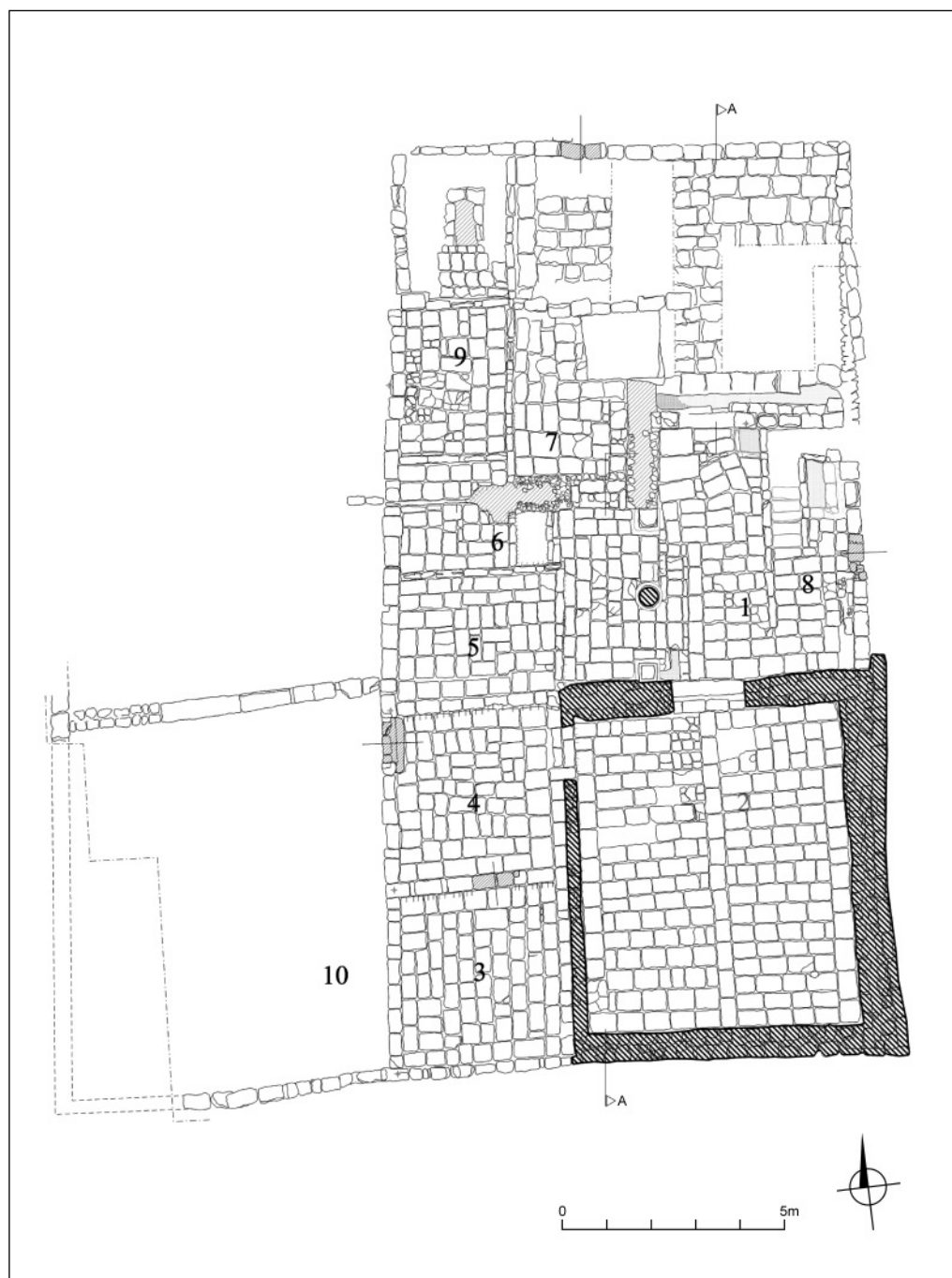


Fig. 5. Plan of House H2, scope of building conservation work in 2006
(Drawing M. Krawczyk-Szczerbińska, R. Czerner)

a facing of broken stone added on the inside. Rooms 3, 4, 5 and 6 are clearly from the last phase of use; their floors are 0.80 m above the floor levels in Rooms 1, 2, and 8. They may have been used even after part of the original house had been destroyed.

The anastylosis of the one Ionic column in the courtyard was completed in 2006 [Fig. 5]. A wall of broken stone was completed around room 2, its top sealed with cement-lime mortar on top of an insulating layer of a harder cement-lime mortar. Peeling original plaster discovered in the northwestern corner of the room was consolidated and made to adhere to the wall with lime mortar. A block with

a fragment of geometric decoration painted on plaster, found during the cleaning, was preserved with a 5% water solution of polyvinyl acetate to consolidate the surface.

HOUSE 21C²

The anastylosis of the commemorative monument dedicated to Commodus in Room 2 of the building was continued, completing the engaged pilaster, the base and fragment of shaft of the second pillar. The wall constituting the backdrop of the monument was built up substantially, practically up to the architrave [Fig. 6]. The original capital was reinforced, and the missing corners of the abacus with



Fig. 6. Commemorative monument from House H21c, state in 2006 (Photo R. Czerner)

2 Contribution by R. Czerner.

volutes reconstructed of limestone closely resembling the original (cut by P. Zambrzycki). The upper surfaces of the three capitals mark the level of the top of the monument, giving a good idea of its spatial form and size. The last stage, planned for the next season, will be to remount the original cornices.

The original top of the base of the monument had been made of red marble slabs between 4.3 and 5.0 cm thick. In the reconstruction, chamfered blocks, 0.30 cm thick, have been laid flat as a base under the columns, profiled and recessed by 0.5 cm from the face, thus achieving an edge projecting 0.07 m beyond the wall face and of a similar thickness as the original marble slab, which bore the dedicatory inscription to Commodus on the side edge. This band runs around the podium of the monument on three sides, on the south, east and north.

EXEDRA

IN THE MAIN TOWN SQUARE

Conservation work in the exedra of the main town square (which the archaeological mission began clearing in 2001, cf. Daszewski 2002: 84-85) had been commenced in 2002 with the reinforcement of the wall plastering. Last year, one of the benches in the portico, to the west of the exedra, was reconstructed. This season, work proceeded in the entire exedra, focusing on the reconstruction and restoration of the seats lining the three sides of the niche. The state of some of the elements required their replacement with new blocks. First a drawing documentation was made of the remains, followed by a reconstruction of the missing elements, which included one new leg and three of the seats. The other seats were put together with

stainless steel rod reinforcement, using ARALDITE PY 1092 resin of Egyptian manufacture. Some patching also had to be done, the patches made partly of original material and partly of new stone. An effort was made to match the coloring and texture as far as possible. Once this work was done, the old and new elements of the benches were remounted. The new parts are sufficiently different to make the ancient elements easily identifiable. Mounting was done using a lime mortar with lime filler and a trace addition of white cement.

TOMB T12³

The preservation and conservation of the pillar tomb T12 (discovered in 1994, cf. Daszewski 1995: 31,33) was now completed, adding the remaining courses of blocks based on Jarosław Dobrowolski's original anastylosis design of 1994 (for previous work on the tomb, see earlier reports Medeksza *et alii* 2005:116; Medeksza *et alii* 2007: 108-109) [Fig. 8]. The sole exception is course 10, where the original blocks were not preserved and there was no new stone of the appropriate size available.

Three of the four elements from the base of the capital had to be reconstructed. All eight of the elements making up the capital of the pillar were preserved, but four, including a corner element, were so eroded that they had to be replaced. The capital was reconstructed (by P. Zambrzycki) along with the undercourse prior to being mounted. One of the original corner elements had to have stone patches introduced. Swallow-tail wooden clamps had been used in antiquity to mount the capital pieces together and prevent them from leaning out too much. They were now replaced with stainless steel clamps (o 10 mm, length 23 cm), held in

3 Contribution by R. Czermer and W. Grzegorek.

place by polyester-acrylic resin. Two crowning courses, receding in steps, were reconstructed of new blocks following the original theoretical reconstruction. A limestone statue of Horus, a replica of an original kept in storage on the site (carved by P. Zambrzycki) [Fig. 7], was replaced at the top of the monument. The replica was made using traditional techniques and photographic documentation. A cement-lime mortar was used for all the reconstruction work (sand to lime to white cement proportions being 6:3:1). Upon completing the anastylosis, the reconstructed elements were unified coloristically with the original (using natural pigments and acrylic resin binder) [Fig. 9].



Fig. 7. Close-up of replica statue of Horus from the top of the sepulchral monument, mounted in 2006 (Photo P. Zambrzycki)

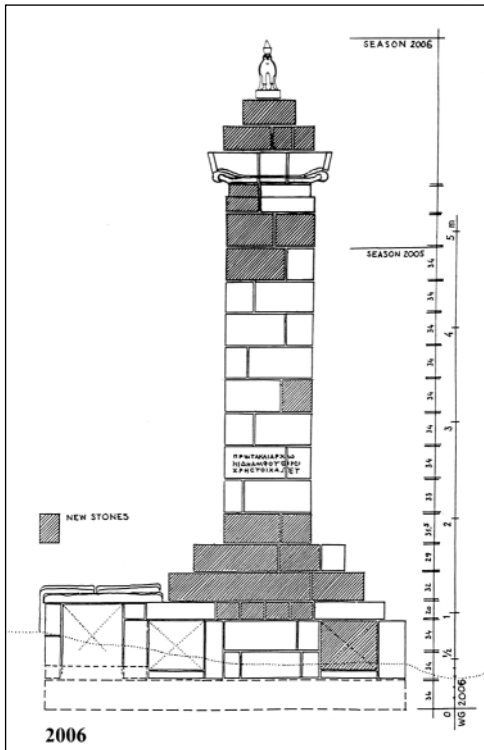


Fig. 8. Building conservation work on T12 in 2006 (Design W. Grzegorek, original drawing J. Dobrowolski)



Fig. 9. Pillar tomb T12 after restoration, state in 2006 (Photo R. Czerner)

ARCHAEOLOGICAL CONTROL AND GEOARCHAEOLOGICAL RESEARCH⁴

All clearing work in architectural features where building conservation work was planned was done under archaeological control. This included Houses H1 and H2.

HOUSE H1

Clearance of the southern, eastern and western sections of the perimeter wall prepared them for reconstruction. In Room 6, cartridge shells and fragments of metal containers indicated that the blocks of the west wall had been pulled out during World War II for reuse in army defenses constructed in this part of the site. Further

cleaning of the wall foundation (c. 1.50 m below the floor of Room 6) revealed virtually whole amphorae, faience bowls and terra sigillata jugs from the 2nd century AD, a small mortarium, fragments of an unguentarium and small glass bottle, four bronze coins and an ostrakon. This earlier room (no. 26) with walls of broken stone (0.70-0.75 m wide) proved to measure 6.06 by 3.00 m. The door could have been in the middle of the west wall, where instead of stones a layer of soil with burning was discovered, mixed with small potsherds and shells. On the east side, the



*Fig. 10. Room 26 of House H1, deposit of amphorae from the 1st–3rd century AD
(Photo S. Medeksza)*

⁴ Contribution by G. Bąkowska. Sections on geoarchaeological research contributed by M. Mrozek-Wysocka. All pottery identifications and dating plus remarks on the amphorae dump provided kindly by Dr. G. Majcherek.

walls of Room 26 were cut by the outer perimeter wall of the house from a later phase. The amphora dump in Room 26 proved to be an exceptionally rich assemblage comprising several dozen complete or almost complete vessels [Fig. 10]. Not only is the geographical distribution of forms extensive, but so is the chronological range, which covers a period from the 1st through the 3rd century AD. A more specific dating is not possible for lack of other well-dated finds.

Imports from the Eastern Mediterranean prevail among the non-local amphorae (more on Oriental amphorae in Marina in Majcherek 2007). The “pinched-handle” type class, which is overall the most numerous imported-vessel group in Marina inventories, once again predominates. Most of the containers identified in this assemblage were

produced in Cyprus. One amphora preserves a black-ink dipinto referring to the vessel's capacity. The Cilician region of amphora production is represented by a few fragmentarily preserved examples of medium-sized Pompei V containers. One should also note the rare in Marina occurrence of two amphorae of the Beirut 2 type. Cretan amphorae (forms AC1 and AC3), a Rhodian vessel of the Roman Imperial type and examples of an early form of micaceous single-handled Asia Minor amphora (predecessor of LRA3) complete the repertoire of vessels originating from the eastern regions of the Mediterranean.

Western amphorae, albeit definitely in the minority, are still represented in the set. Meriting interest are the cylindrical Dressel 2-4 forms from Campania, one of which is stamped [Fig. 11].

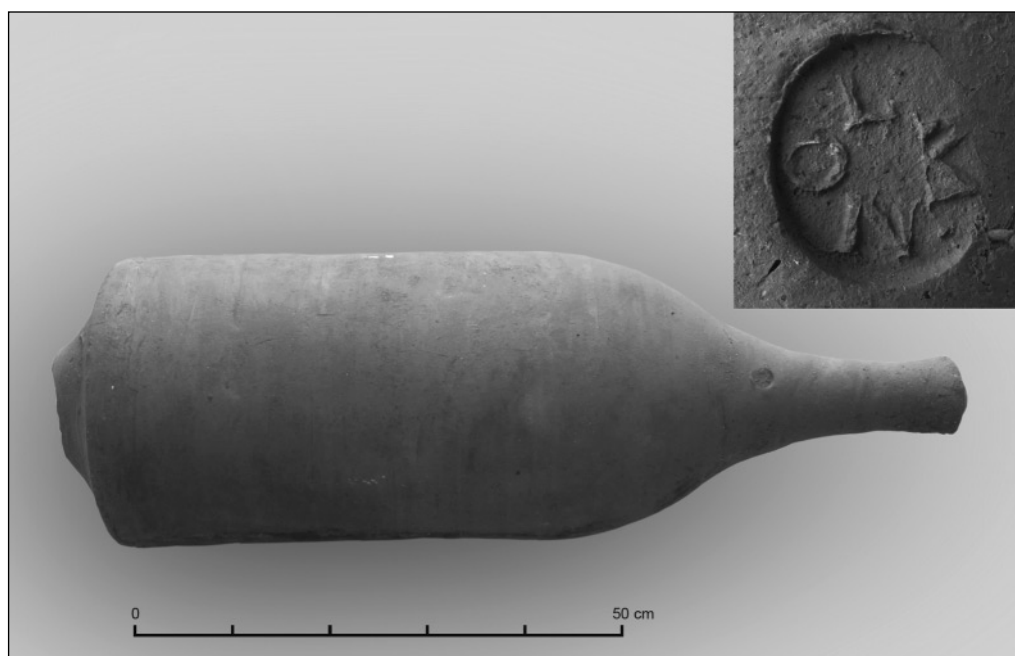


Fig. 11. Campanian amphora with stamp (in set) from the dump in Room 26, 1st century AD (Photo P. Zambrzycki)

Egyptian amphorae, which are the most numerous component of the dump from House 1, are represented foremost by regional counterparts of the Dressel 2-4 (AE4) type produced in the Mareotis. Amphorae representing the "bitronconique" (AE3) group also come from this manufacturing center.

The room on the other side of the foundation wall (no. 27) was 5.63 by 1.40 m and paved with stone slabs except for the southern end. This pavement is c. 2 m below the floor of the later Room 6. The lack of a block in the east wall on the level of the pavement may indicate the presence of a drain. A cellar-like niche 0.40 m wide, 0.80 m high and 0.60 m deep with plastered bottom was found in the east wall, 0.58 m above the floor. Finds from the fill of this room included: five heavily corroded bronze coins, fragments of bronze nails, a bronze band, bone pin, a few marble tiles and quantities of sherds and some glass.

Crossing walls from an earlier phase were discovered in a test pit dug in the northeastern part of Room 6. Amphorae discovered in connection with the earlier walls (one standing upright, two with their bottoms up) originate from the same period as the amphorae in Room 26 (approximately 3rd century AD).

The cisterns in Room 3 were emptied of the sandy deposits, the sand being fine and medium-fine, showing average wear and layerets of dark gray clay deposits up to 1 cm thick each. The eastern cistern (7.13 m long, 1.76 m wide, 2.25-2.35 m high) was entered through a well in the northern end of the east wall (2.53 m below the pavement floor; well 0.57 x 0.52 m), connected to it by a passage 1.60 m high and 0.60-0.53 m wide. Waterproof plastering survives in places. Steps were located at either end, three on the north and two on the south. The western cistern (7.05 m long, 1.80 m

wide, 2.33 m high) was connected to a well in the northern part of the western wall (2.70 m deep counting from the pavement; 0.45 by 0.48 m). This entrance was 1.65 m high, 0.55 m wide. Rounded steps were found in this cistern, four on the north side, five on the south side. The surviving facing of the walls and vaults in both cisterns was composed of a first coating of brittle mortar, 0.5-2.0 cm thick with lime as binder and aggregate of crushed lime shells and lime. Covering it was a layer of hydraulic mortar, 0.5-1.0 cm thick, with red binder and a large content of aggregate, chiefly ceramics, crushed lime shells and lime. Horizontal calcite efflorescence on the smooth surface of the mortar marks water levels in different periods. Vertical calcite stains can be seen as well. The fill yielded some pottery sherds (including terra sigillata) dated to the 4th and 5th centuries AD, corroded bronze coins, bone pins, quantities of glass, a few lamp fragments, bronze nails and a fishing net weight, a piece of statuary (life-size male arm, of a milk-white marble, medium blastic, poorly translucent, with a beige patina) and fragments of architectural decoration, including pieces of a Corinthian capital (of Proconessian marble) and two Pseudo-Corinthian capitals from the courtyard.

A geoarchaeological study of the stone finds also revealed a fragment of white marble with purple veins, fine-blastic, 8.5 cm thick, believed to originate from the Greek quarries in Dokimeion. One of the discovered mortars was of crystalline nummulithic limestone (nummuliths up to 2 cm in diameter) and another of pellicitic limestone. Other stone materials represented included a block of porous basalt and a pumice pebble.

A block of micritic limestone (29x27x20 cm) with a round hollow 10 cm in diameter must have been used for

mounting the door pivot in the east house wall. Two other blocks of identical petrographic and morphometric nature, found by the south wall of Room 18, indicated that a doorway had functioned there also in an earlier phase. A fourth block, discovered in the passage from Room 3 to Room 4, preserved traces of a bronze fitting.

HOUSE H2

Clearing in Room 2 revealed a floor of stone slabs (7.00 by 5.76 m), surrounded by walls of broken stone, c. 0.65 m thick (doubled on the east and west by walls of blocks on the outside) and surviving to a height of c. 0.70 m in places. A doorway 1.70 m wide in the north wall has jambs made of big blocks and is furnished with a threshold. Fragments of black-painted plaster were preserved on the walls and in the fill, forming a dado around the room.

In Room 3 to the west (3.83 by 3.50 m) and Room 4 (3.63 by 3.45 m), walls were in all cases 0.30 m thick and in one case held a niche 0.93 m wide and 0.40 m deep. The doorway was 0.95 m wide with a threshold in it and approached by a step. A block from the fill, probably from the courtyard, preserving plaster with painted decoration, bore a green band c. 1.5 cm wide, flanked by red bands (0.05 cm) on either side (presumably part of rectangular paneling).

The finely paved Room 10 (8.50 by 7.05 m) to the west of Rooms 3 and 4 may have been the main room of the house.

Other cleared rooms included no. 6 (2.43 by 2.36 m, floor 0.90 m above the level of Courtyard 1), no. 9 (3.34 by 2.34 m) with the most recent occupation dated to the 3rd-4th century AD by glass and pottery originating from a compact layer of sand with traces of burning. A vaulted cellar (4.20 by 0.80 m) underlay the pavement in Room 9, extending under Room 13 as well. It was entered from the latter room.

The northern outer wall of the house, 0.30 m wide and standing to a height of 0.80 m, is preserved for a stretch of 9.70 m. A blocked doorway was recorded in the western end, partly obscured by a dried-brick wall from a later phase (3rd century AD), cutting across the house from north to south. A parallel wall 1.98 m to the south forms a narrow room (no. 14), which was found to be 3 m long, and yet another room (no. 11) with the west wall of broken stone (0.66 m wide). Preserved loose fragments of painted plaster from the wall can be restored, reconstructing the painted decoration of the house.

Marble tiles of various kinds (12 in all, found in Room 9) with one rounded edge, 1.5-1.8 cm thick, 3-4 cm wide, 6-12 cm long, and with four notches, each about 1.5 cm from the edge, can be interpreted as tiles reused as weights. The cistern yielded two basalt blocks that were strongly porous with isolated crystals of olivine and a piece of magmatic rock (tonalite/diorite) with large crystals of plagioclase, biotite and hornblende.

REFERENCES

Daszewski, W.A.

1995 Marina el-Alamein 1994, *PAM* VI [=Reports 1994], 28-36

2002 Marina el-Alamein, Season 2001, *PAM* XIII [=Reports 2001], 73-86

Łużyniecka, E.

- 1998 Dom perystylowy w Marina el-Alamein, *Architectus* 1-2 (3-4), Wrocław University of Technology, 28-37

Majcherek, G.

- 2007 Aegean and Asia Minor amphorae from Marina el-Alamein, *CCE* 8, 9-31

Medeksza, S. *et alii*

- 2005 Marina el-Alamein. Conservation work in 2004, *PAM XVI [=Reports 2004]*, 107-118

- 2007 Marina el-Alamein. Preservation and conservation work in 2005, *PAM XVII [=Reports 2005]*, 99-115