

Alexandria, Kom el-Dikka Season 2016

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with appendix by Renata Kucharczyk²

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Abstract: The PCMA expedition to Kom el-Dikka conducted fieldwork between March and July 2016, filling out the usual multiple-task agenda encompassing both conservation projects and archaeological excavation. The program of work was conditioned to a large extent by the pending completion of the first stage of the Kom el-Dikka Site Presentation Project (southern zone of the site). Top priority was given to preservation work, supplemented with limited excavation in the early Islamic necropolis. A vast collection of finds including coins, plasterwork, glass artifacts of different age (from Ptolemaic to early Islamic) originating from previous seasons of fieldwork continued to be documented and studied by a group of specialists. The appendix brings a brief report on the glass finds from area CV, stratigraphically from the level of the Lower Necropolis, but chronologically from the late Roman/early Byzantine period (5th–6th century AD).

Keywords: Kom el-Dikka, Islamic necropolis, conservation work, Roman mosaics

The ongoing Kom el-Dikka Site Presentation Project, approved by the Supreme Council of Antiquities back in 2007, and above all the approaching opening of the visitors' route in the central part of the site, scheduled for the spring of 2017, had an obvious impact on the season's agenda. The regular excavation project was temporarily sidelined and reduced in scope. Instead, top priority was given to conservation and landscaping work focusing on the areas and monuments essential for concluding the Project [*Fig. 1*].

While archaeological fieldwork was substantially limited, research and documentation of the finds was pursued with

usual intensity. Barbara Tkaczow studied painted plaster and decorative marble fragments excavated in previous seasons. Her research focused on analyzing styles and patterns, as well as interpretation of the wall painted decoration, originating mostly from areas F and G (season 2009) as well as areas U and CW (seasons 2011–2014). Barbara Lichočka and Katarzyna Lach continued their respective numismatic studies on finds coming from past and present excavations. An ample number of coins was cleaned, identified and appropriately documented. Most of the studied examples are, however, rather poorly preserved low-copper denominations of different date,

from Ptolemaic through early Byzantine. Renata Kucharczyk continued research on glass finds, examining the evidence for glass production coming from the site.

Basic field and conservation training was offered by the team to six junior staff members from the Ministry of Antiquities of Egypt.

EXCAVATIONS

The planned opening of the site for visitors determined the excavation agenda, limiting exploration to the western section of area CV, which plays a key role in the envisioned itinerary for visitors. Excavation next to the western gate of the bath complex consisted of a trench approximately 12 m by 10 m [Figs 2, 3], opened in an area where investigations in the 1997/1998 season uncovered a large section of an early Islamic cemetery (Upper Necropolis phase). At the same time, a probe dug next to its eastern edge revealed remnants of a gate leading

to the bath complex (Majcherek 1999: 30–34). Resumed work in the 2015 season started with an extension of the old trench to the west.

Back in 1997/1998, mostly graves of the so-called Upper Necropolis phase preserved in the northern part of the trench were explored (Kulicka 2016). Most of these were found within a large rectangular enclosure (measuring 7.20 m along the E–W axis), of which only the southern part was excavated, the rest being still buried beyond the trench limits. Several

Team

Dates of work: 16 March–30 June 2016

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Deputy Director: Renata Kucharczyk, glass specialist (PCMA UW)

SCA representatives: Mohammed Faruk Abdel Aziz Mahmoud, Enjy el-Sayed Abd el-Raheem, Karim Mohammed Mohammed and Omar Mahrous Mahmoud Doma

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Architects: Marcin Polak and Sara Arbter (both freelance)

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Acknowledgments

We gratefully acknowledge the assistance of many individuals and institutions, whose good will was essential to our team's success. We greatly appreciate the efforts of the relevant authorities of the Ministry of Antiquities, both in Cairo and in Alexandria, for making the work possible. We could not be more grateful to Mr. Hany Abdel Azmi, Secretary of the Permanent Committee of the Ministry in Cairo, Mr. Mustafa Mohammed Rushdy, Director General of Antiquities in Alexandria, Ms Samiha Noshy, Director of the Foreign Mission Department, Ms Baheya Kamal Mohammed, Director of the Kom el-Dikka Site and Mr. Ahmed Musa, Director of Archaeological Sites in Alexandria, for their unfailing assistance.

graves discovered at that time featured an unusual, seldom reported type of vaulted burial chamber complete with shafts that were apparently intended for multiple burials (Majcherek 2016; Kulicka 2016).

In 2016, several graves from the Upper Necropolis phase left over from the previous season were excavated [see *Fig. 3*, graves CV175–CV177]. No tombstones

were preserved but the exploration of burial chambers produced quite unexpected finds. The chamber of grave CV178, belonging to the most recent phase of the cemetery and superimposed over the said enclosure, was built in a rather typical way, with walls made of smaller, rather regular masonry. Its limestone walls were originally lined with plaster, of which only some scattered

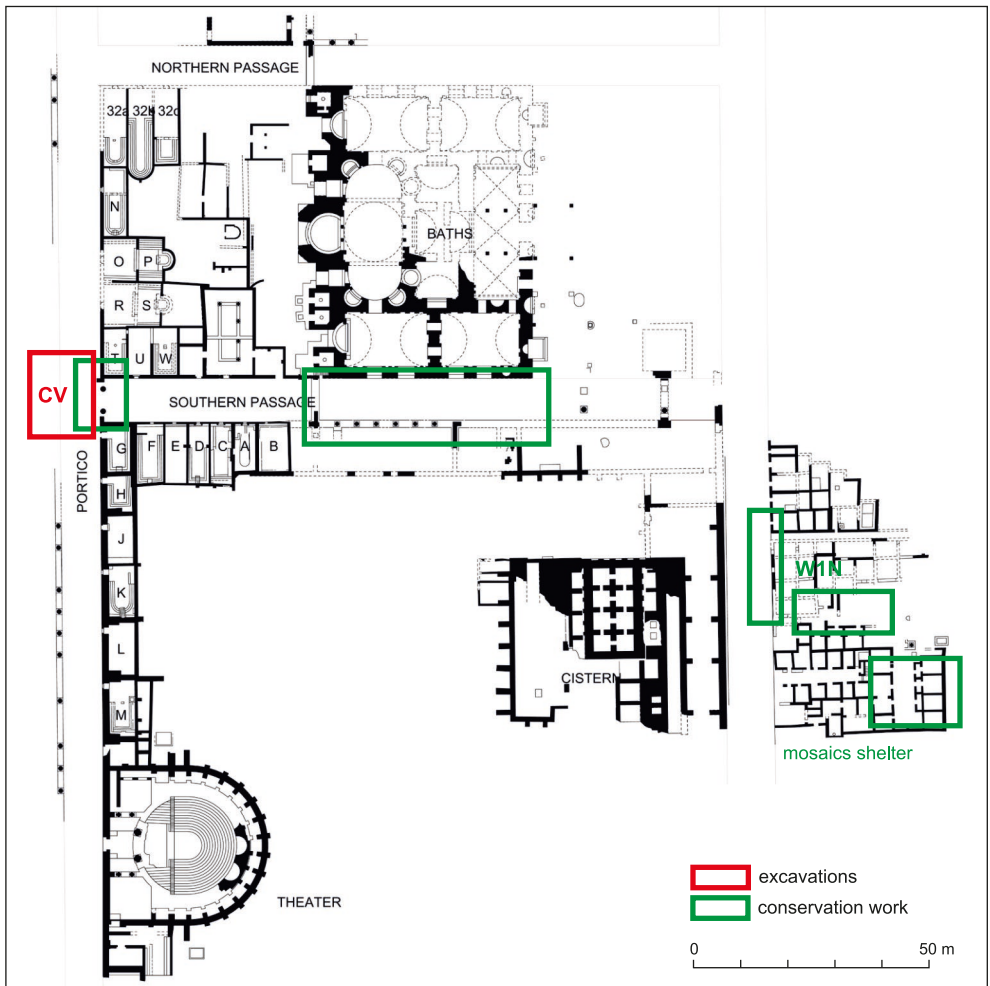


Fig. 1. Plan of the Kom el-Dikka site showing areas of work in the 2016 season (PCMA Alexandria Kom el-Dikka Project/drawing W. Kołtątaj, D. Tanara)

remains were found, and covered flat with slabs that were now found in a collapsed state. Since a large part of the grave extended well beyond the present trench outline, its exploration was postponed to a coming season. Quite surprisingly, three fragments of broken funerary stelae inscribed in Kufic script were found incorporated into the collapsed roof of the burial chamber. They were carefully extracted and secured. All were badly eroded and barely legible. Only the largest fragment containing nine partly preserved lines of an inscription was deciphered [Fig. 4]. It is an example of a typical epitaph, several dozen of which have already been reported from the site (Kubiak 1967; 1975). Although none of

the preserved fragments contained any dates, the paleography of the inscriptions points to the 9th–11th century AD as the most plausible date, i.e., at least a century earlier than the horizon to which tomb CV178 was stratigraphically assigned.

The exploration of multi-burial grave CV176, located next to CV178, produced an even more surprising and spectacular find. The burial chamber, which again was built of small regular blocks in typical manner, contained three rather poorly preserved skeletons. A bundle of golden metallic thread was found next to the lowermost burial [Fig. 5]. This spiralling thread, preserved in tiny pieces on the skeleton and underneath it, must have



Fig. 2. *Exploration of the early Islamic necropolis in area CV, view from the north*
(PCMA Alexandria Kom el-Dikka Project/photo E. Kulicka)

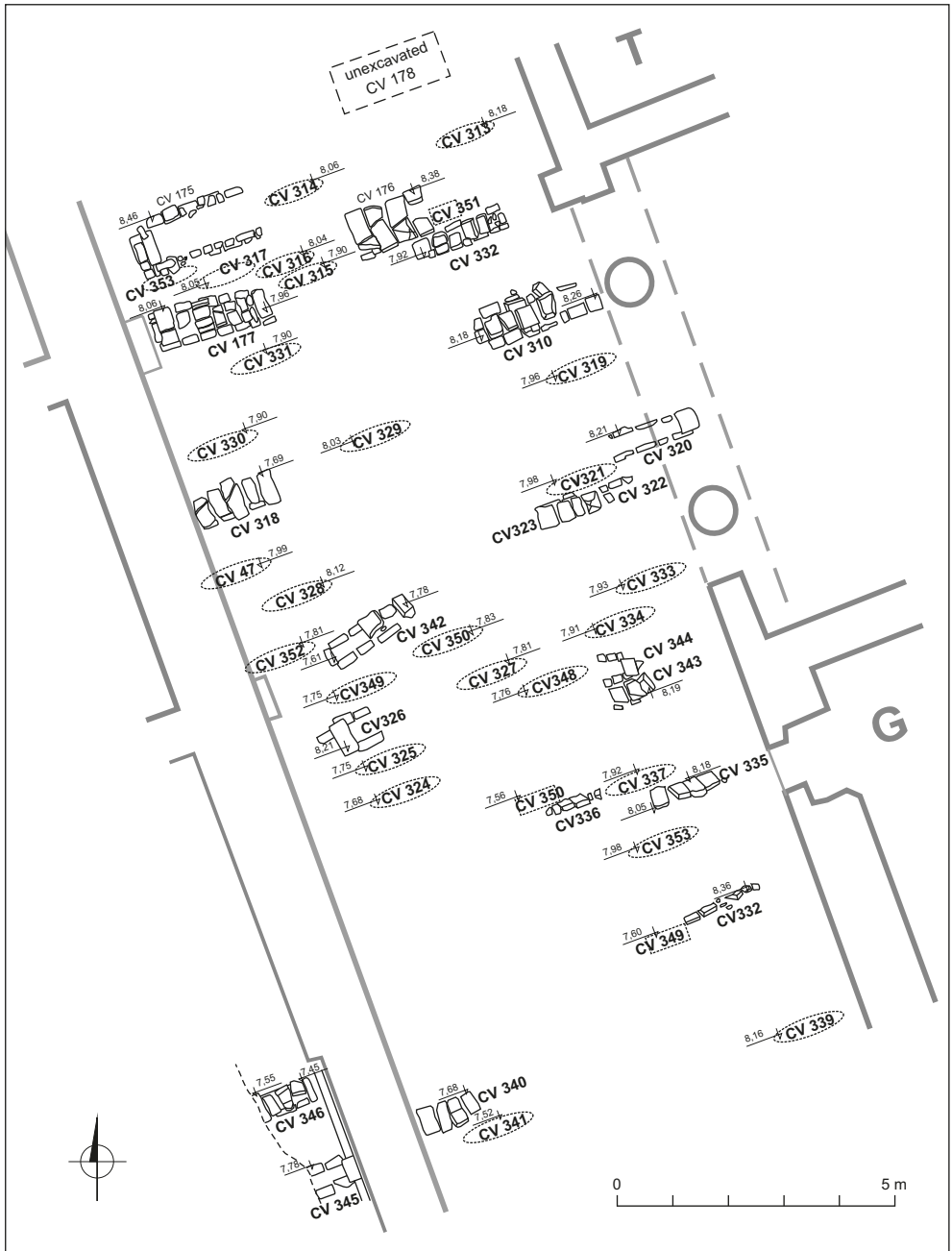


Fig. 3. Plan of the early Islamic necropolis in area CV
(PCMA Alexandria Kom el-Dikka Project/drawing E. Kulicka)

come from the embroidery of a shroud wrapping the body.

However contradictory it may seem to traditional Islamic custom, the presence of a sumptuously decorated shroud is hardly unique. The expected predilection for modest, plain, and preferably white shrouds was not always strictly observed, as best attested by a well-known 10th century Khorasan shroud (now in the Museum of the Louvre), a *tirāz* textile featuring a frieze of geometrical ornament as well as confronting elephants and camels (Bernus, Marchal, and Vial 1971). Departure from tradition and a penchant for more costly

and fashionable shrouds already in the early Islamic period is also surprisingly well-documented by various finds from other regions (Halevi 2007: 84–112). Much later in Egypt, burial practice admitted the use of more ornate tissues, like muslin and silk, as grave clothes (Lane 1895). It is also possible that the golden thread found in grave CV176 had issued from an elegant robe worn by the deceased in life and reused as a shroud. It remains to be determined upon anthropological examination of the skeleton, whether the burial was of a male or a female in this case.

This year's fieldwork focused on a survey of the so-called Lower Necropolis phase of the cemetery. Altogether over 40 burials were identified and explored (CV310–CV353) [see Fig. 3]. Although densely spaced within the trench, the general layout of the graves was rather haphazard and there was no internal patterning whatsoever.

The position of some of the graves had to be adjusted to the existing pre-dated structures. In several cases, sections of

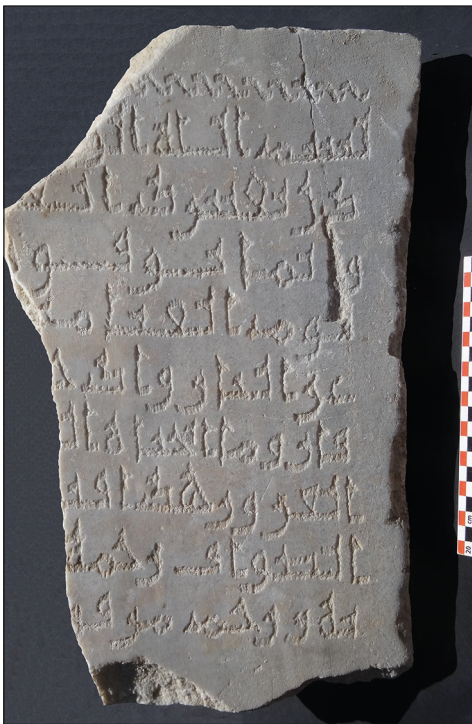


Fig. 4. Stela with funerary inscription in Kufic script, from tomb CV178 (PCMA Alexandria Kom el-Dikka Project/photo G. Majcherek)



Fig. 5. Golden thread, from grave CV176 (PCMA Alexandria Kom el-Dikka Project/photo G. Majcherek)

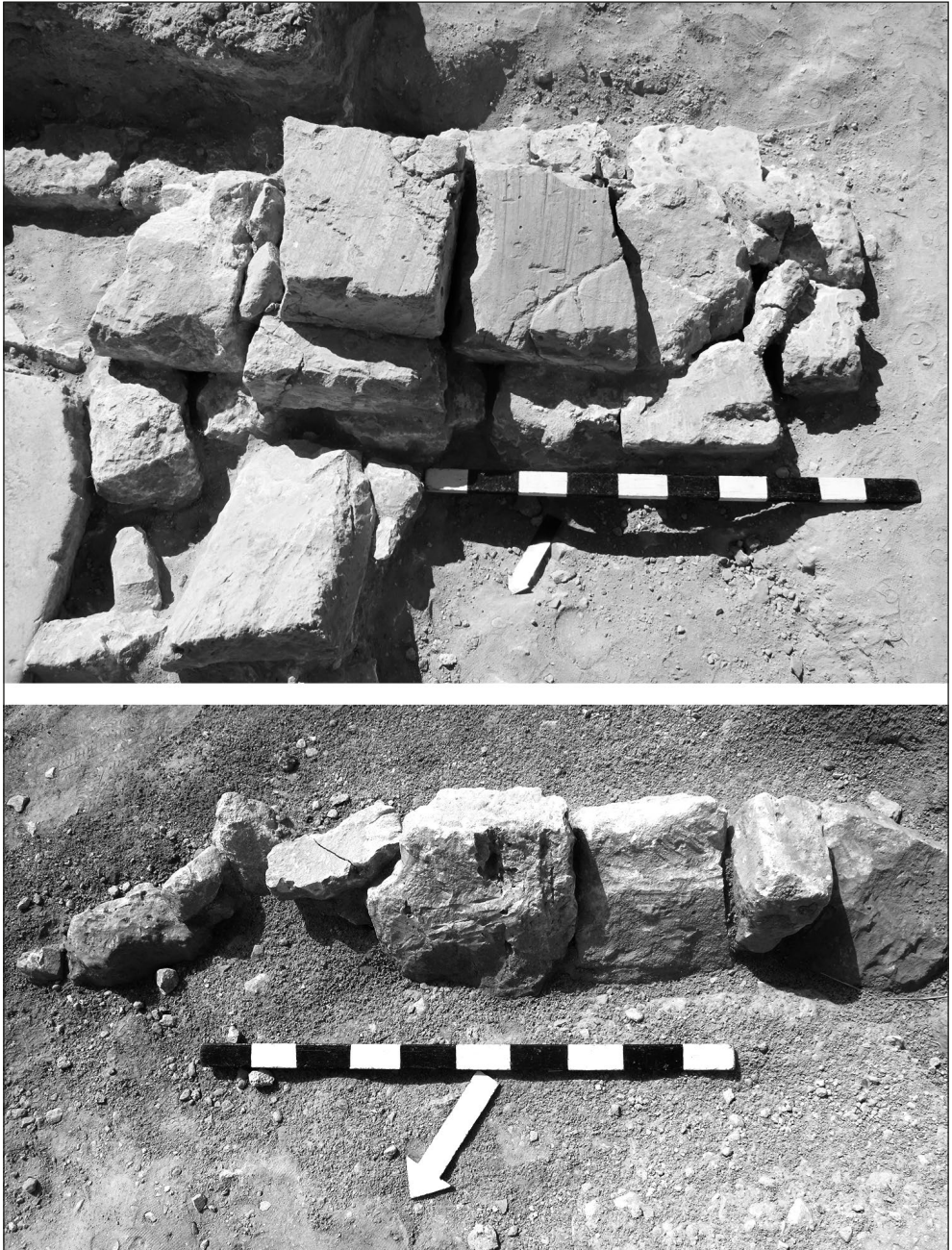


Fig. 6. Graves from the Lower Necropolis: top, CV310, view from the north; bottom, CV336, view from the north (PCMA Alexandria Kom el-Dikka Project/photos E. Kulicka)

intruding walls and the portico pavement had to be cut to accommodate burials (e.g., CV320, CV347). Most of the graves represented structures with rectangular cists made of large ashlar and covered by flat stones, some of them possibly pavers lifted from the portico, but the majority must have come from elsewhere [Fig. 6 top]. As a rule neither bricks nor mortar were used in these structures. Frequently,

the floor of the grave was spread thinly with sand. In the past, this type of grave was recorded in great numbers throughout the site (Dąbrowski 1966; Promińska 1972: 7–15) and has been associated solely with the earliest phase of the cemetery (Lower Necropolis). Despite not following exactly the established typology, structures of this kind could be considered perhaps as a local derivative of the *al-shaqq* form of graves

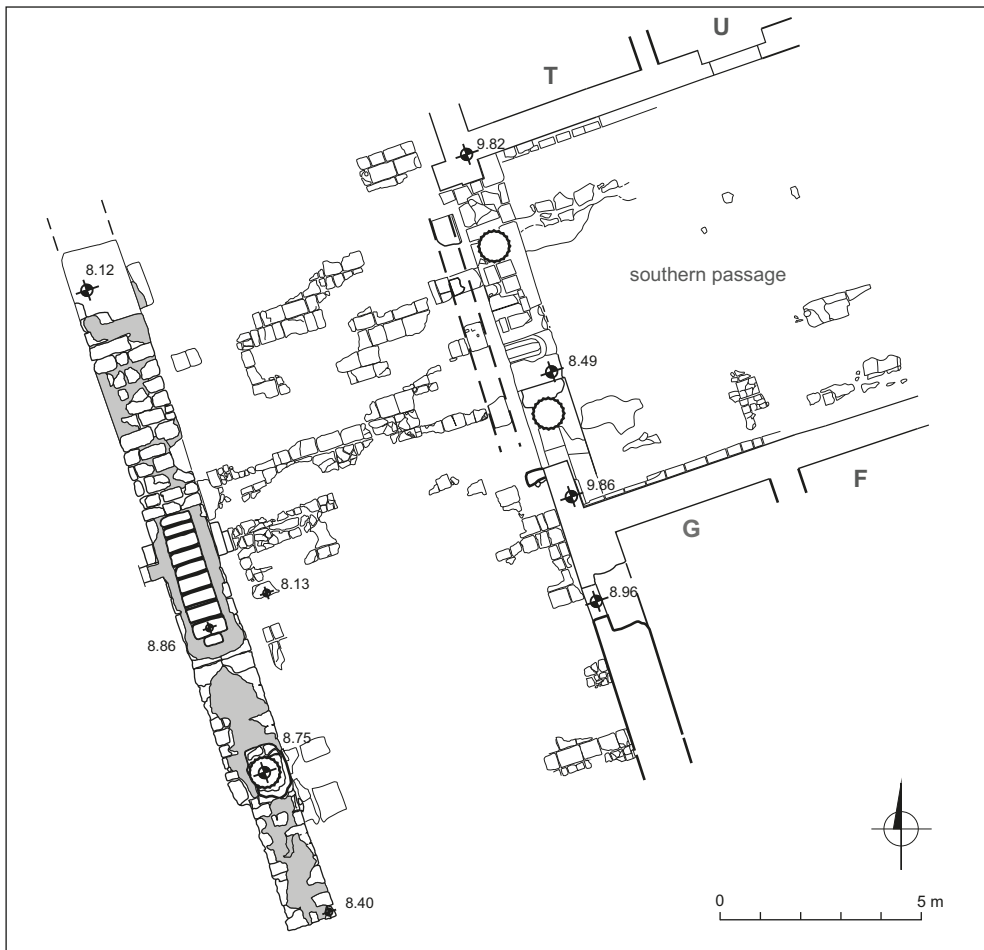


Fig. 7. Late Roman pavement and stairway in area CV
(PCMA Alexandria Kom el-Dikka Project/drawing S. Arbter, M. Polak, G. Majcherek)

prescribed and favored by the Islamic tradition (Petersen 2013: 246). This impression is further enhanced by the lack of any aboveground structures whatsoever.

A less developed type of burial was also identified: bodies were laid in an earth pit, creating a sort of side niche closed with slanted stone slabs resting on the edge of the hole (graves CV332, CV335, CV336). Such constructions, creating in fact a side niche, were possible due to the well packed and solid ground in which the graves were dug, but also due to the preservation of large sections of the original paving of the portico, which acted as additional support [see *Fig. 6* bottom]. However rare, similar graves recalling the *al-lahd* type, were previously identified in other areas of the site (Kulicka 2011: 484–485). Quite a number of simple pit interments was also identified (CV324, CV325 etc.), squeezed in between the stone-built graves. It is hard to say whether the existence of the three types of burials reflects, for instance, social stratification, where graves with stone-made cists would have belonged to more affluent families, while simple earth interments served the less prosperous.

Both the orientation of the grave pit and position of the skeleton within the grave were typical of Muslim burials. Despite varying degrees of preservation of the remains, it was clear that the body was always placed on the right-hand side, facing the *qibla*, in our case southeast. Some minor variations in orientation could most probably reflect the season of the burial and the inaccuracy of astronomical observation (Gorzalczany 2007). All the recorded burials were invariably single interments.

Despite the varying depths of individual burials, indicating most probably the changing ground surface level from which

the graves were dug, there is no clear evidence of the cemetery's stratigraphical development. Consequently, no detailed chronological phasing is possible. The associated finds consisted mostly of assorted pottery sherds. Most of them, however, were apparently residual, representing a typical late antique repertoire.

Several patches of the portico flagging were cleared in this area, mostly next to the gate and along the portico stylobate [*Fig. 7*]. The pavement was seriously damaged by early Islamic burials. It was originally made of large regular limestone pavers, set in an ashy mortar. Pavers were laid in regular rows, set perpendicularly to the portico. The surface of the portico is generally uneven and considerably sunk in the middle, due to prolonged use and substantial subsiding.

The worn-out surface of the pavement is yet another sign of extended use over a longer period of time. *Mancala*-type game boards were scratched into the surface of two of the pavers [*Fig. 8*]. The boards feature the typical two rows of four to five cup-shaped depressions, also previously identified as game boards in the portico (Bell and Roueché 2007). On yet another slab (next to the stylobate),



Fig. 8. Mancala game board preserved on the pavement (PCMA Alexandria Kom el-Dikka Project/photo G. Majcherek)

a series of concentric incisions of unknown purpose, most probably yet another game board, were found.

The monumental entrance gate to the bath complex, explored in its entirety in the previous season, was flanked by two Doric columns standing 3.50 m apart. Similar Doric drums, often used in foundations, were also found in several locations in the northern section of the stereobate of the Theater portico. Now, the poorly preserved remains of large stairs in front of the gate leading to the baths were cleared [Fig. 9; for the restoration of the stairs, see below, Fig. 12]. Unlike other structures of late Roman date, they were made of hard nummulithic limestone, their heavily worn-out upper surfaces pointing to prolonged use. Such limestone originated most probably from the quarries

at Zawiet Sultan near Minia (Klemm and Klemm 2008: 68–76). Beginning with the Ptolemaic period it was used in Alexandria mostly for large architectural elements. Its durability was the reason why blocks of this limestone were often reused in later structures. Only isolated fragments of the lowermost steps were found (0.17–0.20 m rise), but their dimensions and position with regard to the threshold permitted the assumption that there had been two steps there originally.

Both the stairs and the pavement belong to the latest phase in the portico history, when the whole structure was substantially rebuilt following widespread destruction. The operation included not only rebuilding of the backwall of the portico, but also raising of the stylobate and subsequently also of the pavement. In a small test pit (B)

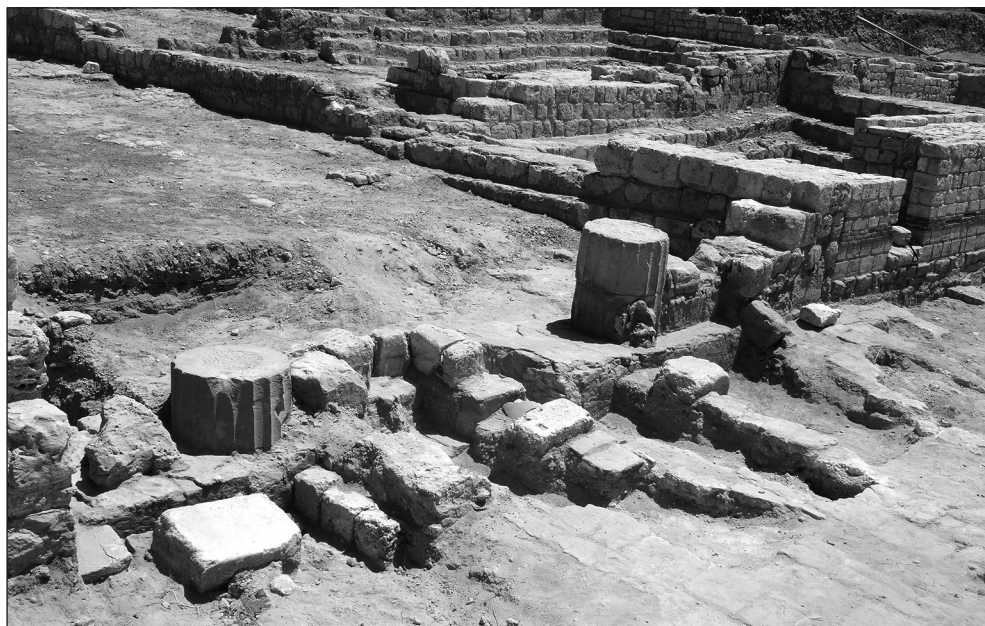


Fig. 9. Gate leading to the bath complex; state prior to conservation in 2016 (PCMA Alexandria Kom el-Dikka Project/photo G. Majcherek)

sunk next to the stylobate, a small patch of earlier paving was cleared. Unlike other areas of the portico or the bath passages, where two well-made levels were cleared, it was made of smaller, irregular pavers.

A nearby section of the portico stereobate wall, built approximately 8.30 m apart, was constructed in a rather intriguing way. The structure of the stylobate in front of the bath entrance appears to be substantially changed. Instead of a wall some 1.15 m wide, as in the southern part of the portico, the new northern section of the stylobate was much wider (approximately 1.55 m) (Majcherek and Kucharczyk 2014). It is also most surprising that no column foundations were recognized there. Remains of two pilasters on the eastern face and two walls stemming westwards were identified, pointing to an assumed presence of a gate. It appears, therefore, that yet another monumental gate had been introduced here in Late Antiquity, raising at the same time the question of the arrangement of the colonnade in this part of the portico.

Finds from accompanying layers are limited to pottery and some glass. All the identified fragments represent a typical medley of late Roman sherds, mostly amphorae and other common wares. However, no well-defined dating for this last phase of the portico can be offered: early-mid 6th century AD seems to be

the most probable *terminus a quo*. The rebuilding could be in all probability related to the widespread destruction caused by a series of earthquakes that affected Alexandria between AD 520 and 551 (Ambraseys, Melville, and Adams 1994: 24). While the chronological aspect of the pottery evidence is rather ambiguous and should be treated with due caution, the quantification itself offers some interesting details. As anticipated, LRA4 (Gazan) vessels have an overwhelming majority; they are by far the most frequent amphorae noted in the 6th–7th century layers at Kom el-Dikka. A marked growth in the frequency of Gazan amphorae in this period has been recorded on many similarly-dated sites both in Egypt and throughout the Mediterranean, but nowhere as much as in Alexandria. LRA4 makes up a group that is definitely the most numerous among the amphorae, its percentage share reaching even 75–80% (RBHS) in some of the studied assemblages (Majcherek 2004). Some other forms, namely LRA1 originating from Cilicia and, to a lesser extent, from Cyprus, as well as some Egyptian LRA7 were also recognized.

The glass, of which a handful was found, dated mostly to the late Roman/early Byzantine period; the available repertory of finds is presented in the appendix below.

CONSERVATION

The 2016 season was the third in a row dedicated, as far as the team's conservation program is concerned, to the parts of the site forming the core of the future visiting area. Preservation operations undertaken in these designated areas were

carried out even at the expense of other work. Emphasis was put on consolidating endangered walls of monuments, tracing pathways and landscaping. Moreover, a mosaic conservation operation was pursued. Alongside routine interventions

in the floor mosaics displayed in the “Villa of the Birds” mosaic shelter on site, the team’s mosaic restorers continued an additional project of restoration for display of an early Roman house mosaic removed during earlier excavations.

RESIDENTIAL AREA (W₁N)

The eastern part of the site has been subject to intense conservation work for several seasons. Extensive fragments of late antique domestic structures were thoroughly preserved, including limited restoration in cases where walls had been badly damaged or even totally destroyed. Restoration was limited to rebuilding short sections of missing walls, never higher than 0.50–0.70 m (1–2 courses) above the relevant occupation level.

The work in 2016 focused on building G, excavated in 1990 in the central part of the area (Majcherek 1991). A section of the western elevation (approximately 16 m long), enclosing rooms G2, G3, G8 and G10, was consolidated (work supervised by Marcin Polak). The weakened and deteriorated joints, some of which had lost almost all resilience, were either filled with new mortar or re-pointed, while some smaller losses and gaps were completed with new stones. The same procedure was applied to shops uncovered along the facade of House G and the opening onto the street [*Fig. 10* top]. The whole annex is made up of four small units of roughly similar size (approximately 1.50 m wide) with walls made of rather large masonry.

These structures were excavated in the 1998/1999 season (Majcherek 2000: 37–38). When found, they were in fairly poor condition: in almost every case the lowermost blocks of the foundations was all that survived. Basic conservation was

completed already in 2006 (Majcherek 2008: 39). Only one course of the original masonry was then restored, in an effort to retain the balance between restored and original fabric. Work done in the present season was essentially routine repairs limited to refilling losses in joints or replacing some modern, badly corroded blocks in the walls, which had suffered from the heavy rains that swept Alexandria the previous fall.

Some other seriously damaged walls of House G, e.g., the high wall between rooms G6 and G7, were also repaired [*Fig. 10* bottom left]. Similar measures were also undertaken in the case of the northern wing of House C. Sections of walls in rooms C4, C5 and C6 were treated likewise.

The rectangular well heads of two manholes located in the R4 street, restored in the past, were now repaired [*Fig. 10* bottom right]. Seriously deteriorated modern blocks were replaced with new ones, and the original form of both well heads was duly restored. A similar operation was also carried out in the case of a much larger rectangular wellhead of the underground cistern, located north of the mosaic shelter. There, however, it was necessary to rebuild the entire wellhead, two courses high.

BATH

One of the major operations undertaken in the bath complex was the conservation of an extant pavement in the southern passage of the bath (work supervised by Marcin Polak). The pavement, made of irregular, assorted nummulithic limestone and marble slabs, had survived in several separate sections located mostly along the elevation. The flagging had subsided considerably in places, most probably due to seismic events plaguing Alexandria in

antiquity (for a list of ancient earthquakes, see Ambraseys, Melville, and Adams 1994). Large sections of the pavement were treated already in the 2007 season (Majcherek 2010: 45). Whole sections of flagging were now set in a new mortar

bedding and consolidated. The edges of the flagging were additionally reinforced with a supporting band of lime–sand mortar. However, missing parts of the pavement were not restored, the gaps being filled instead with gravel.

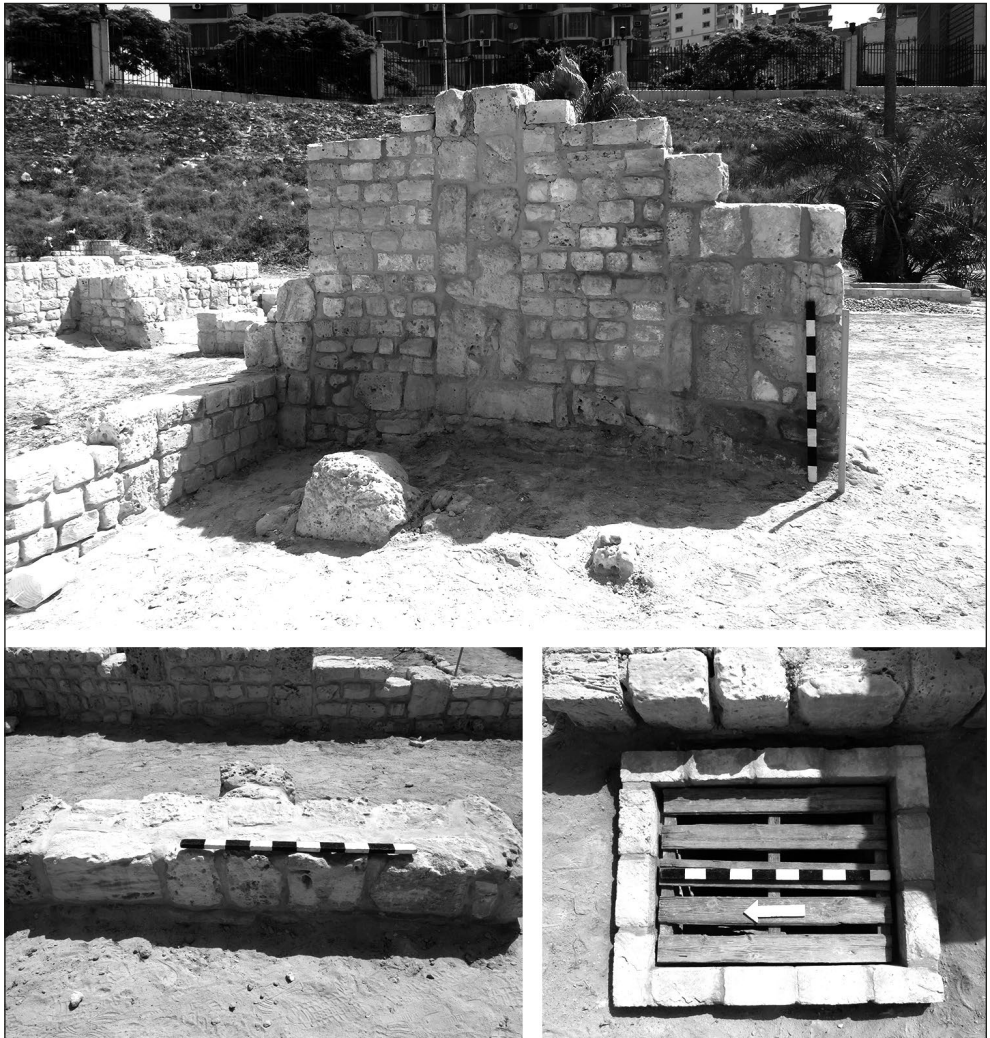


Fig. 10. House G: top, restored western elevation and shops; bottom left, wall between G6 and G7 after conservation; bottom right, street R4: restored manhole (PCMA Alexandria Kom el-Dikka Project/photos G. Majcherek)

The stylobate of the bath portico was also repaired [Fig. 11]. Lost joints along its entire length were completed with mortar, and the whole wall surface received a protective layer of well compacted lime mortar with some white cement added in. This technique, previously introduced in the coping of the theater outer wall, proved to be very effective against rainwater penetration.

An adjacent section of a modern sustaining wall protecting the entrance to the bath was restructured accordingly. Another layer of limestone blocks was added on top of the existing structure, forming a sort of curb, in order to ensure

visitors' safety. A similar operation was carried out also next to the southwestern corner of the bath.

THEATER PORTICO

The gate leading from the portico to the bath complex was also the object of conservation work. Procedures involved restoration of two steps of the large stairs located in the entrance, flanked by two Doric columns (work supervised by Marcin Polak and Grzegorz Majcherek). Restoration was seen as a necessary step not only for safeguarding existing remnants of the stairs [see Fig. 9], but also as a requirement for the planned visitors



Fig. 11. Restored southern portico of the baths
(PCMA Alexandria Kom el-Dikka Project/photo G. Majcherek)

route. The restoration was done using hard nummulithic limestone blocks from a nearby excavation [Fig. 12]. Some blocks could have even come from the original stairs. In accordance with the surviving evidence, the steps were restored with a 0.18–0.20 m rise and 0.40–0.45 m tread, allowing for unimpeded access to the bath complex. A large fragment of an ancient wall (0.80 m wide), built in traditional soft oolitic limestone, bordering the stairs from the east, was likewise restored. Judging by its parameters, this wall may have acted in the past as the topmost step or landing.

The area behind the stairs was back-filled, and will be covered with gravel.

Several patches of limestone flagging in the portico were also restored, the missing fragments completed with slabs found

during the excavation. The existing original surface was consolidated.

MOSAIC CONSERVATION

Top priority in the 2016 season was given to mosaic conservation (carried out by Ewa Paradowska and Szymon Gąsienica-Sieczka accompanied by SCA trainees). The Dionysus mosaic (MC-1), a 3rd century floor found next to the theater, was restored earlier (Lis 2004) and was transferred in 2015 to a new bedding supported by aluminium honeycomb slabs. This season, remains of PVA glue used for the original facing back in 2004 were removed mechanically with scalpels and a micro drill, and chemically using toothbrushes dipped in a 40% ethanol solution in water. Polyurethane foam, 5 mm thick, was



Fig. 12. Restored gate leading to the bath complex
(PCMA Alexandria Kom el-Dikka Project/photo G. Majcherek)

introduced as a separation layer between the honeycomb panels and the mortar used for filling edges, whereupon gaps and mosaic edges were completed with Remmers Multishpachtel mortar mixed with sand 1:1 and with a small addition of black charcoal aggregates. The round multicolored emblema set on a terracotta

tray was fixed on an aluminium supporting slab and reintegrated with the mosaic.

Two separate segments of the mosaic were then transported to the “Villa of the Birds” mosaic shelter, placed in specially-designed rigid steel frames (made of welded angled steel 221 x 285 cm) and reassembled. The most demanding operation was lifting the mosaic to a vertical position — a highly precarious operation at best. This was successfully achieved with the help of a small hand-hoist. The mosaic was positioned on a prepared foundation, slightly leaning against the north wall of the shelter, and fixed with steel rods [Fig. 13 top].

Conservation work was almost concluded this season. A final surface cleaning and application of a protective coating, as well as color integration of the plastering mortar in the gaps are scheduled for the next season.

Routine monitoring of the mosaics exhibited *in situ* in the “Villa of the Birds” mosaic shelter assessed their state of preservation and identified areas for intervention. The condition appeared to be fairly good except for some salt efflorescence noted on the surface of the floors as well as on the shelter walls. This should be related to exceedingly high humidity levels in the reported period, reaching even 80% on the humidity logger installed in the shelter. Protective bands around the mosaic edges were repaired where necessary and the pebbles and gravel filling the gaps in the pavements were removed and washed of salt deposits, then replaced on the cleaned and repainted ventilation grills [Fig. 13 bottom].

A fragment of a rather crude mosaic with geometric pattern exposed *in situ* in the portico at the entrance to the baths



Fig. 13. Mosaic conservation in the shelter: top, mosaic MC-1; bottom, mosaic with birds (PCMA Alexandria Kom el-Dikka Project/photos G. Majcherek)

(made of black and white, big tesserae) was detached from the disintegrated original mosaic bedding and moved to the storeroom. It will be reassembled on a new bedding, in its original place, in the next season.

LANDSCAPING AND SITE PRESENTATION

Heavy rains in October 2015 flooded large parts of the site, resulting in extensive damages [Fig. 14]. The devastating effect of water was observed in several monuments throughout the site. The theater and the portico appeared particularly vulnerable due to the lay of the ground. The high steep



Fig. 14. Flooded portico after heavy rains in the fall of 2015 (Photo Mahmud Mohammed al-Said)

earth slopes around them would normally absorb runoff were they not occasionally cemented or covered with stone. Moreover, a clogged drainage system along the portico did not help in effective handling of runoff water.

In several areas, where rainwater had been standing for a longer period of time (in front of the theater and next to auditorium M), serious ground subsidence was observed. Most of such damage was duly repaired, but this unplanned work involved moving large volumes of earth, backfilling and shaping new surfaces with a proper ground pitch. Damaged structures likewise had to be treated. A partly destroyed ancient staircase in the northern vestibule of the bath was repaired. Loose stones were fixed with new mortar, and eroded bricks (dating from the 1960s conservation operation) were replaced with new ones.

Other important, although seemingly ordinary and unassuming tasks, were essential for proper site maintenance. A general cleaning operation at the site was continued. Somewhat surprisingly, weeding, not litter removal, was the most time-consuming operation. Large quantities of gravel were transported and piled in prescribed areas of the planned itinerary, where they will be used for building new pathways.

Information for the visitors is one of the essential elements of the ongoing Site Development project. Bilingual information panels will be positioned next to the main monuments at the site. Specially-designed iron stands for panels made of welded steel pipes were prepared this year and the panels will be assembled in the coming season.

APPENDIX

Glass from area CV on Kom el-Dikka (Alexandria). Season 2016

Renata Kucharczyk

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Excavations in area CV yielded only a handful of glass fragments. This small assemblage contains free and mold-blown vessels of simple shape intended for domestic use: bowls, bottles, a flask, and a wineglass. A few fragments of windowpanes were also recorded. All finds, although stratigraphically related to the excavated graves of the Lower Necropolis (8th–9th century AD), are chronologically associated with the late Roman/early Byzantine period (5th–6th century AD). The vessel shape, simple workmanship, noticeable inferior quality of the glass and its coloring, all point to a local production.

BOWLS

Three rim fragments belong to bowls with convex-curved bodies [*Fig. 15:1–2*]. They are characterized by delicate walls and in-folded rims with small elongated openings. Vessels were made of pale bluish-green glass of low quality with pinprick bubbles and small black impurities. No weathering was evident.

The third fragment is of special interest, representing as it does a deep, conical specimen with flaring walls and a high collar rim with a rounded thickened edge. It was made separately and neatly fused on the inside to an in-folded rim with

a small, horizontal opening [*Fig. 15:3*]. These bowls, although found at Kom el-Dikka in relatively small numbers, should be identified as local products (Kucharczyk 2010a: 60–61, *Fig. 3:5–6*; 2011: 59–60, *Fig. 2:6–7*; 2016: 90, *Fig. 2A:8, 98, Fig. 7:2–3, 101–102, Fig. 9:1*). The evidence of deep bowls with in-folded rims of the late Roman period also came to light in the eastern subterranean cistern of House 1 at Marina el-Alamein (Kucharczyk 2010b: 120, 122, *Fig. 5:3–4*).

BOTTLES

The few recorded fragments of bottles included two slightly concave bases made of pale green glass (too small to be illustrated) and two pieces exhibiting two different decorating techniques. One, a thick square flat base with rounded corners, exhibits faint, closely set mold-blown ribs. They were twisted during re-inflation and descend from left to right [*Fig. 15:5*]. The molded-blown pattern starts from the edge of the bottom and most probably extended to the full height of a square-sided container. The absence of seams suggests that a one-piece mold was used to make the vessel. The bottle was blown from bubbly pale yellowish glass. The surface exhibits no weathering.

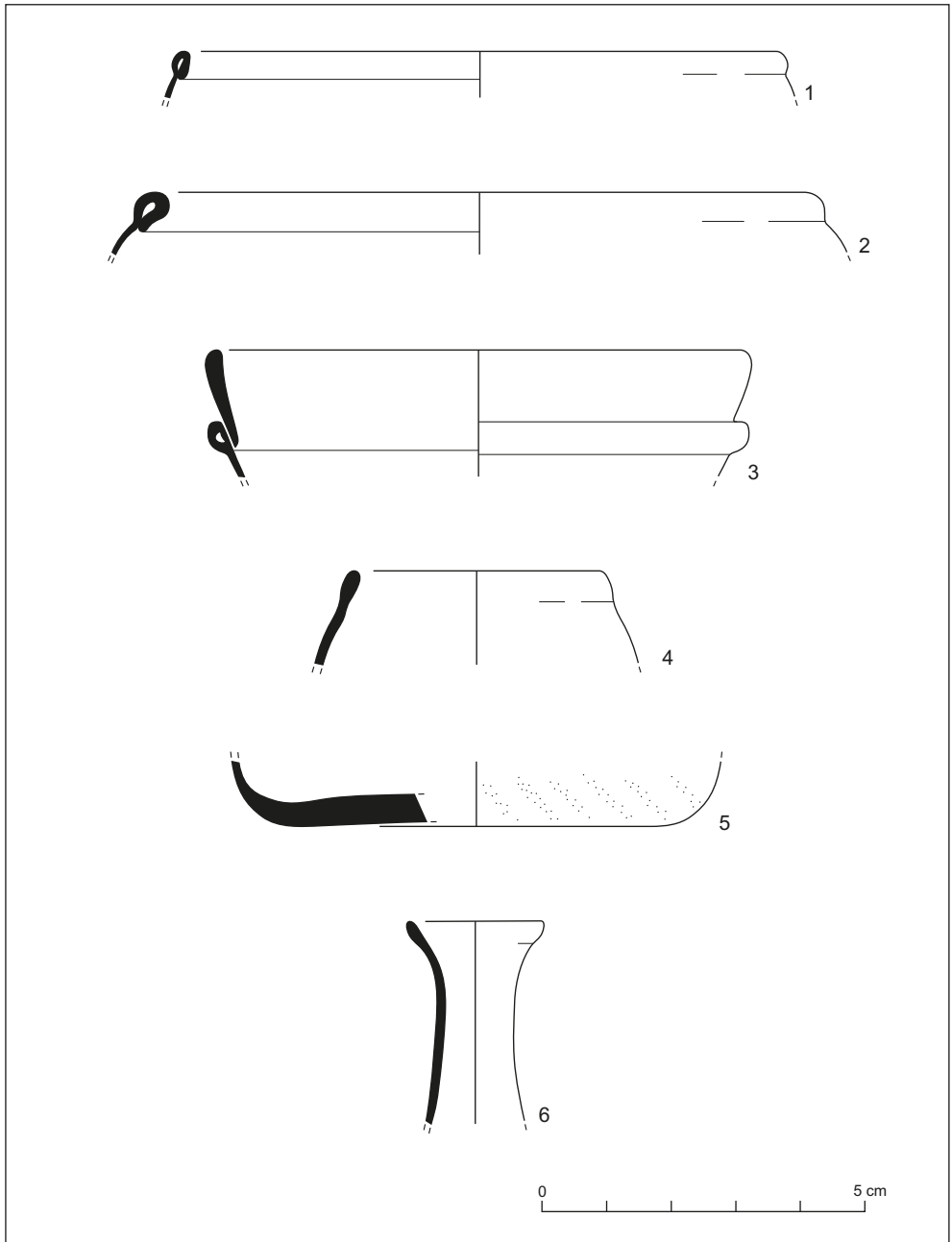


Fig. 15. Glass finds from area CV
(PCMA Alexandria Kom el-Dikka Project/drawing E. Kulicka, digitizing M. Momot)

The second piece retains a projecting, short pinch mark (too small to be illustrated). The vessel was blown from low quality colorless glass with a pale greenish tinge and a great deal of tiny spherical bubbles. The surface exhibits a milky-white coating. While not sufficiently diagnostic to identify vessel type, the shard may well have been part of a bottle. This type of plastic decoration, usually occurring on bottles, flasks, jugs, as well as bowls, particularly during the early Byzantine period, is not particularly favored in the glass workshops of Alexandria, operating most probably on Kom el-Dikka. It is also not a particularly common decorative technique at the Marea site, where only a few fragments of globular bottles (Kucharczyk 2007b: 72, Fig. 2:4; 2005: 57–58, Fig. 2:10, one pinch between green wavy trails) were found earlier and a small jar with six long, pronounced pinch protrusions as horizontal decoration was discovered quite recently (Kucharczyk forthcoming).

One shard came from a small flask with a long cylindrical neck, widening towards the shoulders, and a conical funnel-shaped mouth with a simple, fire-rounded thickened rim [Fig. 15:6]. The specimen was made of extremely bubbly

pale yellowish glass. The surface exhibits milky-white weathering and corrosion.

WINDOWPANES

A few pieces of flat window glass preserved none of the original edges (too small to be illustrated). Matt/glossy faces and numerous small elongated bubbles running in parallel lines exemplify the cylinder-blown method based on free-blowing (thickness 2.5 mm). They were made of pale green glass. The surface exhibits silver and black layers of weathering. Flat window glass produced from a blown cylinder represents one of the commonest finds on the site, particularly in contexts dated to the late Roman period (Kucharczyk 2007a: 53; 2010a: 66; 2011: 62–63, Fig. 6).

SURFACE FINDS

Two fragments of glass were found on the surface. One shard most probably belongs to a wineglass with a thin, slanting wall and a thick, fire-rounded rim [Fig. 15:4]. The second shard comes from a straight-sided bottle (too small to be illustrated). Both vessels are dated to the 5th–6th century AD and were made of bluish-green bubbly glass and showed no signs of weathering.

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