ARCHAEOLOGY OF FAILAKA AND KUWAITI COAST – CURRENT RESEARCH

Matej Ruttkay – Branislav Kovár – Karol Pieta
(editors)

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PREFACE

The Institute of Archaeology of the Slovak Academy of Sciences together with the National Council for the Culture, Art and Letter of the State of Kuwait (NCCAL) organised an international conference on the latest archaeological research results of international missions in Kuwait. The conference inspired an idea to prepare a new publication – a monograph that could complex present results of excavations supported by the NCCAL to both the scientific community and the wider public. Missions from Georgia, Great Britain, Italy, Kuwait, Poland and Slovakia contributed with their chapters. These will allow us to reconstruct human life in this area at various stages of societal development.

Editors of the publication have undertaken the task of collecting scientific studies and the Institute of Archaeology, Slovak Academy of Sciences has provided a background for publishing the monograph. The book presents the latest results of analyses of the Bronze Age site Al-Khidr, a cult object in Bahra, Al-Sabiyah and selected findings of archaeological investigations in the north-east coast of Failaka Island. Several chapters evaluate life at the prominent site of Al-Qusur between the 7th and 9th century. Interesting findings are provided by the study at the Al-Quarainiyah site and recent research in Kuwait Bay. Readers will become familiar not only with the results of the study of settlement patterns on Failaka Island but also with details of pottery production, fishing and trade in the Gulf region. The book discusses also traces of seasonal late Islamic settlement discovered at several sites on Failaka Island.

As editors we feel honoured and believe that the monograph will contribute to the mosaic of knowledge about the ancient history of Kuwait and Gulf.

Matej Ruttkay – Branislav Kovár – Karol Pieta

Acknowledgements

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Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
Archaeology of Failaka and Kuwaiti coast – current research
Nitra 2019, 9–32

THE BRONZE AGE SETTLEMENT AT AL-KHIDR[1]

LUCIA BENEDIKOVÁ & KAROL PIETA

Al-Khidr is located on the north-western promontory of Failaka Island in Kuwait Bay in the northern part of the Gulf (Fig. 1; Benediková & Barta 2010a: 13). The Al-Khidr bay was known as a harbour by the local population of Failaka earlier in the 20th century because its shape, as well as the barrier-like stone alignment at its entrance, provides shelter from the current (Figs. 1 and 2). It was recognized as an archaeological site in 1958 by the Danish mission, which was the first archaeological expedition on the island (Benediková & Barta 2010a: 13–17, with more details on the geography and topography of the site; Bibby 1996: 154; Patittucci & Uggeri 1984: 12). The site was subsequently surveyed by Italian, French, and Kuwaiti archaeologists; it was then excavated by the Kuwaiti-Slovak Archaeological Mission (KSAM) from 2004 to 2008 (Benediková & Barta 2010b: 17–18, with further details about the history of research on Al-Khidr). The research uncovered a Bronze Age shore settlement from the Early and Middle (?) Dilmun Periods, as well as later sporadic activities at the site between 50 and 400 AD, and during the Middle and Late Islamic Periods (Barta *et al.* 2010: 36–37).

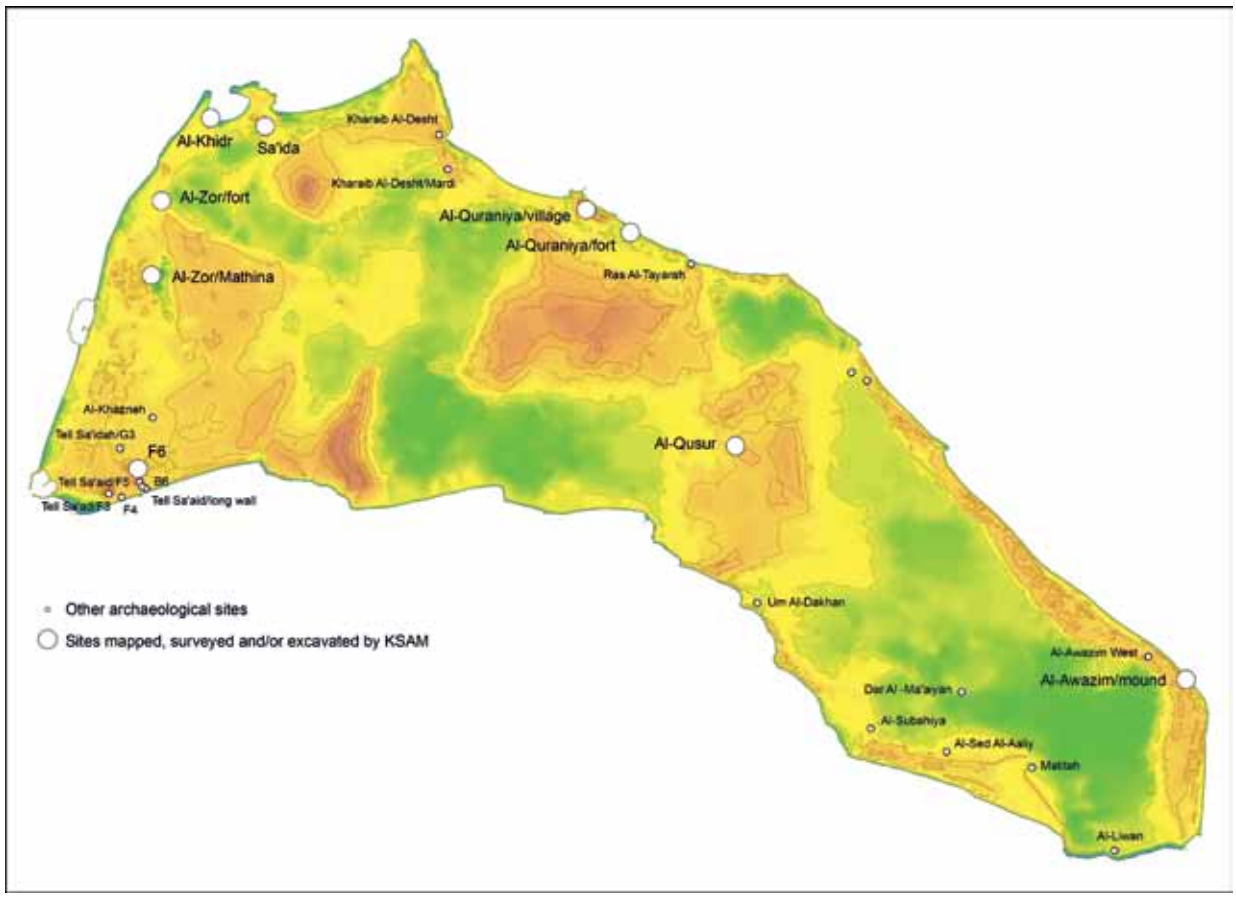


Fig. 1. Failaka Island with known archaeological sites (map: M. Bartík; after Benediková & Barta 2010a: Fig. 3a).

[1] The work on the paper was funded by the projects APVV-14-0842 and VEGA 1/0399/18.

Fig. 2. Al-Khidr (photo: a: J. Ďuriš; b: L. Benediková). a – General view of the site from the north in 2006. Mound KH-1 is on the shore of the bay, KH-2 in the northern part of the Islamic cemetery, and KH-3 in the south-western corner of the fenced area in the background. b – Entrance to Al-Khidr Bay with stone alignment during the low tide (after Benediková & Barta 2010a: Fig. 5, 7c).

KSAM excavations were begun because the site is endangered by water and wind erosion, as well as by human activity, such as mining of stones from the Bronze Age structures as secondary construction material, Middle Islamic burial practices, war, and modern plans to change Failaka into a tourist/recreational zone (Barta *et al.* 2010: 34, Fig. 25).

The present article constitutes a brief and slightly modified summary of results already published by the KSAM that were obtained during research at the Al-Khidr site (Barta *et al.* 2007: 69–73; Barta *et al.* 2008: 121–134; Benediková & Barta 2009: 43–56; Benediková & Ďuriš 2011–2014; Benediková *et al.* 2008; 2010a; 2011–2014; Hajnalová *et al.* 2009: 197–202), as they were presented at the *Kuwait through the ages* conference held in Kuwait in March 2014.

KSAM research at Al-Khidr

The archaeological area at Al-Khidr comprises three artificial mounds containing architectural and portable artefactual remains, named KH-(Khidr)-1, KH-2, and KH-3 (Fig. 3; Shehab A. H. Shehab, *pers. comm.;* Benediková & Barta 2010a: 13). Two of the mounds (KH-2 and KH-3) are now situated within a modern Islamic cemetery and are thus inaccessible for destructive research (Benediková & Barta 2010a: 13). Therefore, only part of the Bronze Age settlement could be excavated – KH-1, which is located on the shore of the harbour's western semi-circular arm (Benediková & Barta 2010a: 13).

KSAM research methods

The KSAM explored the site using a targeted, interdisciplinary approach that, apart from archaeology, included geophysics, mapping, palaeoenvironmental disciplines (archaeobotany, archaeozoology, physical anthropology), perishable material studies, digital archaeology, ethnoarchaeology, experimental archaeology, conservation, and restoration (for a methodological background of the individual disciplines, see Benediková & Ďuriš 2010a: 28–32; Benediková *et al.* 2010b: 21–28). Geographic information system (GIS) and digital archaeology were used to collect and process all data across these disciplines (Štolc & Bartík 2010: 275–283).

At the beginning of the research, the KSAM's main aims were as follows: (1) To discover the extent, development, and spatial organization of the settlement; (2) To establish the chronology of the site; (3) To collect evidence concerning the palaeoenvironment and resources of the settlement; (4) To elucidate the role of the site within the Early Dilmun world on Failaka and beyond (especially within the Gulf); (5) To trace the distinctive features of the settlement and its inhabitants; (6) To establish a plan for the conservation and restoration of uncovered finds and *in situ* remains (Barta & Benediková 2010: 21).

Besides conducting the excavations at the KH-1 mound, the KSAM carried out an extensive geophysical survey of the whole area covered with Bronze Age material, and even, to some extent, beyond these limits. To this end, geophysical prospection, the magnetic method, the dipole electromagnetic profiling method

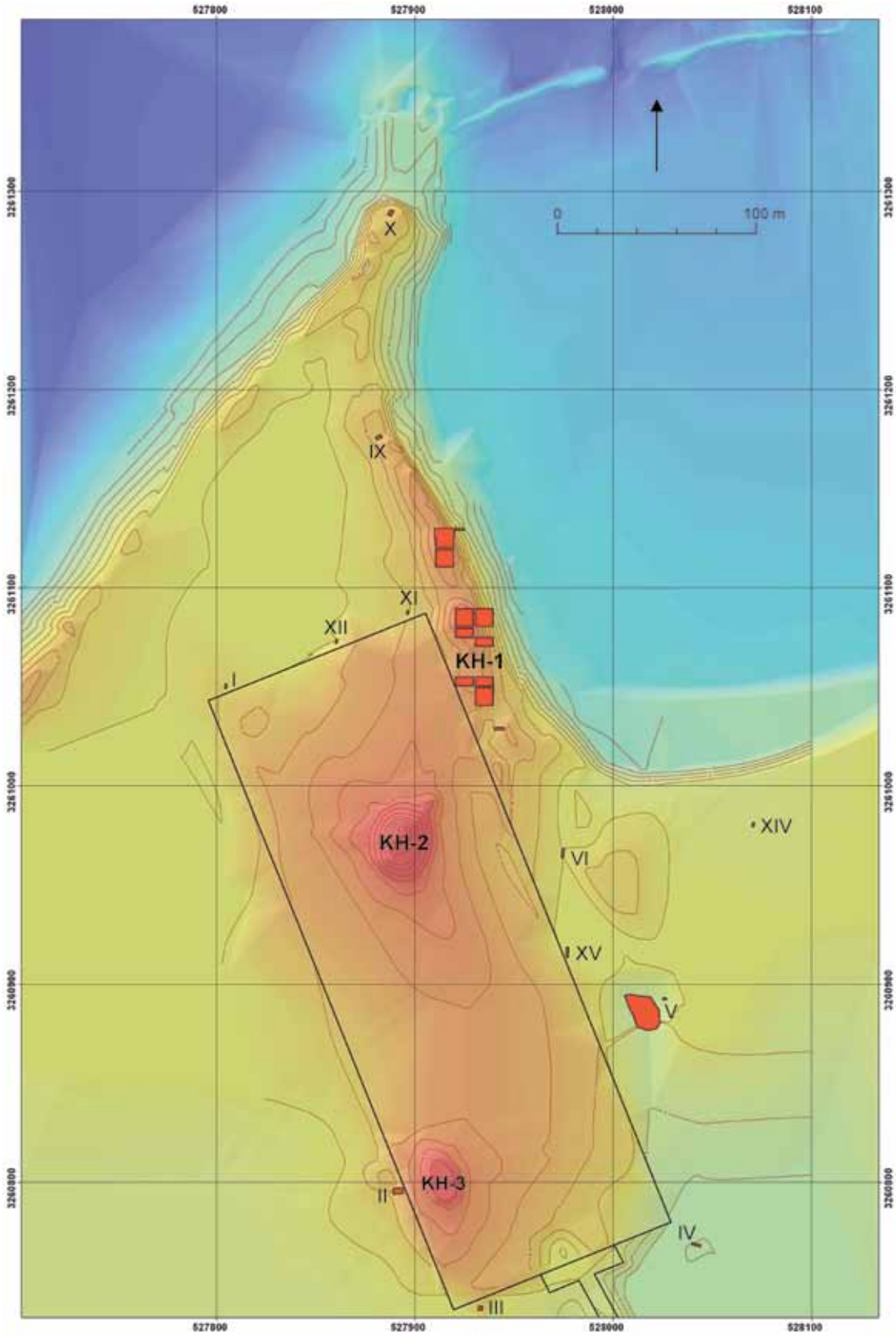


Fig. 3. Al-Khidr. 3D model of the site with marked excavated areas (red colour; Roman numerals label soundings I–XV excavated in 2004–2008; soundings VII and VIII were involved into 24AA trench; plan: M. Bartík/J. Al-Shemali/L. Benediková; after Benediková & Barta 2010a: Fig. 8).

(DEMP), and ground penetrating radar (GPR) were employed (for the results of the prospecting in 2004, 2006, and 2007, see Barta *et al.* 2007: 69–73; for the results of the prospecting in 2008 and 2009, see Tirpák 2009a; 2009b; 2009c; 2010).

The archaeological fieldwork at Al-Khidr included excavation of 15 soundings and 11 square exposures laid out in a 10 x 10 m grid and separated by balks (Figs. 3 and 4; Barta & Benediková 2010: 21). The exposures comprised a total excavated area of 634 m^2 across the soundings and trenches, 581 m^2 of which were excavated within trenches at the KH-1 mound (Fig. 4; Benediková & Ďuriš 2010a: Tab. 1). To collect the finds, hand retrieval, dry sieving, and water flotation were employed (Barta & Benediková 2010: 21). Each area was documented using a feature (= context) system, whereby all records about the appearance and location of the features, as well as about the finds discovered at each feature, were compiled in separate feature lists (Benediková *et al.* 2010b: 25, Fig. 14). The features were first documented in 1:50 plans/daily sketches. All complete or clear situations were then captured in 1:20 plans. If necessary, detailed 1:10 plans were created (Benediková *et al.* 2010b: 25, Fig. 14). All retrieved finds were registered in registration lists (i.e. small finds, pottery, samples for scientific analysis, anthropological finds, archaeozoological finds, archaeobotanical small finds, phytolith samples, and flotation samples; Benediková *et al.* 2010b: 26). Pottery finds were also recorded on pottery sheets (Benediková *et al.* 2010b: 26).

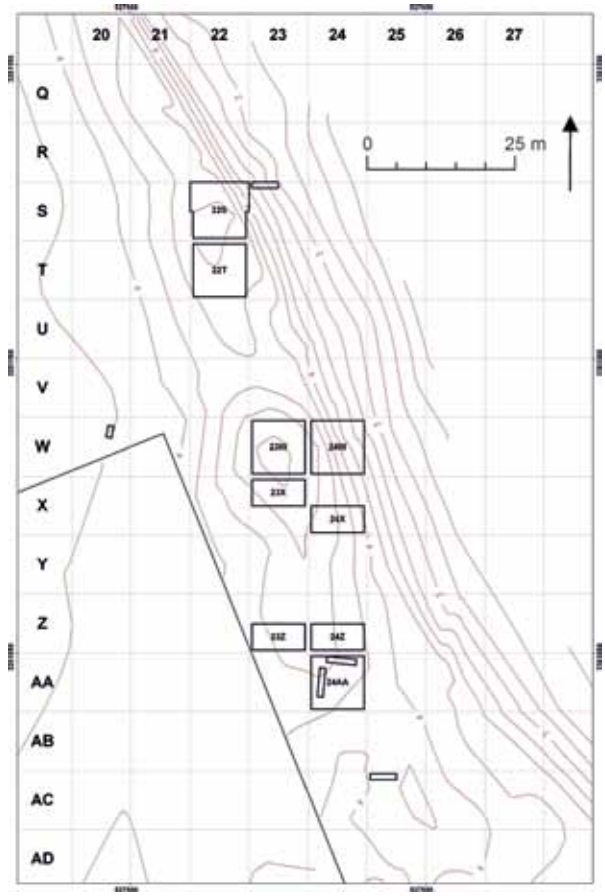


Fig. 4. Al-Khidr. Topographic plan of the mound KH-1 with labelled exposed trenches (plan: M. Bartík/J. Al-Shemali; after Benediková & Barta 2010a: Fig. 10).

Research results

KSAM research at Al-Khidr has yielded a preliminary picture of the site based on four basic categories of data retrieved at the KH-1 mound: (1) immovable (architectural) remains and stratigraphy, (2) portable artefacts, (3) perishable and palaeoenvironmental material, and (4) reference collections from individual disciplines (modern plant and zoological remains, as well as results from geophysical experiments, ethnoarchaeology, and experimental archaeology).

Architectural remains and stratigraphy of the site

Mound KH-1 has yielded two types of Bronze Age (Dilmun) stone structures (Barta *et al.* 2010: 34). Each type represents a different stratigraphic and chronological layer (Barta *et al.* 2010: 34). The upper, most distinctive stratigraphic layer is represented by rectangular ground plans (Fig. 5a, b), while the lower, more damaged layer is characterized by irregular (incomplete?) and oval ground plans that are well-preserved in the south and north of the mound (Fig. 5a, e; Barta *et al.* 2010: 34, Figs. 26–29, 33). However, our understanding of the individual buildings in the upper horizon is complicated by the massive rebuilding and refurbishment of the original structures (Fig. 5c, d; Barta *et al.* 2010: 36, Figs. 30–32, 37–39). The lower horizons were preserved in a fragmentary state only, because the settlement was later reorganized, giving rise to the current plan of the upper horizon (Fig. 5a; Barta *et al.* 2010: 34, Figs. 26, 30–33). The horizon with oval ground plans is partially accompanied by and partially separated from the upper horizon of architecture by anthropogenic shell strata, occasionally combined with bituminous substances and gypsum-like matter. The shell strata are best preserved in the southern and central parts of the mound (Fig. 5d; Barta *et al.* 2010: 34, Figs. 34–36).

Fig. 5. Al-Khidr. Architectural and other in situ remains (photo: a–c, e: J. Ďuriš; d: L. Benediková; after Barta et al. 2010: Figs. 27a, 28d, 30a, 32d, 33d).

The stratigraphic and chronological position of these layers is ambiguous – field observations from some spots indicate a stratigraphy within the lower architectural horizon (massive shell deposits combined with remarkable amount of flint lithics and copper object fragments, including tools), while those from other spots indicate that the layers have overlay the lower architectural horizon (layers containing shells, bitumen-like, and gypsum-like substances may indicate that the site had been levelled to make way for the new, upper settlement; Barta *et al.* 2010: 34–53). These deposits were originally interpreted as a middle stratigraphic and chronological Bronze Age layer (cf. Barta *et al.* 2010: 34–37; Benediková & Barta 2009: 51–54). However, this assessment was modified after imagery analysis of trenches 22S and 22T using GIS and digital archaeology (Benediková *et al.* 2011–2014), which showed that there are likely only two stratigraphic layers ("lower" and "upper" by the above definition). The imagery analyses also defined two sub-layers within the upper layer, as well as an abandoned settlement with gradually dilapidating structures that followed the upper layer settlement (Benediková *et al.* 2011–2014).

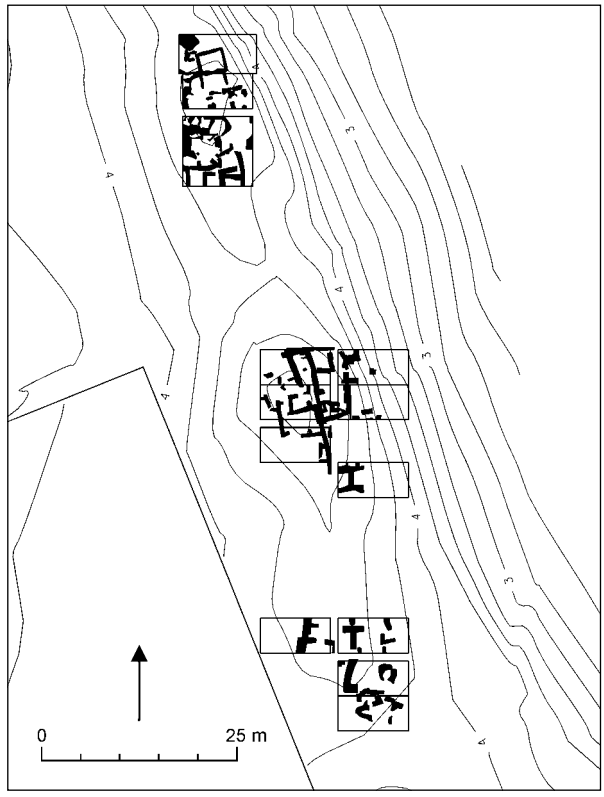


Fig. 6. Al-Khidr, mound KH-1. A general overview of unearthed architectural remains (all stratigraphic layers; plan: M. Bartík/ L. Benediková; after Barta et al. 2010: Fig. 26).

The best-preserved structures from the upper horizon retained a height of 80 cm (Barta *et al.* 2010: 34) and comprised small sections of rectangular spaces, probably parts of larger compounds, with storage vessels sunken into the flooring, made of gypsum-like matter, of which only fragments were detected along the walls and in corners (Fig. 5a, b; Barta *et al.* 2010: 34, Figs. 26–29). The general plan of the unearthed architectural remains shows that the buildings at Al-Khidr have been preserved in a rather fragmented state (Fig. 6; Barta *et al.* 2010: 34). In adjacent areas of the buildings' foundations, the remains had a different character, perhaps because the buildings had a different original function, or because they had been destroyed to a greater degree. If the former is true, we could speculate about different spatial units within the mound (such as perhaps a house with an activity area close to it; Barta *et al.* 2010: 34). Importantly, the excavations at KH-1 were carried out on a smaller scale than those at F3 on Failaka or Saar in Bahrain (Barta *et al.* 2010: 36), where the evidence was better-preserved even though the site plans were comparable (i.e. small spaces within larger compounds; for F3, see Kjærum 1986: 80–82, Figs. 7, 8, 11; for Saar, see Killick 2005a: 7 ff.; 2005b: 25 ff.; Killick & Moon 2005: 149 ff.). Unlike these, the Al-Khidr site yielded only scarce evidence of the interior furnishing used in the settlement units (many storage jars, several locations that may be fireplaces; Barta *et al.* 2010: 36, Figs. 28, 37–39). Nevertheless, the material culture on Al-Khidr was rich, with substantial fragments of pottery, bitumen objects, metal and stone implements, and stamp seals being found (see below; Barta *et al.* 2010: 36).

Besides stone, gypsum-like (white) and bituminous (black) substances were found among the *in situ* construction remains (Fig. 5c, d; Barta *et al.* 2010: 36, Figs. 31b, c, 32c, d, 34, 35f, 39c, 40–42). The white substances were used to plaster the horizontal and vertical surfaces (floors, walking horizons and walls both inside and outside the buildings), as construction matter (bricks in walls instead of stones, bricks used to pave the horizontal surfaces), and as bonding materials (including mortars; Barta *et al.* 2010: 36). The black substances were used to coat objects for different purposes (see below) and as bonding substances in constructions made of stones and/or gypsum-like material. They also occurred within the shell/gypsum-like/bituminous deposits that may have been used for levelling (Barta *et al.* 2010: 36).

The stratigraphy of the cultur Al-anthropic strata at the Al-Khidr KH-1 mound can be summarized as follows: at the site itself, three main cultural and chronological horizons could be defined, with the most

important and most distinctive belonging to the Bronze Age (stratigraphic layers III and IV), which lay at the bottom of this cultural sequence (Barta *et al.* 2010: 36). After the Bronze Age occupation, the site was occasionally used between 50 and 400 AD, as indicated by the pit with amphora fragments (stratigraphic layer II; Barta *et al.* 2010: 36). The last cultural occupation occurred within the Islamic Period (stratigraphic layer I): in the Middle Islamic Period, a burial was laid on the site (sub-layer Ia), while in the Late Islamic Period, people used the location for various activities, including fishing, camping, and religious rituals (Al-Khidr-shrine; sub-layer Ib; Barta *et al.* 2010: 36).

The Bronze Age stratigraphic horizon could be further divided into the upper (III) and lower (IV) layers (cf. Barta *et al.* 2010: 37; Benediková *et al.* 2011–2014). The first, earliest layer (IV) is characterized by structures on irregular or oval ground plans, and the later, upper layer (III) by structures on rectangular ground plans (Barta *et al.* 2010: 37; Benediková *et al.* 2011–2014). Within layer III, two sub-layers could be defined: a lower (IIIb) and an upper (IIIa), with the upper sublayer being less intensive, indicating a reduction in activity at the site (Benediková *et al.* 2011–2014). Imagery analyses also revealed a post-IIIa layer containing the remains of an already abandoned settlement where no activities took place (Benediková *et al.* 2011–2014).

Excavations of soundings within the whole Al-Khidr area elucidated the general stratigraphy of the location concerning non-cultural, natural strata. Specifically, the stratigraphic sequence starts with cultural strata (yielding predominantly Bronze Age remains) on top, underlain by loose, sandy sediments, sometimes with thick, hardened, calcareous sandy deposits and sand/sand-shell successions (Barta *et al.* 2010: 32; Benediková & Barta 2009: 47). The base of the sequence is sandstone or limestone, or strata of sterile sands that continue below the groundwater table (Barta *et al.* 2010: 32; Benediková & Barta 2009: 47). The hard layers of sandstone or limestone at Al-Khidr, which have the same composition as the usual beach-rock of the area, do not form an undisturbed layer underlining the loose superstrata, and are in some locations substituted either by loose sandy deposits or by hardened sand deposits at depths where beach-rock would be expected (Barta *et al.* 2010: 32, Fig. 24; Benediková & Barta 2009: 47). It may be that the sandstone/limestone layers are unequally developed because of coastline and sea level changes in the Gulf during the Holocene (Barta *et al.* 2010: 32; Benediková & Barta 2009: 47). In addition, geophysical techniques have also contributed to the understanding of these layers within the Al-Khidr area (Barta *et al.* 2007: 69–73; 2010: 32).

Portable artefacts

The portable artefacts found at the site comprised red-ridged ware and other pottery, 71 Dilmun stamp seals and a cylinder seal, metal objects, softstone vessels and object fragments, knapped flint debitage and tools, non-flint stone stools and stone objects (ground stones, crushers, beads etc.), bitumen objects, bitumen fragments with impressions of basketry and cordage, and some raw materials (e.g. sulphur and hematite; Benediková & Barta 2010c: 54).

Most common among the small finds on the site were copper finds, followed by softstone and stone objects (Benediková *et al.* 2010c: 54). In particular, copper rods with different cross-sections were the most frequent object-type finds (Benediková *et al.* 2010c: 54, graphs 3, 4; Figs. 46–49). The "copper rod" group encompasses a wide variety of tool types, such as awls, punches, chisels, styluses, and needles (Benediková *et al.* 2010c: 54, Figs. 50–51). Several exemplars of copper awls or punches were found fitted onto a handle of bird or mammal bone (Zora Bielichová-Miklíková, *pers. comm.*), sometimes with the preserved remains of bitumen as a bonding material (Benediková *et al.* 2010c: 54, Figs. 50e, f, 110). Copper rod bundles were also discovered; in some cases, they had originally been bound together by string, as evidenced by petrified remains on several exemplars (Benediková *et al.* 2010c: 54, Fig. 52–53e, f). Other than these rods, copper fish-hooks showed the highest occurrence of any copper object at the site (Benediková *et al.* 2010c: 54, graphs 3, 4; Figs. 54–56). On some exemplars, petrified strings were again documented (Benediková *et al.* 2010c: 54, Fig. 53 a–d). Tools and objects made of copper sheets were also found, including blade tools (knives, daggers and razors), vessel fragments, sometimes with reparation openings, and copper sheet fragments of unclear function (Benediková *et al.* 2010c: 54, Figs. 57–65a, b). Among the copper tools, rare exemplars occurred, such as tweezers, arrow heads, rivets, rings, beads, and some objects of unknown function (Benediková *et al.* 2010c: 54, Tab. 6, Figs. 65 c–f, 66–67).

Softstone objects comprised the second largest category among the small finds at Al-Khidr (Benediková *et al.* 2010c: 55, graphs 1, 2). Specifically, two large groups of objects were noted: (1) seals and (2)

vessels and vessel fragments, as well as two other, less distinctive groups: (3) softstone ornaments and (4) other softstone objects (Benediková *et al.* 2010c: 55, Figs. 68–92). Among the seals, most exemplars were made of softstone and were identified as Early Dilmun circular seals (Benediková *et al.* 2010c: 55, Figs. 69–76). Several seals were made of other materials (mother-of-pearl, stone, shell; Benediková *et al.* 2010c: 55, Figs. 77–78). To date, only one single seal has been discovered (in 2004), which originated in a non-Dilmun cultural environment. It is a cylinder seal with a cuneiform inscription that refers to "Ab-gina, sailor from a huge ship, the son of Ur-Abba" (Benediková *et al.* 2010c: 55, Fig. 68; Rahman 2006). This seal provided further evidence that Dilmun was in contact with ancient Mesopotamia at the end of the 3rd and beginning of the 2nd millennium BC. The collection of softstone vessels and vessel fragments at Al-Khidr is voluminous, but rather uniform (Benediková *et al.* 2010c: 55). It mostly comprises common, simple, semi-globular or globular shapes (bowls). In rare cases they are spouted or have lugs and they are decorated by a combination of dotted circles and incised lines. Several vessels of other shapes also occurred (cylindrical vessels, low cylindrical vessels, plates, low prismatic vessels, putative strainers, softstone lids, and others; Benediková *et al.* 2010c: 55–56, Figs. 79–88). Two vessel fragments were rather exceptional: (1) a body sherd of dark colour, made of fine hard ware and decorated by fine, dense incisions that still showed traces of a white paste and (2) a small globular vessel with a rectangular base, knobs, and, on its outer wall, an inscription inside a frame that is divided into seven fields (Benediková *et al.* 2010c: 56, Figs. 88e, f, 89).

At the Dilmun settlement of Al-Khidr, stone was used for various purposes. Two major groups of stone objects could be distinguished based on material – flint and non-flint stone objects (Benediková *et al.* 2010c: 56, Figs. 93–97). Among the flints, a large amount of flint-working waste (debitage) occurred, while finished tools such as burins, notches, perforators, denticulates, cutting tools, wedges, and scrapers were rare (Benediková *et al.* 2010c: 56, Figs. 93–94). One obsidian core was found in the collection of knapped stones (Benediková *et al.* 2010c: 56, Fig. 93b). Non-flint stone objects from the site encompassed several basic types: tools for hammering and pounding (pounders, hammer-stones/choppers/crushers, rubbers, multi-purpose tools, polishers), mortars, grinders, grindstones, anvil-stones, various working slabs, stones used in construction (such as door-sockets), and other used/worked stones that were rarer (whetstones, anchors, stone basins, stone lids etc.; Benediková *et al.* 2010c: 56, Figs. 95–97). These were made of different kinds of stones (limestones, quartz or quartz-rich rocks, sandstones; Benediková *et al.* 2010c: 56). Besides common stone objects and stone tools, several personal ornaments, objects used in the manufacture of these ornaments, and other objects made of stone were discovered on the site (Benediková *et al.* 2010c: 57, Fig. 104). Among them, a sandstone human figurine head and a Mesopotamian spindle-shaped weight (cf. Crawford 2000:, 75, Figs. 100–103), probably made of haematite, rank among the rare finds from the site (Benediková *et al.* 2010c: 57, Fig. 105).

In addition, the following finds must be emphasized: beads and ornaments made of various raw materials (bone, shell, mother-of-pearl, bitumen), worked bones (handles, pins and others), worked shells, pearls, clay and stone net sinkers, and different clay objects (spindle whorls, round plates made of re-used sherds from broken storage jars, baking plates and others; Benediková *et al.* 2010c: 57, Figs. 106–118).

Pottery from the site has not yet undergone any detailed analyses, so only a brief overview of the types occurring on the site and their general chronology can be offered based on screening and documentation of the collection found during the 2004 and 2006 campaigns.[2, 3] Among the pottery forms from Al-Khidr, the large red-ridged jars found in different positions and situations within the settlement are the most striking; in particular, smaller, globular, necked or neckless red-ridged jars, some with sieve-necks, constitute the most numerous typological group within the assemblage (Benediková & Ďuriš 2010b: 182, Figs. 119, 120, 124–127, 161–168, 176–180; 2011–2014: 1, Figs. 1, 2, 6–9, 43–50, 58–62). Other shapes that occurred in the pottery collection at Al-Khidr comprise bowls, plates, ovoid vessel forms, spouted vessels, goblets, cooking stands, and other clay objects (spindle whorls, baking plates and lids, and round plates from sherds; Benediková & Ďuriš 2010b: 182, Figs. 121–123, 169–175; 2011–2014: 1, Figs. 3–5, 52–53; Benediková

[2] Pottery drawing figures shown below (Pls. I–XII) represent a selection of the figures that were supposed to be published in already quoted monograph (Benediková *et al.* 2010a: Figs. 161–180). Unfortunately, due to a technical mistake at the printing house, supposed Figs. 164–180 (in Benediková *et al.* 2010a) did not occur in at least some exemplars of monograph's edition. Slightly edited version of the text (including figures) on the pottery from Al-Khidr was therefore published online (Benediková & Ďuriš 2011–2014).

[3] In 2016 a new team of the Kuwaiti-Slovak Mission re-started the scientific work on the pottery from Al-Khidr site (cf. Kovár, Daňová & Pieta, in this volume).

et al. 2010c: Figs. 114–119). Of particular interest are the broken sherds of large red-ridged jars with small oval hollows etched into the inside of the original body; sometimes they had fine, uneven, hatched lines between them (Benediková & Ďuriš 2010b: 182, Figs. 145–146, 172: 1; 2011–2014: 1, Figs. 27–28, 54: 1). The outer and inner pottery surfaces were coated with slips and/or painted in red, dark, and pale colours (Benediková & Ďuriš 2010b: 182, Figs. 128–143; 2011–2014: 1). Seven pottery ware groups, each embracing several sub-groups, were differentiated on the basis of the fragments from two seasons (wares I–VII)[4]. In addition, one group with a different character was identified (preliminarily named ware Y), and its chronological position (Bronze Age or younger) remains to be verified on more fragments from other seasons (Benediková & Ďuriš 2010b: 182, Figs. 122, 147–160; 2011–2014: 1, Figs. 4, 29–42)[5]. This grouping is a working version that can be modified in the future with help from natural scientific disciplines (petrography; Benediková & Ďuriš 2010b: 182; 2011–2014: 1–2).

Although the pottery found in the 2004 and 2006 seasons represents only a small portion of the whole collection from Al-Khidr, it does enable an overview of all the basic stratigraphic layers at the site (Benediková & Ďuriš 2011–2014: 4). Nevertheless, the representative types from layers IIIb and IV (see above) are not yet very abundant in the 2004/2006 collection because those stratigraphic layers were mostly excavated in later seasons (Benediková & Ďuriš 2010b: 184; 2011–2014: 1). Most of the fragments can be attributed to the Barbar pottery tradition (Pls. I; II: 1–6, 8–11; III; IV; V; VI; VII: 1, 3–5; VIII; IX: 1–3; X: 4, 10, 12; XI: 1, 3, 4, 6, 7, 8, 9; XII[6]; spherical/globular or ovoid jars, neckless vessels, large ridged jars, plates, bowls, simple S-shaped vessels; Benediková & Ďuriš 2010b: 184; Figs. 119, 120, 124–127, 161–171, 174: 1, 3, 4, 6, 7; cf. Benediková & Ďuriš 2011–2014: 4, Figs. 1; 2; 43–53; 56–62). There were also several examples of Mesopotamian pottery tradition in the assemblage (Pls. II: 7; VII: 2; IX: 4–6, 9; X: 1–3, 5–9; XI: 2, 5; Benediková & Ďuriš 2010b: 184, Figs. 121e, 159, 162: 4?, 163: 7, 172: 4–6, 9, 173: 1–3, 5?, 6–9, 11, 174: 2, 5; cf. Benediková & Ďuriš 2011–2014: e.g. Figs. 3e; 41; 44: 4?; 45: 7; 54: 4–6, 9; 55: 1–3, 5?, 6–9, 11; 56: 2, 5). Among the painted sherds, fragments of possibly Eastern pottery tradition were also found (Benediková & Ďuriš 2010b: 184, Figs. 121 c–d?, 135–137?; cf. Benediková & Ďuriš 2011–2014: Figs. 3c, d?; 17–19?).

The majority of the assemblage found during the 2004 and 2006 seasons at Al-Khidr could be dated to Højlund's Failaka periods 2A and 2B (1987), although many types remained in use over a long period; that is, from Failaka period 1 to 2B (Benediková & Ďuriš 2010b: 184). Nevertheless, traces of earlier material occurred in the assemblage (Pls. VII: 4?, IX: 5, X: 1, 2, 6, 7–9, XI: 3, 4; Benediková & Ďuriš 2010b: 184, Figs. 170: 4?, 172: 5, 173: 1, 2, 6, 7–9, 174: 3, 4; cf. Benediková & Ďuriš 2011–2014: Figs. 52: 4?; 54: 5; 55: 1, 2, 6, 7–9; 56: 3, 4; Failaka period 1, Højlund 1987; Qala'at Al-Bahrain periods I–IIb, Højlund 1994a: 73–178), as did some later material (Figs. 8: 7, 13: 2, 15: 2?, 6, 8?, 9, 16: 3?, 11, 17: 2, 5; Benediková & Ďuriš 2010b: 184, Figs. 121e, 162: 4?, 163: 7, 170: 2, 172: 2?, 6, 8?, 9, 173: 3?, 11, 174: 2, 5; cf. Benediková & Ďuriš 2011–2014: Figs. 3e; 44: 4?; 45: 7; 52: 2; 54: 2?, 6, 8?, 9; 55: 3?, 11; 56: 2, 5; Failaka period 3A and Kassite Failaka periods 3B–4B, Højlund 1987; 1994b: 179–198).

Perishable and palaeoenvironmental material

To understand the use of perishable materials by the inhabitants of Bronze Age Al-Khidr, the bituminous substances from the site are of key importance (Hajnalová *et al.* 2009: 197–202). Bitumen fragments from all excavation seasons showed variability of use, and an enormous amount of such matter was found within the settlement. Specifically, based on weighted fragments from the 2004–2007 seasons and on the expected weight of samples from the 2008 campaign, the weight of bitumen from all four excavation seasons was estimated as 200–230 kg (Belanová-Štolcová 2010a: 241–242, Tab. 52).

[4] Seven groups were defined after the study seasons in 2008 and 2009. However, during the study season in 2016, the system was slightly simplified (cf. Kovár, Daňová & Pieta, in this volume).

[5] Selected samples from ware reference collection were photographed after 2008 season in cooperation with Ing. Jana Mihályiová at the Institute of Archaeology SAS in Nitra using high-power stereoscopic microscope Zeiss- Discovery V12 in combination with AxioVision 5.2 software (Benediková & Ďuriš 2010b: 182, Figs. 147–157, 160).

[6] Types are referred to in Pls. I–XII (same also on Figs. in Benediková & Ďuriš 2011–2014). Failaka type # refers to Højlund's 1987 typology; B# and M# to Højlund's 1994a typology; and type S# refers to Carter's 2005 typology. In Højlund's 1987 Failaka typology the types numbered from 1 to 53 represent the Barbar pottery tradition, the types 54–100 the Mesopotamian pottery tradition. In Højlund's 1994a the types labelled as "B" are Barbar, "M" Mesopotamian pottery tradition (for other traditions see Højlund 1994a: 111–128). After Carter's 2005 typology the types that are referred to in this volume belong to the Barbar pottery tradition.

At Al-Khidr, bitumen occurred as a blackish, solid substance, indicating mixture with various organic and mineral matters, such as chopped straw, palm and reed leaves, date stones, sand, clay, pottery debris (Belanová-Štolcová 2010a: 245, Figs. 194, 195, 200, 206; Hajnalová 2010: 257, Tab. 61; Hajnalová *et al.* 2009: 199). Throughout the whole excavated area, bitumen was frequently used as a bonding material in buildings in addition to mortar (Belanová-Štolcová 2010a: 245, Fig. 196). Thin bitumen layers on the inner and/or outer surfaces of pots testify that this waterproof agent was used extensively to coat pottery (Belanová-Štolcová 2010a: 245, Figs. 190–192). The discovery of potsherds with a thick, rugged bituminous crust indicate that bitumen may have been stored and perhaps heated up at Al-Khidr (Belanová-Štolcová 2010a: 245, Fig. 191b). Other types of bituminous mixtures, richly tempered with sand, contained a large number of date stone imprints, substantially enriching our collection of plant macro-remains (Belanová-Štolcová 2010a: 245, Fig. 192). Compact lumps of bituminous substances were associated with various artefacts, such as handles, sealings, or jar stoppers (Belanová-Štolcová 2010a: 245, Figs. 193, 198–199). Impressions of various plants and perishable artefacts occurred on most of the Al-Khidr bitumen assemblage (Belanová-Štolcová 2010a: 245). For example, the numerous palm leaves, as well as reeds or palm wood tied together with cordage, indicate that larger constructions once stood (Belanová-Štolcová 2010a: 245, Figs. 189, 204). There were abundant and well-identified fragments of bitumen – coated mats, small baskets, and containers (Belanová-Štolcová 2010a: 245, Figs. 181–187), and some well-preserved, detailed impressions allowed ancient basketry and cordage techniques to be identified (Belanová-Štolcová 2010a: 245). Most of the baskets were plaited using the two-over-two-under twill technique of palm leaves and covered with bitumen on both the inside and outside (Belanová-Štolcová 2010a: 245, Figs. 183–186). One exceptional find was a nearly complete coiled basket (Belanová-Štolcová 2010a: 245, Fig. 182). Impressions of cordage were less frequent and mostly occurred on the backside of seals (circular stamp seal impressions) that once marked the goods closed in containers or bundles (Belanová-Štolcová 2010a: 245, Figs. 188, 199b). This glimpse into everyday life in Dilmun provided by the bitumen finds would not be complete without mentioning seafaring (Belanová-Štolcová 2010a: 245). As in recent times, we can expect to find reed-bundle boats caulked by bitumen to prevent leakage and mechanical damage of the hull (Belanová-Štolcová 2010a: 245). Although such finds are rather common in the Gulf, the evidence for boats at Al-Khidr is still flimsy (Belanová-Štolcová 2010a: 245, Fig. 197). However, the natural anchorage at Al-Khidr, and the Dilmun maritime trade mentioned in Mesopotamian records, imply that our expectations of solid evidence for boats are realistic (Belanová-Štolcová 2010a: 245).

The main aim of the palaeoenvironmental studies of the KSAM was to reconstruct the environment, subsistence, and economic use of plants and animals by people occupying the site and living on Failaka during the Bronze Age (Hajnalová 2010: 254; Hajnalová *et al.* 2009: 197–202; Miklíková 2010: 266). To this end, assemblages of ancient plant macro-remains (e.g. seeds, fruits, wood, etc.) were analysed. However, the micro-remains (phytoliths) and the remains of marine and terrestrial animals (e.g. animal bones, shells, otoliths, etc.) collected from the excavated archaeological features and sediments have not yet been processed (Hajnalová 2010: 254; Miklíková 2010: 266).

To obtain samples representative of the site, a systematic sampling strategy has been applied since the second (2006) excavation season. The strategy applied a chess-board scheme to each of excavated trenches (Hajnalová 2010: 254, Fig. 207; Miklíková 2010: 266). The minimum volume of flotation samples was set to ten litres. When such a volume was not available, the whole fill was taken (Hajnalová 2010: 254). In addition, judgemental sampling of the "interesting" areas was also performed, with the same minimum sample volume (Hajnalová 2010: 254). Three techniques were used to recover the floral and faunal remains from the sediments: water flotation, dry sieving, and hand retrieval (Hajnalová 2010: 254–255, Fig. 208; Miklíková 2010: 266–267, Fig. 214).

Despite systematic sampling and extensive flotation, it can only be stated that almost no ancient plant macro-remains occur in the archaeological strata at Al-Khidr (Hajnalová 2010: 257; Hajnalová *et al.* 2009: 198). Based on a limited sample of *Phoenix* cf. *dactylifera* finds and about 100 date stone imprints in bitumen, the fruit of the date palm seems to have been the only staple plant food consumed on Failaka during its Dilmun past (Hajnalová 2010: 257, Fig. 211, with other references; Hajnalová *et al.* 2009: 198). Otherwise, there were only four finds of charred cereal grains: three of domesticated barley grains (*Hordeum vulgare*) and one of wild millet grain (*Panicum turgidum*; Hajnalová 2010: 257, Fig. 212; Hajnalová *et al.* 2009: 198). However, before the AMS dating of these three grains has been carried out, we cannot be sure that they do not represent contamination from the overlaying layers (Hajnalová *et al.* 2009: 198). Two poorly preserved chaff fragments, most probably from glumes of wheat, were found in

two samples. However, because they are poorly preserved, it has not been possible to determine whether they came from cultivated cereals or wild grasses (Hajnalová 2010: 257). Because no seed reference collection or reliable literature is available, the groups of wild plants finds remain unidentified (Hajnalová 2010: 257, Tab. 60, Fig. 213). Most charcoals from the site occurred in fragments smaller than 3 mm, so it was not possible to ascertain the respective plant taxa, and fewer than 300 fragments remain to be analysed (Hajnalová 2010: 257; Hajnalová *et al.* 2009: 198).

Based on the first analyses of archaeozoological (bone) material, it can be stated that food production at the site was strongly dependent on marine resources (Hajnalová *et al.* 2009: 199; Miklíková 2010: 268). The majority of animal bone remains retrieved from Al-Khidr consisted of fishbones (Hajnalová *et al.* 2009: 199; Miklíková 2010: 268, Fig. 219a, b). At least ten families of fishes and twelve species were present in material, including requiem sharks (*Carcharhinidae*), sawfish (*Pristidae*), marine catfish (*Ariidae*), groupers (*Serranidae*), jacks/trevallies (*Carangidae*), grunts (*Haemulidae*), emperors (*Lethrinidae*), seabreams (*Sparidae*), parrotfish (*Scaridae*), and barracudas (*Sphyraenidae*; Hajnalová *et al.* 2009: 199; Miklíková 2010: 268). At Al-Khidr, the number of individual large fish may suggest that the residents were fishing with a hook and line (Miklíková 2010: 268). The many metal fishhook finds corroborate this conclusion and clearly demonstrate that fishing was important for the Dilmun inhabitants (Miklíková 2010: 268). The analysis of otoliths, which was carried out in cooperation with fisheries biologist Dr. Mohsen Al-Husaini, suggested that fishing mainly took place during late spring and early summer, from April to June (Hajnalová *et al.* 2009: 200; Miklíková 2010: 268). The diet of the inhabitants was enriched by other animal species, as evidenced by the large amounts of cormorant (*Phalacrocorax* sp.) bones in certain excavation areas, as well as by the remains of sea turtles (*Chelonidae*), swimming crabs (*Portunidae*), and cuttlefish (*Sepia* sp.). With regards to terrestrial mammals, domestic species such as sheep (*Ovis aries*), goat (*Capra hircus*), and cattle (*Bos taurus*) occurred (Hajnalová *et al.* 2009: 199–200; Miklíková 2010: 269, Fig. 219f). Wild mammals were represented by occasional gazelle bones (*Gazella* sp.), deer antlers, fox bones, and dolphin remains (Miklíková 2010: 269, Fig. 219c–e). The remains of marine molluscs occurred at Al-Khidr in large quantities and may constitute the remains of subsistence activities, shellworking waste, or the remains of construction plot preparation (insulation/levelling; Miklíková 2010: 269). In the past, shells were exploited in numerous ways – as food, bait, building and burial material, and containers, as well as for extracting colour and for creating inlays, beads, trinkets, and pearls (Miklíková 2010: 269). In Bronze Age deposits at Al-Khidr, local edible shellfish (e.g. *Pinna, Pinctada, Ostrea, Chlamys, Spondylus, Barbatia*) and an abundance of pearl oyster shells (*Pinctada margaritifera/Pinctada radiata*) have been recorded, indicating that pearl fishing may have occurred at Al-Khidr (Hajnalová *et al.* 2009: 200; Miklíková 2010: 269).

Reference collections

Almost all of the disciplines involved in research at the Al-Khidr sites have started to build their own reference collections to help in the interpretation of excavated *in situ* remains and portable materials. These reference collections were established from either the modern natural sources occurring on Failaka or with the help of experiments. All are open systems that can be enlarged, enriched, and completed by new data at any time.

In the case of archaeology, the reference collections were based on evidence of recent human use of natural materials, such as clay, plants, rocks etc. It consisted of surveys, documentation, and test soundings of dilapidating buildings in Al-Zor village on the western shore of Failaka, and of experiments with clay from local sources such as that at the Al-Zor/Mathina location (Benediková *et al.* 2010b: 27; 2010d: 284–297; 2010e: 298–312). A reference collection of stone materials found on Failaka has also been begun (Benediková *et al.* 2010c: 57), as has a collection of some more modern items (iron objects and fragments) that were collected for comparison with some problematic imprints in construction materials from secondarily disturbed Bronze Age layers.

Geophysical experimental measurements at different spots on Failaka have provided data that will improve the methodology of geophysical prospecting (Benediková *et al.* 2008: 46).

To study bitumen use on the site, experiments using modern bitumen samples were undertaken on the island by members of the mission (Belanová-Štolcová 2010b: 313–319).

Both palaeoenvironmental disciplines have established their own reference collections of modern plant and animal species available on Failaka and/or on the Kuwait mainland (Benediková *et al.* 2010b: 26; Hajnalová 2010: 256; Miklíková 2010: 267, 269, Fig. 216).

Conclusions

Currently, questions concerning the chronology, extent, sources, and function of the Al-Khidr site can be partially answered, although full analysis of the available data and materials will likely refine and modify the present picture (Benediková & Barta 2010d: 320).

On the basis of small-scale excavations of a single portion of the site accessible for digging, it can be stated that mound KH-1 was occupied by two consecutive Dilmun settlements during the Early and Middle (?) Dilmun periods of the first half of the 2nd millennium BC (Benediková *et al.* 2011–2014). Based on some pottery types and as yet uncalibrated C14 data, settlement may have begun at end of the 3rd millennium BC (Benediková & Barta 2010d: 320).

Initial field observations identified three chronologically separated layers that may represent three stages of settlement development and indicate different kinds of activities (Barta *et al.* 2010: 34–37; Benediková & Barta 2010d: 320). However, the imagery analyses of trenches 22S and 22T using GIS and digital archaeology partially refined and modified this conclusion (Benediková *et al.* 2011–2014).

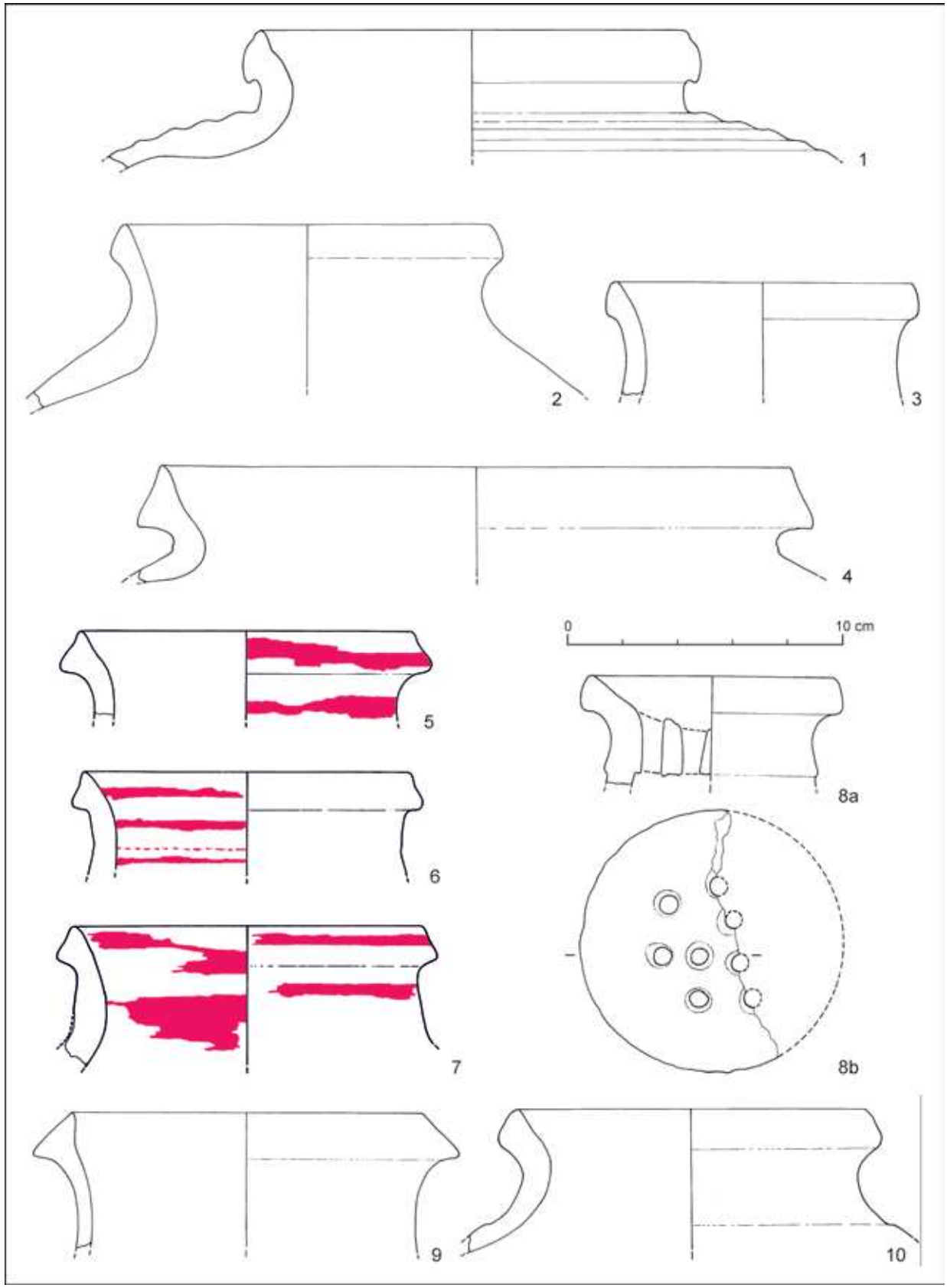
Importantly, conclusions from the GIS methods differed only slightly from the original interpretation of the site based on field observations, and they offered a much clearer picture (Benediková *et al.* 2011–2014). However, it can be tempting to overinterpret such results; they were derived from a stratigraphic analysis of the northern part of the excavated area only, and they may differ after other segments of the site have been processed in a similar way (Benediková *et al.* 2011–2014).

The initial settlement at Al-Khidr was probably a seasonal settlement, perhaps of fishermen, as can be assumed from the large number of fish-hooks, fish bones, and marine mollusc remains in the earliest stratigraphic layers. This settlement left stone foundations of light structures built on the beach (oval and irregular layouts; stratigraphic layer IV; Benediková & Barta 2010d: 320). Later occupation of the mound had two sub-phases (IIIa and IIIb, with dilapidation identified in post-IIIa phase). It involved solid architectural structures with a rectangular layout and accompanied by a rich artefactual assemblage (Benediková & Barta 2010d: 320–321; Benediková *et al.* 2011–2014). This settlement can be viewed as the most important part of Al-Khidr Bronze Age history (Benediková & Barta 2010d: 321). Portable finds, bitumen remains, and palaeoenvironmental materials, natural dispositions with an anchorage-like appearance at the Al-Khidr location (see above), and the well-known Dilmun maritime trade may prove decisive for further interpretations of the functions of the site. That is, it may have been used as a redistribution point during the latest stage of its existence, represented by the remains discovered in upper stratigraphic layer III (Benediková & Barta 2010d: 321).

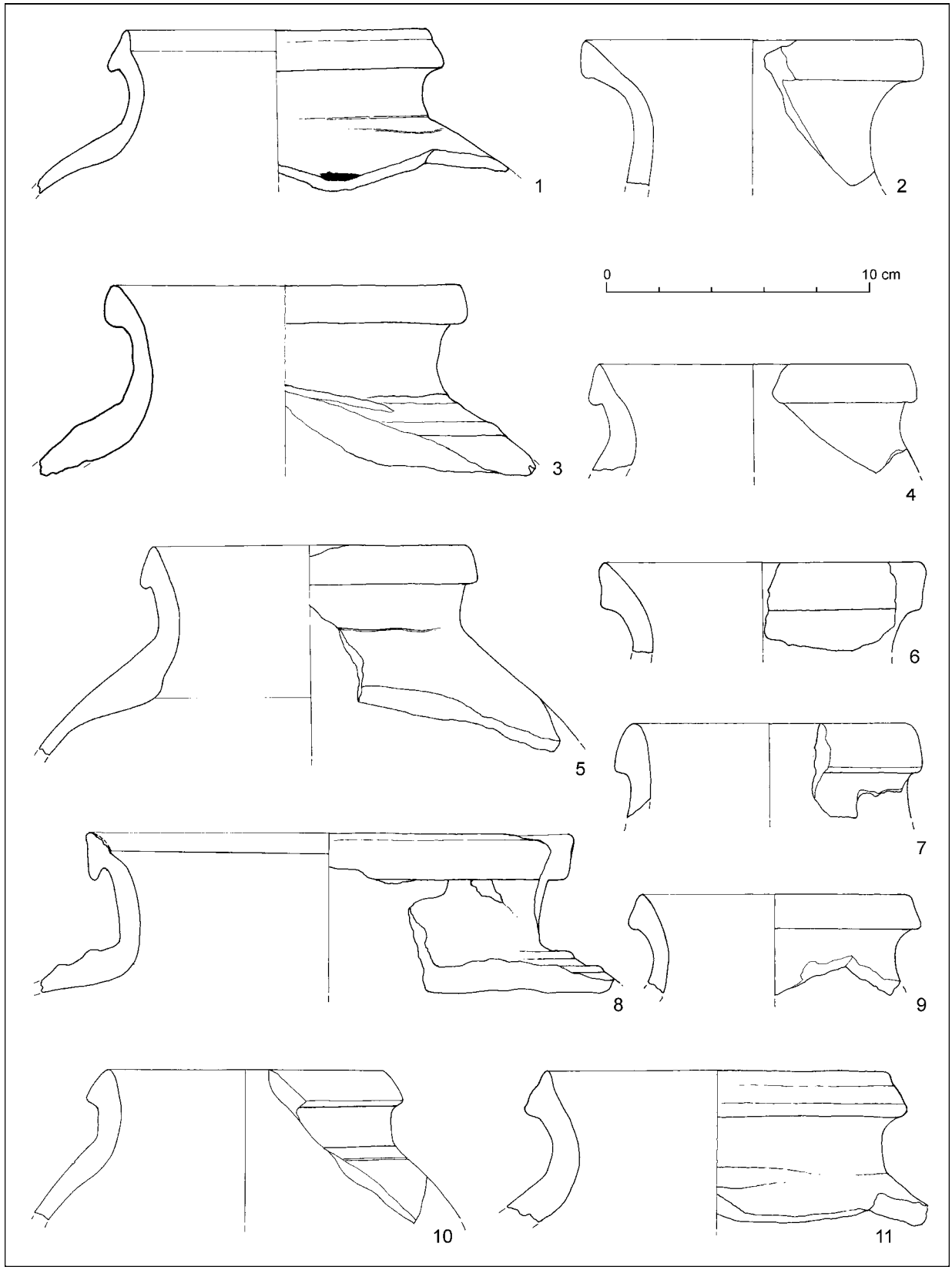
Archaeological field work and geophysical prospecting have shown that all three mounds within Al-Khidr (KH-1, KH-2, KH-3) were occupied during the Bronze Age (Benediková & Barta 2010d: 321). Based on the position of the KH-1 mound among the three mounds at Al-Khidr, two basic interpretations of the whole settlement area have been offered: (1) The KH-1 mound was part of a larger settlement consisting of the KH-1, KH-2, and KH-3 mounds, which were contemporary with one another and were spatially organized according to their function; (2) The KH-1 mound represents an independent sequence of settlements not contemporary with KH-2 and KH-3 (Benediková & Barta 2010d: 322).

The hypothesis about the chronology and spatial organization of the settlement area at Al-Khidr may change if new data about the palaeoclimatic changes (including sea level changes and geomorphological development) relevant to Failaka and to the northern part of the Gulf appear (Benediková & Barta 2010d: 322).

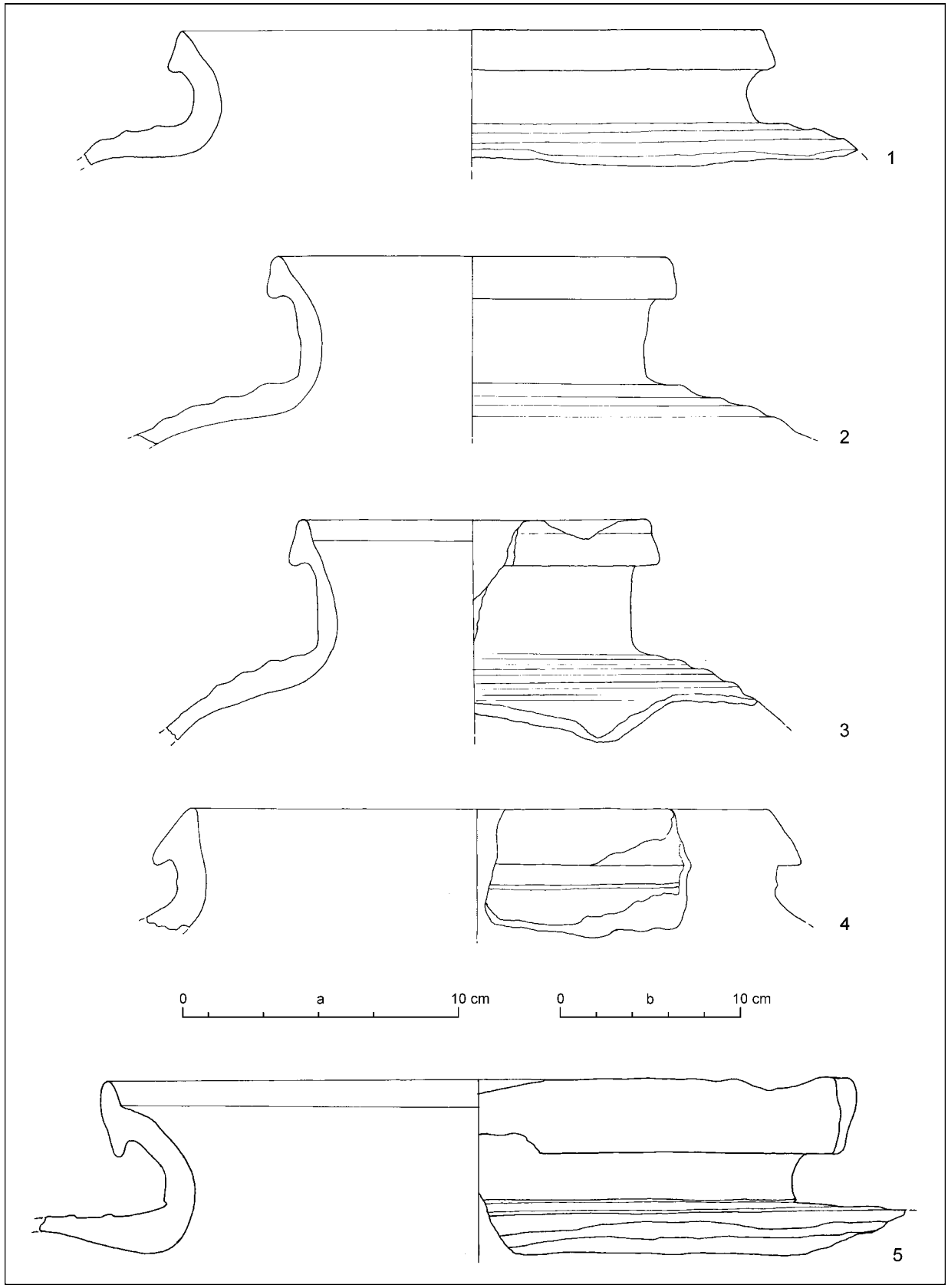
The scientific analyses of data from Al-Khidr have raised new questions for future research that will certainly bring new insights, and modification of the present conclusions can be expected (Benediková & Barta 2010d: 322).



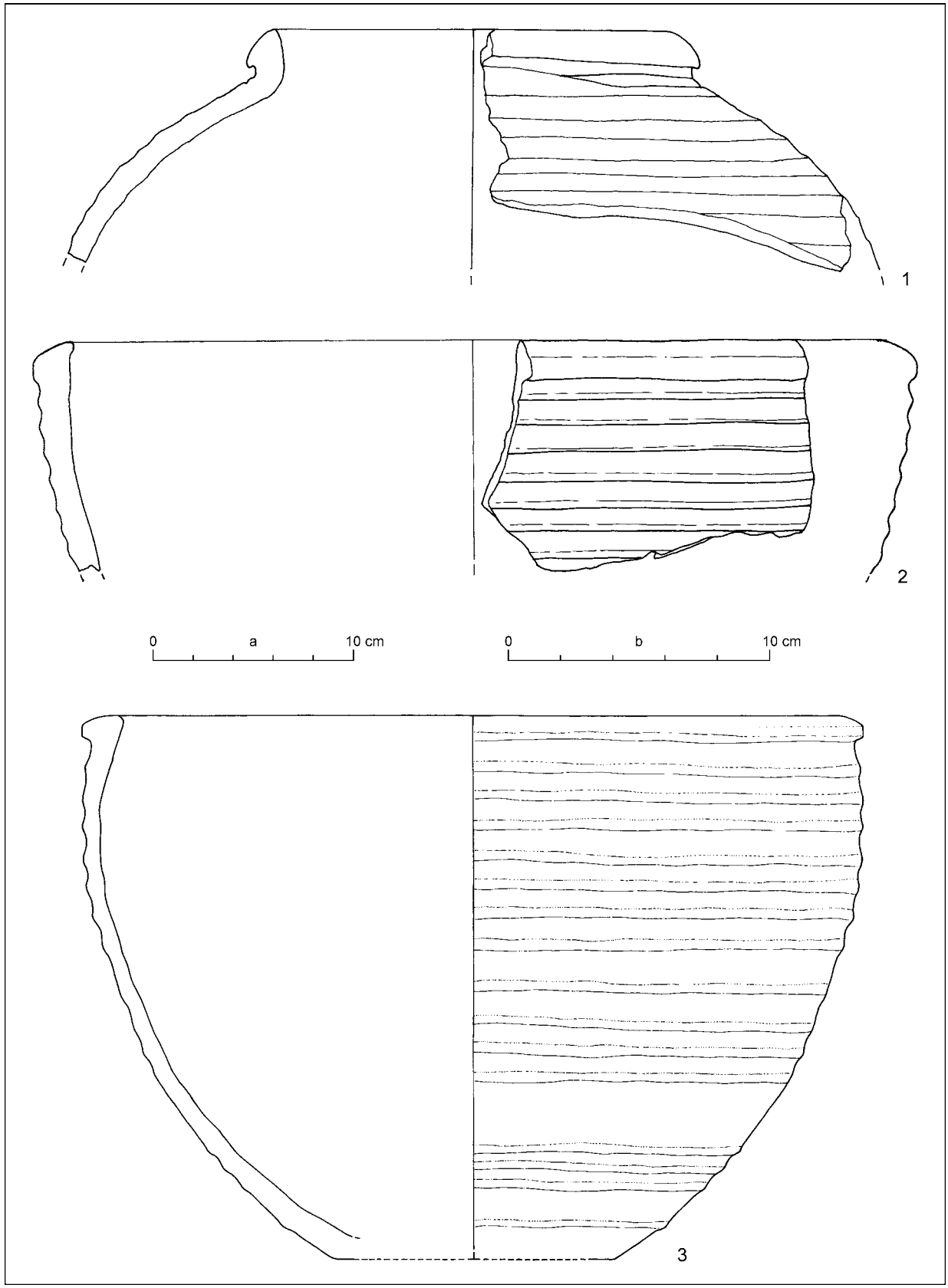
Pl. I. Al-Khidr. The Bronze Age pottery. 1–7, 9, 10 – triangular neck-vessel rims of Failaka type 1 variants; 8 – triangular neck--vessel rim of type B7. 1–2 – 60/04; 3, 10 – 111/04; 4 – 61/04; 5–6 – 114/04; 7–8 – 151/04; 9 – 73/04 (drawings: E. Bakytová/ T. Belanová-Štolcová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 161; Benediková & Ďuriš 2011–2014: Fig. 43).



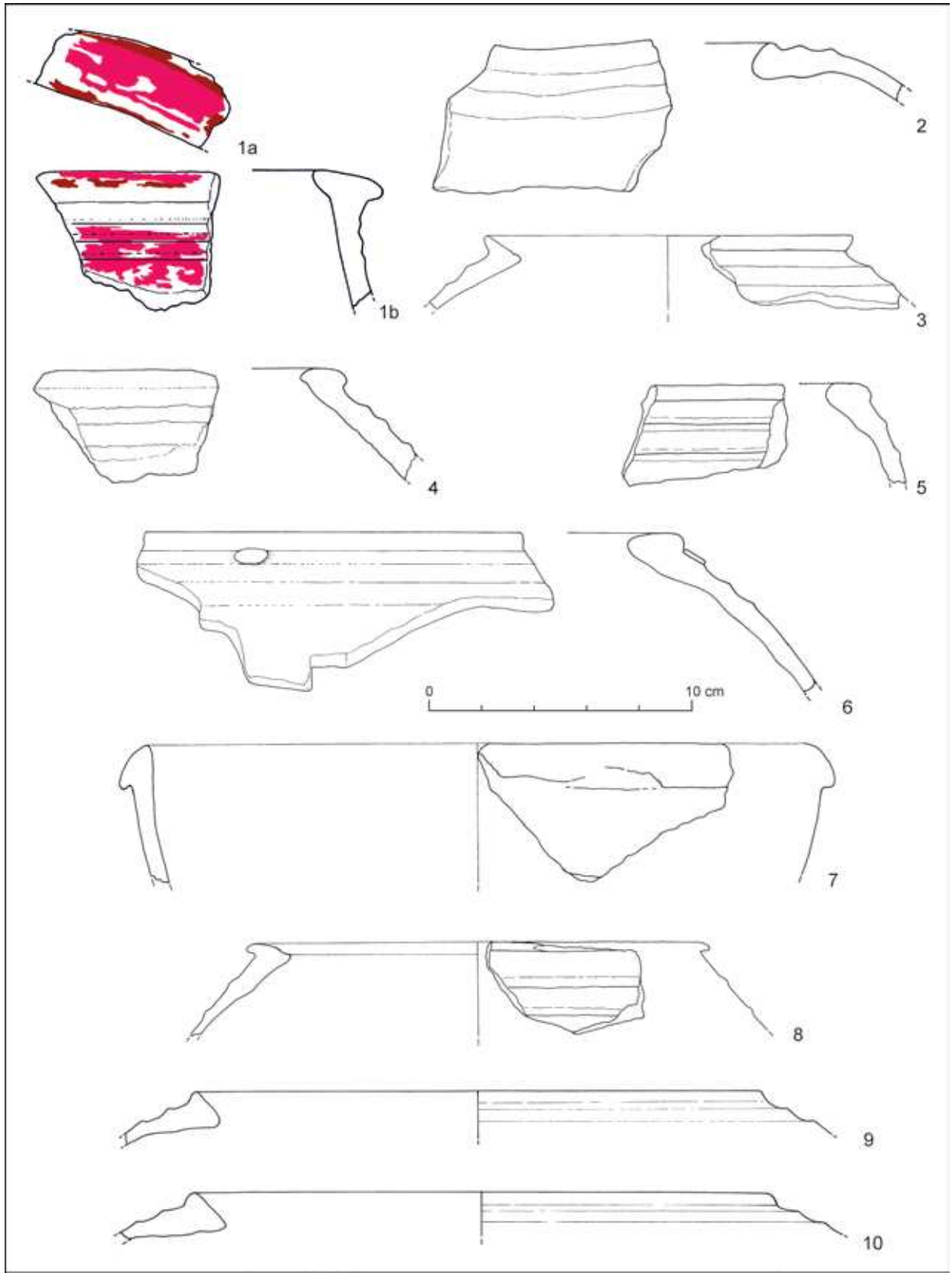
Pl. II. Al-Khidr. The Bronze Age pottery. 1, 3–6, 8–11 – triangular neck-vessel rims of Failaka type 1 variants; 2 – triangular neck-vessel rim of type B7; 7 – triangular neck-vessel rim of type 57B. 1 – 18/06 + 26/06; 2 – 98/06; 3 – 46/06; 4 – 26/06; 5 – 68/06; 6 – 168/06; 7 – 231/06; 8 – 19/06; 9 – 115/06; 10 – 138/06; 11 – 137/06 (drawings: E. Bakytová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 163; Benediková & Ďuriš 2011–2014: Fig. 45).



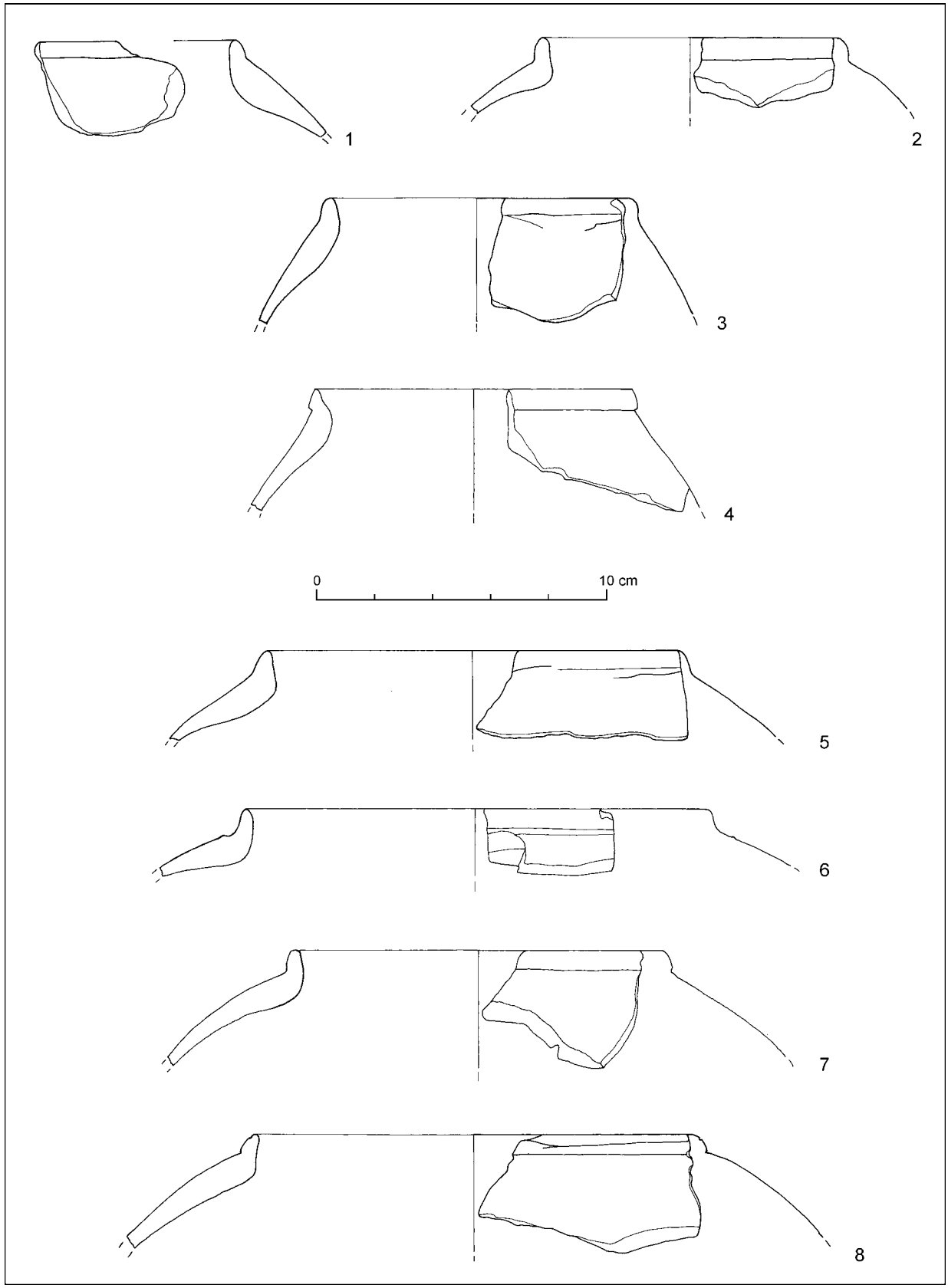
Pl. III. Al-Khidr. The Bronze Age pottery, triangular neck-vessel rims of Failaka type 1 variants. 1 – 286/06; 2 – 222/06; 3 – 118/06; 4 – 68/06; 5 – 262/06; a: 1–4, b: 5 (drawings: E. Bakytová/T. Belanová-Štolcová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 166; Benediková & Ďuriš 2011–2014: Fig. 48).



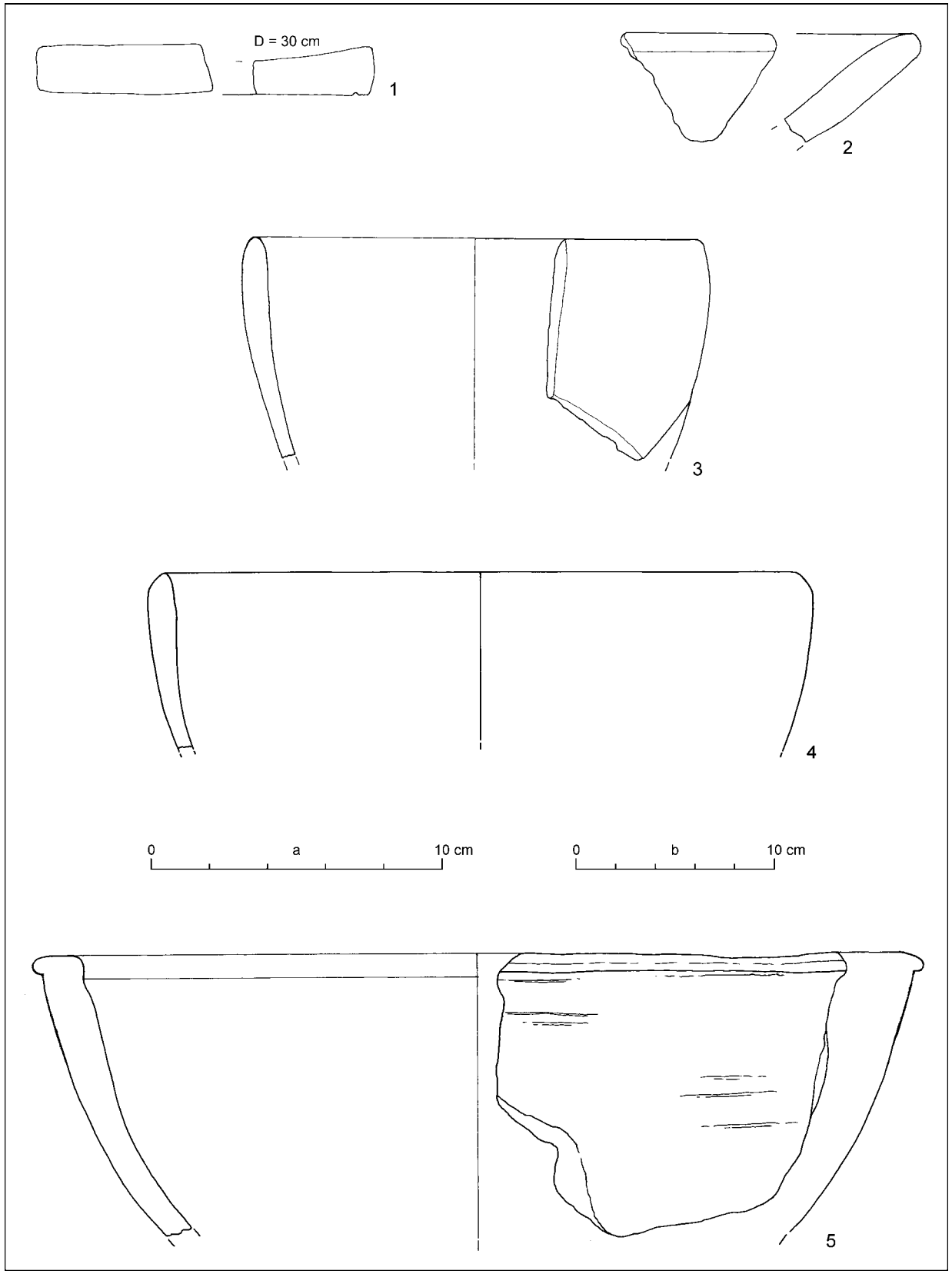
Pl. IV. Al-Khidr. The Bronze Age pottery. 1 – triangular neck-vessel rim of Failaka type 1 variant; 2 – narrow, flat giant rim? (Failaka type 27?); 3 – broad, flat giant rim (Failaka type 26). 1 – 39/06; 2 – 227/06; 3 – 139/04; a: 1–2, b: 3 (drawings: E. Bakytová/T. Belanová-Štolcová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 167; Benediková & Ďuriš 2011–2014: Fig. 49).



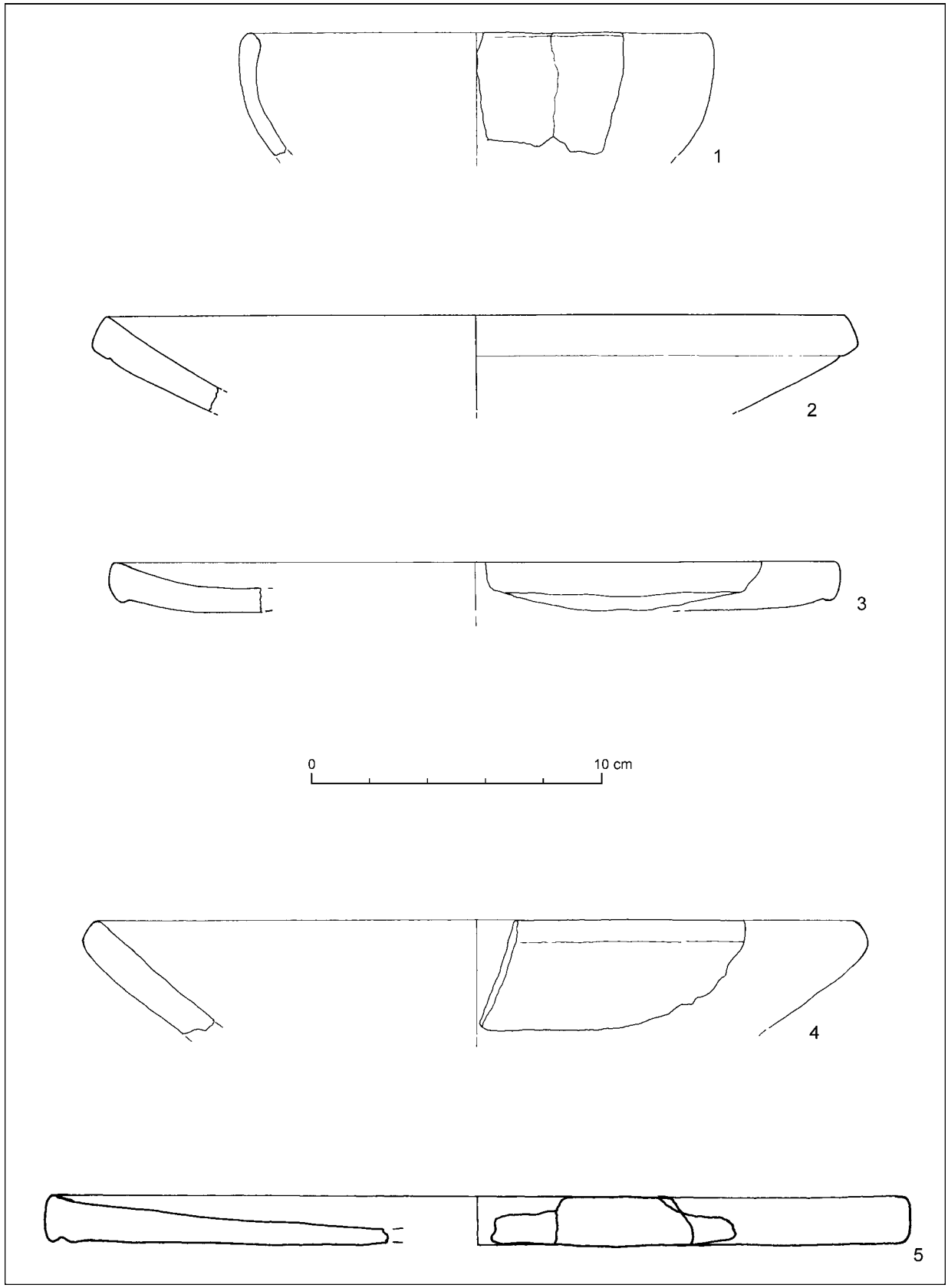
Pl. V. Al-Khidr. The Bronze Age pottery. 1 – broad, flat giant rim (Failaka type 26); 2, 4–6 – neckless jar rims (type S5); 3, 9, 10 – bevelled neckless vessel rims (type B17), 7 – large jar rim (type S22); 8 – bevelled neckless vessel rim (type B18). 1, 4 – 84/04; 2 – 39/04; 3 – 26/06; 5 – 100/06; 6 – 65/04 + 38/04; 7 – 103/06; 8 – 298/06; 9 – 85/04; 10 – 151/04 (drawings: E. Bakytová/ T. Belanová-Štolcová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 168; Benediková & Ďuriš 2011–2014: Fig. 50).



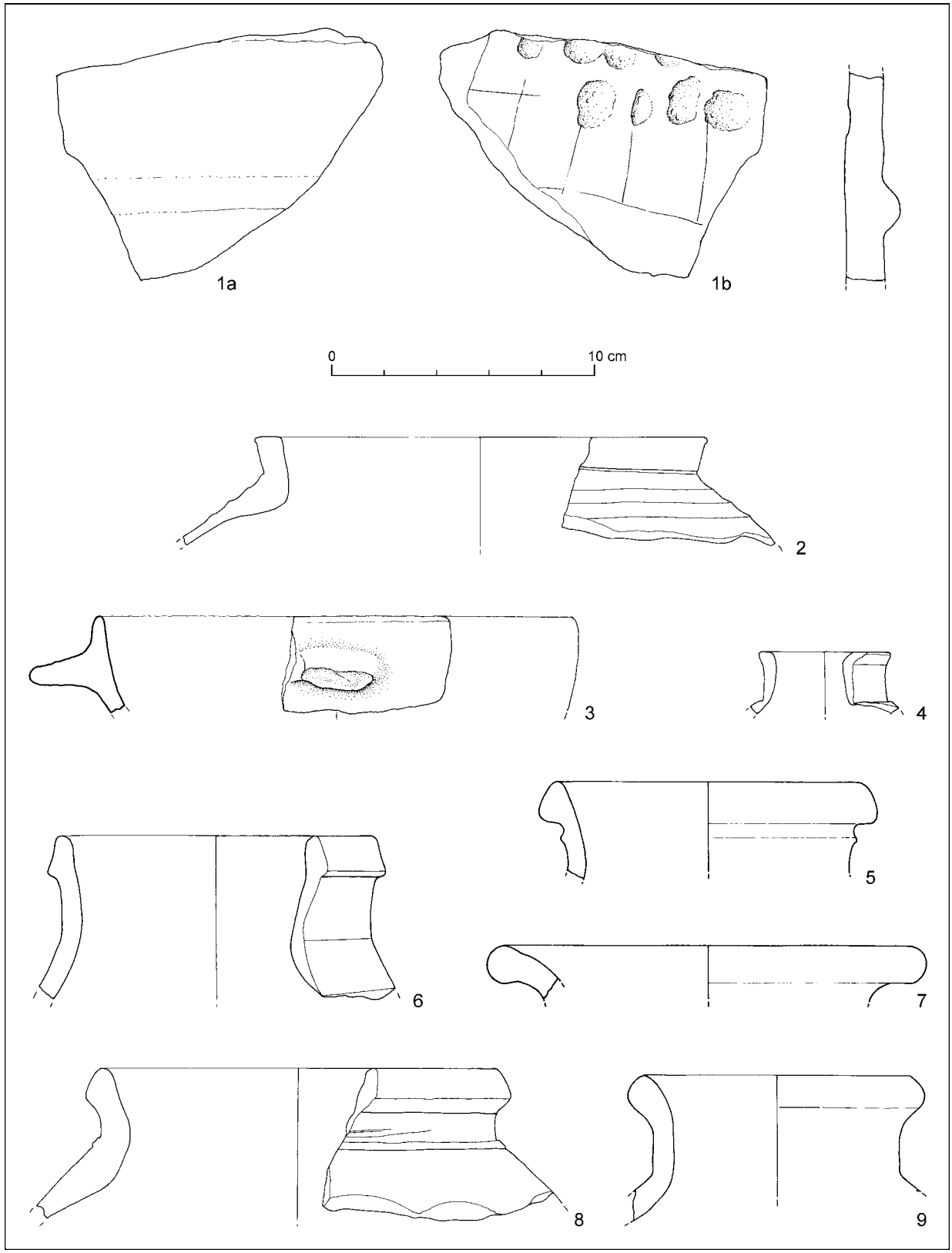
Pl. VI. Al-Khidr. The Bronze Age pottery, lip-shaped hole-mouth neckless vessel rims (type B19). 1, 3, 5 – 243/06; 2 – 115/06; 4 – 50/06; 6 – 45/06; 7 – 47/06; 8 – 151/06 (drawings: E. Bakytová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 169; Benediková & Ďuriš 2011–2014: Fig. 51).



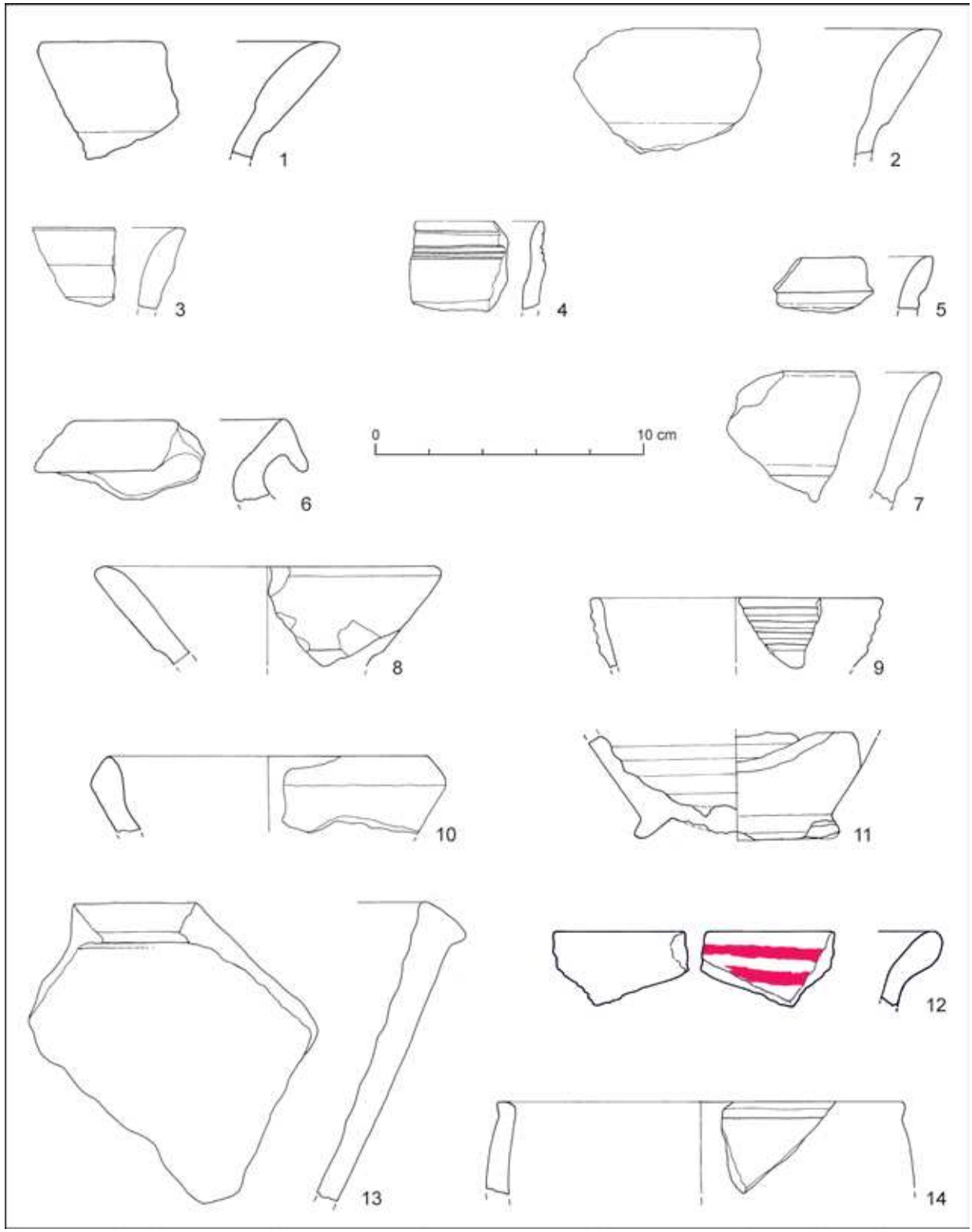
Pl. VII. Al-Khidr. The Bronze Age pottery. 1, 5 – plate rims (Failaka type 18 = type B30); 2 – simple, plain bowl rim? (Failaka type 68?); 3 – bowl rim (type S30 = type B22); 4 – simple round to pointed neckless vessel rim (type B10). 1–2 – 45/06; 3 – 243/06; 4 – 111/04; 5 – 262/06; a: 1–4, b: 5; D: diameter (drawings: E. Bakytová/T. Belanová-Štolcová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 170; Benediková & Ďuriš 2011–2014: Fig. 52).



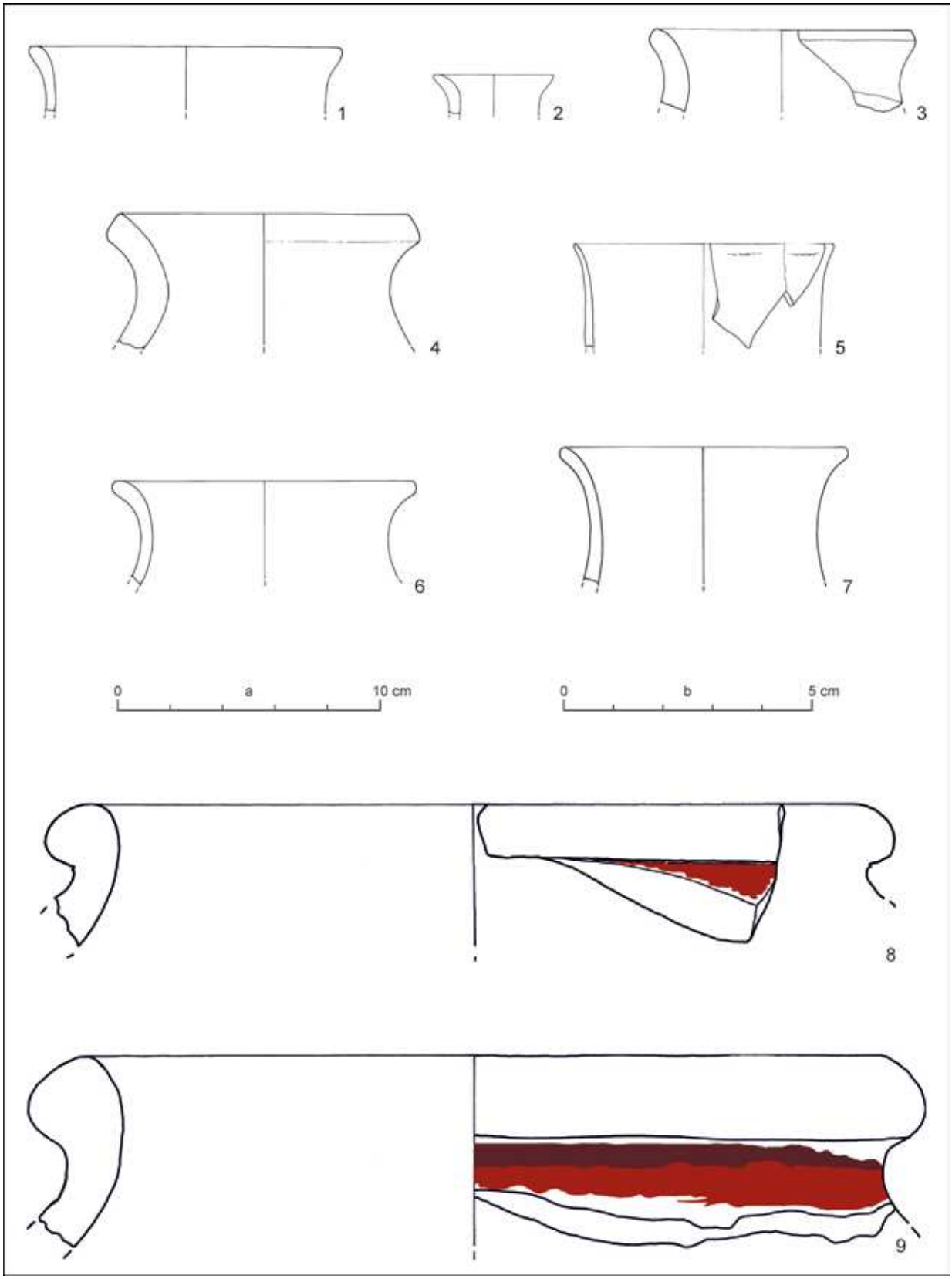
Pl. VIII. Al-Khidr. The Bronze Age pottery. 1 – bowl rim (type S30 = type B22); 2–5 – plate rims (Failaka type 18 = type B30). 1 – 297/06; 2 – 85/04; 3 – 115/06; 4 – 298/06; 5 – 83/06 (drawings: E. Bakytová/T. Belanová-Štolcová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 171; Benediková & Ďuriš 2011–2014: Fig. 53).



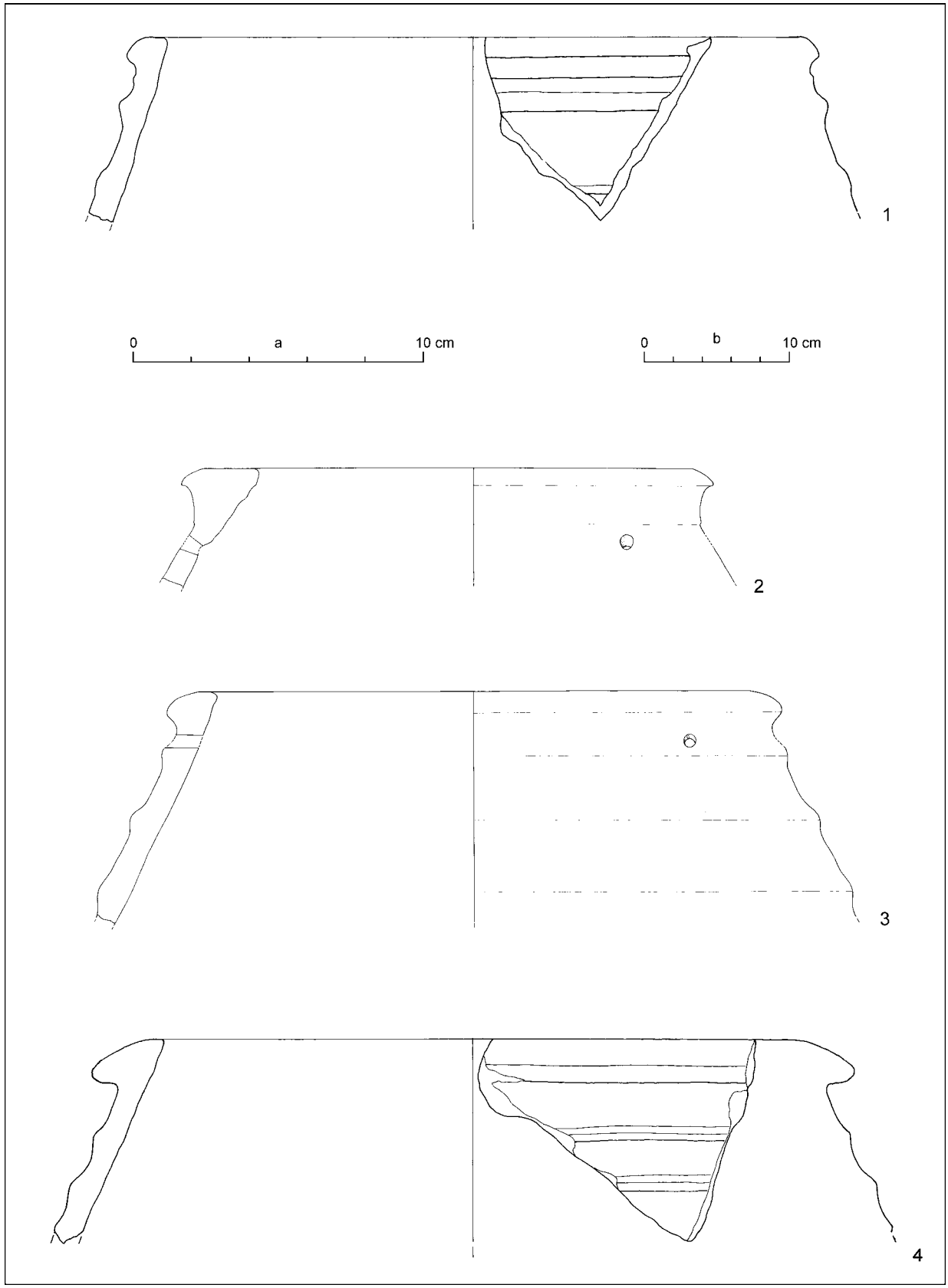
Pl. IX. Al-Khidr. The Bronze Age pottery. 1 – sherd with secondarily etched from the inside hollowed pattern; 2, 8 – simple flared neck-vessel rims (Failaka type 5); 3 – simple, rounded rim (type S30? = type B22?); 4 – fine shouldered vessel rim (Failaka type 63); 5 – oval neck-vessel rim (type M6); 6, 9 – oval neck-vessel rims of Failaka type 57 variants; 7 – round, drown-out rim. 1 – 65/04; 2, 8 – 115/06; 3 – 46/06; 4 – 59/06; 5 – 60/04; 6 – 168/06; 7 – 151/04; 9 – 129/04 (drawings: E. Bakytová/T. Belanová-Štolcová/ J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 172; Benediková & Ďuriš 2011–2014: Fig. 54).



Pl. X. Al-Khidr. The Bronze Age pottery. 1, 2, 7, 8 – elongated splayed neck-vessel rims (Failaka type 54A); 3 – double ribbed thin neck-vessel rim? (Failaka type 55D?); 4 – fine shouldered vessel rim (Failaka type 17 = type B73); 5 – oval or simple neck-vessel rim? (type M6 or M9?); 6 – fine shouldered vessel rim (type M11); 9 – fine shouldered vessel rim (type M12); 10 – chamfered bowl rim (Failaka type 20); 11 – ring-foot base; 12 – thickened flared neck-vessel rim? (Failaka type 6?); 13 – bowl or plate (Failaka type 18? = type B30?); 14 – neckless vessel rim (type B23). 1 – 140/04; 2 – 64/04; 3 – 45/06; 4, 9 – 180/06; 5 – 196/06; 6 – 243/06; 7 – 200/06; 8 – 262/06; 10 – 17/06; 11 – 24/06; 12 – 69/04; 13 – 158/06; 14 – 139/06 (drawings: E. Bakytová/ T. Belanová-Štolcová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 173; Benediková & Ďuriš 2011–2014: Fig. 55).



Pl. XI. Al-Khidr. The Bronze Age pottery. 1, 6, 7 – jar rims (type S10 or S11); 2, 5 – thin rims in direct continuation of the neck (Failaka type 61A or 61B); 3, 4 – neck-vessel rims (type B2); 8–9 – large rims (type B35). 1 – 73/04; 2 – 147/04; 3 – 139/06; 4 – 98/04; 5 – 52/06; 6 – 60/04; 7 – 89/04; 8 – 218/06; 9 – 158/06; a: 1–8, b: 9 (drawings: E. Bakytová/T. Belanová-Štolcová/ J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 174, 175; Benediková & Ďuriš 2011–2014: Fig. 56, 57).



Pl. XII. Al-Khidr. The Bronze Age pottery, neckless jar giant rims. 1 – 281/06; 2 – 140/04; 3 – 161/04; 4 – 273/06; a: 1, b: 2–4 (drawings: E. Bakytová/T. Belanová-Štolcová/J. Mészarosová; after Benediková & Ďuriš 2010b: Fig. 177; Benediková & Ďuriš 2011–2014: Fig. 59).

Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
Archaeology of Failaka and Kuwaiti coast – current research
Nitra 2019, 33–46

POTTERY FROM THE BRONZE AGE SITE OF AL-KHIDR ON FAILAKA ISLAND

BRANISLAV KOVÁR – KLAUDIA DAŇOVÁ – KAROL PIETA

The site of Al-Khidr is situated on the north-western edge of Failaka Island. It is an ideal location for a seaport, because it lies in a small cove protected by a man-made stone barrier (Benediková & Barta 2010a: 13–17).

Al-Khidr was first studied by a Danish archaeological mission in 1958 (Bibby 1969: 154; Patittucci & Uggeri 1984: 12). From 2004 to 2008, an investigation was carried out by a Kuwaiti–Slovak archaeological mission, led by K. Pieta and L. Benediková. The investigation confirmed the existence of a Bronze Age settlement at the site (early- and middle-stage Dilmun culture) and found evidence for sporadic human activities that took place between 50 and 400 AD, as well as in the middle and late Islamic period (Barta *et al.* 2010: 36–37). For further information on the site, see the article by L. Benediková and K. Pieta in this proceedings.

In 2016, a new working team led by M. Ruttkay and K. Pieta continued the work of the first Kuwaiti–Slovak mission. This team, specifically K. Daňová and B. Kovár, began to process the results of the 2004–2008 investigation.

Preliminary analysis of pottery found during the 2007 excavation season

In processing the pottery from excavation seasons 2007 and 2008, the current team followed on from the work of the first Kuwaiti–Slovak mission, who had analysed pottery found during excavation seasons 2004 and 2006 (Benediková & Ďuriš 2010b: 182–184, with bibliography).[1] The present article constitutes a preliminary report detailing the primary results, with emphasis on the pottery found during the 2007 season. In the original work, the previously processed pottery found at the site of Al-Khidr during first two investigation seasons was divided into nine material–technological groups (I–IX), which were then further divided into subgroups. For instance, group I was divided into 10 subgroups, group III into 19 subgroups, etc. (Benediková & Ďuriš 2010b: 182–184). In our processing, we divided the pottery into the main material–technological groups; further subdivision was unnecessary, although we do plan to use it in future. We also added a pottery group X, comprising modern pottery found mainly on the surface of the site (see Appendix 1), although it also occurred in lower layers, indicating disturbance of the prehistoric layers by recent activity, as stated during an earlier assessment of construction remains from the Dilmun settlement (Barta et al. 2010: 34, Fig. 25). Materials from other settlements on Failaka (F3 and F6), from the Saar settlement in Bahrain, and from the tell settlement of Qala'at Al-Bahrain were used as comparative collections to allow typological–chronological classification of pottery (Carter 2005; Højlund 1987; Højlund & Andersen 1994; 1997; 2003).

In the present article, to orient the reader more clearly, we classified the pottery from investigation seasons 2007 and 2008 into our own typological groups (with reference to the above mentioned typological classes). However, these cannot yet be considered definitive typological classifications, but rather preliminary. Their definitive versions will be stated after the final assessment of the entire pottery collection from the site.

The investigation of the pottery is still ongoing. In future, we plan to analyse the pottery's spatial distribution within the site, its functionality, and the vertical stratigraphy of its individual types.

[1] Primarily pottery from the 2007 season, with a small amount of pottery from 2008, was processed in 2016.

Material–technological groups

Among the ten material–technological groups (Appendix 1), group I was the most numerous, comprising up to 85 % of all definable pottery.[2] This was unsurprising, as the group included all large jars. Group III was the second most numerous group, comprising 10 % of all identified pottery finds, and its pottery was of better quality than that of group I. We assumed that commonly used kitchenware was included in this group. Group IV comprised special pottery. Both groups (III and IV) contained thin-walled pottery (sherd thickness: 5–8 mm) coloured using yellow, orange, and red paint (see Appendix 1).

Groups II and IV contained light-coloured pottery of different thicknesses and quality. Group II contained thin-walled pottery of higher quality, sometimes with white paint, while pottery in group VI was very well fired and probably jiggered. Groups VII and X contained pottery that occurred only sporadically in the material.

Analysis of the stratigraphic distribution of individual pottery groups may help date them more accurately; their stratigraphic occurrence could be also important.

Typological group

Vessels without necks (Group A)

Goblets (Type A1)

Two types of goblets were identified at the site; they were composed of hand-made pottery that may have been finished on a potter's wheel. Both could be classified as high-quality pottery and were therefore uncommon finds.

Type A1a (Pl. I: 1)

The vessel rims were vertical or slightly flared. One was convex. Irregular horizontal grooves occasionally occurred on the rims, typical of high-quality, thin-walled pottery covered with a thin layer of light red or orange paint. The diameter of the mouth varied from 8 to 10 cm. All finds belonged to material–technological group VII.

F. Højlund identified such goblets as type 17 (Højlund 1987: 32, Fig. 85–86, 470), while R. Carter classifies them as type S39 at the site of Saar (Carter 2005: 255). At the site of Qala'at Al-Bahrain, they were classified as type B73, occurring in phases IIb and IIc (Højlund & Andersen 1994: 96, Fig. 201–220), which correspond to chronological stage 1 on Failaka Island (Højlund 1987: 159, Fig. 707). F. Højlund and H. H. Andersen presented analogous material from sites in Bahrain and Mesopotamia. Type A1a specifically represents Dilmun, so-called "barbarian" pottery traditions. Similar finds are known from phase III in Larsa and Ur (Mesopotamia, type M12; Højlund & Andersen 1994: 94, 105).

Type A1b (Pl. I: 2)

This type of pottery was similar to A1a. However, it had a flat and everted rim and there were grooves under the rim. The vessel body was conically narrowed, and the pottery itself was of high-quality with a light colour. The vessel mouth was around 12 cm in diameter. This type of pottery occurred in material–technological group II.

Goblets are not typical of the Dilmun pottery culture, and we assumed that they reflected Mesopotamian traditions. Chronologically, this type could by classified to the late Akkadian period or phase Ur III. F. Højlund and H. H. Andersen presented identical pottery, categorizing it as type M11 (Højlund & Andersen 1994: 105, Fig. 257–260).

Due to the fragmentary state of the find, we must consider the possibility that it represents a completely different type of pottery. Similar rims and colours have been found on bowls known from Mesopotamia dated to the 17th or 16th centuries BC (Armstrong & Gasche 2014: 17, Plate 9: 1–7). An analogous sherd was published by F. Højlund from an investigation at sites F3 and F6 on Failaka Island (type 66; Højlund 1987: 77, 291).

[2] Individual percentages are based on pottery weight.

Cooking pots (type A2)

Three subtypes of this type of pottery have been identified at the site of Al-Khidr.

Type A2a

This type of pottery had a wide and everted convex or flat rim and, according to published analogies, could be more or less globular. The second exemplar had a ring-shaped base (type B18, Højlund & Andersen 1994: 82, 83, Fig. 136, 137, 650, 671, 698). No plastic decoration occurred on this type of pottery, but a white paste or coating was detected on the outer and inner side of the analysed sherds, sometimes with black paint. The vessels had mouth diameters between 16 and 19 cm. Type A2a was classified into material–technological group III. Only two representatives of this type have occurred in the analysed material so far, confirming an older opinion that the pottery is not typical for Failaka Island (Carter 2005: 239).

R. Carter classified finds of similar type from the site of Saar into his category S4 (Carter 2005: 239), while the type has numerous analogies from Bahrain (Barbar Temple, Qala›at Al-Bahrain), where it is dated in parallel with stages 1 and 2A on Failaka Island (Højlund & Abu-Laban 2016: 12).

Type A2b (Pl. I: 3)

This pottery was very similar to type A2a, although decoration in form of small plastic horizontal ribs was used under the rim or over the whole vessel body. Light paint sometimes occurred on the pottery. On the material from Failaka Island, we observed frequent application of bitumen. Mouth diameter varied from 15 to 37 cm. All previously analysed fragments of this type were classified into material–technological group III.

F. Højlund defined the same type of pottery from Failaka as type 14A (Højlund 1987: 29, Fig. 70–72), while R. Carter classified this pottery into his group S5, pottery periods 2 and 3 (Carter 2005: 239–240). Identical pottery has also been discovered at the site of Qala'at Al-Bahrain (type B17 and B18; Højlund & Andersen 1994: type B17, B18, 81, 82; Fig. 132–137, 555, 556, 589, 620–622, 649, 650, 670, 671, 698). On the basis of these finds, we can date these types of vessels to the period beginning shortly before stage 1 to stage 2B in the chronology of the Bronze Age on Failaka Island.

Type A2c (Pl. I: 4)

Pots of this type had slanted and everted rims. Under the rim, the width of the vessel sometimes grew by 50–100 %, while the rims themselves were often lined with a groove. In one case we identified a drawn-out line. The shoulders of the vessels supported a globular body. Decoration was rare and usually took the form of tiny grooves with various directions, or of a horizontal rib on the vessel body. Some vessels were covered with a light paint. The pottery was well fired. All finds are from material–technological group VI. The vessel mouths were 10–24 cm wide.

F. Højlund classified this pottery into his type 14, subtype 14c (Højlund 1987: 30, Fig. 75), while R. Carter sorted this type into his group S3, assuming that it could be dated to stage 1 of the Bronze Age on Failaka (Carter 2005: 238–239). This dating has been confirmed by finds from the site of Qala'at Al-Bahrain/ The Northern City Wall (B19, Højlund & Andersen 1994: 83, Fig. 139, 672, 686, 687, 699 and 700).

Bowls (Type A3)

There were three types of bowls among the studied pottery. Unlike plates (type 4), bowls are deeper, and the angle between their shoulders and bottoms is larger than 45°. All bowl types from the site of Al-Khidr were hand-made. Bowl finds could be dated to a long period spanning much of the Bronze Age, corresponding to stages 1–3A on Failaka.

Type A3a (Pl. I: 5)

This type of pottery had simple, convex rims that were sometimes slightly everted or inverted. The pottery was of higher quality and was 5–9 mm thick. Red or black paint could be seen on the outer surface of some bowls, while white paste/coat was used at other times. All finds were placed into material–typological groups III and IV. The mouth diameter ranged from 13 to 28 cm.

One bowl from the assemblage was published in a previous research report (Benediková 2010: 187, obr. 121). F. Højlund classified this type of pottery into his group 19 when analysing pottery from Failaka (Højlund 1987: 34, Fig. 94). This type of pottery was also found at the site of Saar, where it was placed into

groups S30 or S31 (Carter 2005: 251–252). Bowls were also discovered at the site of Qala'at Al-Bahrain/ The Northern City Wall (B22 and B24, Højlund & Andersen 1994: 84, 85, Fig. 142, 144, 150). Based on these analogous finds, this type of pottery can be dated over a long period: from stage 1 to stage 3A of the Bronze Age on Failaka Island.

Type A3b

Bowls of this type have everted rims, while the upper rim is convex or flat. The used clay contains several inorganic admixtures. No paint was identified on the analysed material, although there may have been white paste/coat on the surface. Sherds of this type of pottery were placed into material–technological group III. The mouth diameter varied from 20 to 22 cm. R. Carter classified similar pottery into type S33 (Carter 2005: 252–253).

Type A3c

The rim of this type of bowl is more everted, while the upper rim is flat and everted with a little groove underneath. It is composed of very high-quality pottery of material–technological group II. Its mouth diameter is 20 cm.

This type probably does not represent the typical pottery of the Dilmun culture. The material used for its production is visually different from that of other vessels on the site of Al-Khidr, and we can assume that it was imported from the territory of Mesopotamia. F. Højlund classified this type of find on Failaka in a similar way (type 66, Højlund 1987: 77, Fig. 291). In Mesopotamia, similar types of bowls with flat rims have been discovered. They may have been decorated using paint. They were dated to the 17th or 16th centuries BC (group 5D2, Armstrong & Gasche 2014: 17, Plate 9: 1–7).

Dishes (Type A4)

Three types of dishes were identified among the processed material. These vessels were shallow and hand-made. The angle between the shoulders and bottoms was less than 45 degrees. The dishes were mostly dated to stages 1, 2A, and 3B of the Bronze Age chronology of Failaka Island (Højlund 1987: Fig. 89–93; Carter 2005: 249).

Type A4a

The plate rim is simple and convex. The end of the rim is slightly cambered, and its edge is slightly oblique. Under the rim, an almost invisible groove appears. This pottery type was of the worst production quality. There were a number of admixtures in the clay. Dishes of this type can be classified into material–technological group III. White paste/coat may have been applied on the surface. We only have one exemplar of this pottery type among the studied material. Its mouth diameter was 26 cm.

F. Højlund classified all dishes into type 18 without further subdivision; the dish on Fig. 90 was the closest to our type (Højlund 1987: 33, Fig. 90). We have an analogy to this type of dish from the site of Qala'at Al-Bahrain (Højlund 1987, 33). R. Carter classified similar dishes from the site of Saar into type 26a of his pottery typology (Carter 2005: 249–250).

Type A4b (Pl. I: 7)

This type of dish had a slightly bent everted rim that was convex or slightly oblique. In exceptional cases, the rim was drawn in both directions. A groove was situated under the rim. These dishes were composed of the pottery of varying quality, and material groups III and IV prevail. White paste/coat was applied on all sherds. The mouth diameter was between 25 and 35 cm.

A similar type was reported by F. Højlund (type 18, Højlund 1987: 33, Fig. 92), and an analogous find was made at the site of Saar type 26b or 26c (Carter 2005: 249–250).

Type A4c (Pl. I: 6)

Dishes of this type had a stretched and convex rim, and their edges were oblique on the outside. A small groove was situated under the rim. The upper part was covered with a white substance. Their mouth diameter was 24–25 cm. From the 2007 study season, only three sherds of this type of pottery have so far been found, all belonging to material–technological group IV. We have not found any convincing analogies to this type.

Jars (Type A5)

Jars were the most frequent pottery finds from the site of Al-Khidr. They were composed of hand-made pottery and sometimes finished on a potter's wheel. All finds were placed into material–technological group I and constituted thick-walled pottery of very different quality firing qualities. The clay used was often porous with added small stones.

Type A5a (Pl. II: 6)

The upper rim of these jars was flat, while the rim was convex and jutting. They were large vessels with globular bodies, often with plastic ribs that were sharp or wavy. White paste was found on the vessels, although it is unclear whether this was applied on purpose or represents environmental influence. There were also vessels with red or black paint. Remains of bitumen were often found on the sherds. Their mouth diameter ranged from 33 to 56 cm.

R. Carter classified this type of pottery into his groups S20 and S21 (Carter 2005: 247), while F. Højlund identified it as type 26 (Højlund 1987: 37, 38, Fig. 110, 111). Similar pottery is known from the site of Qala'at Al-Bahrain (group B34, Højlund & Andersen 1994: 87–88, Fig. 169–170). We can assume that this type of pottery occurred mainly in stage 1 to 2B of the Bronze Age on Failaka Island.

Type A5b

This type of vessel was similar to A5a, but its upper rim was oblique and concave at its end. The vessel body was sometimes decorated with plastic ribs. The mouth diameter was between 35 and 57 cm.

R. Carter classified this type of pottery into his group S22 (Carter 2005: 247–248). Pottery of identical type has been discovered at other sites on Failaka (group 30, Højlund 1987, 40, Fig. 118). This type of pottery can be dated to stages 2B and 3A of the Bronze Age on Failaka (Højlund 1987: 159, Fig. 707).

Type A5c

Pottery with a globular body and everted rim. White paste and red or black paint sometimes appeared on the surface. An arrow inside a rectangle was engraved onto one rim. The mouth diameter of the jars was 42 cm.

R. Carter classified this type of pottery into his group S23 (Carter 2005: 248), while F. Højlund placed similar pottery into his group 28, where he also mentioned the symbol of an arrow inside a rectangle (Højlund 1987: 38, 39, Fig. 114–116). Similar pottery came from the site of Qala'at Al-Bahrain/The Northern City Wall (type B35, Højlund & Andersen 1994: 87–88, Fig. 171).

Type A5d

This type of jar had a flat rim under which the pottery was decorated using ribs. White paste had been applied to one sherd.

R. Carter classified similar rims into his group S24 (Carter 2005: 249), while F. Højlund identified this type of pottery as type 15A (Højlund 1987: 31, Fig. 76, 77). Analogies are known from the site of Qala'at Al-Bahrain (type B20, Højlund & Andersen 1994: 83, Fig. 140, 557, 590).

Vessels with necks (Group B)

Goblets (Type B1)

One type of necked goblet was found during analysis of the pottery from the 2007 investigation season. It was hand-made and probably finished on a pottery wheel.

Type B1a (Pl. II: 2)

This goblet had a concave and everted rim. Its neck was bent and its body was biconical. The mouth diameter was 12 cm. It was placed in material–technological group II. Bitumen was found on the exemplar from season 2007.

F. Højlund ascribed similar pottery to the Mesopotamic pottery tradition and classified it as type 61B (Højlund 1987: 73–76, Fig. 269–271). Analogous exemplars were found at the town of Nippur and were dated to the Isin-Lars stage and the old Babylonian period (McCown & Haines 1967: 101, Plate 94: 6–8). It follows that this pottery type existed for a long period on Failaka—from stage 1 to stage 3A.

Portable jars (Type B2)

Vessels of small and medium sizes were included in this category. They had various functions. They may have been used for transportation of raw materials or for storing and preparing food and fluids.

Type B2a (Pl. II: 3)

This type of vessel had a simple rim that was convex or everted – sometimes oblique. Its oval body was attached to the neck. The pottery may have been decorated with black or red paint. Although this type of pottery was hand-made, it was composed of high-quality ware. Type B2a can be classified into material–technological groups II, III and IV. Pottery of type B2a from material–technological group II had the highest quality visually. The mouth diameter of the vessels varied from 9 to 13 cm.

R. Carter classified this type of pottery into his groups S10 and S11 (Carter 2005: 243), while F. Højlund placed analogous finds into his types 6 and 8 (Højlund 1987: 24–26, Fig. 51, 55–59).

At the site of Qala'at Al-Bahrain, this type of pottery occurred in local chronological stages IIa–IIc, which corresponds approximately to the period before and during stage 1 in the chronology of the Bronze Age on Failaka Island (type B9, Højlund & Andersen 1994: 79, Fig. 119, 550,551, 582, 617, 647, 668; Højlund 1987: 159).

Type B2b

This type of pottery was very similar to type B2a, but was composed of thin-walled pottery of high quality. The vessels were probably finished on a pottery wheel. All finds of this type from the 2007 season belonged to material–technological group IV. The mouth diameter of the vessels ranged from 7 to 12 cm.

Painted horizontal circles on a red background situated just under the rim were found on one of the sherds. R. Carter stated that similar decoration is typical of the early period of the Dilmun culture. He presented analogies from the burial grounds at the sites of Saar and Karanah I. He classified similar pottery into his groups S40 and S41. Chronologically, he put type B2b into his stages 3 and 4, which corresponds to stages 1–3A in the chronology of the Bronze Age on Failaka Island (Carter 2005: 256, 276, 277). We also have analogies to type B2b from the site of Qala'at Al-Bahrain/The Northern City Wall (type B8 and B9, Højlund & Andersen 1994: 79, Fig. 118, 119, 550, 551, 582, 617, 647, and 668).

Type B2c (Pl. II: 4)

This type of vessel had a triangular rim and occurred in different variants, in which the tip was either sharp, convex, or oval. The neck could be short (1–2 cm) or long (~6 cm). From the neck and shoulders, the vessel continued in an oval or globular body. Decoration comprised plastic ribs, white paste, and black or red paint, which sometimes appeared on the inside as well. The pottery was hand-made. All finds of this type were from material–technological groups II, III and IV. The mouth diameter of type B2c ranged from 11 to 24 cm.

R. Carter classified this type of pottery into his groups S8 and S9. Chronologically, he put it into his stages 2 and 4, which corresponds to the period before and during stage 1 of the Bronze Age on Failaka Island (Carter 2005: 241–242).

F. Højlund classified similar vessels into type 1, or its subtypes 1A, 1D, 1G and 1H (Højlund 1987: 13–18, Fig. 5–27), but it is not clear to which subtype the fragments from the site of Al-Khidr should be placed into.

Similar type B3 pottery occurred at the site of Qala'at Al-Bahrain (Højlund & Andersen 1994: 76–78, Fig. 105–113, 547–549, 579, 580, 611–614, 644, 645, 664, 665, 696, 697). Chronologically, the authors placed it into local stages, from IIB to IIC. On Failaka Island, it was dated to the period before and during stage 1, until 2A (Højlund 1987: 153–154).

Type B2d (Pl. II: 5)

This pottery was very similar to the previous type B2c, but it had a triangular rim with a sharp tip. The lower part of the rim was everted. Some vessels of this type were made or finished on a potter's wheel. The mouth diameter varied from 12 to 23.5 cm.

A similar group of pottery (S12) was discovered at the site of Saar (Carter 2005: 243), while an identical type occurred at sites F3 and F6 on Failaka Island (1B, Højlund 1987: 13–14, Fig. 8–11). Type B2d could by dated to stage 2B of the Bronze Age on Failaka Island (Carter 2005: 243).

Type B2e

This type was similar to the previous two (B2c and B2d), but the outer surface of the rim was slightly concave. The mouth diameter was between 12 and 23 cm.

R. Carter drew an analogy to type B2e in his group S13 (Carter 2005: 244), which corresponds to type 1F on Failaka (Højlund 1987: 15, Fig. 20, 21). Meanwhile, at the site of Qala'at Al-Bahrain/The Northern City Wall, the corresponding local group was B5 (Højlund & Andersen 1994: 78, Fig. 115). Type 7e occurred from stage 1 to stage 3B of the Bronze Age on Failaka.

Secondarily used pottery

Some sherds from the analysed pottery assemblage of the Al-Khidr site, 2007 season, had been put to secondary use. We documented four such cases of adjusted sherds: two from material–technological group I and one from group II; all three had been given a circular shape. In addition, we found one sherd from material–technological group III that had been given a trapezoidal shape.

The circular sherds were discovered during the whole research at the site of Al-Khidr (Benediková 2010a: 124–126, Fig. 116–118).

Sieves (Pl. III: 1)

We classified the sieves into a special category; some were parts of other vessels, others were probably used separately. In all cases, the diameter of the holes in the sieves was 1.5 cm, and the gap between the individual holes was 0.5 cm. Therefore, we can assume that the same method and even tool were used in their production.

A small sieve that was deposited inside a vessel neck was discovered during investigation season 2007. R. Carter reported similar sieves inside vessels: types S15 and S16 (Carter 2005: 244, 245), while F. Højlund mentioned sieves in his pottery types 3 and 4 (Højlund 1987: 20–23, Fig. 36–42). Vessels with sieves in their necks existed for a long time, on Failaka Island, probably from stage 2b to stage 4A of the Bronze Age.

Two other types of sieve were detected during the 2007 investigation season. One was made from the body of a deformed vessel. Analogies to this sieve were found at sites F3 and F6 on Failaka (Højlund 1987: 51, 52, Fig. 167, 168). Perforated sherds were also discovered at the site of Qala'at Al-Bahrain, but the gaps between their holes were irregular and larger (1–2 cm, type M20, Højlund & Andersen 1994: 108, Fig. 277–279).

It is assumed that sieves were used for drinking special dairy products or for drinking alcoholic drinks, such as beer (Carter 2005: 245).

Plates

During investigation season 2007, a clay plate was discovered. It had a short stem and belonged to material–technological group I. The plate's diameter was approx. 20 cm. The stem was 1.5 cm tall and its diameter was 6 cm. An identical artefact from Failaka was presented by F. Højlund (1987: 48, Fig. 157–160).

Vessel bottoms

When processing the 2007 investigation season at the site of Al-Khidr, we did not find many preserved bottoms, and fragments that did have them did not allow identification of the vessel type. We defined five types of bottoms (round, flat, with stumps, ring-shaped, and disc-shaped).

Round bottom

We found two round bottoms belonging to material–technological groups III and IV. Their state of their preservation did not allow to define the exact diameter. We cannot say what type of vessel they came from, however, we can assume that they were from cooking pots, bowls or portable jars.

Flat bottom

Flat bottoms had even thickness with the exception of their centres, where they were thinned. Eight exemplars of such bottoms were discovered; they belonged to material-technological groups III and IV. They could have been used on all types of pottery, except big jars.

Bottoms with stumps

Such bottoms occurred on various types of pottery. They are classified in material-technological groups III and IV. Three bottoms from investigation season 2007 belong to goblets. One of them has an analogy from the investigation by F. Højlund on Failaka. Identical finds come from Bahrain, but their origin is searched in Mesopotamia (Højlund 1987: 88, Fig. 359).

Another bowl bottom is from Mesopotamia. It is pottery type 68, according to the classification by F. Højlund from his reasearch on Failaka Island. The presented analogies come from Bahrain, Qatar and Nippur (Højlund 1987: 79, Fig. 306–309). Besides the above mentioned bottom, we identified one more bottom with a stump, probably from a bowl as well.

Ring bottoms

Six exemplars of pottery with ring bottoms were discovered. They were classified into material–technological groups III and IV. They may have been parts from cooking pots, portable jars, or bowls.

Disc bottoms

This type of bottom was very frequent in the analysed assemblage. Some were probably finished on a potter's wheel. This type of bottom occurred on most pottery shapes, including big jars. They were classified into material-technological groups I, III, IV and V. Bottom diameter is between 1.5 and 12.5 cm.

A vessel handle (Pl. III: 2)

One pottery handle was found in the material. There was white paste with red paint on the artifact. According to the preliminary analysis of the material and decoration, the find comes from the Bronze Age. Nevertheless, we do not know any analogies to this find so far.

A spout

The studied material included a fragment of a spout from a vessel body. Its surface was covered with a white substance. Since it is a considerably fragmentary find, we do not have more information about it by now.

Decoration on pottery

Decoration on the pottery from the analyzed collection can be divided into plastic (ribs and various protuberances), engraved (grooves, marks, engraved lines) and painted (geometrical motifs, various types of lines) types.

Plastic decoration mostly contains various ribs. They occur on different types of vessels and they can be divided either by their size (small and big) or their shape (sharp and wavy).

The engraved decoration includes groooves, engraved lines and marks. Grooves and lines are often found under the surface, horizontally encircling the whole vessel.

Engraved marks are a special type of decoration. They appeared in four shapes. First one is a simple cross on the rim of a jar. An arrow in a rectagle was found on another rim (Pl. II: 1). Both marks are on vessels from material-technological group III (Pl. III: 3). An unfinished rectangle engraved across plastic ribs was also discovered.

Similar engraved symbols (tree/palm leaf, rectangle/cartouche, and arrow) were also found on the pottery from sites F3 and F6 on Failaka (Højlund 1987: 166, Fig. 114, 115). Interpretation of these marks is subject to expert discussion. Trade marks or cultic symbols are considered.

Painting on the pottery (Pl. IV) is not different from other finds of the Dilmun culture. It was applied either on the clay or white paste/coat was first applied on the surface. Painting on the pottery is characterized manily with red, black and white horizontal and often horizontal encircling lines. However, yellow and orange paints also occurred as well as black painting on a red background (Pl. IV: 1).

Bitumen and reparation of vessels

Bitumen often occurred on pottery. It was used to repair vessels, like a glue, which has been verified by an experiment. Bitumen could have been used inside vessels to prevent leakage. Bitumen itself could have been important as the content transported in the vessels (Belanová-Štolcová 2010a: 241–253). Traces of

bitumen appeared mostly in fragments of big jars. Multiple fingerprints were created on vessels during manipulation with bitumen. A whole palm was identified on a larger piece of a jar.

Conclusions

The submitted analysis constitutes a preliminary report on a collection of pottery from the site of Al-Khidr on Failaka Island. The text presents a processing of the pottery obtained during the 2007 research season. With regards to typology, the pottery assemblage contained shapes that common to other sites of the Bronze Age Dilmun culture. Chronologically, the material belongs to stages 1–4A in the chronology of the Bronze Age on Failaka Island, which was elaborated by F. Højlund (1987: 159). In fact, some pottery types may have predated stage 1, as suggested by previous studies on the site, and at other settlement on Failaka Island (Benediková & Barta 2010d: 320–322; Højlund & Abu-Laban 2016). In the future, we are planning to deal withaddress questions of stratigraphic and spatial distribution of pottery on the site.

We wish to express our gratitude to the Kuwaiti National Council for Culture, Arts and Letters in Kuwait, especially the Director of the Department of Antiquities and Museums, Dr Sultan Al-Duweish, and Mr Talal Abdullah Shameri and Dr Hamed Al-Mutairi, for their invaluable contribution and continuing support. We also thank Mr. Shehab A. H. Shehab, for his cooperation and support.

Appendix 1

Material–technological groups:

Group I
- thick-walled pottery made of dry clay
- red and orange colour
- pottery of various quality and firing
- compact material, sometimes porous (pores are yellow)
- cleavable in some cases
- sporadic or medium frequent admixture of small red or white stones
- occasionally covered with white paste or painted on the outside
- frequent decoration with ribs

Group II
- thickness between 5 and 8 mm
- yellow and light colour
- high-quality firing
- clay is compact
- sporadic admixture of small red stones
- occasional black paint on the outside

Group III
- thickness of 5–8 mm
- red, orange, and yellow colour
- varying firing quality
- compact clay
- sporadic or medium frequent admixture of small stones
- some pottery was cleavable

Group IV
- sherd is 5–8 mm thick
- red, orange and yellow colour
- good quality of firing

- compact and washed clay
- sometimes porous
- sporadic admixture of small stones
- slightly cleavable
- often painted on the outside, sometimes on the inside as well

Group V

- various thickness
- light to yellow colour
- various quality of firing
- compact and washed clay
- sporadic admixture of small stones
- plant imprints

Group VI

- sherds 1–5 mm thick
- red, pink, and orange colour
- high-quality firing
- compact clay
- porous
- no admixture
- good quality pottery

Group VII

- sherds 1–5 mm thick
- orange colour
- high-quality firing
- compact clay
- no admixture
- high-quality jiggered pottery
- occasional fine engraved lines

Group VIII

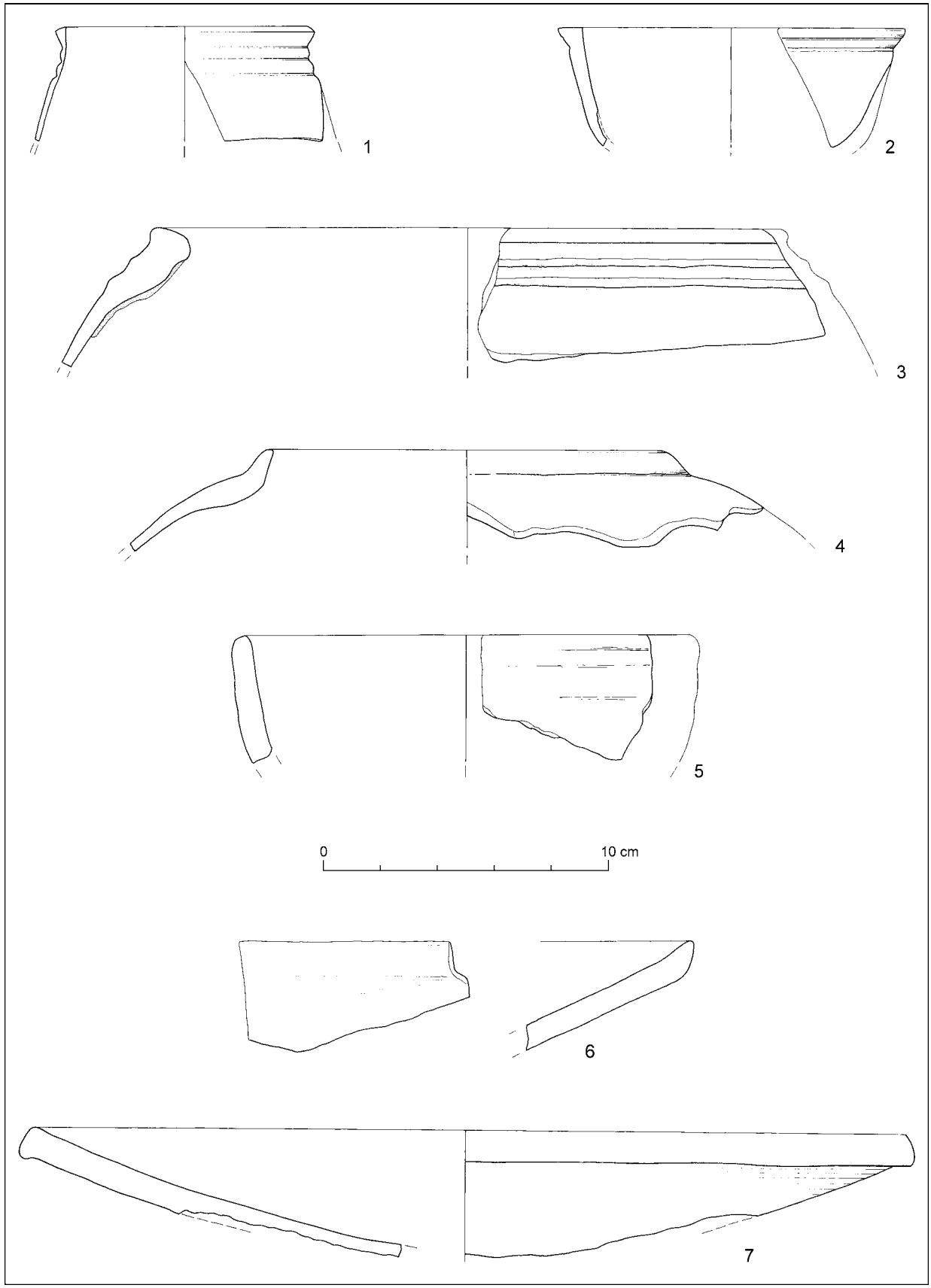
- various thickness
- red, black, and dark brown colour
- porous
- medium occurrence of admixture of small stones
- poor quality
- sometimes ribbed

Group IX

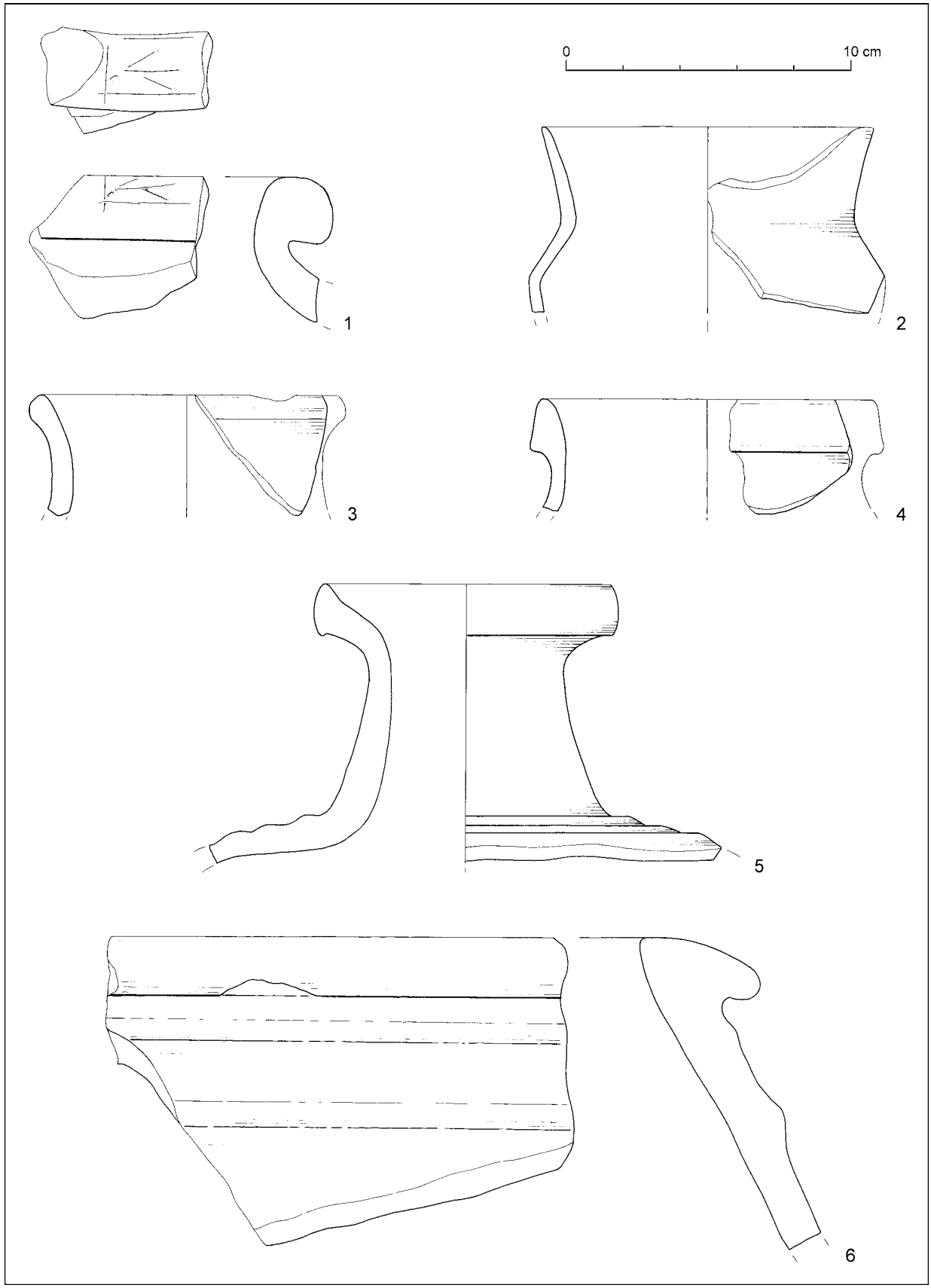
- various thicknesses
- black colour in combination with white
- poor-quality firing
- compact clay
- poor-quality pottery

Group X

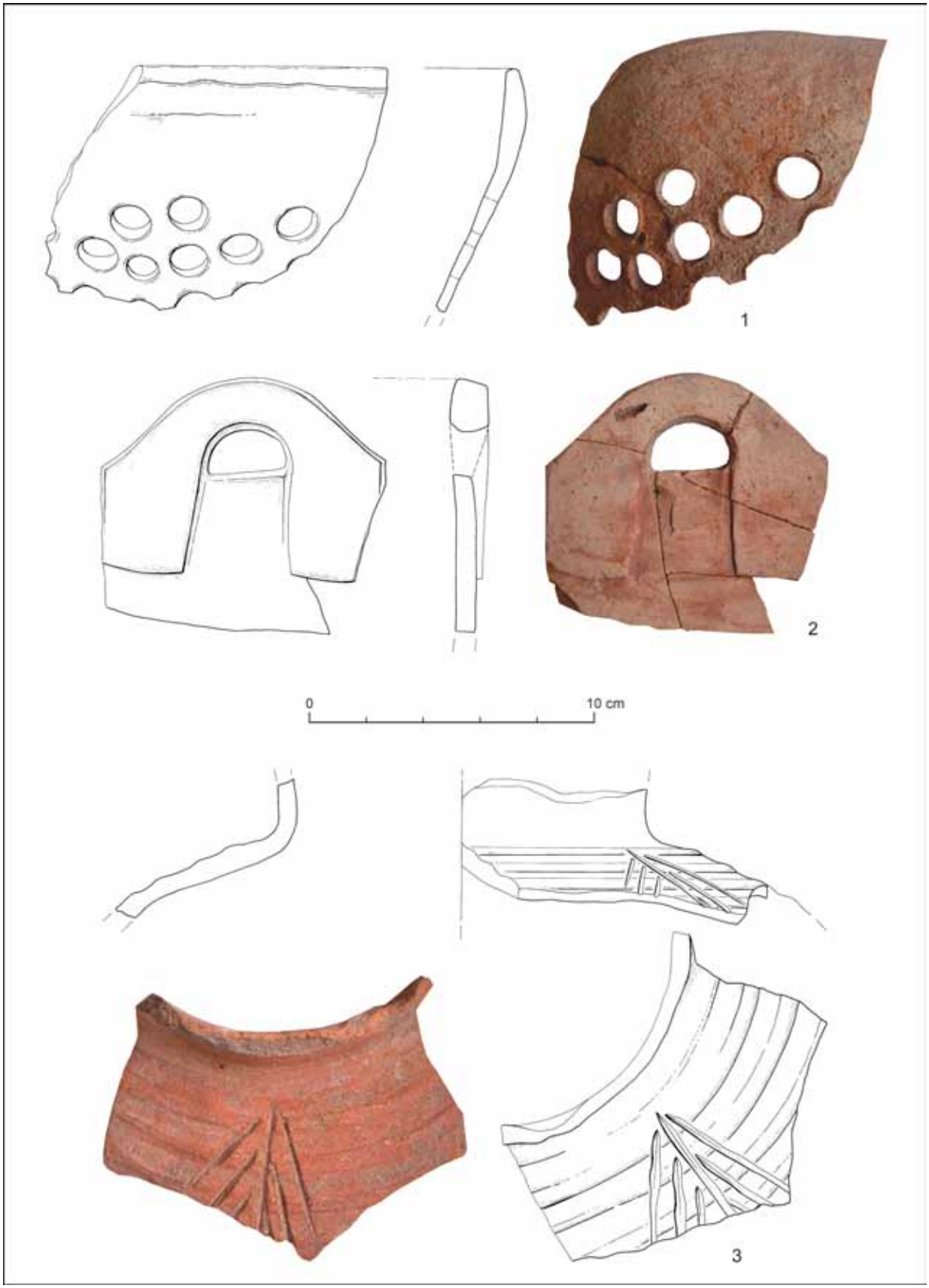
- various thickness
- red and black colour
- high-quality firing
- porous
- medium occurrence of admixture of small stones
- jiggered pottery



Pl. I. Pottery from Al-Khidr. 1 – type A1a; 2 – type A1b; 3 – type A2b; 4 – type A2c; 5 – type A3a; 6 – type A4c; 7 – type A4b (Drawings: N. Vaššová).



Pl. II. Pottery from Al-Khidr. 1 – arrow in a rectagle on rim; 2 – type B1a; 3 – type B2a; 4 – type B2c; 5 – Type B2d; 6 – type A5a (Drawings: N. Vaššová).



Pl. III. Pottery from Al-Khidr. 1 – sieve; 2 – A vessel handle; 3 – marks on vessels (Drawings: N. Vaššová; photo: K. Daňová, B. Kovár).

Pl. IV. Pottery from Al-Khidr. Decoration on pottery (Photo: K. Daňová, B. Kovár).

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Archaeology of Failaka and Kuwaiti coast – current research
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THE NEWLY DISCOVERED CULT COMPLEX IN BAHRA, AS-SABIYAH

GURAM KVIRKVELIA

According to the agreement between the National Council for Culture, Arts and Letters of Kuwait and the Georgian National Museum, on the 3rd of March, 2015, the Kuwaiti–Georgian Archaeological mission began its work in Bahra, Al Sabiyah region[1], which is located along the northern coast of Kuwait Bay, stretching about 60 km from Al-Jahra city in the west to Khor As-Sabiyah in the east and the Jal-az-Zor escarpment in the north. In previous years, these territories have been investigated by Kuwaiti[2] (Ad-Duweish 2015; Ad-Duweish *et al.* 2004; Ad-Duweish & Al-Mutairi 2006), British (Carter & Crawford 2001: 1–20; 2002: 1–13; 2003: 77–90; 2010), and Polish teams (Rutkowski 2013a: 479–492; 2013b: 493–517; 2014: 431–461; 2015: 505–528; Makowski 2013: 518–527; Pawlicki 2014: 462–470; Reiche 2013: 528–542; Szimciak 2013). These extensive archaeological investigations and surveys have uncovered the remains of several hundred archaeological monuments of various kinds dated from the Neolithic to the Late Islamic epochs. Nearly 200 stone features, mostly circular burial mounds (tumuli) from the Early Bronze Age, have also been identified.

Fig. 1. Map of Kuwait bay.

In particular, the stone structure SBH 34 (PSBH 9)[3], was chosen for excavation. It is located south-east of the Saad Al Abdulla Al Sabah road, which leads to Bubiyan Island (Fig. 1), in the south-east corner of a large, irregular hexagonal, fenced area. Seventeen different stone structures have been recorded inside this area, nine of which are located along the west side of a rocky prominence that stretches from south to north along the north-eastern boundary of the area.

However, SBH 34 (PSBH 9) is not located on a rocky ledge like most of the stone structures, but in the lowlands that gently roll in the direction of the coastal *sabkha* (salt flat).

At the first examination, a sand mound of about 48 m in length, oriented from northwest to southeast, was visible on the surface. Subsequent excavation showed that this construction is much longer, and that it consists of two parts: (1) A rounded mound at the northwest side resembling a sand embankment, fenced by a circular ring and reinforced with small stone slabs on the top. Along the edges of the mound, some fixed, flat stones had been placed more densely. In the center of the ring embankment, a dense mass of stones, maybe the

[1] Also known as As-Sabbiya or Al-Subiya, among others.

[2] Investigations of F. Al-Wohaibi, S. Ad-Duweish, H. Al-Mutairi, and K. Salim.

[3] There are at least three different codename systems for archaeological sites in the As-Sabbiya region. The first, with the prefix SB, was introduced by English archaeologists surveying the eastern part of the region. Another is based on the names of traditional sub-regions: SBH = Sabbiya Bahra, SNG = Sabbiya Nahdin, SM = Sabbiya Muhaita, SMQ = Sabbiya Mugheira, SRG = Sabbiya Radha. Later, Polish archaeologists divided the surveyed region arbitrarily into two main units: 'Bahra' on the north side of the As-Sabbiya road and west of a newly constructed overpass, and 'Radha' extending north-east of the overpass (Rutkowski 2013b: 483; Fig. 2). Thus, the respective survey codes were used to register the site: PSBH for "Prospection Sabbiya Bahra" and PSRD for "Prospection Sabbiya Radha". The existence of different code names for the same sites creates some inconvenience.

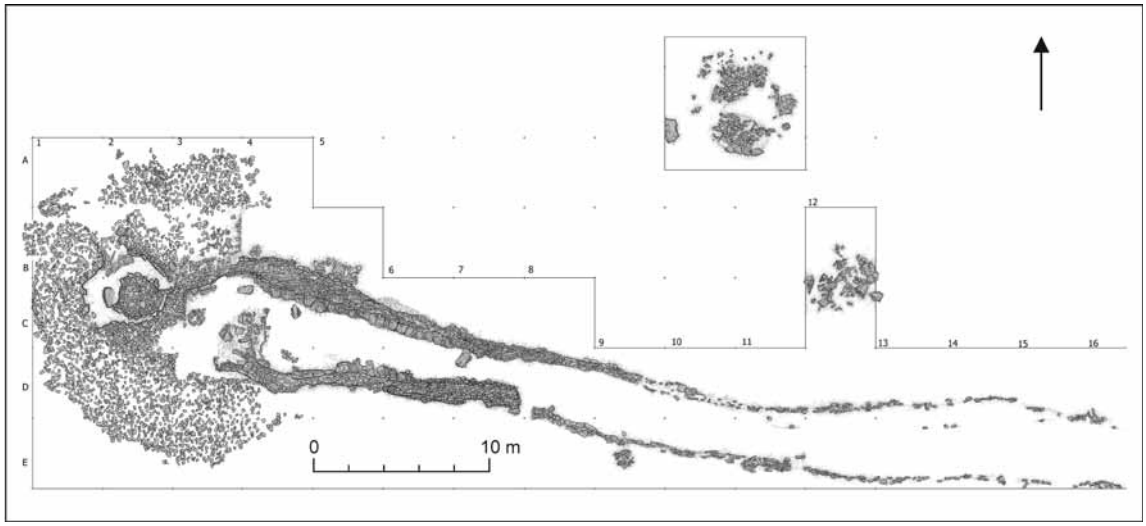

Fig. 2. SBH 34 and additional structures to the north of it. Plan.

Fig. 3. North-western part of the corridor.

covering of a chamber, stood out. In several places around the circular mound, small pieces of ostrich egg shell could be seen on the surface; (2) An elongated structure in the form of a 'corridor', with the upright stone slabs at the edges and a filling of sand and small stones in the middle. In the Polish report, this structure was defined as a 'three-segment, linear structure' (Rutkowski 2013a: 490–492). It rises above the surrounding terrain, although it gradually tapers in a south-easterly direction until it is no longer visible above the ground. Further to the southeast, on the surface of the sand, the top edges of the smaller plates could be seen facing vertically and buried in the sand, as if continuing in the direction of the 'corridor'.

Fig. 4. Ornamented plate in the corridor.

After 2 years of investigations of SBH 34, an interesting complex was discovered—the first of its kind in the region. It consists of two parts: a long structure, and the burial mound adjacent to it from the north-west side (Fig. 2). The entire complex from north-west to south-east is 65 m long. The western part of the complex is surrounded by an oval-round sandy embankment, the surface of which is lined with flat stone slabs. This embankment measures 20 m from north-west to south-east and 18 m from north-east to south-west.

The long structure, known as the 'corridor', extends for 56 m in length and gradually turns to the north (Fig. 3). In the western part, its walls are much higher and thicker, but they gradually decrease in height and thickness in a south-easterly direction. The corridor is 8 m wide on the west side, and 4 m wide on the east side. The flat surface of one of the plates in the west part is decorated with carved geometric designs (Fig. 4).

The wider western part of the corridor is partitioned by a 0.40-m high and 0.40-m wide fundamental wall built from three rows of flat horizontal stones (Fig. 5). It stretches 2.80 m from the south-west wall and ends abruptly before reaching the north-east wall. The passage behind it forms into a rounded section 0.90 m in width. The south-eastern facade of this transverse wall is lined by vertical stone slabs. In the corner, there is a relatively low and narrow plate with a reddish hue, and its surface is decorated with carved rectangles. To the north of it there are two narrow, vertical, column-like, stone slabs. The first of these is quite remarkable. Its main trunk is decorated with a vertical row of convex spherical parts, each separated from the others by grooves. The upper part of this column ends with a forwardly projecting element that is rectangular in cross section. Represented on it is the schematic image of an animal, probably a lion or dragon (Fig. 6a). On the front, the nostrils are clearly visible, as are the circular eyes on the sides. The frontal lobe is smoothly skived, as is the upper edge of the plate standing behind. This part of the column is broken off from the trunk and lies at its foot. The column's preserved length is 0.12 m and its preserved height is 0.57 m.

The second long and narrow stone, with traces of severe erosion, shows rounded contours. The upper and lower parts of this stone are expanded, and the stone's height is 0.65 m.

In the northern part of the transverse wall, two vertical slabs (*stelae*) are erected, each with a height of 0.50 m. The rear face of the first stela lies on the side of the lateral wall; it is much eroded, but the base maintains a rectangular shape and is contoured on all sides by double grooves.

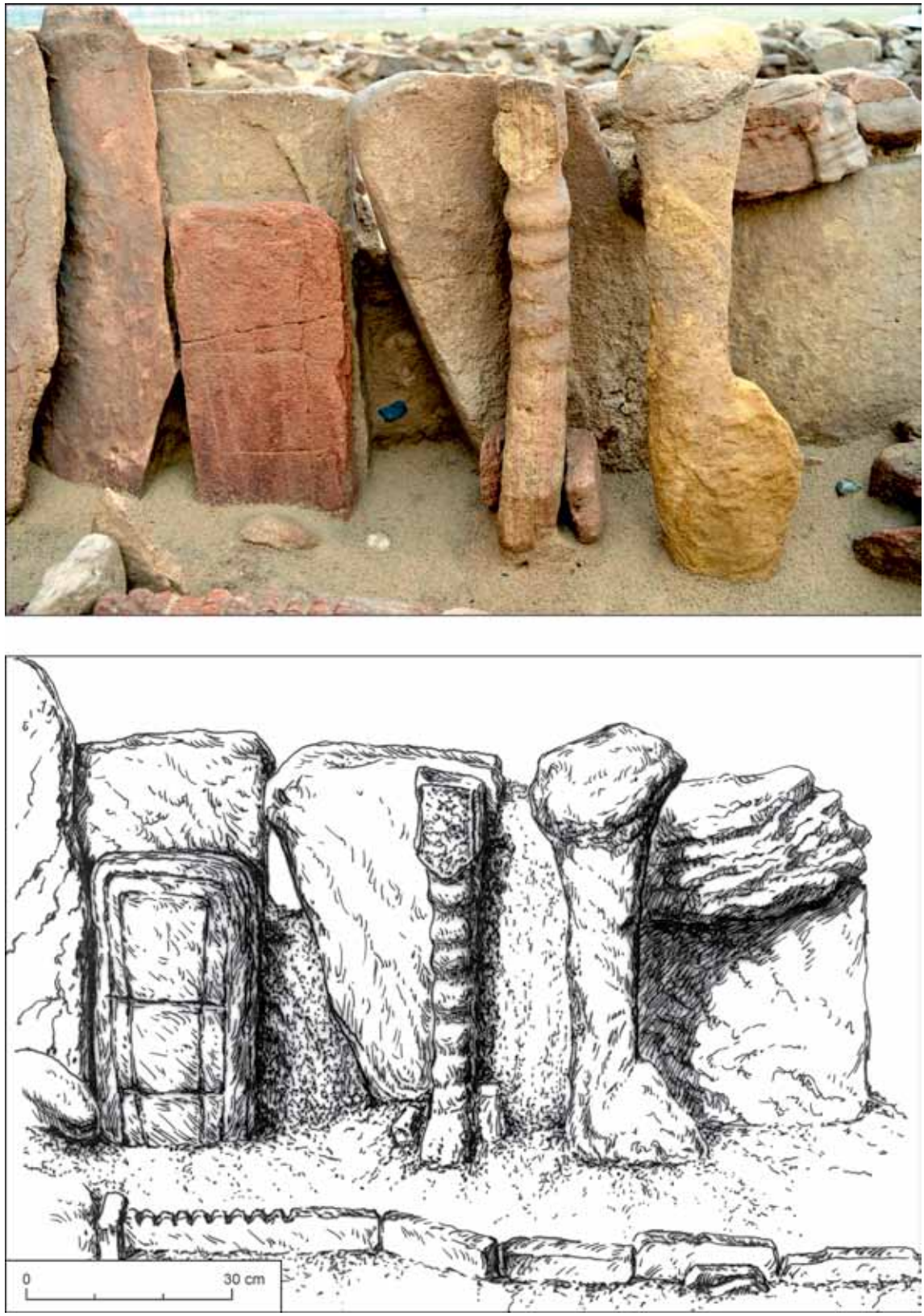

Fig. 5. Altar, eastern view. Photo and Drawing.

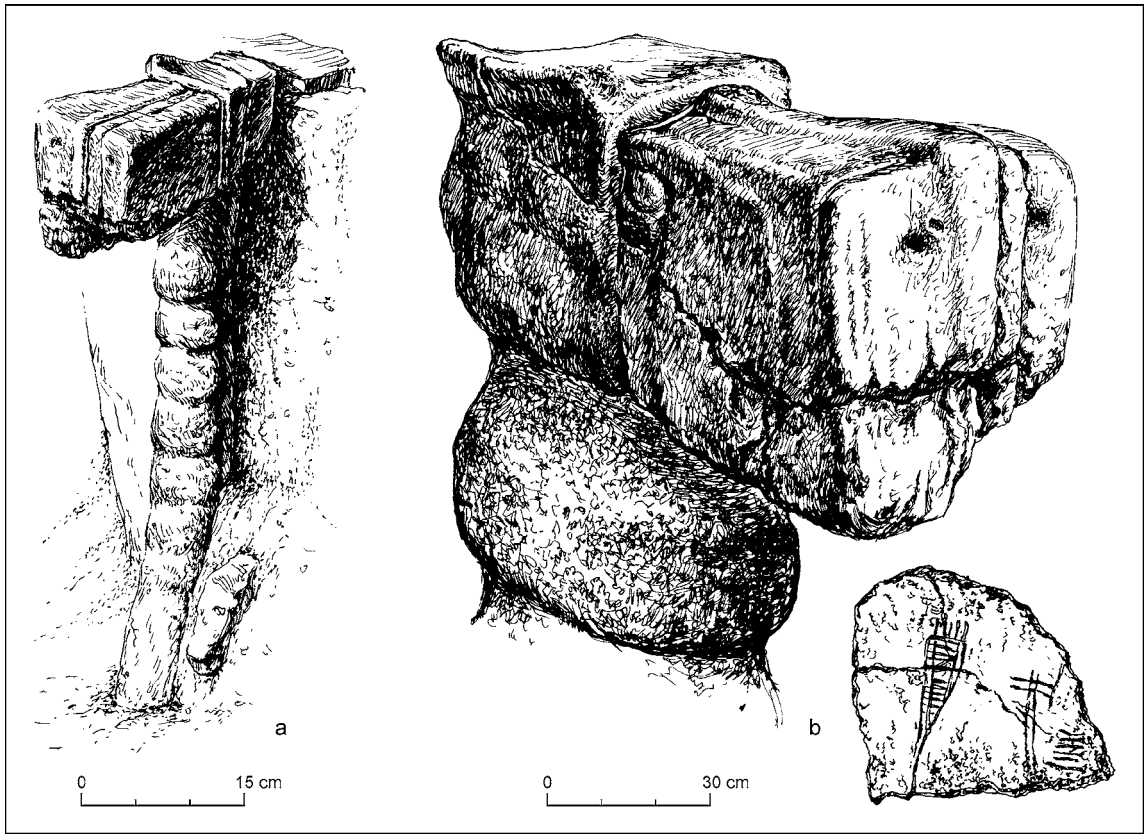

Fig. 6. Half column with the dragons (a) or lions head (b), drawing.

Fig. 7. Ornamented plates included into the wall of altar.

Fig. 8. Altar, top view.

Fig. 9. Shell beads found in front of the altar.

Fig. 10. Various small items found in front of the altar.

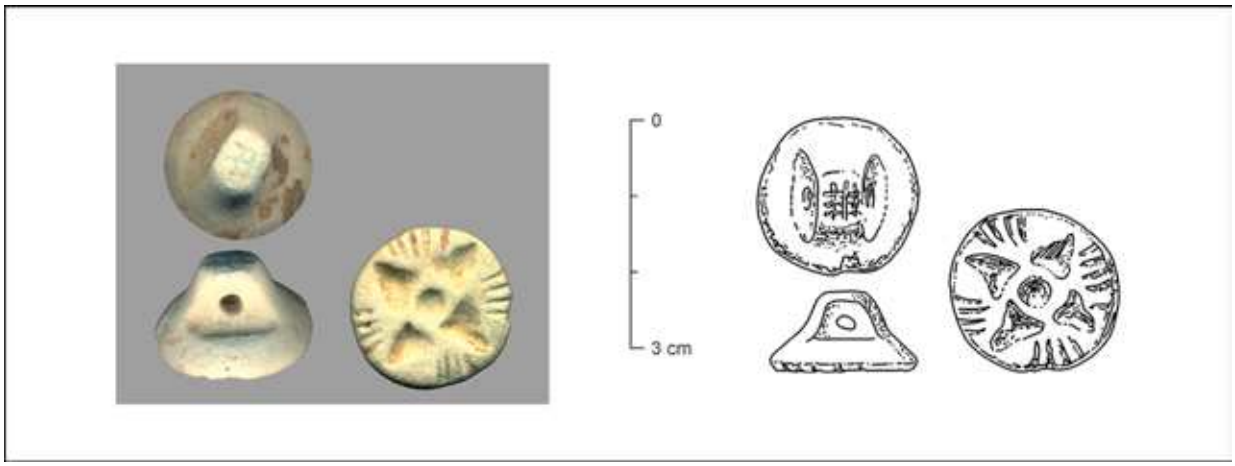

Fig. 11. Limestone seal found in front of the altar. Photo and drawing.

Fig. 12. Kassite goblet found behind of altar.

To the rear of the second plate, another plate is leaned; it is also ornamented with a vertical row of rectangles outlined by double rows of grooves and separated from each other by similar grooves. The upper part of the stone is broken off (Fig. 7).

Parallel and 0.65 m to the east of the transverse wall, there is a line of small stone slabs set on their edges. This part is fenced off from the rest of the corridor (Fig. 8). The upper edge of the extreme south of the plate is decorated with scalloped cutouts. At a distance of 1.25 m from the edge, on outer side of the fence, a stone rectangular 'box' is attached; it is also composed of small vertical slabs and measures 0.25 x 0.18 m. It is filled with loose sand. At the other end of the fence line, there is another 'box', this time of a triangular shape. Interestingly, another triangular stone plate is placed inside it. The total length of the fence is 2.40 m.

Inside the fenced area, a horizontal plate was found with an ornament engraved on it—an elongated triangular shape filled with horizontal strokes and with four lines radiating from its base (Fig. 6b). This may be a drawing of a quiver with arrows. To the right of the image, in the lower right corner, several incomprehensible images composed of individual strokes can be made out. Taken together, it is almost certain that this structure is an altar, and that the whole long structure is a shrine.

In front of the altar, as well as in the sandy mound, a large amount of ostrich egg shells were discovered, as were nearly 2,300 items such as sea shells, shell ornaments (Fig. 9), fragments of pottery, pieces of bronze plates and wire, stone beads (Fig. 10), sprigs of coral, ocher, and various multicolored stones. Of particular note are a conical, limestone seal with a round base and a loop at the top (Fig. 11), and fragment of a rim of steatite bowl.

Directly behind the altar there is a vast empty area delimited by vertical stone slabs that face the internal north-east wall of the ritual corridor. In the western part of the area, immediately in front of the small plates, a recess filled with stones and ceramic fragments was traced, among them a goblet from the Kassite period (Fig. 12).

In the central part of the round-oval sandy part of the structure, from the very beginning, a section of a compact stone mound can be seen towering above the surrounding stone slabs. On the surface, it stands out because of its contrast ratio and concentration of black and white scattered stones. To the west and north of this structure there is a semicircular band free from lining stones. While deepening this mound, researchers uncovered individual stones that once flowed down from the edges into the interior of the space. On the western edge of the stone structure, masonry of rough stone slabs was found. In the upper part, the stone structure measured 2.0 m wide x 2.5 m long, and its height was 2.5 m. Fragments of ostrich eggs, necklaces, and rings made of shells were found between the stones on the exterior surfaces of masonry.

After removal of the central stones to a depth of 0.60 m under the upper level of structure, several relatively large, flat, stone slabs were discovered (Fig. 13). These were inclined toward the center of the structure. In the eastern part, at a depth of 0.80 m, a layer of sand was reached, with small inclusions of gravel and bedrock, without any stones. At this level, the bottom face of the flat slabs was cleaned. No finds were made here, not even a single conch. At the bottom of the stones on the outer wall, a few small bones were found that had been shattered into small pieces during removal. Two shell beads were also found. The upper layer of gravelly sand was completely sterile.

Fig. 13. Circular structure at the north-western end of the SBH 34.

The investigated stone structure was surrounded by a circular wall, adjacent to the western end of the corridor of the sanctuary.

As mentioned above, the 'corridor', as well as the sandy mound, contained a huge amount of ostrich eggshell fragments (up to 10 kg). Radiocarbon dating, carried out in Oxford, dated these to 3,405 ± 32 YBP, indicated a calibrated date of around 1770–1620 BC.

Thus, we have discovered an interesting complex consisting of the so-called 'corridor' and the adjacent burial mound with outer ring. The entire western part of the complex is contained within a large sandy mound of round-oval shape, both sides of which originated contemporaneously and undoubtedly constituted a single entity. Most likely, the corridor-like part was built first, with the burial mound being constructed from the west later. Such long structures are well known in the region of As-Sabiyah from the results of the British and Polish research. However, none of them contain any findings and they are already assumed to be of ritual character. Our investigations have fully confirmed these suggestions.

Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
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SOME RESULTS OF ARCHAEOLOGICAL INVESTIGATIONS IN THE NORTH-EAST COAST OF FAILAKA ISLAND

ZURAB MAKHARADZE & GURAM KVIRKVELIA

On 24 December 2010, Mr. Bader Al-Rifai, the Secretary-General of the National Council for Culture, Arts, and Letters of the State of Kuwait, and Professor David Lordkipanidze, the General Director of the Georgian National Museum, signed an agreement to create a Kuwaiti–Georgian Archaeological Mission (KGAM), with a view to conducting long-term archaeological investigations on Failaka Island.

This project was proposed by the Extraordinary and Plenipotentiary Ambassadors Mrs. Ekaterine Meiering-Mikadze and Mr. Archil Dzuliashvili, as well as by the Department of Antiquities at the National Council for Culture, Arts, and Letters and the Museums Director Mr. Shehab A. H. Shehab.

The mission began work on 7th March 2011; Kuwaiti colleagues proposed that we excavate on the north-east coast of Failaka, in a part of the island that had not hitherto been investigated by archaeologists. The location selected for the first excavation was situated in Al-Awazim; in the following years, our activities extended into nearby areas. During these works, dozens of sites were studied—dating from the Early Bronze Age to the Late Islamic Period .

Al-Awazim (Fig. 1) is situated some 100–150 m from the coast (UTM39: x0247646, y3256271). At the beginning of the excavation, an extended area measuring 25 x 20 m and featuring a sandy mound 1.6 m high stretched from north to south. The central part had been damaged by a 1 m-wide trench with north-south alignment, perhaps the result of the activities of Iraqi soldiers. In the lower part of the area, towards the southern part of the hill, a box-like construction made from vertically set stone was found, the south-west part of which was damaged. Some fragments of Early Bronze Age pottery were found on the surface and around the sandhill.

This area had been noticed by French archaeologists in the 1990s. Later, Slovak archaeologists made a cartographic and geophysical survey of the site that revealed some anomalies in the north-east part of the hillock (Benediková 2010: 58), where the stone mound had been observed.

A preliminary visual survey excluded the possibility that the site represented an ancient settlement, and it was we proposed that it was a burial complex consisting of sand-hill style kurgans. This suggestion determined the strategy for future excavations.

Excavation revealed a destroyed structure (Structure No. 1) consisting of large and medium-sized slabs of shell-rock (coquina; 0.60 x 0.40 m) that were used as a protective surface, and as a revetment for the sandy mound. These slabs were arranged in single layers, but were reinforced with two or three layers in the middle—on top of the sandy mound. Despite the damage, it was clear that the slabs were arranged in definite regular circles. The revetment was best preserved on the north-eastern slope. We also found the footing—the base on which the mound had been erected. This was situated 1 m below modern ground level. The sandy mound itself was 8 m in diameter and 2 m in height.

Beneath the centre of the sandy mound, an oblong pit with a north-south orientation and measuring 4.5 x 3.6 m was unearthed. It was sunk to a depth of 1 m beneath the base of the sandy mound. The pit was cut into sand that was almost white in colour and was filled with yellowish-grey sand; it did not contain any artefacts. Deep control soundings were dug into and around the sandy mound, revealing coarse-grained sea sand 1.5 m beneath the white sand, containing marine molluscs and fragments of shell-rock (Fig. 2).

To the south-west of Structure No. 1, the remains of stone buildings could be observed on the modern surface (Fig. 3).

Structures Nos. 3 (sq. H5-I5) and 6 (sq. J4) were built with single layers of slabs placed in the sand; no artefacts were found therein.

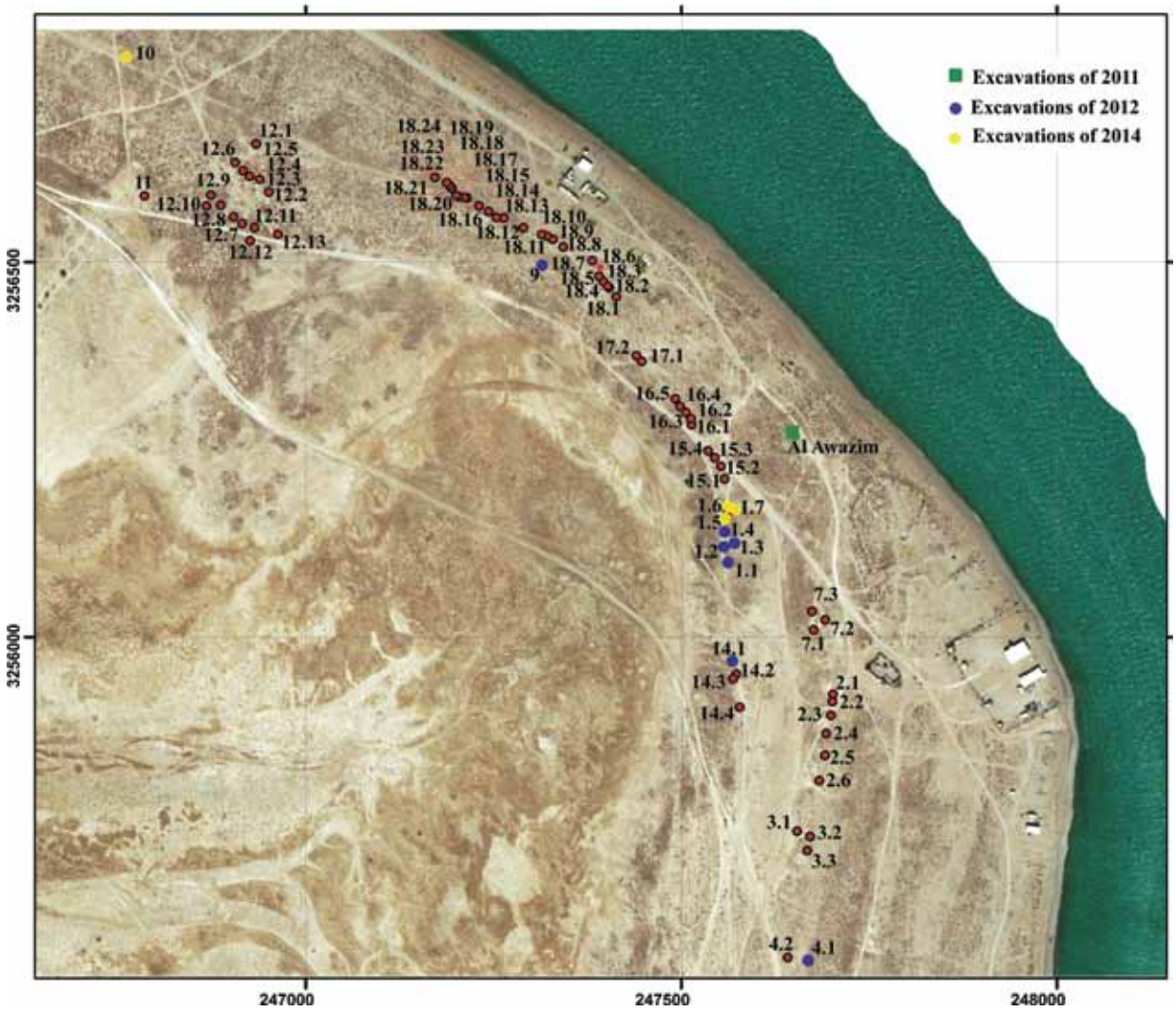

Fig. 1. South-eastern part of Failaka island, north-eastern shore, map of the sites found out and investigated by Kuwait-Georgian Archaeological Mission.

At first, Structures. Nos. 4 and 5 (sq. I4) looked like a separate stone mound. However, the excavations revealed that they were part of a larger construction that was damaged in the centre. The construction was circular, 3–4 m in diameter and 1 m high. It was built with large shell-rock slabs. The north-east part had a stone revetment, as was the case with Structure No. 1. Both of these buildings began at the same depth, which suggests that they had been constructed simultaneously. As with Structure No. 1, the area contained no artefacts.

In the E part of the trench, we noticed some raised sand, but it was not as prominent as in Structure No. 1. Structure No. 2 also had a stone "box" consisting of vertical stone slabs (squares H6-7–I6-7). The west part of the structure was damaged, but its size could be reconstructed on the basis of the surviving remains: it was 2.5 m long, 1.8 m wide, and 0.9 m high. The structure was situated on the east-west axis, curving slightly towards the north-east. The east wall was well preserved, with two slabs; the south wall had four slabs and the north wall two slabs preserved, while the west wall was completely destroyed (Fig. 4).

The west part of the complex yielded red pottery fragments and the remains of bitumen at floor level. An area 3 m in diameter was revealed at a level 0.15–0.29 m deep; several pearl shells were scattered on its surface.

Another area of the same kind was detected in a layer of loose yellowish sand in squares H5 and 6; it also contained pearl shells scattered close to the surface. However, this time they were accompanied

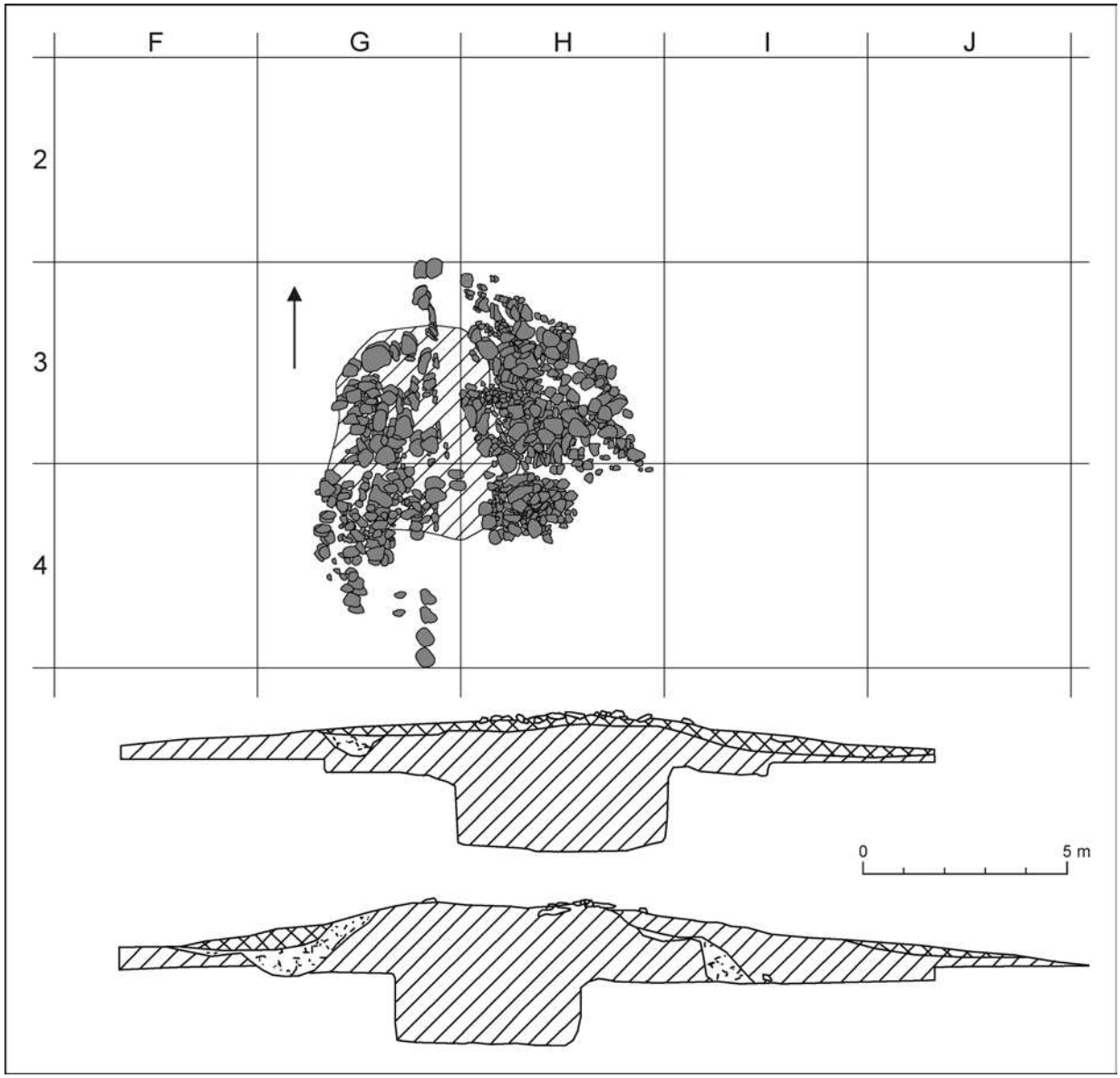

Fig. 2. Al-Awazim. Central mound and stone embankment; plan and sections.

by fragments of vessels dating to the Early Bronze Age. Traces of fire were visible in dark patches on the surface of the sand.

The fragments originated from about 20 clay vessels with three types of rim: one was triangular in section, the second was straight with a tapering edge, and the third was slightly open with narrow walls. The bottoms were flat or rotund. Several more distinctive vessels had horizontal decorations in relief; six such vessels were identified, of which some had traces of light-coloured slip or bitumen. Most of these vessels have parallels in the Barbar pottery of the Dilmun Culture (Fig. 5).

The excavations at Al-Awazim revealed structures that were as yet unknown on the island. This interesting development made it challenging to determine the chronology of the site and to attribute the finds to specific archaeological cultures. For this reason, our interpretation of the results is hypothetical only in that it is based on indirect evidence.

Structure No. 1, with its characteristic construction (revetted sandy mound with a chamber beneath), was a tumulus type burial; so too were Structures Nos. 4 and 5, although they were of a more modest size.

The main problem is that no grave goods or human remains were found. Nevertheless, it is reasonable to assume that the site constitutes a burial complex of the Early Bronze Age.

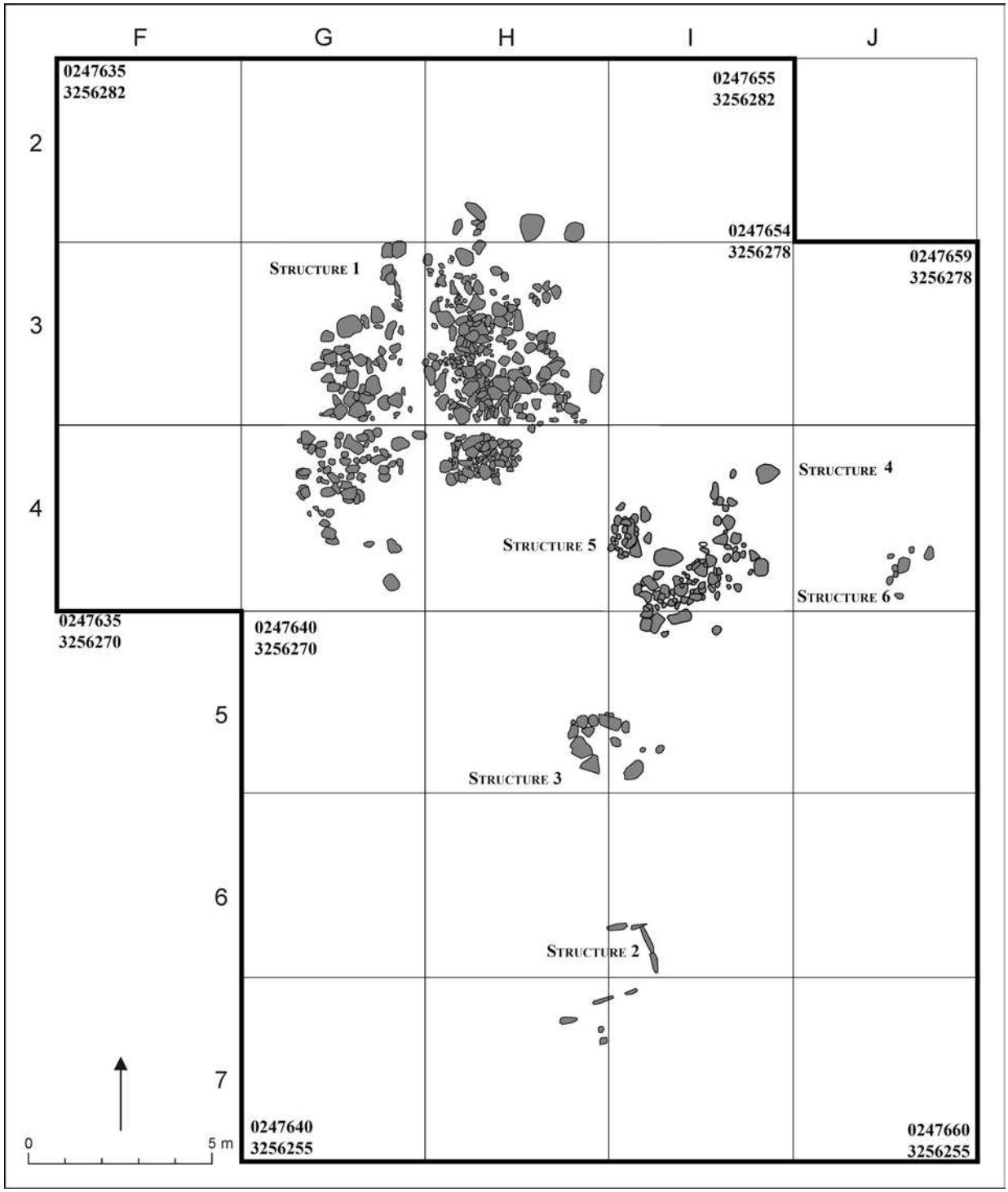

Fig. 3. Al-Awazim. Plan of the structures investigated here.

It seems that Structure No. 2 was also built in an early period. Its stone "box" was destroyed as well, and fragments of red pottery dating to the Early Bronze Age were unearthed from the base of the "chamber". A fragment of pottery found alongside pearl shells in squares G6 to H6—close to the modern surface—was typical of the Dilmun Culture dating to 2200–1750 BC.

It seems plausible to suggest that pearl-shell gatherers recently had temporary dwellings here, as the remains found at Structures Nos. 3 and 6 indicate. We may even speculate that these people found and looted the ancient burials; which may explain why the ancient pottery fragments were found at the same levels as the pearl shells.

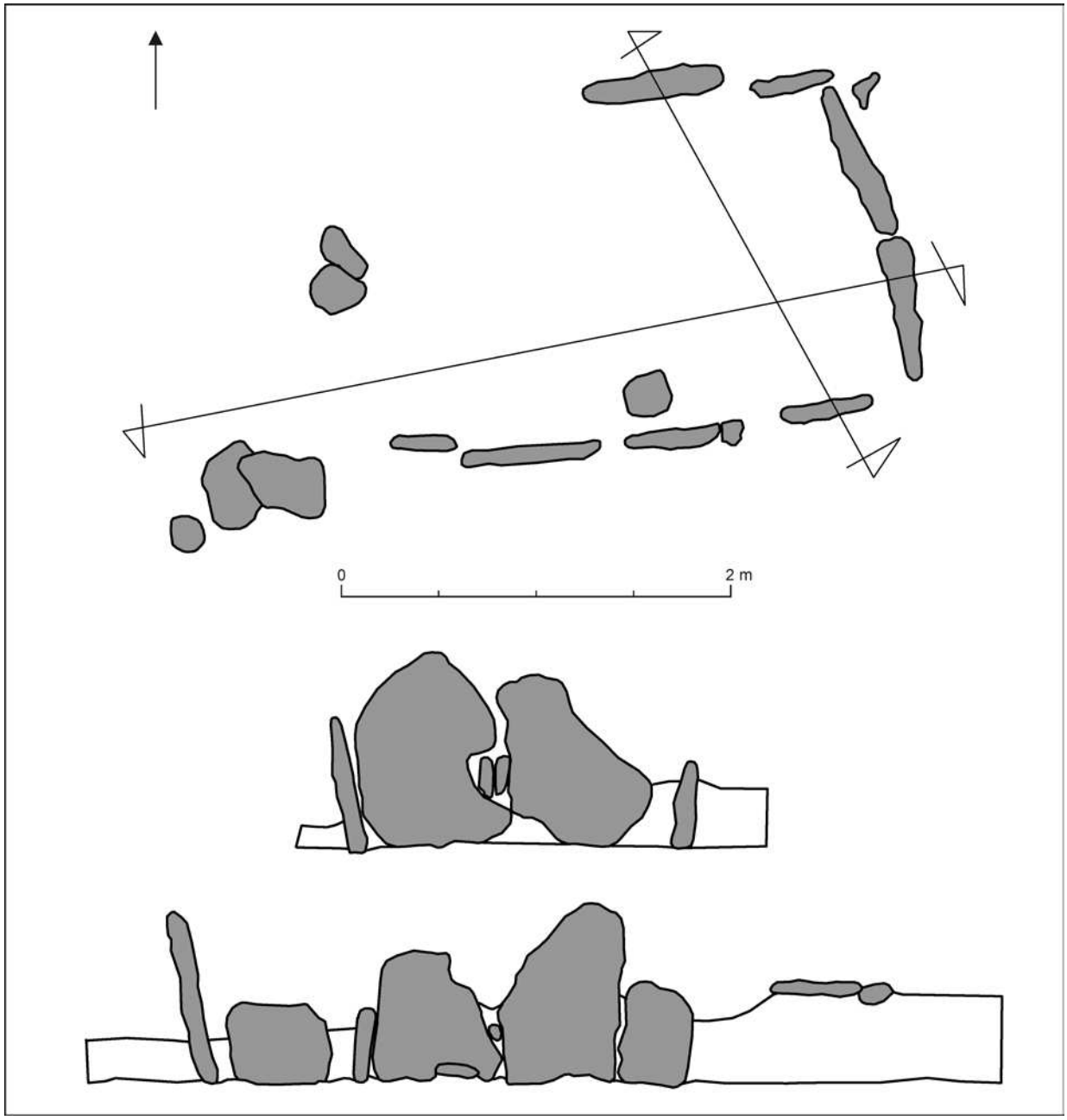

Fig. 4. Al-Awazim. Structure 2; plan and sections.

In any case, the structures and the stone "boxes" are the earliest edifices of their kind unearthed on the island of Failaka.

During the excavations at Al-Awazim, and in the following years, the Kuwait–Georgian Archaeological Mission also conducted archaeological surveys of the surrounding area. In particular, the sites at which large quantities of stone were concentrated attracted our interest. Our objective was to pinpoint the sites using the Global Positioning System, as well as to locate them on the map (Fig. 1). The territory was surveyed, and the sites of potential archaeological interest were revealed. Specifically, during 3 years of archaeological surveying, 84 sites were identified, some of which stood out distinctly, while others consisted of a row of heaps or clusters of stones. The results of this survey provided the main framework for further archaeological activity. In 2012, we started to explore the sites surveyed in the previous year. During these excavations, a group of sites was revealed that proved highly interesting and unusual, described below.

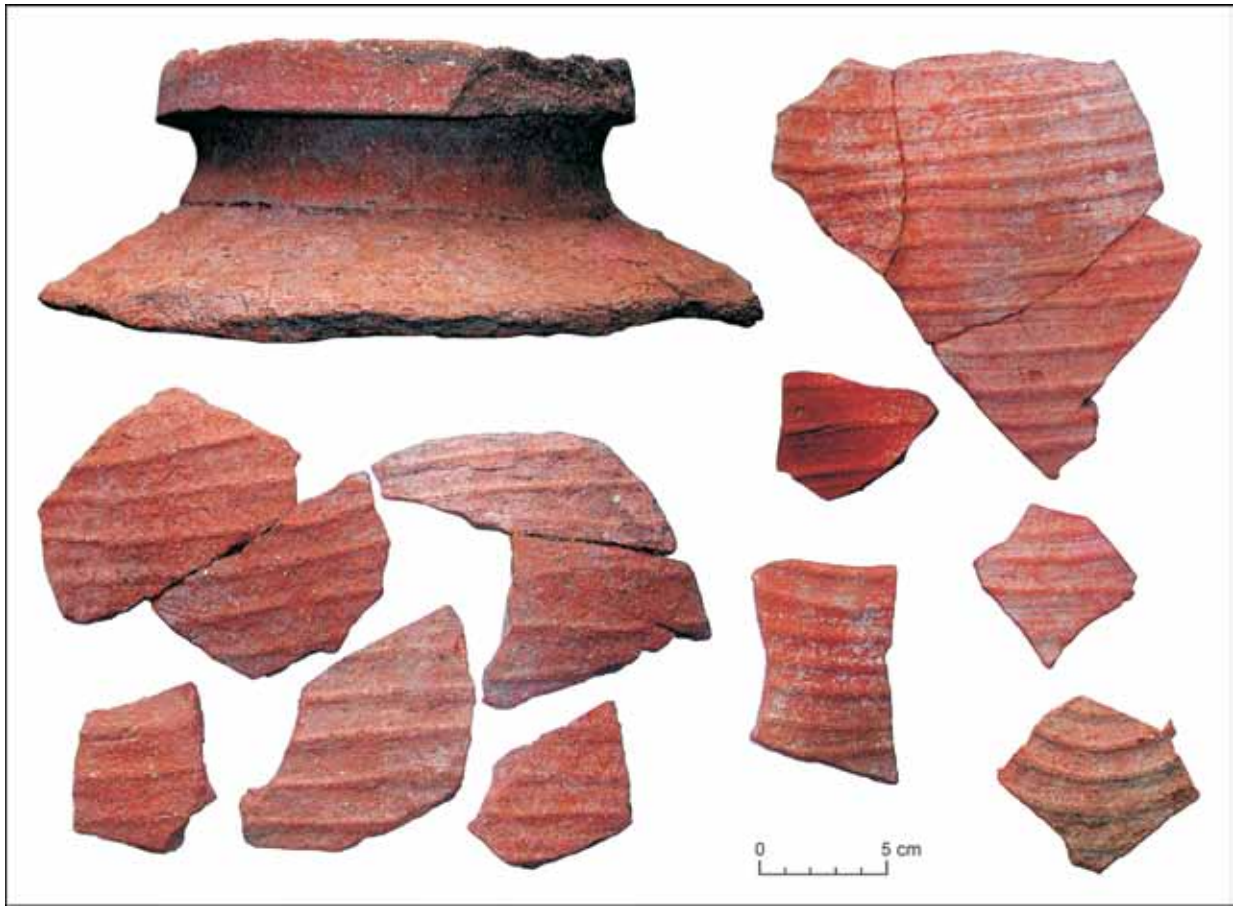

Fig. 5. Al-Awazim. Fragments of the Barbar type Dilmun pottery.

KG 1.1 (UTM: x0247568, y3256098). In this site, two upright stone features were visible on the surface. The remains of a square structure emerged after the upper layer of sand was removed; the main part measured 3.10 x 1.50 m and was dug into a pit 0.30–0.40 m deep, aligned northeast-southwest. The walls were built with slabs of grey sandstone and shell-stone (Figs. 6a and 8a).

The shorter north-eastern wall was built using two rows of vertical slabs. The outer row was composed of 7 cm-thick grey slabs and the inner of 10 cm-thick dark grey slabs. The inner surface also showed the remains of a pinkish clay plaster, perhaps as the result of a fire.

The southeast wall was built using four large dark slabs, each measuring 0.45 x 0.55 m and set vertically in the ground. The wall was 2.30 m long, 0.50 cm high, and had traces of 3–4 cm-thick clay plaster on the inner surface; this was well preserved at the northeast end. The outer wall was covered with sand, the surface of which was reinforced with stone slabs. The strip of reinforced slabs together with the vertical slabs was 0.80 m long.

The northwest wall differed from the two described in that it was of dry-stone construction, with four rows of horizontally set sandstone. It was 2.90 m long, 0.40 m thick, and 0.50 m high. The inner surface was covered with two layers of clay plaster, with the inner layer being pink in colour, while the outer surface showed a rather better-preserved layer of grey clay.

At the centre of the structure, there was a wall running southwest-northeast. It was 0.50 m high and was built with medium-sized (0.30 x 0.10 m), round stones, dividing the building into two equal parts. The northwest part was also covered with a layer of clay plaster, while the upper part of the masonry showed traces of fire and was discoloured and crumbling.

The southeast part of the wall measured 2.40 x 0.50 m, and the northwest end 2.20 x 0.65 m. There were stray stones at the end of the southeast part-scattered to the southwest, while the northeast part ended with stone masonry at the southwest end.

Fig. 6. Structures KG 1.1 and 1.2; photos.

Fig. 7. Structures KG 1.4 and 15.4; photos.

Both parts (or rooms) had three layers of filling: the first was a 0.25-m thick yellow sand, containing ceramic fragments, the second was a more compact 0.15-m thick layer of dark grey sand with fragments of bitumen, and the third was a 0.10 m thick bottom layer containing fragments of wall plaster and small pebbles.

Beneath a heap of stones at the southwest edge of the southeast section there was a layer of burnt black sand that lay in a semicircle with a radius of about 0.50-m radius around the structure. Few ceramic fragments were found, and those that were present were insignificant—that is, devoid of any potential information. All were brown or grey and measured between 0.5 and 0.7 cm.

KG 1.2. This site was also situated in Cluster No. 1—about 20 m to the north of site No. 1.1 (UTM: x247565, y3256115). Stones were concentrated over the surface covering an area measuring 3 x 4 m. The outlines and edges of vertically set stones were visible on the surface, and there were some fragments of ceramics without any diagnostic features (Figs. 6b and 8b).

It was clear from the start of the excavation that we were dealing with a square structure, similar to that at site KG 1.1. The building measured 2.5 x 1.5 m and had an east-west alignment. It was open to the west and had a wall in the middle, dividing the chamber into two, almost equal north and south chambers. The building was built into a specially excavated pit.

The north wall was built using flat slabs eight courses high. It was 2.40 m long, 0.40 m thick, 0.65 m high, and terminated in the northeast corner, where a narrow vertical stone was found. To the north, a larger vertical terminating stone was discovered. The upper edge of the wall had a course of masonry on the outside. The plaster had perished, but traces could be seen between stones in the masonry.

The eastern wall had two rows of large (0.45 m-high) vertical stones resting on smaller stones. It was entirely plastered and measured 1.20 m long and 0.65 m high; the stones were 0.12-m thick.

The southern wall was built using vertical stones; in the west part, seven courses of masonry had survived. The wall was 2.30 m long, 0.20 m thick, and 0.65 m high, and it was plastered internally.

The central dividing wall had several courses of masonry plastered on both sides, and was 2.20 m long, 0.20 m thick, and 0.50 m high.

In the west part of the structure, there was a concentrated heap of stones, beneath which a burnt layer of sand was found, containing burnt fragments of pottery and granules of bitumen.

The lower level of the structure was located 0.65 m below the upper part of the outer walls. On the floor there was a layer of dark sand, discoloured by fire and containing fragments of plaster, small pebbles, and a few ceramic fragments.

A layer of dark burnt sand 1.40 m long and 0.10 m thick was uncovered in the area to the west that intruded slightly into the site, but was not as wide. On the surface and within the sand there were stones measuring between 0.30 x 0.35 m and 0.40 x 0.65 m; 17 large fragments of one vessel were found on the surface (Fig. 10).

The oblong chamber was rectangular; on three sides, it was built using large stones set vertically or randomly. The interior of the chamber measured 1.0 x 2.20 m, and it was 2.40 m long externally, with a burnt patch 3.80 m wide. A wall divided the chamber into two: the northern part was 0.35 m wide, and the southern 0.40 m wide.

Twelve unidentifiable fragments of brown clay were found inside the structure, one of which had traces of bitumen, while two were made of pink clay with a brown or yellow surface; two of the rim fragments resemble pottery found at Failaka settlements dated to the Early Bronze Age; another fragment represented a base with a small heel.

KG 1.4 (UTM: x0247565, y3256137). At this site, the outline of a 2.30 x 2.00 m rectangular building was revealed close to the surface. It was aligned slightly to the north and had a central wall dividing the room into two chambers. The outer north and south walls were between 0.30 and 0.40 m thick and were built with flat stone slabs measuring 0.30 x 0.40 x 0.10 m. Beginning at the third row from the top and extending to the bottom, the masonry was lined internally with two or three layers of plaster. In some places, the plaster was 0.10 m wide and up to 0.60 m high. The eastern wall was composed of two upright, 12 cm-thick slabs that were also plastered internally (Figs. 7a and 9a).

The middle wall was 0.40 m high and 0.20 m thick. The clay plastering increased the thickness of the wall to between 0.35 and 0.40 m. The room was divided by a wall into two chambers—the north chamber was 0.36 m wide, while the south chamber was 0.40 m wide. Both contained fragments of burnt plaster, and their floors were found 0.60 m below the upper edge of the wall covered by a 10 cm-thick layer of burnt sand.

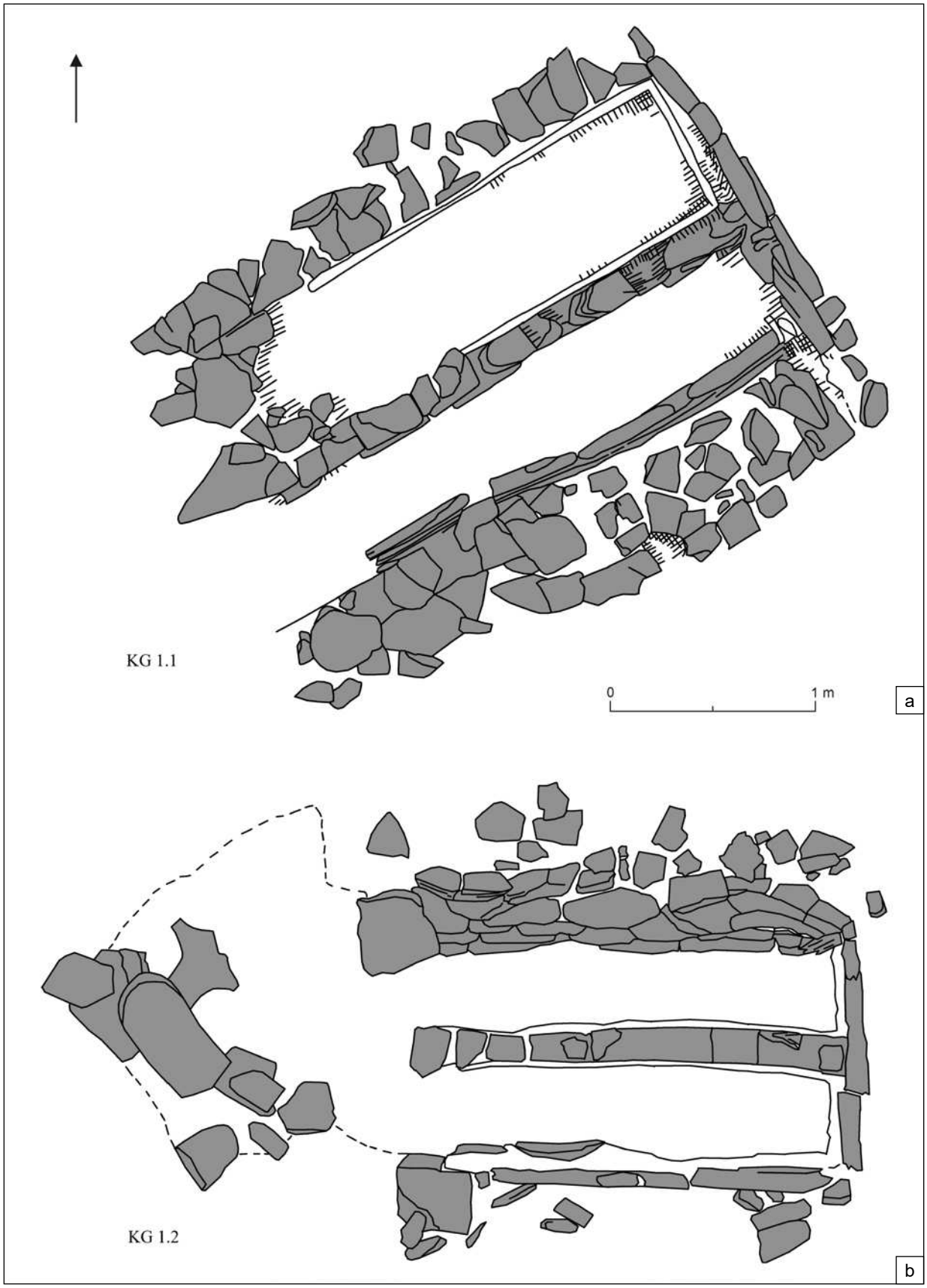

Fig. 8. Structures KG 1.1 and 15.2; plans.

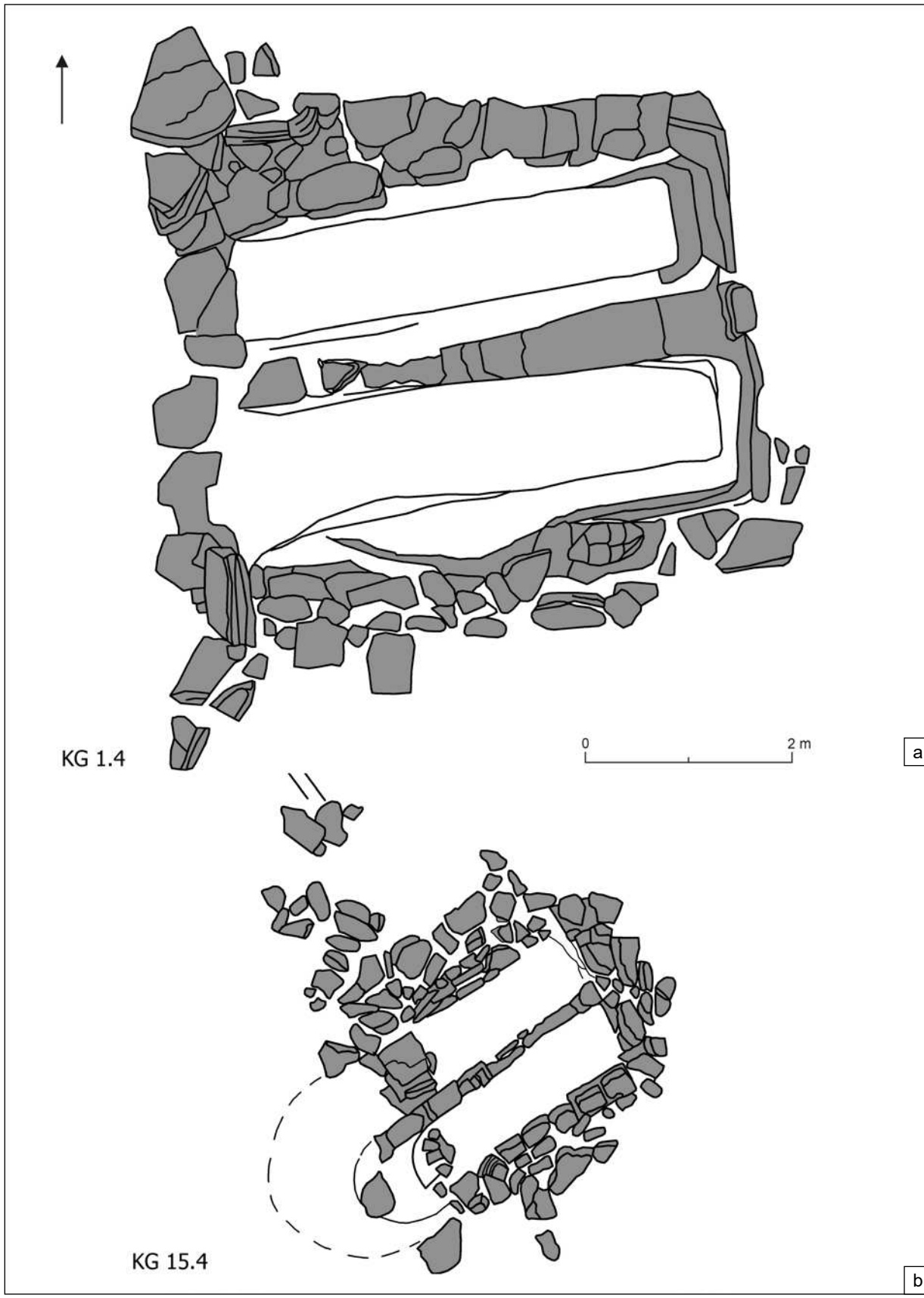

Fig. 9. Structures KG 1.4 and 15.4; plans.

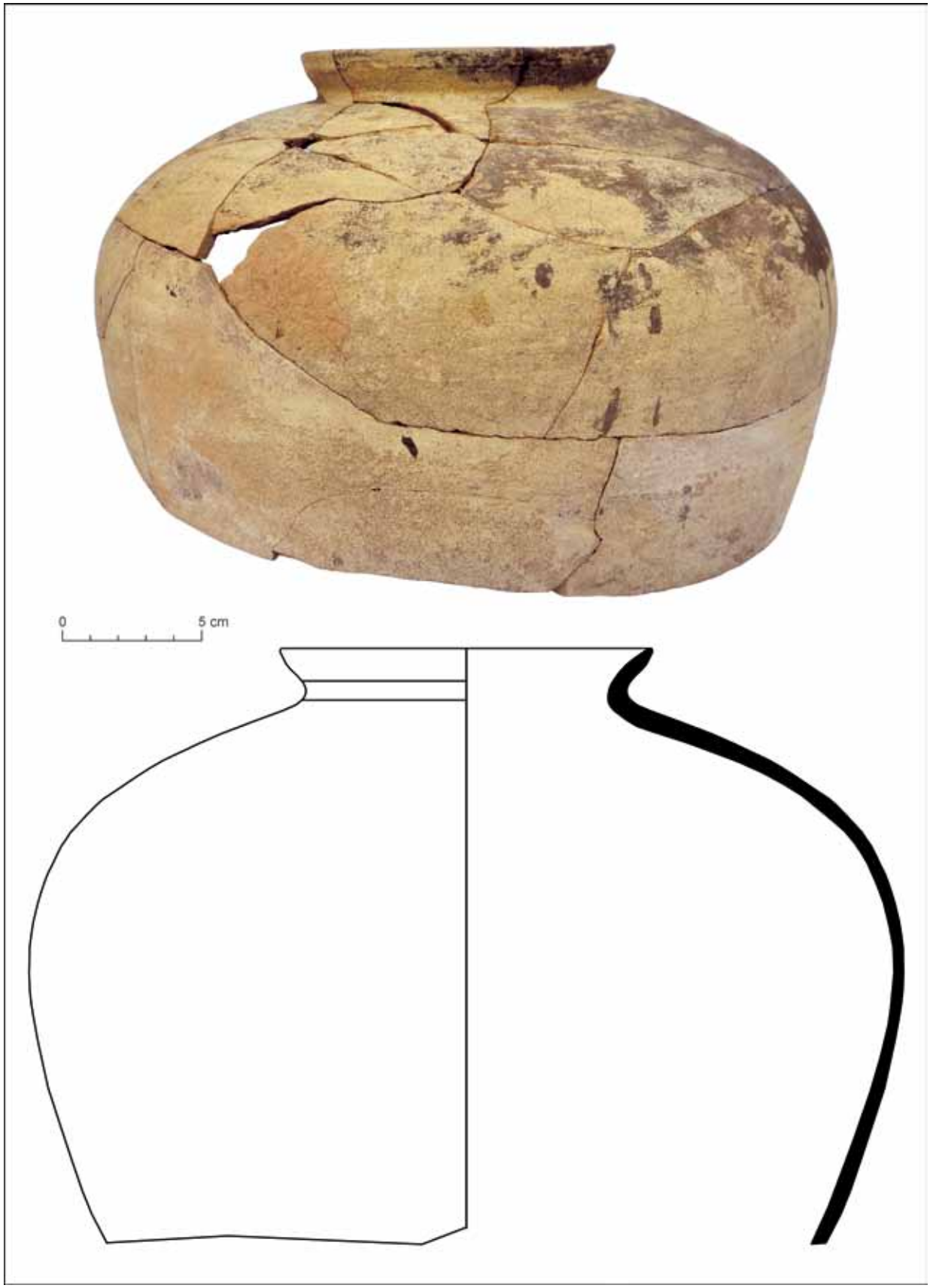

Fig. 10. Large fragments of the vessel found in KG 1.2.

Both chambers were closed to the west by two rows of masonry built atop the burnt sand, implying that they were built after the original function of the structure had ceased.

To the west of the structure was a 0.45 m-deep, rectangular pit filled with burnt sand. At the top, it measured 3.0 x 2.0 m, while its dimensions were 1.5 x 2.0 m at the bottom. It contained pebbles, fragments of plaster and bitumen, ceramics, and charcoal.

Some 3 m to the west, at a depth of 0.30 m, a stone pavement with a north-south alignment was found, as was a 1 m-long strip that appeared to be the remains of a fence. A similar stone pavement also occurred to the south of the structure; some ceramic fragments were discovered between the stones.

If these pavements were contemporary with room KG 1.4, which is far from certain, we might assume that the room was fenced.

KG 1.5 (UTM: x0247564, y3256157). Situated 20 m to the north of KG 1.4, this circular stone structure was 4 m in diameter and was visible on the surface, where some ceramic fragments were also found.

Beneath the upper layer of sand was a dense mass of shell-stone resembling a ruined wall. Another mass of stones was situated 2.70 m to the south, extending from west to south, then turning north and running 0.80 m for 1.30 m. A narrow wall, 0.23–0.30 m thick, extended 2 m to the west.

We cleared the southern part of the northern cluster, revealing the space between the mass of stones and the narrow wall. To the west of the structure, the outlines of a pit filled with burnt sand gradually emerged.

It was clear that we had uncovered a familiar structure, with a room dug into a pit and divided by a wall into two equal chambers. The walls of the structure on both sides were reinforced with a single row of stones and only survived in a highly fragmentary condition.

The structure had a west-northwest alignment. The east-west room measured 2.5 x 3 m including the reinforcing stones, the entire structure measured 3.0 x 3.50 m.

The north part of the room was damaged, and traces on the ground indicated that it measured 1.70 x 0.50 m. The north wall was no longer there, but its orientation could be determined on the basis of some stones that were still *in situ*. The reinforcing stones from the dividing wall were *in situ* for a distance of 1.80 m.

In both chambers, the floor level was established at a depth of 0.55 m, and its surface was covered with dark sand, with fragments of plaster on the surface.

Externally, the structure was composed of four or five courses of stone slabs 0.60 m high, 0.30 m thick, and 0.70 m long. The south part of the chamber was blocked by a 0.30 m-long wall. As elsewhere, to the west of the structure, there was a pit 2 m in diameter filled with dark sand and containing fragments of plaster and bitumen.

KG 1.6. This site was situated 5 m west of KG 1.5 (UTM: x0247567, y3256167). Once again, the familiar pattern of a structure dug into a pit and divided into two chambers. This structure was aligned east-northeast. As with KG 1, the site was damaged, but it was possible to reconstruct its perimeters.

The remains of the stone walls had four or five courses. The southern wall was 2.0 m long, 0.30 m thick, and 0.5 m high. The construction was covered with sand externally and reinforced with stones arranged in a strip 0.70 m wide, at an angle towards the south. Part of the south wall measuring 1.0 x 0.45 m was preserved, reinforced with stones.

The north wall had lost all its stone, but its outline could be traced on the basis of the *in situ* clay plaster inside the chamber. The central dividing wall was 0.25 m thick.

The north chamber seems to have measured 1.90 x 0.45 m, while the dimensions of the south chamber were 1.80 x 0.50 m. To the west, both chambers were blocked by a low wall 0.30 m thick. All walls were plastered with clay both internally and externally. Fragments of plaster and bitumen were found at the level of the floor of the structure—0.40 m below the upper edge of the surviving wall. There was no pit with dark sand to the west.

At the bottom of and alongside the south wall, there was a 1.50 x 0.70 m layer of shells. This continued beneath the wall and thus was apparently created before its construction.

Between sites KG 1.5 and KG 1.6, another kind of structure was situated—2.50 m southwest of site No. 1.5. It was a small chamber of uncertain function built on a hexagonal plan with small upright stones and measuring 0.85 m east-west and 1.10 m north-south. One stone was broken and there were fragments scattered around. Stones of various sizes had been applied externally to reinforce the lower part of the chamber, within which there were stones and fragments of ceramics.

KG 1.7. This site lay to the east of KG 1.6 After cleaning, a 3.00 x 2.20 m stone pavement was revealed, but proved to contain nothing of archaeological significance.

KG 14.1. This site was situated 30 m south of KG 1.1 (UTM: x0247580, y3255966). It formed part of four clusters and was situated to the north, aligned northeast to southwest. It measured 1.90 x 0.95 m and was built with 0.10 x 0.12 m upright stones. Unlike the other structures, the northeast part was open, and the walls had no reinforcement. The central wall divided the room into two equal 0.45 m-wide chambers. In the southeast part, the chamber was filled with small stones. The floor level was established at a depth of 0.40 m below the top of the walls and contained fragments of burnt clay plaster, but no fragments of ceramics.

KG 15.4. Was situated 15 m north of KG 1.6 (UTM: x0247539, y3256239). It was the most northerly site of the four clusters and was aligned northeast-southwest. Three walls were reinforced externally with stones, and the structure measured 3.10 x 2.60 m overall. The external walls were 0.55 m high. The walls were built with shell-stone blocks measuring 10 x 40–50 cm. The northwest and northeast walls were constructed with four courses of masonry, while the southeast wall had five courses. The room measured 1.80 x 1.35 m internally. The dividing wall was 0.45 m high and 0.20 m thick. The chambers were both 0.60 m wide and were built with six courses of smaller stones; they showed traces of fire, and their upper part was discoloured and damaged. No clay plaster survived on the walls, but fragments of it were scattered on the floor. Both chambers were blocked at the southwest end by a wall composed of coarse stones that had been erected between the inner walls and the dividing wall.

The floor was covered with a layer of dark sand, and the lower parts of the walls were also dark. On the southwest edge of the structure, there was a pit 0.80 m in diameter containing large stone (Figs. 7b and 9b).

Altogether, we investigated seven sites with similar structures that differed only in details. They were all rectangular and built in specially dug pits. The walls were built with regular masonry or upright stones. In many cases, the walls were reinforced with stone revetments. At the centre of the structures, there were walls that divided them into two equal parts. As a rule, the walls were plastered internally. In all cases, this plastering had been badly burned by an intense fire. The level of the floor was covered with a black layer of sand mixed with particles of bitumen and baked clay chips that had detached from the walls. In most cases, the structures had pits for accumulating burnt sand. The structures had the same east-west alignment, with slight variations. The fragmentary nature of the material renders us unable to determine the buildings' function or date of construction.

Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
Archaeology of Failaka and Kuwaiti coast – current research
Nitra 2019, 71–90

THE LATE PRE-ISLAMIC TO EARLY ISLAMIC VILLAGE AL-QUSUR

Prospection and excavation 2006–2009

KAROL PIETA – MATEJ RUTTKAY – MÁRIO BIELICH

Introduction

A Slovak–Kuwaiti team (Kuwaiti National Museum and the Institute of Archaeology of the Slovak Academy of Sciences) led by Karol Pieta and Matej Ruttkay executed an archaeological survey and investigation on the site of Al-Qusur on Failaka Island, Kuwait from 2006 to 2009. Situated approx. 20 km from the mainland, it is one of the most important islands of Kuwait, located along the northern part of the Arabian Gulf. It is 14 km long, and its width varies, being 8 km in the west, 5 km in the middle, and 2 km in the east, for an area of approx. 24 km^2. The majority elevation of the island is 4–5 m above sea level, and its highest points are approx. 6.6 m above sea level. It has its own source of water (Fig. 1).

The Site

Al-Qusur is an ancient village in the middle of the island, south of Al-Quarainiyah. It comprises the center, with a monastery and its church dating from the Paleo-Christian period (Patitucci & Uggeri 1984), and a large village (about 141 houses in total) around the center, dating to the Early Islamic Period (Umayyad and Abbasid). The village extends about 1.5 km in the north-south direction and about 1 km in the east-west direction. The shortest distances to the sea are 0.8-1.1 km. The Al-Quarainiyah harbor may have been used by the settlement in the Early Islamic Period, although no detailed investigation has yet been carried out (der. Failaka; see article A. Di Miceli in this publication).

The investigation of the site has a rather long history. In the 1970s, excavations were carried out by the universities of Venice and Bologna (Patitucci & Uggeri 1984). In addition, reconnaissance of the terrain, combined with aerial photographs, created the first detailed plan of the village. More than 40 enclosures, or courtyards, were documented. The center was assumed to be located at the highest and most densely settled part. The identified features were dated to the Early Islamic Period, and this was confirmed through further investigation by a French mission led by J. F. Salles, which also concluded that a Christian community had lived at the site as well (Calvet & Salles 2008; Salles 1984). Later, a church and its close surroundings were discovered (Bernard & Callot & Salles 1991; Bernard & Salles 1991; Callot & Calvet 1999). The French mission returned to Failaka in 2007 and renewed the excavation of Al-Qusur. In 1989, D. Kennet studied part of one courtyard – Unit 56. In addition to the enclosure wall, several structures were found – a main building, an outbuilding, a well, and other features (Kennet 1991). In 2011 the French mission restarted its activities under supervision of M. Gelin and later J. Bonnéric (see her article in this publication).

The Kuwaiti-Slovak Archaeological Mission began work on the site as early as 2006 and continued in 2007 and 2009. Its activities were divided into two phases: a survey followed by an investigation of selected structures. The investigation was only possible thanks to significant support from The National Council for Culture, Arts and Letters (NCCAL; Department of Antiquities and Museums).

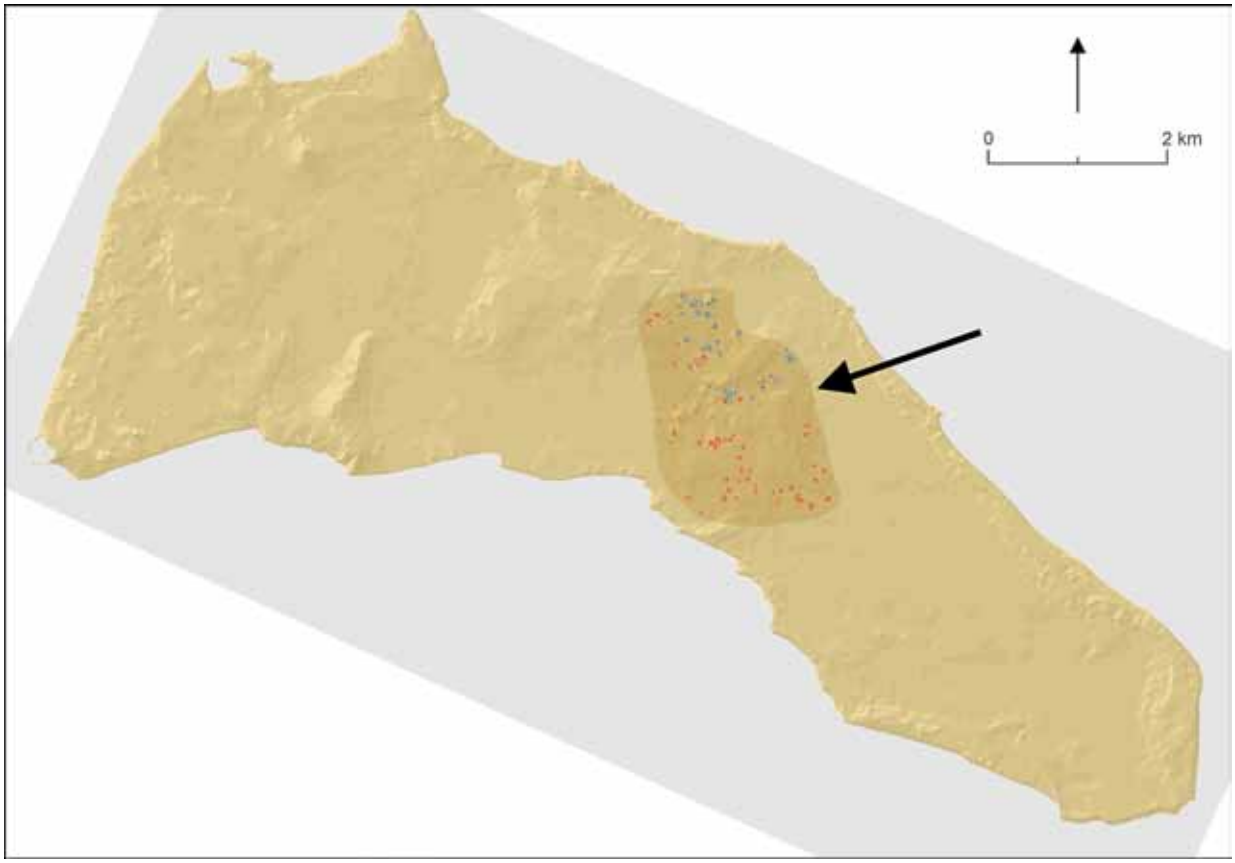

Fig. 1. Failaka Island with Al-Qusur (by M. Bartík).

Prospecting

The first stage involved studying graphic documents (aerial photos, old maps, etc.) and terrain-oriented reconnaissance. The investigation employed new methods of prospecting (geophysical measuring, photogrammetry, digital terrain modelling [DTM]) that added to the already existing data acquired by Italian archaeologists in the 1980s. In this way, a new plan of the site was elaborated. At the request of the Kuwaiti contingent, independent numbering of the recorded relics was begun. To clarify the situation and consolidate the previously known data, features listed by the Slovak contingent are given with the letters SK, while the original numbers are given in brackets with the letters IT, e.g. SK-001 (IT-81).

Since Patitucci produced a sketch plan of the early Islamic village, the architectural features in the southern part of the area have all been numbered in a separate row of courtyard houses (No. 81–88). Because we lack information about the last activities of the French mission, and because the newly recorded objects have not yet been numbered, we started a new numbering system to record finds from the southwestern part of the settlement. These numbers all begin with the letter S (south). For instance, the last from the numbered houses (81–88) in the southern row were given the figures 1S–8S. Each settlement unit (house with its outbuildings and facilities) was numbered, rather than individual features. The activities of the Slovak mission shed new light on the overall structure of the village, with its center and sacral architecture at the highest point of the island.

Selected courtyards underwent geophysical survey, and surface finds were collected from numerous clearly identified enclosures. The Slovak team mapped almost a hundred archaeological features that were thought to be part of an agglomeration around the church. However, new analysis has suggested that some features in the southern part of the village belong to a younger (late Islamic) stage of the settlement. The features were first mapped geodetically, and some were then confirmed by geophysicists. Altogether, we identified 144 architectural features, 122 are almost certainly courtyards, probably from

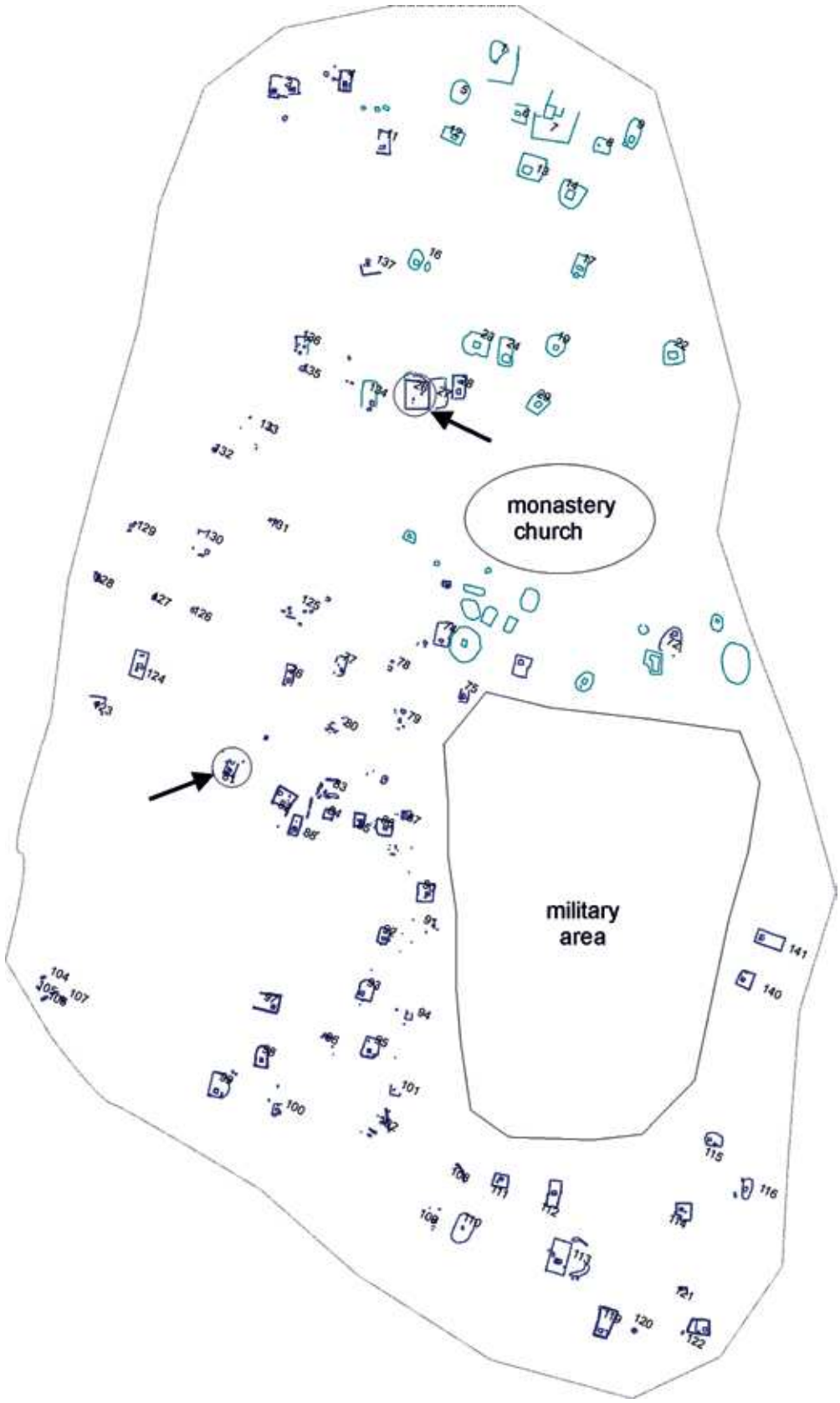

Fig. 2. A general surface plan of identified features, most of which probably date back to the Early Middle Ages. In the centre, there are no structures marked in in the area reserved for a study by the French mission and within premises of a military camp. Marked by arrows – uncovered houses 26 and 81.

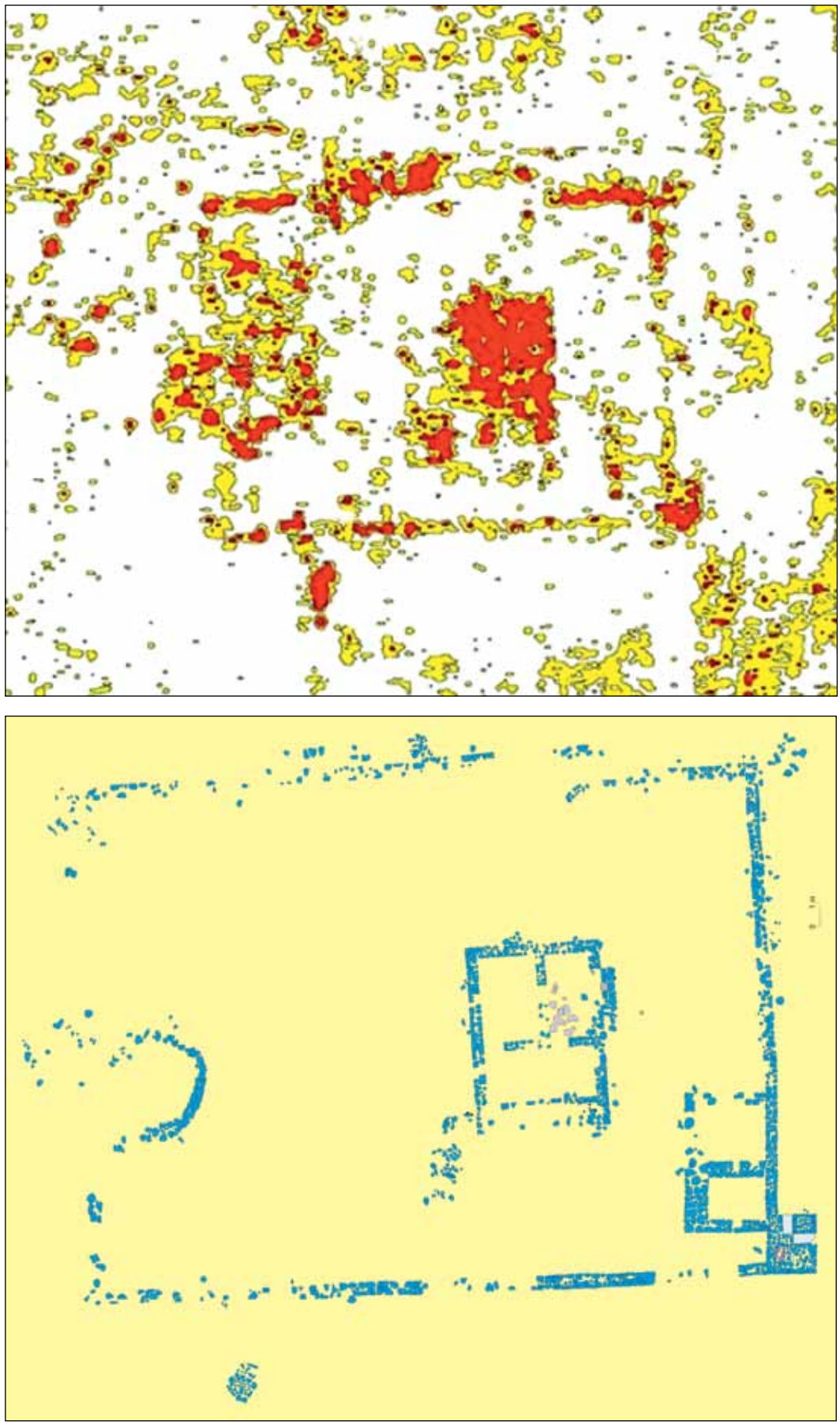

Fig. 3. Courtyard 81 (1S). Geophysical and archaeological plan (by J. Tirpák, K. Pieta and M. Bielich).

the Early Islamic Period. Eleven were measured by geophysicists. After the archaeological prospecting carried out by the Slovak–Kuwaiti team, the complete plan of the site showed two areas that we were not able to study—the area of the church and its close surroundings (French mission), and the military area south of the church (Fig. 2).

Identification of architecture

A large number of features were easy to recognize in the terrain because the over-ground walls and constructions mostly had strong, solid foundations. Most of the ruins were only covered by a thin layer of sand or by stone destruction within the settlement waste and house inventory remains. Very small relics of masonry occurred on multiple places and were hard to locate to either the courtyard or the house. We could not measure all the features in detail because there was too little time, but the main aim of the geodetic work was to find, localize, and generally fix the features in the terrain. Fortunately, this activity also recorded the current state of individual features. The sizes of the courtyards and houses were extrapolated from surface observations and aerial photos, as well as from direct geodetic measurements on rare occasions. We plan to start creating a DTM of the whole accessible part of the site in the next investigation campaign.

Excavation

During the second phase, two courtyards on the site (81 and 26) were excavated. Courtyard 81 was an estate of standard size and was rather clearly identifiable on the surface, so it could be fully investigated within one season. As was immediately apparent, courtyard 26 was larger and had a more complex structure, suggesting that two or three seasons would be necessary to fully investigate it. The first of these was in 2009. Investigation was then interrupted for organizational reasons, and the second stage is expected to begin in 2015.

Courtyard 81 (1S)

In 2008, we started to focus on the excavation of courtyard 81, which had one central house with three rooms and a big entrance from the south. In the southwestern corner of the courtyard, we identified a farm building, while the entrance was in the eastern part of the fence. Finds consisted mainly of eroded pottery. The recent state of the architecture showed marked differences from the old drawings; some features or parts have even been lost. In this regard, various features or groups of objects were recognized in the field and compared, verified against each other, and corrected (Fig. 3).

The courtyard has a rectangular ground plan of 30.6 x 23.06 m and its longer axis is north-south oriented. The main building, with three rooms and an entrance from the south, is situated in its southern part. Of the walls, only rather compact stone substructures have been preserved. In the southern part of the eastern wall, an entrance made of two parallel arms of fencing has been preserved. The entrance is 1.24 m wide. An outbuilding (size: 5.72 x 3.77 m) with two rooms is situated in the southwestern corner inside the enclosure. In the same corner, a smaller stone structure (size: 2.78 x 1.83 m) with two narrow canals from the enclosure's outline. East of the courtyard, there were small clusters of stones. We cannot exclude the possibility that construction activities were carried out there in the past (Fig. 4).

Courtyard 26

This was one of the biggest courtyards on the site of Al-Qusur (Fig. 5). The highest point of the archaeological site is 5.3 m above sea level. After a geophysical survey (Fig. 7), clusters of sherds were recorded on the courtyard's surface. A smaller investigation was carried out at the location of one of the clusters. During the survey in 2007, we had excavated a small verification trench (1.0 x 3.0 m) in the central house of courtyard 26. This area probably represents a room situated along the northern circumferential wall, functioning as a hallway or a storage room. We documented two storage jars there. The area was excavated

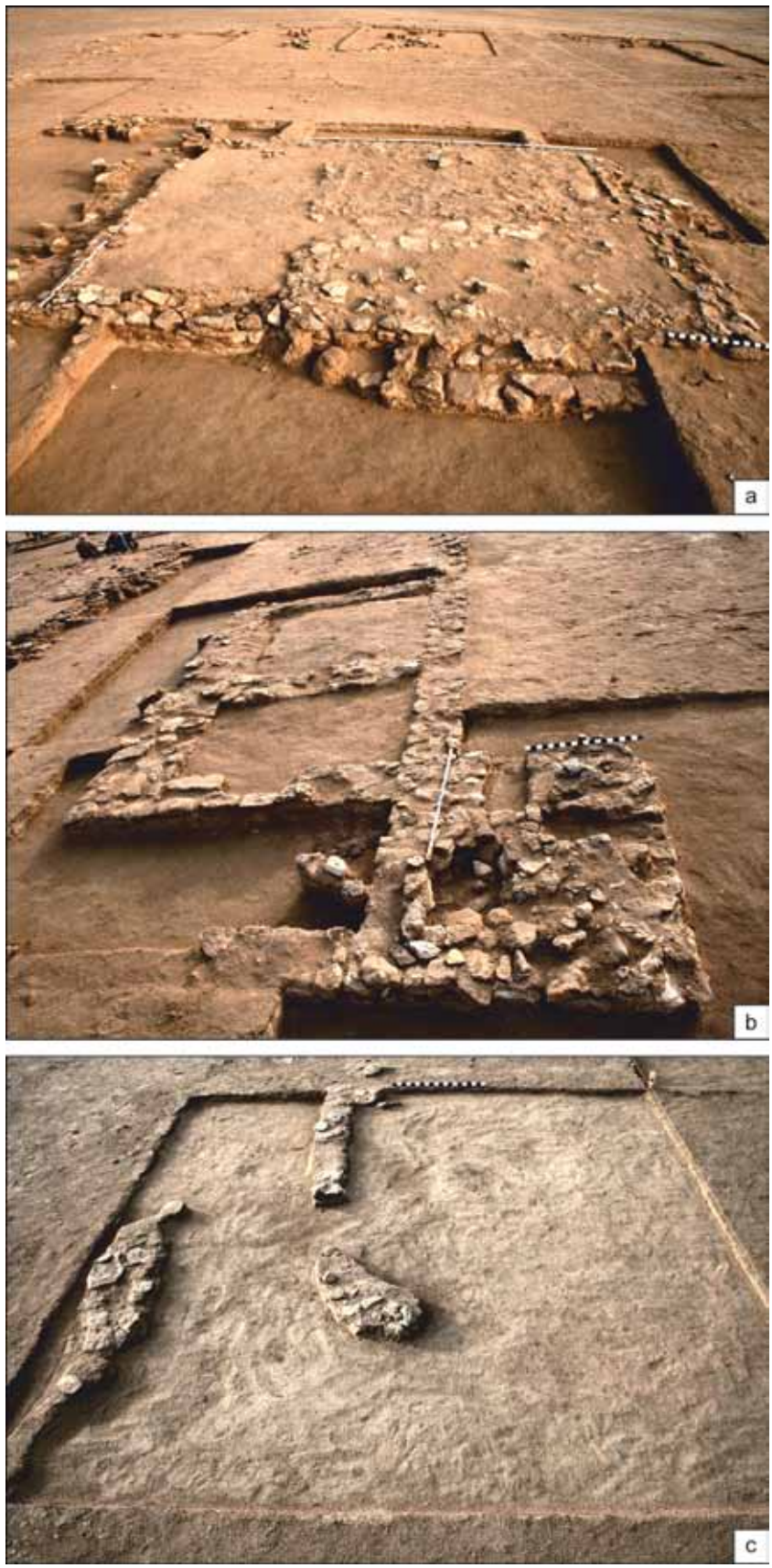

Fig. 4. Courtyard 81 (1S). Photo of courtyard 81 (1S). a – mainbuilding; b – outbuilding; c – entrence (by M. Bielich).

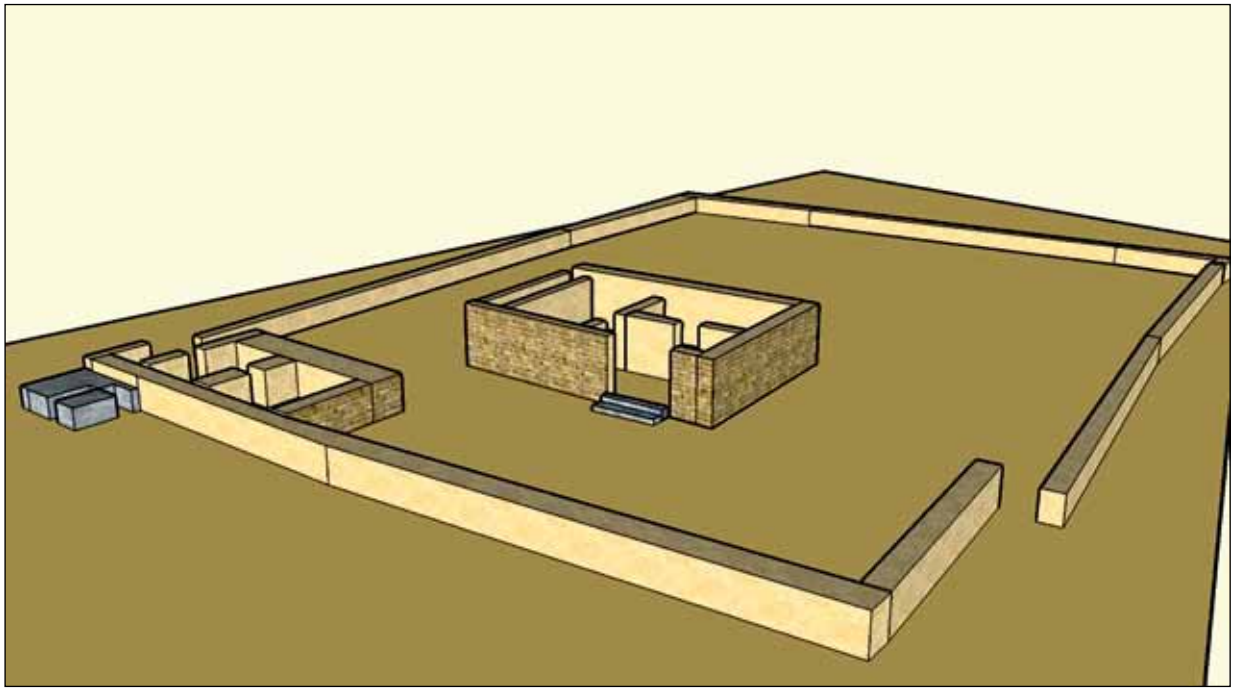

Fig. 5. Courtyard 81 (1S). 3D hypothetical reconstruction 81 (by M. Bielich).

in increments of 10 cm, and each layer was graphically and photographically documented. After the removal of sift layers on the grout floor in the eastern part of the trench, the remains of plaster from the ceiling were found, which had damaged the red pottery storage jar.

A more extensive investigation was carried out in 2009, when parts of the two main groups of architecture and fence fragments were excavated. In the southern part of the courtyard, parts of a building were uncovered that may have represented the central house or main building. In the southwestern corner, there was an outbuilding. The surface concentrations of stones suggested that a structure was present southeast of the main building.

The fence measured 58–67 x 51–52 m, and its longer axis is oriented NW-SE, with a semicircular section is situated in the north. It is not clear yet whether this was a reconstruction or a structure from a different period. The absence of stones in the southeastern corner suggested that the entrance to the enclosed area was there, although it may have been somewhere south of the main building as well. The course of the semicircular fence (52 x 11.8 m) was clearly visible in its northern side. The arms of the semicircle were not attached, and the entrance to this part of the area was probably located there. It is not yet clear whether the semicircular part was built simultaneously with the square part.

The area's orientation is approx. NW-SE. The width of the fence varies from 90 to 105 cm, while that of the main building's walls varies from 35 to 160 cm, perhaps suggesting that staircases to higher storeys were built there.

The main building/central building (Fig. 6)

The main building was identified as early as the surface survey. Previous investigation had confirmed that it measured approx. 11.7 x 14.5 m. Currently, eight rooms have been recorded. However, more may be found during further research. The whole building is situated on a slightly raised artificial hill (approx. 20–30 cm above the original level), with the highest northeastern corner of the preserved structures being 5 m above sea level. The function of the rooms has not yet been clearly elicited, although room no. may have been a storeroom. A smaller entrance was detected in the northern wall, with a larger one in the southern wall of the house. The building comprised a combination of stone substructures under brick walls and mud walls. The interior was covered with quality plaster, and the floor was composed

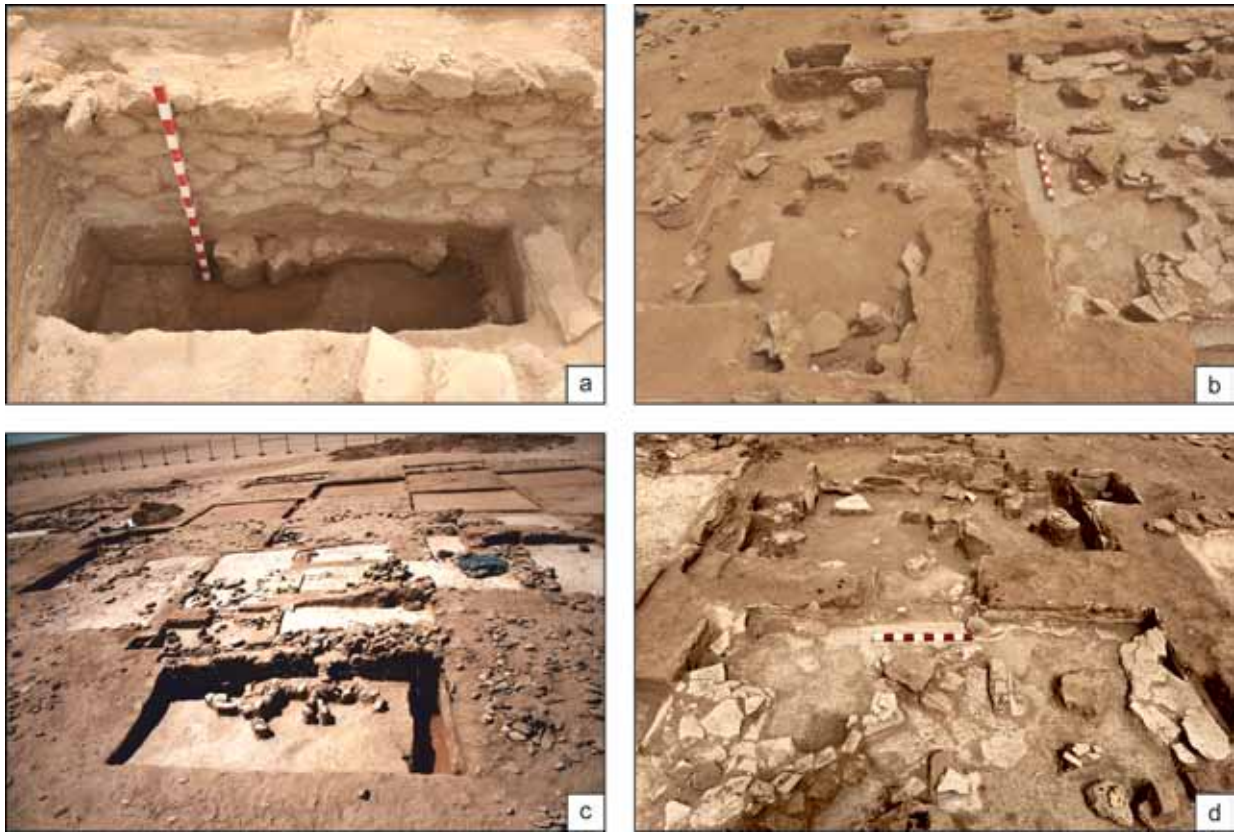

Fig. 6. Courtyard 26. Basic stratigraphy of the site. The lowest layer corresponds to a faded-out horizon and is covered with a barrow (white sand) in front of the main building I; b – mainbuilding, view on the mud briks wall with white plaster; c, d – mainbuilding, view from the east.

of a material with a similar consistency. The mortar plaster on the floor was mostly laid on a layer of flat stones; in the floor itself, a large number of sherds were found. The construction of the walls, combined with the stratigraphic observations, suggested that the building was constructed in at least three phases. The youngest structure, which had undergone multiple repairs, is characterized by a snow-white plaster. A similar material was used to repair various depressions in the floor caused by settling of older structures (Figs. 6a, 6b)

In the building's interior, a thin layer of backfill was preserved. The largest complex of layers and finds occurred south of the building—in the space between the main and outbuildings. At present, it seems like this place was used for waste disposal, although we cannot exclude the possibility that the vessels are in their primary position. As the investigation remains unfinished, this question could be solved by further research, which could also define the confirmed phases of construction. Importantly, before the artificial hill under the main building and outbuilding was raised, an older settlement with structures and plasters had existed there. Most probably, individual rooms had a residential and storage function (Fig. 7).

The outbuilding (Fig. 8)

An accumulation of stones arose in the southwestern part of the fence, which was also the highest point of the area—5.36 m above sea level. Detection trenches identified three rooms with mortar floors and a stone structure in the SW corner. The detected size was 15.7 x 6.6 m, while the longer axis of the building was SW-NE oriented. The area outside the fence had no apparent mortar floor.

The stone structure in the west had a tower-like character and was probably the only structure that was originally built of stone. Three small channels, originally covered in mortar, were detected in the

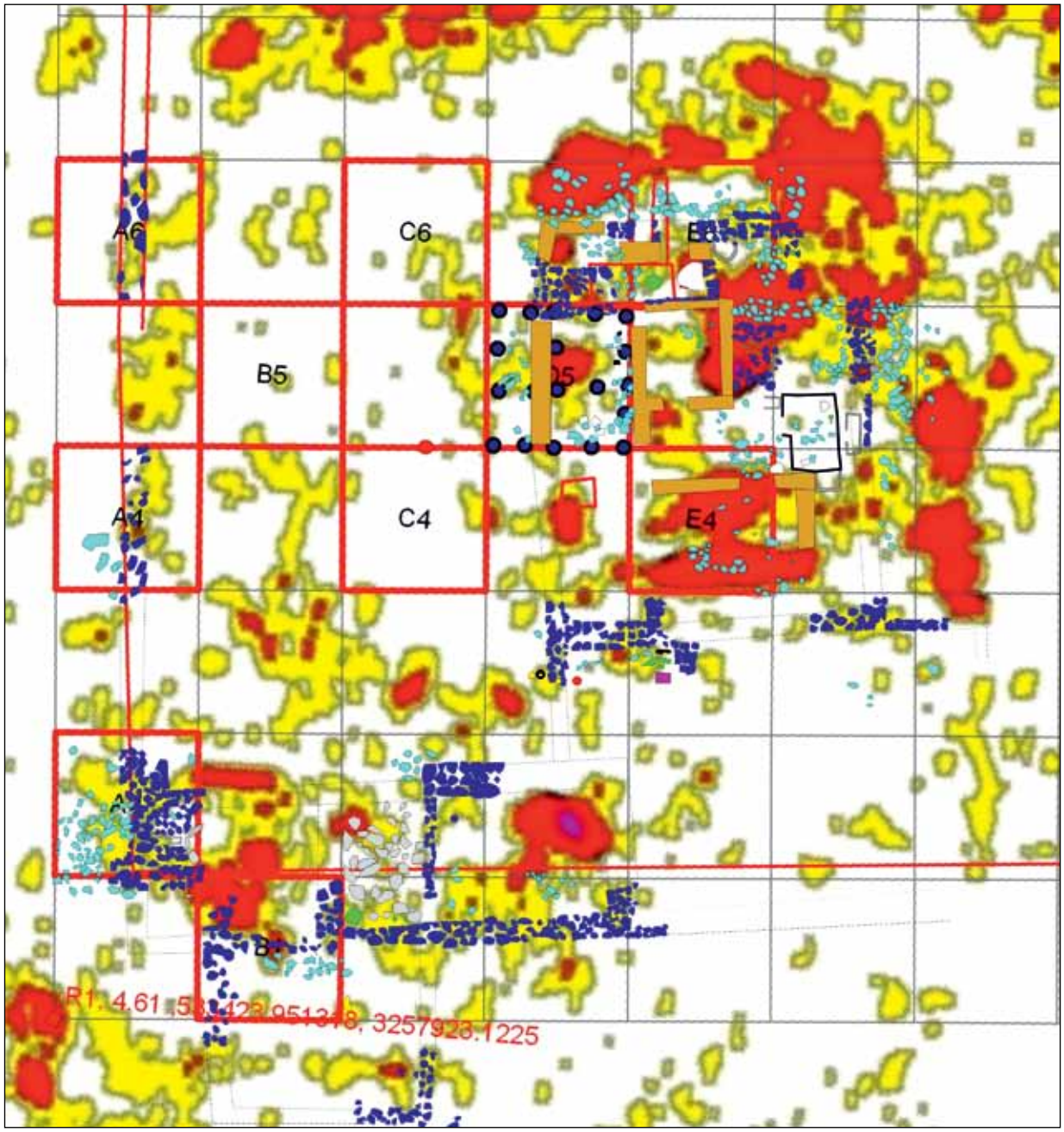

Fig. 7. Courtyard 26. Comparison of geophysical plan (GPR) and results of archaeological excavations. The majority of detected geophysical anomalies have not been confirmed archaeologically.

western and southern walls. According to D. Kennet (1991), the original feature, or the canals in it, were determined to the accumulation of water, although water from the roofs or surface of the fence may also have run into a "cistern" through these drains. North of the tower, stone stairs that apparently led outside the area were uncovered. This building may have been an elevated passage through the enclosure wall, or it may have been an entrance to the area between the tower and the fence and, from there, to the higher levels of the tower.

Preliminarily, it is clear that the floors of the individual rooms were on different levels, perhaps because construction was carried out in phases or because it was necessary to regulate airflow etc. Another area surrounded by a wall was detected south of this building, although it has not been confirmed whether

Fig. 8. Courtyard 26. Courtyard 26, western part of outbuilding.

Fig. 9. Courtyard 26. Courtyard 26, western fence.

Fig. 10. Courtyard 26. Finds cumulation between mainbuilding and outbuilding.

Fig. 11. Courtyard 26, mainbulding, destruction of window with white plaster.

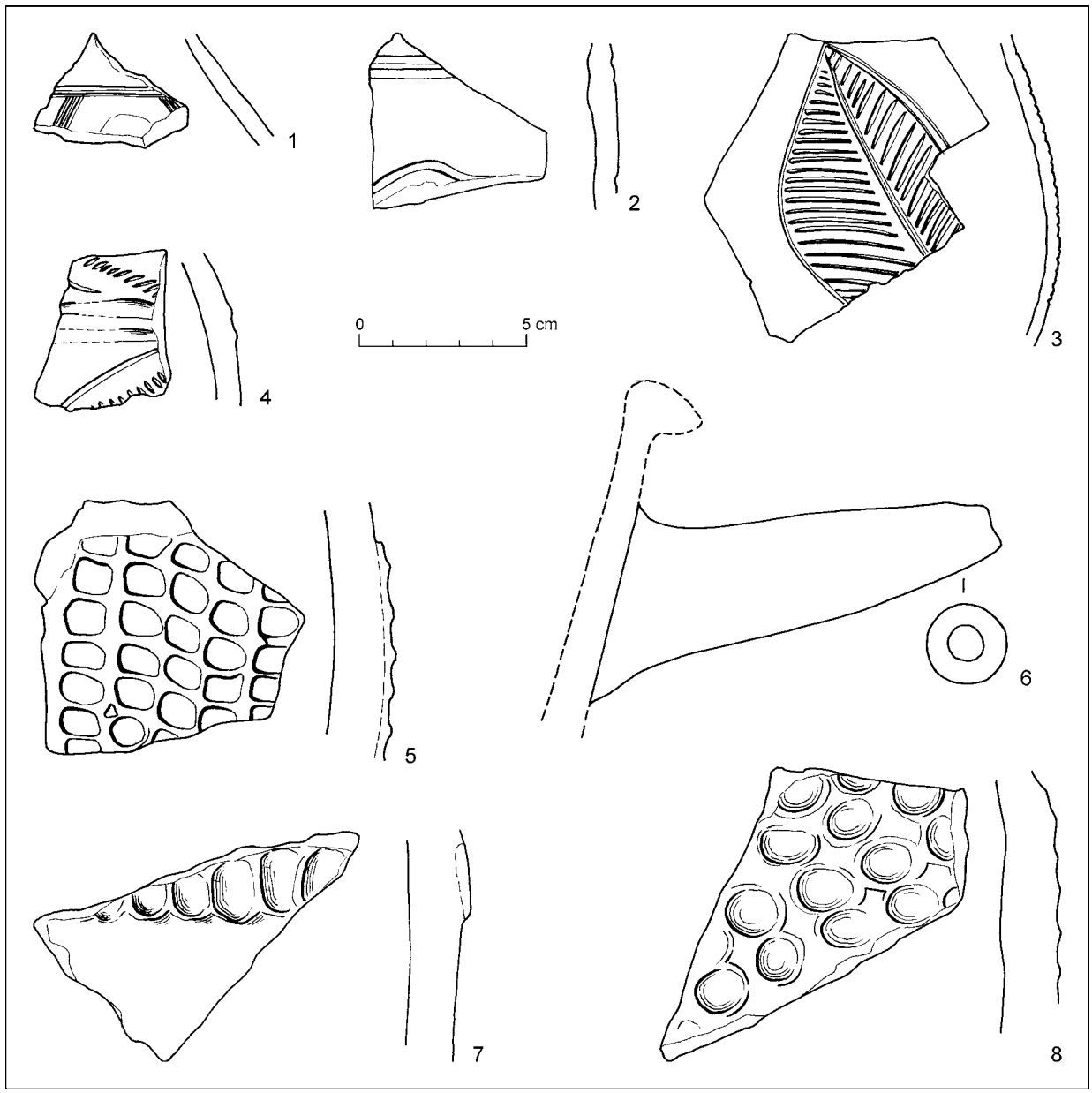

Fig. 12. Courtyard 26. Pottery fragments. 1, 3, 4 – white smooth pottery; 2, 5–8 – buff pottery.

this was an extension or a predecessor of the outbuilding. Interestingly, the outbuilding's construction appears to be sturdier than the main building.

All the observations made so far confirm that the feature's development had at least three stratigraphic levels, as well as further repairs and reconstructions. Further investigation may allow a more precise definition of the buildings' design and function at the individual stages (Fig. 9).

The fence

The courtyard's fence was easily identifiable by the surface survey in the major part of its course. The northern wall is the best preserved, being a stone wall with a substructure of 90–100 cm in width. In some parts, the fence is delineated by a pile of stones, while in others, approx. midway between the eastern wall and southeastern corner, the wall disappears, perhaps suggesting the presence of an entrance. Regardless, the wall or its remains may be detected at lower levels.

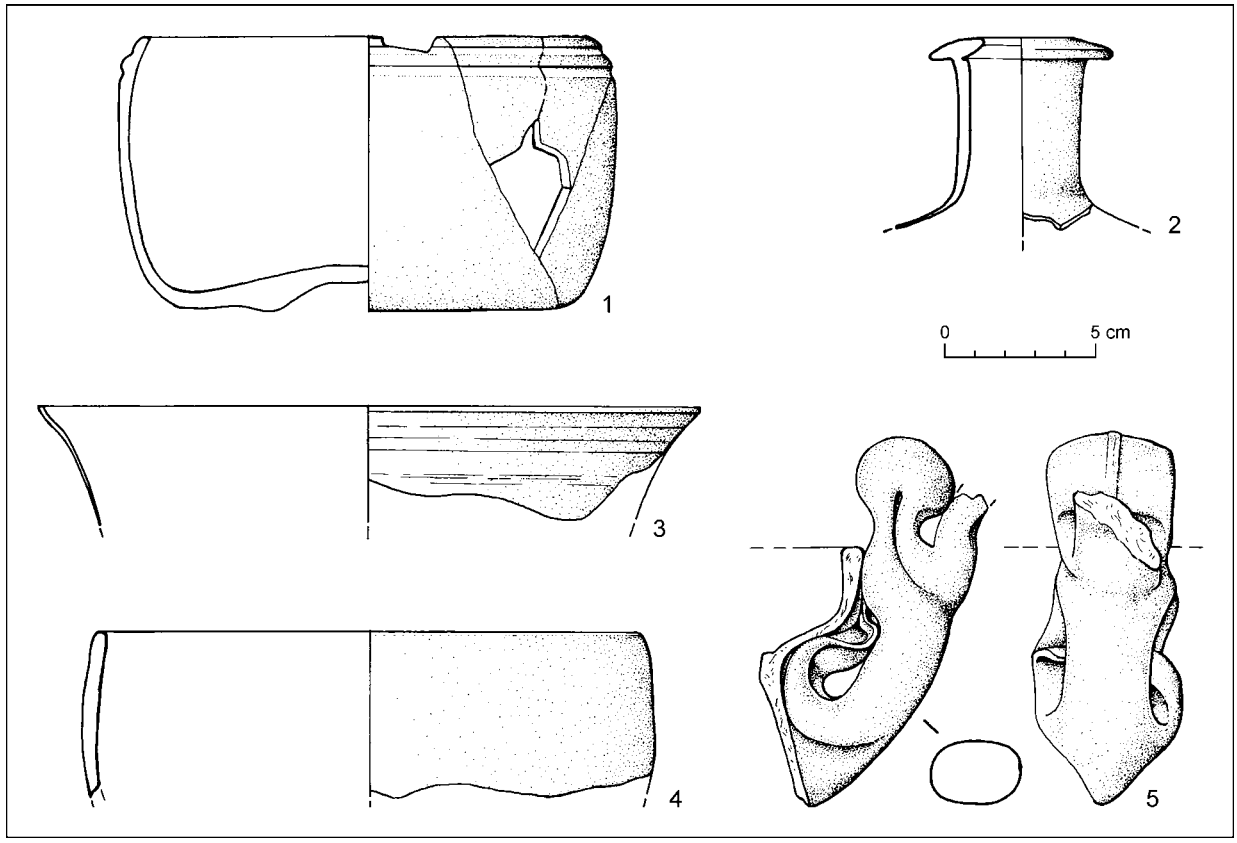

Fig. 13. Courtyard 26. Glass vessels fragments.

Finds

Pottery usually comprised the most frequent find. In addition, a large collection of fragments from glass, iron, and bronze objects was acquired. Numerous bone fragments and bitumen imprints of organic vessels (baskets, sacks, etc.) were also important. Most of the finds were in secondary locations. The objects discovered south of the main building may have been in their original position. The investigation in 2009 was not finished, so these finds may constitute destroyed vessels and other objects originally deposited on the above-ground floor and moved down with the destruction of the building. However, the presence of kitchen waste (fishbones, fragments of vessels, etc.) likely indicates the destruction character of these layers (Figs. 10 and 11). In any case, the objects were all likely used within the same time period. When the investigation is finished, a complex study of the material culture will be written, although the most distinct types of finds can briefly be presented now.

With regards to the pottery typology, there were amphoras, pots, bottles, jars, and bowls, and unglazed pottery prevailed. Typologically, the pottery has several parallels on sites from the 7th to 8th centuries (late Umayyad and early Abbasid periods), as well as among Sassanid examples. Buff-sandy pottery was the most frequent. White (cream) pottery and Indian red pottery were rare, although several large storage vessels were made of red gritty ware.

Decoration occurred only exceptionally. Among the white pottery, a honeycomb was found on a storage jar, while an engraved leaf-shaped decoration, bundles of engraved lines and waves, individual lines, etc. were found on the thin-walled pottery. Stamps of various kinds were exceptionally found on buff-yellow or yellow-green pottery, and a single vessel was often decorated by more than one type. D. Kennet was probably right in stating that the pottery was not manufactured on Failaka, and much was likely imported from southern Mesopotamia (Kennet 1991: 102). Glazed pottery comprises only approx. 4 % of the total, and mainly yellow and light green glazes were found. Turquoise glaze was almost absent.

Badly burned and extremely unstable pottery was mostly used for manufacturing amphoras and torpedo jars. Many of these vessels had their inner surface covered with bitumen. Such a finish was often found on smaller vessel types as well.

Fig. 14. Courtyard 26. Pottery. 1 – fragment of stamped pottery; 2, 3 – fragment of lid; 4 – rim of vessel; 5 – mud tile; 6 – fragment of green glazed jug with handle; 7, 8 – jug; 9 – two handle glazed jug; 10 – ceramic tube (?); 11 – fragment of vessel with waves.

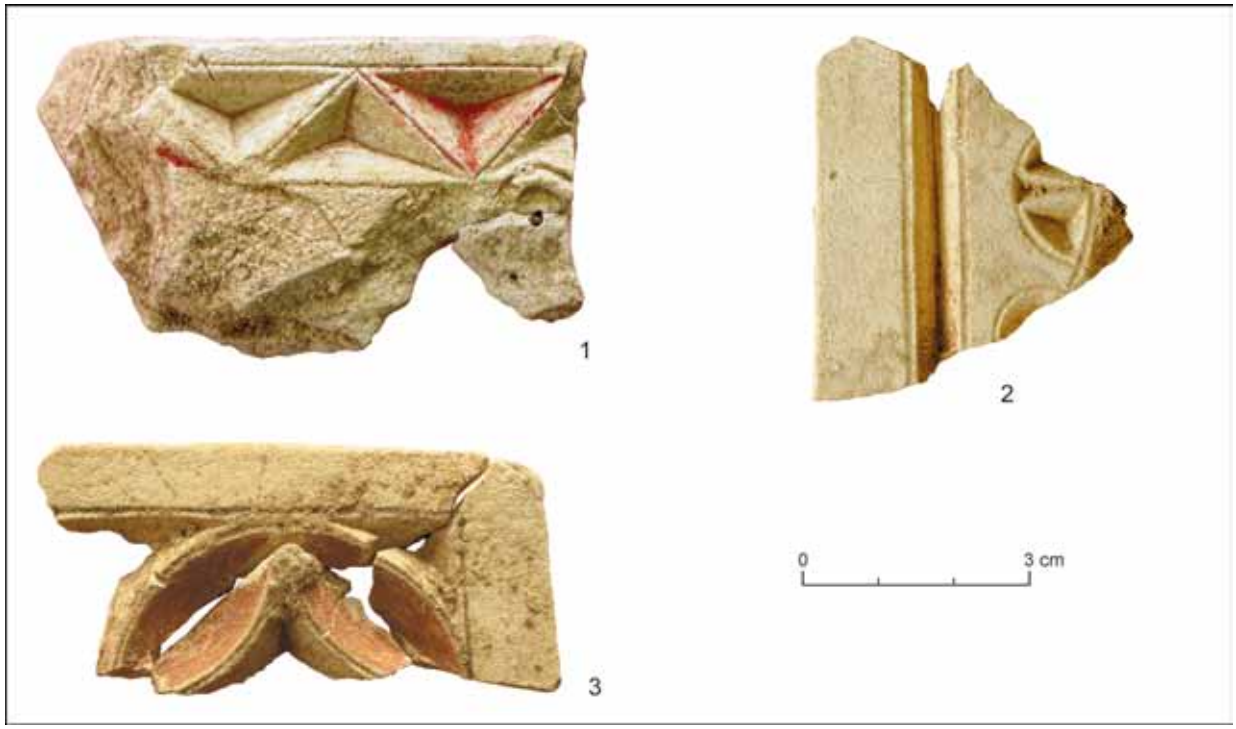

Fig. 15. Courtyard 26. Mainbuilding. Plaster stucco fragments with fragment of Nestorians cross motive (2).

Small finds

The following small finds were found – iron fragments, lead fishing weights in comparison to current weight, fragments of stone vessels made from steatite that represent a continuous tradition from the Bronze Age, a grinding stone (written sources state that cereal was still produced in the central part of the island in the 19th century), a bronze spoon, flints, stone chipped tools, a copper pendant indeterminable origin, large collection of glass fragments (Fig. 13).

Before the investigation was definitively concluded, nine glass fragments were analyzed by Sonngard Hartmann from the Material Analysis Laboratory of the Römische–Germanisches Zentralmuzeum, Mainz. Hartmann stated the following: With high probability, we can identify these as Syrian glass (Appendix 1).

Bitumen

The bitumen was mostly used to provide stability to various baskets and organic vessels, whose imprints were detected in the bitumen. Also some parts of the wooden or organic constructions were lubricated with it.

Bitumen screed was found on the inner surface of numerous vessels of various sizes. A stone vessel that was probably used for melting bitumen and another vessel full of bitumen were also found, indicating that bitumen melting was carried out on site.

Foodstuffs (Fig. 16)

No environmental samples have yet been analyzed, and only a small number of finds are available, so a detailed discussion of foodstuffs is not yet possible. Nonetheless, the climate does favor the preservation of such artifacts. In this regard, we found carbonised data stones, but they are difficult to date. Furthermore, remains of wheat and barley were found in daub and fragments of mud bricks. Other archaeobotanical finds were made in the floor grout, including food remains. Specifically, the research file records remains of sea fish and smaller mammals—some of their skeletal remains show signs of heat processing.

Fig. 16. Fragments of egg shell, fish bones (vertebrae of Ray/Skate/Shark and indet fish; photo by J. Ďuriš).

Conclusions

The above-mentioned results constitute primary information from the Kuwaiti–Slovak Archeological Mission at Al-Qusur, preliminary dated to the 7th or 8th century AD. New mapping of the courtyards throughout the whole area has provided a completely new picture of the settlement's pattern, which may contribute to better reconstruction of the village's development and functioning. It will also enable us to focus future investigation more precisely, as well as clarify many uncertainties.

The recently recorded number of 144 properties is not necessarily final (it was not possible to document several places, and some smaller activities are not necessarily identifiable on the surface). Nonetheless, the survey activities, together with the geophysical measurements, are a good starting point for further studies at this important site. Documenting the current state is essential for future monitoring of features' erosion, etc., as well as for potential protection and presentation of features.

The investigation of courtyard 26 confirmed our assumption that it is one of the largest courtyards in Al-Qusur, and definitely one of the largest in the Arabian Gulf. The residential building, which is divided into at least eight rooms, is also of impressive size. Similarly, the outbuilding is larger than all buildings of many other properties together. The large number of imported goods (e.g. glass) indicates that, besides agriculture, trade may have been the main occupation of the local population. However, with the exception of glass and pottery, no clear sign of trade or industrial activities has been documented.

According to current knowledge, the Al-Qusur settlement prospered in the 7th and 8th centuries and demonstrates the coexistence of Christians and Muslims on the Arabian Peninsula in the Early Islamic Period.

The finds of stucco decoration with images of the cross suggest that Christian Nestorians were among the residents of the village (Fig. 15). The so-called Nestorian Church (officially known as the Apostolic Assyrian Church of the East, with its seat in Baghdad) was one of the most significant Christian communities to develop east of the Roman Empire (Baumer 2016; Baum & Winkler 2003; Simpson 2018).

Material analysis of glass samples from Kuwait

Römisch-Germanisches Zentralmuseum
Leibniz-Forschungsinstitut für Archäologie
R G Z M

Analysed items:
9 samples of glass from the site of Al-Qusur on Failaka Island /Kuwait dated 6th-8th century.
The samples show different colours from nearly colourless to shades of olive-green and blue-green. Most of the shards are in good condition and have little corrosion. Sample 29b has a thick dark corrosion-layer and underneath this the glass is inhomogeneous and very brittle.

Result:
8 of the samples are by their contents of potassium, sulphur, phosphor and magnesia identified as halophytic-plant-ash glass of the Syrian-Islamic type (Freestone 2006).
Different contents of iron result in the different shades of colour. The special blue-green colour of sample 80b is caused by copper. Elevated contents of iron and manganese in sample 29b are likely caused by the heavy corrosion, which did not allow proper sample-preparation and quantitative analysis.
The 9th sample, #70, a blue-green fragment of the rim of a vessel is a glass made out of mineral soda.

Method: Micro-X-Ray-Fluorescence (µ-XRF)
µ-XRF allows the qualitative and quantitative determination of most of the elements in a sample. Depending on the sample-material the method is non-destructive or nearly non-destructive. Only corrosion-layers have to be removed in a small spot, respectively small samples from inside the object have to be taken. Due to the small analysis-spot (0.3 mm) this injury is small.
During analysis the sample is exposed to X-ray-radiation via a thin glass fiber capillary. This primary radiation excites a secondary radiation from within the sample material, the so called X-ray-fluorescence. Each element present in the sample emits X-rays of a characteristic energy. The intensity of this depends on the concentration of the element in the sample. The detector analyses energy and intensity of the emitted fluorescence-radiation and generates a spectrum. By comparing this with calibration-samples of known composition the composition of the object can be calculated.
The small diameter of the primary-beam allows analysis of tiny structures.

Sample-preparation and measurement:
From most shards the corrosion-layer was removed with a diamond-tool in 3 spots.
Sample 29b is too brittle for this operation. So the analysis was performed in areas of fracture and can be regarded only semi-quantitative.

Instrument:
Eagle III XXL, Röntgenanalytik, Taunusstein
Rhodium-tube, max. 40 kV, 1 mA, Oxford Instruments
Si (Li)-detector, EDAX, resolution 148 eV for MnKα
Sample chamber: 75 x 75 x 135 cm
X-ray optics: monocapillary, 0.3 mm focus (analysis-area)
EDAX-analytic cooled with liquid nitrogen

Measurement parameters:

atmosphere	vacuum
tube voltage	40 kV
tube current	125 µA
measuring time	200 sec
amplification time	35 µs
quantification	combination of fundamental-parameters and standard aided method with calibration-curve

Mainz, 25.02.201910

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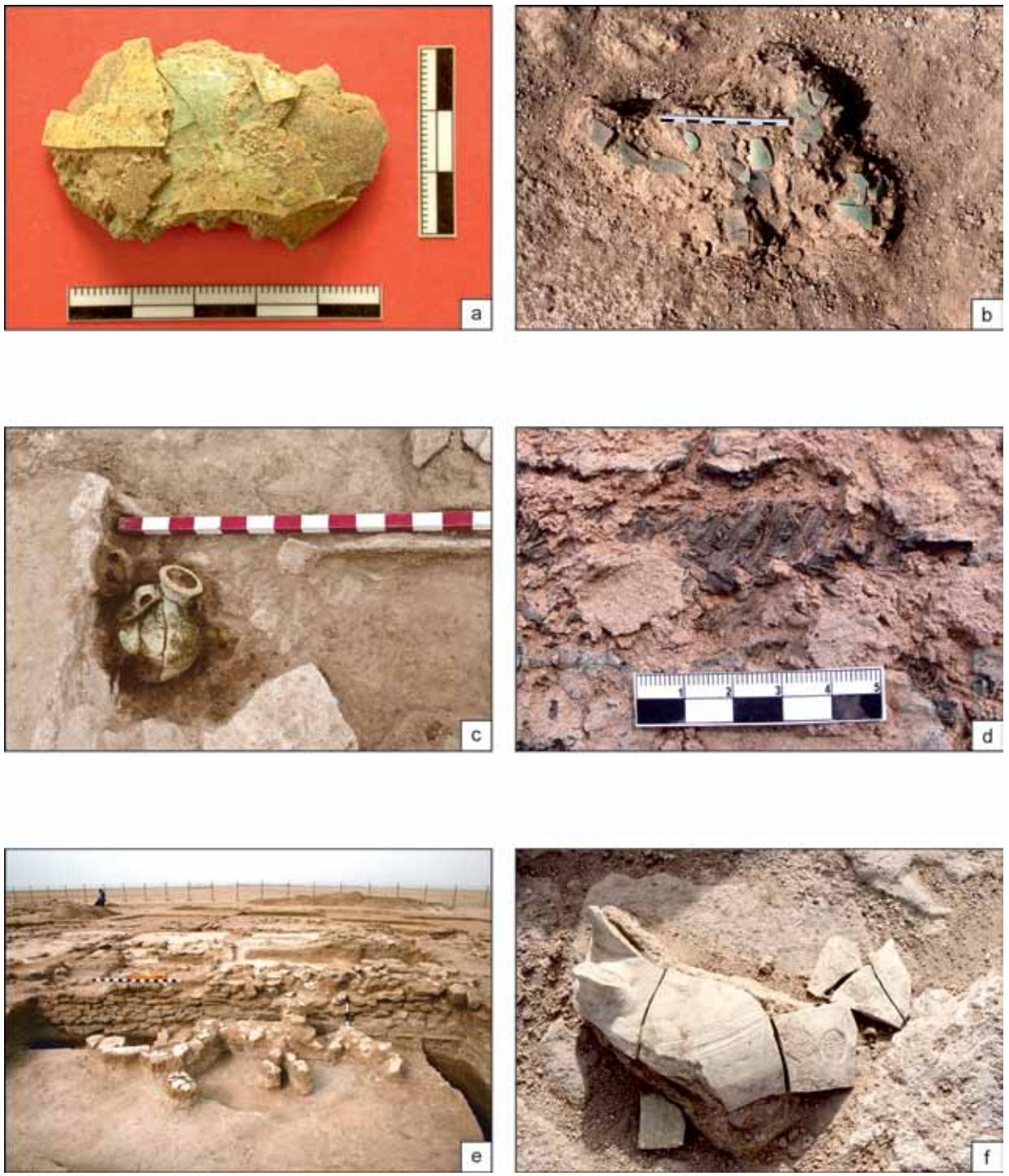
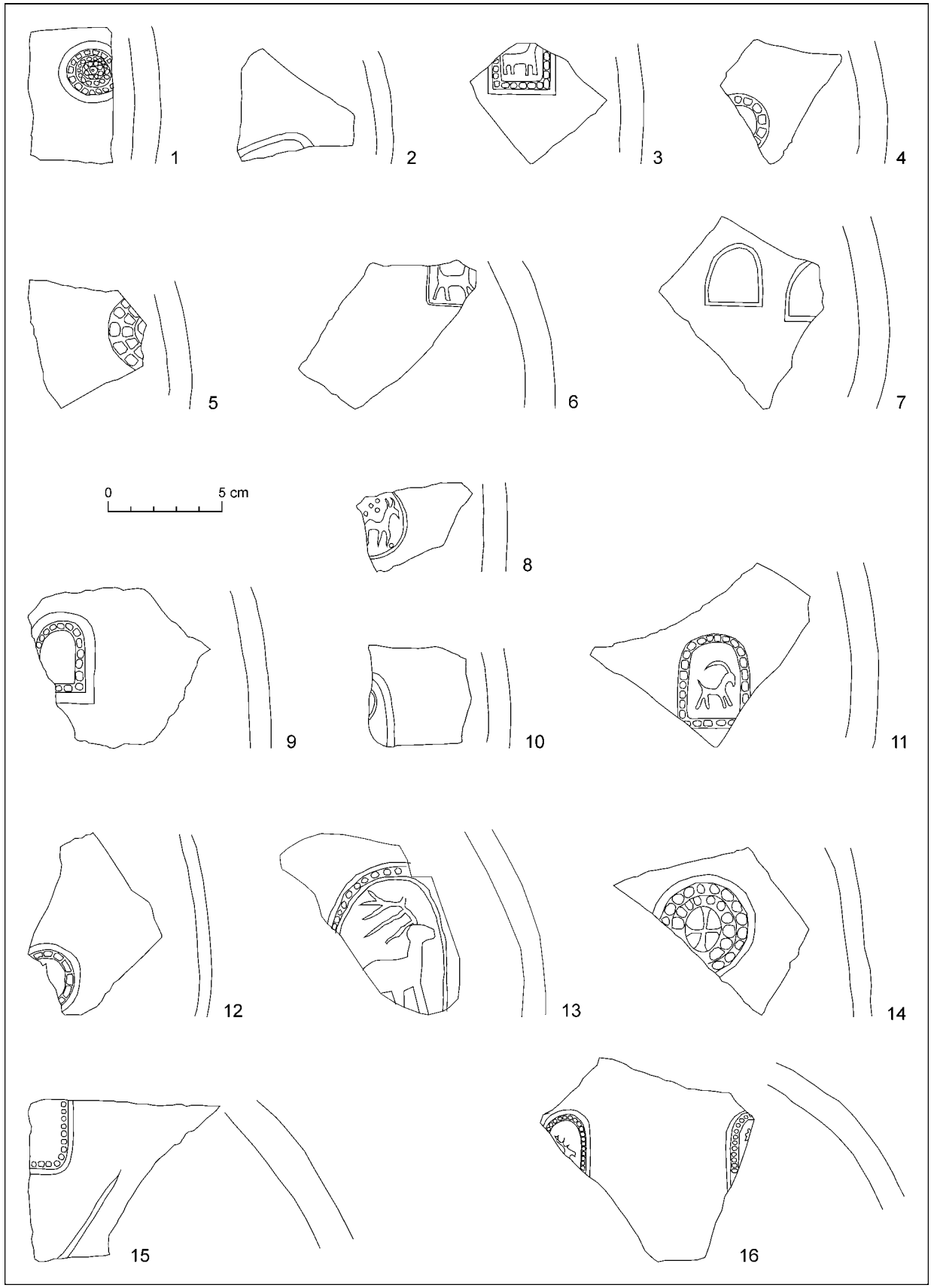
Sonngard Hartmann
material analysis laboratory, hartmann@rgzm.de

Appendix 1. Courtyard 26. Material analysis of glass samples from Kuwait.



Pl. I. Courtyard 26. Some examples of finds In situ. a, b – glass; c, f – pottery; d – organic imprints; e – collapsed wall with white plaster.

Pl. II. Courtyard 26. Some examples of finds In situ. a – organic imprints; b – stone wessel; c, d – pottery fragments under collapsed wall; e, f – glass fragments.



Pl. III. Courtyard 26. Stamped pottery from Al-Qusur.

Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
Archaeology of Failaka and Kuwaiti coast – current research
Nitra 2019, 91–125

PRELIMINARY RESULTS OF THE AL-QUSUR RESEARCH IN THE YEARS 2016 AND 2017

MATEJ RUTTKAY – KAROL PIETA – ZBIGNIEW ROBAK

Introduction

After several years of interruption, in the 2016 and 2017 seasons, the Kuwaiti–Slovak Archaeological Mission (KSAM) resumed its research activities at the Al-Qusur site. The overarching aim of the mission was to gain more precise information about the historical and architectural development of the site: its chronology and significance. The project also aimed to verify several geophysical anomalies that may indicate the presence of a well and other features.

Based on the cooperation agreement between the Kuwaiti National Council for Culture, Arts and Letters, represented by the Secretary General of the National Council for Culture, Arts and Letters, Mr. Ali Hussain Al-Youha, and the Institute of Archaeology of the Slovak Academy of Sciences, represented by Mr. Matej Ruttkay, research at the Al-Qusur site, located in the central part of Failaka Island, Kuwait, was continued in the years 2016 and 2017. The entire team would like to thank Mr. Ali Hussain Al-Youha, Dr. Shehab Shehab, Dr. Sultan Al-Duwaish, and Dr. Hamed Al-Mutairi. Particular regards go also to Mr. Talal Alsaie.

Following up on the results of field activities from previous research seasons in 2007, 2008, and 2009, the KSAM has undertaken its fourth and fifth excavation campaigns at the Al-Qusur site on Failaka Island, which is the largest archaeological site on that island. Al-Qusur includes the well-preserved remains of an early medieval village that has been surveyed and excavated previously by Italian, French, and Polish archaeological missions in Kuwait (Bonnéric 2014, 2016a, 2016b; Patitucci & Uggeri 1984; Kennet 1991; Salles 2011; Salles & Callot 2013; Żurek 2015; articles by J. Bonnéric and by K. Pieta, M. Ruttkay and M. Bielich in this publication).

In 2016, research was conducted in the spring months of February and March, whereas in 2017, it took place during March and April. All research activities were performed in close cooperation with the head of KSAM research on Failaka Island, Dr. H. Al-Mutairi. The mission was supervised by M. Ruttkay and K. Pieta, assisted by Z. Robak. The research team also included: Michal Cheben (geology, geodesy), Martin Bartík (geodesy, digital modelling), Anton Arpáš (photogrammetry and 3D documentation), Branislav Balžan (technical cooperation), Štefan Hritz (technical cooperation), Nina Vaššová and Helena Bakytová (graphical documentation and reconstruction of finds), Ján Hamaj (conservation of finds) and other employees on both the Slovak and Kuwaiti sides.

The preliminary findings of previous seasons have been summarised in an article by K. Pieta, M. Ruttkay, and M. Bielich in this publication. In the 2008, 2009, 2016 and 2017 seasons, the mission worked on uncovering Courtyard 26, which is probably the biggest unit on the Al-Qusur site. The campaigns 2016 and 2017 have focused on continuing the excavation of Courtyard 26, primarily aiming to explore traces of architecture in previously identified, as well as to carry out a topographic measurement of the entire Al-Qusur site. Parallel activities have been conducted in the laboratory at mission base, where the collection of finds acquired during previous campaigns at Al-Qusur has been analysed.

Following previous KSAM activities on the island and at the Al-Qusur site in particular, the team set the following three main objectives:

- continue the research of settlement groups 23, 24, 26, 27, and 28, primary focusing on House/Courtyard 26;
- field reconnaissance and development of the Digital Terrain Model (DTM) of the Al-Qusur site (min 50 ha);

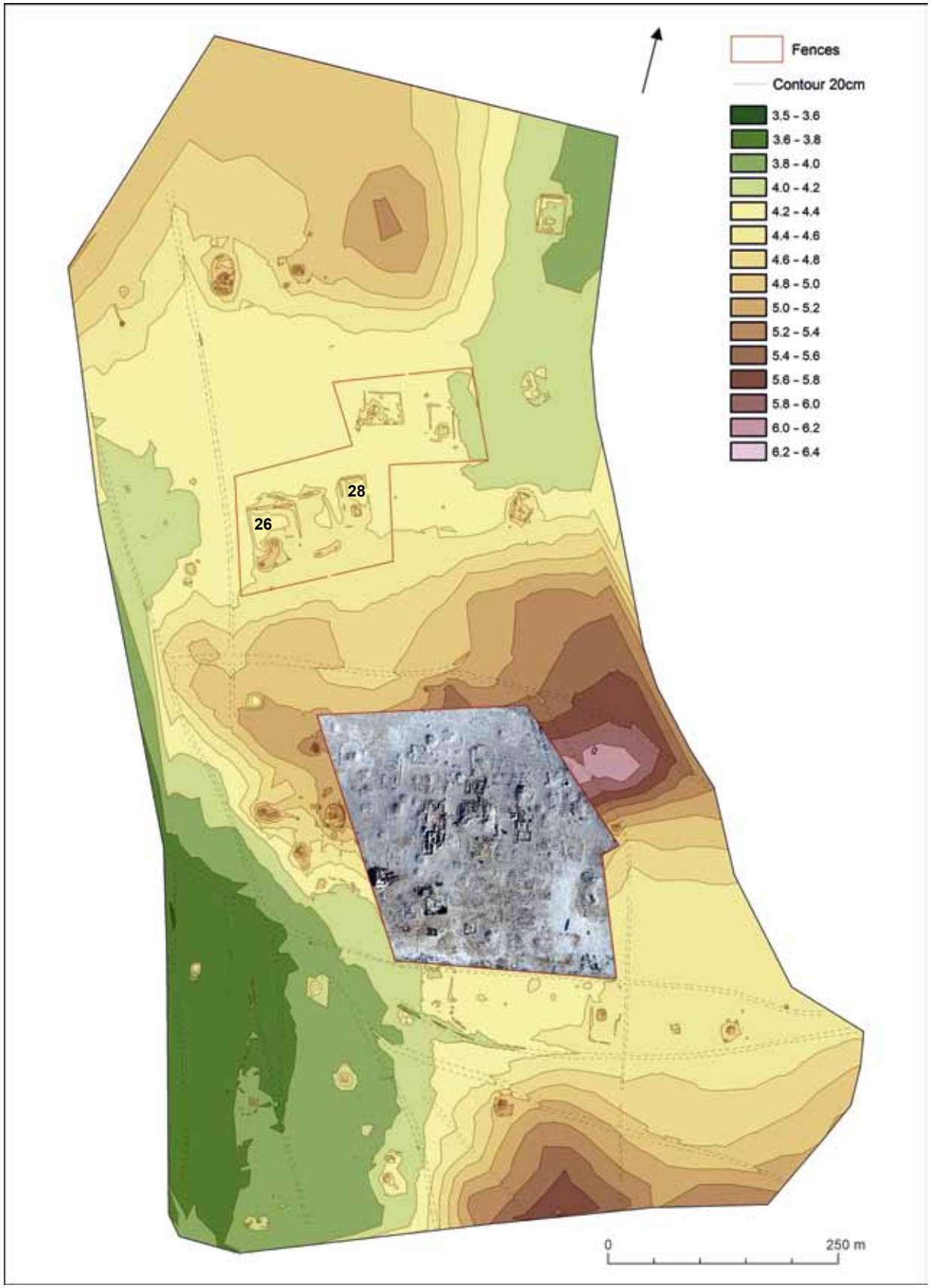


Fig. 1. Al-Qusur, Courtyard 26. Digital area model (by M. Bartík, M. Cheben), in the middle: photogrammetry made from photographs by H. Al-Mutairi).

Fig. 2. Al-Qusur, Courtyard 26. Aerial photographs made from a kite (by H. Al-Mutairi).

– an additional, although equally important, activity included training representatives of a Kuwaiti party dedicated to new documentation technologies and work with graphic and informational systems.

Simultaneously, we cleaned, preserved, reconstructed, and documented finds, and prepared a basic register of the collection.

Historic-cultural background

The history of the site will be discussed in the subsequent chapters of this book (see articles by J. Bonnéric and K. Pieta, M. Ruttkay and M. Bielich). The general consensus is that it was an extensive Christian (Church of the East) settlement. Its surface covered approximately 2 x 0.8 km. One significant accumulation of features currently visible on the ground is fenced and protected by the Kuwait Department of Antiquities and Museums.

Courtyard 26 is situated north of the settlement's core (Fig. 1). It is the largest independent construction unit of the entire settlement. Its stone foundations, mud-brick walls, floors, and surrounding terrain remained untouched by younger interventions and were covered with a rather thick layer of destroyed remains. Under this layer, several well-preserved, original layers artefacts and a large amount of settlement waste were found. This allowed us to investigate the stratigraphy of several construction horizons/periods, as well as to obtain a remarkable collection of finds from individual layers.

Methods of field excavation and documentation

In 2009, the grid for the excavation area was divided into square trenches measuring 5 x 5 m. The total area is 80 m (N–S) x 65 m (W–E). In 2016 and 2017, 47 sectors were studied, with a surface rea of 1175 m^2

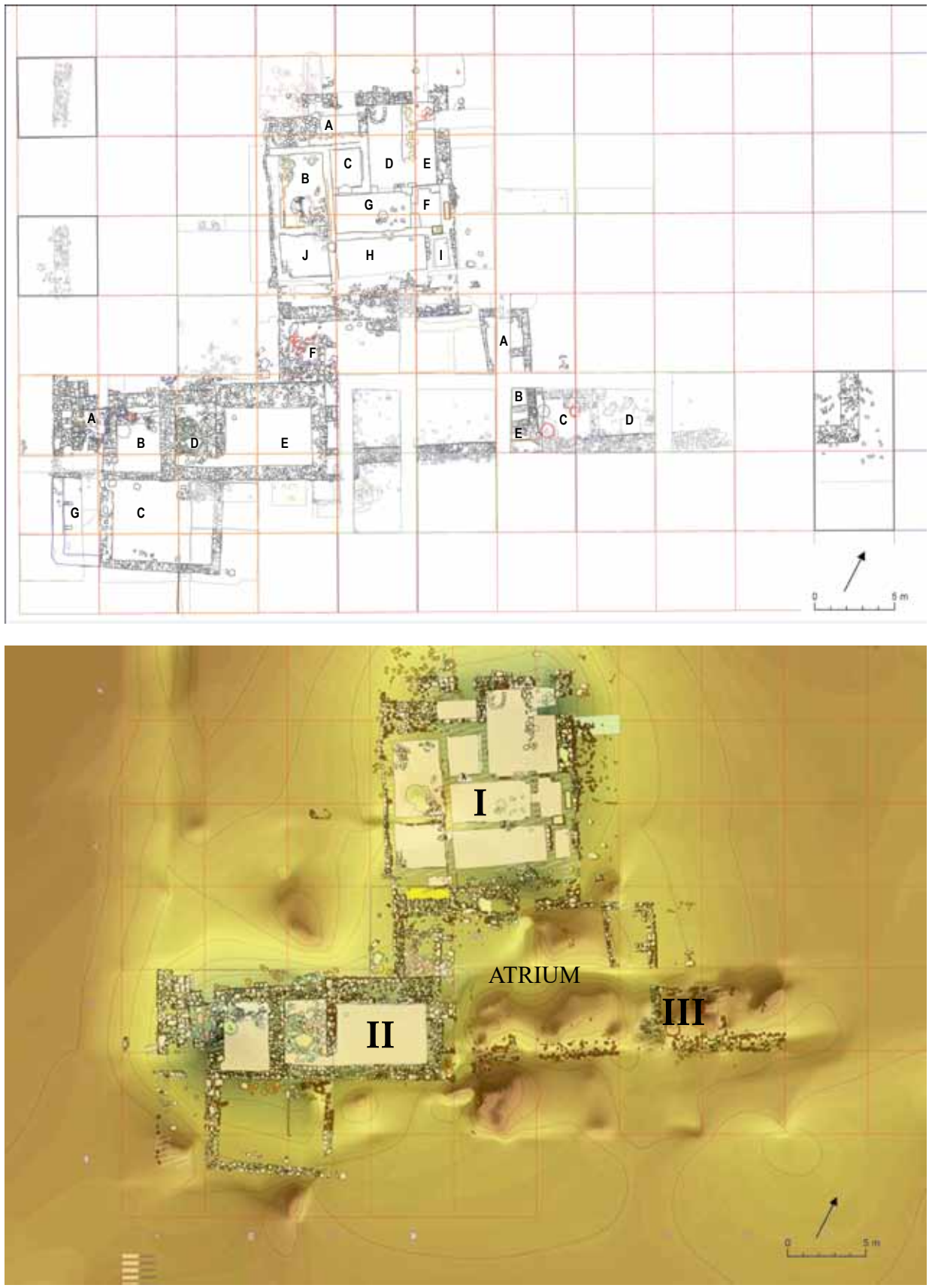


Fig. 3. Al-Qusur, Courtyard 26. Investigated parts of the feature, the lower picture shows location of mortar floors (by M. Bartík, M. Cheben, M. Ruttkay, Zb. Robak).

(47 x 25 m). In the same years, we continued our research in selected sectors that were studied in 2008 and 2009.

The uncovered buildings were marked with the Roman numerals I, II, and III, while the rooms within the buildings were marked with Latin letters (I/A, I/B, etc.). The main building in the centre was marked as Building I, the smaller one in the southwest corner of the courtyard as Building II, and the one located in the south-eastern part of the area, in sectors F3, G2, G3, H2, was marked as Building III.

The sectors were studied gradually in an attempt to uncover the real layers. Each new segment, layer, fragment of masonry, or floor in a given sector was marked as a new feature with a unique number (e.g. F1). The sites where individual items were found were documented using a Leica total station. Each small find was carefully documented (glass and metal items, archaeobotanical finds), as were archaeological situations and concentrations of pottery, remains of bitumen-covered baskets, mats, vessels, and other personal items.

The grid-square system was used as a basis to record the uncovered features. Elements of the filling layers and separate details of the constructions were recorded as numbered features. The revealed levels and profiles of each sector were documented with photographs, which are now ready to use photogrammetry and 3D modelling of the site. The levelling of the features and small finds discovered during field work was registered using a digital total station Leica Builder R200M. A 1:20 plan of the profiles was drawn when the entire situation had been revealed and excavated within an area, or when it was necessary. All data regarding the features of each area were captured in feature lists, which also contain records about the finds that came from each given feature. All data concerning particular features were also recorded in a registration list for each category of find. Small finds, samples taken for analysis, accumulations of pottery sherds, and clumps of bitumen and other substances were fixed in space and elevation using a total station. Small finds, samples for scientific analysis, and pottery were registered on a daily basis using a proper sign (SF, PO, SA etc.). At the end of the season, pottery, small finds, and archaeozoological and archaeobotanical material was packed to be stored on Failaka. Some samples (charcoal, glass), with permission from the official authorities, were partially prepared and taken for analysis to Slovakia. During the excavations, very precise aerial photos were kindly taken by Dr. H. Al-Mutairi (Fig. 2).

Every find was transferred to the laboratory for cleaning, restoration, and documentation. Some finds were brought *in-situ* and investigated in the laboratory. For example, broken glasses or bitumen-stiffened mat baskets. All finds were precisely recorded in the catalogue of finds. In 2017, we registered 755 items. This constitutes an enormous collection that will require a special approach. Every day, after delivery to the base, the finds were carefully cleaned. Preliminary documentation was then prepared, including written labels of the finds.

Pottery and glasses (small finds) from the Al-Qusur site were reconstructed using a common restoration procedure that included cleaning with water followed by gluing with 2-component glue and dispersive glue. The selection of pottery and small finds was also subjected to reconstruction. We will emphasize conservation and reconstruction in the 2019 season. All finds were documented with photos, and more significant finds were also drawn (315 pieces) or scanned in 3D. Some fragments of finds were selected for further analyses.

3D documentation

All archaeological situations uncovered in 2016 and 2017 were documented in 3D. This is a convenient method for evaluating and visualizing the site. Drawing the research results will allow us to verify the status quo and archaeological situation. In addition, we have prepared detailed plans of the sectors, presenting individual stages of the research. These plans constitute a high-quality foundation for reconstruction and visualisation of the studied objects. The most prominent archaeological finds—particularly the reconstructed ceramic vessels—have been documented using photogrammetry and the Artec 3D scanner.

Preliminary findings

Courtyard 26 is a complex of three buildings that were built gradually and were at some stage connected into one unit. The complex lies in the south-western part of a right-angled enclosure with an area of 51 x 67 m (ca. 3400 m^2). It has stone foundations and a mud-brick wall of 0.75–1.80 m in height. An arcuate annex of 400 m^2 was attached to the enclosure in its northern part. As evidenced by the visible remains on the surface, the enclosure get bigger in size compared with the original.

Fig. 4. Al-Qusur, Courtyard 26. Building I, view from the north.

We distinguished three buildings within the complex of Courtyard 26 (Fig. 3). The main building (I) was located in the central part of the courtyard, the second—an outbuilding (II)—was placed in its southwestern part, while the third—another outbuilding (III)—could be found in its southern part. Buildings I, II, and III, as well as the enclosure in the northern part, were built of mud bricks laid on stone foundations on an artificially poured base. This mound elevated the buildings 10–40 cm above the surrounding terrain, which improved their protection from surface water.

The investigation documented at least three construction/development phases of the area. Refuse pits with finds of pottery, mortar, animal remains, and small finds discovered under some architectural structures clearly prove that the site had been used before Buildings I–III were built. Clearly, the courtyard and indeed the entire settlement were not episodic, but had long-term character.

Building I (Fig. 3–6)

This building is located in the central part of the fenced area, in sectors D3–D6, E3–E6, F3–F6. It is rectangular, with its longer axis oriented NW–SE. Its dimensions are 11.7 x 14.3 m. During various phases, the building was divided into 9–13 rooms (IA–IK). The number of rooms changed over time, with some being divided and others joined or even built from scratch. We discovered fragments of stone or clay foundations that served as a basis for clay walls. All rooms of the house had plastered floors. The dimensions of the rooms varied significantly, ranging in Building I from 1.55 to 25.48 m^2, in Building II from 2.21 to 19.44 m^2, and in Building III from 4.6 to 8.58 m^2. The rooms were accessible through doors/doorways, usually 0.5–0.6 m wide and often lined with flat slabs of stone.

A wide, two-step staircase with dimensions of 1.95 x 0.75 m was found on the southern side of the building. On the northern side, a smaller entrance was uncovered, with dimensions of 1.05 x 0.35 mm that may have been used in an older phase of the facility. Later, the entrance was replaced with a 1.0 m wide door/passage located to its west. Interestingly, this entrance led to a small room from which yet another room could be entered via a smaller flight of steps. This entrance was likely a passage to the courtyard/leisure area.

In the residential premises, the walls consisted of commonly used mud bricks covered on their inner side with high-quality plaster (Fig. 5). Sometimes, they were decorated with stucco. In the youngest, third phase of development, the building was plastered with snow-white stucco, while in the older phases, the stucco was grey-white.

Fig. 5. Al-Qusur, Courtyard 26. Building I, view of the excavations from the east.

The house's foundations were made partially of stone and partially of clay, sometimes placed on a plastered bottom (Fig. 5). The above-ground part of the building was a wall made of mud bricks. In numerous places, we detected the remains of the lower, clay foundations and the above-ground walls. The width of the peripheral clay walls ranged from 0.52 to 0.92 m, while that of the internal walls ranged from 0.3 to 0.54 m. In some rooms, we located passages. The mortar floors and plaster walls had been repeatedly repaired. Two colours were used for this purpose: white-grey and snow-white. Often, the floors were made in part of ceramics—pottery sherds were placed as a bottom layer and then covered with clay. In this particular building, the stuccos were relatively subtle and fine. The northern wall was partially destroyed, indicating that an over-ground window may have existed there.

An extremely wide wall was found in the north-western part of the facility—the 3.47 m long stone wall base had foundations that were 1.8 m wide; such a massive wall may have supported a second storey, shielding an internal staircase leading to the second level of the building or to its attic.

On the southern side, the main entrance to the building led to a large, square courtyard bounded by the three buildings and a southern peripheral wall. The southern part of Building I had been significantly modified. For a short time, in the south-western corner of Building I, there was a side passage.

Under the floor of Room I/B, in sector D4/D5, a space of 1.2 x 1.33 m was built from massive stone plates. It was a long channel with a depth of 1.1 m, a length of 100 cm, and a vertical entrance covered by a stone/mortar plate (Fig. 6). Under the mud-brick wall dividing Rooms I/K and I/B, we discovered a stone lid leading to the collector. Since the lid was covered by the clay wall, the collector should probably be counted among the older construction phases of Building I—probably even the oldest phase. Part of the stone ceiling likely collapsed and had to be repaired. The room was filled, and above the doorway a new clay wall was erected. However, the level of the clay filling the room gradually lowered, creating a recess in Room I/A that required repeated repairs. This may have served as a cellar or cistern for water collected from the roof.

The functions of the rooms in Building I cannot be determined. We failed to detect any traces of working activities or workshops, so the building was probably used as a residence. Room I/A seems particularly interesting. Based on our original finds, we presume that it was a storage room. However, this interpretation is not definite, because we did find fragments of storage vessels there. In the older phases, there may have been a hall there, while in the younger phases, when the northern entrance to the building was already defunct (and thus had ceased to be an interconnecting room), the space was probably used as a storage/pantry.

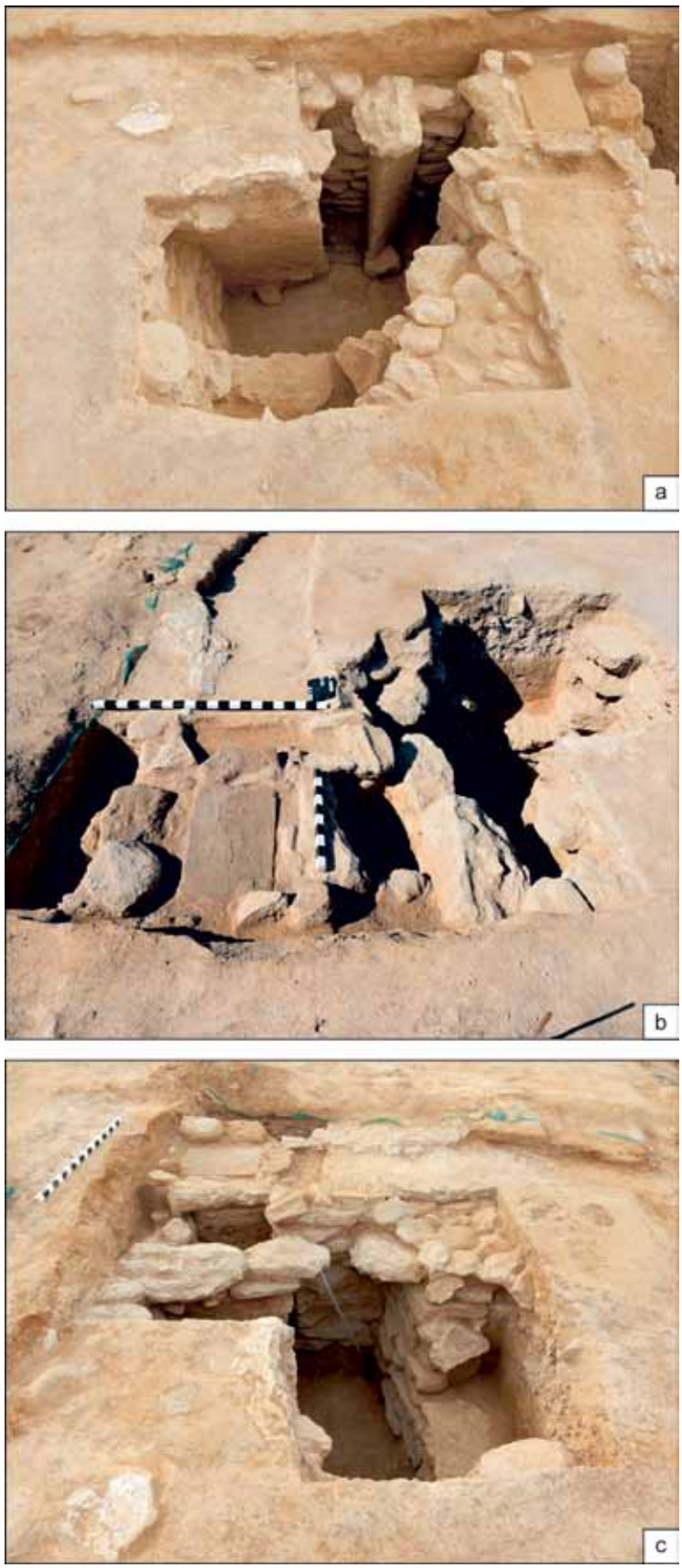


Fig. 6. Al-Qusur, Courtyard 26. Building I, underground space with a shaft--like entrance and a square cover.

South-east of Building I, we found an entrance leading to an empty space in the courtyard. The entrance is placed at the very SE corner of the building and can be counted among the youngest sections of Building I.

Preliminary description of the rooms (Fig. 3):

Room I/A – 2.4 x 1.12 m (2.74 m^2). Plaster floor, stair-like passage measuring 0.5 x 0.7 m to Room I/D, additional mud-brick wall in front of the northern wall of Building I.

Room I/B – 2.9 x 4.6 m (13.34 m^2). Plaster floor on the southern side collapsed and repaired several times. Below the floor, we found an underground room built of large stones, with a surface area of 1.15 x 1.1 m. There was an underground channel laid with a mock stone vault, that was probably originally covered with a mortar plate. In many places, we found indications that the room was covered with an organic material, perhaps wooden panelling, covered by a bitumen layer. Furthermore, a part of the stone ceiling has also been preserved. After the building ceased to be used, a new floor of an extended building was built here. In the southern part of the building, there is a passage leading to Room I/J (0.5 x 0.3 m).

Room I/C – 1.9 x 2.4 m (4.56 m^2). A small room with a mortar floor, a mud-brick wall, and a preserved passage to Room I/G in the southern part.

Rooms I/D and I/E – 4.19 x 5.2 m, 25.48 m^2. A mortar floor repaired several times, during the last phase it was partially covered with pottery sherds, preserved passages to rooms I/A and I/G. During the youngest phase, the space was most likely divided into two rooms (western D and eastern E). In the northern part of Room D, we found fragments of a collapsed clay wall. Preserved traces of stucco indicate that there was a window there.

Room I/F – 1.38 x 2.4 m, 3.31 m^2. A small room with a mortar floor and several clay niches in the walls. There is a preserved passage (0.52 x 0.57 m) leading to room G in the room.

Room I/G – 4.9 x 2.45 m (12.05 m^2). A central room with a mortar floor. There were passages leading to rooms I/J, I/M, I/F, I/C, and I/D–E.

Room I/H – 5.9 x 2.3 m (13.57 m^2). A room with a mortar floor on a stone platform, with passages to rooms I/J, I/I, and I/M.

Room I/I – 0.9 x 1.72 m (1.55 m^2). The smallest room in Building I, with a preserved mortar floor.

Room I/J – 3.0 x 2.6 m (7.8 m^2), with a mortar floor and a passage to rooms I/B and I/H. A northern clay wall was built over an original doorway into an underground space, indicating that at least the northern wall was built during the younger settlement phase.

Rooms I/K, I/L and I/M were relatively poorly preserved and had apparently been repaired and rebuilt several times. The southern wall of the construction, with its large staircase, seem to have been built during the youngest reconstructions.

Room I/K – 2.4 x 1.12 m (2.45 m^2). We found parts of a mortar floor, with dimensions of 1.55 x 0.55 m, the original dimensions remain unknown.

Room I/L – heavily damaged room located in the south-western corner of the building, with preserved fragments of a mortar floor. There is a preserved, 50 cm-wide entrance, with stairs leading to the room from the outside—that is, from the space between the peripheral wall and Building I).

Room I/M – a fragmentarily preserved room entered from the south up wide stairs. Although no mortar floor has been preserved, its existence is indicated because a base made of flat stones is present.

Building II (Fig. 7–10)

An outbuilding – Building II was situated southwest of the main building (Building I)—in the corner of the courtyard. It contained five rooms. Wide clay walls on a stone foundation in the eastern part suggest that the building had another storey. To the west, Building II adjoins a square stone tower. A rather narrow entrance to the courtyard was situated near the eastern wall of the outbuilding.

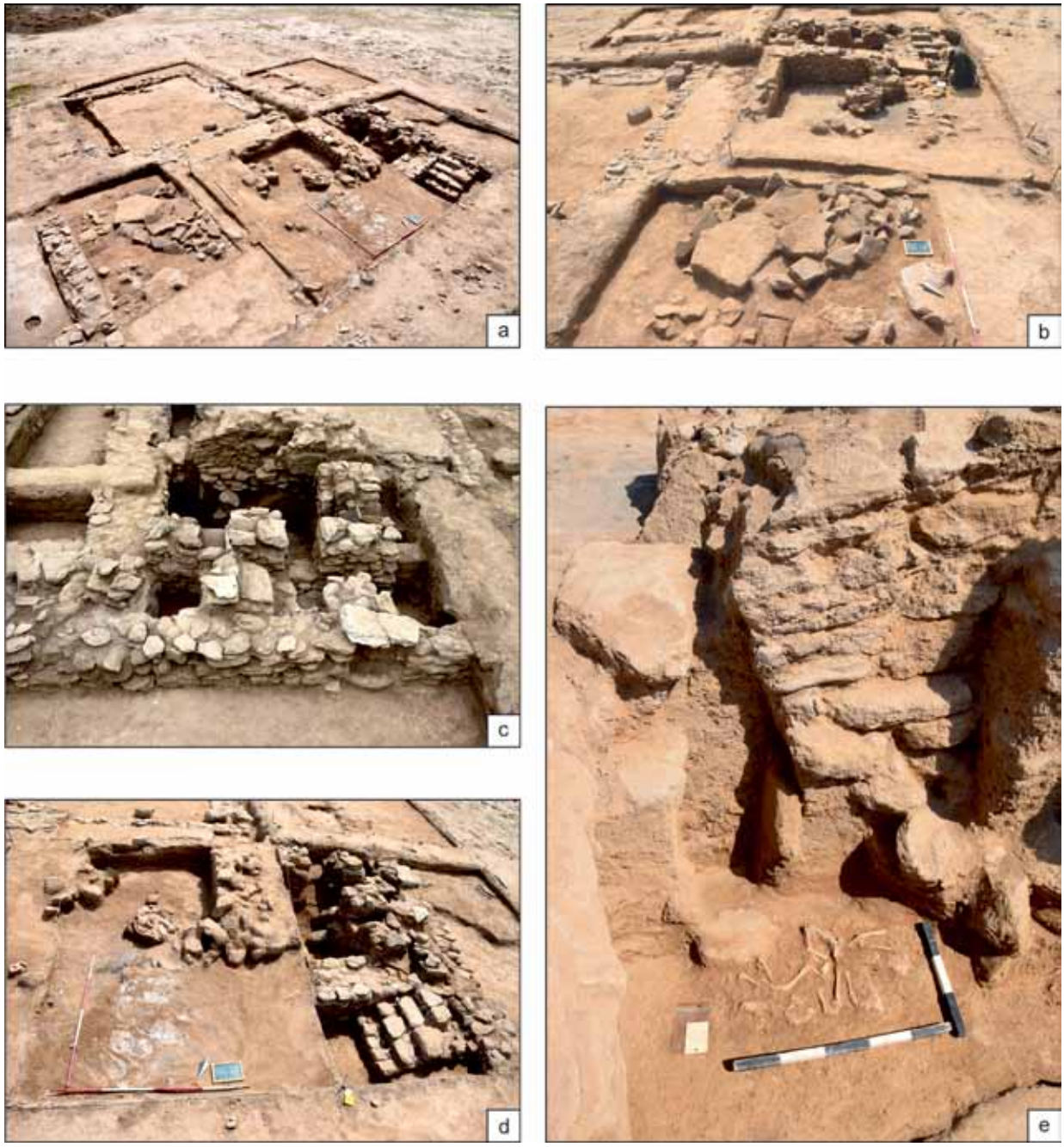


Fig. 7. Al-Qusur, Courtyard 26. Building II, a – view of the building from the north-east; b – view from the east; c – room A, view from the west; d – view from the north; e – underground space in room A with preserved semi-dome leading to the shaft and animal (sheep?) bones on the bottom.

In the youngest phase of construction, the stone foundations outside the original wall had deteriorated (sectors A/0–A/2, B/0–B/2, C/0–C/2, D1–D/3). The overall size of the building was 15.7 x 6.6 m. Its longer axis was oriented from south-west to north-east.

Building II consisted of three rooms (II/B, II/D, II/E) with mortar floors and two rooms (II/A and II/C) without such floors. Unlike the relatively compact Building I, each room in Building II had a different construction and even a different height. Similarly to Building I, Building II was located atop an artificial hill. This protected the building from flooding, even during severe rains, as confirmed during the 2017 research, when nearly the entire area of the site was flooded after torrential rains; only the peripheral wall and both Buildings I and II remained over the water.

Fig. 8. Al-Qusur, Courtyard 26. Building II, ground plan (by M. Bartík, M. Cheben, M. Ruttkay, Z. Robak).

Preliminary description of the rooms (Fig. 8):

Room II/A – 1.3 x 1.7 m (2.21 m^2). Stone foundations and over-ground masonry, with four channels linking the room with the outside. The room was deeply recessed (1.2 m), with no preserved floor. Most of the walls were plastered and were slightly inclined either towards or away from the recession. We believe that the floor had been placed higher, probably at the level of the upper edge of channels, and that it has not been preserved. Channels covered in high quality mortar were situated at various heights on the southern and western sides of the masonry, ending in the inner space. There was an underground, semi-arched stone channel leading eastwardly to Room II/B. The channel ended with an opening covered by a quadrangular stone plate.

The only stone building of the whole complex of courtyard house 26 is the above-mentioned tower with a square ground plan. It stands between the enclosure and the western part of building II, with dimensions of 3.15 x 2.8 m and a masonry width of 0.45 x 0.92 m.

The purpose of this technical device is unclear. It is probably the preserved lower part of a larger device that circulated air to selected areas of Building II. The carefully built structures near the tower were equipped with particularly thick and high-quality limestone plaster on the clay walls and possibly the ceiling, suggesting that they had a special use. The underground spaces were also probably used as a water reservoir. The space under the tower has a similar size as the underground space under Building I, whose primary function seems to have been rain water collection.

Originally, outside the northern wall, there was a staircase measuring 1.3 x 1.0 m, leading either outside the wall of the Courtyard or to Building II.

Function: water tank – cistern (?) possible links with Wind-Catch-Tower (?) (Fig. 9).

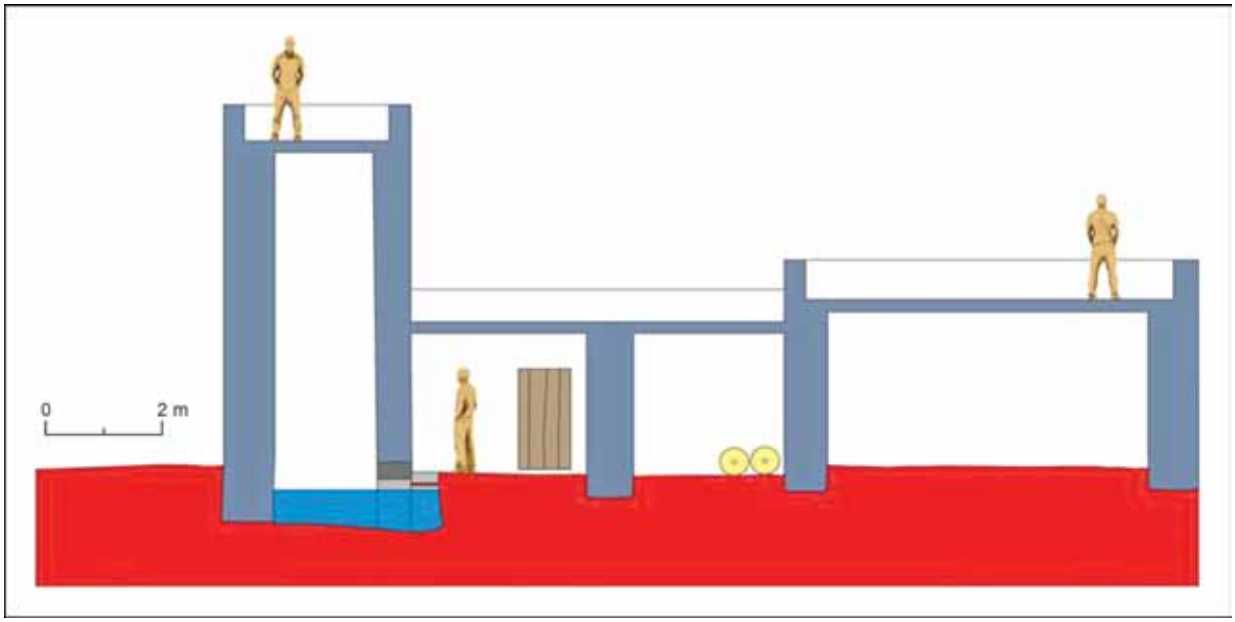


Fig. 9. Al-Qusur, Courtyard 26. Building II, hypothetical building reconstruction.

Room II/B – 2.8 x 2.1 (5.88 m^2). Originally, the room most likely consisted of two spaces. In the southern part, the floor was made of mortar. Originally, it was ended with a clay wall on a 1.06 m-wide stone foundation. To the north, there was a smaller construction resembling a corridor. In its north-western part, the outlet of a channel passing from underground room II/A ended with a stone lid. In the north-western corner, there was a large vessel, while in the south-western corner, a round posthole was interpreted as indicating storage. The pit may have been laid with some organic material. In the bottom part of the room, there was a 10–20 cm-wide layer of ash-like material. Generally, the fill contained a relatively large number of finds: mainly pottery, but also glass. The room was accessed from the north through a 0.8 m-wide passage from the free space between Buildings I and II and the western wall of the courtyard.

Function: utility room – kitchen? Boiler? Temperature regulation?

Room II/C – 6.3 x 5.2 m (32.76 m^2). A room without any visible traces of a floor and bounded by stone foundations (0.46–0.75 m wide). We failed to discover the remains of any floor. The floor was probably placed at the level of a complete two-piece stone quern that was found in the north-eastern corner of the room (Fig. 7). To the west, there was a separate space, with a plaster platform that had an internal size of 2.0 x 5.1 m. However, it remains uncertain whether this was part of Building II.

Function: ?

Room II/D – 2.6 x 4.1 m (10.66 m^2). The room was about 20 cm deeper than the surrounding chambers. A specific feature of the room is its extremely thick stucco, which covers clay walls. Debris containing the stucco was thrown directly to the room, where a damaged ceramic vessel was also found. At the eastern wall, on a mortar floor, we found two fragments of a two-part quern and a fragment of a wooden vessel. In the south-western part, there was a step-like passage leading to room II/E (0.57 m wide).

Function: Storage and food preparation room.

Room II/E – 5.4 x 3.6 m (19.44 m^2). In the mortar floor there was one posthole – possibly a trace of a pillar supporting the roof or a second storey. The walls were 0.55–0.94 m wide, except for the northern wall, which was 1.55 m wide, indicating that there were stone foundations supporting a clay wall. This substantial wall thickness may indicate the presence of a passage to an above ground storey or an attic.

Function: residential room?

Room II/F – 1.88 x 3.66 m (6.88 m^2). Formally, we have associated this room with Building II, although it actually connects Buildings I and II. The room was accessed through a 0.77 m wide doorway on the north-eastern side—directly from the southern wall of Building I. In the room, as well as to the east of

Fig. 10. Al-Qusur, Courtyard 26. Space between Buildings I and II (part of Room F, Building II) with the accumulation of finds.

it, we found one of the largest collections of pottery (Fig. 10), showing that the room served as a storage area for vessels. After the facility ceased to be used, the walls collapsed directly into the room, as well as into the atrium east of the room.

Function: storage (?)

Room II/G – 2.3 x 4.9 m (11.27 m^2). It remains unclear whether this was a room. It is a space located on the south-western corner of the building. No traces of floor were found, and the outer outline of the space is characterized by a surface made of clay and containing single stones. No entrance was found.

Originally, we assumed that Building II was used for service and craft activities. However, we gradually concluded that, technologically, it was the most exquisite of the constructions. Therefore, it may have played some more significant roles in the life of the courtyard, and the above-ground chambers—including the likely second floor—may have been used for residential purposes

Building III

A building consisting of two main parts was revealed to the east of the SE corner of Building I. The building had the following overall dimensions: western part, 2.7 x 8.4 m; eastern part, 3.7 (not complete) x 3 m. Building III consisted of five rooms (III/A – E). The southern wall of the Building I also forms part of the fence. Clearly, this building is in the worst condition. The N, E, and S walls of the foundations are made of stone, but the W wall is only marked with a line of mortar and single stones. The inner space of the building's southern part was divided into four smaller chambers. In 2017, in the eastern part of Building III, we discovered a further chamber with a furnace, as well as large storage jars *in situ*. In the same place, we also discovered a relatively large collection of vessel fragments made of an organic material and smeared with bitumen. The building is located on relicts (layers) of an older settlement phase and has clearly undergone several reconstructions.

Preliminary description of the rooms (Fig. 3; 11):

Room III/A – 2.3 x 3.5 m (8.05 m^2). A room with stone foundations and a mud-brick wall. There was also a passage linking the northern and southern parts. The western part was jerry-built. It remains unclear what kind of floor the room had. We found numerous traces of clay vessels that were used as a furnace.

Room III/B – 1.5 x 1.7 m (2.55 m^2). A room with stone foundations and a mud-brick wall. On its southern side it is connected to the complex, as well as to Room III/E, which was reconstructed several times. Rooms III/B and III/E may have been parts of one room that was only partially divided by some kind of partition.

Room III/C – 3.2 x 2.5 m (8.0 m^2). A room adjacent to the southern peripheral wall. From the east, it connects to the neighbouring Room III/D (main entrance?). In the western part of the room we found the remains of two large clay vessels. On their insides, these were smeared with bitumen that was of very poor quality and nearly entirely broken. We also found fragments of a vessel made of some organic material and smeared with bitumen. On the north-eastern wall were the remains of a stone furnace. However, we could not with certainty identify any entrance to the room.

Room III/D (?) – Probably a room adjacent to the southern peripheral wall and connected to Room III/C through a passage. In the room, we found *in situ* fragments of vessels (one low-quality red ware and one low-quality yellow buff sandy) and the remains of a basket made of some organic material smeared with bitumen. All this indicates that the room was used as a storage area.

Fig. 11. Al-Qusur, Courtyard 26. Building III.

Room III/E – 1.5 x 1.8 m (2.7 m^2). A room directly connected to the southern peripheral wall, with three preserved lateral walls. Room III/E was probably built during the youngest phase; it served as the platform of a staircase leading to the second over-ground level, or to the peripheral wall. There may also have been some tower-like construction.

Function: Building III – this part was probably used for food storage or preparation (drying, roasting, etc.) or for other activities (such as mixing bitumen).

Atrium

In sectors D2–D3, E2–E3, and F2–F3, the three main buildings and the southern peripheral wall formed an atrium, the dimensions of which were 10.1 x 8.1 m. Although we found no postholes, the area may have been covered by a roof that shaded it. The space was accessible from all the significant buildings in the courtyard, as well as through a narrow passage and from the outside of the courtyard. From the south, there was a 1.2 m-wide entrance through the peripheral wall—most likely the main entrance (Fig. 3).

The fence

The enclosure surrounding House 26 has been examined in sectors A1, A2, A4, A6, D1, D2, G1, G2, E1, E2, F1, F2, H1, H2, I2, J2, while sectors K3 and J13 have been opened (Fig. 8). The fence measures 58–67 x 51–52 m. Excavations have confirmed that the peripheral wall of these sectors was constructed during the latest phase of settlement in the house complex. The most interesting excavation outcomes occurred at sector J13, where the wall was built on a rampart made of subsoil. The rampart probably protected the wall's foundations against flooding. In some places, the stone foundation of the peripheral wall was built on an embankment of white sand. In the southern part of sector D/2–E/2, directly on the eastern side of Building II, we discovered the original entrance to the premises.

The objects

During the 2017 campaign, we discovered the first features that were definitely not architectural remains. All were pits located in the lower strata. Such features were particularly prevalent in the south part of House 26, near or under Building II.

Obj. 1. – Sector C1. Located under the walking horizon layer of room C/II and under the south wall of Room D/II. Not yet excavated. Filling: F8.

Obj. 2. – Sector C0–C1. Located under the walking horizon layer of room C/II and under the east wall of Room C/II. Not excavated yet. Filling: F12.

Obj. 3. – Sector C0/B0. The east edge of the feature has been destroyed by the survey trench, but the shape of the feature is visible in the west profile of the trench. The layers filling the feature lie under the south wall of Room C/II. Remaining parts of the feature are located in the area of the sector B0 and have not been excavated yet. Filling: F6, F7.

Obj. 4. – Sector C4/C5. The feature has been excavated down to the deep of 20–30 cm, but its profile is visible in a survey trench. Inside the feature, an unknown wall not connected with any other feature has been found. Filling F10, F11.

Obj. 5. – Sector D1/E1/D2/E2. The biggest excavated pit so far. Its north part is hidden under Building II. The pit was intentionally filled before construction of Building II and of the nearby section of the peripheral wall. The feature produced a great number of finds. Filling F8, F9.

Obj. 6. – Sector G2. A pit was prepared to keep the storage jar in a horizontal position. At the bottom of the pit, a stone plate was found. Filling: F8 (vessel).

Obj. 7. – Sector C3. A pit visible at the bottom of the west profile of the sector C3. Excavated only to a width of 20 cm. The dimensions of the pit remain unknown. Most of the object remains in sector B3. Filling: F11, F12.

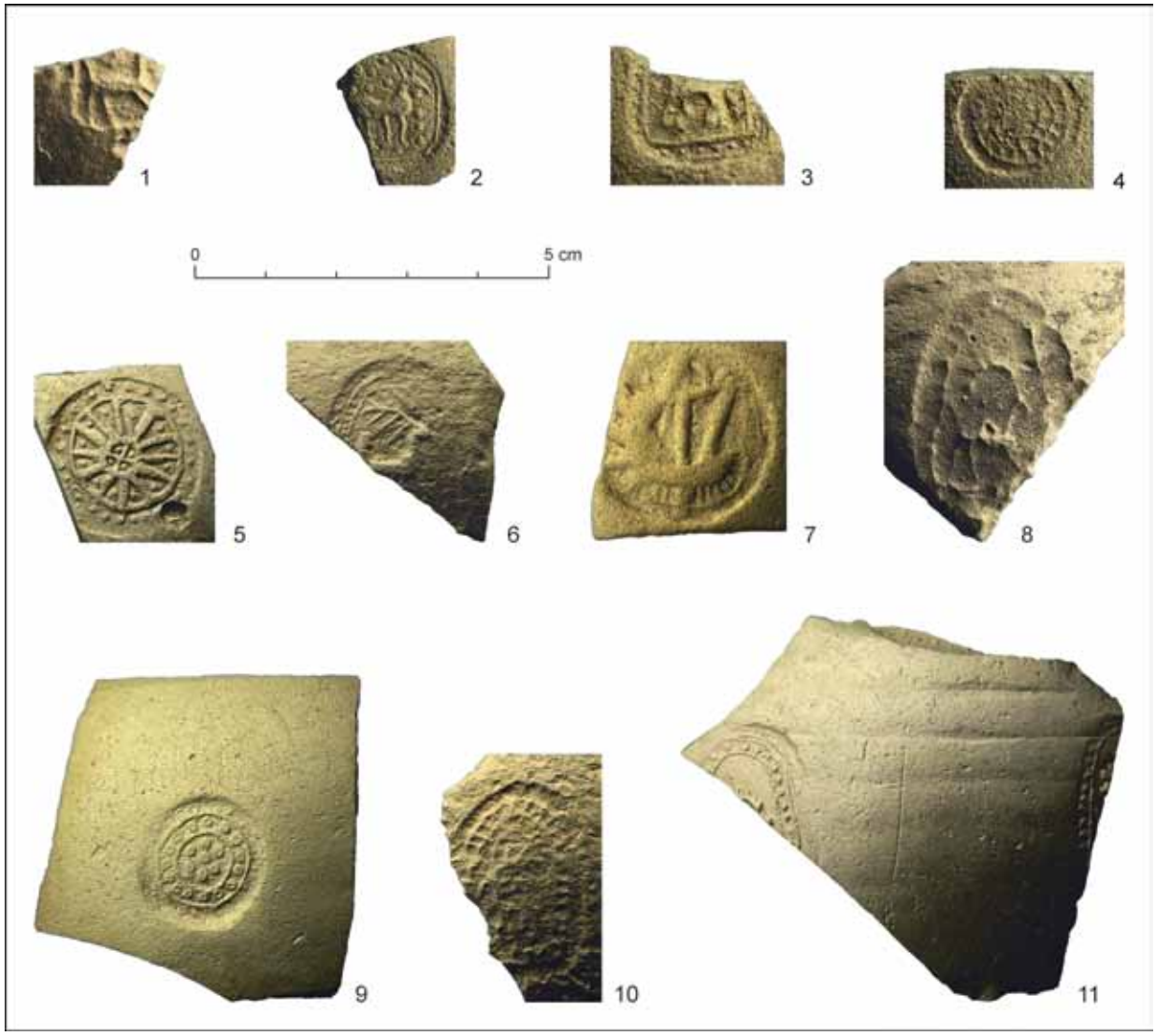


Fig. 12. Al-Qusur, Courtyard 26. Stamped pottery (by A. Arpáš, M. Ruttkay).

Finds

Unsurprisingly, the most common find was pottery. Apart from this, we acquired relatively many fragments of glass, iron, and bronze items. Numerous fragments of bones were also found, as were bitumen prints of organic vessels (baskets, bags, etc.). These will be of great importance in the further analysis. Most finds were discovered in secondary positions. However, the pottery heating devices in the youngest phase of development may have been found in their original position (Fig. 10). Furthermore, the large collection of vessels found in the area between Buildings I and II may have included destroyed vessels and other items that had originally been placed on various shelves, or on above-ground platforms that collapsed later when the entire structure was destroyed. The presence of kitchen waste (fish bones, pottery sherds, etc.), as well as the location of the finds, indicates that these layers are linked with destruction phases.

The features and layers discovered under Buildings I and II indicate that, in the early Middle Ages, even before the luxurious buildings were built, a settlement with masoned stone-clay architecture existed at the Al-Qusur site.

Larger collections of finds, including accumulations of whole or fragmented pottery vessels and numerous fragments or whole parts of glass vessels, were concentrated under the destroyed remains of

Building II, especially in the free atrium space whose entrance staircase led to the main building. Some of these finds were located above the damaged wall and between fragments of collapsed inner plaster (Fig. 10b), indicating that the vessels, along with other items, were associated with the third developmental phase of the building.

In total, there were 1,719 recorded finds from Courtyard 26 (bags with pottery, small finds, glass, mortar and plaster samples, animal bones, scientific analyses, bitumen, etc.). Restoration, documenting, and assessment of this extensive collection will take some time. Thanks to these finds, the material culture at the site, and in the entire northern area of the Arabic Gulf, will be more amenable to accurate dating.

Pottery (Fig. 12; Pl. I–IX)

Currently, we are analysing the extensive collection of finds. However, even before we finish this analysis, some preliminary conclusions can be drawn. Provisionally, we have distinguished 41 groups and sub-groups of pottery. We present the most significant and interesting findings below.

Typologically, the ceramics have numerous parallels in localities linked with the late Umayyad and early Abbasid periods, and possibly with the late Sasanian period. The rich collection of finds from all horizons includes mainly storage vessels, as well as kitchen and table ware. These can be preliminarily dated to the 7th and 8th centuries (see below). Large storage vessels with pointed bottoms—so-called torpedo jars—were often deposited in depressions in the floors, secured among stones, or reused as a fireplace. Poorly burnt and extremely unstable brick-red ceramics constituted the most common material used to manufacture the amphorae and torpedo jars.

Most of the ceramics were unglazed, with the most common types being buff-sandy ware and hard gritty ware. Slipped and unslipped buff ware was most frequently yellow to yellow-green, sometimes greyish or brown-reddish. Among the standard shapes, one stands out in particular: a three-handled jar/amphora (?) decorated from its neck down to its rounded bottom in a typical form. Only rarely were the vessels decorated. On storage jars, decorations included honeycomb, bundles of engraved straight or wavy lines, simple lines, etc. The so-called honeycomb decoration was used on several sherds or vessels; this decoration was popular in all development phases of the courtyard (Kennet 1997). In exceptional cases, on the buff sandy and green-yellow ceramics, we observed imprints from various stamps, while there may have been numerous stamps arranged horizontally on one of the jars. The presumption of D. Kennet—that most of the pottery was imported from southern Mesopotamia, rather than manufactured on Failaka—may be correct (Kennet 2002, 2004). Many of the vessels had their inner sides covered with bitumen. This technique was often used in the production of smaller vessels. Hard gritty ware was used primarily to produce various forms of large storage vessels. Its quality is very poor, so handling of the vessels had to be limited. Eggshell and white cream ceramics (Fig. 12: 2; Tab. VIII: 1, 3), which are thin-walled white or cream vessels, were rare. Very rarely, pieces of thin-walled ceramics were decorated with plastic rosettes and fine slashed cordons (Fig. 12: 2). Generally, such vessels were decorated with engraved ornaments (such as single and multiple lines, leaf decorations, or geometrical and floral ornaments). Items decorated with concentric circles resembled those found in the area of the Al-Qusur monastery (Bonnéric 2016b, Fig. 5). Indian red ceramics—finely washed polished pottery of a deep red colour—mainly manifested as large, amphora-like vessels with a relatively narrow neck. Dark grey and black pottery, which is used to make high-quality, thin-walled grey ceramics, was extremely rare. Generally, such pottery was used in smaller vessels. Grey (black) Brittle ware—thin-walled pottery made on a wheel—was found in exceptional cases. Fine white particles were used as an additive to the clay dough, sometimes leaving dimples after burning. Another variety—black pottery without white stones—was usually used to produce nearly round vessels with outwardly curved rims. Such pottery mainly occurred in the youngest, fourth period (Fig. 12: 4).

Vessel forms

The most commonly found vessels were various types of storage and torpedo jars: amphorae (Tab. I–V), but also smaller, mainly amphora-like and vase-shaped pots (Tab. VI; VII). Larger jars usually had three handles placed between the neck and shoulders (Fig. 12; Tab. II; III). There was also a unique vessel with a narrow, flask-like neck and tube-like rim (Tab. II: 1). These vessels were usually decorated with grooves, wavy lines, or a combination thereof. The widest part of the belly of one round-bottomed vessel was decorated with stamps (Tab. II: 7). Extremely large storage vessels had relatively wide necks and three strap-like handles (Fig. 12). These were decorated with honeycomb and engraved with lines and dots.

Fig. 13. Al-Qusur, Courtyard 26. Pottery selection, various scales (by A. Arpáš, M. Ruttkay).

The torpedo jars were all very alike (Tab. IV); often their internal walls were smeared with bitumen. The function of the vessel with a cut rim remains unclear (Tab. V: 2). In the Courtyard, we found one whole tripod, as well as numerous fragments of others (Tab. V: 1). These were relatively massive constructions with a round opening on the top. Each leg was connected to its neighbours with a semi-arch that was trimmed with an embossed border. There were also two reparation holes drilled in the thinnest part of the item. Another relatively large group of vessels were various types of bowls. Smaller items included small flasks and jars (Tab. VI). Only rarely were there lids (Tab. VII: 8).

Glazed pottery comprised only a small proportion of all ceramic finds. The glaze was usually yellow, yellow/brown, light green, whereas a turquoise glaze was found in rare cases. In some cases, the sherds were decorated with a polychromic glaze (Fig. 12: 1; Tab. I: 6). However, this faded shortly after excavation (Fig. 12: 1). Its shoulders were decorated with a geometrical ornament, and there were openings below the rim that had probably been secondarily repaired. In comparison with the central part of the Al-Qusur settlement (and some published assemblages from the Gulf, e.g. those in Sir Bani Yas: Carter 2008a), only a low percentage of green and blue slipped vessels was found in Courtyard 26, which may be rather surprising.

The pottery register includes dozens of vessels with round or oval stamped geometric or animal decorations (Tab. VIII: 6–14). The most common motifs are circles, crosses, deer, capricorns, gazelles, and scorpions. According to D. Kennet (1991), these stamps most likely represent the Early Islamic tail end of the Late Sasanian tradition. The stamped pottery with animal motifs found in northern Mesopotamia date back to the 6th–7th century, the period when the "Persian Church was of increasing wealth and influence" (Simpson 2018, 109).

Glass finds

The 720 glass finds in the KSAM register are exclusively sherds or fragments of vessels. In the two most recent research campaigns at house 26, we found large amounts of glass: in 2009, there were 37 items, while in 2016–2017, there were no fewer than 59 and 180, respectively. In total, 276 glass items have been found. Glass items were concentrated mainly around Building II, together with large deposits of broken storage pottery. A dense concentration of glass was found mainly to the east of the building. All well-preserved pieces and large vessel fragments came from this area, implying that glass vessels were a rather common type of ware during the heyday of the courtyard.

Vessel forms

The fragments of glass vessels represented a broad variety of standard vessel forms. Mostly, there were examples table ware—usually various containers for fluids such as bottles, vases, and cans. For drinking, the residents used cups, skyphoi, and stemmed beakers (goblets).

Based on the distinctive features of the vessel forms, such as rims, necks, or bottoms, we have prepared simple statistics, yielding the following data. Among the finds from the 2017 season, we have identified seven vases, three bottles, one can, and four bowls, as well as 10 cylindrical cups, three conical cups, two skyphoi, and six goblets. With regards to pottery, table ware was rather rare, possibly because glass was the preferred material. Nevertheless, the large number of glass vessels, especially as compared to the other uncovered houses, may indicate that the inhabitants of the house had high social status. The presence of special drinking vessels resembling goblets or skyphoi indicates that the residents drank wine, which was a typical practice among the Nestorians (both in everyday and ritual activities).

In addition to the architecture and large scale of the buildings, the exquisite glass finds attest to the luxury of life in the house. There were fine, thin-walled cups; in one case, these were even decorated with plastic ribs, and an exquisite vase decorated with the gold sandwich glass technique was found.

The condition of the glass finds is relatively poor. The items are heavily corroded, mostly covered with lime crust. The thin-walled vessel sherds are extremely fragile because of this corrosion. In some cases, the glass is opaque. There were no complete items, but some larger vessel fragments have been found as waste in secondary locations.

Glass analyses (Pl. X)

So far, two chemical analyses have been carried out on the finds from the Al-Qusur site: in the Römisch–Germanisches Zentralmuseum Mainz (nine samples, method: Micro-X-Ray-Fluorescence, μ-XRF; by Sonngard Hartmann; see article by K. Pieta, M. Ruttkay, and M. Bielich in this publication).

Currently, another small series of finds are being studied at the Institute for Geology (Geologický ústav) Ľudovíta Štúra.

The Kuwaiti National Museum accepted and approved a proposal to include some the Kuwaiti ancient glass into the project "Glass from Byzantium to Baghdad: Trade and technology from the Byzantine Empire to the Abbasid Caliphate", led by Thilo Rehren. The aim of this project is to chemically analyse glass from the Gulf region dating from c. 600–1200 CE, as a part of a broader comparison of Byzantine and Islamic glass technologies. The project also covers data from Bahrain, Qatar, coastal Iran, UAE, and Oman. The contact person for the project is Dr. Carolyn Swan, research Fellow at UCL Qatar in Doha, Qatar.

The glass collection found in House 26 is one of the largest collections in the entire Gulf region, with one important advantage: most of the pieces were well settled in stratigraphically defined layers. As a consequence, the items could be compared with high quality pottery collections. This material requires a thorough analysis and then a comprehensive publication.

Other finds

Among the other finds, we should mention a unique coin: an Arab imitation of a Byzantine bronze coin (follis) was found in the upper layer covering the wall of Room C/II. It was minted after the Arab conquest of Syria in 634 AD and sometime before Abd Al-Maliks's monetary policy reform in 692 AD (Fig. 14). The coin provides important information relevant for dating the house. In addition to numerous fragments of querns, there were also two pairs of querns found in Courtyard 26 (Fig. 7). Clearly, these were tools used every day by the residents of the facility, and both were found in Building II. In sector E3, we found raw material: bitumen weighing 8th kg. Thanks to our comprehensive research, we also found a series of bitumen imprints of items made of organic materials: baskets, vessels, and trug baskets.

Fig. 14. Al-Qusur, Courtyard 26. Arab imitation of a Byzantine bronze coin.

Dating of the site

Currently, few data are available documenting the chronology of assemblages from the Gulf (Carter 2008a, 90), and such data are mainly based on the analysis of pottery assemblages. However, these could have been used for a relatively long time. Specific C^{14} items, particularly those exported from distant areas such as Mesopotamia or India, are particularly important.

The Institute of Archaeology of SAS contracted dating of selected samples to the Poznan Radiocarbon Laboratory at A. Mickiewicz University. So far, only eight samples had a sufficient amount of collagen to allow dating. We only took samples from situations clearly related to the stratigraphy. Depending on the situation, we gave precedence to animal bone samples or cereal grains, which are best suited for dating. However, due to climactic and soil conditions, these are very rare. The situation with charred wood fragments—charcoals—is slightly better, although these are still rare, and the process of dating is less reliable because older pieces of wood may have been used for construction or bone fires.

Generally, despite some stratigraphic issues, it was not difficult to interpret the data we have obtained so far, although we still await some further information (Fig. 15). It seems clear that the site was settled from the first half of the 7th century to the end of the 8th century. None of the revealed data obtained could be dated with certainty to the 9th century. However, at this stage of analysis, it is too early to draw more definite conclusions.

Because the site developed in various stages, we assumed that the differences between the critical periods (I–III) would be more pronounced. The similarity in the results shows that minimal time passed between particular phases. In turn, this indicates that, at some point, residents of the courtyard decided

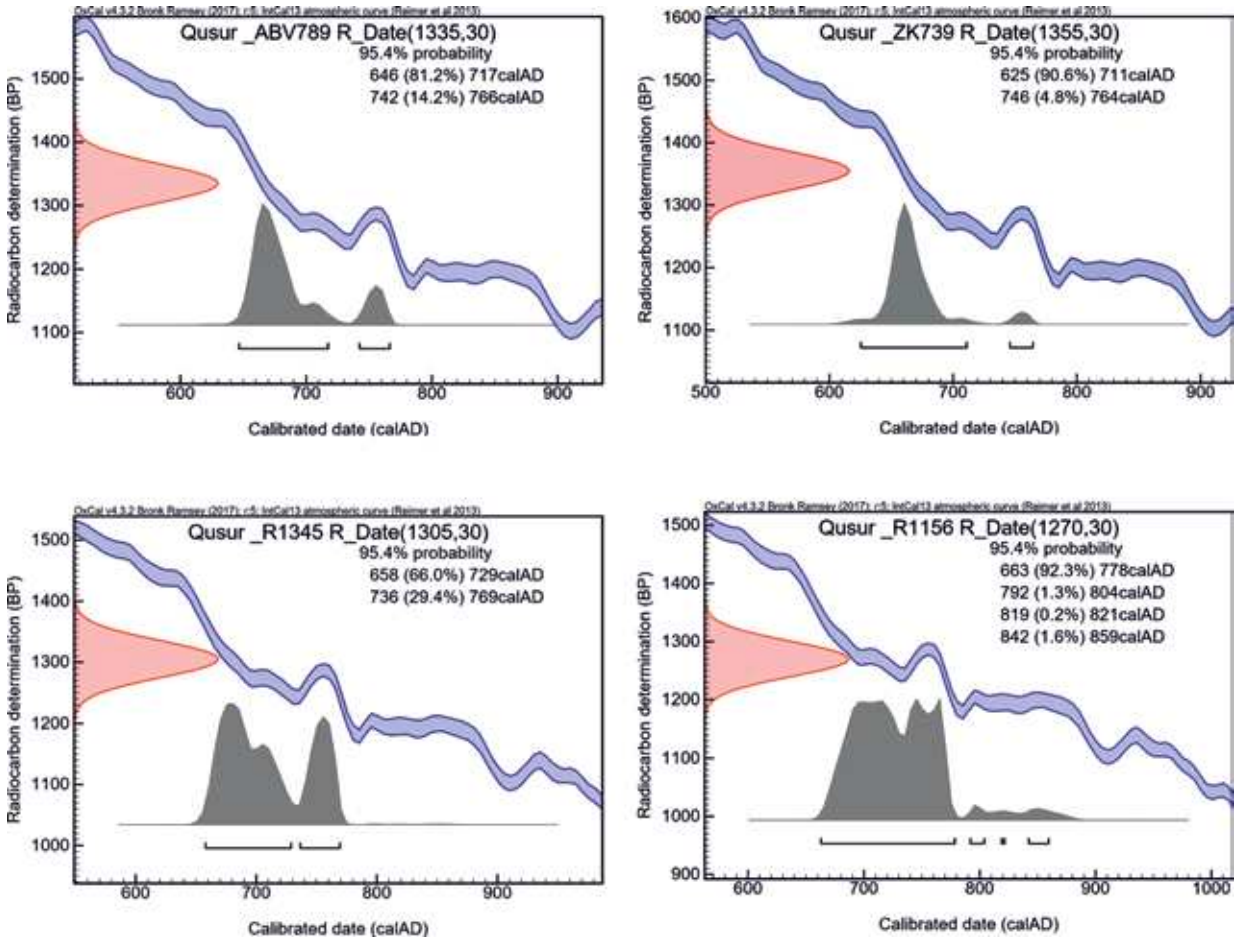


Fig. 15. Al-Qusur, Courtyard 26. Selected radiocarbon dates.

to commence more fundamental reconstruction. At that time, they levelled the unevenness of the older terrain, including cellars and underground gutters (tunnels), using sand and waste. Afterwards, on the already aligned plot, they erected a larger complex.

In the underground feature, located in the western part of Building II (room A), in a decay layer, we found animal skeletons (probably sheep). Analysis suggested that these date to the 7th century. However, they may in fact come from the 8th century (Fig. 15):

Failaka/Al Qusur_ZK 739 R_Date(1355,30) **B2/F11**: 68.2 % probability
648 AD (68.2 %) 677 AD
95.4 % probability
625 AD (90.6 %) 711 AD
746 AD (4.8 %) 764 AD

Charcoal sample No. 789 from the lower layers in sector E3 indicates that the most likely dating is the second half of the 7th century.

Failaka/Al Qusur_ABV 789 R_Date(1335,30) **E3/F5**: 68.2 % probability
652 AD (63.6 %) 689 AD
753 AD (4.6 %) 759 AD
95.4 % probability
646 AD (81.2 %) 717 AD
742 AD (14.2 %) 766 AD

Fig. 16. Al-Qusur, Courtyard 26. Main development phases. a – Period 2; b – Period 3 (by A. Arpáš, M. Ruttkay).

Vessel sample No. 1344 from trench C3, found below the youngest destruction layers, was also dated to the period between the second half of the 7th century and the first half of the 8th century.

Al Qusur 1345 R_Date(1305,30) **C3 from vessel 1345**: 68.2 % probability
665 AD (48.7 %) 711 AD
746 AD (19.5 %) 764 AD
95.4 % probability
658 AD (66.0 %) 729 AD
736 AD (29.4 %) 769 AD

Samples from the underground space, which was filled before the floor in Building I was built, provided some younger dates:

Al Qusur 1156 R_Date(1270,30) **CELLAR, D2**: 68.2 % probability
687 AD (39.2 %) 726 AD
738 AD (29.0 %) 768 AD
95.4 % probability
663 AD (92.3 %) 778 AD
792 AD (1.3 %) 804 AD
819 AD (0.2 %) 821 AD
842 AD (1.6 %) 859 AD

So far, the constructional development can preliminarily be divided into three or four phases. However, we still cannot determine the temporal relationship between the wall and the internal architecture (or its phases). Currently, the developmental model is as follows:

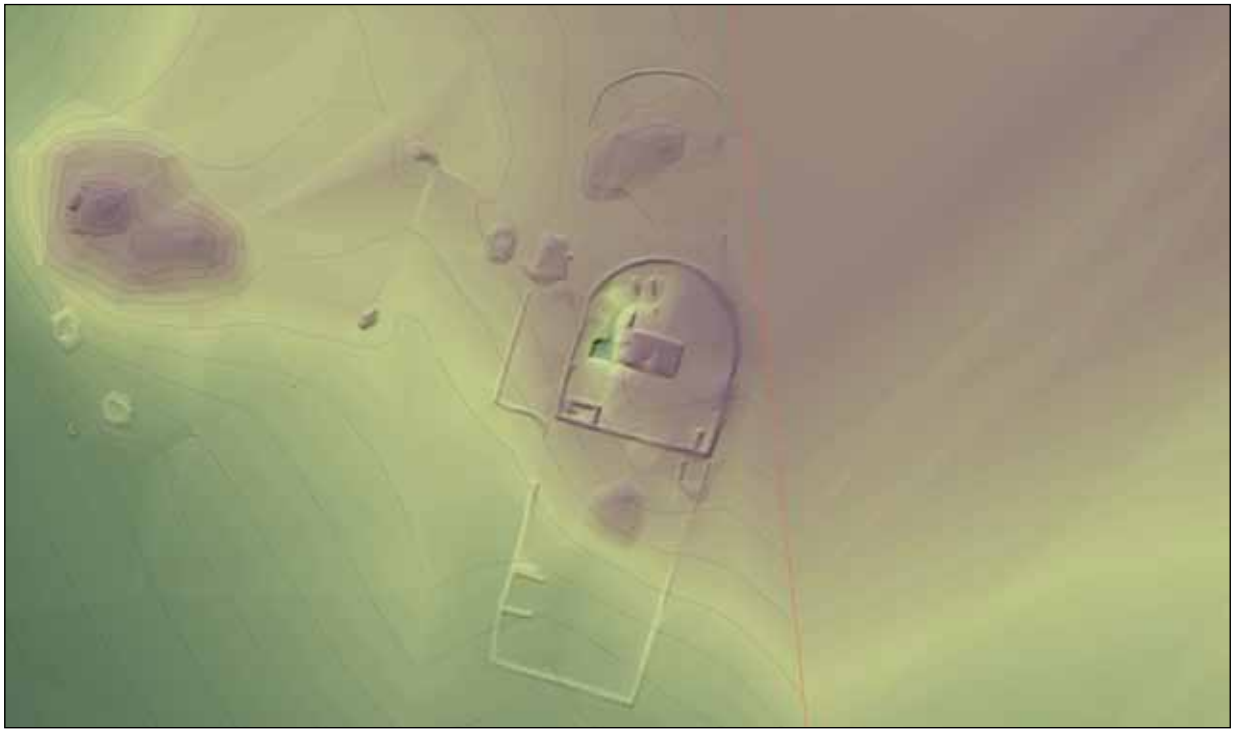


Fig. 17. Al-Qusur. Digital model of Courtyard 56 (by A. Arpáš, M. Ruttkay).

Period 1: The first stage remains the least recognised. It encompasses the settlement prior to the extensive landscaping works, during which an artificial hill was raised. It is difficult to link finds from this period with any particular constructions. In terms of chronology, it is Late Sasanian or Early Islamic period.

Preliminary dating: before the mid-7th century (?).

Period 2 (Fig. 16a): The second stage, when the main building with the massive stone foundations was already erected (today's north-eastern part of Building I). The building also included an external cellar that may have been a water tank, pit latrine, or cellar. Most likely, the wall and part of Building II, together with the catch tower, already existed in this phase. The structures dug into ground were filled between the end of the 7th century and the first two thirds of the 8th century.

Preliminary dating: between the second half of the 7th century and the mid-8th century.

Period 3 (Fig. 16b): The third stage is marked by the greatest dimensions of the facility, including three extant buildings (I–III) and a spacious atrium. Building I had been fundamentally reconstructed and enlarged during this stage, and the underground space disappeared. During this phase, the internal layout of the rooms, as well as the southern part of the building, were reconstructed several times. Building II lost some underground constructions in its western part. However, it was extended by additional "external" spaces on the south. Activities associated with the use of fire took place to the north of Buildings I and II. The area located in the northern part of the fenced space may have been used as a relaxation space for residents and as an enclosure for domestic animals.

Dating: 8th century.

Period 4: The fourth stage represents random usage of the facility after most of the buildings had decayed (features are dug into decayed layers).

Dating: after the 8th century.

Other research activities

In 2017, our activities focused on documenting the area outside the fenced site. A detailed land survey, along with terrain mapping by M. Cheben and M. Bartík, was very effective. The data obtained formed the basis of a digital model of the studied area (DTM) and will help us to monitor the condition of future

archaeological finds. It will be easier to determine whether the constructions were damaged due to atmospheric conditions or human activities (such as quad riding). Furthermore, the plans we have developed clarify the possible layout of individual monuments. A good example is house 56, which was studied by D. Kennet. We have obtained a relatively clear layout of courtyard 56 (Kennet 2009) and possibly revealed new sections of the buildings and the wall (Fig. 17). Similar results have been obtained in other parts of the site.

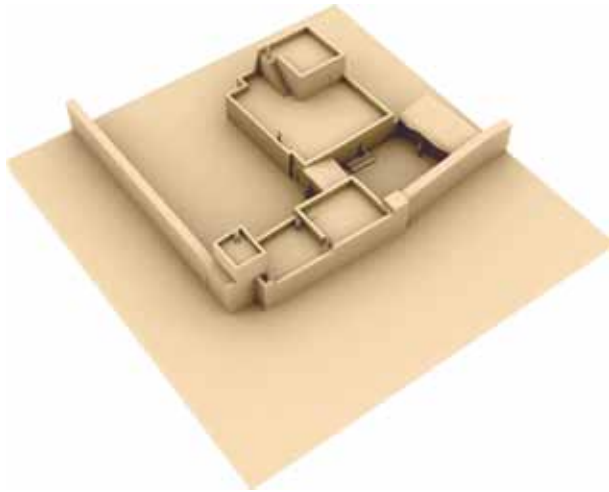


Fig. 18. Al-Qusur, Courtyard 26. Hypothetical reconstruction of the building in its heyday (by A. Arpáš, M. Ruttkay).

Conclusion

The research has revealed that the facility fenced with a clay wall included several buildings. The central, residential building measures 11.7 x 14.3 m and has 13 rooms. The first outbuilding measures 15.7 x 6.6 m and has 5 rooms, while the second one measures 2.7/6.4 x 8.4 m. Generally, mud-brick walls were covered with high-quality plaster, sometimes even decorated with stucco ornaments. The building's foundations were made of stones or clay, while the over-ground walls were made of mud bricks. Outbuilding II, with four large rooms and a tower-like stone construction, may also have been used as a residential facility. The constructions of both buildings (I and II) indicate that they were two-storey buildings. Both had stone water tanks with a stone tunnel and an opening in the floor—possibly to draw water. The construction of one of the buildings indicates that it may also have included a so-called wind-catch tower, which supplies air and ventilation of the internal rooms. The air conditioning from house 26 represents the oldest evidence of this cooling technique.

According to the latest conclusions, the Al-Qusur settlement had its heyday mainly in the second half of the 7th century and in the 8th century (Fig. 18). However, the current data are insufficient to determine the temporal relationship between the central part of the settlement, the monastery, and the churches. The most recent finds confirm that the facilities existed in parallel or were parts of a single, larger unit. The coherence of the pottery forms and stamps on the vessels supports this hypothesis. According to Bonnéric (2016b), the refectory near the monumental church A1 was probably built in late Sasanian times, and central part of the site had a monastic character. Courtyard 26 was a secular area, probably inhabited by many residents. The courtyard may have belonged to some local "nobleman."

Unsurprisingly, agriculture and fishing were among the most significant activities practiced by the community (sheep breeding, cultivation of cereals and other crops). High quality quern stones indicate that there was regular processing of cereals and consumption of related food. More traditional ways of obtaining food are evidenced by the presence of date pits, as well as a device for pressing dates that was uncovered in the central, monasterial part of the settlement (Bonnéric 2016b). The imprints of cereal straws and grains in the burnt clay daubing indicate that the cereals were cultivated near the settlement. Together with the exceptional size of the settlement, its situation in the middle of the island indicates favourable climactic and hydrological conditions in the early Islamic period. Judging by the finds, the population of the settlement obtained food by catching fish and other seafood. They also bred small ruminants—known as Ovicaprid pastoralism.

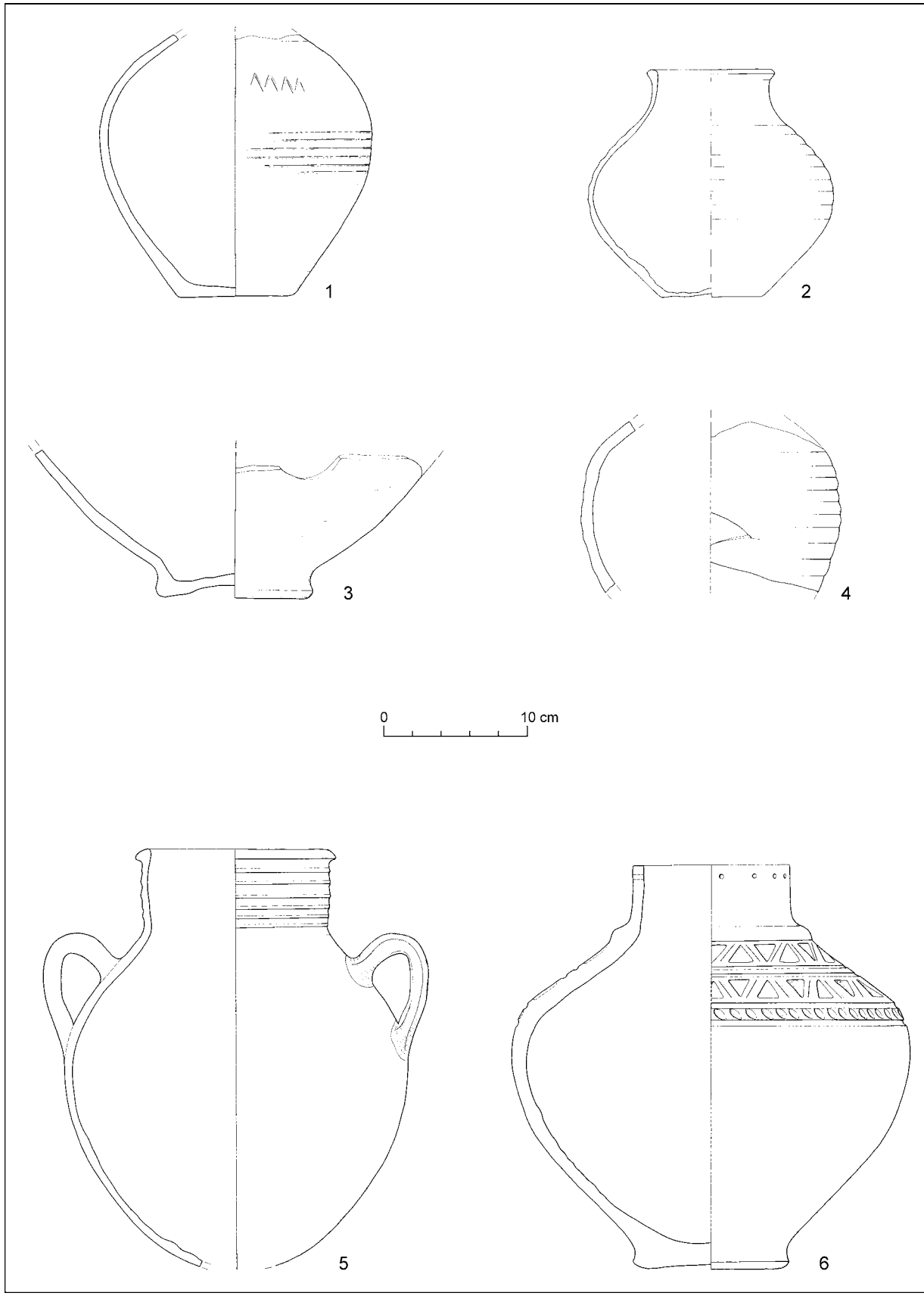
So far, we have found no well in the yard. In the older phases, drinking water was likely drawn from the underground tanks. However, it is unclear whether this situation remained in younger phases.

To a lesser extent, traces of metal processing have been preserved, such as iron cinders and solids of bronze and lead. The architecture was on a high level, as evidence by the churches, as well as by the courtyard of house 26, with its many remarkable technical details and use of quality plasters, stuccos, and cast floors. The documented, although not clearly explained ventilation system of selected rooms, as well as the water supply, are evidence that the living standards were high and that a higher social class was present.

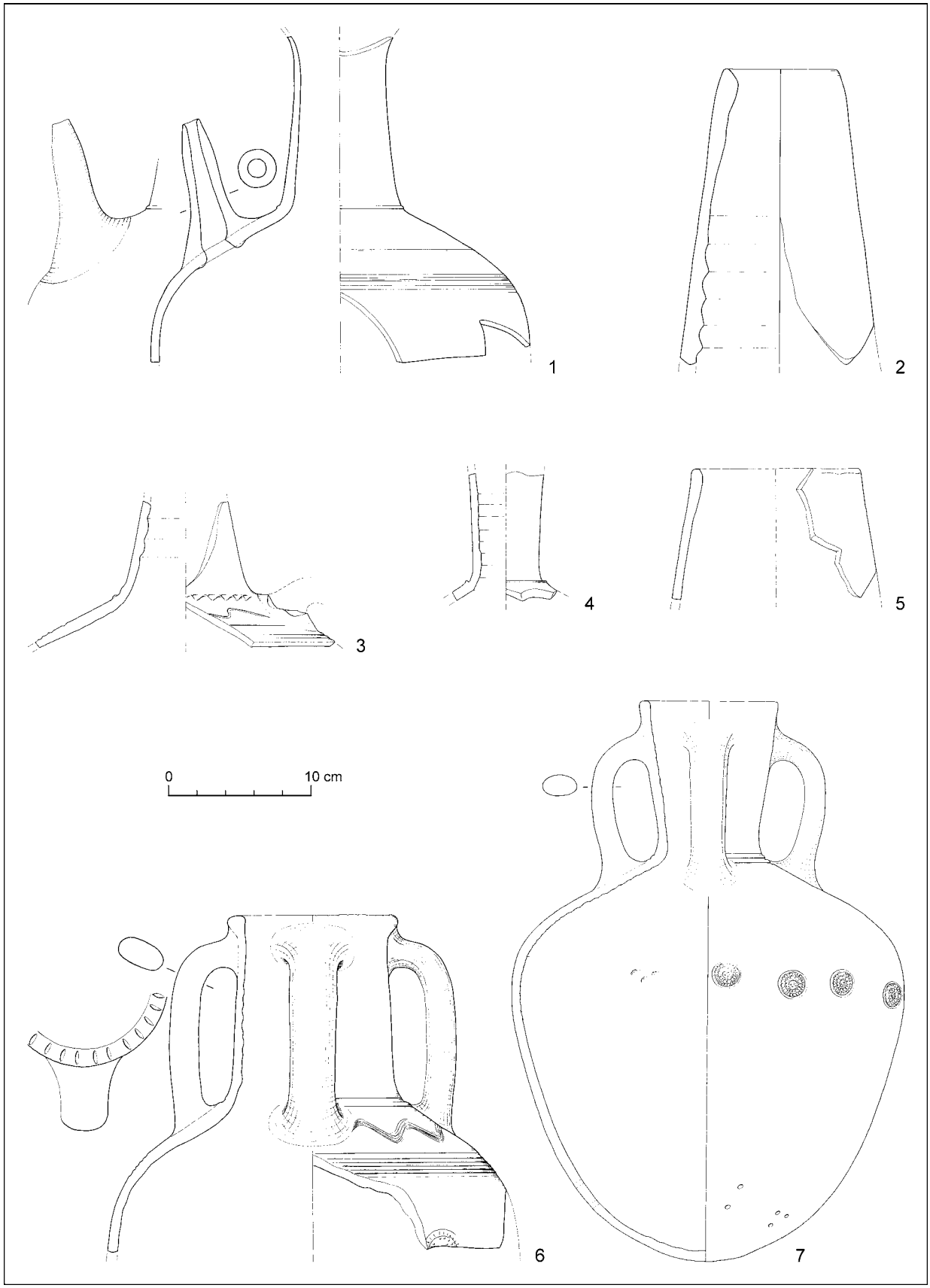
Fig. 19. Al-Qusur, selection of ceramics.

Barter was likely an important form of trade at the site, as confirmed by the numerous glass fragments and various forms of pottery. The unique collection of pottery will certainly help to solve some issues encountered when dating early Islamic pottery and will provide significant information about trading activities. The researched site is extremely rich in finds, unique in the entire Gulf area. Craft activities on the site are evidenced by traces of bronze casting and blacksmithing. The fine-glass vessels, storage jars and other ceramic pots found in the storage room provide valuable information. More than 2,000 pottery fragments from the courtyard await detailed analysis. To determine the precise chronology of settlement development—its heyday and decline—we must identify glass and pottery workshops and obtain relevant C^{14} data. Finds from Courtyard 26 (stucco with fragments of the so-called Nestorian cross) imply that the site belonged to members of the Church ot the East community. This finding corresponds with some older theories about the site (Carter 2008a; Simson 2018). In accordance with written sources, we found many items obtained by trade and exchange, mostly with Mesopotamia and Persia, although some were from more distant countries, such as India. There are many assemblages of glass vessels and various types of Sasanian and Indian pottery. However, the small number of coins is rather surprising; so far, only one coin has been found. In this regard, we must remember that the above-mentioned written reports on marine and trade activities of the Nestorian communities mention the importance of pearl hunting and trade. The residents likely used a nearby port located at the Al-Qurainiyah site, in the island's inland territory, where the Italian mission has recently confirmed the existence of a contemporary settlement horizon (See article A. Di Miceli in this publication).

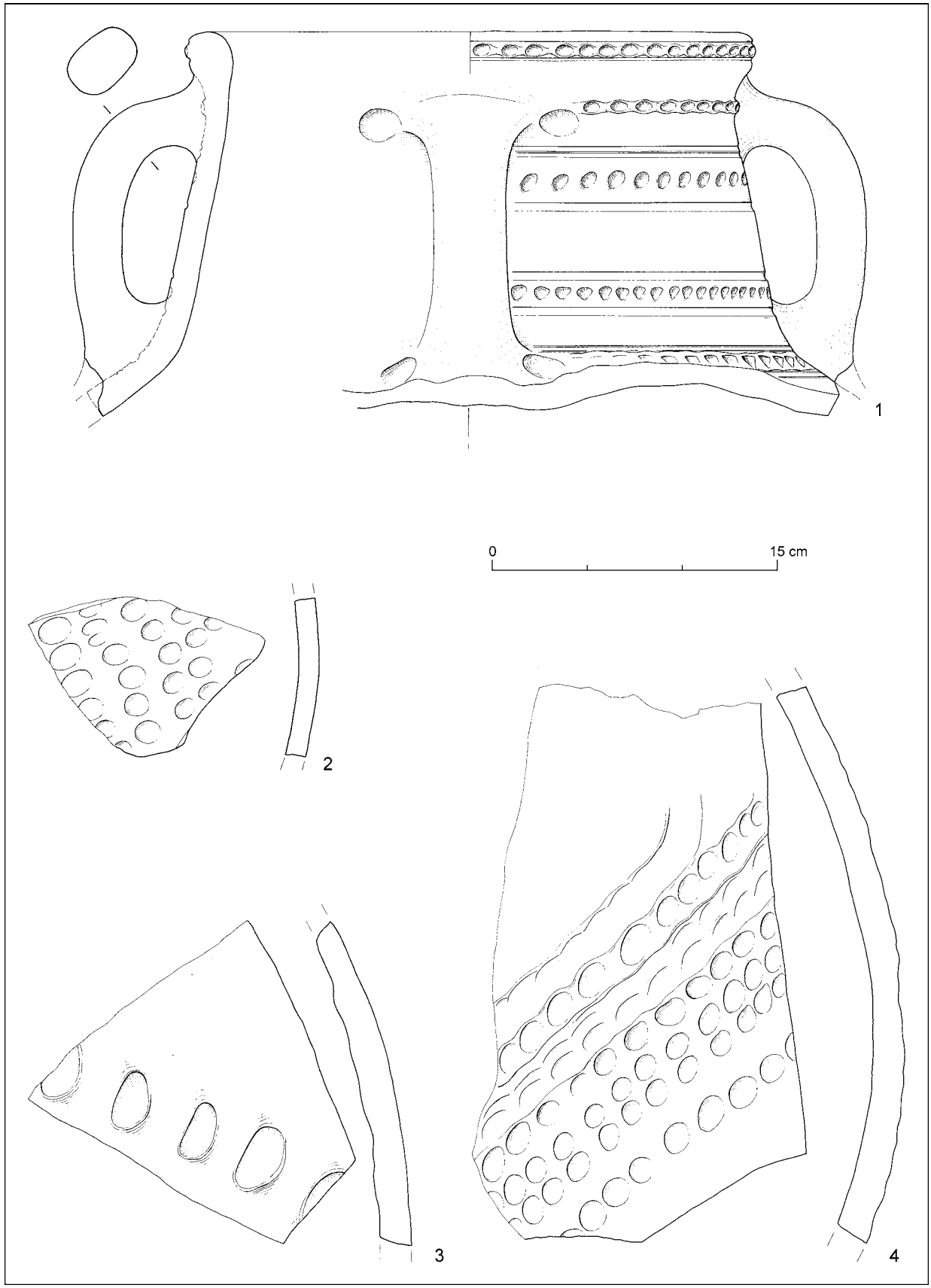
The abandonment of the settlement probably reflects changes in this part of the Gulf. About that time, other clearly Christian Nestorian communities disappeared from the region. It is unknown why the islands near the shore were abandoned—whether for climactic or political changes, but it is clear there were interruptions in the settlement at the Al-Qusur site, because a later wave of migration occurred to Al-Qurainiyah in the north of the island—the site with a harbour. In the following centuries, the original settlement was only occasionally used as a shelter. However, its original significance, recovered through the archaeological research, remains encrypted in its name—Al-Qusur means "the castles."



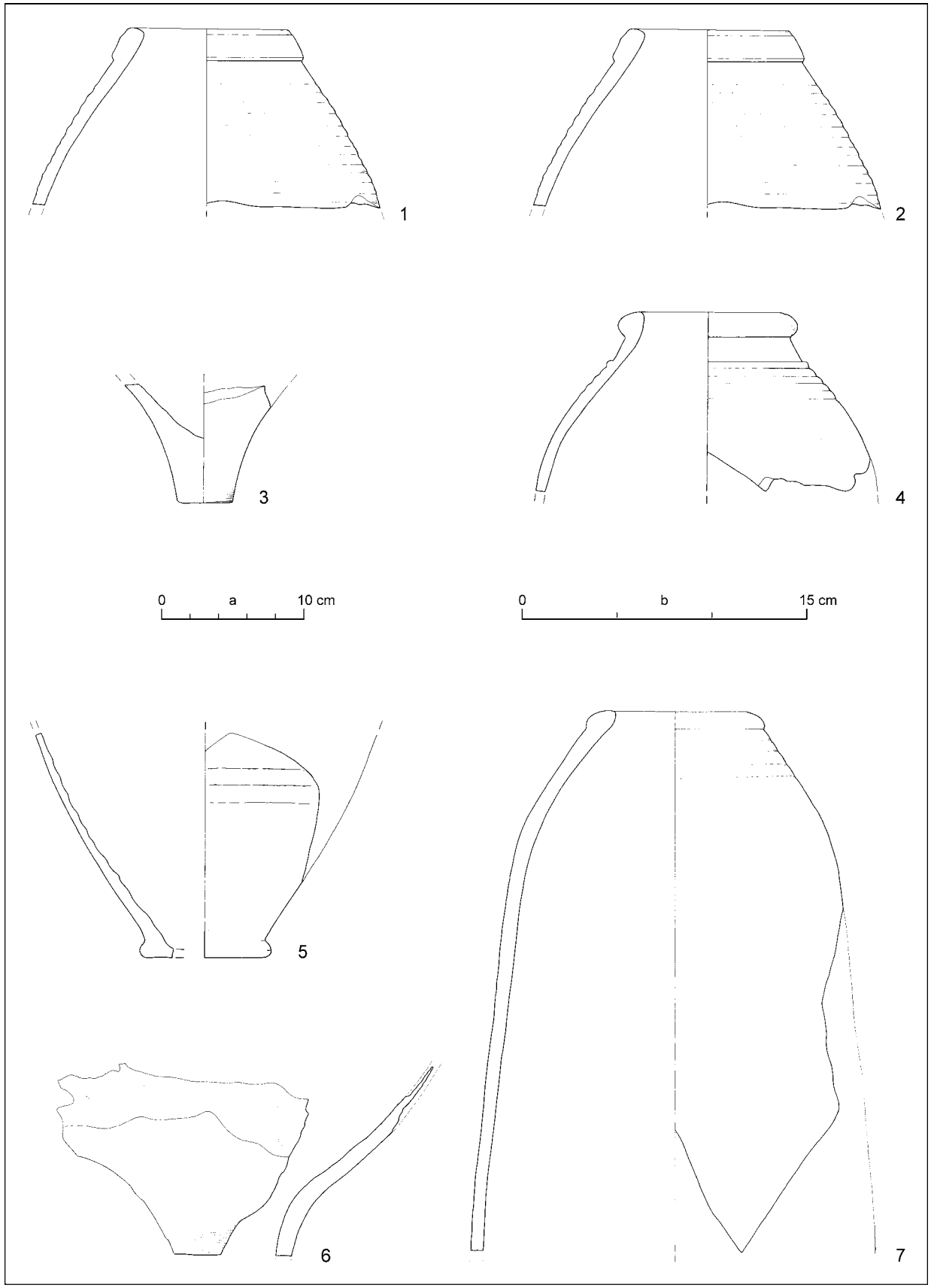
Pl. I. Al-Qusur. Selection of ceramics.



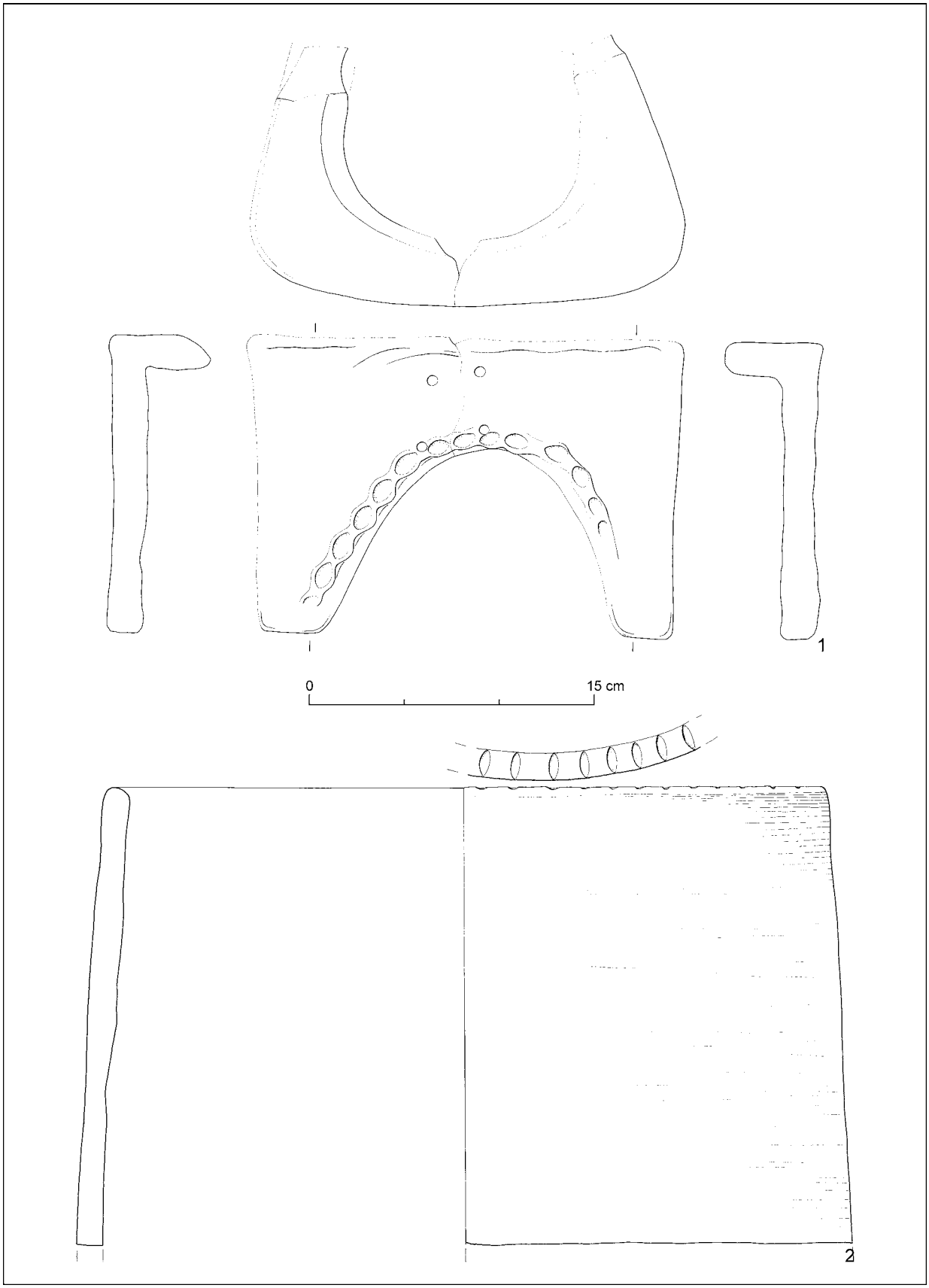
Pl. II. Al-Qusur. Selection of ceramics.



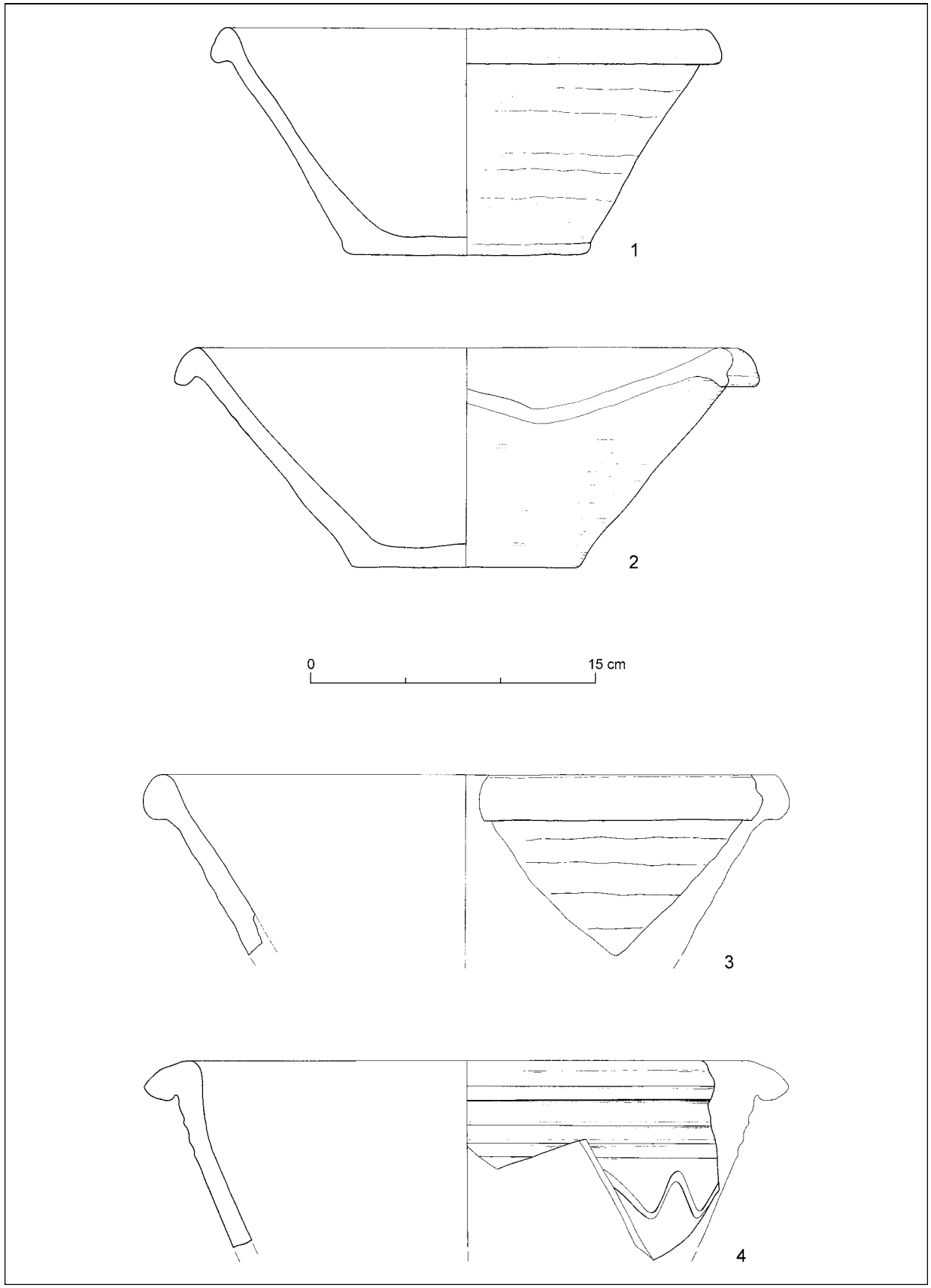
Pl. III. Al-Qusur. Selection of ceramics.



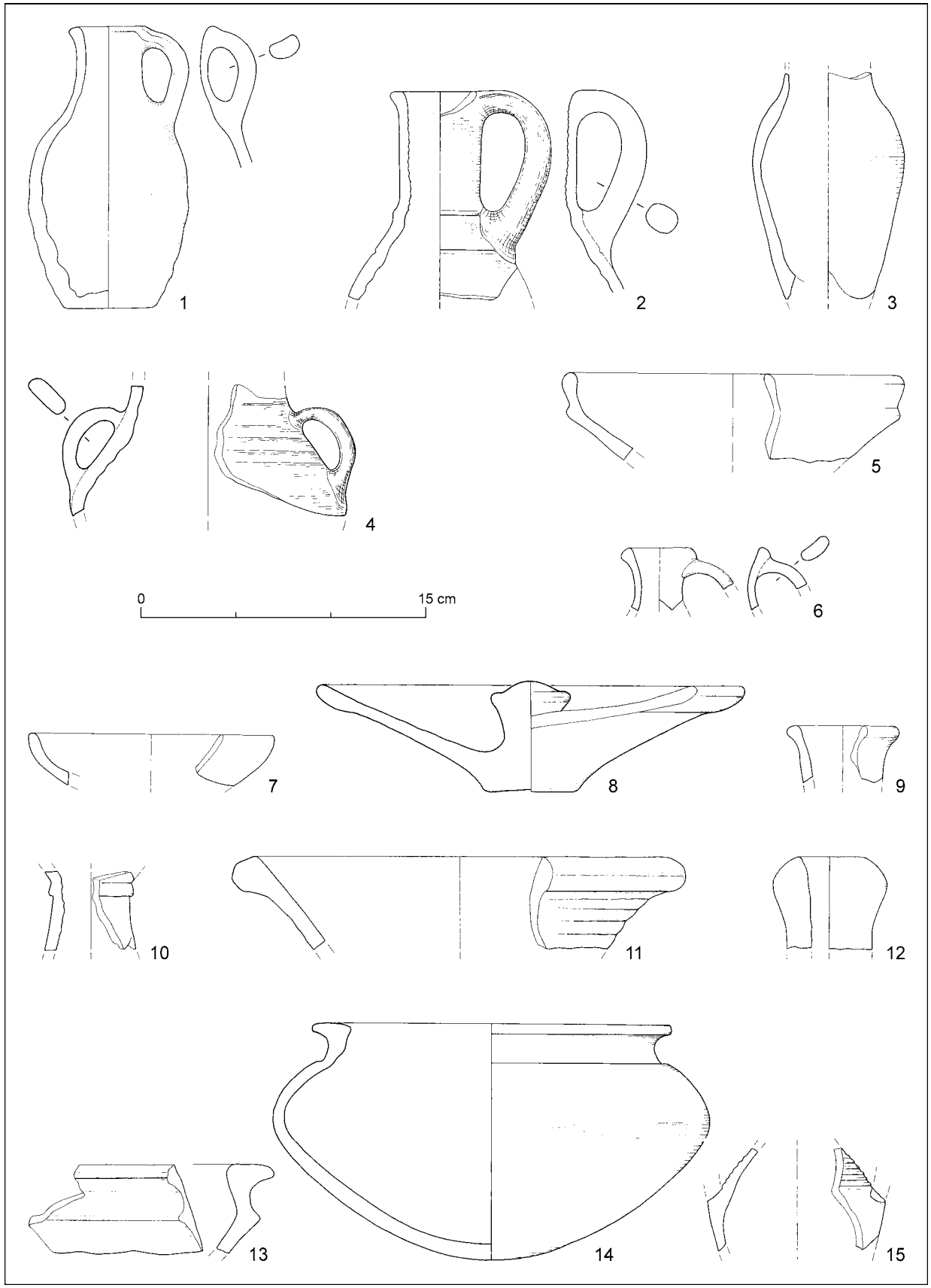
Pl. IV. Al-Qusur. Selection of ceramics. Scale: a – 1, 2, 6, 7; b – 3–5.



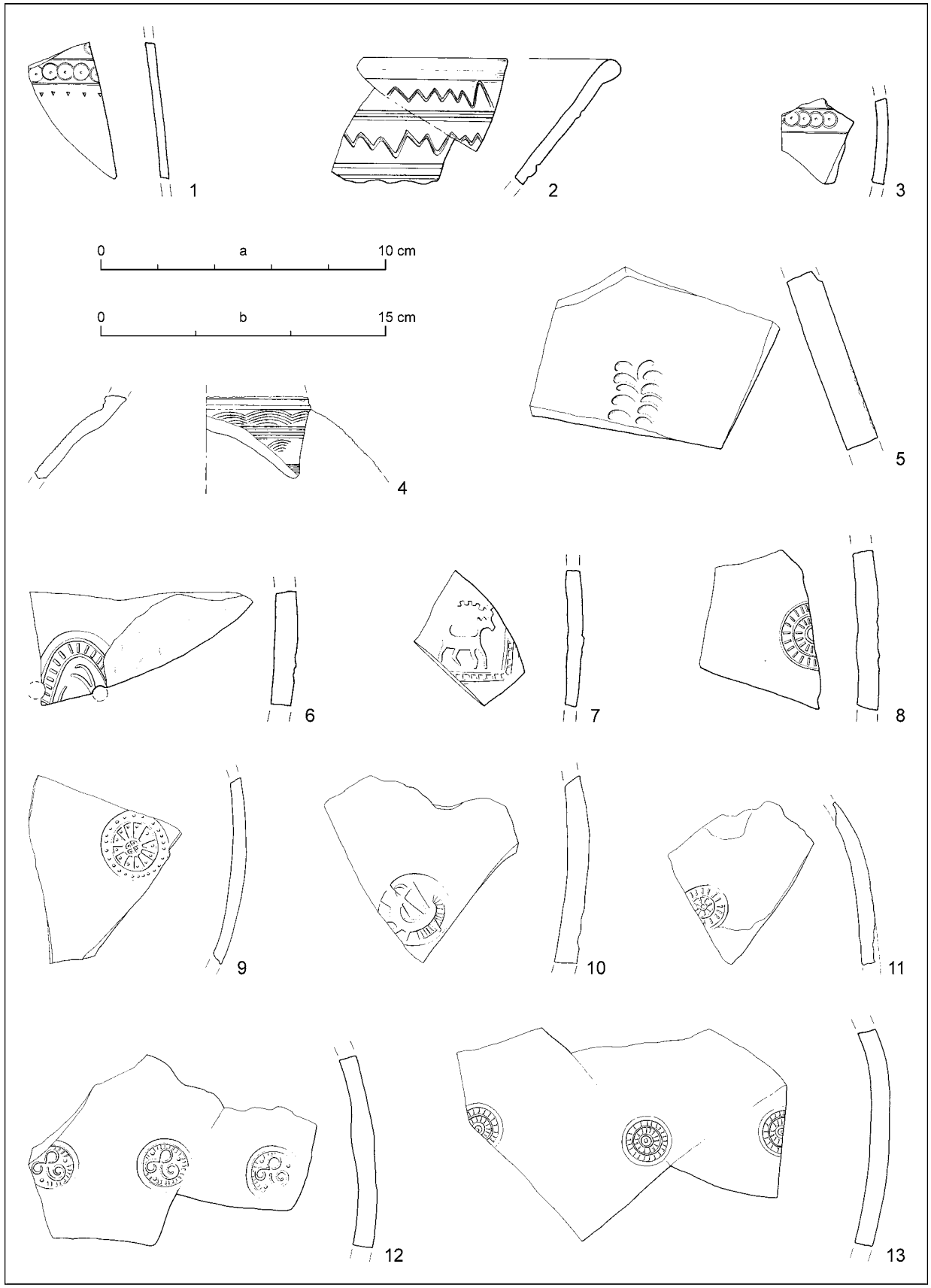
Pl. V. Al-Qusur. Selection of ceramics.



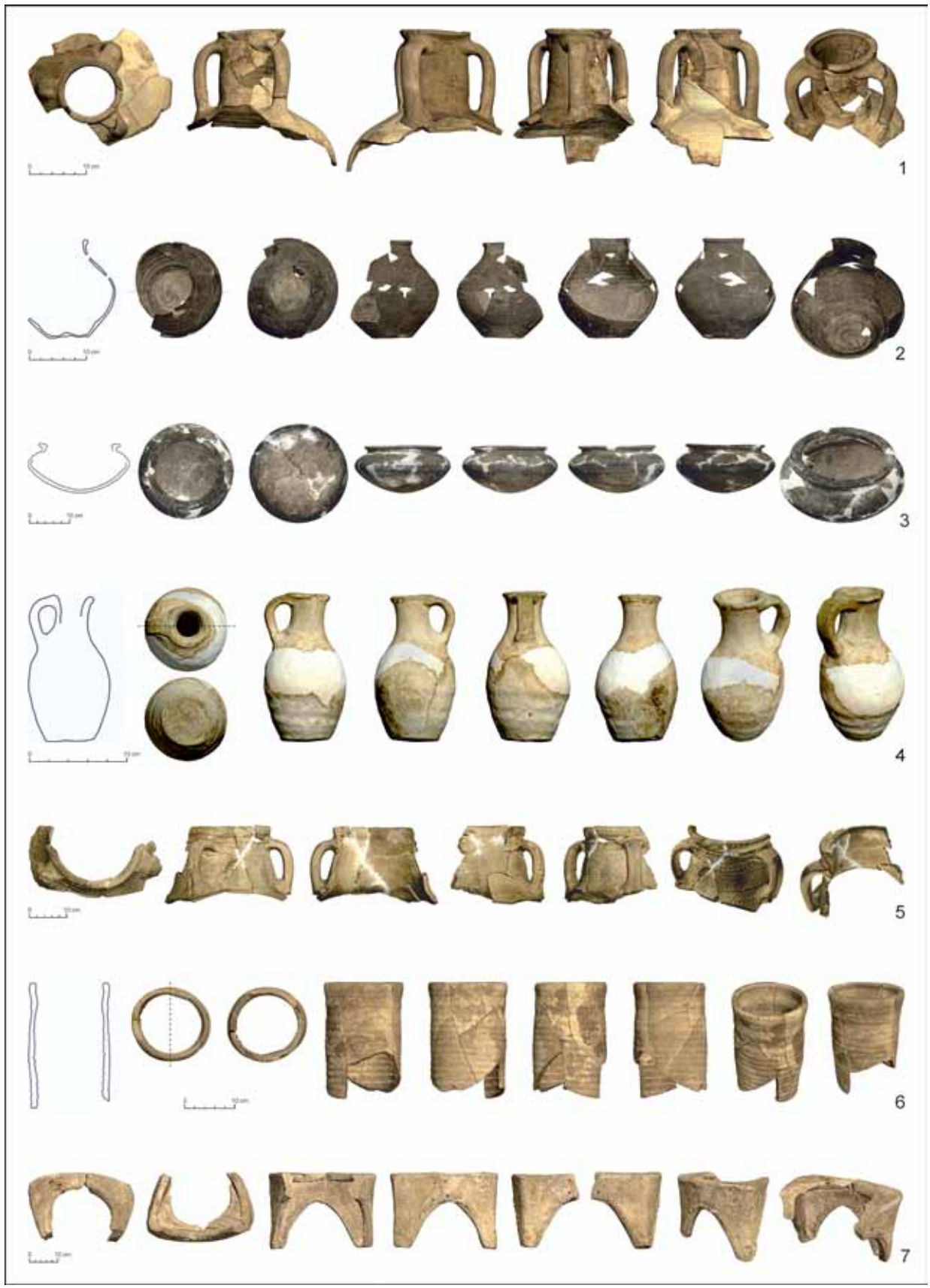
Pl. VI. Al-Qusur. Selection of ceramics.



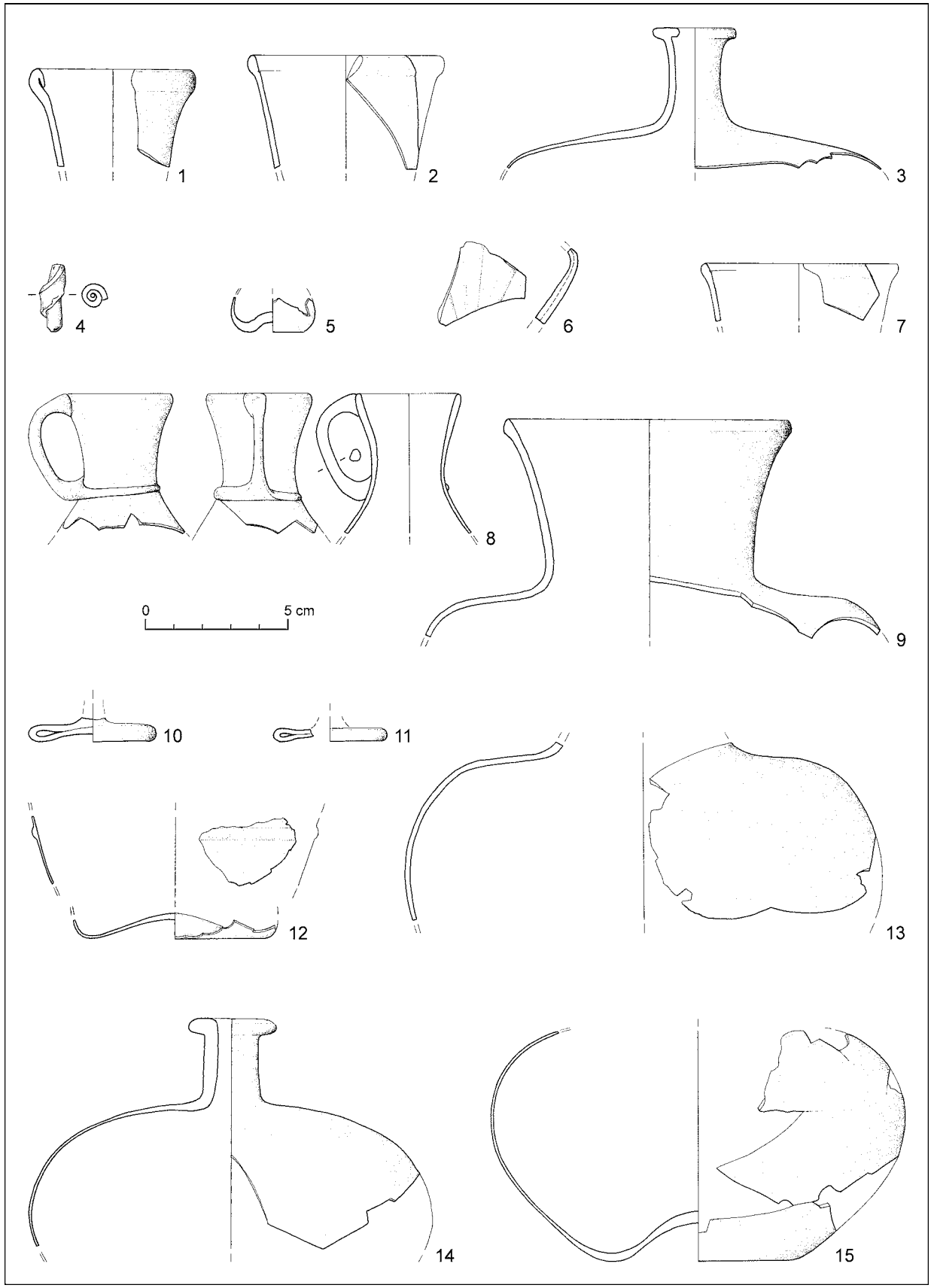
Pl. VII. Al-Qusur. Selection of ceramics.



Pl. VIII. Al-Qusur. Selection of ceramics. Scale: a – 1–3, 6–8; b – 4, 5, 9–13.



Pl. IX. Al-Qusur. Selection of ceramics.



Pl. X. Al-Qusur. Selection of glas vessels.

Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
Archaeology of Failaka and Kuwaiti coast – current research
Nitra 2019, 127–134

AL-QUSUR: LATEST RESULTS FROM THE FRENCH–KUWAITI ARCHAEOLOGICAL MISSION IN FAILAKA (2011–2015)

JULIE BONNÉRIC

In the middle of Failaka Island, the archaeological site Al-Qusur is of prime importance for studying monasticism in Early Islam. Al-Qusur provides convincing evidence for a Christian presence in the Gulf; as such, it is crucial to our understanding of the chronology of Christian settlements and the liturgy of the Eastern Church, as well as for characterising these communities' way of life. The site of Al-Qusur offers a wealth of information about the history of Christianity in the region, and about the beginnings of Islam in the Empire. Syriac texts mentioned monasteries and bishops in the area, testifying to the existence of Christian communities before the Muslim Conquests (Briquel-Chatonnet 2010; Beaucamp & Robin 1981; Fey 1969). The last text that refers to a Christian community in the Gulf alluded to a synod organised in AD 676 to resolve disagreements about religious authority in the Bēṯ Qaṭrayē province, where Al-Qusur was situated. Contrary to the literary evidence, archaeological sources concerning Christian settlements in this period are relatively poor (Langfeldt 1994). Archaeologists have yet to identify the remains of any religious buildings that would indicate a Christian community, although it is possible that worship was conducted in private houses. Textual mentions of a late Christian presence after Islamisation are quite rare and scattered. Researchers have first posited that Christianity disappeared from the Gulf after the 7th century, and this is probably why the Christian settlements unearthed in the region were initially dated to the 5th and 6th centuries. However, archaeologists have now dated these sites to later periods—from the 7th to the 9th century. This was confirmed in Al-Qusur by the study of ceramic material. The excavation of Al-Qusur is essential to an understanding of Christianity in the region. The settlement was organised around two churches (A1 and A2) aligned on an east-west axis (Fig. 1). Discovered by a previous French Mission excavation, these two churches differed in size, layout, and construction (Bernard & Salles 1991; Bernard *et al.* 1991; Salles 2011; Salles & Callot 2013). The western church (A1), which was the larger (c. 35 x 19 m), was composed of plastered mudbrick walls and ornamented with stucco. It comprised a western narthex, a large central nave flanked by two aisles, and an elevated quadrangular apse framed by two chapels equipped with niches. The eastern church (A2) was smaller (c. 22 x 7 m). Raised on a stone platform, it was characterised by a unique nave and a square sanctuary. The soil, stairs, and walls were covered with plaster. A cross was stamped in a plastered bench in the apse. More than 180 constructions surround the churches; most of these have been drawn by J. Humbert in his mapping of the site (Humbert; forthcoming). They were built with mudbrick on a rough-stone base. Most were enclosed and had the same layout: a domestic structure with several rooms and a couple of annexes, such as a kitchen and a storage room, inside an enclosure. The domestic structures varied in size and were more or less evenly spaced from one another. There were a few buildings, with one or more rooms, that were not enclosed.

Al-Qusur was excavated over many field seasons by various teams in collaboration with Kuwaiti archaeologists. An expedition led by an Italian team—the Archaeological Mission in the Arabic Gulf—undertook the first excavations in 1975 and 1976 in the central part of the settlement (Patitucci & Uggeri 1984). The French Mission in Kuwait then worked in the middle of the settlement in 1988 and 1989, and from 2007 to 2009 (Bernard & Salles 1991; Bernard *et al.* 1991; Galliano 2005; Kennet 1991; Salles 2011; Salles & Callot 2013); the Kuwaiti–Slovak Archaeological Mission concentrated on the area to the north-west and south-west of the centre from 2006 to 2009, and in 2016 (Benediková 2010; see article by K. Pieta, M. Ruttkay and M. Bielich; by M. Ruttkay, K. Pieta and Z. Robak); the Kuwaiti–Polish Archaeological Mission excavated in 2011 and 2013 in the northern extremity (Żurek 2016); finally, a new French team, the French–Kuwaiti Archaeological Mission in Failaka, has focused on the central part again since 2011 (Bonnéric 2014, 2016a, 2016b).

Fig. 1. Map of Al-Qusur central part.

When the French–Kuwaiti Archaeological Mission in Failaka (MAFKF) was set up in 2011, many important questions regarding the nature and dating of the settlement were still pending investigation. Supervised by the National Council for Culture, Arts, and Letters (NCCAL; Department of Antiquities and Museums), as well as by the French Institute for the Near East (IFPO), the French–Kuwaiti Archaeological Mission in Failaka is interested in two sites: the Hellenistic Fortress of Tell Sa'id (excavated by M. Gelin) and the Christian settlement of Al-Qusur (excavated by J. Bonnéric). The Kuwaiti part of the Mission was led by Sh. Shehab from 2011 to 2013, and the follow-up research was conducted by S. Al Duwish. The French part of the Mission was conducted by M. Gelin from 2011 to 2014; subsequently, J. Bonnéric led the Mission. The Mission benefits from financial support from the Total Foundation and Total Kuwait, as well as from the assistance of the French Embassy and the French Institute in Kuwait. The MAFKF has cooperated with the French Centre for Archaeology and Social Sciences in the Arabian Peninsula (CEFAS) since 2015. To better understand the nature and chronology of the Al-Qusur settlement, several studies have been conducted, starting in 2011 with a ceramic material analysis of the pottery excavated by the past French Mission and an extensive mapping of all structural remains visible on the surface. An excavation of two areas to the north and west, respectively, of the monumental church A1 began in 2012. In 2015, the study of the various materials discovered by both the French Mission in Failaka and MAFKF, which included in particular pottery, glass, and stuccoes, was initiated. Preliminary evidence suggests that the centre of the site is a monastery, and that it was occupied during the Umayyad and the beginning of the Abbasid Caliphates. The chronology of the monastery's foundation, which may have been Sasanian, remains hypothetical.

The nature of the site

Although larger, the west church of Al-Qusur is similar to other churches unearthed in the Gulf (Sir Bani Yas, Kharg, and Akkaz) and in southern Iraq ('Ayn Sha'ya); a narthex preceded three naves separated by wall-pillars and a raised quadrangular sanctuary flanked by two quadrangular annexes (Okada 1992). These churches were often identified as the centre of monastic facilities. On the island of Kharg, a large wall clearly encloses the church, monks' cells, refectory, etc. (Steve 2003). However, it remained to be determined whether Al-Qusur, Sir Bani Yas (Abu Dhabi), and 'Ayn Sha'ya (southern Iraq) have similar enclosures. Thus, the main aim of the mapping and excavations was to understand whether Al-Qusur was a village and/or a monastery.

The French–Kuwaiti Archaeological Mission in Failaka undertook excavation in 2012 to determine whether a wall enclosed the monastery around the churches. In previous excavations by the French Mission, a long wall had been discovered beside the apse of the eastern church (A2). This may have been a part of an enclosure. Moreover, the mapping of the structural surface remains, conducted in 2011, demonstrated that the buildings were aligned to the north and west of the churches, separated from them by an empty space. To uncover further evidence that this was indeed a monastery wall, two excavation areas were opened near the large empty space that would indicate the limits of the monastery enclosure—one to the north of the churches (A5) and another to the west (A4) (Fig. 1). Unfortunately, we did not find any enclosure wall, but the excavations revealed other crucial information, which is summarised below.

The refectory B23

Archaeological excavations conducted by J. Bonnéric in southern part of area A4 from 2013 to 2016 unearthed a large building southwest of the monumental church A1 that was most probably a refectory (Fig. 2). As in Kharg, the building had a portico-like structure and a single oblong room in the centre, with wall-mounted seating benches for the monks (c. 26 x 15 m). The walls were built with mudbricks on a high stone base. The floors and at least the lower part of the walls were coated with plaster. In the central room, plastered mudbrick benches aligned the inner face of the wall. The dining room was accessible through eight doors that were symmetrically placed along the walls—one larger door in each of the smaller walls (positioned at the northern and southern ends of the room) and three smaller doors in each of the long walls (positioned at the eastern and western sides of the room). In each excavated doorway, two sockets remained in the sill plate, and a large number of nails were discovered nearby, indicating the presence of panels, probably made of wood, that were used to close the doors. In contrast, the portico was open to the outside through larger doorways that had no closing panels. In the middle of

Fig. 2. The refectory (B23) discovered south-west to the monumental church (A1) at the end of 2015 campaign, view from the east (H. Al Mutairi © DAM/NCCAL).

Fig. 3. The foodcraft building (B20) at the end of 2015 fieldwork season, view from the east (H. Al Mutairi © DAM/NCCAL).

the small walls, the two large doorways, separated by a small pillar, would likely have created a double arch. The church A1 and the refectory share notable similarities in terms of design: in both cases, the walls consisted of large pillars separated by long openings, the central parts of both buildings were closed while the peripheral sections were open, as if they were distinct structures. The south part of the A4 area was reoccupied later after Al-Qusur was abandoned; a sheepfold (building B10), which was probably contemporaneous with the modern occupation of Al-Qurainiyah, was built on the collapsed refectory by reusing some parts of its remaining walls.

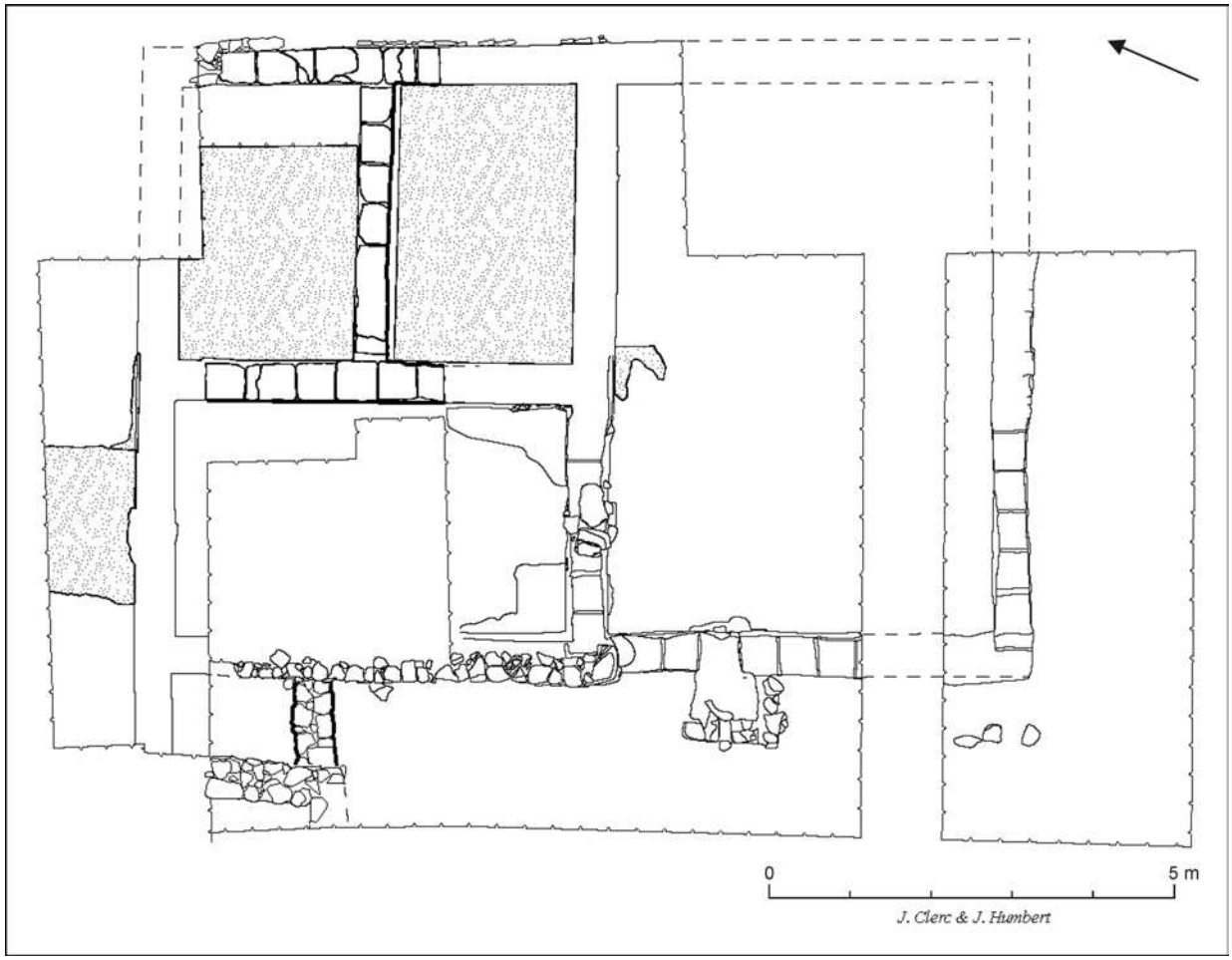


Fig. 4. Simplified plan of the mudbrick building (B16).

The food crafting area of building B20

In 2015, under the supervision of J. Clerc, S. El Dirani, and G. Herviaux, excavations continued in the northern part of area A4. The 2012 excavation of this sector had revealed a large building, numbered B20 (Bonnéric; forthcoming 2). The 2015 excavation demonstrated that this was a complex building, measuring around 27.50 x 21 m, that had undergone many phases and reorganisations (Fig. 3). The building contained facilities related to food preparation. For instance, to the north, a rectangular structure with parallel plastered channels and a tank was found. This was identified as a madbassa, which was used to prepare date syrup or molasses. To the west, three aligned pottery basins were discovered in a plastered stone structure and associated with cooking vessels. To the east, there were three rooms with storage jars set into the floor, as well as a plastered mudbrick structure in the shape of a quarter circle that remains to be identified but that could have been linked to fish preparation. The presence of a food preparation area to the north of the refectory is not surprising.

The mudbrick building B16

Area A5 was excavated between 2012 and 2014 under the supervision first of M. Rivoal and later of G. Herviaux. Excavations revealed several enclosed buildings aligned side by side, with no evidence of an enclosure wall. Under this layer, an unusual building (B16, c. 11 x 9 m) for Al-Qusur was discovered. It was built entirely with mudbricks, and the floors were plastered (Fig. 4). Building B16 comprises three covered rooms to the north and an uncovered room to the south. Unlike most of the buildings of the settlement, it is not enclosed or built on a stone base. It could be a monk's cell. An excavation trench from the monumental church to the north (A1) revealed nothing but empty space between the church and

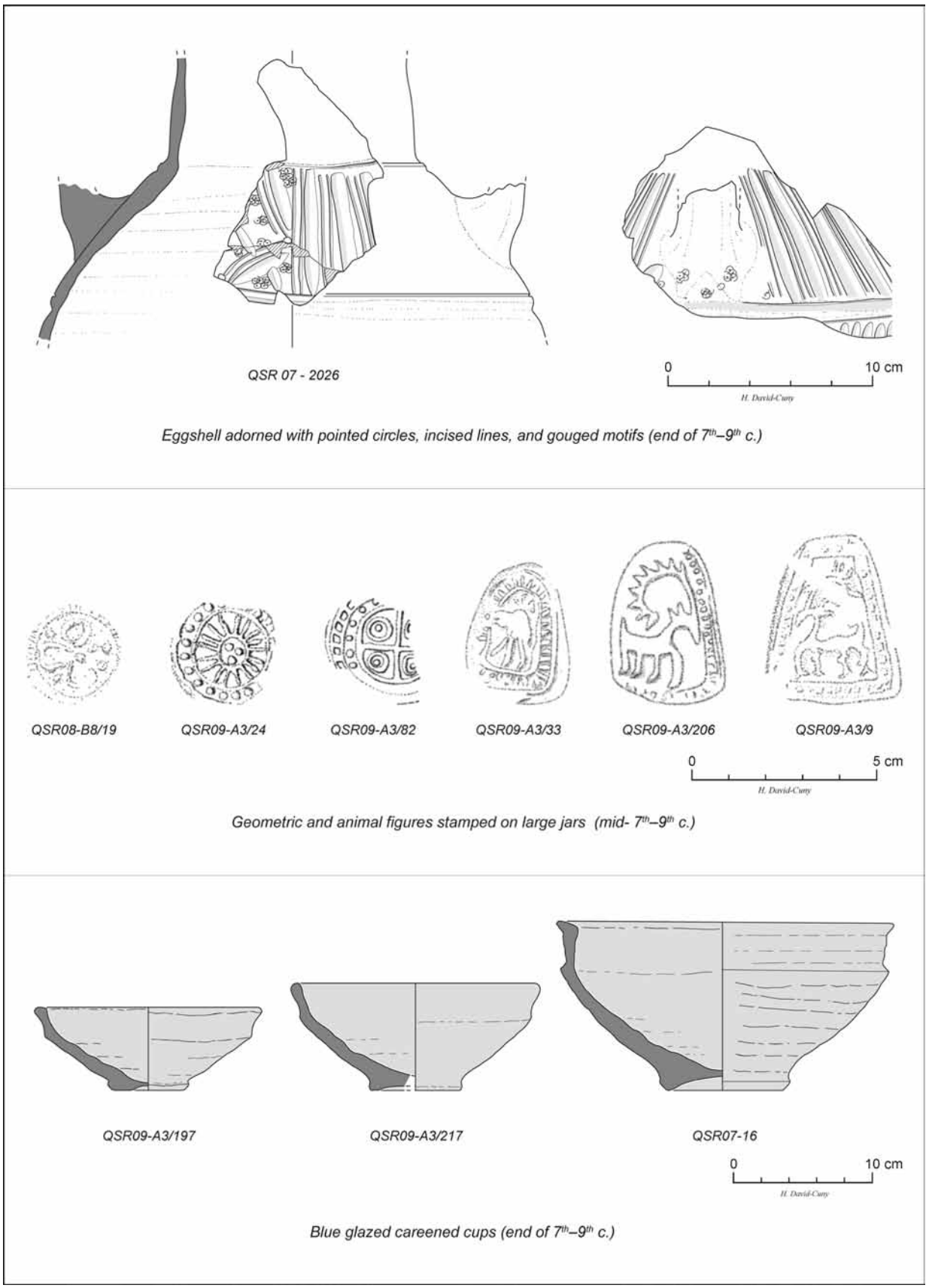


Fig. 5. Early Islamic pottery discovered in Al-Qusur.

building B16—confirming there was no enclosure wall. However, this space was smaller than what was visible from the surface; building B16 was only visible after excavation. The excavation trench revealed that the mudbrick building B16 was probably contemporaneous to the church.

The dating of the site

The Italian expedition of 1975–1976, under the direction of the University of Venice, proposed the following chronology for Al-Qusur: occupation began around the middle of the 7th century and continued well into the 9th and 10th centuries (Patitucci & Uggeri 1984). On the contrary, the French Mission in Kuwait suggested that the site was actually founded in the 5th century, with the churches being abandoned before later reoccupation in the 9th and 10th centuries (Bernard *et al.* 1991; Salles 2011). Based on this discrepancy, and following a specific request from the Department of Antiquities and Museums, a study was conducted in 2011 on the pottery discovered by the 2007–2009 French Mission, and on relevant information about the ceramics from the 1988–1989 mission archives. Comparison with other sites in the Gulf, Iran, and Iraq, provided valuable dating information. Diagnostic sherds indicated occupation during the 7th and 9th centuries. Some of these sherds included fragments of an eggshell pitcher with gouged lines from the 8th or 9th century, pointed circles, incised lines, and gouged motifs (Fig. 5) from the end of 7th to the 9th centuries, stamped decorations with animals or geometric figures (Fig. 5) from the mid-7th to 9th centuries, undulated incisions under blue glaze from the 9th century, and careened cups with blue glaze (Fig. 5) from the end of the 7th to the 9th centuries (Bonnéric; forthcoming 1).

The excavations conducted by MAFKF demonstrated that the site had undergone more than one phase of occupation, with buildings erected atop earlier ones and reorganisation occurring within established structures. In this regard, the phasing of the excavated areas is still in progress. Analysis of the mudbrick building B16 in area A5 indicated that it was probably built in the same period as the monumental church and before the enclosed buildings. That is, it could have been constructed during the late Sasanian period, as suggested by some Sasanian sherds, although this needs to be confirmed. More specifically, the sherds are stamped with large motifs that differ from those of the Early Islamic period. The Sasanian style is evident in the iconography, with one animal (a bird or quadruped) framed in a circle. If erected during the same period as the mudbrick building B16, the monumental church was also used alongside the later enclosed buildings (contrary to the hypothesis of the past French Mission, which suggested that the courtyard buildings were later than the Christian occupation of the monumental church). Indeed, the ceramics discovered in the churches are similar to those discovered in the enclosed buildings and date to the 8th and 9th centuries. The excavation confirmed that the enclosed building near the mudbrick building B16 was not built after abandonment of the mudbrick building. That is, B16 was still occupied when the enclosed building was constructed. Finally, there appears to have been no time gap between the early constructions (church A1 and mudbrick building B16), which are probably late Sasanian, and the Early Islamic phase of the enclosed buildings, probably because the latter represent an enlargement of the settlement.

Conclusion

The research conducted by the French–Kuwaiti Archaeological Mission in Failaka since 2011 contributed greatly to the understanding of the settlement. The central part of Al-Qusur appears to be a monastery composed of at least two churches and one refectory, presumably founded in the late Sasanian times. However, it was still occupied after the Islamisation of the region and until the 9th century. A number of questions still remain and require further archaeological excavations to be answered. For example, the relationship between the centre and the periphery of the site must be better understood. This will involve joint research from the various missions working within Al-Qusur. For instance, it is unclear whether the whole settlement is a monastery or if the monastery was situated in the middle of a village. Were the enclosed buildings dispersed monk's cells or simply houses surrounding a monastery? The enclosed buildings present the same plan and organisation across the whole site. This homogeneity and the absence, for now, of any monastery enclosure walls suggest that Al-Qusur was a dispersed monastery. However, mapping by J. Humbert (forthcoming) demonstrated that the buildings outside the

centre are clearly larger than those in the centre. Additionally, the Kuwaiti–Slovak Archaeological Mission discovered fine glass, exceptional pottery, and painted stuccoes (Benediková 2010: 31) in a building situated north of the middle of the settlement (building 26). This seems to indicate that the material is finer in quality in the large courtyard buildings of the periphery than in the smaller courtyard buildings of the middle section. Thus, the outlying large houses may have been occupied by individuals cohabiting with a monastic population. In any case, it is important that the nature of the site has been determined because it may help us to better understand the presence of two churches in Al-Qusur. If it was a monastery surrounded by a village, one church (A2) may have been reserved for the monks while the other (A1) was shared between the monks and outsiders. However, if the settlement was just a monastery, it may be that the monumental church (A1) was dedicated to pilgrimages or feasts, while the smaller church (A2) was devoted to worship and services. If so, this may explain the discovery of a grave—most likely a saint—in one wall of the southern aisle, and of what was interpreted as a reliquary by the previous French mission.

I would like to thank the National Council for Culture, Arts, and Letters and the Institute of Archaeology of the Slovak Academy of Sciences for inviting me to present a paper on the work of the French–Kuwaiti Archaeological Mission in Failaka. Many thanks also to the French Centre for Archaeology and Social Sciences (CEFAS) in the Arabian Peninsula for covering my travel expenses.

Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
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THE OCCUPATION AND SPACE ORGANIZATION AT THE AL-QURAINIYAH SITE FROM THE EARLY TO LATE ISLAMIC PERIOD: AN OVERVIEW

ANDREA DI MICELI

The site of Al-Qurainiyah (Fig. 1) is a deserted village located along the north shore of the western-central part of Failaka island. The site was first surveyed by an Italian mission in 1976 (Patitucci & Uggeri 1984: 95–148) and later by a Slovak team in 2006 and 2007 (Shehab *et al.* 2010: 47–54). In 2010, in accordance with an agreement between the Kuwait National Council for Culture, Arts and Letters and the University of Perugia, the Kuwaiti–Italian archaeological fieldwork mission at Al-Qurainiyah began. The first year of the mission focused on an intensive survey that covered the entire area of the site, which is now almost completely fenced and protected. During this year, a great number of finds were recovered, mostly pottery. The survey also identified and mapped some structures that were recognizable as buildings, as well as several heaps of stones, probably indicating the collapse of other structures. This preliminary activity also aimed to elucidate the real limits of the village and identify, where possible, traces of planned urbanization. The preliminary analysis showed that the highest concentration of houses was in the north-west area, starting from the flat zone on the east side and extending to the shoreline, while the density of the existing structures seemed to decrease towards the east, as did the quantity of pottery finds. The building structures stretched for almost 400 m from east to west (Fig. 1), and two large

Fig. 1. Al-Qurainiyah site, facing east.

Fig. 2. The furnaces and the ovens in the workshop area, facing south.

dumps were identified on the north-west and south-east limits, respectively; they consisted of burnt sand, charcoal, pottery fragments, bones, and shells. Among the 34 structures identified on the surface, some had a simple square or rectangular shape, with only one room, while others were larger and more complex. Based on this preliminary analysis, various areas of the site were selected for archaeological investigation following planimetric and stratigraphic criteria. This ensured that structures with different shapes and located in different areas of the village were analyzed, and that the plan and corresponding archaeological stratigraphy were reconstructed in the best way possible.

Trenches were opened in three different locations of the settlement, allowing an archaeological sequence to be rebuilt that seemed to indicate intensive occupation of these areas from the second half of 19th century through to the first decades of 20th century. In addition, the survey identified another site to the west of the fenced area that had not been previously discovered (Fig. 1). The materials collected during the survey and excavation of this site suggested that it was not directly connected with the main village, and that it represented the earliest known occupation of this area. Four structures were identified in this settlement: three of these were located on the east side of the area, while another one was located approximately 30 m to the west. Further excavation showed that a workshop stood among the buildings (Fig. 2). It was characterized by two structures of the same size that ran parallel and were built about 1 m from each other using the same technique. Structures consisted of two walls of irregular stones and sandy mortar covered by a uniform clay layer plastered on the internal, bottom part. Six other circular structures were found close to the constructions described above; they were cut into the natural sandy soil and plastered by a layer of clay that had burnt traces. Around them, considerable traces of burning, charcoals, and burnt clay fragments were found in the soil, which are all evidence of high-temperature fires. With regards to the chronology of this settlement, the pots found in an archaeological context—small turquoise-glazed bowls, Torpedo jars, and jars with circular and square stamps that were decorated with animals or geometric forms—seemed to indicate intensive occupation of the area between the 7th century and the beginning of the 9th century AD, as was the case in Al-Qusur village (Fig. 3; Kennet 1990; Bernard & Salles 1991). No pottery was found later than the beginning of the 9th century AD, indicating that the site was abandoned around that time. In summary, after 6 years of excavation, we can attempt a preliminary outline of the occupation of Al-Qurainiyah in the Early and Late Islamic periods. The data

Fig. 3. Pottery assemblage from the Early Islamic site.

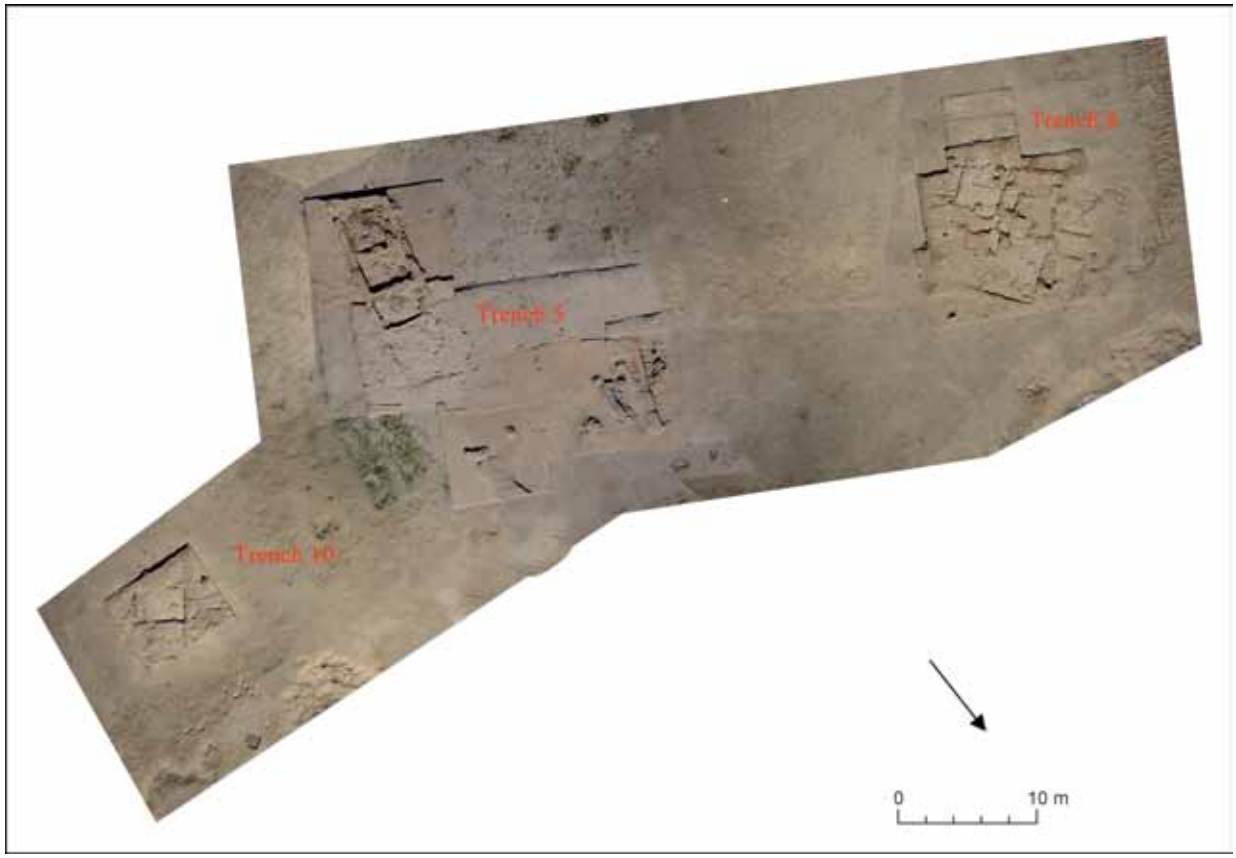

Fig. 4. Photogrammetry of the area of the Early Islamic site.

collected during this first step of the Kuwaiti–Italian mission have verified the presence of a stable and concrete occupation on this side of the island from the beginning of the 7th century. This first settlement, with an estimated area of about 10,000 m^2, was located close to the shoreline of a huge natural bay and was characterized, as stated above, by houses of different dimensions and shapes, as well as by a working area (Fig. 4). The excavation data and aerial photos indicated that the village extended eastwards towards the workshop. However, at the current stage of the research, the limit of the settlement on this side is unclear. In contrast, to the west, the deep natural channel that runs from the seashore to south may represent the end of the settlement on this side, or even the ancient coastline itself, although this is only a hypothesis at this stage. Regarding the houses, at least two construction typologies were identified: the most represented being the elongated house (Trenches 5 and 10), which is characterized by a rectangular shape and inner partition walls that divide the different rooms. These kinds of structures were concentrated on the east side of the settlement and seemed to have the same shape and orientation.

The second construction type, of which there was only one example (Trench 8), had a square shape and more complex internal partition (Fig. 5). In both cases, the structures' size was their most unexpected aspect. In the case of the rectangular houses, a medium length of between 15 and 20 m could be presumed, with a width of about 4–5 m. The square house occupied an area of about 120 m^2 and seemed to be an exception among the structures in terms of both position and planimetry. Even though the dimensions and shapes of the two house typologies were different, it seemed that they were built in the same way: all the walls were constructed from mud bricks atop a foundation of at least two courses of differently sized flat stones without any binding. The use of mud bricks instead of stones and wood provides advantages: they provide good insulation from the heat and offer added stability to the structure. In some cases, alignments of pebbles (Fig. 5a) were found around the bottom part of the walls; they may have been used as an external coating to protect the first courses of mud bricks from water and humidity. No deep foundations were found during the excavation; all of the walls investigated to date were set in a low trench cut inside a loose, sandy layer, or in a loose, unsteady, conchiferous sediment. At this

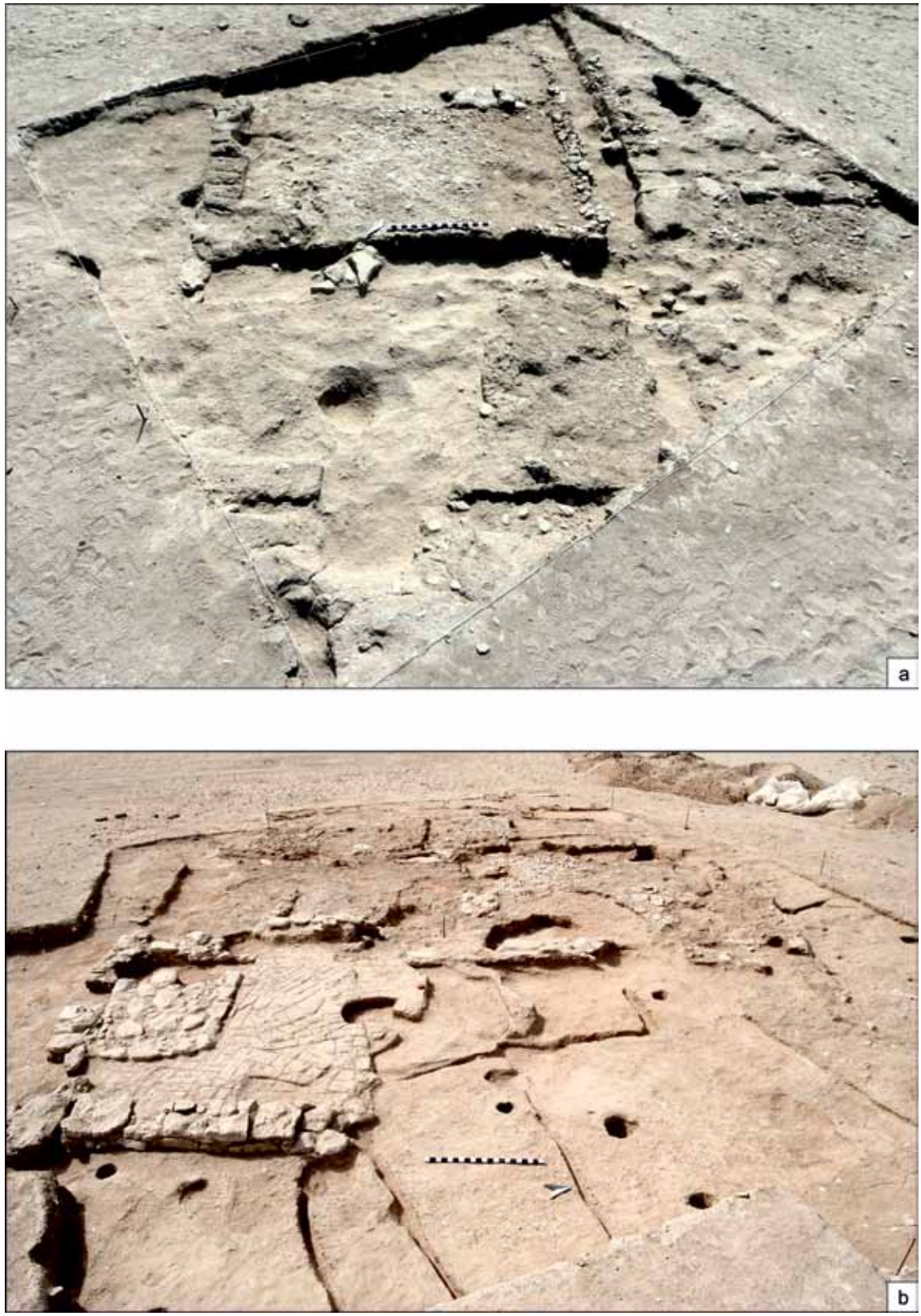

Fig. 5. House typologies from Trench 10 (1; facing south) and Trench 8 (2; facing west).

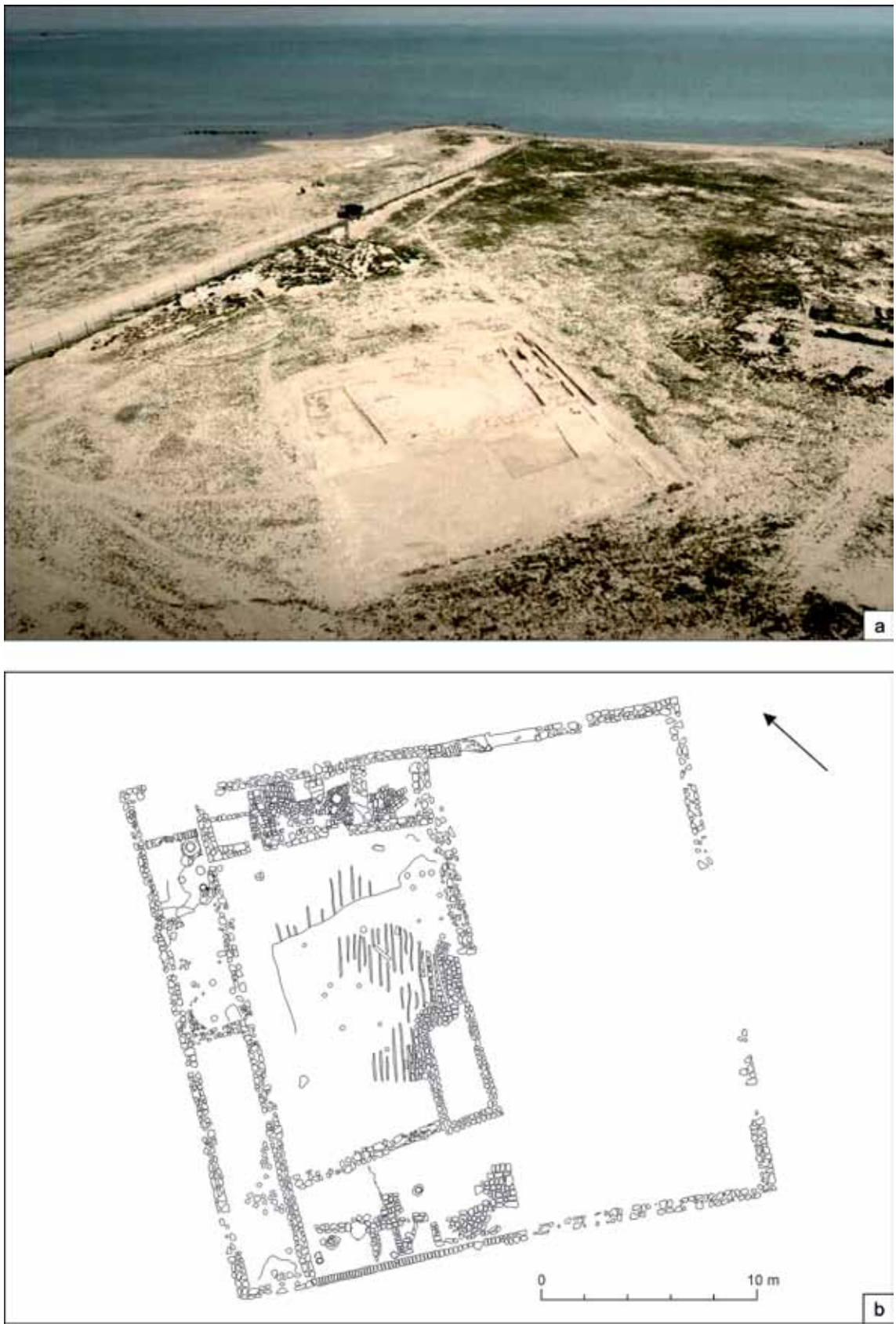

Fig. 6. The house excavated in Trench 1.

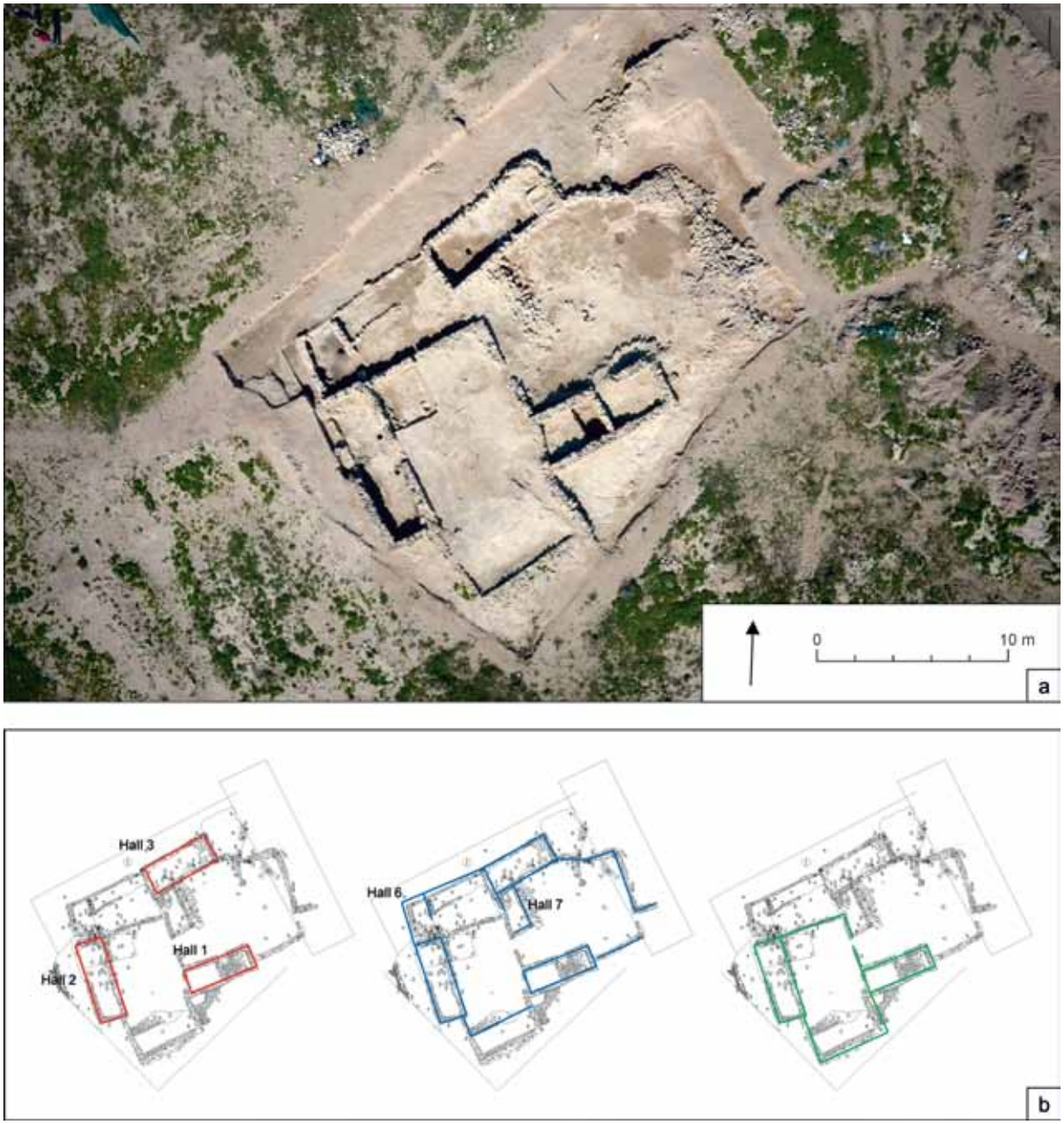

Fig. 7. The house excavated in Trench 3.

stage of research, nothing can be said about the roofing, because no evidence of this kind was found during the excavation. The roofs were probably flat and made of wood or other perishable materials that have left no visible traces. All the inner pavements were made with clay spread out regularly across the surface. In some cases, it was laid on a bed of small stones and pebbles, probably to better insulate the upper level. This difference between the floors prompted a hypothesis that the rooms were used for different purposes. Surfaces with pebbled preparations may have been used to contain and preserve perishables inside jars or other containers that needed to be insulated from water and humidity. Indeed, many fragments of large storage jars—torpedoes and other typologies—were recovered both inside and outside the structures, in some cases with traces of restorations. This may suggest that some of the buildings were storehouses. With regards to the phases of the settlement, at this stage of the excavation, only some preliminary conclusions can be drawn. The stratigraphic sequence of Trench 8 represented

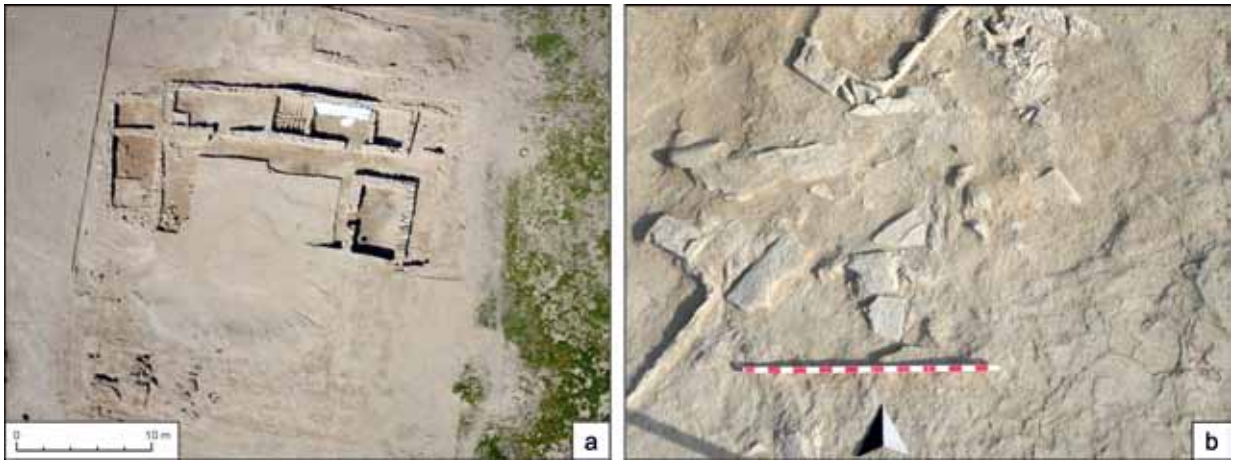

Fig. 8. Aerial photo of the house found in Trench 6 (a) and the door frame with plaster decorations and architectonical fragments (b).

the first phase of occupation of the area, which was characterized by the presence of several postholes and drain channels coming emanating from a light structure (Fig. 5b)—probably a hut or a tent. So far, no materials have been discovered at this level, but it clearly represents the earliest level of occupation, because it is placed immediately over the bedrock and is directly covered by the house. After the period of occupation, the whole settlement was intentionally abandoned, and the structures started to collapse. The material recovered from the abandonment levels, no later stable occupation was identified. The pottery from the surface, dating between the 19th and 20th centuries, indicated that the village has been visited from time to time by stone robbers collecting building materials. As stated above, after this long period of abandonment, the area was occupied again by the main village of Al-Qurainyiah, which is located east of the Early Islamic settlement. The archaeological investigation carried out in this area discovered significant remains of three entire houses and a part of another. In two cases, these buildings represent the earliest phase of occupation. Two of the buildings were traditional courtyard houses with a large open area surrounded by rectangular rooms, while the third was quite different in planimetry and more complex in terms of architectural development.

The first trench (Trench 1) was opened in the lower west part of the village to expose a structure that was well noticeable on the surface. The house (Fig. 6) had two open-air courtyards: one larger, that occupied a large area in front of the rooms, and a second smaller one, probably an inner courtyard, located between them. Both the fenced areas were opened along the south side in relation with two big entrances. The north-west part of the house was occupied by three rectangular rooms, placed along the three sides of the yard. The room on the north side revealed visible traces of modern actions that have damaged the archaeological levels and structures. However, in other parts, the archaeological sequence could be reconstructed back to the first phase of occupation. The main room of the house, which was located on the north-east side of the building, showed five levels of flooring. The topmost, which represented the last phase of occupation, was made with mud bricks and presented some indications that the inner space had been renovated. Specifically, the hall had been divided into three different rooms. On the south-west part of the house, three adjacent rooms contained ovens and storage areas, respectively, suggesting that they constituted the main kitchen and warehouse. No pottery was found in almost any of the inner archaeological levels. For this reason, one of the most important results was the precise date of one of the first floors of the house—based on some fragments of a European refined white ware porcelain bowl, the chronology could be secured to the first decades of 20th century (Power 2015: 14).

The second trench (Trench 3) was opened on top of the hill of Al-Qurainiyah site to investigate some large heaps of stones that indicated the collapse of a large structure. During the excavation, a large building complex comprising at least six halls was uncovered (Fig. 7a). The building seemed to have been purposely expanded over time. Indeed, through archaeological investigation, three phases of construction were verified (Fig. 7b). In the first construction phase, three different edifices were erected, all used for habitation, as evidenced by the ovens placed in the floor of the structures. The first of these (Hall 1) was a large rectangular room with an east-west orientation that was accessible through a gate that opened along the north side. This room was later divided into two chambers by a partition wall. The second

Fig. 9. One of the madbassa found inside the house.

house (Hall 2), had a north-south orientation and was located about 4 m west of Hall 1. This structure had a rectangular shape and was open along its east side. The last structure belonging to this phase of occupation was Hall 3. It was located about 10 m north of Hall 1 and had a rectangular shape. In this building, three ovens were discovered on the west side of the room; on the eastern side, two tanks were placed against the wall. The first, located on the south corner, was rectangular in shape, while the second one, on the north corner, was circular. Both the structures are built up with stones and mud bricks, and are plastered with white and silt mortar. The second construction phase was characterized by an extension of the living spaces. The three main Halls continued to be used but were no longer independent from each other. Instead, they were joined through the construction of a large fence and the addition of two more rooms. The first of these (Hall 6) was placed immediately north of Hall 2 and retained the same orientation, while the second (Hall 7) was placed perpendicularly to the south side of Hall 3. Of these, only Hall 6 has been fully investigated to date. It was opened along its east side and contained five ovens, suggesting that it was a kitchen. It was linked to Hall 3 by a thin wall that closed off the north side to the common courtyard. This second phase was characterized by greater expansion of the living spaces, whereby the oldest buildings were linked together and most daily activities were carried out in the open space of the courtyard. In contrast, the last construction phase seemed to invert this trend, because the living spaces were greatly reduced; the walls of Halls 6 and 7 had collapsed under the level of the third-phase floor, suggesting that they were no longer used. Halls 1 and 2, the only two structures still in use, were joined by a small rectangular fence, forming a courtyard onto which the two buildings opened. Both these houses seemed to be residential in nature, with the space used only for domestic activities. With regards to the house excavated in the third trench (Trench 6), investigation revealed a more complex architectonical sequence, as well as a clear partition between the residential and productive areas. The building was a courtyard-house facing to the south (Fig. 8a), structured around a large, square, open space that could be entered through a large gate that opened onto a road of beaten-earth. Only the superficial layer of the south-east part of the building was investigated because the structures could not be protected. It was a long room set on a north-south axis, with the south-east side characterized by a square-shaped hall. The structure was delimited by mud brick walls and had a doorframe

Fig. 10. Pottery assemblage from the Late Islamic village.

to the east that led into a room in which several collapsed piers and architectonical fragments were found. These last findings allowed the upper level of the walls inner façade to be reconstructed. The walls were decorated with one arch on each side placed between angular piers (Fig. 8b). Several scraps of molded plaster were found, indicating the presence of refined interior decoration. The west side of the house was completely excavated, with some soundings bringing to light the complete archaeological sequence. It consists of three long Halls located along the north-west, west, and south sides of the courtyard, respectively. The first Hall had sandstone walls and was divided into four rooms: two larger and two smaller. Two of the three partition walls were composed of mud bricks; the bigger rooms could be accessed through two entrances in the south wall.

The second Hall, which was divided from the first by a thin passage, was completely built with mud, with an access facing the courtyard. The structure was oriented almost perpendicularly to the first, and there was no structural connection between the two, suggesting that it was added at a later time. The last side of the house comprised another long room that was excavated at its north part only and can be interpreted as a kitchen. The excavation was continued inside the two Halls that occupied the north and the west sides of the courtyard house, respectively, revealing a complex sequence of archaeological levels that started from the mud collapse of the upper part of the walls that filled all structures and continued to the overlapping layers identified in the different rooms. These two buildings differed from the others found during the excavation because both contained areas dedicated to the processing and storage of dates. At least three madbasas – two in the west room and one in the

south room—were found inside both structures at the oldest level of occupation (Fig. 9). The date presses were made of sandstone and mud bricks that were bonded and plastered with lime mortar to form channels with round profiles. One of them, which was only partly preserved, appeared to have linear channels, while the other two had irregular ones. The madbasa in the west room of the south Hall had a preserved pit for the collecting jar. The reconstruction of the archaeological sequence revealed that, at a certain point, two of the three madbasas were abandoned and intentionally covered and that the rooms were converted into a domestic space or for another use. More precisely, in the south Hall, the floor level was raised by about 50 cm using fragments of mud bricks, while in the other, one channel of the madbassa had been completely removed. This phase represents the last level of occupation of the house. The context is closed by the collapse of all the mud structures. The two Halls were then paved with new lime floors, and a mud brick wall was built up on the north-west side of the west Hall to create a smaller room. In this same structure and in connection with this last level, a large amount of pearl oysters scattered on the floor and three entire green glazed jars were recovered. The chronology of the house is difficult to interpret or pinpoint a precise date of its historic sequence. Concerning the last phase of occupation, a single sherd of porcelain Kamcheng bowl dated in the late 19th century, was found in the leveling deposit inside the south Hall, allowing a *terminus ante quem* and *ad quem,* to be established for the level of the madbassa and the flooring of the last phase of occupation, respectively. Furthermore, the materials collected during the survey of this same area seemed to fix the chronology of the building to between the second half of 19th and the early 20th century.

In conclusion, after 6 years of excavation, some historical and archaeological aspects of the occupation of this part of the island can be outlined, as can the urbanism and architecture of the two villages. In addition, the data collected during the excavation of the houses have provided more information about the economic and social features of the settlement. Two distinct phases of occupation characterize the area of Al-Qurainiyah; the significant archaeological evidence for an Early Islamic occupation, represented by the structures identified along the shoreline, suggest the existence of a small settlement that was coeval with Al-Qusur, as indicated by the materials discovered therein. The position of the site, the presence of a workshop, and the large quantity of bitumen, which was used to waterproof boats, may suggest that there was a dock along this part of coast. According to the data, there was a long interval between the abandonment of this settlement and the first phase of occupation of the main village. Few data related to this interim period are available; however, at this stage of the excavation and according to the materials collected so far, there are no traces of a settlement before the 19th century (Fig. 10). Furthermore, buildings uncovered in the village indicate that it was developed between this time and the beginning of 20th century. During this period, the houses were refashioned in a short time.

The aerial photographs suggest that the house with the madbassa, and the structures around it, had the same orientation and were organized on a grid of streets and alleys. The House excavated in Trench 1, which was isolated from the center of the village, was an exception to this observation. Furthermore, the streets appear to have undergone some changes over time, such as the closing of alleys. All the remains suggest that the structures were typical courtyard houses, indicating the presence of a high-status residence. This highlights that the settlement enjoyed a prosperity based on a diversified economy, while the presence of fish bones, anchors, weights for fishing nets, and the lower quantity of sheep bones, indicates a subsistence economy tied to fishing and breeding. Moreover, the high number of millstone fragments recovered, and the presence of madbassa and pearl oysters, suggests the cultivation of cereals and a more specialized production that was probably connected with trade. Thus, we have begun to reveal many archaeological and historical aspects of the Al-Qurainiyah site, and to understand the importance of it for the history of Failaka and Kuwait. However, many questions have arisen during our fieldwork that have not yet been answered, as follows:

What is the real extent of the site?

How is this site related to Al-Qusur?

Can other phases of occupation between the two main settlements be presumed?

What is the chronology of the site?

We are sure that the forthcoming seasons of excavation will provide a new perspective and hopefully an answer to these fundamental questions.

Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
Archaeology of Failaka and Kuwaiti coast – current research
Nitra 2019, 147–157

THE EARLY ISLAMIC ARCHAEOLOGY OF KUWAIT BAY

DEREK KENNET

Introduction

Between December 2009 and March 2014, the Department of Archaeology of Durham University and the Kuwaiti National Council for Culture Arts and Letters (NCCAL) carried out five field missions to investigate the archaeology of the Kadhima area on the western short of Kuwait Bay (Al-Duwīsh 2005; Blair *et al*. 2012; Blair & Ulrich 2013; Kennet 2014; Kennet *et al*. 2011; Ulrich 2012). The present paper presents a preliminary overview of the results, which are currently being prepared for final publication.

The Kadhima Project

The Umayyad and early Abbasid archaeological remains along the western shore of Kuwait Bay, which were first reported by Sultan Al-Duwish in 2005, are thought to reflect early Islamic textual references to the toponym Kadhima (Kadhimah), the historiographic significance of which has been discussed elsewhere (Ulrich 2012). The Kadhima Project was intended to investigate these remains, with the aim of surveying, recording, and protecting the archaeological heritage of modern Kuwait, as well as advancing our understanding of the early Islamic period in this part of Arabia.

The circa 200-km^2 study zone is a coastal littoral that is never wider than a few kilometres. It is separated by a steep escarpment from the desert plateau of the interior (Jal Al-Zawr) and extends for over 50 km from the modern city of Al-Jahra in the south towards Al-Sabiyah in the north (Fig. 1). The archaeological remains in this area consist of highly-deflated scatters of pottery, glass, and other artefacts that are, in many cases, found close to the remains of stone walling that is visible on the present surface. Aside from deflation, these remains appear to have suffered relatively little disturbance, despite being exposed. The result is a fossilized early Islamic landscape and an opportunity to gain useful insights into the social and economic developments which accompanied the initial spread of Islam into this part of the Arabian Peninsula.

Fig. 1. Location map of the Kadhima Project survey.

Pre-Islamic and Early Islamic Evidence

The aim of this paper is to outline the development of occupation in the study area based on the results obtained. So far, the most significant archaeological sites located within the survey area can be divided into three types: 1. Small, very dense scatters of torpedo jar sherds, of which there are many; 2. Scattered stone hamlets or villages of varying sizes consisting of artefact scatters surrounding stone structures—four or five such settlements are presently known; 3. A small, rectangular, multi-roomed, mud-brick house, of which only one example has so-far come to light.

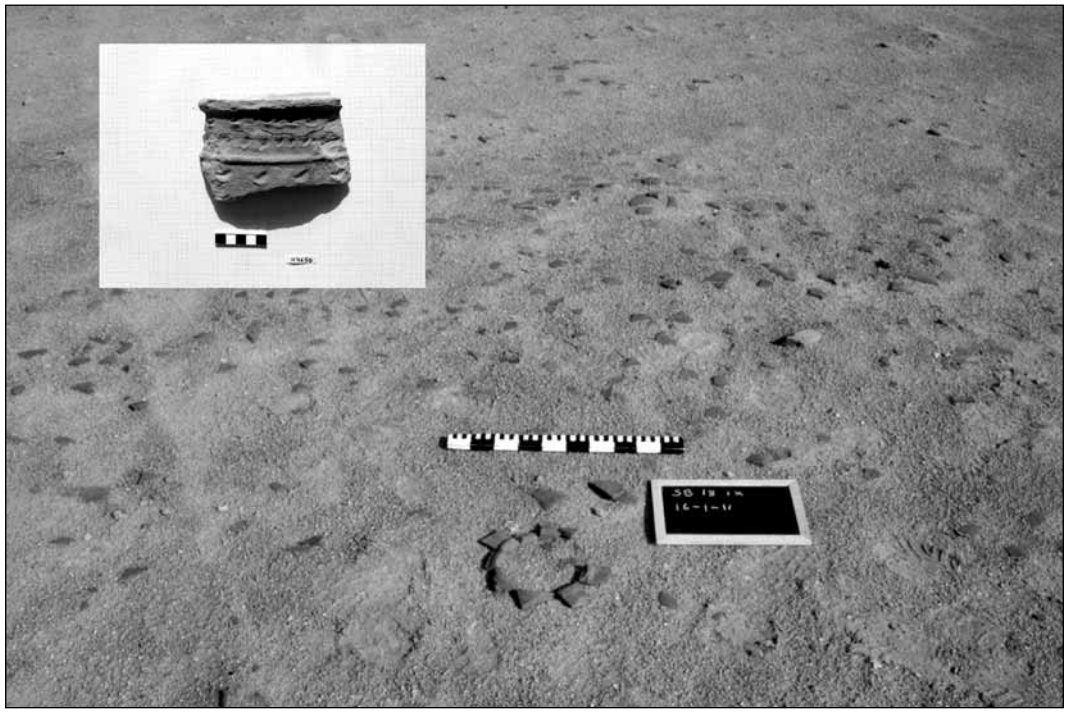

Fig. 2. Torpedo jar site with Sasanian pottery inset.

In addition, numerous minor sites have been discovered, consisting predominantly of small stone or pottery scatters located through detailed transect survey. These have been briefly discussed in a previous publication (Kennet *et al.* 2011: 167–170) but remain difficult to integrate into the chronological schema outlined in the present paper due to a lack of dating evidence. Notably, the walled enclosure or fort that was mentioned in a 2012 interim publication of the work (Blair *et al.* 2012: 15–16, Fig. 2) was excavated in the third season of excavations and dated to a period later than the 8th century, as it was constructed atop deposits containing 8th century pottery, yet contained no 8th century pottery within it. Recent use of one of the rooms in the building suggests that the whole complex originated relatively recently, perhaps in the past two or three hundred years. Nonetheless, as it will not be possible to investigate the structure any further during the present project, it will be excluded from the present analysis.

Before progressing to the provisional chronology, it will be useful to examine some of the key sites in more detail.

1. Torpedo Jar Scatters

Soon after the beginning of the survey work in 2009, the team began to encounter numerous dense scatters of torpedo jar sherds on the ground surface. Some of these were apparently broken where they were abandoned and have since been left untouched. These sites range from small scatters consisting of a single vessel to larger scatters composed, presumably, of many hundreds or even thousands of vessels. They always occur very close to the shore and, in some cases, are located a few hundred metres out onto the coastal *sabkha* flats, which are still occasionally covered at high tide. Whilst they are mostly isolated features, with no additional types of pottery or finds, they are occasionally associated with other pottery, ephemeral structures, shelter supports, or in two cases walls (Fig. 2). Such sites have been identified by the project at numerous locations along the coast, including two on the north-east corner of Miskan Island and one on top of the Bronze Age site of Al-Khidr on Failaka Island, where torpedo jar sherds were found on the surface by team members close to a site at which torpedo jar bases were revealed by excavation of the upper levels (Benediková 2010: Fig. 44c, d). However, they are clearly most common in Al-Sabiyah towards the northern limit of the survey area. At least seven similar sites were noted by Carter and Crawford during their survey of the area, some of which may be the same as those reported here (Carter & Crawford 2010: Table 1.5, ware A).

The nature and location of these sites suggest that they were not permanent or domestic settlements, but rather that they resulted from some specific and occasional activity. The torpedo jars, which were deliberately designed for maritime or riverine boat transport, probably indicate direct maritime trade with southern Mesopotamia (Kennet 2004: TORP). Their presence could be explained in two different ways. Firstly, they may have contained an imported liquid commodity (sesame oil, wine, or some other liquid) that was brought by maritime traders from southern Mesopotamia and decanted into skin containers, which are lighter, less fragile, and more malleable, making them better suited for mule or camel transportation from the coast into the interior. The torpedo jars themselves, having little value, would simply have been left behind on the beach—hence the sites that have been found. Alternatively, local nomadic groups and/or traders from southern Mesopotamia may have spent some part of the year collecting a commodity that was available in this area and in demand in Mesopotamia—the most obvious would be salt fish, or indeed salt itself. In this scenario, the torpedo jars would have been brought by traders to be filled with the commodity. Of course, some of them were broken, or were never filled, and remain scattered on the surface.

If either of these interpretations is correct, a seasonal trade is most likely, with nomadic groups travelling to spots along the coast that they expected traders to frequent at particular times of the year. The dispersed nature of these sites, and the small number of jars present in each instance, indicates that the trade was conducted on a small scale, somewhat sporadically, and over a considerable period of time.

The significance of any interaction between nomadic and maritime groups varies depending on historical context, and thus chronology. Torpedo jars themselves are not at present accurately datable. Thus, one key piece of evidence is a single yellow glazed sherd with a Sasanian rim form that was found at one of the sites (Fig. 2, inset). This distinctive form was first identified as Sasanian by A. Williamson during his survey of Bushire in Iran, and the dating was later confirmed by the Kush excavations in Ras Al-Khaimah (Kennet 2004: TURQ, Table 15, Fig. 5, Type 64). In the present case, the sherd probably dates to the 5th or 6th century AD, suggesting that at least some of the torpedo jars sites date to that time, although it is possible that the trade occurred over a longer period of time within the lifespan of the torpedo jars. Recent excavations by the National Council of Culture, Arts, and Letters at one of these sites have revealed further rim sherds of small glazed jars with a slightly notched rim and a yellowish alkaline glaze (Kennet 2004: TURQ Type 94), which can also be dated to the Sasanian period.

2. The Stone-built settlements

A number of differently sized settlements consisting of stone structures and associated artefact scatters were also located by the survey. Of these, the largest is Mughaira, measuring around 1 km in length; others resemble small, dispersed hamlets (Areas E and F) or consist of only one or two isolated structures (Mudaira). Excavation showed that Area ABC, which was originally thought to be of a similar nature, belonged to a different category, as discussed below. Most of these sites are not new to the academic community; indeed, a preliminary exploration of Areas E and F was published by Al-Duwish (2005), while a number of the structures at Mughaira were recorded in a survey by Al-Wohaibi (1998) and later by Carter and Crawford (2010: 221–226). The aim of the Kadhima Project was to investigate and record these sites more fully through more precise mapping, intensive surface collection of artefacts, and excavation. Further settlements of this nature may be present elsewhere within the study zone, but none were located by the present project.

Areas E and F

The Kadhima Project was initially tasked with investigating the early Islamic remains at Areas ABC, E, and F, which were discovered by Al-Duwish (2005).

Area E consists of two groups of the trapezoidal structures within an area measuring 75 x 50 m. Nine of these buildings were excavated in the second Kadhima season, each revealing a shallow stratigraphy with evidence of single-phase occupation (Fig. 3). The buildings were all of similar size—at around 3 m in diameter—and constructed with a single course of local, undressed, flat sandstone blocks, occasionally bonded with clay. In some cases, the structures were surfaced with an internal stone pavement. The stone structure probably acted as a foundation support for a wooden superstructure.

Area F is located 1.8 km to the north of Area E and has been more disturbed by modern activity, although a small part of the site is protected within the National Park. It is the least investigated of the

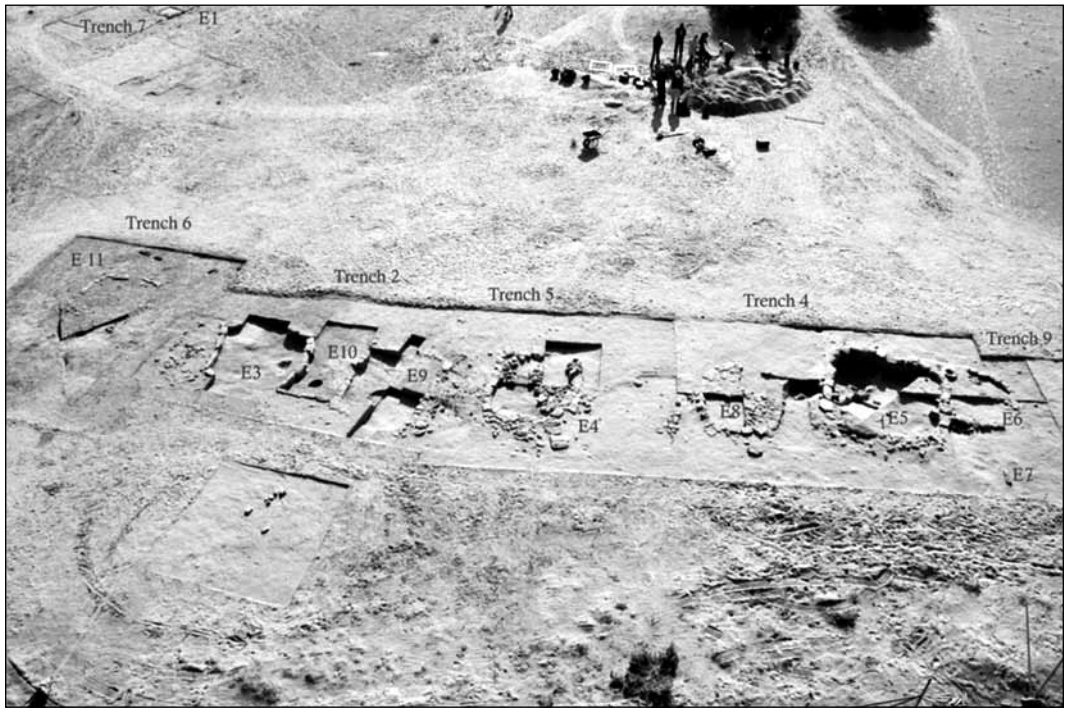

Fig. 3. View of domestic structure in Area E towards the end of excavation.

sites, although it appears to be quite large, with perhaps 25 apparently trapezoidal structures spread over an area of 350 x 100 m. The majority of these buildings are organised into four alignments of around five structures each, apparently repeating the linear arrangement of eight of the buildings excavated at Area E.

A cemetery of 76 graves is located close to Areas E and ABC. Known as Area G, it is almost certainly associated with the Area E settlement. Each of the graves consists of an oval ring of stones with an inner rubble capping, ranging in length from 1.50 to 3.00 m, and most are oriented northwest to southeast along their long axis, as one would expect if they were oriented on *qibla*. However, some appear to have a slightly different orientation, and others are so rounded that they can hardly be said to be oriented in any direction. There is a clear spatial distinction within the cemetery, with smaller, more densely scattered graves in the western half, and larger, rounded, more widely spaced graves in the eastern half. On present evidence, it is unclear whether this distinction reflects two separate phases of activity or contemporaneous graves of a different status. The orientation and form of most the graves suggests that this was an Islamic cemetery, and this may indicate the religious affiliation of the inhabitants of Areas ABC and E.

The most common finds from these sites include imported pottery, such as turquoise glazed ware and torpedo jars, local coarse wares, green glass vessels, steatite, and a few coins, including an Umayyad example provisionally dated to 143 AH (early 740s AD). All of the artefactual evidence is consistent with a late 7th to 8th century date.

Several important questions concern the nature and purpose of this settlement: how sedentary were its inhabitants, what was its economic base, and why was it located on this part of the shore of Kuwait Bay? The structures identified are rather ephemeral and do not necessarily denote a fully sedentary population. The stone foundations were certainly permanent features, but a single course of stones would not have required a large investment of energy to construct and could have been reused year-on-year with the construction of a wooden superstructure. Conversely, one argument in favour of permanent occupation is the amount of material culture present, including luxuries such as imported turquoise glazed wares, torpedo jars, glass, and steatite. Such abundant goods do not suggest a semi-nomadic/seasonal population, who would have needed to move their material wealth with them on their perambulations. Therefore, the community may have been mixed sedentary and nomadic, and the level of sedentism may have varied over time.

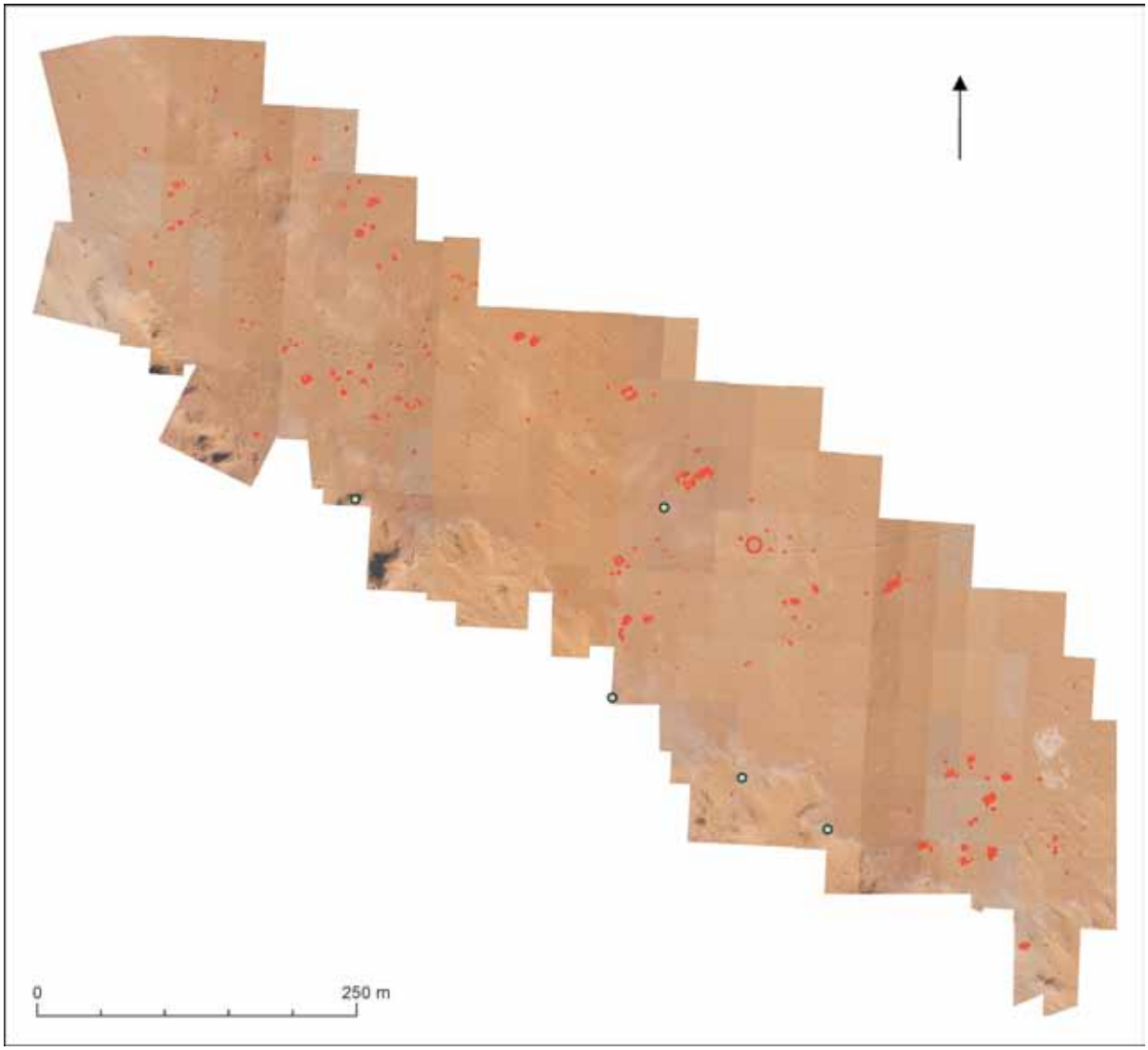

Fig. 4. Plan of Mughaira based on kite photographs showing the layout of the site (kite photo: M. Woolston-Houshold, interpretive plan: A. Blair).

Mughaira

The largest settlement in the study zone is located at Mughaira at the northern end of Kuwait Bay. The Project investigated this area following reports by earlier surveys that there were a number of structures associated with artefactual assemblages datable to the early Islamic period (Al-Wohaibi 1998; Carter & Crawford 2010: 221–226). In particular, Carter and Crawford recorded two separate early Islamic sites at Mughaira (SB27 and SB59), along with a number of other sites to the northwest (SB49–SB58), which had no associated surface finds (Carter & Crawford 2010: Table 1.7, Plates 38, 41). Most of these sites consisted of mounds of stones marking the locations of collapsed structures. After a detailed survey by the present project aimed at defining the extent of the site, 172 surface features were recorded close to SB27 and SB59, of which 112 have been classified as definitely or likely to be archaeological (Fig. 4). The present project concluded that the two sites defined by Carter and Crawford are part of the same agglomeration of stone structures, and that many, if not all of the structures to the northwest may also be included. The structural features recorded at Mughaira are distributed over an area of 1 x 0.325 km. Thus, the site is a notably extensive pre-9th century Early Islamic settlement, being only slightly smaller than the nearby Al-Qusur on Failaka Island (Pieta *et al.* 2009: 156).

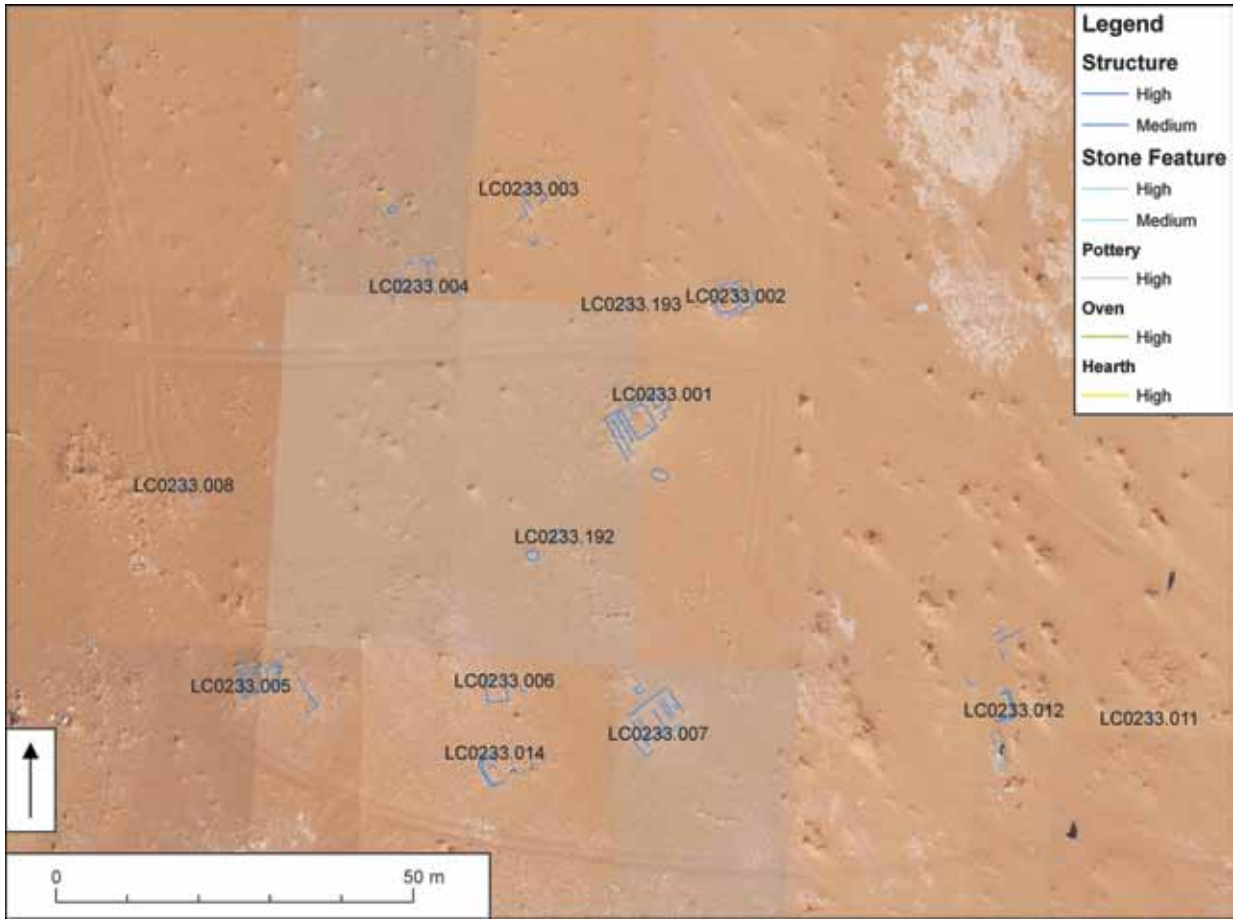

Fig. 5. Detail of one of the hut clusters at Mughaira showing the arrangement of huts (kite photo: M. Woolston-Houshold, interpretive plan: A. Blair).

This settlement differs in size from those in Areas E and F. Surface investigation has shown three distinct building types: Type A buildings are the most visible, surviving as low mounds of stone rubble. These range from stand-alone structures around 6 m in diameter to large, multi-roomed and multi-winged courtyard buildings over 20 m across. In most cases, the stone mounds obscure the original building plans. Type A buildings are reminiscent of some of the features at the contemporary monastic settlement at Al-Qusūr on Failaka (Patitucci & Uggeri 1984: 157–185). Type B buildings are sub-circular structures arranged in groups of around five units with single-course stone foundations surviving to ground level. They are seemingly identical in plan and construction technique to the buildings excavated in Area E. Type C buildings consist of ill-defined and ephemeral arrangements of stones that are less embedded in the surface, but which are arranged in linear or circular patterns, suggesting that they were structures or tents. In this regard, Type C is a catch-all class rather than a discrete architectural style identifiable with a particular period or socio-economic group. In addition, a possible cemetery was discovered at the western end of the site, as were several grave-like arrangements of stones towards the centre of the settlement; these may have been ovens or graves.

The distribution of structures at the site does not imply a typical village. The stone structures are organised into distinct clusters (Fig. 5) and the clusters are separated from each other by considerable distances, within which there is no evidence of construction and little pottery. Even within the clusters themselves, the buildings are often separated by considerable distances. This spatial layout is typical of a Bedouin camp, wherein tents are spaced a good distance from one another to allow for privacy and perhaps for the movement of groups of animals around the camp. This may suggest that Mughaira was a settlement of people who were in the process of turning, or had recently turned, from a nomadic way of life to a sedentary one—at least in part.

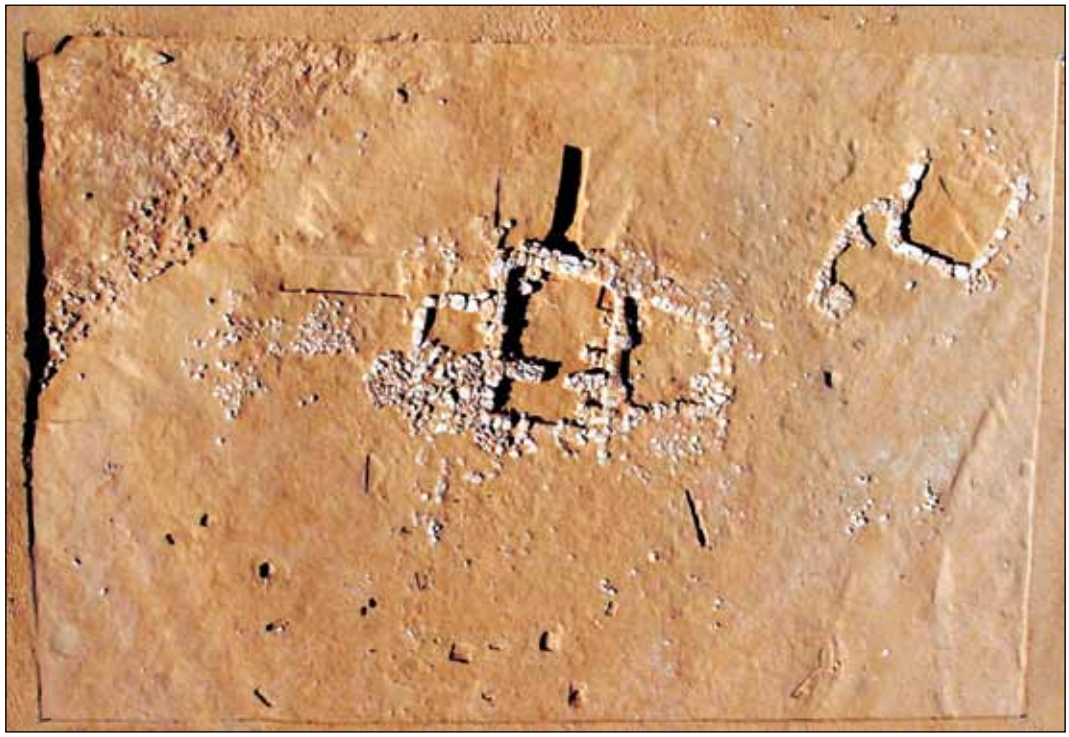

Fig. 6. View of excavated structure LC233.22 at Mughaira.

Regarding the chronology of the settlement, the artefactual assemblage of turquoise glazed sherds, green glass, and steatite is similar to the finds recorded at Areas E and F, suggesting a late 7th or 8th century AD date. In contrast, Carter and Crawford suggested a possible 9th or 10th century date for their sites SB27 and SB59. However, this dating was based on the tentative identification of a single, heavily abraded sherd of glazed ware with a black interior as a possible piece of 9th century Samarra Horizon ware (Carter & Crawford 2010: Table 1.4, Ware T, Plate 42: 10). Although this identification may be correct, no other sherds of this date were retrieved by the project, and the sherd concerned is more likely a sherd of turquoise glaze ware with a blackened interior—a feature that is quite common in Abbasid turquoise glaze wares.

Regardless, although the proposed chronology lacks precision, the presence of three distinct building forms at the site may mirror the chronological development in the nature of occupation.

During the fourth and fifth seasons, a number of structures were excavated at Mughaira to further elucidate the depth and nature of the evidence regarding occupation of the site, as well as to retrieve a more complete assemblage of material and to investigate the distribution of that material in and around the buildings.

The excavation of one of these structures (LC233.22) at Mughaira took place during the final two seasons of fieldwork. The structure was built in a manner almost identical to the huts of Areas E and F: apparently dug into the ground and lined with stone walling (Fig. 6). However, the structure was larger and consisted of a central rectangular room measuring 4 x 4.75 m, with additional rectangular structures attached on either side. A dense scatter of pottery sherds, shells, and small hearths around the front of the building showed that the occupants of the structure used that area for cooking and eating, and that they disposed of their rubbish on the ground immediately outside the house.

Although the depth of stratigraphy is quite limited, the hut clearly underwent numerous changes during the time it was occupied. The main room was divided into two by a stone wall of a different, cruder construction than the original walls. Again, pottery, glass, and other finds from the site indicated a date of occupation in the 8th century AD—roughly the same time at which Area E was occupied.

The preliminary evidence from Mughaira suggests that the lives of the people who lived there were similar to those of the occupants of Area E. However, one key difference was the overall size of the settlement. More than 40 houses have been identified at Mughaira, compared with the seven or eight

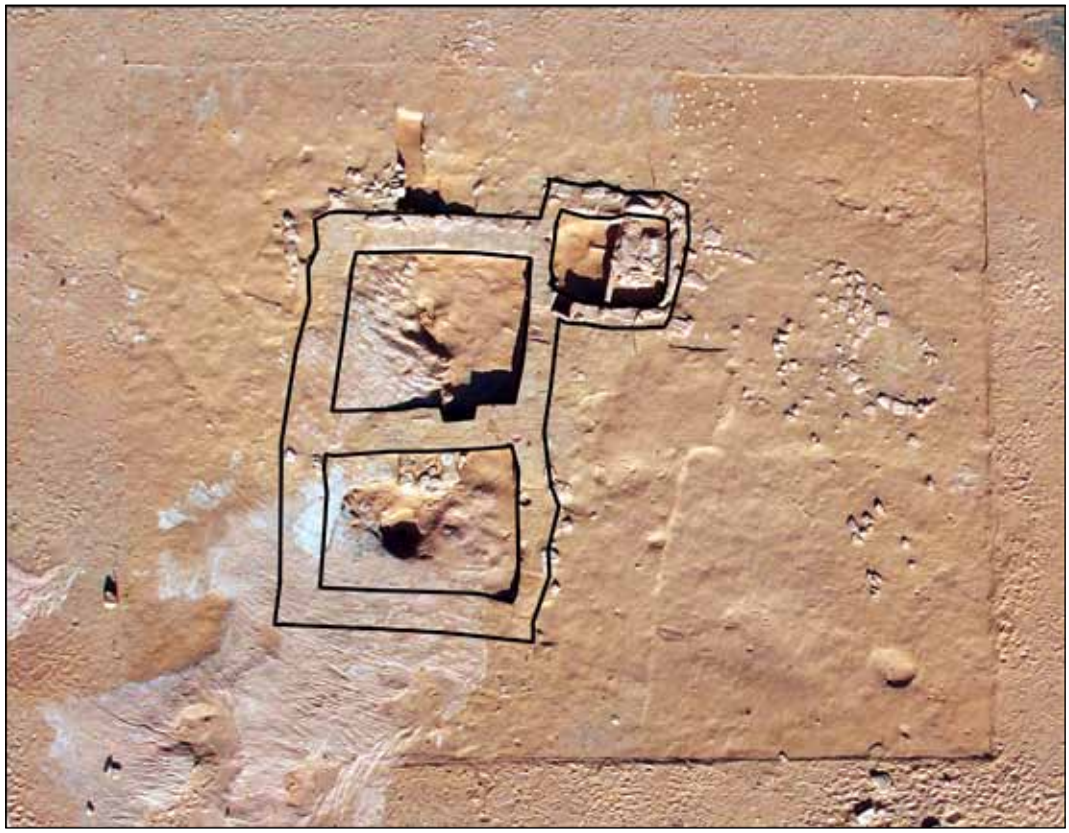

Fig. 7. Annotated kite photo of the Area ABC building (kite photo: M. Woolston-Houshold).

at Area E. Mughaira is almost certainly located at this site because the Mughaira wells are in close proximity. Furthermore, the number and reliability of these wells probably accounts for the settlement's large size, although proximity to a variety of other natural resources, such as pastures or shellfish, as well as access to the sea, would also have helped the settlement to grow, as would access to maritime or overland trade routes, or to subsistence resources. More generally, the hamlets' location may have been chosen because they earned their living as stopping points for travellers—possibly including pilgrims and merchants—moving between eastern and central Arabia and southern Iraq. Providing such travellers with water, safe passage, and food would probably have afforded a good living for small groups of people settled along the coast.

In any case, the settlement presumably came to hold local economic importance, with the disparity in building size within the site suggesting a socio-economic stratification that was not witnessed at Areas E or F.

Area ABC

On the surface, Area ABC appeared to consist of at least 10 stone buildings distributed over 200 m along a ridge of bedrock. Kennet *et al.* (2011) noted that two building forms were identified here, a smaller structure with a trapezoidal, single-roomed plan, and a larger, rectilinear, multi-roomed structure. However, upon excavation in the third season, it was revealed that the smaller trapezoidal structures were in fact a series of stone water cisterns arranged radially around a well. This explains why very little pottery and glass was found on the surface around these structures.

During the third season, excavation took place at the larger, multi-roomed structure. The house that was uncovered differs greatly from the stone huts that were found at Area E, Area F, and Mughaira because it was constructed from mud bricks and is rectangular (Fig. 7). In addition, it was much bigger, with three rooms instead of one, and a total floor space of 45 m^2, compared with the 7 m^2 that was typical of the stone huts at Area E, Area F, and Mughaira. Mud bricks were not used in all periods and places in Kuwait, and this is the first example of mud-brick architecture along this coast. The rectangular shape of

the house at Area ABC stands in marked contrast to the round-cornered huts at Area E and Mughaira, as does the house's multi-roomed plan, which probably included a cooking area and two further rooms that could have been used for a variety of activities, such as sleeping, entertaining, storage, and eating.

The increased size and sophistication of this house indicates that the wealth and standard of living of its occupants were greater than those of the inhabitants of Area E and Mughaira, and the design and construction of the house may imply that it was built by someone from outside the immediate Kadhima area—perhaps a mercantile settler from elsewhere in Kuwait or even farther.

The site had a higher proportion of tradable goods than other sites, such as soft stone vessels, torpedo jars, and identifiably Indian pottery, sugesting that the house was occupied by one or more merchants. Moreover, five times more pottery was found at the ABC house than at Area E and Mughaira, suggesting that the occupant/s of the former were wealthier.

Notably, some of the pottery from Area ABC was identified as Samarra horizon ware of the early 9th century (Kennet 2004: 38–41). No such material was found at Area E, Area F, or Mughaira, or indeed at Al-Qusur on Failaka, indicating that occupation continued at Area ABC at least 50 years longer than at Area E, Area F, and Mughaira.

In summary, the excavated evidence from Area ABC suggests that this was the residence of a merchant who, although based in Kadhima, had strong links to the surrounding regions and who had perhaps established himself here to facilitate trade with local nomadic groups.

Shiqayya

The house at Area ABC was apparently abandoned in the mid to late 9th century, before the widespread introduction of more complex polychrome splash and graffiato wares. After this time, other than one or two stray sherds, there is no evidence of activity along the coast for more than 800 years, although long periods of limited human activity have been quite common in Kuwait's past. From the whole of Kuwait, the only known substantial evidence for occupation in the intervening period comes from the site of Shiqayya in the Wadi Al-Batin on the Kuwait/Iraqi border. This site consists of a large expanse of archaeological mounding that stretches 800 x 300 m and is covered with pottery and debris from brick kilns. The site includes the remains of a large, multi-roomed building that is over 35 m wide and has well-built, plastered walls. It seems to have been a significant official building and it may have been related to the Abbasid development of the 'Tariq Basra' pilgrimage route, which ran along the Wadi Al-Batin. The Abbasid caliphs from the time of Al-Saffah in the middle of the 8th century established pilgrimage way-stations along this route that were provided with wells and cisterns for travelers.

The pottery found at Shiqayya differs from that found at the Kadhima sites along the coast at Area ABC, Area E, Area F, and Mughaira. Whilst there is apparently some 8th century material at the site, much of the area is covered with later 'Samarra horizon' wares, which can be dated to the 9th and 10th centuries. These indicate that the development of Shiqayya continued for as much as 200 years after the abandonment of the settlements at Area E, Area F, and Mughaira, and for some time after the abandonment of the house at Area ABC.

This presents an interesting question: Why were the coastal Kadhima sites all abandoned towards the end of the 8th or in the early 9th century at almost exactly the same time that a large, sophisticated pilgrimage station appears to have been constructed at Shiqayya in the Wadi Al-Batin?

Discussion

This paper has demonstrated that various phases of Early Islamic settlement existed along the western shore of Kuwait Bay. The aim of the project was to piece this evidence together into a settlement history of the area. Although this still needs to be refined by the results of the final study season, an outline can be proposed that divides the pre- and early Islamic periods in the study area into five distinct stages. These are set out and summarised below in chronological sequence. Until the results of carbon-14 dating are available, the datings are somewhat approximate:

Stage One – Bronze/Iron Age to 5th/6th century AD

The date of construction of the numerous prehistoric burial cairns that are scattered on low ridges all along this coast is at present unclear. They may be Bronze Age, Iron Age, or even somewhat later. From the

period during which they ceased to be constructed to about the 5th/6th century AD, there is no consistent evidence of settlement or other human activity along this coastline. The later part of this 'empty' period has an easily recognizable ceramic assemblage and a known presence in the Kuwait area, as demonstrated at sites such as H5 on Failaka or Akkaz island (Gachet 1998: 75–76; Hannestad 1983). However, it has not been possible to isolate clear evidence of activity. Earlier papers from this project have suggested that various sherds of vegetable-tempered jars might be datable to this period (Kennet *et al.* 2011: 169–170). However, these sherds have now been shown to belong to the early Islamic assemblage, so this point can be disregarded.

Stage Two: 5th/6th to 7th/8th century AD

At some point during the 5th to 7th centuries, or perhaps slightly earlier, nomadic groups appear to have begun to interact regularly with maritime traders from southern Iraq frequenting the Kuwaiti coastline, importing liquid commodities and/or exporting salt or salt fish. This trade was likely small-scale and itinerant at first, although it may have developed into a more systematic and larger scale operation as time passed. The evidence for this trade are the torpedo jar sites, of which a good number have already come to light. The duration of this period is impossible to determine. However, as the few sherds of glazed wares found there differed somewhat with those of the Early Islamic settlement described below, the trade seems largely to be datable to the Sasanian period.

Stage Three: late 7th/ early 8th century AD

In the late 7th or early 8th centuries, things seemed to have changed. Either the trading activity noted above had increased to a point which encouraged a number of small semi-permanent or permanent settlements to be established along the coastline or new overland traffic along the coast opened up the possibility of trade with passing merchants and pilgrims. Examples of such settlements occur in Area E, Area F, and Mughaira, along with others such as Mudaira, which has not been discussed here.

It seems that the earliest occupants of these settlements, particularly Mughaira, had recently been engaged in a nomadic existence. The settlement at Mughaira was the largest and seems to have expanded, developing larger and more substantial buildings. These may indicate the emergence of increasingly sophisticated economic and social structures. One area of uncertainty is the relationship between these settlements and the Christian monastic settlement at Al-Qusur and the community at Akkaz Island.

Stage Four: late 8th to early/mid 9th century AD

By the early-to-mid 9th century, most of the villages that had been founded during Stage Three had been abandoned. Only at the mud-brick house at Area ABC is there evidence for a second phase of activity continuing into the 9th century. This settlement differs from anything that preceded it and, so far as we can tell, it is unique, although there may be similar structures along the coast that have not yet been discovered. The occupant of the mud-brick house was certainly not typical of the area, and the house itself may have belonged to a merchant or merchants with close links to the outside world—perhaps southern Iraq. His house was located next to a good well, and he may have continued to practical trade by land with passing traders and pilgrims, and/or by sea with local nomadic groups.

Stage Five: mid/late 9th century AD

By the mid-to-late 9th century, even the settlement at Area ABC had been abandoned. Besides one or two randomly-scattered sherds, no material culture from the mid-9th century or later has been found anywhere within the survey zone, suggesting that, if there was a human presence, it consisted of groups that were small in number and had little if any interaction with the outside world. It is not clear why activity dried up along the coastline, but it is noteworthy that the settlement of Al-Qusur on Failaka was abandoned at a similar time, as were a number of 8th century sites that are known elsewhere in Eastern Arabia (Kennet 2007: 89, 92; 2012). This may suggest that the sites were abandoned due to regional rather than local developments. However, the creation by the Abbasid government of a specialised pilgrimage infrastructure on sites along the Wadi Al-Batin may have diverted much of the pilgrimage and overland trade traffic away from the coast, thus undermining the economic rationale of the coastal settlements (Blair & Ulrich 2013).

This outline history is clearly still at a preliminary stage. Nonetheless, some conclusions can already be drawn with some clarity. The first is that the 8th century AD appears to represent a notable and unique peak in settlement and activity in the area. While there are likely local reasons for this, it is notable that the pattern is regional, extending over much of Eastern Arabia and beyond. Indeed, the 8th century witnessed a revival of settlement and activity at sites such as Hulaylah, Suhar, Bahrain, Sir Bani Yas, and others that have come to light more recently in Bahrain, Qatar, and Eastern Saudi Arabia (Kennet 2012). As the study of material from the survey progresses, it is now hoped that a more precise chronology—both absolute and relative—will be obtained for the early Islamic Kadhima sites.

Acknowledgements

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A COMPARATIVE STUDY OF THE SETTLEMENT PATTERNS ON FAILAKA ISLAND: KUWAITI–POLISH ARCHAEOLOGICAL MISSION (2012–2016)

AGNIESZKA PIEŃKOWSKA

The Kuwaiti–Polish Archaeological Mission of the Polish Centre of Mediterranean Archaeology, University of Warsaw began its work on Failaka Island in 2012 with a survey along the coast of the island. Based on the results of the survey, further research was undertaken, including excavation at the Islamic site of Kharaib-el Desht, which began in 2013.

The 2012 survey, directed by Franciszek Pawlicki, focused mainly on the south-eastern coast of the island, from the Al-Liwan region to the area occupied by the so-called 'chalets'. The northern coast was surveyed from the site of Quraniya, through Kharaib el-Desht, to the region known as Bult—a strip of coastline stretching for some 350–400 m. Prior to the survey, the presence of archaeological remains at the Bult had been reported, but never thoroughly investigated. The survey recorded over a dozen new

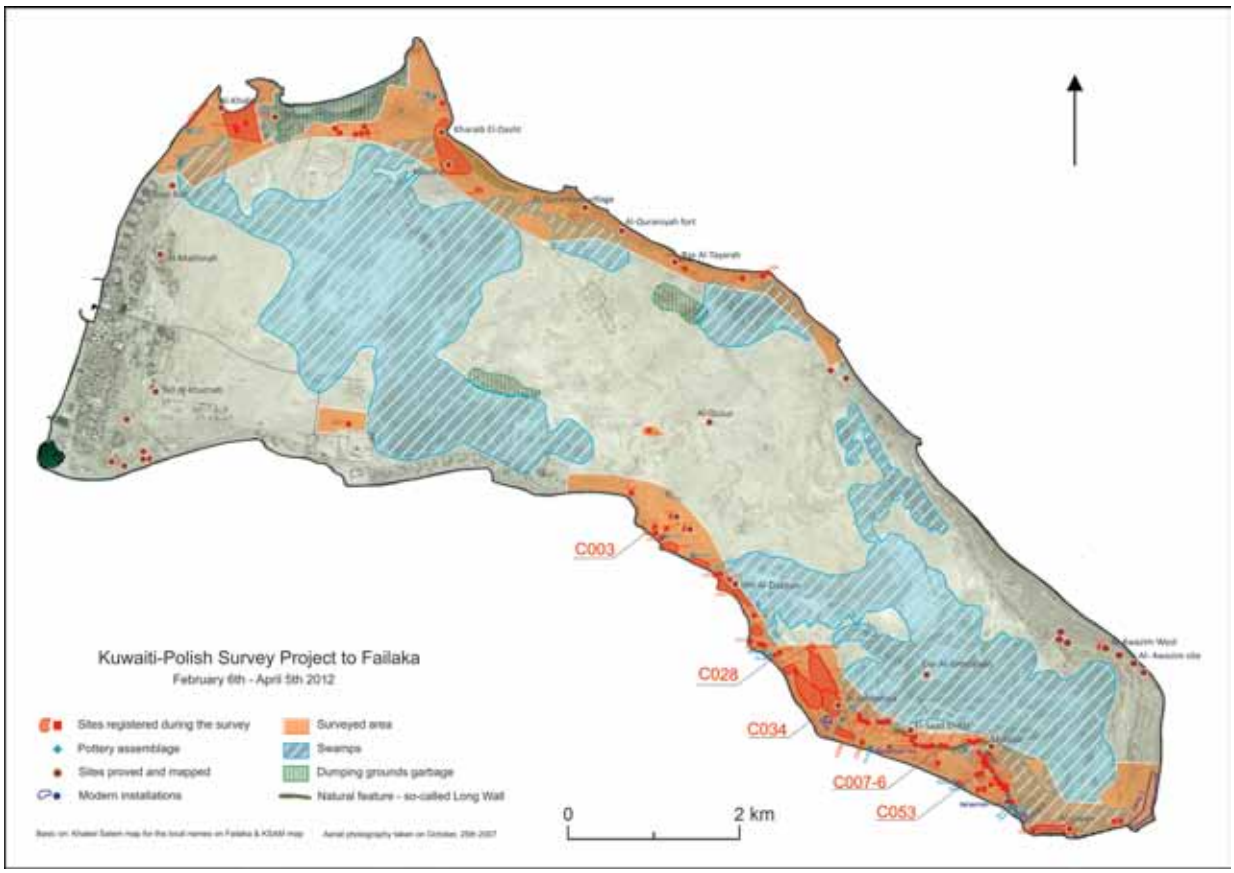

Fig. 1. Failaka survey map from the 2012 season. Topography: I. Nazaruk and P. Zakrzewskim; digitisation: M. Puszkarski.

sites and several dozen settlement traces in the form of pottery concentrations (Fig. 1; Pawlicki 2015: 547–555).

One of the most noteworthy sites covered by the survey was Al-Sabahiya, which lies on the south-eastern coast of the island (Pawlicki 2012: 18–19; Pawlicki 2015: 555–556). The site's location was known much earlier (Lorimer 1908: 512–513; Dickson 1968: 57; Rajab, 1999: il.1), but it was not until 2012 that its structures were mapped and ceramic material collected for the first time (see: M. Mierzejewska, this volume), revealing that it was an extensive Late Islamic settlement. Both written and oral sources note that Al-Sabahiya was famous for its nearby oasis, which was so large that it was visible from ships approaching the island. Indeed, even in the beginning of the 20th century, dozens of withered palm trees were still visible, although they had been destroyed by insects (Lorimer 1908: 512), and the remnants of the settlement itself, including a dried-up well, are visible on the surface to this day.

The remnants of Al-Sabahiya, as shown on the plan (Fig. 2), covered an area 250–300 m wide

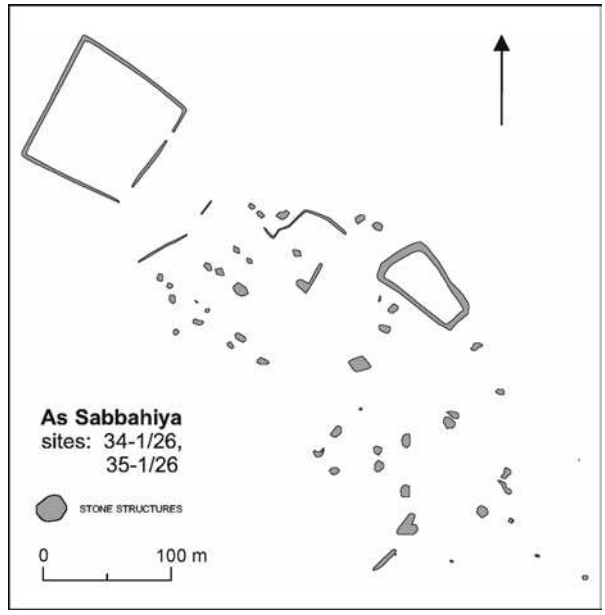

Fig. 2. Map of As-Sabbahiya. Drawing: P. Zakrzewski; digitisation: M. Puszkarski.

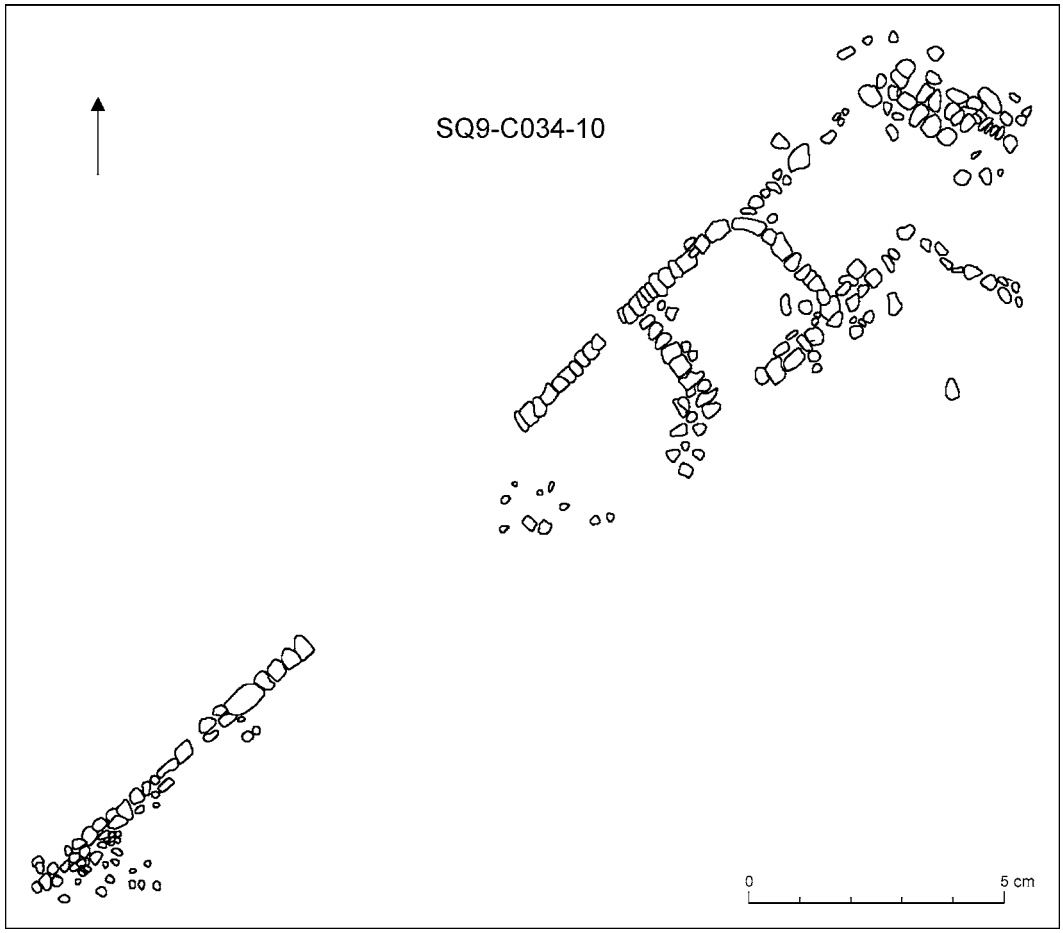

Fig. 3. Plan of the building at As-Sabbahiya. Drawing: S. Skubisz and P. Zakrzewski.

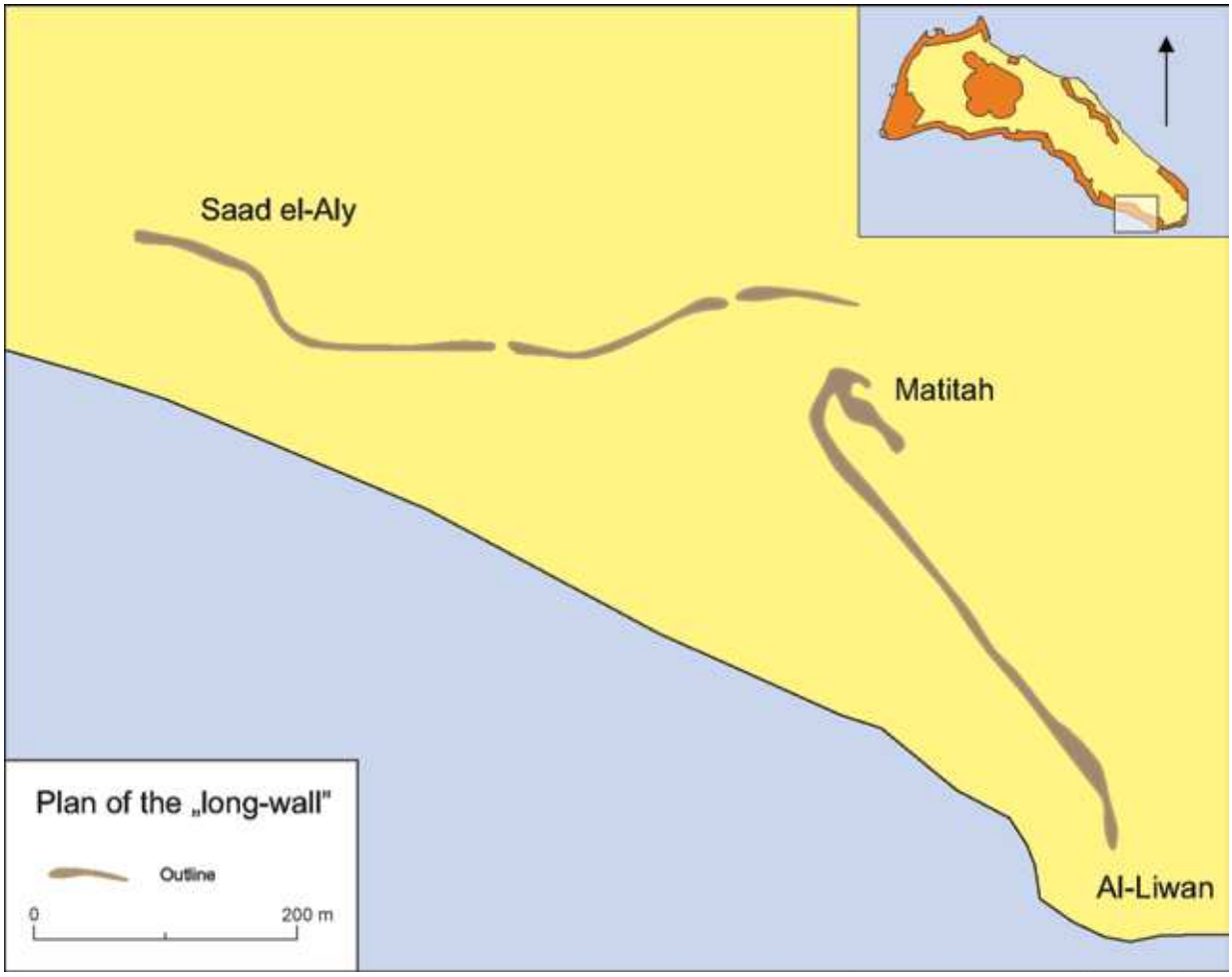

Fig. 4. Plan of the so-called 'long wall'. Drawing: S. Skubisz and P. Zakrzewski; digitisation: M. Puszkarski.

and around 750 m long. The plan shows several dozen large structures that were visible on the surface as small stone mounds (Pawlicki 2012: 46, Fig. 49). The most prominent features of the landscape were two enclosures: one on the north-western end of the site that was almost square—measuring 80–90 m by 100 m; the other, situated in the northern part of the settlement, was much smaller and rectangular in plan—70 m by 25–40 m. On the southern end of the settlement, the remnants of a structure were discovered, with a single wall visible on the surface. Cleaning revealed one corner of the structure, as well as its abutting wall, whose preserved portion was approx. 23 m in length. The wall was adjoined by several small chambers, of which the best preserved measured 2.5 m by 2.5 m. The structure was a typical example of the residential architecture of this period, characterised by rows of small chambers adjoining the sides of a building, with a courtyard in the middle (Fig. 3).

The area to the east of Al-Sabahiya, including the sites of Mathita and Saad el-Aly, also bore traces of dense occupation, including numerous stone structures and pottery concentrations. One noteworthy feature of this area was an upthrust running some 2 km along the coast from Saad el-Aly to Al-Liwan (Fig. 4). This was identified as a wall on early 20th century maps (Rajab 1999: il. 1). Interestingly, numerous and varied smaller structures covered the surface of this upthrust, specifically mounds of flat stone slabs and small, two-roomed, hut-like structures measuring around 7.5 m by 2.5 m (Fig. 5). These structures yielded very little ceramic material, suggesting that they were not residential in character. The vicinity of the so-called 'wall' yielded sparse pottery fragments, mostly of the Late Islamic period. One exception was a stone mound where a sherd was found with parallels to pottery from some Bronze Age sites (Pawlicki 2012: 56, Fig. 62), for instance Al-Khidr on the northern coast of Failaka (Benedikova 2010: 186, Fig. 120).

The character of the upthrust and the function of the structures on it have not been determined yet, although it seems unlikely that it functioned simply as a wall, especially if it was a man-made structure.

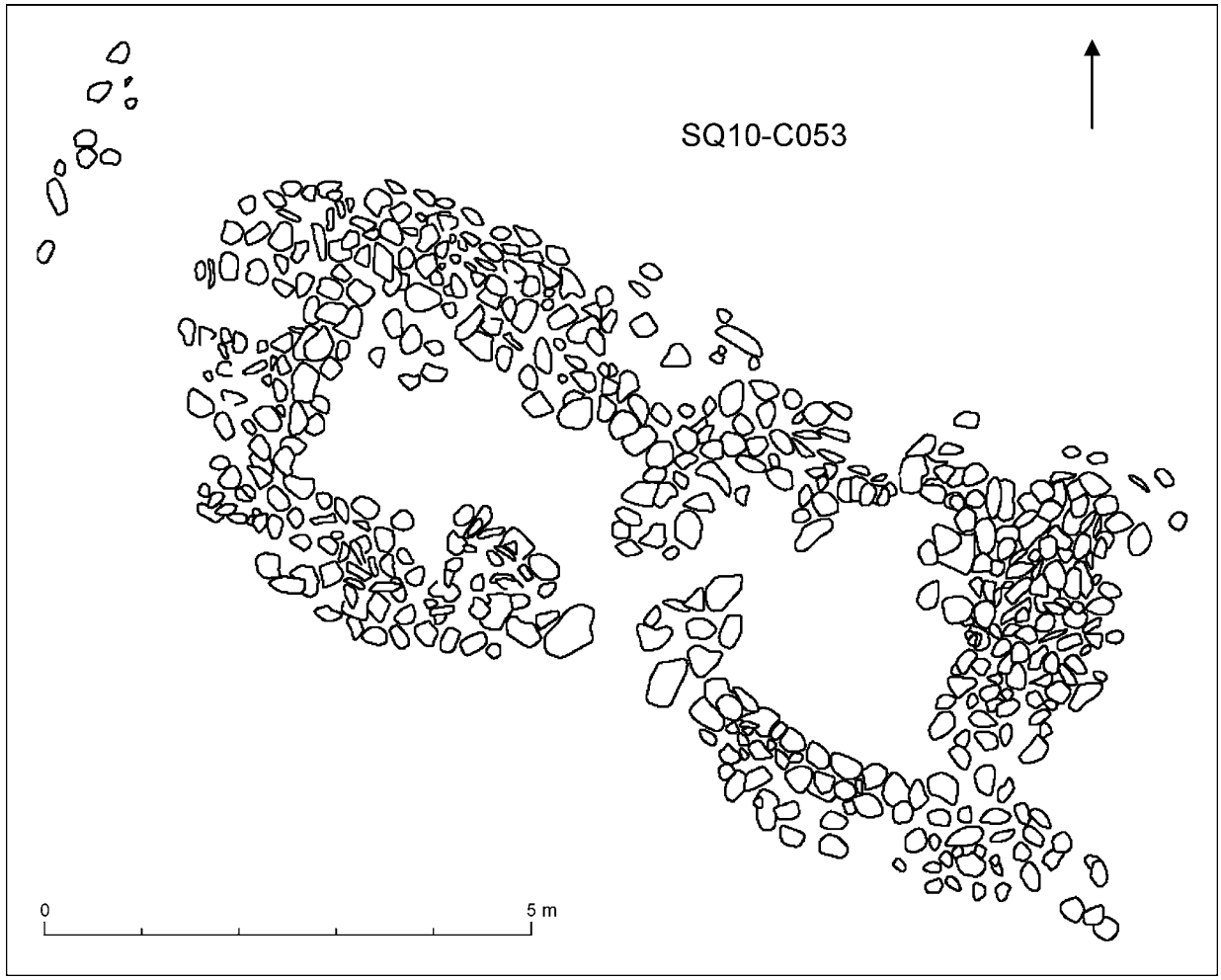

Fig. 5. Stone structure. Drawing: S. Skubisz and P. Zakrzewski.

Therefore, the important question is: 'What were the builders of the wall protecting themselves from?' Without doubt, the upthrust requires further in-depth investigation, as it may provide a valuable clue to the character of the settlement on Failaka.

Settlement traces were also found in the Um ed-Dakhan area—a strip of land stretching along the coastline from Al-Sabahiya to an area with modern buildings: the so-called 'chalets'. The traces comprised small structures with one or two rooms that were identified as fishermen's huts. Typically, they were around 2–2.5 m wide and about 2.5 m long (Fig. 6). Remains of this kind, although much better preserved, have been found in a few other places on the island, and they were mapped and documented during the survey (Pawlicki 2012: 51–52). The coastal area in the vicinity of Um ed-Dakhan also yielded pottery concentrations, but no structural remains were recorded (Pawlicki 2012: C028).

The 2012 survey along the northern coast focused primarily on the Bult region. The material collected in the area, as well as a test trench, revealed no remains older than the 19th century.

Further to the east, the well-known sites of Al-Khidr and Al-Saida are located, as is Kharaib el-Desht, which has not been thoroughly surveyed, but whose approximate outline has been mapped. In 2013, the NCAAL tasked the Polish Archaeological Mission with excavation works at Kharaib el-Desht. In the same year, a related project was initiated, *The Failaka Archaeological Research Project,* which aimed to conduct a comparative study of the settlement patterns on Failaka Island.

The remnants of Kharaib el-Desht stretched along the coast in a strip of land 80–100 m wide and approximately 450 m long. In the 1970s, they were still somewhat visible on the surface, allowing them to be recorded and mapped by an Italian mission in 1976 (Patittuci & Uggeri 1984: 92–94, 419). However, the resulting publication only described the site in a single short paragraph, mentioning some ruins

Fig. 6. Umm ed-Dakhan. Stone structures. Drawing: S. Skubisz and P. Zakrzewski.

visible on the surface and scattered across a considerable area. In fact, a 1960 aerial photograph turned out to be a more informative source on the spatial organization of the settlement. The photograph showed a concentration of buildings covering the eastern part of the site, including three discernible large structures (Pieńkowska 2015: 563, Fig. 2). The largest was U-shaped, while the two others were rectangular in plan.

The site was heavily devastated throughout the 20th century. First, a military camp was established there and remained in use until the 1990s. Next, the area was used as a landfill. Additional damage was caused by a few heavily used roads that intersected this part of the island in general, and the site in particular.

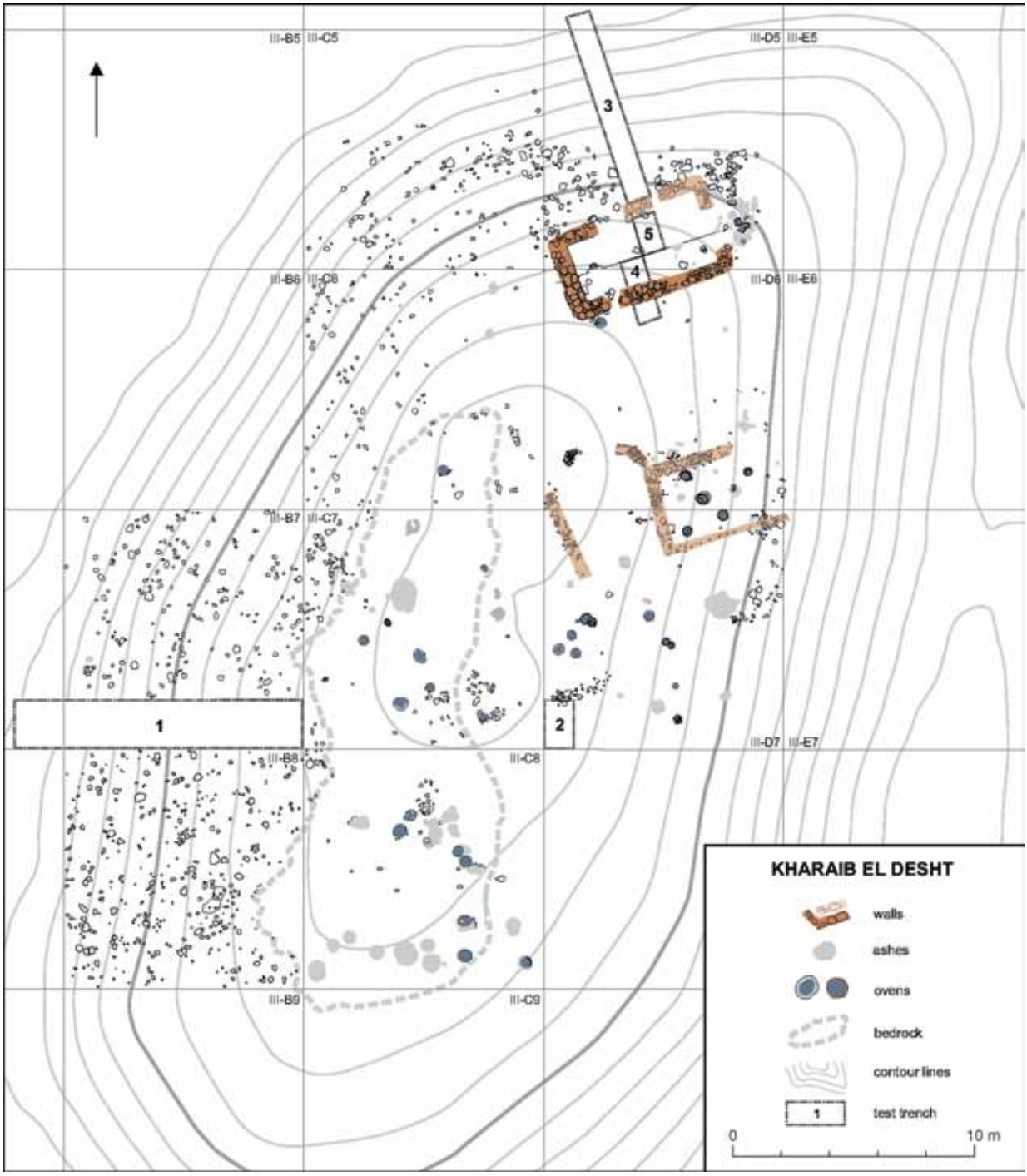

Fig. 7. Kharaib el-Desht site. Area 1. Drawing: E. Mizak, D. Majchrzak, K. Cieślak, and K. Ochnio; digitisation: P. Puszkarski and M. Puszkarski.

Written sources did not reveal much about Kharaib el-Desht, as the mentions were limited to one legend recounting the presence of the Portuguese, who had to abandon this part of the island due to a rat infestation sent by Ayliya. This legend was cited by Lorimer in 1908 (514–515) and by Dickson in 1968 (57).

The 2012 survey and the first excavation campaign on the site in the following year determined the outline of the Kharaib el-Desht settlement. The north-western limit was marked by two small elevations, visible on the 1976 photograph taken by the Italian mission (Patittuci & Uggeri 1984: Pl.

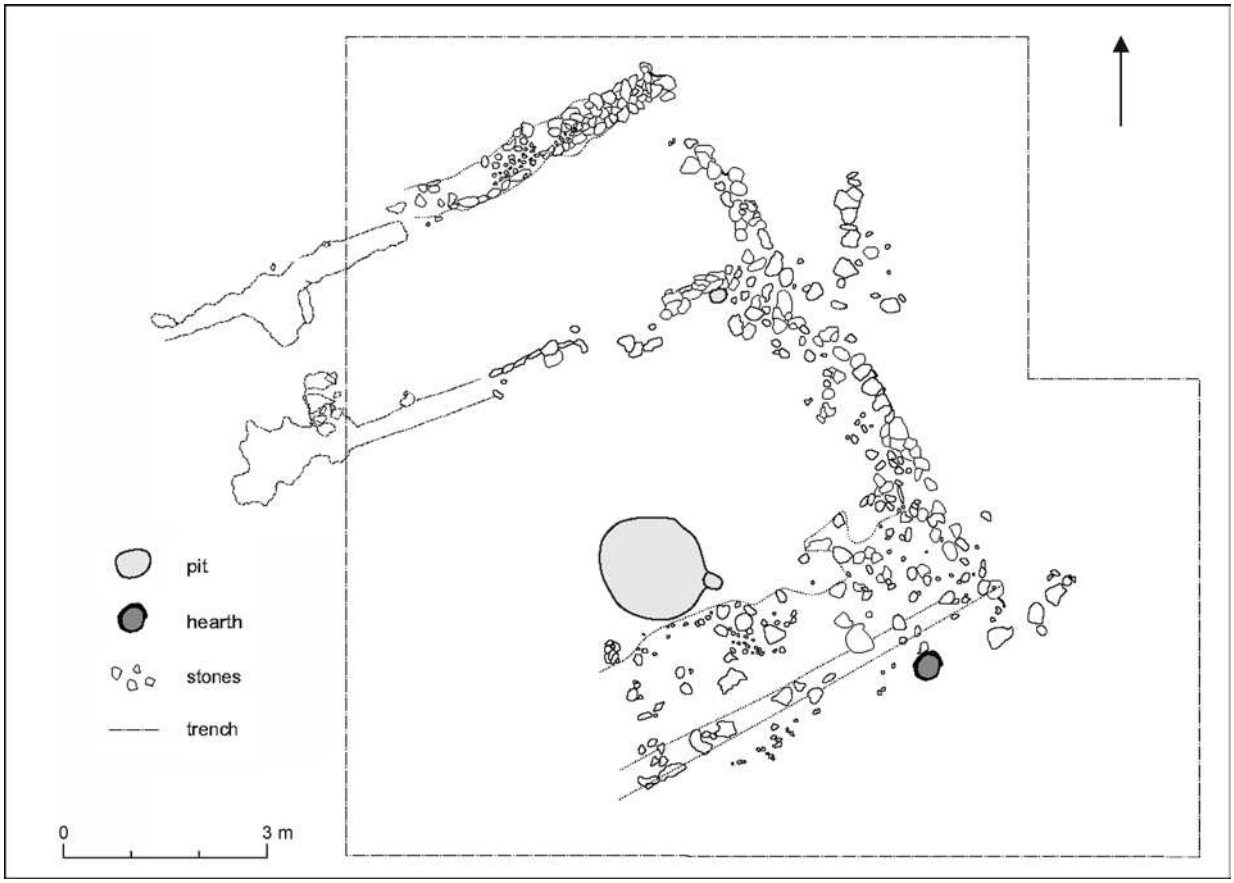

Fig. 8. Kharaib el-Desht site. Area 2. Drawing: J. Brochocki; digitisation: P. Zakrzewski and M. Puszkarski.

XXXV: a). On the south-eastern end of the site, there was recorded an area about 150 m long, covered with remains of residential structures still visible on the surface. The eastern limit was marked by the highest mound in the area, as well as by a group of small elevations where many Islamic period sherds were collected. As mentioned above, this part of the site was best visible on the 1960 aerial photograph. The remains of three more structures were situated a little further to the south-east, beyond the compact settlement. Of these, the southernmost was only visible in the aerial photographs. The other two were found in the first season of excavation. One, triangular in shape, may have been some kind of enclosure, while the other was a small rectangular structure located closer to the settlement.

The first three seasons of excavation focused on the north-western part of the settlement (Fig. 7). A small elevation, approximately 60 m by 40 m, revealed the remnants of two structures at its northern and north-eastern parts, respectively. The structures were similar in size, measuring approximately 4 m by 8 m, and each had one room. This part of the site also yielded over a dozen fishing net weights, so it is likely the structures were fishing huts.

In the central part of the elevation, as well as inside the structures and in the space between them, there were several dozen small stoves. The structural remains were poorly preserved, so it was difficult to establish the chronological relationship between the structures and the installations. Nonetheless, it seemed unlikely they were cotemporary, since one of the house walls had been destroyed by the dug-in stoves. Perhaps the stoves were in use at a time when the houses were no longer occupied, but were in a good enough condition to shelter the stoves from the wind. Test trenches opened in the northern and the western parts of the area clearly showed that the elevation used as the foundation of the structure was a natural uplift of the bedrock.

Another area investigated in the first season was located about 120 m south-west of these presumptive fishermen's huts and stoves. In a strip of land approximately 150 m wide, fragments of at least two structures were unearthed. On the western end of the strip, a trench was opened in which the outline

Fig. 9. Kharaib el-Desht site. Area 3. Drawing: M. Iskra and A. Graczyk; digitisation: M. Iskra and M. Puszkarski.

of one of the structures was visible, measuring 10 m in width and 9 m in preserved length. Two rooms were uncovered, but they yielded no finds. The structure was not well enough preserved to allow for any estimation of its original size. On its south-western side, there were visible traces of more rooms. The area to the east of the house was so heavily eroded that it was difficult to tell whether the uncovered stones adjoining the structure were the remains of subsequent rooms or simply rubble that had fallen off the wall (Fig. 8).

The larger of the two rooms featured stone abutments for supporting wooden poles. The abutments were dug into a layer of sand covering the usage level and connected with the uncovered walls of the

Fig. 10. Kharaib el-Desht site. Stone building. Photo: A. Oleksiak.

house. It is probable that, once the house was abandoned and partly destroyed, its ruins were repurposed as a seasonal shack-like structure.

In the most recent excavation season, the south-eastern part of the site was also investigated. As indicated by both the survey and the aerial photographs, this area was once a densely settled residential quarter. Fragments of at least three structures were unearthed. A test trench revealed a corner of a building (Fig. 9). Its western wall, founded directly on a sandy bed, was preserved up to 60 cm in height. Exploration of the uncovered corner revealed sherds, as well as a 2-cm thick installation that was probably a kind of stand made of beaten clay. In the northern part of the trench, a corner of another structure was unearthed. Its foundation level had an elevation about 25 cm higher than that of the wall it adjoined, so it must have been built at a later date. Another corner of a structure was unearthed in the southern part of the test trench.

In the south-eastern part of the site, the remnants of the northern peripheral wall and northern corner of a structure built from sturdy stone slabs was excavated (Fig. 10). So far, only a part of one of the rooms has been explored. However, this exploration yielded a distinctive element—a bulky interior buttress dug some 80 cm lower into the ground than the adjoining wall. It would have functioned to strengthen the overall structure. At this stage of excavation, it is not clear how wide the wall supported by the buttress was, although it seems to have been much thinner than both the peripheral wall and the wall enclosing the room from its north-eastern side. The walls of the structure were founded directly on a sandy bed; inside the room, a usage level of beaten clay was unearthed, along with several pottery fragments.

At the present stage of the excavation, the function of the structure is unclear, although it was certainly not residential in the usual sense of the word. Perhaps there was a connection between this structure and one or both of the two forts on the northern coast of Failaka: Zor and Quraniya. The Kharaib el-Desht structure is situated in the middle between the two, so it is possible that it was some kind of watch tower or small fortification.

Another interesting discovery was a usage level that may have been associated with the use of stoves. This level was unearthed on a small elevation at the eastern end of the site, in the layers some 90 cm beneath the foundations of the houses in the south-eastern end, and directly below the foundation of the stone structure. The stoves were almost certainly in use before the residential structures were even built.

There are still many unanswered questions regarding the sites investigated by the Polish Archaeological Mission, both during the 2012 survey and in the following excavation seasons. In particular, it remains unclear how Kharaib el-Desht and the usage level of the stoves relate chronologically with the fish traps found along the coast (Pieńkowska 2015: 579–589). However, given the placement of the settlement and the numerous finds of fishing net weights, at least the north-western part of the village almost certainly relied heavily on fishing. Without doubt, the Kharaib el-Desht stone structure will be the subject of intensive research in the upcoming seasons. Other sites in the region that require high priority excavation include Al-Sabahiya and the upthrust between Sad el-Aly and Al-Liwan.

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POTTERY, FISHERMEN, AND THE GULF TRADE

Preliminary Results of Four Seasons of Kuwaiti-Polish Excavations on Failaka Island

MARTA MIERZEJEWSKA

Introduction

Between 2012 and 2016, the Kuwaiti – Polish Archaeological Mission (KPAM) conducted four seasons of field research on Failaka Island. The first was devoted to a survey along the coast of the island,[1] which was followed in the subsequent years by excavation works at the site of Kharaib el-Desht, selection of the main areas with traces of Late Islamic settlement to be used in a comparative analysis, and underwater research along the coast.

From a ceramological perspective, three main areas of interest were distinguished in the KPAM project. During the survey, the first task was the identification of the main areas of human activity along the island's coast. Next, the chronology, function, and spatial organisation of the settlement at Kharaib el-Desht had to be established during excavations at the site. Finally, the project aimed to examine whether and how Kharaib el-Desht was related to (1) the Late Islamic settlement at Al-Sabbahiya on the southern coast of the island, and (2) underwater structures like fish traps and the so-called "harbour" (Object 12) located between Kharaib el-Desht and Al-Qurainiyah.

Methodology

The comparative material collected by the KPAM survey comprised over 900 vessel fragments from nearly 90 recorded sites located along the coastline. All pottery concentrations bearing traces of intensive human activity were localised using GPS coordinates (Garmin Oregon hand-held GPS—accurate to 3–4 m; (Pawlicki 2012: 7) and marked "PA" (pottery assemblage) on maps as a reference for future excavation works. The collected ceramic material was counted and catalogued based on morphological and technological features (fabric type and colour, manufacturing and firing technique, surface treatment, form, and decoration type).

The next three seasons were devoted to excavation works at Kharaib el-Desht and exploration of the nearby Kharaib el-Desht Bay. The collected ceramic material, comprising almost 10,000 vessel fragments from the settlement and over 600 fragments from the underwater structures, underwent selection followed by technological and typological analysis similar to that performed on the material collected during the survey.

Survey

The 2012 survey revealed three major chronological groups of ceramic material: the Bronze Age (3rd millennium BC), the Early Islamic period (7th to 10th centuries AD), and the Late Islamic period (17th to 20th centuries AD). However, it is important to emphasise that the current report constitutes a broad generalisation of the attested pottery assemblage (Fig. 1), as the central aim of the survey was to record all sites and structures located along the island's coastline. For this reason, the pottery collected was treated only as samples of material.

[1] For the complete results, see Pawlicki 2015; Pieńkowska *et al*. 2015.

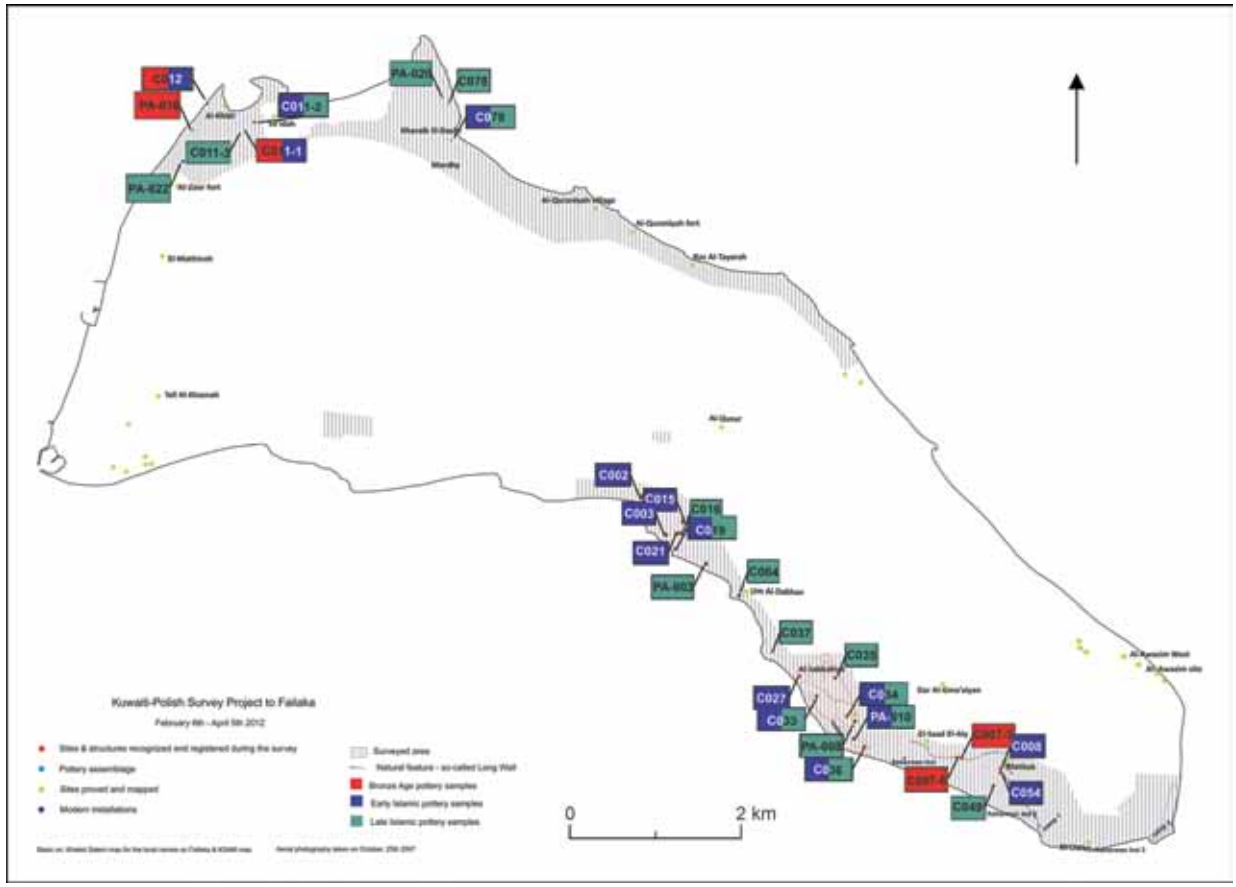


Fig. 1. The occurrence of the types of pottery collected during survey along the coast of the island in 2012 (plan: I. Nazaruk, P. Zakrzewski).

Some concentrations of Bronze Age pottery were to be expected. For instance, Red-Orange Ware was discovered at particularly high concentrations in the area of Al-Khidr—a site investigated by the Slovakian mission (Benedikova 2010: Figs. 120, 139, 141). This type of pottery is characterised by red-orange clay, a black core, visible white mineral inclusions, and a whitish slip (Fig. 2: 1). However, the discovery of such concentrations in the southern part of the island—between El-Saad el-Aly and Mathitah—was somewhat surprising. Based on the collected material, it is possible that the numerous structures located in this area (see Pieńkowska in this volume) could be dated to the Bronze Age.

Nonetheless, the majority of the forms represented were dated to the Early Islamic period. Such examples were mostly found in the southern part of the island. These were glazed vessels similar to Early Turquoise Ware (TURQ) (Fig. 2: 5; Kennet 2004: 35), as well as vessels for kitchen use reminiscent of Black Fired Earthenware, which is coarse ware, with the blackness of well-fired clay, visible white inclusions, and often finger-impressed raised panels (Fig. 2: 3; Kennet: 2004: 78). Also found were storage wares similar to Pinkish White Ware—reddish or pinkish ware with a creamy-white surface and incised decoration with sets of short lines (Fig. 2: 4; Patitucci & Uggeri 1984: 62, Fig. 18: 31, Tav. XXVIII)—and White Ware, which is cream/yellow ware with rouletted and incised decoration (Fig. 2: 2; Carter & Naranjo-Santana 2011: Fig. 35: 10–11).

There were two main concentrations of Late Islamic pottery: Gulf Glazed Ware, comprising bowls and deep dishes made of pale yellow or cream material and covered with low-quality green glaze such as Monochrome Green Glaze (GMONO.2; Fig. 2: 7), and underglazed material, as seen with Manganese Purple Underglazed-Painted Ware (MGPAINT.2; Fig. 2: 6; Carter & Naranjo-Santana 2011: 54, Fig. 46: 8; Carter *et al.* 2011: 91, Fig. 39: 2–3; Grey 2012: 354; Kennet 2004: 52, 56; Power & Sheehan 2012: 194, Fig. 3). These were located on opposite ends of the island: the first was discovered on the northern coast along Kharaib el-Desht Bay and Al-Khidr Bay, while the second was located to the south, between Um Al-Dakhan and Al-Sabbahiya. The pottery from both places was of similar chronology, although the vessel repertoire was

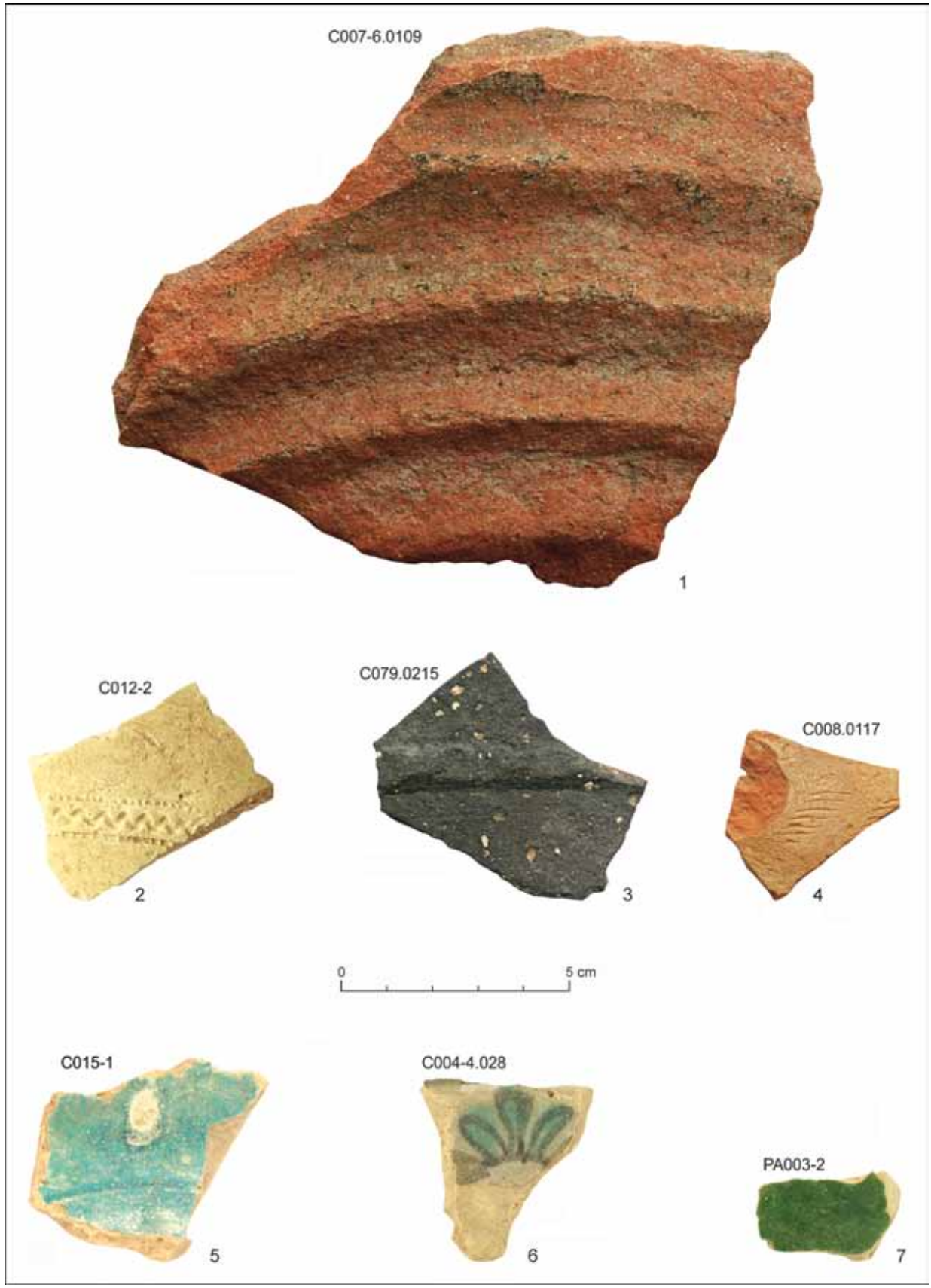


Fig. 2. Selected examples of pottery from Survey 2012 (photo: I. Nazaruk).

Area	Total amount	Diagnostic sherds		Non-diagnostic sherds	
		Fragments	% of total amount	Fragments	% of total amount
Surface between Area 2 and Area 3 and random finds	920	192	21%	728	79%
Area 1	4042	1228	30%	2814	70%
Area 2	265	103	39%	162	61%
Area 3 (Trench 1 and 3)	258	85	33%	173	67%
Area 3 (Trench 2 and 4)	1524	632	41%	892	59%
Area 4	3307	1451	44%	1856	56%
Kharaib el-Desht all Areas	10316	3691	35,8%	6625	64,2%

Fig. 3. Kharaib el-Desht. General plan of Kharaaib el-Desht 2016 and the percentage distribution of the pottery collected in each Area (plan: P. Zakrzewski).

somewhat richer in Al-Sabbahiya. Furthermore, this area yielded numerous fragments of porcelain from the 19th and 20th centuries AD, including Japanese Coffee Cups, Transfer Printed Ware, and Enamelled Porcelain, suggesting that Al-Sabbahiya was a later settlement than Kharaib el-Desht. Some Late Islamic material was also collected in the area between Al-Khidr and Sa'idah, but in considerably lower quantities.

Ceramic material from Kharaib el-Desht

During the three excavation seasons at Kharaib el-Desht, over 10,000 vessel fragments were collected and analysed. The majority of the material was found in the north-eastern part of the site in two adjacent areas: Areas 1 and 4, while northern part of Area 3 yielded the fewest sherds. Importantly, 38 % of all material was found on the surface **(**Fig. 3). Moreover, only 35 % of the material consisted of diagnostic fragments like rims, bottoms, handles, and decorated sherds. For this reason, it was difficult to precisely date the site and to reconstruct the analysed forms.

Almost 90 % of the vessels found at Kharaib el-Desht comprised unglazed pottery. Among them, a substantial group was composed of large vessels, such as containers, storage vessels, and thick-walled basins and jars. The two most numerous unglazed subsets were Gritty Ware—basins and storage jars of pale brown or grey-brown material that are characterized by dark grit, sporadic white inclusions, and grey or red-brown slip (Fig. 4: 3; Carter & Naranjo-Santana 2011: 51–52, Fig. 43; Carter *et al.* 2011: 86, Fig. 35)—and storage vessels of grey-brown to reddish coarse material with numerous inclusions of lime or shell fragments (so-called Lime Ware) (Carter 2011: 36; Carter *et al.* 2011: 90; Kennet 2004: 79). Also found were some examples of Chocolate Chip Ware—large, thick-walled storage jars and basins composed of a characteristic pale grey or grey material with numerous angular inclusions and sporadic lime inclusions (Petersen & Grey 2010: 49, Fig. 10: 10).

Another group of vessels attested at the site included jugs, bowls, jars, and water jars made of well-levigated cream fabric. They often featured incised or combed decoration, mainly on the neck or upper body of the vessel (Fig. 4: 1 and 4: 2). Such vessels can be classified as Ali Ware (Carter 2003: Figs. 1: 8–9, 2: 9; Carter *et al.* 2011: 84, Fig. 34; Naranjo-Santana & Carter 2010: 109, Fig. 80) or Cream Sandy Ware (Kennet 2004: 81; Petersen & Grey 2010: 48, Figs. 10: 8, 11, 13), which are quite common pottery groups. Most such vessels were found in Area 3—in Trenches 2 and 4.

Among the cooking wares, which were particularly dominant in Area 4, a considerable group was represented by various curved-wall pots and large, straight-walled basins of the Julfar Ware type. They were either hand-made or slow wheel-made. Their material had a characteristic red angular inclusion, and their exterior was often embellished by a red-brown painted geometric decoration (Figs. 4: 4 and 4: 5). Some of them featured special troughs on the rim that were probably used to hold a lid (Carter & Naranjo-Santana 2011: 52, Fig. 44; Carter *et al.* 2011: 88, Fig. 36; Frifelt 2001: 93–95; Kennet 2004: 75–76; Mitsuishi *et al.* 2013: 228, Figs. 3, 5; Petersen & Grey 2010: Fig. 10:5; Power & Sheehan 2012: 295, Fig. 4; Priestman 2005: 226–229; Ziolkowski & Al-Sharqi 2005: Fig. 52).

The site also yielded large, primitive, handmade basins that were quite similar to Julfar Ware but with different mineral inclusions and decoration. These vessels had thick, angular, lime inclusions and were

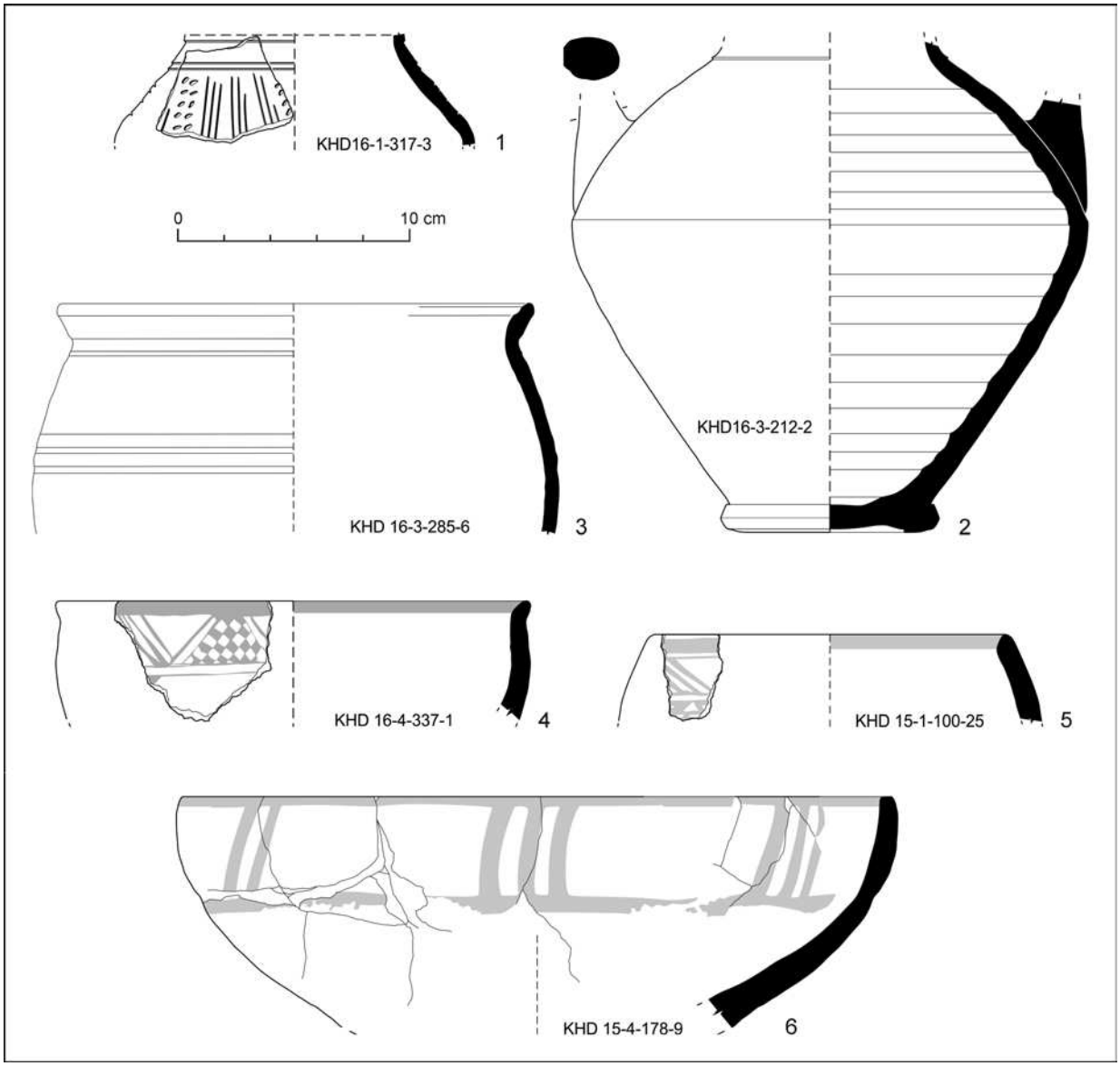


Fig. 4. Kharaib el-Desht. Unglazed pottery (drawing: M. Puszkarski; digitazing: M. Puszkarski, M. Mierzejewska).

decorated with simple painted patterns or splashes that were orange-purple in colour (Fig. 4: 6). Perhaps they represented a more local version of Julfar Ware that was Iranian in origin (Sedighian & Gholami 2011: Fig. 1).

Glazed pottery, which is mainly used for serving meals, comprised 10 % of the collected material. Most of it belonged to a pottery group known as Gulf Glazed Wares (Power 2015: 12), which is characterized by deep dishes and open bowls made of characteristic pale yellow or cream fabric and covered in low-quality glaze. Among the Gulf Glazed Wares, MGPAINT.2 (Figs. 5: 1 and 5: 2) was the most abundant, comprising 28 % of all glazed vessels, while GMONO.2 (Fig. 5: 5) and Red-Yellow/Mustard Ware (Fig. 5: 6 and 5: 7) amounted to 5 % and 2 % of the glazed material, respectively. The second largest group of glazed vessels, comprising 21 %, consisted of open bowls with ring bases composed of a hard, red-orange or grey material and a clear lead glaze. This type of vessels is known as Bahla Ware or Khunj Ware (Fig. 5: 3 and 5: 4). Another subset of glazed vessels, amounting to 18 %, was Late TURQ—a descendant of Early TURQ of the Early Islamic period (Fig. 5: 8; Mierzejewska, 2015: p. 574, Fig. 11).

As can be seen on Fig. 6, the majority of glazed material was collected in Areas 1 and 4. A comparison of data from all the investigated areas showed that the proportion of MGPAINT.2-type vessels was similar

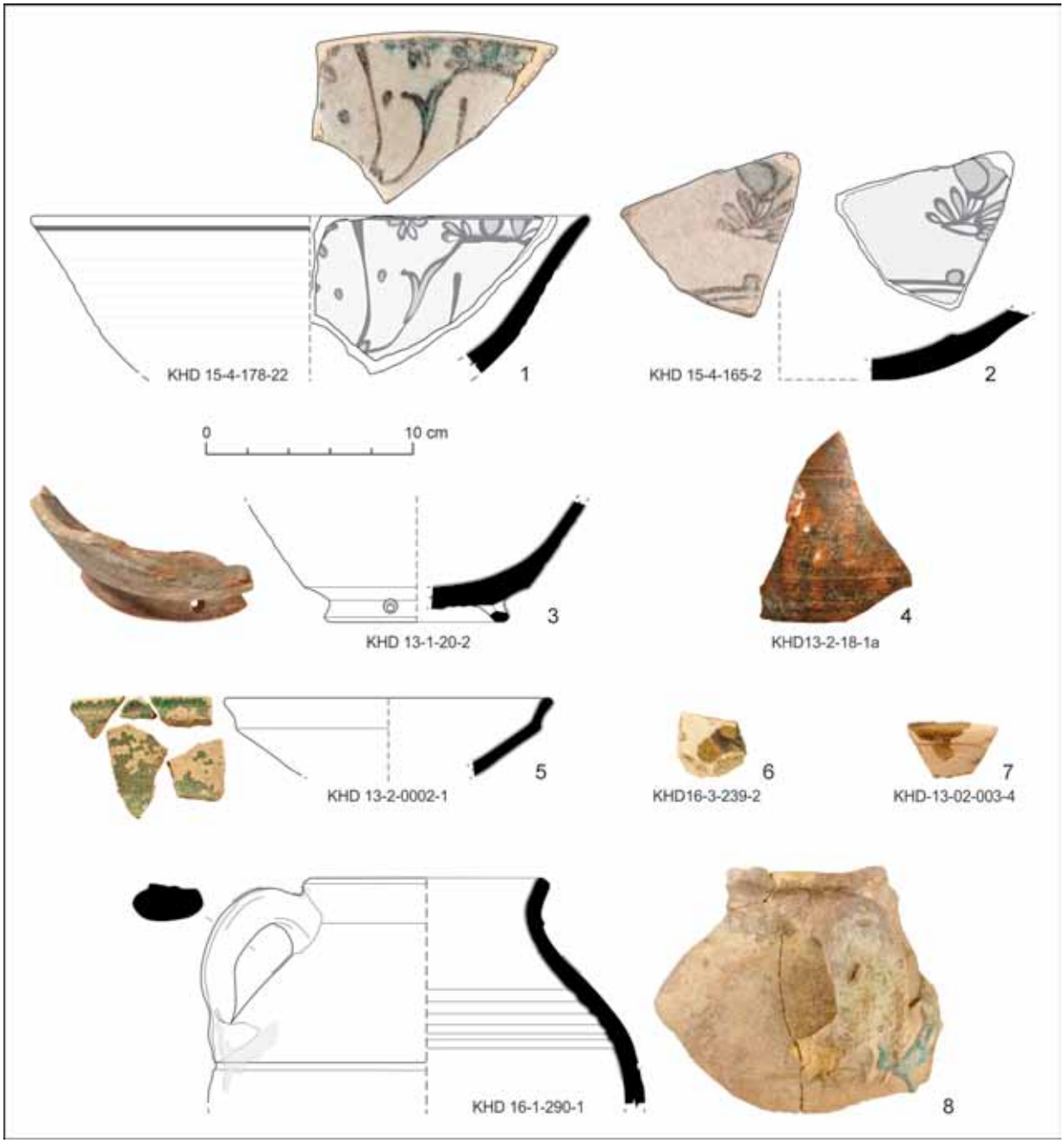
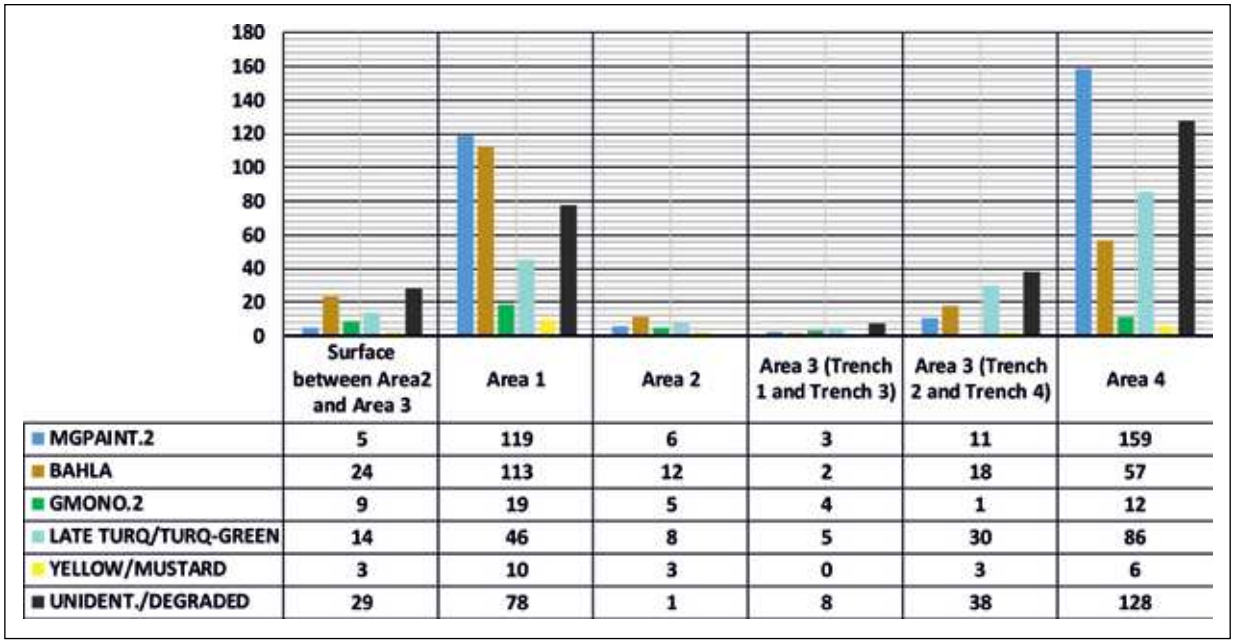


Fig. 5. Kharaib el-Desht. Glazed pottery (drawing and digitizing: M. Puszkarski; photo: A. Oleksiak).

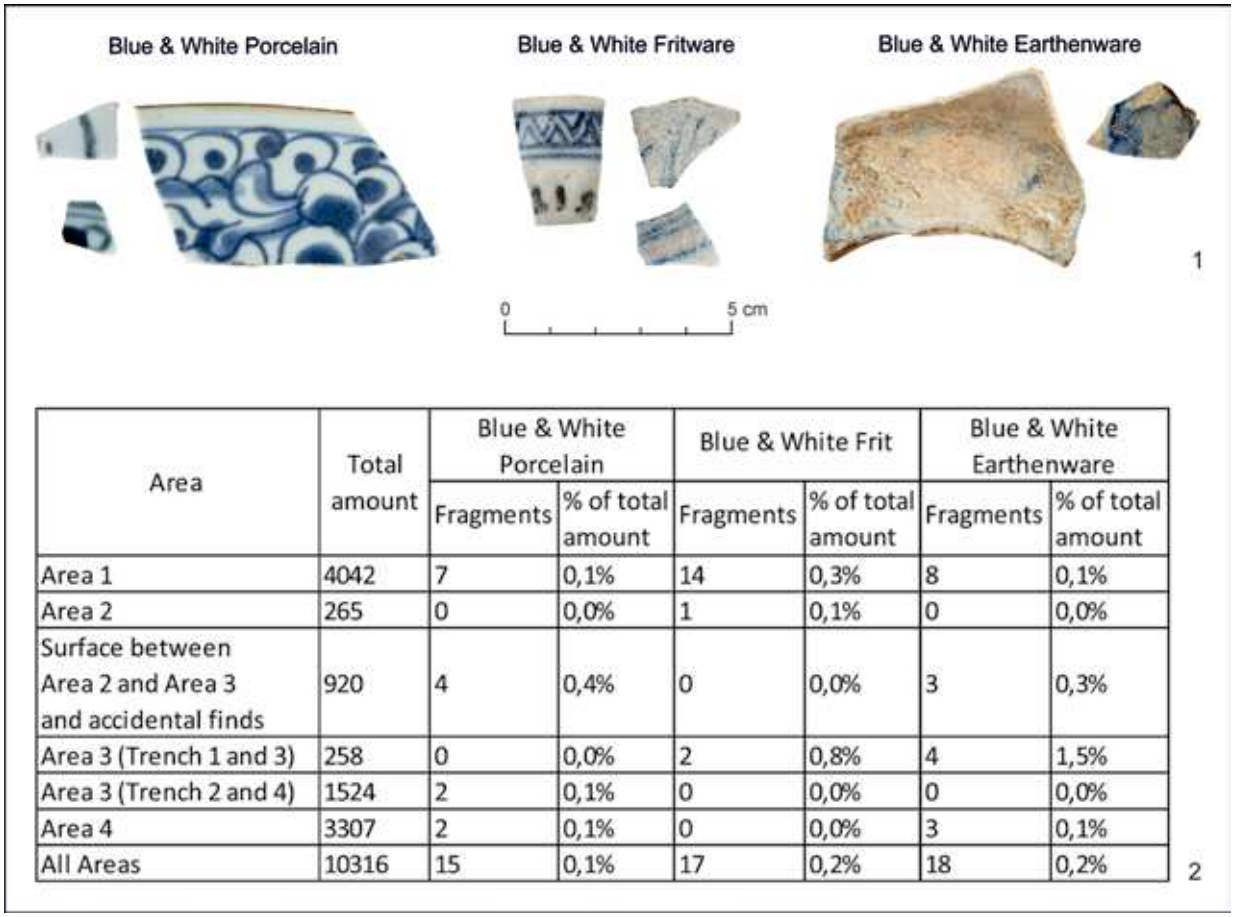
to that of Bahla-type vessels. One exception is Area 4, where MGPAINT.2 vessels were noticeably more abundant. However, in Areas 1 and 2, the glazed vessels were unearthed in similar proportions in each context, while in Area 4, a substantial number of glazed vessels were collected on the surface, and the percentage of glazed vessels decreased in the context layers in favour of kitchen vessels.

A few examples of imported wares were also found at Kharaib el-Desht, mainly in Area 1 (Fig. 7). There were over a dozen fragments of good-quality porcelain cups, plates, and bowls, decorated in a manner typical of Blue & White Porcelain. They accounted for only 0.1 % of the entire collected material. These were 18th century imports, mostly of Chinese origin, and they testified to the wealth of their owners. Another two rare groups of pottery, each amounting to 0.2 % of the sherds in total, were cheaper porcelain imitations, namely Blue & White Frit from Iran, and Blue & White Earthenware, of which there were only a few fragments.



	Surface between Area2 and Area 3	Area 1	Area 2	Area 3 (Trench 1 and Trench 3)	Area 3 (Trench 2 and Trench 4)	Area 4
MGPAINT.2	5	119	6	3	11	159
BAHLA	24	113	12	2	18	57
GMONO.2	9	19	5	4	1	12
LATE TURQ/TURQ-GREEN	14	46	8	5	30	86
YELLOW/MUSTARD	3	10	3	0	3	6
UNIDENT./DEGRADED	29	78	1	8	38	128

Fig. 6. Kharaib el-Desht. Frequency distribution of types of glaze in particular areas.

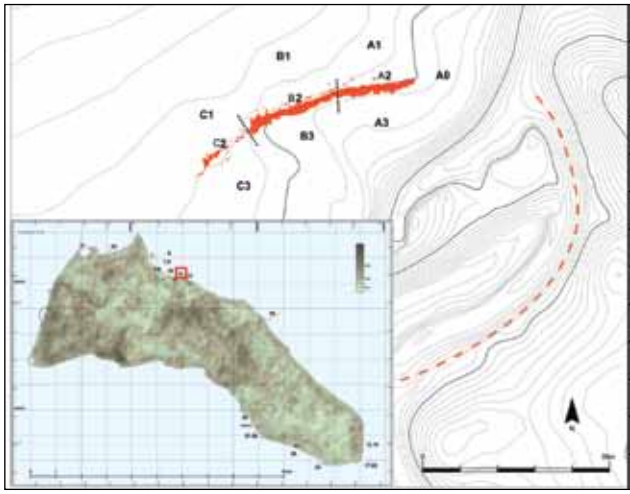


Area	Total amount	Blue & White Porcelain		Blue & White Frit		Blue & White Earthenware	
		Fragments	% of total amount	Fragments	% of total amount	Fragments	% of total amount
Area 1	4042	7	0,1%	14	0,3%	8	0,1%
Area 2	265	0	0,0%	1	0,1%	0	0,0%
Surface between Area 2 and Area 3 and accidental finds	920	4	0,4%	0	0,0%	3	0,3%
Area 3 (Trench 1 and 3)	258	0	0,0%	2	0,8%	4	1,5%
Area 3 (Trench 2 and 4)	1524	2	0,1%	0	0,0%	0	0,0%
Area 4	3307	2	0,1%	0	0,0%	3	0,1%
All Areas	10316	15	0,1%	17	0,2%	18	0,2%

2

Fig. 7. Kharaib el-Desht. 1 – South Asian imports at Kharaib el-Desht and their imitations; 2 – frequency distribution of South Asian imports in particular Areas (photo: A. Oleksiak).

Fig. 8. Kharaib el-Desht. a – Dump of pearl oysters, animal and fish bones from Area 1; b – Fishing net weights from Area 1 and Area 4 (photo: A. Oleksiak).



Sector	Total amount (fragments)	Diagnostic shards
A1	121	9
B1	243	35
C1	53	9
A2	26	1
B2	106	18
C2	11	4
A3	32	7
B3	32	7
C3	0	0
A4	9	1
A0	2	2
Total	635	93

Fig. 9. Object 12. Localization of object 12 and division into sectors (map: J. Kaniszewski, Sz. Lenarczyk) and total amount/ diagnostic sherds ratio in particular sectors.

The function of Kharaib el-Desht

An abundance of ovens (Pieńkowska, this volume; Pieńkowska 2015: 564) and querns (Cooper & Zazzaro 2014: Fig. 48; Nahsoni & Aladjem 2009: Figs. 4, 6) was unearthed in Areas 1 and 4, strongly indicating that many activities of the Kharaib el-Desht inhabitants took place outdoors, around the houses. The ovens were placed in courtyards and other open spaces, and were probably used for traditional fish preparation. In the vicinity of these installations, various everyday vessels were found, as were bones—mostly of fish, but also of other animals.[2]

It follows that Kharaib el-Desht was probably a fishing settlement. Indeed, many fishing net weights made of stone or from repurposed sherds (Fig. 8) were also found. Most of these featured pierced holes with cut marks left by a cord or wire, similar to parallel finds from northern Qatar (Russ & Petersen 2013: Fig. 2), Bahrain (Carter *et al.* 2011: 106, Fig. 50), and the UAE (Carter 2008b: 40, Fig. 21: 1).

The "harbour" (Object 12)

In light of these finds, the presence of fish traps along the coast of Kharaib el-Desht Bay became significant and was investigated by an underwater team managed by M. Nowakowska. Indeed, one task undertaken by the KPAM was to determine the relationship between these underwater structures and the settlement at Kharaib el-Desht.

Interestingly, ceramic material was only found in the area of Object 12 (the "harbour" or "port"), located on the south-eastern end of Kharaib el-Desht Bay, not far from Al-Qurainiyah. For the purposes of documentation, the object was divided into sectors—A, B, and C—and then further subdivided into three area types: the first stretching up to 10 m seawards, the second comprising the "harbour" itself, and the third consisting of the area between the structure and the coastline (Fig. 9). In this manner, over 600 sherds were collected, although most had been heavily damaged and weathered by sea waters, and the sherds were covered by a thick layer of periphyton. Consequently, it was impossible to identify the form of 85 % of the sherds, and they were classed as undiagnostic material.

The most numerous group of wares were large solid storage vessels: storage jars, large basins, and containers. This group was quite varied in terms of both the material and the repertoire of forms (Fig. 10: 1, 10: 2 and 10: 4). Perhaps the most interesting were examples of Early Islamic Torpedo Jars with slightly sloping shoulders and a thick rounded rim; some of these also had a narrow neck. The vessels tapered towards a slightly flattened bottom, and their interior was thickly coated in bitumen (Fig. 10: 6). Interestingly, many undiagnostic sherds of the same fabric also bore traces of bitumen. Owing to the durability

[2] These results are tentative, as the analysis of the bone material is on-going (J. Piątkowska-Małecka, personal communication).

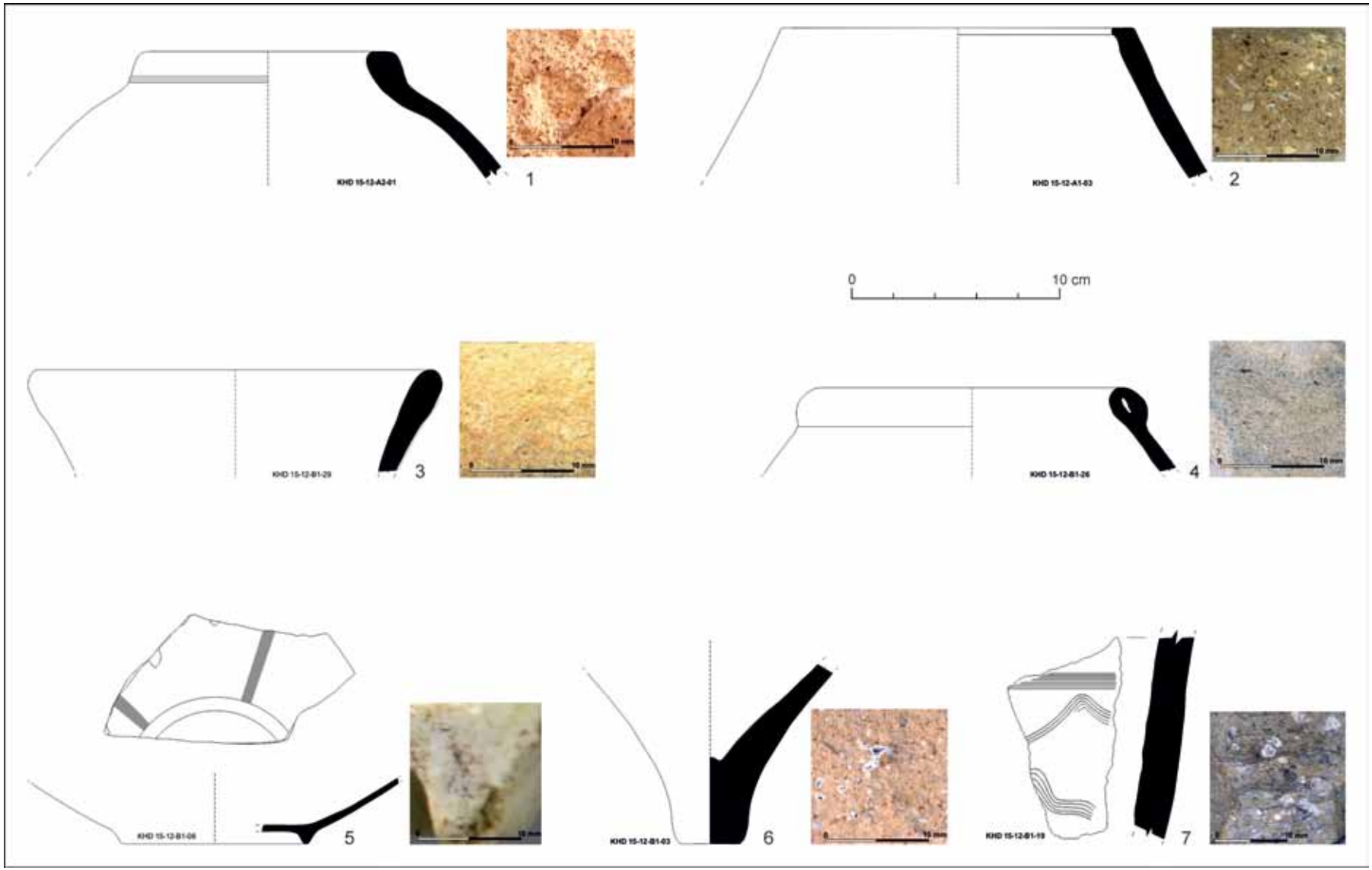


Fig. 10. Object 12: Selected examples of pottery from Object 12 (drawing and digitizing: M. Puszkarski; micro photo: M.Mierzejewska).

and impermeability of Torpedo Jars, such vessels were used mainly for transporting liquids, such as olive oil and wine, starting from the Sasanian period and continuing as late as the 10th century AD (Finster & Schmidt 1976: 95, Fig. 39a; Northedge: 1988, Figs. 38/11–14, 41/7–12; Kennet 2004: 80–82, Figs. 41–42). Furthermore, the "harbour" also yielded vessels of a material and form resembling Chocolate Chip Wares, as well as some fragments of Gritty Ware type, with a significant inclusion of grit (Fig. 10: 2).

Finds of tableware were sparse and were represented mainly by deep dishes and open bowls of TURQ (Fig. 10: 3) and Underglazed Painted Ware. Two porcelain fragments were also collected (Fig. 10: 5).

It is clear that some of the vessels discussed above were connected with fishing, because some of the sherds were repurposed to act as net weights. Another characteristic practice observed in port structures was to reuse broken sherds as additional building material to fill the gaps between stones in the walls. This may have happened in Object 12. However, it may be that the sherds recovered from between the stones got there by accident. Therefore, I believe that the presence within the perimeter of the structure (areas A2, B2, and C2) of both Early Islamic vessels, such as Torpedo Jars, as well as 19th and 20th century pottery, such as Late TURQ and Blue and White Porcelain, is not a clear-cut chronological marker of the function of Object 12.

Only two main sites have been identified so far along the coast of the bay: Al-Qurainiyah and Kharaib el-Desht. It follows that Object 12 was probably connected somehow to one of them. Specifically, the evidence collected suggests an association with Al-Qurainiyah, as it lies much closer to the harbour, while Kharaib el-Desht is situated on the opposite end of the bay. Moreover, the material and the forms of the vessels recovered from Object 12 were dissimilar to those from Kharaib el-Desht. Conversely, the preliminary results presented by the Italian mission showed that there were two main functional phases at Al-Qurainiyah: the Early and Late Islamic ones (Grassigli & Di Miceli 2015: 68–69), with a considerable time interval between them, as indicated by the ceramic finds from Object 12 and Al-Qurainiyah.

Discussion

A preliminary comparative analysis of the ceramic material unearthed at Kharaib El-Desht and Al-Sabbahiya indicates that few luxury wares were found at the former. Nonetheless, in both cases, the pottery assemblages reflect the general directions of trade relations in the Persian Gulf between the 17th and the 19th centuries AD.

A comparison of the material from Kharaib el-Desht and the published findings from the neighbouring Al-Qurainiyah shows a striking disproportion in the percentage of South Asian porcelain and in the variety of wares found. At Kharaib el-Desht, these imports amount to less than 1 % of the collected material, while at Al-Qurainiyah they constitute as much as 15 % (Grassigli & Di Miceli 2015: 68). Moreover, at Kharaib el-Desht, apart from sparse small fragments of Blue & White Porcelain, Frit Ware, and Earthenware, there was no other Asian porcelain, and very few 19th and the 20th century European imports like Sponge-Printed or Transfer-Printed Wares.

The sparseness of the South Asian imports at Kharaib el-Desht can be treated as a dating marker for the settlement. According to the chronology of Late Islamic pottery proposed by T. Power, a low percentage of East Asian pottery is characteristic for the Late Islamic 1a period (c. 1650–1720), while the proportion gradually increased towards the end of the Late Islamic 1b period (c. 1720–1790) (Power 2015: 12, 13, Table 4).

Moreover, a comparison of the data from Kharaib el-Desht and those gathered by T. Power at Al-Ain points to another chronological clue. At the latter site, vessels of MGPAINT.2 type appeared in the Late Islamic 1b period at a percentage similar to that of Bahla Ware (Power 2015: 12, 18). A parallel situation occurs in Kharaib el-Desht, where each of these two types constituted over 20 % of all glazed wares (and less than 3 % of the entire assemblage). Glazed vessels belonging to the so-called Gulf Glazed Wares group have been attested at many Gulf sites—from Bahrain to the UAE (Carter 2003: 62; Carter & Naranjo-Santana 2011: 54; Petersen & Grey 2010: 47; Power & Sheehan 2012: 295). In general, their peak in popularity across the entire region falls towards the end of the 17th century into the 19th century AD. Bahla type vessels were common in the entire region of the Gulf between the 17th and 19th centuries AD—as evidenced by finds at such diverse sites as Al-Ruwaydah (Qatar) (Petersen & Grey 2010: 48), the Al-Ain oasis (UAE) (Power 2015: 10; Power & Sheehan 2012: 295), Bahla (Oman) (Whitcomb 1975: Figs. 5d, 11g, 12o), and Khunj (Iran). In fact, these vessels were exported as far as east Africa and Zanzibar (De Cardi & Doe 1971: 266–267).

Unglazed jugs and open bowls of Ali Ware type may have been imported from Bahrain (Carter *et al.* 2011: 84; Naranjo-Santana & Carter 2010: 109). Similar forms were also represented by vessels similar to Cream Sandy Ware, which have been attested at Ruwaydah (Qatar) (Petersen & Grey 2010: 48) and Jebel Dhanna (UAE) (Carter 2003: Figs. 1: 8–9, 2: 9). Similarly, Buff Wares were also found; these were manufactured in Oman, but have been found across the entire Oman Peninsula and along the western coasts of the Persian Gulf (Carter 2011: 35). Southern Iran was also an important point in the trade exchange and was probably the source of porcelain imitations such as Blue & White Earthenware and Blue & White Frit (Priestman 2005: 277).

Conclusions

At the present stage of research, the evidence suggests that the northern part of Kharaib el-Desht (Areas 1, 2, and 4) was most intensively occupied from the end of the 17th century to the end of the 19th century AD. This dating is supported by the abundance of Gulf Glazed Wares, which includes a substantial percentage of MGPAINT.2 and Bahla Ware, with the latter accounting for 20 % of all glazed vessels. Further evidence for this dating comes from the scarceness of high-quality East Asian wares, and the lack European imports. Importantly however, settlement activity in Area 4 seems to have lasted somewhat longer, probably towards the beginning of the 20th century AD, as evidenced by modern digs and a refuse pit.

The dating of remains from Area 3 is a more complex issue. The southern part of this area (Trenches 2 and 4) yielded settlement remnants whose chronology was consistent with those in Areas 1 and 4. Conversely, the finds from its northern part (Trenches 1 and 3) suggest that it was occupied at an earlier date. For instance, there was almost no MGPAINT.2 and only scarce fragments of earlier types of pottery, such as Lime Ware and Chocolate Chip Ware. Thus, the chronology of Area 3 requires further investigation.

More generally, the repertoire of vessel types and forms found at Kharaib el-Desht indicates that they originated in the Gulf and that they are consistent with the general patterns observed in the Late Islamic period across the entire region.

The unearthed ceramic material allows us to make some observations on the function of the village. One notable feature of the pottery assemblage at Kharaib el-Desht is the prevalence of unglazed wares, amounting to 90 % of the entire collected material. Furthermore, vessels for kitchen use predominated, particularly Julfar Ware and Handmade Painted Ware. These factors clearly point to the rural character of the settlement. Additionally, the presence of ovens surrounded by the remains of kitchen vessels and fishing net weights strongly suggests that the village specialised in fishing.

Thus, it is very likely that the fish traps located in the nearby waters were used by the inhabitants of Kharaib el-Desht. However, there is no convincing evidence connecting this settlement to the harbour, as the pottery repertoires attested at both sites differ greatly. Based on the available data from Al-Qurainiyah, it seems that the vessel assemblage from Object 12 consisted mostly of material contemporary with occupational phases at that site.

A separate question that needs further investigation is the connection between Kharaib el-Desht and Al-Qurainiyah in the north, as well as their relationship with the settlements in the south—Um Al-Dakhan and Al-Sabbahiya.

I wish to express my gratitude to the Kuwaiti National Council for Culture, Arts and Letters in Kuwait, especially the Director of the Department of Antiquities and Museums, Dr Sultan Al-Duweish, and Mr Talal Abdullah Shameri and Dr Hamed Al-Mutairi, for their invaluable contribution and continuing support.

Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
Archaeology of Failaka and Kuwaiti coast – current research
Nitra 2019, 181–188

LATE ISLAMIC SEASONAL SETTLEMENT ON THE ISLAND OF FAILAKA

Preliminary results

JIMSHER CHKHVIMIANI

During the 2011–2016 Kuwaiti–Georgian Archaeological Mission on Failaka Island, several significant archaeological sites were recovered. The archaeological activity of this mission covered an area in the northeast part of the island of Failaka (Fig. 1). Some of the sites can be dated to the late Islamic period and are spread along the coastline of the Arabian Gulf, about 150–160 m from the water.

The group of the sites known as Kuwaiti–Georgian 18 (KG 18), starts near Al-Awazim and spreads northwest in a 300-m strip. There is a circular stone structure the KG 9 site within the same area (Fig. 2). Also, the KG 10 site is located to the northwest of KG 18 group of sites (Fig. 1). Between the sites KG 18 and KG 10 there are probable archaeological sites that have not been excavated yet. There are wall remains on the surface which indicates that they must be stone structures. Nearby, registered group of the KG 12 cluster is also located to the south from KG 10 and KG 18, which consists of thirteen possible archeological sites (Fig. 1). According to all of above it is possible to identify the probable existence of the settlement that might be up to 750–800 m length. The materials gathered on the surface of the sites strongly suggest that the settlement can be attributed to the late Islamic period.

The "Long Building" (17 x 2.5 m) of KG 10 has southeast-to-northwest orientation (Fig. 3). Initially, it was a three-room building, 12 m in length and 2.6 m in width (structure 1). During one of the renovations of the building, semicircular structures were added onto one end, extending the length to 17 m. To the southwest of the Long Building, an additional storage room was built (structure 2), while at the southeastern end, vertically arranged flat stone bricks encircled the private yard (structure 4) of the dwelling.

In the rooms of the Long Building, eight ovens and two hearths were found (Figs. 4 and 5). Among the three rooms, one was probably the living space, with remnants of a hearth at floor level. In the other rooms, several small ovens were found embedded in the floor. It seems that, at first, an oven-sized pit was dug in the ground, and that it was subsequently plastered with clay. The clay structure was first dried and then burnt to keep it stable. For more strength, some small stones were placed around it. There was an air hole in the bottom or side wall of the oven that surfaced at the floor level. The ovens' holes were probably used for blowing coals. Most of the oven's rims were surrounded by stones to strengthen the construction.

The bottoms of these ovens were full of charcoal, and food remains were also found, such as fish bones, crab remains, palm stones, etc. A similar type of oven has been found in buildings of Late Islamic period at Al-Qurainiyah (Grassigli & Di Miceli 2015: 11–24) which is located about 8 km northwest of KG 10 and KG 18.22.

The KG 9 site consisted of a small circular sandy mound (4 x 5 m) with a group of compactly heaped stones (Fig. 6). The excavations revealed a circular structure built of flat stone and erected on a platform measuring 4.2 x 3 m and consisting of stone, clay, and sand. The walls were made of three or four courses of masonry up to a height of 0.7 m. The interior of the "chamber" measured 2.3 x 2 m. The floor had been leveled and compressed. The entrance led into the structure from the northwest, where a stone doorstep was found. The building contained fragments of Late Islamic period ceramics. No ovens or hearths were found inside the structure (Makharadze & Kvirkvelia 2012).

The small size of the building suggest that it was a cult building, perhaps a small shrine, rather than a dwelling. Excavations revealed that almost all the stone structures had an entrance from the southern

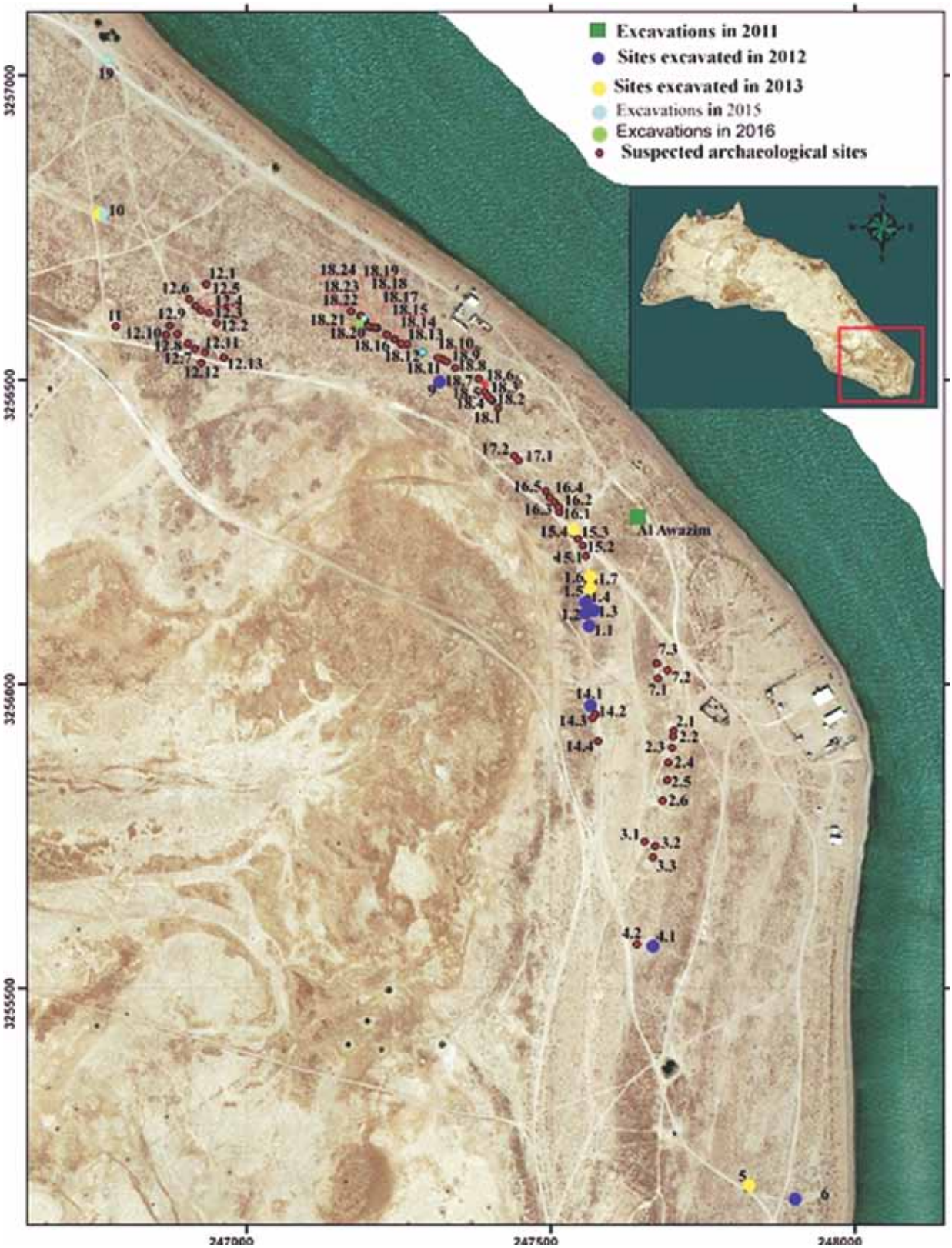


Fig. 1. Northeast side of Failaka Island. Surveyed and excavated archaeological sites.

Fig. 2. Failaka Island. KG 18 sites group.

or southeastern side. In the case of the KG 9 building, the entrance was from the northwest side. When people entered the building, they would face southwest − towards Mecca. Thus, the building is likely to be a Musallah − an outdoor prayer area. Similar Musallah occur widely in the Arab world, and they can have various shapes (Crombé *et al.* 2001: 152–153; Overlaet 2016: 88–89).

One building in the KG 18 group (site KG 18.22, excavated in 2016) had a similar orientation as the KG 10 "Long Building". Initially, it was a three-room building (2.20 x 11.40 m). Later, a 2.40 x 1.60 m semicircular storage room was added to it on the southeastern end (structure 2). To the southwest, an arch-shaped wall was added (structure 3), which probably surrounded the entrance to the dwelling (Fig. 7). At the first stage, the entry to the room (No. 1) was on the southeast wall. After the addition of structures 2 and 3, the entrance on the southeast was closed up and another was cut into the south-western wall. In addition, an entryway with a stone door-sill was identified in the building's northwest wall (room No. 3) indicating another entrance (Fig. 7). Like the "Long Building" from site KG 10, several ovens[1] and one hearth were found inside the building (Figs. 8 and 9).

The height of the remaining walls in both buildings varied between 0.20–0.50 m. They were built with flat shell stones and appeared to be the foundation of the buildings. The walls were constructed from different types of material, such as wooden pillars, palm fronds, clay, tent fabric, etc. The remnants of these materials have not been preserved. However, post holes within the walls of the building, as well as in the central strip of the rooms, were identified. These post holes must have been used to support the walls and roof. The existence of this post holes on a long strip in the center of the building indicates that the building had a gable roof, which consisted of two roof sections sloping in opposite directions.

[1] In 2016 several samples of sediments were taken from the ovens for palynological studies. the following samples are being studied in Georgian National Museum by Dr. Eliso Kvavadze. Preliminary we can say that the gathered samples contain different pollens of fruits, vegetables, cereal and other plants.

Fig. 3. Failaka Island. KG 10 site. "Long Building" after excavation (zenithal photo: H. Almutairi).

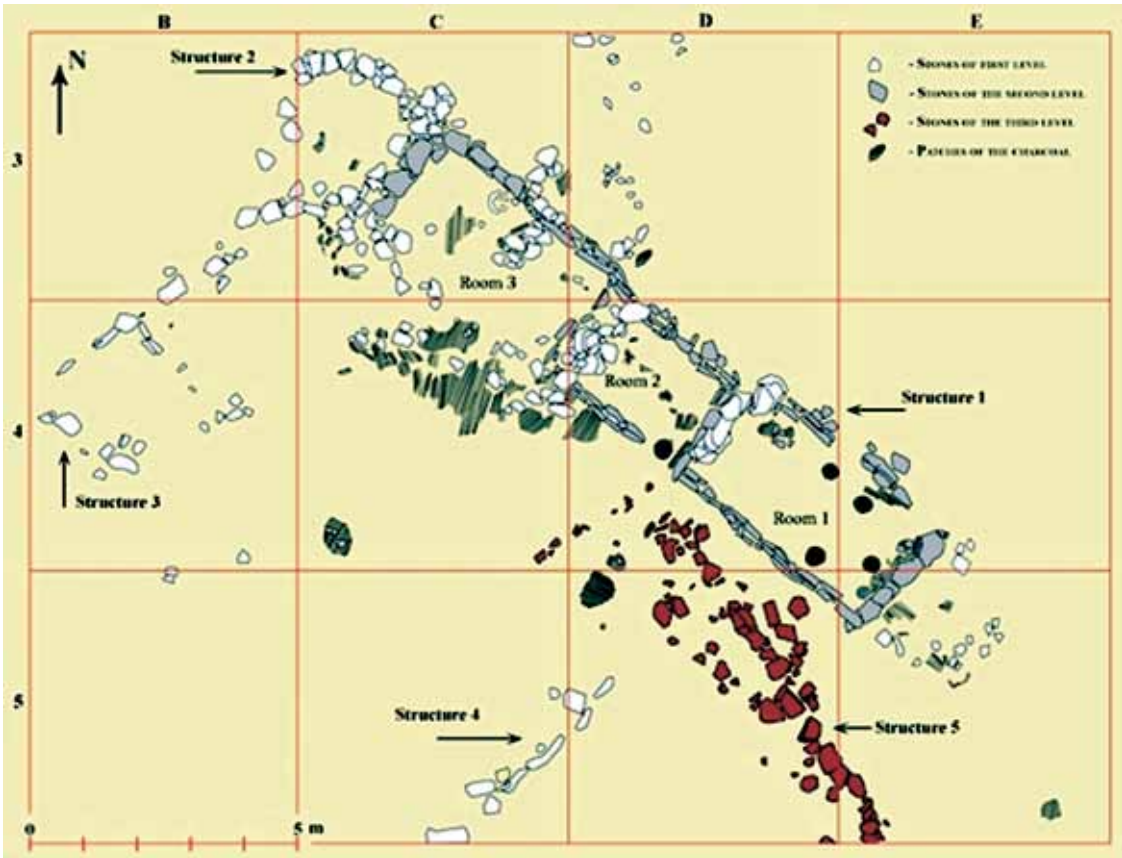


Fig. 4. Failaka Island. KG 10 site. Structures of "Long Building" and phases of functionality.

Fig. 5. Failaka Island. KG 10 site. "Long Building", room 1, view from the south-east.

Fig. 6. Failaka Island. KG 9 site. Structure with a round form. View from north.

Fig. 7. Failaka Island. KG 18.22 site. End of excavations. View from the south.

Fig. 8. Failaka Island. KG 18.22 site. End of excavations (zenithal photo: H. Almutairi).

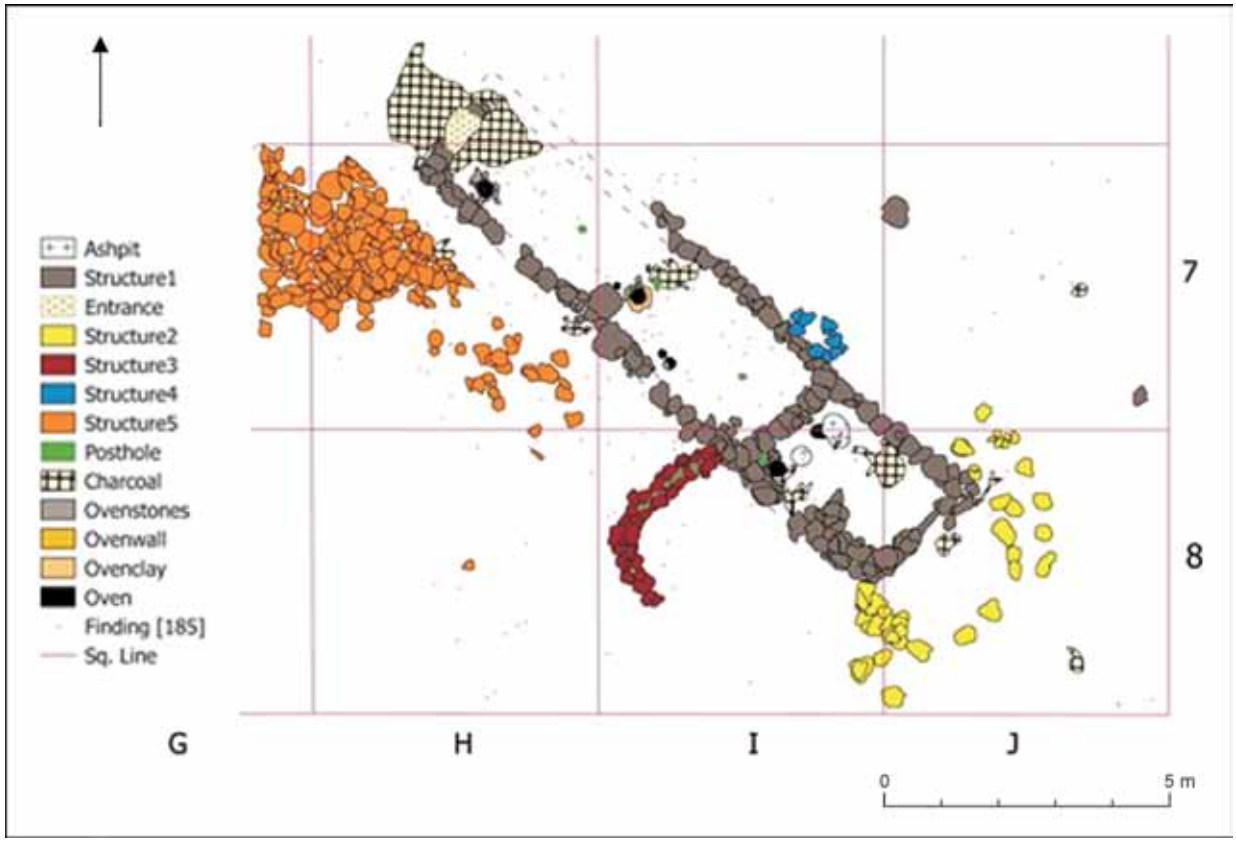


Fig. 9. KG 18.22. Elongated stone building (structures 1, 2 and 3). General plan.

At the KG 18.22 site, another phase of building with circular shape (structure 4) was constructed after the building with three rooms (structures 1, 2 and 3) had been destroyed. Stones were taken from the earlier building and used to construct a wall in structure 4 resembling a stone embankment. There is little chronological difference between structure 4 and the lower three room building.

Similar elongated structures were revealed by the Polish–Kuwaiti archaeological mission on the southern coast of the island (the southeastern part of Failaka) during an archaeological survey (Pawlicki 2015: 547–559). They may have been connected with fishermen's activity in the Late Islamic period.

The archaeological artifacts found on the sites were similar to 17th and 18th century materials found in the Arabian Gulf. Specifically, types of ceramic such as Bahlā (Kunj) ware, Manganese Painted Ware, Green Monochrome Ware, Julfar ware and etc. were found (Fig. 10). Additionally, the glass bracelets and metal objects found on the site were similar to those found in the Arabian Gulf during the Late Islamic period (Kennet 2004; Unity within Cultural Diversity 2016: 65; Power & Al-Kaabi 2012: 5–7). These findings also have parallels with materials found on the Island of Failaka itself at sites like Al-Sabbahiya and Kharaib el-Desht (Mierzejewska 2016: 23–24).

It should be outlined that both the glazed and unglazed ceramics show traces of use. Furthermore, several pierced ceramic fragments were found that were probably made to restore broken pieces of the vessel.

The polychromic glass bracelets with red, yellow, and green colors found at site KG 10 have parallels at Al-Qurainiyah, which also belongs to the Islamic period (Al-Qurainiyah site 2010: 10).

Several artifacts related to fishing, such as stone fishing-net weights, fishing-rods, etc. were discovered, and multiple bones of crabs and different fish species were found on archaeological surfaces. According to the results of palynological samples from the ovens found in the "Long Building" at KG10 and on the KG 18.22 site we can say that these ovens were used for baking bread and cooking, also it might have been used for smoking the sea products.

These settlements were most probably used seasonally for seasonal fishing and accompanying activities. The archaeological research has revealed several living surfaces and periodic renovations within the structures in the settlements, indicating seasonal occupation of these sites.

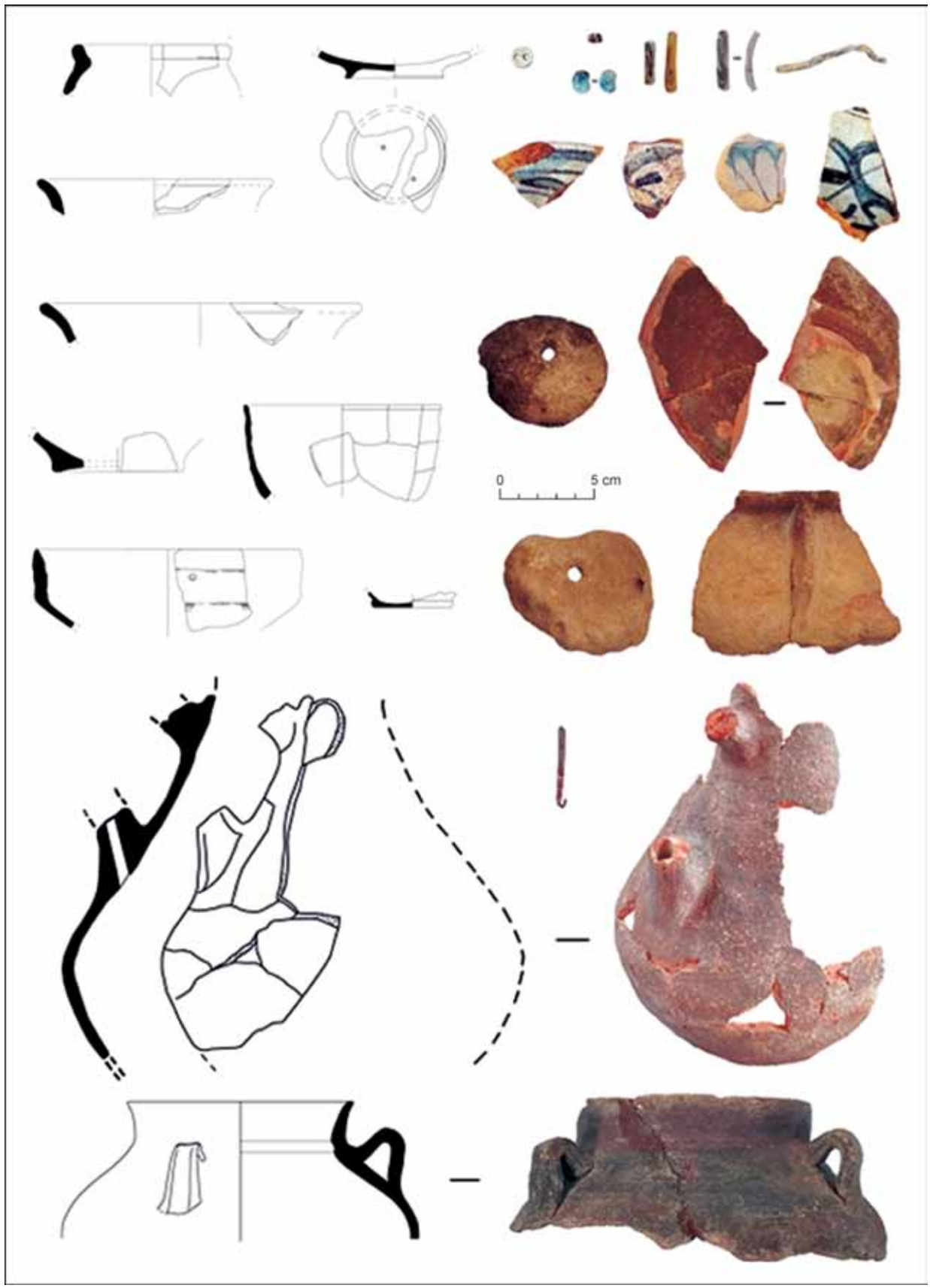


Fig. 10. Archaeological artefacts from sites KG 9, KG 10 and KG.18.22.

Matej Ruttkay – Branislav Kovár – Karol Pieta (Eds.)
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RESULTS OF THE GULF MISSION EXPLORATION OF SA'IDA VILLAGE ON FAILAKA ISLAND – HILL NUMBER 10, DECEMBER 2018

HAMED AL-MUTAIRI – TALA AL-SAIE – KHALID BIN SULTAN AL-QAHTANI

Sa'ida village on Failaka Island has been the chosen site of the Joint Gulf Excavation Mission since 2001. It is one of a number of late Islamic era villages located on the northwest coast of Failaka Island, where the joint Gulf team started excavation in 2001. In the same year, the team discovered a mosque that was constructed with stones and bricks and had two niches (Al-Mutairi 2010: 91). In 2016, after Kuwait City was selected as the capital of Islamic Culture, the Gulf team continued its excavations in a house located to the northeast of Hill No. 12 (Al-Mutairi 2016: 3).

In 2017, most Gulf countries abstained from participating in the excavation because of the Gulf political crisis. However, the Gulf excavation teams managed to reunite with the participation of three countries: Saudi Arabia, the United Arab Emirates, and the Kingdom of Bahrain, as well as scholars from the host country Kuwait who were commissioned by the National Council for Culture, Arts and Letters. In that season, work was carried out on Hill No. 10: a low hill located in the east of the site, 95 m from the mosque that was revealed in 2001. The surface of Hill No. 10 exposes the falling stones of a rectangular room. It is clear that mud was used in the construction of this room because wet, dark-brown mud layers appear on the surface and expand to include the area around the room.

Hill No. 10 is located in the center of the G13 square, and its southwest tip touches the H13 square, with each square in Sa'ida village being measured in a 20 x 20-m grid. The building tends to the northwest because residents in ancient times avoided northwest winds by constructing buildings along the northwest/southeast axis. The entire hill is set in the middle of a square measuring 10 x 13 m. The hill is generally low, with the highest point being 6.24 m above sea level and the lowest elevation occurring at the farthest southwest at 3.29 m above sea level.

This hill, which is somewhat distant from the settlement, was selected because some Chinese porcelain from the early 20th century was found in its vicinity, so it was thought to date back to a different period from the rest of the hills. Meanwhile, the team continued their excavations on the main Hill No. 12, where a large part of the eastern side of a house dated to the late Islamic Era was revealed. It is hoped that the team will complete this work next season.

Architectural planning and construction stages

The surface layer of SU1[1] was completely removed from the hill, and it became clear that a large amount of the wall's clay had leaked into most parts of the site, covering the north and south sides of the hill, and to a lesser extent the east and west sides, as well as the inside of the building. On the north side, the stones were more concentrated because the wall had collapsed towards this side. After removal of the rubble, a rectangular building measuring 5.10 x 3.10 m was discovered. Upon studying the layout of the building, as well as its archaeological features, we concluded that it had gone through two habitation phases, which can be detailed as follows:

[1] SU stands for Stratigraphic Unit, and SSU stands for Structure Stratigraphic Unit.

Fig. 1 Group photo of the delegation participating with the Kuwaiti team in the joint Gulf excavation.

Fig. 2. Photograph of the archaeological Hill No. 10 prior to excavation.

Fig. 3. Photograph of the second layer (SU2) after cleaning of the surface layer.

Phase I saw the beginning of construction according to a rectangular layout measuring 3.10 x 5.10 m; the height of the remaining walls is 13 cm, while the thickness of the walls varies between 40 and 50 cm. During this stage, sandstones were cut and used in the construction of the walls: two rows of stones were laid, with clay used as cement. Notably, the builders did not rely on stones to construct the rest of the walls, using bricks instead. Moreover, the natural floor was used as the floor of the building, where traces of a stove (SU12) were found on the northwestern side. The stove was supported by two stone piles, which formed a base that was used to ignite the wood. Charred wood remains were also found in the stove. Another stove on the south side of building (SU24) dated back to the same phase. Traces of habitation were found inside the building in probe 2 (Test 2), namely pottery sherds and beads, as well as a fragment of a glass bracelet dated to the beginning of the 20th century. Furthermore, habitation outside the building during this phase was also found in the probe dug in the northwest (Test 1), where the remains of settlement and residues of ash were found at a depth of 3.35 m above sea level, in addition to pottery sherds. On the east side, there were limited traces of burning (SU23) dating back to the same phase, as well as crumbling stones and the ruins of an iron piece (SU21) outside the building. The few archaeological inhabitants in the 20th century used it for temporary accommodation, possibly to manage farms or fisheries.

Phase II was characterized by preservation of the building's structure, with no signs of additional construction or new divisions inside. The original walls of the building, which had been abandoned for a short period of time, were restored, and the results of the restoration were observed in many places; on the southeast (SU16) and southwest sides (SU17), stones were used to strengthen the walls and stuffed between the foundations of the original eastern (SSU3) and western walls (SSU1), which were prone to collapse. At this stage, the walls were restored using clay, as was evident from the structure of the western wall, where the foundations of the stones were clearly skewed outward. The restoration also included the northern part of the eastern wall (SSU3), where there was little inclination in the wall. Moreover, stone blocks were added to the northern wall (SU2) to add width; in some parts, the width of the wall reached 55 cm. A new clay floor in building SU7 was also applied during this phase. However, the floor was not well furnished and was only used in the middle of the room, leaving the eastern (SU9) and the western (SU10) sides of the courtyard with a sandy floor. As such, the floor covered the stove (SU12) and coal residues are visible in SU13. It also appears that,

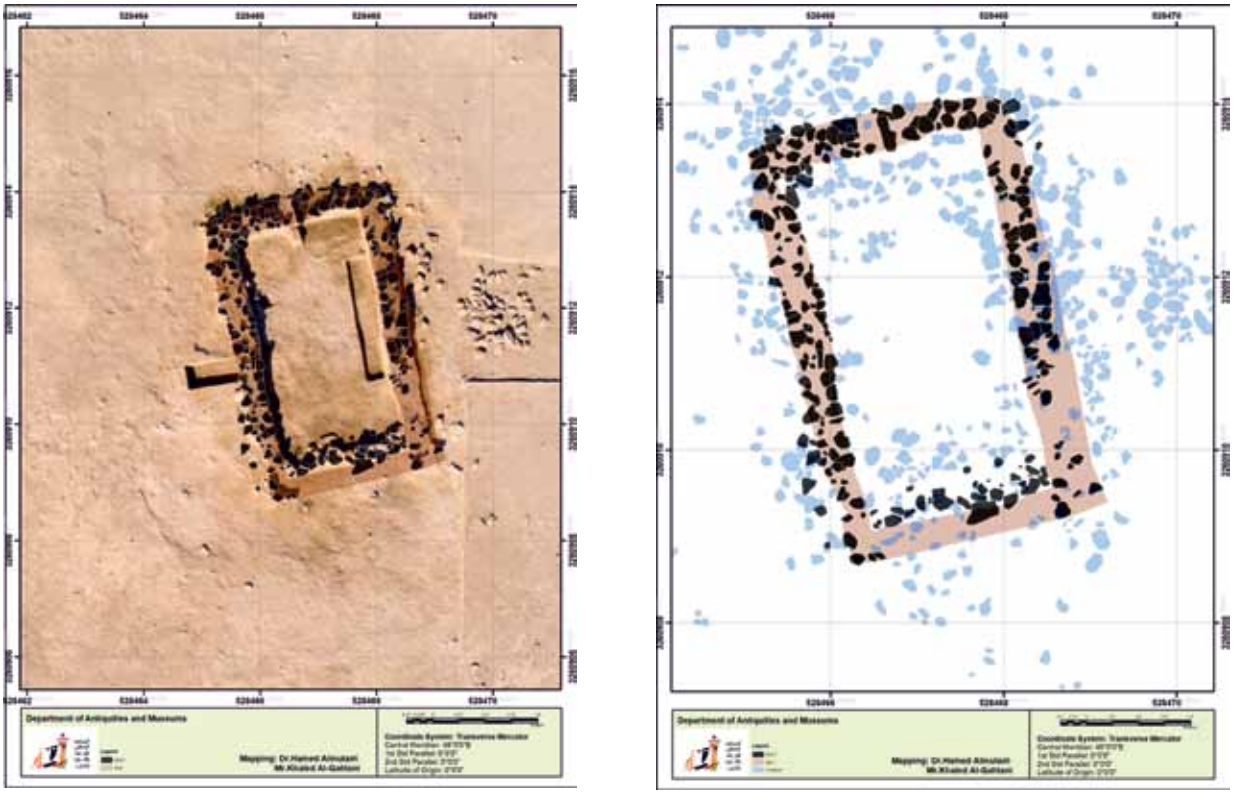


Fig. 4. A map showing the shape of the building and the places where stone and mud were used.

during this phase, the main door was located in the southeastern part of the SSU3 wall, where a break was detected (SU26), the potential door width is 60 cm, and its rebound is 40 cm.

The end of habitation in the building

The site appears to have been abandoned and, after a period of abandonment, its roof was burned. The roof burn marks were found on the south (SU14) and northwest sides (SU15), as well as inside the building on the northwest side (SU5) and southwest side (SU13). After examining the traces of the burning, it became clear that the roof was made of wood, which was found charred and poorly preserved. Moreover, the southern wall of the building had been looted, with only a few pieces of the original wall still visible in its corners. It seems that, after the collapse of the wall in this part, the area became a commune from which stones and timber were transported. This was confirmed by the archaeological findings in layers SU1 and SU2, which likely date back to the first half of the 20th century. In Sa'ida Village cemetery, similar findings were revealed, such as coffee cups made from modern Chinese porcelain, broken teacups, and blue perfume

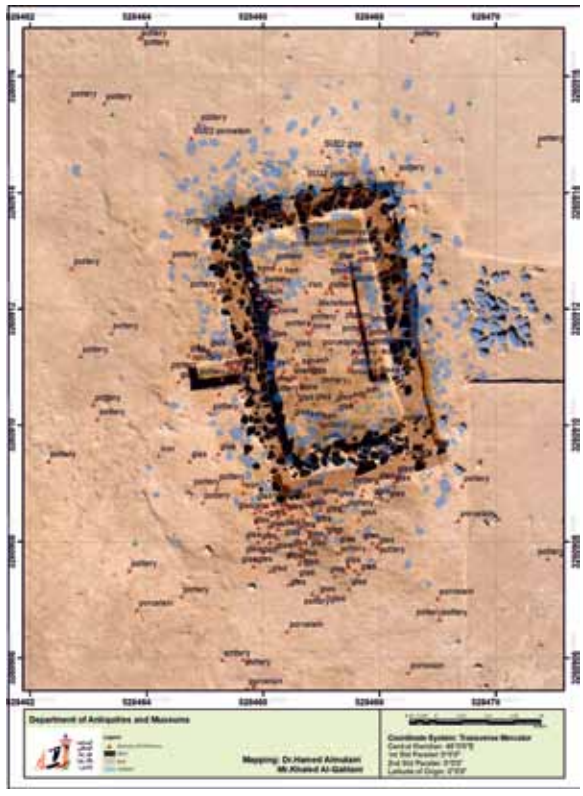


Fig. 5. A picture showing the archaeological finds of all phases scattered at the site of the building, as well as the falling stones (in gray).

Fig. 6. A DEM image of the site showing the horizontal gradient of elevation from red to dark blue.

Fig. 7. The new building in Sa'ida Village.

Fig 8. The corner of the building constructed with bricks.

glasses. Effort is underway to study these archaeological finds and compare them with the rest of the archaeological hills of the site, as well as with sites belonging to the same time period.

Excavation results

The beginning of settlement at the site probably dates back to the beginning of the Islamic Era, and some evidence from the recent excavations signifies this conclusion. In 2017, a fragment of glazed pottery decorated with grooving below the glaze was found, similar to the one discovered in Al Qusur village and dated back to the early Islamic Era (Bonnéric 2016c: 45). Another fragment of a pottery jug handle dating back to the early Islamic Era was found in 2018. However, such findings are too rare to be considered. Most archaeological materials on the surface of the Sa'ida hills date

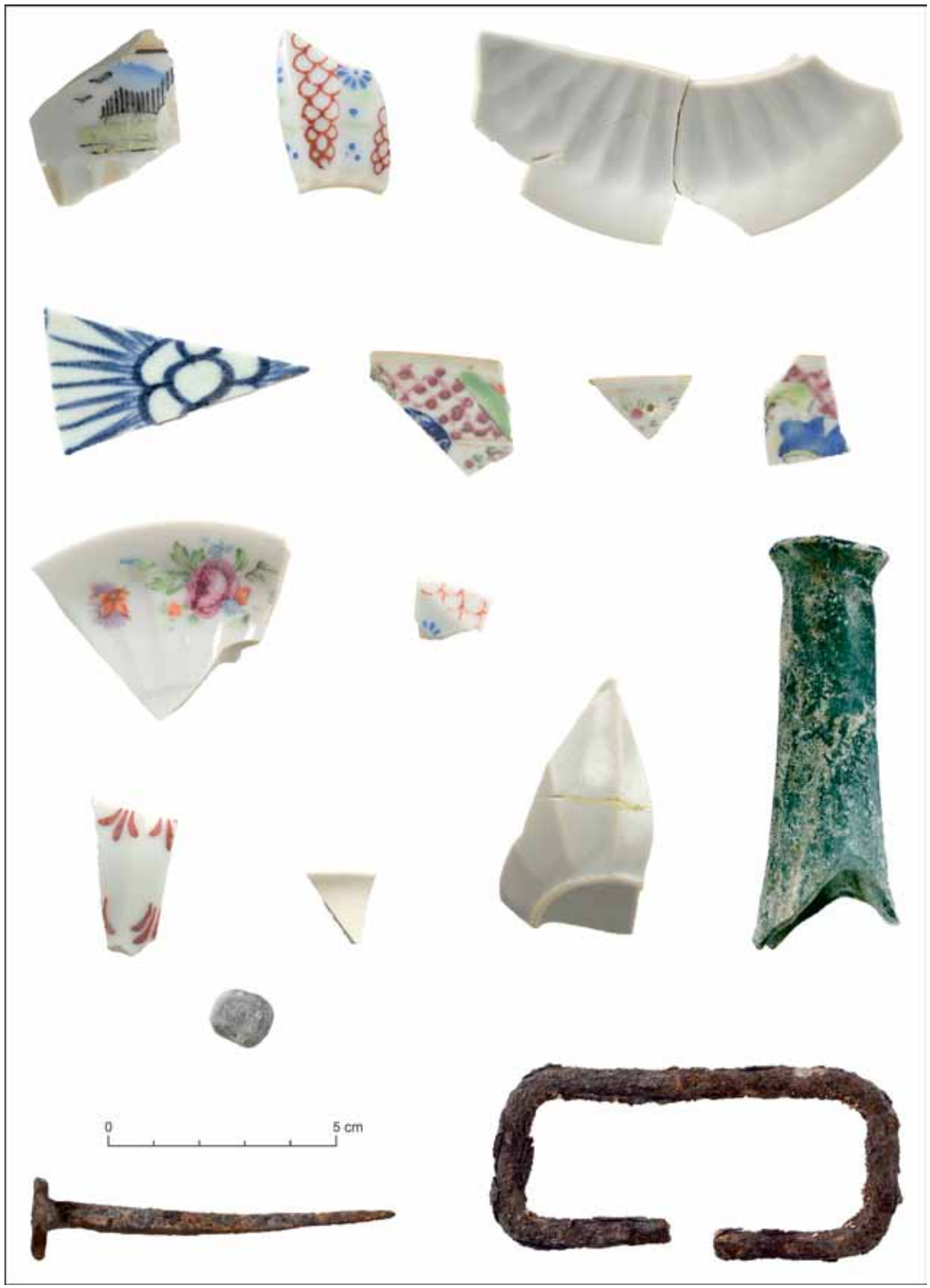
back to the late Islamic Era, indicating that the hills were mainly settled in the 17th, 18th, and early 19th centuries. At the turn of the 19th century, the plague swept through the northern villages, as Felix Jones noted in his report (Jones 1856: 51–54). The area then became ruins, except for some palm tree plantations that were reported at the end of the 19th century (:2003 سجل العطاء (36،1ج). However, the current results confirm resettlement of the site in the 20th century, although the size and extent of this habitation is unknown.

This building yielded results that conflicted with what is known about the inhabitancy history of Sa'ida Village in the first half of the 20th century, showing that some inhabitants of Failaka Island returned to inhabit the village again. Certain findings from the first half of the 20th century were revealed in the first and second layers of the site, such as the remains of late Chinese porcelain, broken coffee and teacups, perfume glass, and some iron nails.

Other field works

An aerial survey of the site as a whole, carried out using remote sensing, was conducted to screen some of the antiquities that were invisible to the naked eye on the surface, and a photogrammetry system was installed. Hence, it was possible to observe some new buildings on the south and southeast, as well as on the eastern sides of the site. Part of the main site was located outside the fence, while a large part was inside the southeastern area. The building is a rectangular shape that did not appear in previous surveys at all, and it consists of a hallway in the west side and a courtyard with a total area of 10 x 14 m. Unfortunately, the site's fence was separated into two parts. On the ground, the features of the building were documented, while ash was found on the south side, suggesting that the area outside the courtyard was used for waste disposal.

Pl. I. Late Islamic and modern pottery.



Pl. II. Chinees, European porcelain and other materials.

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