A preliminary report on the 2010 field campaign of the Aylah Archaeological Project

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Introduction

Since Antiquity, Aqaba has been a node on important trade and transportation routes. With the sanctification of Mecca and Madinah in the 7th century CE, and the success of Islam’s political expansion, western Arabia achieved a political and economic standing that it had never had before. The increased influence entailed new commercial opportunities and a re-organisation of intra- and interregional trade, but also involved a rising number of annual pilgrims from all levels of society. This amplified activity demanded a material and social framework in which to unfold; one which was revaluated and adapted continuously. The archaeological site of Aylah is one such manifestation, and could potentially be one of the most informative sources on the development of both urban and commercial landscapes in the Early Islamic Period (c. 650-1100 CE).

Historical setting

Aqaba, or rather the head of its Gulf, has been inhabited to varying degrees and with varying purposes in mind for millennia. Current excavations at the twin sites of Hujayrat al-Ghuzlan and Tall Maqass, situated in the foothills of the Wadi Yitim, have confirmed the presence of organised hierarchical societies here as far back as the Chalcolithic (4500-3500 BCE). These were occupied with the extraction and processing of copper ore. Over time settlement grew to urban proportions and Aqaba became a coveted location for the infrastructure of both mercantile and military maritime ventures. Solomon supposedly augmented and used the large port of Ezion-Geber, just as there are pre-Solomonic Biblical references to the construction and equipping of navy vessels here. The Hellenistic period probably saw some continuity in the ample activities of the Bronze-and Iron Ages, but there is little evidence to illumine the nature and extent hereof. With the increasing influence of the Nabateans from the 4th century BCE, new settlements were established to house and facilitate trade initiatives. Even though the Nabateans appear to have been partial to land-based transport and trade, there is little doubt that in Aqaba, as in many other

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2 Numbers 33:35; Deuteronomy 2:8; Kings 9:26; 22:49; Chronicles 8:17; 20:36

places, maritime initiatives supplemented these. It is, however, not until Roman hegemony of the East was established in 1st century BCE, that we gain more detailed knowledge of an organised long-distance trade moving through the Red Sea.

The Red Sea trade blossomed for more than 500 years under Roman influence and allowed for the importation of rare and exotic goods such as Indian spices, Arabian frankincense and African ivory to the Mediterranean region. While the early Roman trade of the 1st centuries BCE and CE particularly used the southern entrepôts of Egypt (e.g. Myos Hormos and Berenike), the later Roman trade also depended on emporia further north; including Aqaba (Aila) and Suez (Clysma).

With the territorial expansion of Islam, Aila was among the earliest Byzantine towns to come under Muslim hegemony. Governance of the Byzantine town was surrendered by the local bishop to the Prophet Muhammad via a treaty (sulh). This agreement guaranteed the safety and property of its inhabitants, and prompted the Muslims to construct a new urban unit in close proximity to the extant one. So began the life of Islamic Aylah, which could well be the first town built by a Muslim ruling class specifically for Muslim settlers, and thus the earliest ‘Islamic city’ in the world. The original town was constructed using many features known from classical cities (e.g. orthogonal layout, monumental gates indicating cardinal directions, broad streets); but it evolved differently, with new notions of spatiality and material identity replacing those of Antiquity.

Aylah was founded sometime in the 7th century CE and remained occupied at least until the early 12th century, when it seems that settlement slowly shifted south to the area that today is dominated by Aqaba Castle. Although not of major administrative standing, Aylah’s strategic location at the head of the Red Sea made it an important Muslim trading emporium. The Red Sea littoral had its own strong commercial dynamic, but this was amplified by its function as a maritime corridor between the economic spheres of Asia and the Mediterranean. In addition, Aylah lay at the nexus of three crucial regions in the Islamic world: Arabia, Syria-Palestine and Egypt; securing itself a steady flow of goods and people regardless of the connection to foreign markets.

Even though the mercantile activities varied over time, the town’s ideal position within an increasingly globalised network of exchange did not, and the scope of this network was no doubt a key contributor to the town’s prosperity. The archaeological finds from Aylah reflect this interconnectivity, with as diverse provenances as Ethiopia, Iraq, Yemen and China. Yet for the same reason, attaching Aylah to an administrative region is difficult. In the ninth century, Baladhuri places it within the governorate of Egypt. A century later, Muqaddasi seems confused as to its affiliation, but connects it to Syria and refers to it as ‘the port of Palestine on the China sea’ and ‘the storehouse of the Hijaz’.

In addition to the trade, Aylah was also the culmination point of the Darb al-Hajj (pilgrim’s trail) across the Sinai and a major station for pilgrims coming from North Africa and al-Andalus (Spain). It was, in other words, a town bustling with pilgrims, scholars, merchants and seafarers. This

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interface of cultures, coming together under the aegis of religion and trade, must have given Aylah a rather cosmopolitan atmosphere, and the archaeology reflects this.

**Reframing historical misconceptions**

The Red Sea’s role in trans-regional networks of trade and cultural contact has long been acknowledged by scholarship for some periods. This has mainly been due to a corpus of highly informative historical sources that offer insights into the details of this trade. However, such an otherwise privileged situation has also allowed a constricted understanding to grow; one which views the India trade as the primary, if not sole, economic dynamic. Regrettably, this has come to dominate both academic discourse and research objectives. Thus, as well-documented the trade in the Roman (*Periplus Maris Erythraei*), Byzantine (Indicopleustes’ *Christian Topography* or Antoninus of Piacenza’s *Itinerarium*) and Fatimid (*Cairo Geniza*) periods is, as historically murky are the interceding periods; prompting a labelling of these as inconsequential.

Sasanian monopoly of the Indian Ocean trade in the late 6th and early 7th century, and the subsequent shift of some exchange systems to the Persian Gulf, has only enhanced this notion further, as this mercantile pattern often is perceived as being appropriated by the early Muslim polities (especially the Abbasids).6

The combination of these factors has allowed a history-based understanding of the region as a cultural and economic entity to grow. Without the India trade, the Red Sea is perceived as a brackish backwater of little economic or cultural importance.7 By proxy, the cultures around the littoral are viewed as localised and irrelevant for an overarching understanding of economic regimes and cultural processes in early Islam. One would imagine that with this scenario, archaeology would be an obvious and welcome addition to the tapestry of history. However, it is only within the last 25 years that archaeological approaches have been afforded the resources to achieve the necessary altercation of our historical awareness.8

**History of research and the background of the AAP**

The Aylah Archaeological Project (AAP) constitutes a renewed effort to illuminate what life was like in an Early Islamic Red Sea port. While an independent cooperative venture between the Department of Antiquities in Jordan, the University of Copenhagen and the University of Chicago, it builds on the insights and results from previous archaeological missions to the site.

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Aylah was discovered in 1985 by Donald Whitcomb of the Oriental Institute, University of Chicago, and between 1986 and 1995 his team excavated a large part of the town. Whitcomb’s work was both fruitful and important, but the data has so far only been partially presented and the preliminary results relating to the morphology of the settlement are in need of critical revision.

Following the 2007 season of a Belgian-British project at Aqaba Castle (ACP), steps were taken to expand the scope of inquiry to cover Aylah’s history as well. The ACP was therefore reconceptualised as the Islamic Aqaba Project (IAP), and under the aegis of this initiative an exploratory season was conducted at Aylah in early 2008 (with the author functioning as field director). This saw the excavation of a 10 by 10 meter diagnostic unit in the unexplored southwest quadrant of the site, as well as a 5 by 2 metre trench along the exterior of the city wall south of the Egypt Gate. These were termed IM (intra muros) and EM (extra muros) respectively; a terminology that was maintained with the commencement of the AAP.

The plan was to return the following year for more large scale excavations. Sadly, IAP director, Johnny De Meulemeester (Universiteit Gent), passed away unexpectedly in early 2009, causing the project to come to a halt. In order for the preliminary efforts and data not to be lost, I lead a small team in late 2009 to fully process the archaeological material from the 2008 season. This concluded the IAP’s involvement in Aylah, but left many important questions unanswered. Steps were therefore taken to ensure the continuance of this vital research, and the AAP is the result hereof.

**The archaeological problem**

Previous excavations have established five phases of occupation. The 2008 excavations independently confirmed this occupational history. The most substantial are a mid-10th to late 11th century (Fatimid) and a late 8th to early 10th century (Abbasid-Tulunid) phase. These correspond to two distinct phases in the Red Sea’s economic history, and a detailed investigation is therefore of crucial importance.

Continuing the work begun in 2008 by the IAP, the 2010 campaign of the AAP was focused on the hitherto un-investigated southwest quadrant of the site. This particular area was chosen in order to answer two pivotal questions regarding the town’s history:

1. The extent and location of mercantile facilities related to the Red Sea trade (e.g. warehouses, processing compounds, markets and administration).
2. The morphology of occupation and urban planning from the 7th to 11th century CE.

So far, excavations have recovered a range of artefacts demonstrating commercial ties with regions as far away as Yemen, Iraq and China. Yet in spite of this, there is little evidence of the facilities accommodating such an extensive trade. The working hypothesis is that Aylah’s so-called

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beach front *suq* is more than simple shops. Rather, these well-built structures may have constituted part of the town’s mercantile administration to register and tax goods. Such offices are known from historical descriptions of Fatimid ports of similar size and capacity to Aylah, and imply that this was a standardised means of enforcing economic control in the period. We conjecture that a similar system was in place at Aylah, and that the related facilities remain hidden in the area we now are investigating.

*Aims of the 2010 season*

The 2010 season of the Aylah Archaeological Project saw the excavation of two new trenches, **IM3 and IM4**, each conceived with a strategic purpose. Generally speaking, IM3 was targeted to explore the nature and function of the southwest quadrant of Aylah, especially this quarter’s morphological relationship with the *extra muros* commercial structures excavated by Whitcomb. For its part, IM4 was plotted to test the hypothesis that the city’s street layout adhered to a regular grid pattern in later Islamic periods, by determining whether an east-west street exposed in IM1 in 2008 intersected with a north-south street originating from the Egypt Street. However, excavation rarely goes as planned and in the end IM4 answered some of our questions about the street grid, while also giving rise to new more complicated ones at the same time. There can, however, be little doubt that this initial season yielded interesting results pertaining to the urban morphology of Aylah’s southwest quadrant.

Following the discovery of a secondary east-west thoroughfare in 2008, and a replication of street configurations from the ‘Hijaz Gate’ to the ‘Sea Gate’, the current excavations were expected to begin the exposure of critical aspects of the quadrant’s planning (*i.e.* streets and buildings plots) and function (*e.g.* warehouses, markets and mercantile administration). The new trenches are directly related to the diagnostic unit (IM1) established by the IAP.

**IM3** is an extension of the excavated area to the south. This unit was expected to reveal structures parallel to the southern city-wall. The unit was thus intended to illuminate urban planning, while establishing the relationship between the public domain of the street and the private buildings

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bordering it. IM3 lies directly across from a secondary entranceway into the city, linking the exterior suq with the interior township. Another thoroughfare was proposed to run south from Whitcomb’s ‘Egyptian street’ and link up with the street identified by us in 2008. IM4 was laid out to expose this junction and the buildings facing it.

Limited excavation was also conducted in IM1 and IM2; the excavation units established by IAP in 2008. Two areas are of primary importance here: a Fatimid period drainage system in the street of IM2, and the deep probe in the southern end of IM1. When excavation was halted in 2008, the deepest exposed occupation strata butted an early, yet structurally impressive architectural phase. A charcoal sample from these deposits was dated between 382 and 576 CE using carbon dating (calibrated sigma 2), and resuming work here was therefore an important means of retrieving new information on the site’s foundation and early history.

In field recording was done using an established registration system with an accompanying database designed specifically for the project. At the end of excavations, all in situ features and stratigraphic profiles were photographed and drawn to scale (1:20). Levels and triangulation measurements were taken of all loci, features and important finds, allowing these to be situated three dimensionally as part of post-excavation processing.

Throughout the report a series of codes are applied for referencing purposes. These are defined as follows:

AAP_D = Digital field image
AAP_OBJ = Digital object image
AAP0000 = Catalogue no.

Excavation unit and locus numbers are separated by a slash (e.g. IM2/12).
The 2010 Campaign

In spite of the short duration of the season and the usual difficulties associated with starting up a project, the 2010 campaign achieved significant and tantalising results. The presence of at least three large multi-phased structures was confirmed. These were clearly associated to a network of streets, which may link the extra muros structures with the internal township. Furthermore, substantial amounts of data were collected from the earliest phase of occupation at Aylah. These require further analysis, but will certainly assist us in understanding how and when the Early Islamic townscape was conceptualised, constructed and put to use.

**IM1**

In addition to cleaning and light maintenance of the exposed features, IM1 was only subjected to limited excavation. The objective was to continue the deep probe excavated in 2008 with the aim of reaching either the water table or virgin soil. We hoped that in the process we would be able to systematically document the deposits associated with Aylah’s initial construction and occupation. Based on the experiences of previous archaeological projects at Aylah, we expected the earliest deposits to be highly water-logged and thus difficult to access. It is unclear what has caused these taphonomic changes in the Umayyad town, but it is in all likelihood a combination ample tectonic activity in the region and subsequent occupation pushing the early phases deeper into the moist soil.

The proximity of the water table to the level reached in 2008 was obvious, and caused the various deposits to achieve a very uniform appearance. This made it extremely difficult to distinguish between different strata, and undermined the value of stratigraphic excavation here. Furthermore, even though the

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protruding moisture stems from ground water rather than the sea, the high salinity has also caused any stones to either disintegrate (lime- and sandstone) or crumble (granite). Such decaying rocks were at times confused with patches of different coloured sand. As a result of these conditions, the probe was continued in arbitrary spits between 200 and 500 millimetres in depth.

When excavations commenced, a large dressed limestone block was visible in the middle of the trench. This had been left in place in 2008 under the assumption that it might be part of a wall. We nevertheless quickly determined that it was not, and left it only to facilitate access. Based on the preliminary analysis of the IAP artefacts in late 2009, it had already been established that the exposed surfaces were part of a dump tentatively dated to the 7th century. For while the carbon date was corroborated by certain Late Roman types the retrieved material, the transitional ceramics of the 7th century also littered the deposit.

The chronologically mixed artefact profile of this deposit can be explained by its nature as a refuse dump, in which objects of a certain age (pottery is long-lived, while wood is a precious resource and therefore kept) were discarded. However, the presence of Late Roman ceramics would also tend to suggest that this dumping occurred no later than the 7th century CE. This is not surprising. The construction of large complexes in Late Antiquity was often achieved by building the outer walls first and then filling the interior to create a level surface upon which the interior features could be securely constructed. This method was applied in both individual buildings (e.g. the congregational mosque), but also in more monumental architecture; in this case, the entire intra muros township.

Consisting primarily of the dump, the deep probe was very rich in finds. In loci 102 to 108 a large amount of faunal remains, metal fragments and ceramics were retrieved. We also found three intact oil lamps and a basin (AAP0032; AAP_OBJ475-490) of the locally produced cream-surface ware (see section on ceramics in next chapter). In addition to the ceramic
finds, multiple pieces of worked ivory were discovered. This corpus is most interesting as it contained a variety of artefacts. Most obvious were the pieces of polished ivory, which included vessel fragments, as well as remnants of jewellery such as bracelets and a ring. More important was the tantalising discovery of seven fragments that appear to have been deliberately discarded because their dimensions and form prevented them from being used functionally. Most likely these are the waste from some form of ivory working that took place at Aila/Aylah in the 7th century. If this is the case, we would have evidence of a class of craftsmanship that was directly related to the town’s nodal position in the Red Sea trade networks. Furthermore, it would seem that ivory was a decorative material with which the inhabitants of Aylah were familiar.

Throughout the dump loci we collected both carbon and soil samples, which over the coming year will be subjected to further analysis.

While loci 102 to 108 are probably all part of a dump, surveying the section left by our excavation clearly revealed that it had a relatively complex stratigraphy (AAP_D59-62, 396-401, 410-411, 424-426). Locus 107 constituted a row of large uncut stone, which at first were thought to be a low feature or wall foundation. Nevertheless, further excavation quickly showed these to have been tumble, the exact origin of which remains unclear. The locus upon which the stone rested (IM1/108), the highly organic composition of the deposit changed and the density of finds dropped significantly. No bones or metal at all anymore, and only very few ceramics.

This perceivable change in context naturally prompted a change of locus. In 109 we found the remains of a Late Roman/Byzantine lamp and noticed a general shift in the ceramic corpus to being more Late Roman in character. A controversial decision was therefore made to define a new phase (6 in our chronology) below the 7th century dump and formed by the interface of loci 108 and 109. Locus 112 continues into phase 6, all be it only in the northwest half of the trench. The ambition was to excavate as deeply as possible in the last remaining days, in the hope that more concrete evidence of pre-Islamic settlement would be unearthed. While it is by no means unequivocal, this very limited area did yield one fascinating piece of evidence to corroborate our tentative phasing; namely the skull of a wild pig/boar. Locus 112 also yielded a shell and a carbon sample, both of which will hopefully assist in providing more solid dates for these deposits. A small quantity of ceramic sherds was also found, but these were not processed this season due to time constraints, and will thus be dealt with at the beginning of next season.

At this stage, we were approximately 8 metres below the surface, and the deposits were so water logged that further excavation was abandoned this season. For safety reasons, the deep probe was backfilled with 3 metres of soil from our spoil heap before we left the site. It currently
corresponds to the level of other excavated features surrounding it. It is not likely that we will return to this specific area, however, it seems that in spite of the high water-table, deep levels can be reached in the SW quadrant of Aylah. In coming seasons, it is our ambition to open up other deep probes (and perhaps a large open area), to the depth of phase 6, so as to explore the formative process of Aylah’s settlement further.

In addition to the deep probe, an area of disturbed late (i.e. phase 1-2) fill was excavated to further clarify the outline of a substantial structure that extended into IM4 and was associated with complex draining facilities. This was achieved, but the internal deposits of the structure were left for coming seasons. Loci 110 and 111 thus constituted a highly contaminated context that contained modern disturbances such as bottles and trash pits and rested on the latest historical fills. However, a fragment of an ivory plaque, beautifully carved with a floral arabesque in raised relief (AAP_OBJ591).

In IM1, coming seasons will be dedicated to exposing the large structure further. This will include the gradual removal of the baulk between IM1 and IM4, as well as the excavation of the third and oldest of the drainage pits associated with this building. Dealing with these issues should allow us to increase our understanding of the nature and function of this structure.
**IM2**

Excavation in IM2 was commenced 22.02.2010. The objective was to expose and document the Fatimid drainage system in the east-west running street between IM1 and IM2 (originally discovered as part of IAP in 2008). The excavated area of IM2 consisted the unit’s southern baulk and the southern-most 1,5 metres. The delineating border was created by the sturdy wall of a large building on the northern flank of the street.

The drain system consisted of a double drainage canal (AAP_D153-164) leading a liquid from the large structure in IM1/IM4 to two stone-lined tear shaped cess-pits dug into the laminated strata of the street. The drain canal was covered with stones and contained a fine sandy soil (IM2/16) of the same yellow discolouration as seen in the overflow of the other cess-pit (IM1/45, 67-68). No artefacts were found in this locus.

Excavation of the drain allowed us to determine that the longer canal leading to the lower unexcavated cess-pit was the earlier of the two. This initial pit (or re-used well) was eventually filled to the brim, but this does not seem to have stopped the drainage, as is evidenced by the yellow deposits superimposing it. However, at some stage it appears the problem was addressed by constructing an additional channel leading to a new stone lined pit immediately outside the drain exit (AAP_D190). Whether this replaced the older or simply enhanced the drainage system is not yet clear, but if this is the case, and the pit in IM1 (loc. 67-68) is much earlier than the tank in IM2, it implies that Aylah’s inhabitants had knowledge of the placement of considerably older installations and deliberately reused them. This impression is corroborated by the positioning of new walls along the same axes as predecessors, though not necessarily directly related to them (often they are separated with a shallow fill of 30 to 50 cm).

The western half drain was lined with small flat stones along the bottom; presumably to facilitate flow. Why a similar lining was not present in the eastern canal is unclear, but may have been related to the fact that this canal is both shorter and steeper.

In order to investigate the function of these drainage pits, the upper one was excavated and partially dismantled, so as to show a full profile of both installation and content. The exposure allowed the contents to be accessed archaeologically. The first meter was

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13 This phenomenon was especially noted in the 2008 season of IAP and is reported on in Damgaard & Jennings 2010
completely sterile. Our supposition is that the feature had not been filled prior to the abandonment of its use, and that the sterile upper stratum (IM2/17) constitutes the result of slow seeping of loose sand. The deposits stemming from the drain’s original function were located underneath a thin layer of gravel separating the sterile from the actual contents (AAP_D270-274).

In spite of clear compositional distinctions between these two phases, there was a paucity of artefacts in the deposits stemming from the pit’s original usage as well (IM2/19, 21). If an actual sewage system, one would normally expect a considerably higher density of items to have fallen to the bottom. But in spite of sieving 100% of the pit’s content, only a small amount of ceramics and bones were retrieved. The ceramic profile was quite mixed and contained both ‘red ware’, ‘cream-surface ware’ and ‘cream ware’ fabrics. These were all covered with a greenish patina, which was a result of the chemical composition of their context. What exactly this context constitutes requires a detailed analysis of the soil samples collected inside the pit.

The feature was constructed by excavating a deep hole into the street surface and lining it with stones from the interior (AAP_D263-265). A mud slurry was used as bonding agent. This explains the amygdaloidal form, which lends structural support to the narrow upper part of the pit.

The structure consists of an exterior course of large and medium sized stones (AAP_D213, 222), and an interior course of medium sized stones (AAP_D343). Between these was a fill of smaller stones (AAP_D215). The largest stones are used at the very top, presumably to lend extra support to the upper part of the feature, which would have been exposed to the pressure of day to day traffic. At the top, the installation was equipped with a man-hole no more than 40 cm in diameter. From here, a bottleneck opening opened unto a globular space inside. At its bottom, the feature was 1.5 metres wide internally (AAP_D162-164, 171-172, 208-209). The manhole was covered by a large basalt lid made of a reused grinding stone. Around this was a packing of small stones and pebbles set in mud to keep the lid in place. Both packing and lid were presumably hidden just below street’s surface (AAP_D208-210).

**IM3**

**Objective:** IM3 was opened this season and laid out in southern prolongation of the extant excavation unit (IM1). The main objective was to investigate what kind of structures bordered the interior Sea Wall, and to address our theory that the extra muros suq in fact may have been facilities to register and tax goods moving in and out of town. An important substantiation of this hypothesis would be the presence of storage facilities immediately behind the city wall. A complimentary goal was to shed more light on the structures and features exposed in the southern end of IM1 in 2008.

**Results:** In this season it was possible to reach layers and architectural constructions corresponding to Phase 0 (20th century) and Phase 1-2 (10th-early 12th centuries). All in all, 17 walls, 4 features, and 23 depositional layers were exposed in the 2010 campaign.

**Phase 0 (20th century):** Walls 1, 2 (the upper course), 3 (the upper course), 10, and 11, as well as all the features exposed (i.e. features 1, 2, 3 and 4) appear to be modern constructions. In some cases these have been amalgamated to the uppermost medieval walls. Loci 1-5, 7, 27, 32, 34 and 35 are all highly contaminated layers containing modern artefacts such as glass bottles, metal wires and
plastic fragments. The modern wall constructions were built directly on some of the Fatimid walls. Before constructing the modern building, most of the area between Walls 1, 2 and 16 and the north baulk was paved. Different types of stones were used to construct this rather makeshift "paving", including both larger sandstone slabs in the area above Wall 2 and fist sized cobbles above Walls 3, 16 and below Wall 11. Two concrete blocks – Feature 1 – as well as the two column drums – Features 2 and 3 – are interpreted to be contemporary with the modern walls, however, it is not completely clear how the latter two features were connected to the rest of the architectural constructions.

Phase 1 (11th- early 12th century): Walls 2, 3, 6, 7, 8, 9, 12, 13, 14, 16 and 17 all belong to this phase, which has been tentatively subdivided into three construction phases – namely 1.1, 1.2 and 1.3. It is too early to conclude anything on Wall 15. This wall – the only mud-brick wall found in this square – was not fully exposed this season but identified only 10 cm below topsoil (IM3/27).

Construction phase 1.1 (late): Walls 4, 5 and 17 are all connected to each other forming the corner of a unit or room in the north-eastern area of the building. The horizontal extent of this room has not been established as the walls are disturbed by Wall 11 and the “paving” further north. Wall 3 is built onto Walls 4 and 5, and has cut into a part of pisé walls 12 and 14. The purpose of Wall 3
was possibly to add rooms to the structure (formed by Walls 2 and 16) by functioning as dividing wall.

Construction phase 1.2 (middle): This phase consists mainly of a building whose horizontal extent is not clear, as it has been severely disturbed by Phase 0. The corner of the building consists of the bond between Walls 2 and 16 and is in the southwest corner of the excavation unit. Wall 16 was constructed on a hard packed clayey surface (IM3/16).

Two pisé features were also uncovered in this square. One consists of Walls 12 and 14, which runs parallel to and butts wall 16’s northern face. The second wall (Wall 13) is possibly joined to wall 12 in its west end. Both were later additions to the building unit delineated by Walls 2 and 16. The pisé-walls are suggested to function as (possibly temporary) supporting walls to the stone walls (2 & 16). The outer face of the pisé walls was coated with a thin layer of chalk or lime paste (depicted on the cover). This substance was found in high density in the fill layers (loci 23, 26, 38-39) which could indicate that these included the collapsed remains of additional pisé walls.

Construction phase 1.3 (early): Walls 2, 6, 7, 8 and 9 are the earliest constructions reached in IM3 this season. It should be noted that their allocation to Phase 1 is tentative until further excavation has been conducted. Whatever the case, these walls are clearly used in Phase 1 as well, even though they in fact may constitute a late sub-phase of Phase 2.

Walls 8 and 9 are situated in the southeast of the square, and are the only structures built with rectangular shaped limestone blocks. Walls 8 and 9 have not been fully exposed, but are so far interpreted as large pier-like doorjambs of an entrance to a building which continues eastwards beyond the limits of the excavation unit. Part of this building was at some stage removed to construct wall 16 (sub-phase 1.2). How this doorway was connected to the other structures in this phase is not yet clear. A hand-made globular storage jar (FO#6) of the type referred to by Whitcomb as ‘tupperware’ was found in situ west of Wall 9. The position of the jar on the surface in front the door jamb indicates that either we are within a larger complex, or that placement of such vessels outside the building was unproblematic.

Walls 2, 6 and 7 are interpreted to be older than the walls in phase 1.2 because they are situated at

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14 This object needs to be processed (including allocation of catalogue no.), reassembled and drawn as it was not lifted until the last day of excavation.
a deeper level. The bases of these walls have, however, not yet been reached, and consequently their exact relationship in the morphological sequence remains dubious. Walls 6 and 7 are joined and thus form an original corner of a building or room; the western and northern limits of which remain unclear due to the later disturbances of phase 1.2 constructions. Wall 7 was partially disturbed in the construction of both Wall 16 and Wall 14, whereas Walls 6 and 7 do not seem to be linked to Wall 2 at all. It appears that outdoor activities were carried out in the area west of Wall 2, as evidenced from an ash pit (IM3/20) and a notable density of charcoal remains (IM3/14).

The layers identified as loci 13, 14, 16, 17, 20, 23, 24, 25, 26, 38, 39 and 41 are suggested to belong to Phase 1-2 in the overall site phasing established by Whitcomb and later confirmed by the IAP. It was not possible to unambiguously connect the structures in this square with those identified in IM1. This lack of linkage was due to the fact that only very little of the northern third of IM3 was excavated for safety reasons (the deep probe of IM1 lay just beyond the 1 metre baulk separating them). It may be suggested that Wall 3 in IM3 is associated with Wall 6 in IM1, however, further excavation is required to assess this attribution.

**IM4**

In a way, IM 4 can be thought of as a large sondage. Early on we decided to excavate the northern half of the unit only. This allowed us to use the shortened excavation season in the best way, providing a window into the potential of this area of the site. And, as one often sees with a sondage in the traditional sense of a small diagnostic excavation unit, IM4 produced results both intriguing and challenging to interpret.

Four particular elements will be discussed in this section: the central street, the large western building (formed by Walls 1 & 2), the cess-pit (Feature 2), and the eastern building with a threshold (Wall 4).

*AAP_D441: Overview of IM4. Inside the western building we left a 0.5 m baulk to protect the integrity of Wall 1*
Street

What we excavated: An almost 3 metre wide open band running north-south between the two structures in IM4 (AAP_D259). This area is presumed to be a street based on cumulative evidence. We have what seems to be a small strip of the east-west running street continuing from IM1. This seems to reach an open intersection with IM4’s street, which is flanked on either side by Walls 2 and 4. Both walls suggest we are dealing with a street, albeit for different reasons. Wall 2 is well constructed, with large stone blocks and a nice outward facade. Wall 4 does not present a similar face to the street, but may do so deeper down (currently only ~58 cm is exposed). However, Wall 4 does have a threshold that presumably opened onto the street. The final piece of evidence for a street was exposed in the last week of the season: the cess-pit (Feature 2), a feature that seems to be diagnostic of thoroughfares in the southwest quadrant at Aylah.

What we don’t know: We did not observe any stratigraphic layer that could be unequivocally categorized as a street surface stratum (e.g., Whitcomb’s so-called “laminated” street layers from previous excavations), but it is important to remember that, after three weeks of excavation, we are still in layers partially contaminated by modern activity. Because we have excavated so little of the continuation of the IM1 street, the relationship between them has not yet been fully illuminated.

Significance: The discovery of a broad subsidiary street, flanked by impressive stone architecture and running in the direction of the ‘Abbasid extra muros suq identified by Whitcomb, is potentially quite significant. The most obvious hypothesis is that this street played a role in the movement of goods into the southwest quadrant for processing and distribution, and thus is an important part of the economic infrastructure of the city.

The Western Building (Walls 1 & 2, plus Wall 3)

What we excavated: The first two architectural features that we exposed in IM 4 were two walls (Walls 1 & 2) meeting at a right angle and bonded to form a substantial square corner (AAP_D118) of what appears to have been a substantial building unit, termed here the ‘western building’.

Wall 1 has been extensively destroyed by modern pits in which trash was burned (leaving very visible traces in the northern baulk). All that remains of this wall is a thin strip, about 14-20 cm thick, and corresponding to the wall’s inner face. Wall 2 has two visible phases, the lower of which was only partially excavated (AAP_D464). This runs along a north-south axis and is comprised of uneven coursing of large granite blocks with lightly dressed outer faces at the bottom of the upper phase. With the exception of a large corner stone, the size of the stones diminishes as one moves upward on the wall. A few pieces of coral are dispersed between the medium-sized stones in the upper part of the wall. The wall was constructed using a mud slurry as bonding agent. Phase 2 (lower) is wider than phase 1 by 5-7 cm.
The uppermost layer excavated inside the western building (IM4/6) yielded an abundance of ceramics, including many finely glazed sherds (splash and green wares, Iraqi cream blue-green wares, and two sherds of lustre ware) that are consistent with a Fatimid ceramic horizon. A glass weight, displaying some characteristics of a late Abbasid or Tulunid style, was found here as well. We speculate that the fill of locus 6 corresponds to Whitcomb’s phase E, but which may have contained discarded materials from previous phases. Unfortunately, this fill layer had been cut by a modern installation, possibly the remnants of a house, with concrete, wood beams, and reed matting. This installation is situated in the southwest corner of the excavated area and thus remains a problem to be dealt with in coming seasons.

Under Locus 6 a floor surface (IM4/18) was exposed, beneath which was a sterile sandy layer composed of pink gravel from the beach (IM4/19; AAP_D380). Elsewhere at Ayla, this gravel is used as a levelling sub-floor fill, and a level reading showed it to be at roughly the same elevation as a similar layer in the southern baulk of IM1. This is interesting in light of the hypothesis that the buildings in IM1 and IM4 are part of a contemporaneous building program (same techniques, same construction materials) in the city’s southwest quadrant. A notable difference for IM4’s pink layer, however, is that it is quite thick.

To the immediate north of the corner of Walls 1 and 2 is Wall 3 (AAP_D192). It is constructed atop a fill covering the lower phase of Wall 2 and butting its upper phase (AAP_D203, 464). This stratigraphic sequence, along with our general understanding of the urban evolution of Ayla, would place Wall 3’s construction at a relatively late date (11th century). Wall 3 is likely to be a small addition or blocking; if IM1’s street continues into IM 4, then Wall 3 might represent a late blocking of this street. However, Wall 3 continues into the northern baulk, and more excavation is needed before anything conclusive can be presented. It is also possible that Wall 3 was constructed to buttress the corner where Walls 1 & 2 are bonded, perhaps for securing the foundation of a tower or second story, or perhaps as a post-earthquake (1068 CE) reinforcement.

What we don’t know: As is the case with Wall 4, it seems that modern activity has muddied the picture in the most interesting places. As mentioned above, Wall 1 has been substantially cut away by modern pitting. Early in the season, this didn’t seem to be the biggest loss; Wall 1 was assumed (based on the fact that the two are bonded and contemporary) to be of similar dimensions and composition to Wall 2. Further excavation, however, revealed two ambiguous

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aspects: First, it is possible that, rather than at a simple right angle, Wall 1 meets Wall 2 with a protruding or hooked corner. It is difficult to determine because of the modern cut. It should be noted that the principal stone in Wall 1 indicates that this corner is at roughly the same elevation as Wall 2’s lower phase, and thus the irregular angle may stem from an earlier phase of construction. Second, at the bottom of a deep trench excavated between Wall 1 and the northern baulk we exposed two large, flat stones (AAP_D305). These stones continue into the northern baulk, and there is just too little room to discern whether they are part of a collapse layer or represent an architectural feature (paving of a courtyard or sidewalk perhaps?).

Significance: In Walls 1-3 we have what seems to be a substantial and potentially important building situated on a potentially important street. Furthermore, there is evidence of later period changes in the southwest quadrant’s urban layout, although more is required to substantiate these.

Cess-pit (Features 1 & 2)

What we excavated: Late in the 2010 season we uncovered a large granite cover stone (Feature 1) within the street (AAP_D259, 307). We exposed and removed the cover stone to reveal a deep opening, lined with stones (Feature 2). Oddly, it was not filled with soil like the similar installation in IM 2; instead, we measured its depth from aperture to current soil level at almost 3 m. As with that in IM2, it gradually bulges outward to form a pear shape.

The stratigraphic sequence of its installation is that the cess-pit is dug into an existing street surface and subsequently covered with the cover stone, which in turn is covered with a fill. As we discovered Feature 2 near the end of the excavation season, there was only time to conduct a superficial examination, but immediately inside its opening, we were able to identify a subterranean channel extending from the eastern building and into the cess-pit. This was obviously intended for the discarding of liquid waste, but the lack of fill inside the pit suggests that it may never have been taken into use.

What we don’t know: The exact function and chronology of the cess-pit requires further investigation before any interpretations can be substantiated. Its identification as a cess-pit stems mainly from its similarity both in form to the cess-pit in IM2 and in the way it accepted drainage from the eastern building (which is the same building unit that was draining into the cess-pit of IM2). Presumably it is cut into an earlier street phase, but in which period is unclear. Why it wasn’t filled, like that in IM2, is equally mystifying. Was it covered in haste perhaps? One cannot but wonder how deep the internal fill (starting 2.9 metres below the cover stone) is and whether it contains any artefacts that can assist in dating its potential use.

Significance: Feature 2 is particularly interesting, not only because it bolsters the idea that we have a street running through IM4, but also because it is further evidence of an emerging picture of the southwest quadrant at Ayla as characterized by these features. It should be pointed out that we have already exposed more of these installations associated with a single building than the OI excavations found throughout the rest of the town. Identifying the nature and function of this substantial building with its sophisticated hydrological technology will be an important step in
ascertaining what was going on here (but seemingly not elsewhere in town), and thus by implication, if and how the southwest quadrant differed from the remaining townscape.

**The Eastern Building (Wall 4 and Locus 20)**

*What we excavated:* IM 4 was plotted out directly to the west of IM 1. The northern wall of IM1, whose north face delineates an east-west oriented street exposed in 2008, runs directly into the shared baulk with IM4. This caused us to expect a continuation of this wall in IM4. We did indeed unearth this wall (Wall 4), but to our surprise, rather than continuing west in the direction of the hypothesized intersection of streets, the wall abruptly turns south and follows a perpendicular direction. Wall 4 is comprised of uneven coursing with medium-sized undressed granite stones and flanks the north-south running street (AAP_D448). It must be noted that it has been partially cut into by modern digging activity, the fill of which contained both asphalt and an abundance of modern glass (AAP_D196). This cut is the reason that Wall 4 comprises two loci (11 & 12); but it is nonetheless clear that they constitute two components of the same building unit. This cut has left some aspects of the structure difficult to interpret.

Wall 4 is part of a structure shared with IM 1, termed here the ‘eastern building’ for ease of reference (AAP_D451). This building unit has several interesting elements. The first is what seems to be a threshold, opening directly onto the street. Two stone blocks, one of which is clearly an ashlar, form this threshold. On the interior of the threshold and superimposed on Wall 4 we exposed a hard-packed, compact layer of grey ashy mortar (IM4/20), that seems to be a sub-floor packing upon which some type of pavement or floor was set (AAP_D463). The second interesting feature is what might be a water chute running along the southern edge of the threshold.
(AAP_D197). This feature appears in the eastern baulk and cannot be identified with certainty as an architectural element. It may just be a deceiving series of stones, but it is interesting in light of the sub-wall channel connecting Wall 4 and the cess-pit. The connection makes a strong case for a complex drainage system involving all of these elements. Finally, an open corner in the southeast end of the excavated half of IM4 may be part of another room in the structure that is largely situated in IM1.

What we don’t know: Unfortunately, Wall 4 has been cut into by modern digging activity. The exact extent of this disturbance proved elusive, but rubble mixed with modern glass was superimposed on the threshold opening, and modern asphalt is visible in the baulk. This cut renders morphological evaluation of this part of the structure difficult. With a possible water channel and confirmed sub-wall water chute, this area is nonetheless quite interesting. The character of Wall 4 remains unclear as well. So far it comprises discontinuous coursing, but, as mentioned above, only approximately 58 cm has been unearthed. A cornerstone that has now partially disintegrated (possibly due to the high salinity of the soil at Ayla) may indicate that further down, the stones are of higher quality (i.e. larger dressed blocks). This might be expected of the outward face of a wall flanking an important subsidiary street.

Significance: Standing on the baulk between IM1 and IM4, it is easy to imagine a large building complex; one that applied a complex hydrological system for draining abundant amounts of liquid. In addition to consisting of substantial architecture, this building included internal and external drainage canals.
(some of which originally were capped with a brick superstructure), at least three stone lined pits, as well as several interior water-related installations excavated in 2008. The issue that now remains to be addressed is what role this building played in the mercantile infrastructure of the city, but only further excavation will answer this question.

**Site Preservation**

The geological and climatic conditions of Aqaba are not favourable for preservation once archaeological remains have been exposed. The climate is one of intense heat and sunælight most of the year. There can be quite strong winds, but the regime is almost consistently from a north-westerly direction. Combined with sudden bursts of rain and hail in winter, this type of climate can have a devastating effect on the exposed archaeological landscapes. However, certain measures can and have been taken for at least temporary preservation (*i.e.* while the project is still running). These consist of fastened hessian covers for all features and standing architecture. Furthermore, the site has been cordoned off temporarily by a 2.5 metre fence. This should both prevent the excavation from being used as a place to dump refuse, while also functioning as a protective barrier for site visitors. Even though the deep probe was back-filled for security reasons, there remain many open spaces, which in some places can be more than five metres deep. The fence should thus protect visitors from potentially collapsing baulks and subsequent nasty falls.

Eventually the project will address the issue of preservation and site management, but the methodology will come to depend on the extent of financial support. There are two apparent options: one would be to backfill the excavated areas completely; while the other demands that a certain phase be selected for professional conservation, and that all overlying strata are permanently removed. Ultimately, this decision will come to depend on the external funding that our excavation results can attract.

**Post-excavation work**

The data collected in the field this season will be digitised before the beginning of our next season. This includes entering the field records into a database designed for that purpose, as well as the digitalisation of plans and drawings. Eventually, this will be linked to other sub-databases for photographs, finds, plans and drawings, so that a comprehensive relational database can be established and built upon.

While a ceramic typology was established in the field, the drawings and data collected on the respective types requires both digitalisation and systematisation before a comprehensive corpus can be presented. An initial sample of the identified types is nonetheless offered in the next chapter of this report.

Furthermore, a range of analyses need to be conducted before returning to the field. In many cases, these require quite particular proficiencies/expertise and part of the post-excavation work is establishing a network of project-affiliated specialists and acquiring the additional funding to finance their important work.
Recommendations and ambitions for future field work

Priorities for the upcoming season are as follows:

**IM1**

1. *Excavate the large building unit that is draining liquid into the three cess-pits.* This is intended to further our understanding of the nature and function of this building and its hydrological technology, as well as expose the relationship between the features of this building in IM1 and IM4 respectively.

2. *Take down the western baulk.* An expressed goal of the AAP is to investigate the city’s commercial infrastructure. It is our hypothesis that the shared structure between IM4 and IM1 is part of a larger mercantile complex (or at least part of a mercantile urban district). Either way, we are dealing with a substantial building and excavation of this baulk, along with further excavation in IM1, will hopefully disclose more details on its form and function. The baulk also covers the most interesting aspects of IM4’s Wall 4, namely the superimposed gray floor surface and the possible drainage canal.

**IM2**

1. *To extend the currently exposed part of IM2 the full length of the excavation grid unit (i.e. 10 metres).* This should expose the full width of the east-west running street, as well as the facades of the buildings on its north flank.

**IM3**

Excavation in unit IM3 revealed several architectural structures; including the corner of a building with multi-phased interior walling, as well as open spaces south of walls 1 and 16 and in the area west of wall 2. However, illuminating the interaction between the public and the private domains in the area of the town is far from resolved. To this the following goals are considered imperative for the following season:

1. *Remove the remaining modern constructions (cf. phase 0)* in order to expose the uppermost (latest) phase of the historical construction and occupation.

2. *Expand the excavated area unit north* by excavating the northernmost third of the unit down to level and subsequently removing the baulk between units IM3 and IM1. This should link the different architectural structures in both squares, and hopefully align the construction phases. Furthermore, we expect this to disclose more as to the function of these buildings. Another obvious area to investigate would have been the area south of IM3, which constitutes the last unexposed physical link between the extra muros suq and the intra muros township. Unfortunately, accessing this area remains impossible for now because of dense vegetation (palm trees) in the strip between IM3’s south baulk and the town wall.

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16 The applied grid system associates a unit’s south-west and north-west baulks with the respective excavation units. The baulk between IM1 and IM4 will thus be excavated as part of IM1.
3. **Further excavation inside the unit**, with particular focus on the open areas (courtyards) and inside the postulated rooms. This season, we reached layers which proved to be undisturbed in the open areas. These yielded interesting insights into the last phase of occupation at the site (e.g. the *in situ* jar in the southern end of the unit), and it is only evident to continue excavation here.

**IM4**

1. **Extend the excavated area two metres north of IM4.** This is about as much as is possible before one would have to deal with a large palm tree. It should, however, be sufficient to explore a number of unanswered questions from the 2010 season. First, we have barely any of the east-west street continuation from IM1, and it would be useful to expose its intersection with IM4’s street. More importantly, it is hoped such an expansion would shed light on the enigmatic relationships crammed into the tight trench in the northeast corner of IM4, particularly allowing more room to examine the large blocks at the bottom of the trench. It is even possible that we will yet uncover the original proposed street running from the Egypt Street; perhaps it does indeed connect with IM1’s street and ends there rather than continuing south. Finally, a 2 metre northward extension would expose more of IM4’s Wall 3, which extends into the northern baulk and whose exact function and relationship to the western building remain unclear. The extension would constitute a new excavation unit within our grid.

2. **Excavate the other half of the unit.** Both structures, as well as the street, continue south into the unexcavated half of the square. We are currently forced to extrapolate a number of important characteristics of the unit based on a small excavated area, and excavating the southern half of IM4 would significantly increase our insight and understanding of the expose structures. Similarly, concrete evidence that the street continues throughout IM4 would make a stronger case for its importance. If it continues south of IM4, where a new excavation unit is planned for next season, it would be a strong indicator of an infrastructural connection between the street and the activities of the *extra muros* suq.

4. **Continue excavation inside the western building.** This substantial edifice is also the first place we reached undisturbed historical layers. If the current density of artefact content continues, excavation here should constitute a distinct aid in our overall goal of understanding the later stratigraphy and phasing of Aylah’s southwest quadrant.

5. **Excavate the area of the street, including Feature 2.** Excavation here is important for understanding Feature 2’s stratigraphic relationship to the street. Further work in this area would also allow us to expose more of Wall 2, which we already know is multi-phased and comprised of quality masonry, and to investigate the possibility that Wall 4 is similar to Wall 2 at a deeper level.

**IM5**

In general the area under excavation will be expanded to include a new 10 by 10 metre unit west of IM3 and south of IM4. Removing the baulks between the excavation units will subsequently expose 400 m² of the southwest quadrant of Aylah.
Artefact Analyses

The 2010 season yielded a range of different artefacts and artefact categories. The majority of these were examined and registered as part of the field campaign, and all finds were carefully packaged and stored at the DoA facilities in Aqaba. The degree of treatment of the different find categories has varied. This is primarily because some objects and object categories (e.g. ivory and steatite) were preliminarily analysed in the field, while others (e.g. glass and metal) were subjected to basic registration, but otherwise stored for later examination by an expert.

Field Objects

In the field, all identifiable objects are allocated a ‘Field Object number’ (FO#) as soon as they are found. This is bound to locus and unit. Combined with level and triangulation measurements these data ensure that the object’s stratigraphic position is recorded. The registration procedure for dealing with actual objects includes the recording of details such as dimensions, weight and appearance, as well as the allocation of a catalogue number for registration and storage purposes. This number consists of the project’s acronym followed by 4 digits (AAP0000). These data are recorded on specifically designed find sheets, which will be incorporated into the relational database. All objects were photographed and those with preserved details were drawn to scale.

Coins

A total of five coins were found in the 2010 campaign. All were of a copper alloy in various stages of corrosion. The coins will be transferred to Jarash where they will be mechanically cleaned by the conservation team of the Islamic Jarash Project. This will allow a thorough reading of them and provide a terminus post quem for dating the deposits in which they were found. Four of the coins were found in the deep probe of IM1 (IM1/103, 104, 108) and one came from IM3 (IM3/13).

Oil lamps

Four intact or almost intact ceramic oil lamps were found (AAP0026; AAP0027; AAP0030; AAP0152), and one larger fragment with diagnostic decoration (AAP0149). Additional fragments were also collected, several of which came from types identical to AAP0027. The lamps require more careful examination and contextualisation before they can be comfortably set within a wider framework of lamp typologies, but a few preliminary remarks may be offered at this time.

Following light cleaning we were able to tentatively identify at least two of the lamps. One shows a clear connection with the Negev region from 4th – 8th century CE (AAP0027), and was indeed found in the early fill deposits excavated in IM1’s deep probe (Phase 5). The other (AAP0149) is similar to a type established as figuring among the ‘Abbasid standards’ within the main group of ‘vine scroll pattern’, and in sub-group Arndt III. Kate da Costa sets these within her phase V, which she dates between the mid-8th to 9th century CE.\(^\text{17}\)

\(^\text{17}\) Classified in da Costa, Kate (2003). Byzantine and Early Umayyad Ceramic Lamps from Palestine/Arabia (Ca. 300-700 A.D.). Unpublished PhD thesis: University of Sydney. We thank Kate for allowing us to use her work.
AAP0026 is a moulded circular lamp. The body is flattened and it has an extending nozzle. The lower body is slightly convex, whereas the base is concave. The handle is thin and vertical and protrudes from the upper body. The field is moulded with tendril decoration on both sides of the body. These are framed by double lines running from the handle, over the bridge, and culminating near the nozzle hole. The lower part of the body is also decorated. In front of the nozzle two triple lines extend from centre to nozzle. Looking at the base, a floral motif that uses the doubly circled base as blossom is apparent. A line extends from the double circle to form two leaf-like patterns on each side of the stem. This lamp still needs further study to be convincingly identified, but it fits within the family of Byzantine-Early Islamic ‘slipper’ or ‘large candlestick’ lamps.

Provenance: The 7th century dump (IM1/102; Phase 5)

AAP0027 is wheel-made and has a strap handle (which is missing) and a broad attached nozzle without decoration. The upper body of the lamp is conical and has a ribbed surface. The lower body is convex with no decoration. This type of lamp has been dubbed the Negev Wheel-made and is dated between the 4th to 8th centuries CE. The type is nevertheless common in Late Antique Egypt as well and is generally thought to have spread to Palestine from here. Fragments AAP0143 and AAP0144 are of the same type as AAP0027.

Provenance: The 7th century dump (IM1/105; Phase 5)

AAP0030 is a small circular lamp that may be a local product. It is compact, possibly handmade and has an attached nozzle. At present, this lamp still requires further study for its type to be convincingly identified; however, it is very similar to the type described by Whitcomb as ‘Aqaba lamps’.

Provenance: The 7th century dump (IM1/106; Phase 5)

AAP0145 is an upper body fragment of a rounded wheel-made lamp. Almost half of the filler hole is preserved, and the sherd also gives a good impression of the body’s curvature. The rim of the filler hole has a wavy outline. At present, this lamp still requires further study for its type to be convincingly identified.

Provenance: The 7th century dump (IM1/106; Phase 5)

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18 Simple floral motifs on lamps are known from Nabatean types, yet these apply the stylised flower to the upper field rather than the base. See for example ‘Amr, Kharieh; Ahmed al-Momani; Naif al-Nawafleh and Sami al-Nawafleh (2000). “Summary Results of the Archaeological Project at Khirbat an-Nawafle/Wadi Musa.” Annual of the Department of Antiquities of Jordan 44: 231-55 (Fig 9,1).


20 Da Costa 2003: 166-68

AAP0146 is a small fragment of the bridge from a moulded oil lamp. Tendril decoration is visible on the side of the body and the bridge is concave in shape. Only a little piece of the edge of the wick hole is present. At present, this lamp still requires further study for its type to be convincingly identified.

**Provenance:** The 7th century dump (IM1/108; Phase 5)

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AAP0147 is an upper body fragment of a wheel-made lamp. A bit of the filler hole’s rim is preserved. Between the filler hole and the field an incised line circles the filler hole. The field decoration consists of incised half circles with internal dots. This lamp requires further study to be convincingly identified.

**Provenance:** Part of IM2’s street surface that was excavated to expose a full profile of the excavated cess-pit (IM2/18; Phase 1-2)

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AAP0149 has tentatively been identified as an Abbasid standard (Vine scroll type; Arnd II sub-type) dated to the 9th century. This identification is based on the characteristically moulded decoration on the upper part of the body and the simple attached handle. The decoration consists of a sinqed stem flower with blossoms on each side of the handle. The field is ornamented with vine scrolls. The filler hole has raised double rim and a third very thin line circling those. The handle is an attached hand-made handle with no decoration.

**Provenance:** Floor surface of IM4’s ‘western building’ (IM4/18; Phase 2).

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AAP0152 is an almost intact circular moulded lamp with an extending nozzle. It has a small vertical handle and the nozzle hole is large. The upper body shows five raised lines extending from the nozzle hole to the body. The two outer lines end in a tendril pattern. The field is decorated with a star and dot pattern. On each side of the small handle are three lines and a raised double ring surrounds the filler hole. The lower body has three lines extending from the base ring in the handle end of the lamp. The lamp’s form, fabric and decorative scheme are generally consistent with Late Byzantine - Early Islamic ‘candlestick’ lamps, and its location within the sealed deposits of the deep probe countermands the possibility of it having been moved as part of post-depositional processes.

**Provenance:** The sandy deposits below the 7th century dump (IM1/109; Phase 6).

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Da Costa 2003: 206; Similar vine scroll lamps from Jerusalem (Form 5) have been dated between the 8th and 10th century CE by Jodi Magness (1993: 258).
Ivory

Among the field objects retrieved this season five pieces of carved and polished ivory. Two larger pieces were particularly interesting for their diagnostic characteristics.

**AAP0169:** This fragment was found in the upper deposits of the large building drain into the streets (IM1/110) and is thus presumed to belong to the later phases of occupation. It is clearly part of a plaque with a vegetal arabesque carved in high relief and framed by a flat edge. The piece is flat and measures 49mm in length, 36mm in width and is 3mm thick. It is not intact; however, the decorative scheme was both clear and unworn (also suggestive of a relatively late date). Two drilled holes reveal that the plaque originally was nailed to another object.

**AAP0022:** The other large piece was slightly cruder in execution and curved so as to form part of a small container or pyxis. It measures 43mm in length and 23mm in width and is 4-6mm thick. It is decorated only with a thin double line near the base and an otherwise plain, yet polished body. Its rim is slightly recessed so as to support a lid, which supports the interpretation of it as a pyxis fragment. This artefact was discovered in the phase 5 dump, which so far has been dated to the 7th to early 8th century CE. Two very similar and adjoining pieces were among the material retrieved from this probe by the IAP in 2008 (IM1/101), and it is likely that all three come from the same vessel. We are working towards accessing the IAP material and testing this hypothesis.

**AAP0033:** A similar piece to AAP0022, but smaller and from a different type of container. It measures 28mm in length and 5mm in thickness.

Two other pieces of worked ivory were found: half of a fingering (AAP0031) which was polished but otherwise not decorated, and a larger ring (AAP0028), also half and without decoration. The function of the latter currently remains ambiguous.

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23 These have been preliminarily published in Damgaard & Jennings 2010
Ceramics

Prior to commencing the project, it was decided that rather than elaborating the extant typologies from the OI excavations and the IAP, the AAP would create an independent ceramic typology based only on what we retrieved within the auspices of the project. There may thus be a range of types that previously have been identified by Whitcomb or the IAP, but which here have been incorporated and re-coded according to our system of classification.

The processing of ceramics was done by the excavators in the afternoons and involved quantification (sorted counts), type identification and the illustration and photography of identified types (by illustrator Alex Wood). We first sorted all the sherds from each locus into basic groups based primarily on fabric type and then subdivided according to distinguishing features such ribbing, painting, incisions, slip treatment, and whether they were hand- or wheel-made. Glazed wares were examined separately and grouped first according to fabric, and subsequently according to the colour and design of the glaze. With both corpuses diagnostic sherds were separated and counted independently after having been included in the total count. These formed the basis of our typology, and in addition to being drawn and photographed, were described on specifically designed descriptor sheets, which currently are being collected within a separate typological database.

Because the ceramics from the respective loci were not processed until the locus had been fully excavated and recorded, the sorting involved a tentative allocation of each locus to one of the overall site phases. This was done based on the stratigraphic relationship of the locus to the architectural phasing, and not on the basis of ceramic content. It is our ambition that this will allow an increasingly comprehensive typology to be provisionally seriated and thus contribute to our general understanding of the ceramic horizon of southern Jordan for the period in question.

The pottery from IM3 and IM4 generally left us with an impression of an 11th century profile, with possible incursions into the 12th century as well. Established Fatimid period types dominated the corpus, which in addition to the hand-made wares and various glazed imports, consisted of the cream-surface fabric that is present throughout the occupation of the site.

As previous work on Aylah has produced some discussion of the glazed wares retrieved at Aylah, the material presented here will consist of non-glazed types exclusively. These stem from the phases excavated this season. Due to the limited nature of both excavation area and the capacity of a preliminary report, the Phase 5 corpus presented here is a representative collection of the types retrieved from our deep probe in IM1.24 The Phase 1 corpus, on the other hand, is much more extensive and is presented here in a dramatically reduced state. Note the considerable presence in both corpuses of types made from the cream-surface ware fabric that we presume is a local product.25

24 The strata attributed to Phase 6 were excavated late in the season. Hence, ceramics and other finds have not yet been processed and are, as a result, not included in this report.

## Phase 1 – Representative ceramic typology

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<thead>
<tr>
<th>Type</th>
<th>Provenance (unit/locus)</th>
<th>Description</th>
<th>Phase</th>
<th>Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>E54</td>
<td>IM3/26</td>
<td>Cream-surface ware jar; wheel-thrown; slightly out-turned rim; flat lip; light chaff and grit inclusions.</td>
<td>1</td>
<td>D.152</td>
</tr>
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<td>E53</td>
<td>IM3/26</td>
<td>Cream-surface ware jar; wheel-thrown; folded rim; light chaff and grit inclusions.</td>
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<td>D.151</td>
</tr>
<tr>
<td>E44</td>
<td>IM4/3</td>
<td>Cream-surface ware basin; wheel thrown; inverted rim with shallow groove in lip; medium sand and grit inclusions. Combed/incised decoration on exterior body.</td>
<td>1</td>
<td>D.176</td>
</tr>
<tr>
<td>E34</td>
<td>IM3/13</td>
<td>Cream-surface ware jar; wheel thrown; out-turned rim and flat lip; medium grit inclusions.</td>
<td>1</td>
<td>D.133</td>
</tr>
<tr>
<td>E35</td>
<td>IM3/13</td>
<td>Cream-surface ware jar; wheel thrown; slightly out-turned rim and rounded lip; mica and grit inclusions</td>
<td>1</td>
<td>D.116</td>
</tr>
<tr>
<td>E47</td>
<td>IM3/16</td>
<td>Cream-surface ware jar; wheel-thrown; slightly out-turned rim with inward slanting lip; light sand inclusions.</td>
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<td>D.123</td>
</tr>
<tr>
<td>C69</td>
<td>IM3/38</td>
<td>Medium red ware bowl/basin with thin cream slip on exterior; wheel-thrown; out-turned rim with rounded groove; pie-crust lip; medium sand and grit inclusions.</td>
<td>1</td>
<td>D.193</td>
</tr>
<tr>
<td>G29</td>
<td>IM3/38</td>
<td>Cream ware bowl; wheel-thrown; straight rim with rounded lip; incised decoration in band on body (possibly epigraphy); chaff and light grit inclusions.</td>
<td>1</td>
<td>D.199</td>
</tr>
<tr>
<td>G26</td>
<td>IM3/38</td>
<td>Cream ware bowl; wheel-thrown; circular foot with flat base; light chaff and sand inclusions.</td>
<td>1</td>
<td>D.201</td>
</tr>
<tr>
<td>K10</td>
<td>IM3/38</td>
<td>Black-brown ware bowl; dark brown fabric with reddish tint; wheel-thrown; flat base; medium grit inclusions.</td>
<td>1</td>
<td>D.198</td>
</tr>
<tr>
<td>K11</td>
<td>IM3/38</td>
<td>Black-brown ware bowl or plate; wheel-thrown; possible black slip on exterior; flat base; chaff and mica inclusions.</td>
<td>1</td>
<td>D.197</td>
</tr>
<tr>
<td>C66</td>
<td>IM3/38</td>
<td>Medium red ware bowl/basin; wheel-thrown; flat base; medium chaff, sand and mica inclusions.</td>
<td>1</td>
<td>D.195</td>
</tr>
<tr>
<td>C71</td>
<td>IM3/38</td>
<td>Medium red ware bowl; wheel-thrown; flat base, medium mica, sand and grit inclusions.</td>
<td>1</td>
<td>D.196</td>
</tr>
</tbody>
</table>

---

26 All illustrations of ceramics by Alexandra Wood
## Phase 5 – Representative ceramic typology

<table>
<thead>
<tr>
<th>Type</th>
<th>Provenance (unit/locus)</th>
<th>Description</th>
<th>Phase</th>
<th>Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C11</td>
<td>IM1/103</td>
<td>Red ware bowl or jar; flat base; ribbed body; medium sand and grit inclusions</td>
<td>5</td>
<td>D.026</td>
</tr>
<tr>
<td>E17</td>
<td>IM1/103</td>
<td>Medium cream-surface ware jar; concave base; outward carination; medium sand and mica inclusions</td>
<td>5</td>
<td>D.021</td>
</tr>
<tr>
<td>C13</td>
<td>IM1/103</td>
<td>Medium red ware jar; out-turned rim; folded lip; sand and mica inclusions</td>
<td>5</td>
<td>D.012</td>
</tr>
<tr>
<td>D3</td>
<td>IM1/104</td>
<td>Coarse cream-surface ware bowl/basin; wheel-thrown; straight rim; flat lip with slight outward slant; angularly ribbed body; medium sand and crushed lime inclusions.</td>
<td>5</td>
<td>D.048</td>
</tr>
<tr>
<td>D2</td>
<td>IM1/106</td>
<td>Coarse red ware basin with cream slip on exterior; orange-reddish fabric; out-turned and folded rim; flat lip; sand, grit and mica inclusions.</td>
<td>5</td>
<td>D.061</td>
</tr>
<tr>
<td>C24</td>
<td>IM1/106</td>
<td>Medium red ware bowl/basin; wheel-thrown; out-turned rim; rounded lip; incised lines on body; light sand and mica inclusions.</td>
<td>5</td>
<td>D.062</td>
</tr>
<tr>
<td>C25</td>
<td>IM1/106</td>
<td>Fine red ware juglet, wheel-thrown, out-turned rim and rounded lip; ribbed neck and body; fine sand inclusions.</td>
<td>5</td>
<td>D.063</td>
</tr>
<tr>
<td>I1</td>
<td>IM1/106</td>
<td>Medium to fin green-grey ware lamp; folded notched rim; bulbous ribbed body; light sand and possible lime inclusions.</td>
<td>5</td>
<td>D.064</td>
</tr>
<tr>
<td>C22</td>
<td>IM1/106</td>
<td>Medium red ware storage jar; wheel-thrown; straight rim and rounded lip; finely ribbed body; attached vertical handles; medium mica and grit inclusions.</td>
<td>5</td>
<td>D.074</td>
</tr>
<tr>
<td>A8</td>
<td>IM1/106</td>
<td>Very fine red ware plate of Late Roman type; wheel-thrown; folded and slightly rounded rim; slightly convex base; fine mica inclusions.</td>
<td>5</td>
<td>D.079</td>
</tr>
<tr>
<td>C23</td>
<td>IM1/106</td>
<td>Fine red ware storage jar or cooking pot (traces of soot on exterior); outward folded rim, attached vertical handles (probably 3 in total); medium sand, grit and mica inclusions.</td>
<td>5</td>
<td>D.077</td>
</tr>
<tr>
<td>C47</td>
<td>IM1/108</td>
<td>Red ware jar; flat base; smooth body of varying thickness; rounded base with slight groove; medium sand and mica inclusions.</td>
<td>5</td>
<td>D.168</td>
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<tr>
<td>E37</td>
<td>IM1/108</td>
<td>Medium cream-surface ware juglet (orange core); out-turned rim and slightly inward slant on lip; light sand inclusions.</td>
<td>5</td>
<td>D.075</td>
</tr>
<tr>
<td>E38</td>
<td>IM1/108</td>
<td>Medium cream-surface ware bowl; wheel-thrown; slightly out-turned rim with thick rounded groove; outward slanted lip; sand and mica inclusions.</td>
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<td>D.070</td>
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<tr>
<td>E21</td>
<td>IM1/108</td>
<td>Medium cream-surface ware bowl or jug; wheel-thrown; flat base; medium sand and mica inclusions.</td>
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<td>D.073</td>
</tr>
<tr>
<td>E36</td>
<td>IM1/105</td>
<td>Medium cream-surface ware basin or cooking pot; wheel-thrown; out-turned rim with overhang; slanting lip; sand inclusions.</td>
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<td>D.067</td>
</tr>
<tr>
<td>E32</td>
<td>IM1/108</td>
<td>Medium cream-surface ware basin or large bowl; wheel-thrown; folded rim; outward slant on lip; flat base; sand and mica inclusions.</td>
<td>5</td>
<td>D.080</td>
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<tr>
<td>E22</td>
<td>IM1/108</td>
<td>Medium cream-surface ware amphora (Aylah type); wheel-thrown; straight rim and flat lip; interior groove for lid; double vertical handles attached to rim; light mica and sand inclusions.</td>
<td>5</td>
<td>D.078</td>
</tr>
</tbody>
</table>
DN: D.016 C11 Dia. 2.5 cm

DN: D.021 E17 Dia. 6 cm

DN: D.012 C13 Dia. 12 cm

Dn. D.048 D3 Dia. 28 cm
Other artefact categories

The retrieved glass and faunal remains were not subjected to in-field studies this season. Instead, they were bagged and tagged according to locus and excavation unit, and stored in the DoA facilities in Aqaba. This will allow easy access for analysis by experts in the future.

A commonly occurring category of material was metal, which mostly consisted of highly corroded iron or copper alloy fragments. Four metal items were particularly interesting. A copper alloy handle (AAP0040) still displayed a ribbed decoration under the corroded surface. What this originally was used for is unclear, but it presumably functioned as a handle for a chest. A square iron buckle (AAP0020) was found in the Umayyad dump in IM1. It was found intact, but lifting it caused it to brake in five pieces due to the high level of corrosion. An iron saw (AAP0036) and an incomplete copper alloy key (AAP0021) were also found in the Phase 5 dump. The saw in particular was in a good condition and still retained a solid metal core. It was tantalising to find a tool used by Aylah’s earliest inhabitants in such a state.

A number stone objects were also found in the excavations. These include three basalt grinding stones; one of which was intact and had a quadratic shape (AAP0037) ideal for light hand-grinding (perhaps of spices like pepper and cloves?).

Several fragments of steatite or chlorite vessels were also found. Nine of the fragments were diagnostic and seem to belong to relatively thick-walled cooking pots. The diagnostics will be examined at a later stage when the corpus has been augmented by further excavations.

Several pieces with epigraphy were also retrieved. A fragment of sandstone paver was found with carved inscriptions (AAP0024). This will be examined by an epigraphic expert at the University of Copenhagen. An ostracon with a seemingly Greek inscription has also yet to be analysed (AAP0038). The sherd itself is nevertheless of the cream-surface ware that is dominant throughout Aylah’s history.

Samples for scientific analysis

The Department of Antiquities have granted the AAP permission to export a range of samples for further testing. These consist mainly of good context carbon and shell samples for dating purposes. A number of soil samples from relevant deposits such as the fill of IM2’s cess-pit were also collected in the hope that compositional analyses will help illuminate the purpose of these installations.
<table>
<thead>
<tr>
<th>Cat.#</th>
<th>Sample #</th>
<th>Exc. Date</th>
<th>Unit/Locus</th>
<th>Locus reliability</th>
<th>Category</th>
<th>Material</th>
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<td>AAP0001</td>
<td>1</td>
<td>21.02.2010</td>
<td>IM1/102</td>
<td>Good</td>
<td>Sample</td>
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<tr>
<td>AAP0002</td>
<td>2</td>
<td>21.02.2010</td>
<td>IM1/102</td>
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<td>AAP0003</td>
<td>3</td>
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<td>Soil sample</td>
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<tr>
<td>AAP0004</td>
<td>4</td>
<td>17.02.2010</td>
<td>IM1/103</td>
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<td>AAP0005</td>
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<td>IM1/103</td>
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<tr>
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<td>IM1/104</td>
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<tr>
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<td>AAP0008</td>
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<td>Flotation sample</td>
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<tr>
<td>AAP0016</td>
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<td>IM2/19</td>
<td>Good</td>
<td>Sample</td>
<td>Carbon sample</td>
</tr>
</tbody>
</table>

**Acknowledgements**

The *Aylah Archaeological Project* is grounded in the pioneering work of Prof. Donald Whitcomb (1986-1995) and the resolute decision by the late Prof. Johnny De Meulemeester to support Damgaard’s return to Aylah under the auspices of his *Islamic Aqaba Project* in 2008. To both we send our deep-felt recognition and respect.

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