An early Islamic site and the pottery assemblage from Ūd al-Tawba/al-Mu'taredh, al-Ain, Abu Dhabi, U.A.E.

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Abstract: *An early Islamic falaj (pl. aflaj), and a mud brick mosque were discovered on privately-owned land in the center of the town of al-Ain (UAE) in 1999 and were excavated. The results were published in the Bulletin of the Society for Arabian Studies (Al Tikriti 2003) and incorporated into Archaeology of the Falaj (Al Tikriti 2011). Results of further excavations between 2011 and 2014, which led to the discovery of more aflaj and further buildings, have been published recently (Al Tikriti et al 2015). The discovery of these structures and water installations is significant as it is so far the only available evidence for the presence of Early Islamic buildings and aflaj in the al-Ain region. In contrast to Late Pre-Islamic and Early Islamic sites, sites exhibiting Bronze and Iron Age architectural remains are widely known in the region. The discovery of a number of aflaj and open water channels covered by sand and modern debris suggests that a large oasis must have existed in this part of al-Ain or close by. The previously-published results have focused on the aflaj and the architectural remains. The excavators have cautiously linked the site with the ancient historical city of Tawam, thought to be the ancient name of al-Ain and Buraymi. This paper presents a summary of these finds together with a description of an extra building discovered in the autumn 2015 and a study of the Early Islamic pottery assemblage recovered..*

Keywords: *Early Islam, al-Ain, Islamic ceramics, Tawam, aflaj*

Introduction

During the last six decades, archaeological investigations have been ongoing in al-Ain (UAE), next to Buraymi, (Sultanate of Oman). These twin cities, being modern and fast-growing, are the largest settlements in the interior away from the coast, sitting astride the *Ardh al-Jaww* plain, which extends lengthwise from a short distance to the north of Hili and crosses the border with Oman south of al-Ain. It occupies the whole fertile plain bordered by Jebel Hafit in the west and the al-Hajar Mountains in the east (Fig. 1). Archaeological activities in al-Ain have so far brought to light evidence from the Neolithic, Bronze Age, and Iron Age. Post Iron Age, Late Pre-Islamic and Early Islamic evidence is rare, however,

Fig. 1: Google Earth image of Ardh al-Jaww restricted between al-Hajar Mountains and Jebel Hafit. City of al-Ain and Buraymi occupy the northern part of the plain.

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multiple short visits made long ago by one of the authors (W.Y) to Hamasa in Buraymi hinted at the existence of pre-Islamic materials in the form of fragments of stone vessels and glazed pottery, possibly dated to the first century BC/AD. Some of the small hillocks located on the Omani side of the border might reveal graves like the Wadi Suq tomb (1st half of the 2nd mill. BC) at Qattarah. If proper investigation is carried out, other hillocks may be found to be clearance mounds (*natel*) or natural. Recent explorations at Hamasa village and its vicinity in Buraymi by Timothy Power (unpublished) also brought to light evidence of Early Islamic occupation. Power's excavations at Hamasa, a site located a few hundred metres from the present site, showed that both sites were once permanent settlements striding the caravan route between the Arabian Gulf and the Gulf of Oman. Despite the scarcity of Pre-Islamic and Early Islamic settlements in al-Ain and the adjacent city of Buraymi, readers are reminded of Early and Late Islamic sites located further north and east of al-Ain, such as Jumairah in Dubai (Qandeel 2004), Kush in Ras al-Khaimah (Kennet 1997), Julfar (Taha 1975; King 1989; Sasaki 1992) and Sohar (Costa and Wikinson 1987, Kervran 2004).

The Landscape

The landscape of the al-Ain City has been drastically changed since the accession of late Sheikh Zayed bin Sultan Al Nahyan to power in the Emirate of Abu Dhabi in 1966. Roads, roundabouts, commercial and government buildings, low-cost houses, and new villas have claimed most of the virgin and empty lands that were encircling the well-known oases in the city and the areas located far in-between. Today the Google satellite image of the city shows a dense urban city very different from that of five decades ago when only small areas with some mud brick houses or clusters of *arish* cottages could be seen on the edges of the oases. The aerial photographs of the Royal Air Force (RAF), taken in 1968, show a cultural landscape of the region that, one can imagine, might have undergone little change since the Iron Age when the *falaj* system was introduced (Fig. 2). The image shows fully-developed oases, including those at Buraymi, with a history going back a few centuries. The same image shows the location of the site that is being discussed here, still covered in dunes. Soon after 1968 (presumably between 1970 and 1975), the site was completely leveled off and the western part of the plot was partly paved with cement and subsequently used as an open ground for wedding celebrations. In order to stabilize the sand, the eastern section where the archaeological structures have been defined was partly covered with a layer of gravel. All excavations, (1999-2000 and 2011-2016), have shown that the leveled sand dunes must have originally concealed mud brick structures with well-preserved walls, perhaps standing as high as those of the Iron Age site of Hili 2 (some houses of Hili 2 were discovered with walls preserved to more than six feet). The mosque and most of the excavated walls have shown groove marks left by bulldozer teeth.

Early Islamic aflaj in al-Ain: the first stage of excavations.

Below is a brief on the first excavations ever conducted in researching the Early Islamic archaeology in the al-Ain City, capital of the Eastern Region of Abu Dhabi Emirate. First, we should mention that the ancient communities of the city and its adjacent areas have utilized groundwater by digging vertical wells in the Bronze Age and by constructing aflaj (underground channels) in the Iron Age, which led to the establishment of permanent settlements and oases. The number of Iron Age aflaj discovered so far in al-Ain and in the arid

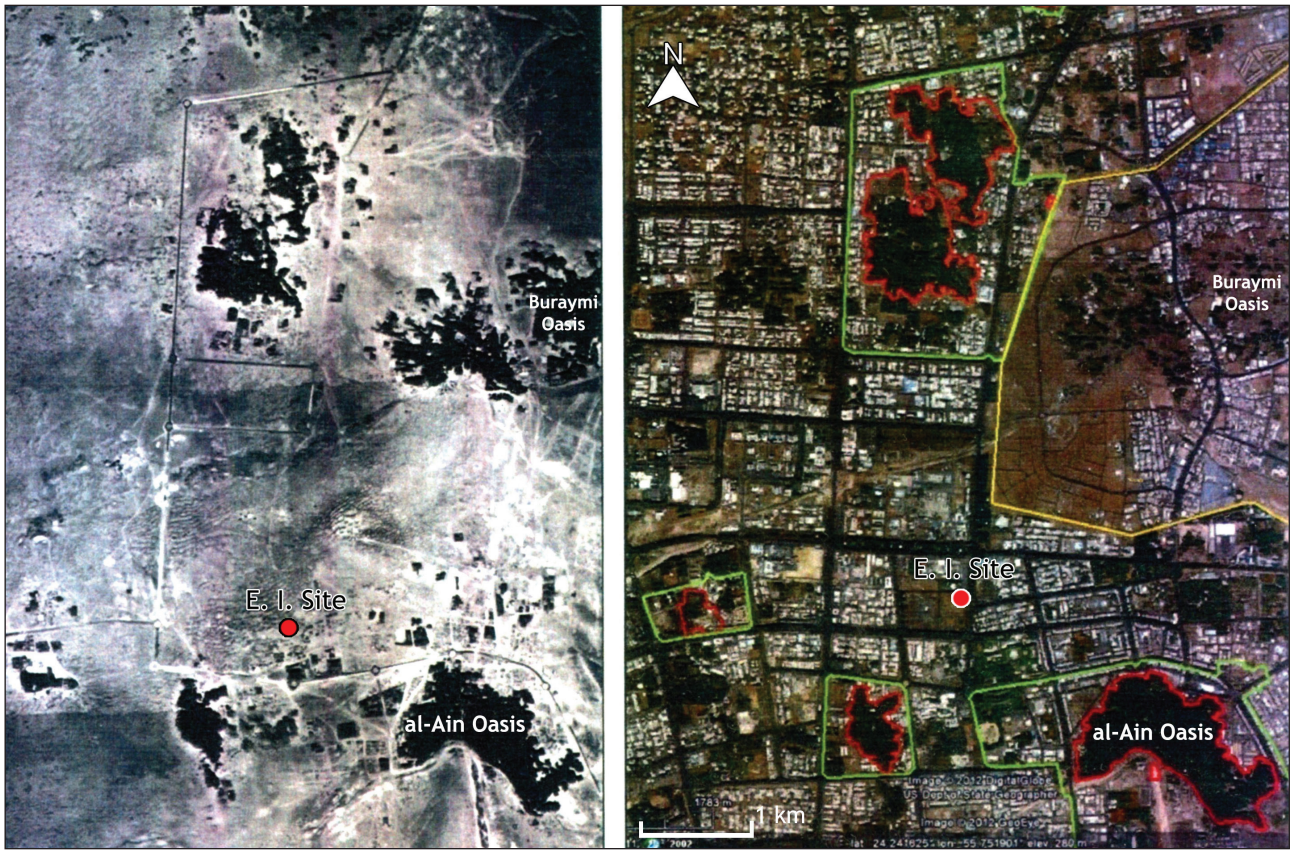

Fig. 2: al-Ain and Buraymi in 1968 and today (Google Earth and Royal Air Force images). The site is marked in a red dot.

areas extending further north demonstrate that southeast Arabia was the homeland of the falaj system and that the relatively modern palm-tree oases of al-Ain and Buraymi are products of this 3000 years old system (Al Tikriti 2017).

Bulldozing on private land created a trench in which a hole was discovered. Being private land belonging to the ruling family of Al Nahyan, the al-Ain department of antiquities was asked to investigate. During a month in June 1999, the bottom of the previously dug trench was examined by Mohamed al-Neyadi, the former director of the department, and the underground channel of a *falaj* was identified. Due to the importance of the discovery and the lack of dating evidence, further excavations supervised by the principle author were carried out by Al Neyadi and Ahmed Abdullah Al Haj between November 1999 and April 2000. The excavation was extended to cover an area of 4 metres wide and 175 metres long. This was divided into seven units each measuring 25 metres (Fig. 3 and 3a). Excavation in each unit was facilitated by mechanically removing a one-metre layer of recent debris and the upper part of the soil. The channel discovered was originally dug from the ground surface to a depth of four metres. It was dug into a three-metre thick layer of compacted greenish clay (*meder*). The channel is about 1.70-1.80m high, which would have enabled the builders to move easily while constructing the ceiling and doing maintenance work (Fig. 3b). Baked bricks (Fig. 3c) are the main construction materials used, the first time these have been found in the UAE, and they allow us to distinguish this from Iron Age *aflaj* known in the region (Al

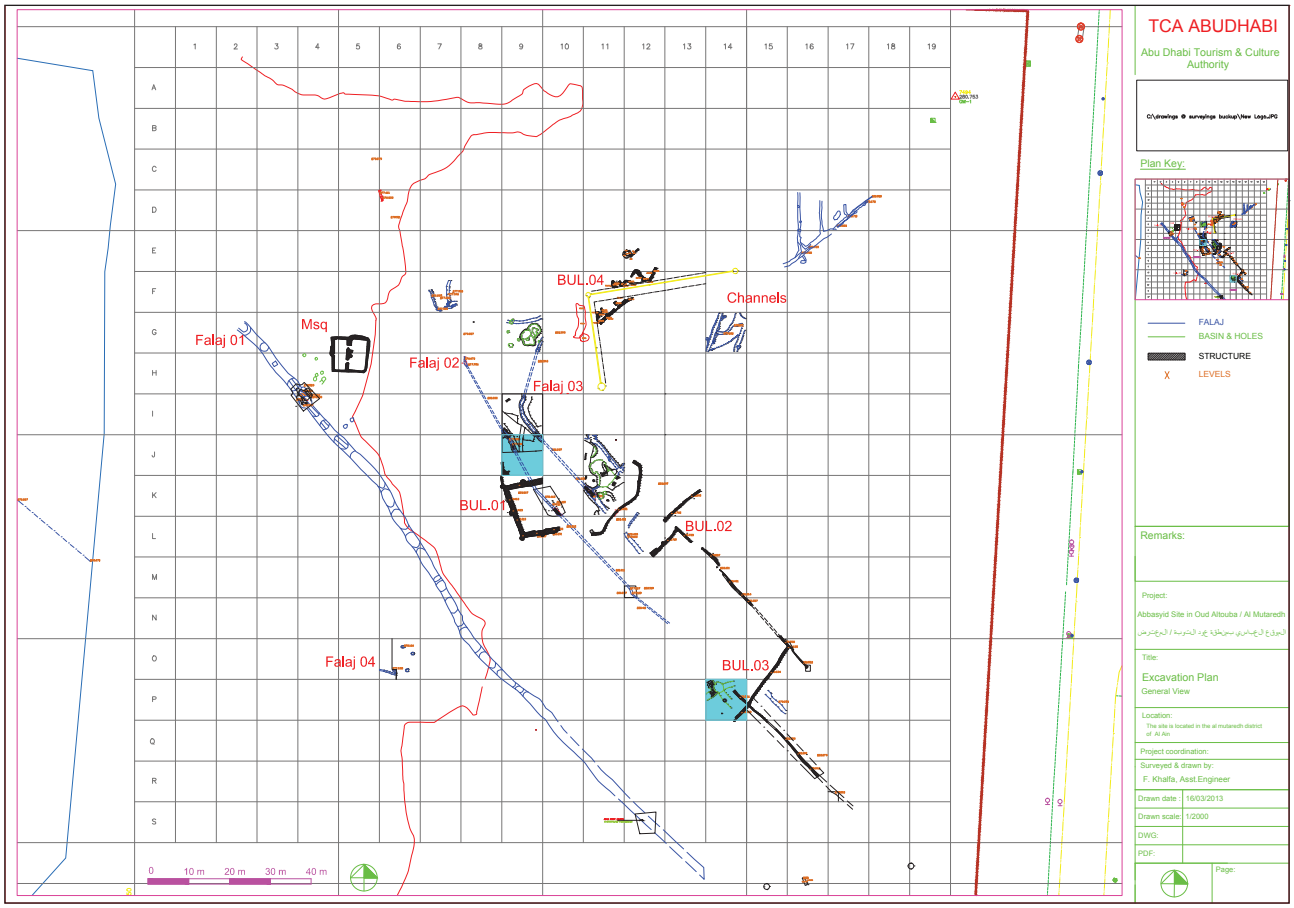

Fig. 3: The network grid and plan of the excavated buildings and the irrigation installations at the site. The grid is using characters (A-S) and digits (1-19) with squares measuring 10x10m. Drawing: Fawaz Khalfa and Ahmed Yahya.

Tikriti 2003). Sun-dried mud brick buildings, however, are known to have been used at Hili since the early centuries of the 3rd millennium BC (Frifelt 1975; Cleuziou 1989). After sealing the channel, the remaining depth above the roof was refilled with the excavated earth, and the channel was concealed except for the shaft holes. At the extreme southeast end of Unit 1, a shaft hole (*thugba*) covered with a flat stone was discovered. In the same unit, a well-preserved square shaft hole was built. In some areas the original roof of the channel was badly damaged and the bricks of the vaulted roof were replaced in antiquity with flat stones. The clearing of the bottom of the channel at various points, including Unit 6, indicated that the *falaj* ran from southeast to northwest.

The small collection of ceramics discovered in the fill and radiocarbon dating extracted from the construction materials allowed the excavators to consider the *falaj* of an Early Islamic date. It should be mentioned that mixed Bronze and Iron Age pottery were also encountered during the excavations, but were excluded from consideration when dating the site, as they are in contrast with the building material used and the construction method of the *falaj*. The Abbasid glazed sherds from the ninth and tenth centuries AD have been taken as evidence for dating the *falaj* and the site. The date was consolidated by two radiocarbon dates (both uncalibrated) from two charcoal

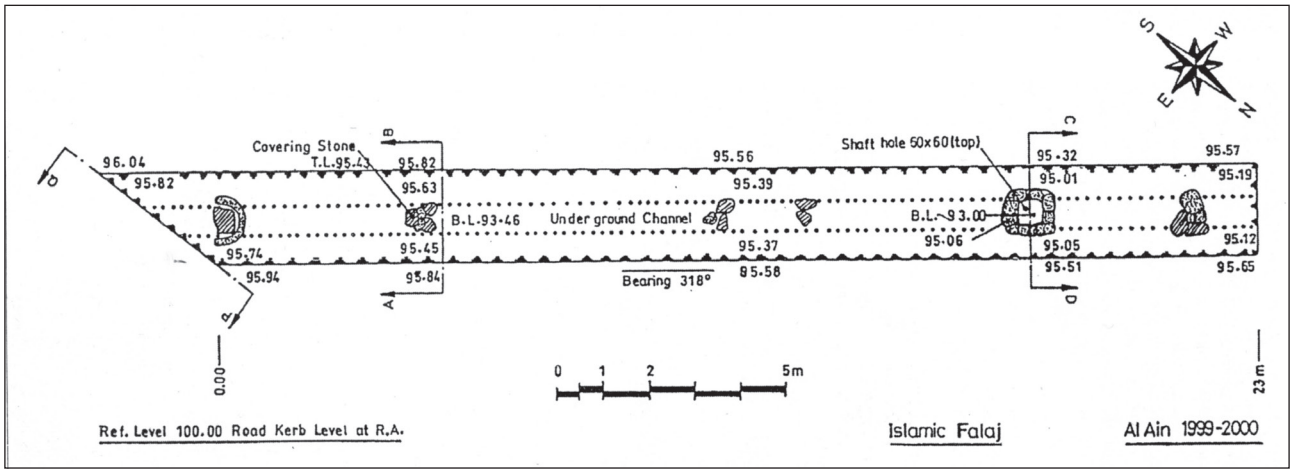

Fig. 3a: Falaj 1, Plan of Unit 1. Drawing: C.U. Jhon.

Fig. 3b: Section of Falaj 1 looking northwest. Photo: al-Tikriti.

samples retrieved from the baked bricks. The first sample (KIA11537) gave a date of 1180+/-25 BP. While the second (KIA11538) gave a date of 1330+/-25 BP. In addition, a *falaj* built of similar baked bricks had already been discovered and partly excavated in an area west

Fig. 3c: Falaj 1, cut-and-cover section sealed with baked bricks, looking NW. Photo: al-Tikriti.

of Sohar (Costa and Wilkinson 1987). This was dated to the Abbasid period by the excavators based on the construction materials and the pottery discovered in association.

The Mosque

Apart from the *falaj* discussed above, the only other architectural feature discovered at the site during the early stage of excavations was traces of bricks different from those used in the *falaj*. Excavation showed that these were part of a straight wall with a niche in the middle projecting outwards. The niche was subsequently interpreted as a *mihrab* and the structure as a mosque (Fig. 4 and 4a). Extensive excavations led to the discovery of the remaining walls of the prayer hall. Two short walls (north and

Fig. 4: The mosque as it looks after excavations. Photo: al-Tikriti.

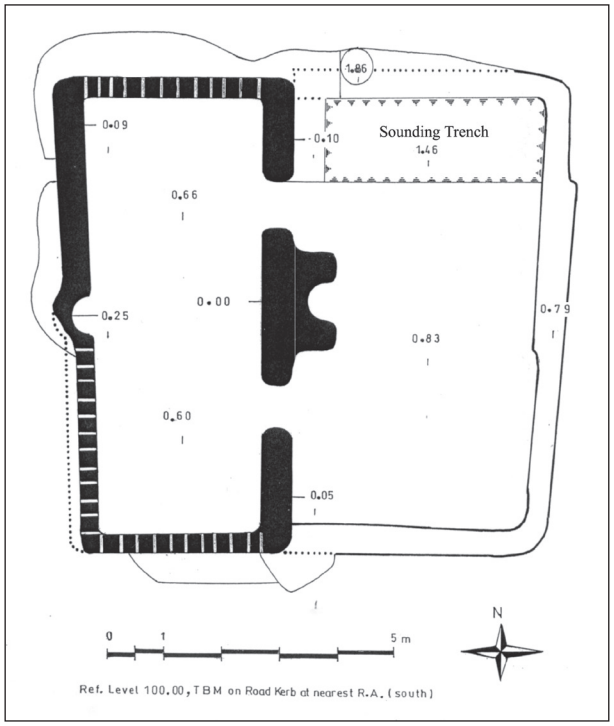

Fig. 4a: Plan of the Mosque. Drawing: C.U. Jhon.

south) were identified and joined by the eastern wall which was pierced by two doorways, each 0.80m wide. The interior space of the prayer hall is 7.5m by 3.2m, enough for two or three rows of people praying. The width of the wall is 0.50-0.55m consisting of one and a half bricks, each measuring 0.32 by 0.32m. The eastern wall was built in the same way while the width of the two other walls was only 0.35m, *i.e.,* the size of one brick and the plaster layers on both sides. The *mihrab* is 0.70m wide and 0.55m deep. It was plastered with a thin layer of clay, as in the rest of the *qibla* wall. The floor of the prayer hall was plastered with a thin layer of whitish clay and it seems that it had undergone some restoration over time. Although the remaining walls are not very high, two narrow windows (0.30m and 0.38m wide) were discovered in the northern wall but their height is unknown as the full height of the wall is not preserved. Having excavated the prayer hall, the two doorways and the front side of the mosque were excavated. A courtyard slightly larger than the prayer hall and, a second *mihrab* of the same size attached to the eastern wall were discovered. Like the prayer hall, the floor of the courtyard, which is slightly lower than the floor of the prayer hall, was originally paved with a similar layer of clay.

With regards to dating, we have stated in our previous publication (Al Tikriti 2003) that *'... the mosque and the falaj are contemporary. However, it is also possible that the mosque belongs to a later phase of the falaj when it was still functioning'*. This statement was based on the few fragments of glazed pottery discovered in the prayer hall, the courtyard and the adjacent area, as well as in what seems to be a *falaj* service area between the *falaj* and the mosque which is located at a distance of 8-10 metres from the *falaj*. The service area is formed of 10 holes dug into the natural ground, each measuring between 0.50-0.90m in diameter. One hole at least is one metre deep. A narrow and shallow channel was excavated running between the holes. There is no way to interpret this feature other than it being some sort of water installation. On the edge of the *falaj,* not far away from the mosque, a well was discovered and dug down to a depth of 3.70m; the bottom was not reached and it may have been connected to the *falaj*.

The second stage of excavations: buildings and three more *aflaj*

The second stage of excavations started in 2011 when a decision was taken by the Private Department of H.H. Sheikh Khalifa bin Zayed Al Nahyan, President of the United Arab Emirates to construct a grand mosque on the plot. An engineer from the Town Planning Sector in al-Ain leaked the news to one of the authors (W.Y) who managed to contact EC Harris, the former consultant in charge of the project. Subsequently, a number of meetings were held with the consultant who immediately became interested in the idea of incorporating the old mosque and the *falaj*, into the new mosque (Fig. 5). These meetings went side by side with new archaeological investigations that started when the contractor opened hundreds of soil test pits. In one of these, traces of mud bricks were noticed by one of our workers, which on close examination revealed a wall with evidence of bulldozing. A grid was therefore laid out using 10x10m squares to allow for more extensive excavations. Whilst the agreement was initially to incorporate the *falaj* and mosque only, it became a burden on the architect, as remains of four more building units came to light in addition to more cut-and-cover sections of three more *aflaj* and open water channels. The excavation results of buildings 1-3 have been published (Al Tikriti *et al*, 2015). Whilst building 1, which is briefly presented below, has thick walls with exterior buttresses, giving the impression of being administrative in nature or a garrison, the other two buildings are much inferior from an architectural point of view.

Fig. 5: Location of the preserved architectural units in relation to Sheikh Khalifa Grand Mosque. Unit 1a is a short stretch of Falaj 1, Unit 1b is the Mosque, Unit 2 is Building 1, Unit 3 is Building 4, Unit 4 is a thugba (shaft hole) on Falaj 1. Google Earth image 2018.

Fig. 6: Photo of Building 1 after excavations. Photo: al-Tikriti.

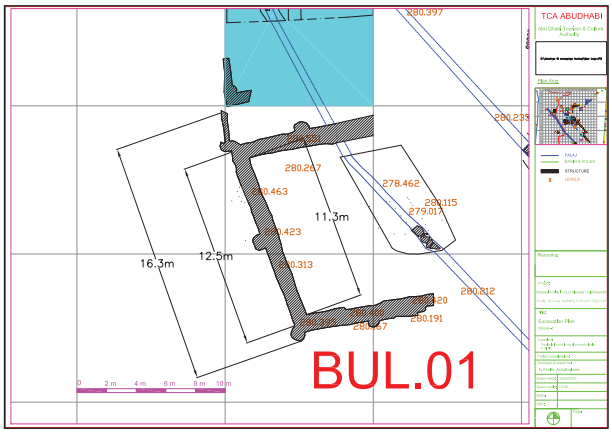

Fig. 7: Plan of Building 1. The long channel is Falaj 2. Falaj 3 is on the extreme right. Drawing: Fawaz Khalfa.

Building 1

This is a square building despite the fact that the fourth side of the square is missing. The remaining walls are one-metre thick with buttresses bonded with the walls in the corners and in-between (Fig. 6 and 7). Excavations inside the building led to the discovery of what

we think are traces of plastered floor running against the bottom of the walls, but these were missing from the other parts of the interior. Apparent patches of 'floor' are sometimes simply eroded plaster from the walls. Apart from patches of floor, the interior did not reveal further infrastructure. Like the mosque, the foundations of the walls are not situated on the original surface of ground but on a layer of sand.

A thin wall was found attached to the northern corner of the building. Excavations there revealed ashy layers mixed with potsherds indicating a cooking area. The pottery discovered has a white paste with thin walls in addition to fragments of cooking pots and some pieces of carbonized glass; all of Abbasid date. Handles ending with decorative shapes have been found as well (Al Tikriti *et al* 2015).

Buildings 2 and 3

The remains of these two buildings are located to the southeast of Building 1 and both have plans and structures different from that of building 1. The walls of these two buildings are thinner and less sophisticated (Fig. 3, see also Al Tikriti *et al ibid*, Fig. 5). Originally, the buildings were identified as two separate structures but further excavation has shown that they are connected by a long wall still preserved in some places. Two sizes of mud bricks 37x37cm and 37x20cm were used to form 60cm-thick walls built in courses formed of large and small bricks in alternating positions. In general, it was noticed that the bulky foundations of the three buildings (1-3) are wider than the walls themselves; they consist of a wider base with sides that tapper off towards the first course of the wall.

The majority of the pottery came from the three buildings and from the trenches opened to trace the *aflaj*. This pottery is mostly of Early Islamic date (9th-10th centuries, see the pottery section below). Mixed Iron Age pottery and, to a lesser extent, Bronze Age sherds were also found.

Falaj 2

Inside Building 1, a channel was discovered in the eastern section of the building cut into a compacted soil and partly covered with slabs. Soundings elsewhere at the site - supported by a geophysical survey - showed that the channel is part of a separate *falaj* running close to Falaj 1 and following the same direction (SE-NW) (Fig. 3). To the southeast of Building 1, Falaj 2 was examined and found to extend below ground, having been constructed by tunneling rather than cut-and-cover. Falaj 1, though mainly constructed by cut-and-cover, was also constructed by tunneling in some places. Excavations at square H8 revealed the extension of the same *falaj* (Falaj 2) cut into a compacted soil overlain by an occupation layer of fill, which yielded Early Islamic pottery mixed with Bronze and Iron Age potsherds. Much further north at D6 at a depth of 2m below the surface, the channel of Falaj 2 was found partly sealed with a thick layer of mud plaster concealing flat stones set to cover the channel. The channel was excavated at this spot and its bottom was found at a depth of one metre from the ceiling. The same *falaj* was also defined in F7 where a small section containing fallen stones in the originally-covered channel was discovered. Pottery found in F7 was of Abbasid date. At M12, the same *falaj* was exposed, constructed by tunnelling.

Excavations in P15 revealed the *falaj* beneath Building 3 at a depth of 1.2m below the surface. It was found with walls consolidated with small stones and a roof made of flat slabs. At the same point, remains of a collapsed *thugba* were discovered close to the building

wall (see Al Tikriti *ibid*, Fig. 8).

In two other squares, I9 and J9, just to the north of the food preparation area of Building 1 and at a depth of 2 metres below the surface, two channels running close to each other were discovered. The first one in the western part of square I9 is a continuation of Falaj 2, whilst the second is a third *falaj* labelled Falaj 3.

Falaj 3

This *falaj* was first defined in K11 by the geophysical survey which showed a line parallel to Falaj 2 (Al Tikriti *et al* 2013). A trench was opened to examine a GPR anomaly and unexpectedly a curved mud brick wall was found perpendicular to the line just below the surface occupying the southeast section of the trench. At a depth of *1*.20m in other parts of the same trench, Falaj 3 was found covered with large slabs with small rocks embedded in the gaps between the slabs. At one point on this *falaj,* which runs below the abovementioned curved wall, a narrow channel connected it to a large water basin. Our explanation is that this basin may have been the result of the mining process for the compacted clay layer. We observed that the whitish bricks used in the three buildings are similar in colour to the compacted virgin soil of the bedrock. Despite the fact that no soil analysis has yet been undertaken, we believe that most of the basins encountered at the site were the results of such a process, i.e., extracting earth for brick-making. The basin, when abandoned, was filled with debris containing fragments of mud bricks and fragments of Abbasid pottery. Falaj 3 was also traced in I9 and H9 and its channel found curving northeast away from the adjacent *falaj* (Falaj 2). The walls of the channel here, constructed from medium-sized stones, were well preserved but there were no traces of the roof. Like most other trenches, this trench yielded fragmented pottery from the Abbasid period associated with the *falaj*.

Falaj 4

West of Falaj 1, a trench was opened in O6. This *falaj* is different from the others discovered at the site so far. The differences lie in the way it was cut, its orientation and dating. It is a narrow channel (0.4 m wide), cut into the virgin soil, which lay 2.15 m below the surface. The excavation trench was slightly enlarged lengthwise to allow the excavators to reach the bottom of the *falaj*, at a depth of 2.30 m below virgin soil, i.e., 4.45 m from ground level (Al Tikriti *et al* 2015, Fig. 9).

Concerning the date of Falaj 4, it is worth mentioning that its channel seems to have been dug through a Bronze Age ashy layer, which indicates that the *falaj* was dug after the second millennium BC. The presence of an Iron Age potsherd at a depth of 1.30m in the channel and the abundance of Abbasid pottery elsewhere at the site, but not in this particular channel, lead us to suggest an Iron Age or Early Islamic date. Due to the aforementioned potsherd, the different orientation of the channel and it being narrower than the Islamic channels, we are inclined to tentatively prefer the Iron Age date.

Building 4

This building, which was excavated by the principle author, occupies sections of G11, F11 and F12. It is oriented southwest-northeast. The discovery of the building occurred while examining the sections of two wide perpendicular trenches excavated by the construction company to be used for infrastructure purposes. Unfortunately, one of the trenches (south-north) cut the southwest corner of the building while the other (east-west) went through the structure, dividing it into two halves (Fig. 8).

The southern half contained two adjacent

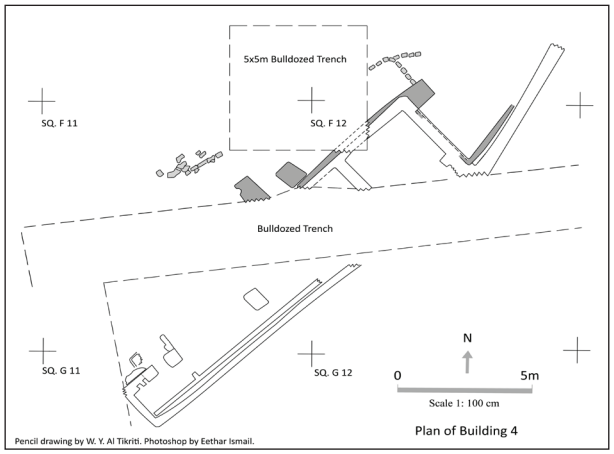

Fig. 8: Plan of Building 4. Pencil drawing: al-Tikriti.

Fig. 9: Building 4, Photo of the southern section, looking northeast. Photo: al-Tikriti.

walls running northeast, defining what seems to be the back of the building (Fig. 9 and 10). The inner wall seems to have been an addition to the exterior, as it is not bonded with the short southern wall of the building and has a shallower foundation than the adjacent wall. The lower portions of the outer wall share similarity with the walls of building 1, as they slope outwards before reaching the lowermost course. The main interior feature of this section of the building is a small corner room with two small niches. The room is defined by two pillars with a small gap in-between. One pillar is embedded into the adjacent wall and the gap left with the other pillar seems to be a doorway. Outside, on the right hand of the gap, just below the surface, a small neat square feature was uncovered. This feature was defined by a clay border and had baked smooth floor. In our opinion it used to be a subsidiary cooking area added to the adjacent wall (Fig. 11). A nearby badly-conserved, but semi-complete, low-fired cooking pot with a short neck and an uneven rounded rim was found possibly contemporary with the cooking area. A third isolated rectangular mud brick pillar (ca. 50x75cm), with traces of bulldozer teeth still visible, is another feature. It is set back only 50 cm from the inner added wall. Its function is unknown but it may have supported a roof or a vault. Since the impact of the destruction was extensive, the remaining part is not high enough to confirm such a hypothesis. A well preserved living floor was found encircling the pillar. Originally, this floor, which yielded a few early Islamic potsherds, must have extended at least all over the remaining part of this section.

The northern half of the building seems to have two phases as it is mainly occupied by a room built on top of an earlier one (Fig. 12). For this reason, it is possible that the whole structure(s) may have originally been composed of two small, separate buildings rather than one. It is difficult to confirm this as the cut trench between the two sections was more than 2.5 metres wide. The section of these two superimposed rooms shows that the lower unit was filled with sand and a new floor was established for building the upper room (Fig. 13). Apart from what is shown in the section, the interior of the lower room was left unexcavated as we did not want to destroy the upper one. This new floor of the upper room seems to have two layers with a few centimeters of fill in between. The upper layer is made of mud bricks laid flat between

Fig. 10: Building 4, Photo of the southern section, looking west. Photo: al-Tikriti.

Fig. 11: Small cooking area added to the southern section of Building 4. Photo: al-Tikriti.

the poorly-preserved shallow walls of the room, which are clearly visible against the brick floor. It is worth mentioning that the remaining walls of the upper room are slightly set back or forth from the alignment of the walls of the lower room (earlier walls are shown in dark grey, Fig. 8). The mostly missing eastern wall of the upper room (bulldozed) extends north, forming what seems to be a courtyard (Fig. 14). This courtyard seems to have also existed during the early phase of the structure, as the eastern wall of the lower room was also found extending north, but with a slightly different angle from the previous one and partly running below it. The fill of the shared courtyard of both phases was found largely covered with layers of ash, giving the impression that it was a cooking area. A few potsherds were found together with small thin fragments of glass. From the lower phase of the courtyard came a small fragment of a cooking pot made of chlorite with a mending nail still sticking to it (Fig. 38), and a rim of a glass bottle with a narrow mouth and a high neck. A few more fragments of glazed and unglazed Early Islamic wares were also found. It should be mentioned that against the western wall of the lower room, a thin, poorly-built wall (highlighted with light grey ink in Fig. 8) was added to form a small utility space, which yielded nothing apart from few fragments of Early Islamic ceramics. The function of this wall is unknown but it may have been aimed to define another cooking area, as ash was found in the fill between the main wall of the room and this clumsy wall. The wall may have also served as an outer fence for the building, as the few remaining bricks found in Trench F11 may have originally belonged to the same wall.

At the end of the northwestern early wall of the northern section, remains of two mud brick pillars built directly on the bedrock, representing the early phase of the building were discovered (Fig. 8). One of these pillars was partly cut by the bulldozed trench while the other has kept its rectangular shape. Although the function is uncertain, being parallel with a gap of 75cm in between might indicate that they were door jams.

More recently, while cleaning Building 4 for the sake of conserving and presenting it to the public, a well was discovered and excavated by one of the authors (D.T.). Excavation down to a depth of five meters below the surface, without reaching the bottom, revealed fragments of

glazed and unglazed Abbasid ceramic. This well, which is located near the partly excavated courtyard of the northern section, might be contemporary with the building, but without reaching the bottom it is difficult to confirm such a date.

Building 4, despite being incomplete and difficult to measure its original size and plan, due to disturbance, which took place in antiquity and recently, is the first actual domestic building discovered at the site. It is different from Building 1 in terms of plan, architecture and function. The remains of buildings 2 and 3 did not show traces of dwelling rooms as in Building 4. Nevertheless, our last building is in harmony with the other architectural remains of the same site, as indicated by the construction materials and the 9th/10th A.D century pottery.

The pottery: by Sterenn Le Maguer-Gillon

The ceramic corpus comprises 7,326 sherds yielded from the rescue excavations held between 2000 and 2016. Two squares, P14 and J9, have been chosen due to the representativeness of their assemblages (Fig. 3; the locations of these squares are highlighted in green). P14 represents 11.9 % of the corpus (846 sherds) and J9 is second with 6.6 % (469) of the corpus. Moreover, the mosque material (24 sherds) and the material from building 4 (168 sherds) were studied in order to date these two features. The diagnostic material yielded from all squares was also added.

The pottery has been distinguished between glazed and unglazed material. In total, 22 glazed classes and 30 unglazed classes have been identified. Not all of these 52 classes will be described in our study as some are represented by one sherd only or cannot be dated precisely, as they were mixed.

According to the ceramic assemblage, two chronological periods can be identified: the

Fig. 12: The lower and upper phases of the northern section of Building 4 with the excavator. Photo: Mohamed Akbar.

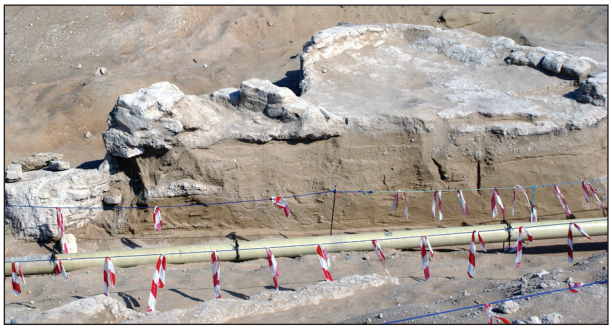

Fig. 13: Sterile-sand-filled section of the lower phase of the northern section. Note the successive floors of the upper room. Photo: al-Tikriti.

Fig. 14: General view of the northern and southern sections of Building 4 looking southwest. Photo: al-Tikriti.

Early Islamic period, mainly 9th – 10th centuries, and the Late Islamic period running from the 15th to the 20th century.

First of all, we will describe the classes identified. Second, we will describe the assemblages in order to date the four chosen features mentioned above.

Description of the ceramic classes

Most of the classes definition and codes used below are from Kennet 2004.

1. Glazed Classes

The glazed classes are particularly relevant regarding the dating of the occupation. Furthermore, they help explain the integration of the oasis during the Islamic period and indicate long-distance connections.

The Turquoise glaze class (TURQ) (Fig. 15-16) is characterized by a light buff-yellow with a fine gritty feel covered with a monochrome turquoise or blue-green coloured glaze usually covering both the exterior and interior. Vessels include a wide range of jars, bowls and other specialised types. In al-Ain, two sub-classes have been identified depending on the colour of the glaze: dark blue (TURQ.DB) and light blue (TURQ.LB). TURQ.DB typically has a relatively well-preserved dark turquoise-blue or lighter turquoise-blue glaze covering the interior and exterior. Lighter pieces (TURQ. LB) on the whole appear to represent the same glaze colour but in a more degraded condition. Certainly both include the entire same forms. Appliqué decoration, consisting of round flattened buttons, straight or wavy strips and sometimes more complex decorated rosettes is well attested in the corpus (Fig. 15). Often the necks of these vessels are decorated with heavy rilling or an incised 'saw-tooth' line (Fig. 15a). Finally, there are heavy jars ornamented with a chain ridge placed around the shoulder or waste. Appliqué decoration and gouged designs appear to be particularly characteristic features of decoration only found on Blue/Green Alkaline-Glazed Ware of the Early Islamic period (Fig. 16). Chain-ridges possibly have a longer currency. Turquoise Glaze pottery belongs to the pre-Islamic glaze pottery tradition produced in Mesopotamia since at least the 2nd century BC (Watson 2004: 157). During the Sassanian period they were traded in the Gulf and sherds are found in many trade centres such as Mleiha (Mouton et al. 2012: 213). This production continued in the 7th century onwards. This class is attested in Early Islamic sites in Saudi Arabia such as Athar (Zarins and Zahrani 1985: 76), al-Mabiyat (Gilmore et al. 1985: 204-243), al-Yamama (Schiettecatte et al. 2013: 302), or al-Rabadhah (Al-Rashid 2010: 442), a station located on the Darb Zubeyda, the pilgrimage road between Kufa and Mecca. It is also attested in Abbasid sites located in the Arab-Persian Gulf such as Murwab in Qatar (Guérin & Al-Naimi 2010: 21) or ports of trade like Suhar in the Sultanate of Oman (Kervran 2004) and al-Shihr in Yemen (Hardy-Guilbert 2005: 71). The precise dating of the Turquoise Glaze pottery presents some issues, but it is commonly assumed that this class dates from the 7th to the 10th century. However, the excavations at Kadhima (Kuwait) and the pottery analysis undertaken indicate that the lighter glaze is from the 7th century and that the darker blue glaze was produced in the mid-8th century onwards (Saunders 2014).

Excavations in al-Ain also yielded typical glazed pottery assemblage from the Early Abbasid period, the so called "Samarra Horizon". The Samarra Horizon has been well defined by A. Northedge and D. Kennet (1994) and comprises a range of classes found during the excavations led in Samarra, the capital of the Abbasid Caliphate between 221/836-279/892. The Samarra Horizon comprises seven classes: white tin glaze with cobalt-blue decoration, plain white tin glaze, grey glaze, splash ware, green splash ware, lustre ware and,

in some respects, sgraffiato. These classes were probably introduced in different phases, mostly during the 9th century. For instance, sgraffiato was introduced later and was common until the 13th century. Many of these classes appear to have been produced in Mesopotamia, particularly in Basra as one of the most important centres. These classes were widely traded in the Indian Ocean and are attested in archaeological contexts from Egypt and the shores of East Africa in the west to Thailand in the east (Priestman 2011: 89).

At al-Mu'taredh, the Samarra Horizon is represented by five classes. The first one is the cobalt decorated white glaze (COBALT) (Fig. 17). The body of this class varies from yellow to a pinkish buff and can be quite coarse with air holes and small inclusions. The vessels are completely covered with a thick, white glaze decorated with patches of cobalt blue or blue-green, the edges of which have smudged slightly giving the effect of ink on snow. The blue colour tends to be quite thick, forming a noticeable lump. The forms are most often bowls. The second class is Plain Tin glazed (YBTIN). This class has a fine, pale yellow body. The bowls are glazed on both the interior and exterior with a thick grey/white glaze, which appears to be speckled with tiny black inclusions. The walls average about 6 mm in thickness. The glaze tends to detach quite easily from the body. This is closely related to COBALT to which it is identical except for the cobalt decoration. The forms are always thin-walled bowls with flaring rims. The third is Splash ware (SPLASH). This class consists of thin-walled bowls with a pure, off-white to buff body, glazed on both the interior and the exterior. The decoration is extremely variable and infinitely sub-divisible. It consists of undefined areas of green, brown and yellow splashes, with green often being the predominant colour.

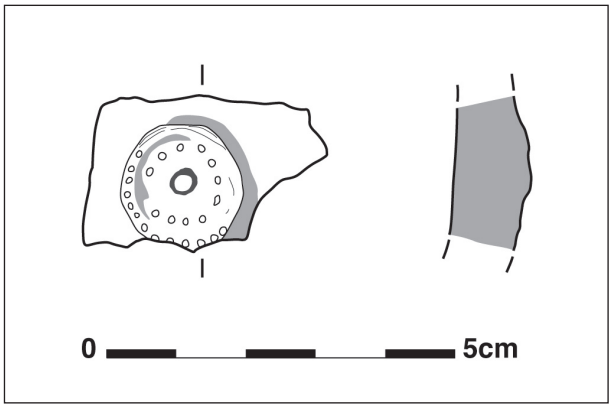

Fig. 15: Turquoise Glaze sherd with a rosette.

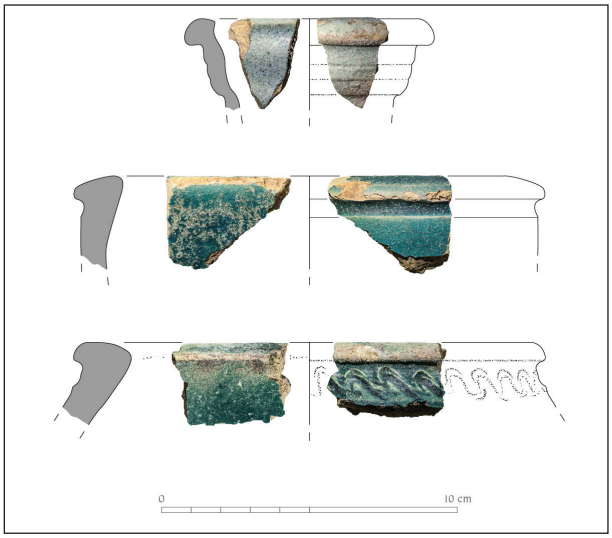

Fig. 15a: Turquoise Glaze ceramics. Drawing: Hélène David-Cuny.

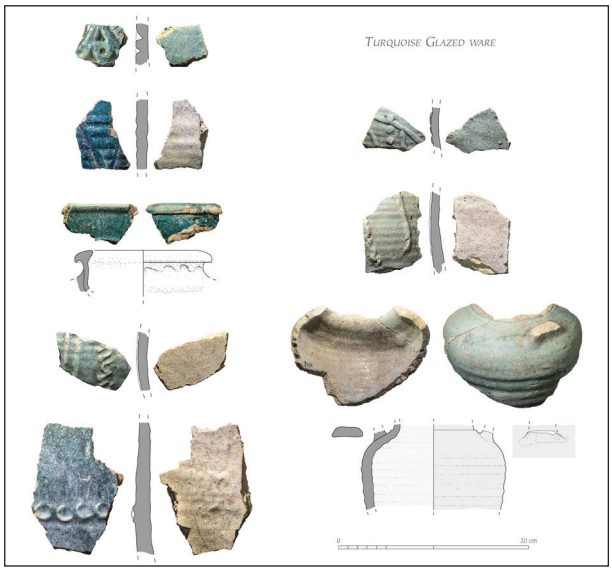

Fig. 16: Turquoise Glaze ceramics with appliqué decoration. Drawing: Hélène David-Cuny.

The Green Splash ware (GREEN SPLASH) consists of thin-walled bowls with a pure, off-white to buff body, glazed on both the interior and the exterior (Fig. 18). Very similar to splash ware, its main characteristic is the exclusive use of green painting. Lustre ware (LUSTRE) in al-Ain mainly consists of small fragments with thin, white or creamy bodies (3-5 mm) and thick opaque glazes decorated with yellow and red lustre decoration, painted on both sides (Fig. 19). The form, technique, and fabric are similar to YBTIN. Only one piece (P38) shows the complete profile of a small bowl with low sides. Yellow Glazed is represented in al-Ain by three fragments with very fine white (2.5YR 8/1) depurated bodies, also light. The surface of body is smooth. It is covered with a yellow glaze (2.5Y 7/5). The fragments are one rim and two bases belonging to bowls. A relief characterizes the interior of the base. It may belong to the Samarra Horizon.

Only two fragments of Hatched Sgraffiato (HGRAF) have been identified (Fig. 20). They are made of fine light, reddish body decorated with hatched motifs that were realised before baking. The surface was then painted in yellow and finally covered with glaze. No diagnostic sherd was found, and it is difficult to identify the shapes. The introduction and circulation of Hatched Sgraffiato is still debated. However, evidence from Kush strongly suggests an introduction in the Oman peninsula in the 11th century (Kennet 2004: 43).

Far Eastern classes are not well represented in al-Ain. Only three sherds of Dusun were found (Fig. 21). Dusun ware is thick-walled stoneware storage and transport jars covered in an irregular green glaze that only partially covers the exterior of the vessel. The rim is normally thickened, either squared or rounded, and small lug handles are attached on the shoulder. Although 'Dusun' still lacks a precise

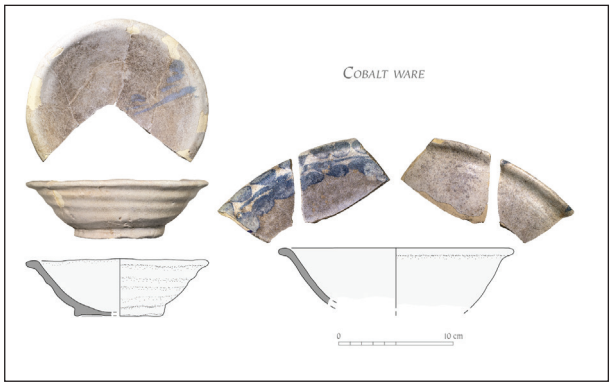

Fig. 17: Cobalt decorated white glaze bowls. Drawing: Hélène David-Cuny.

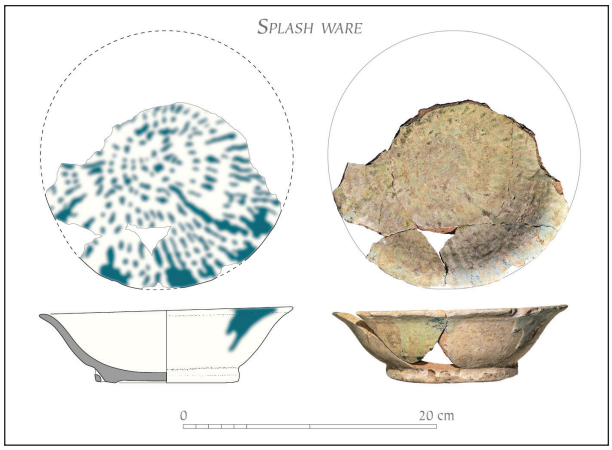

Fig. 18: Green splash ware bowl. Drawing: Hélène David-Cuny.

definition, these jars are well known from the Indian Ocean and the Gulf. In Kush, only one fragment of Dusun ware was yielded from a phased sequence (Phase E, 9th-12th century) (Kennet 2004: 65).

2. Unglazed wares

Unglazed classes give evidence of an Early Islamic occupation and indicate connections to Iraq and the Indian Ocean.

Eggshell (EGG) vessel is well attested. This class is characterized by a very thin wall (2 – 4 mm) and hard white/buff (5Y 8/2 pale yellow) fabric with very few inclusions and a slightly soapy feel to the surface. It mainly consists in small bowls, cups and jugs. The

surface is flattened and smoothed and decorated with various incised motifs, such as horizontal ribbing and lines or bands around the vessels and cross hatching designs (Fig. 22). Eggshell jugs were initially produced in Iraq in the 8th century (Rousset 1994: 30). At Susa (Iran), eggshell was found in the levels dated from the second half of the 8th century to the early 9th century (Kervran 1977: 107-109). They were traded in the Gulf and can be found in Kuwait (Saunders 2014) and Qatar (Guérin & Al Naimi 2010: 19).

Fine White is a similar class to eggshell. It is made of thin and hard white/buff (5Y 8/2 pale yellow) fabric with very few inclusions and a smoothed surface, often slightly soapy. It consists in small bowls or jugs similar to eggshell but with a thicker fabric (> 4 mm). Some of them may have been glazed but the glaze has worn off completely. There is very little decoration.

General White Ware (GWW) is a hard fired pale cream (5Y 7/2 light grey) ware, quite thick (5 to 10 mm) with a soapy feel to the surface and occasional to moderate pale sand inclusions. Most rim forms appear to be jug or jar classes (Fig. 23).

Large Incised Storage Vessel (LISV) generally has a heavy, very well fired and strong body with a rough fracture, and a metallic sound. The fracture is often sub-conchoidal. There are a number of different fabrics within the class, suggesting more than one production centre. The surface is usually washed or lightly burnished and the walls are normally thicker than 10 mm. The exterior is decorated with a range of deeply-incised wavy lines, crosses, dots, and sometimes cordon decoration. The forms are large storage jars (Fig. 23). This class dates from the 8th – early 9th century (Kennet 2004: 78).

The local common pottery (LCP) consists in ovoid cooking-pots made with a thin fabric (4 – 8 mm), external wall slightly burnished except under the rim. It has a coarse ware with white inclusions ≤ 1 mm (7%). The surface is plain and reddish (5YR 5/6 Yellow red) to brown (5YR 5/4 Brown) in colour. The bottom is black because of the regular use on fire. The rim is generally everted. A waster (P739) found at

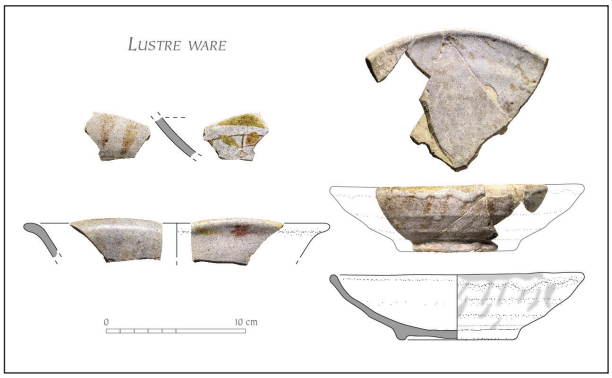

Fig. 19: Lustre ware. Drawing: Hélène David-Cuny.

Fig. 20: Sgraffiato sherds. Drawing: Hélène David-Cuny.

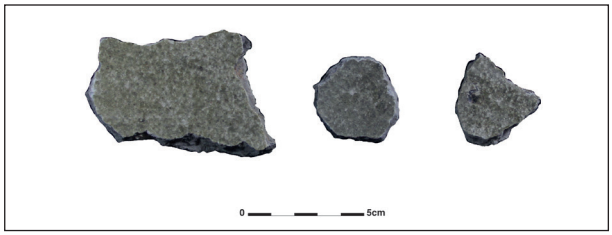

Fig. 21: The three sherds of Dusun ware.

al-Mu'taredh presents the same characteristics as LCP class but was vitrified because of over-firing. This class is associated with Early Islamic ware such as Turquoise Glazed Ware (Fig. 36) or Eggshell (Fig. 37).

Indian, African or Yemeni and Comoros Islands unglazed classes prove connections with the Indian Ocean.

The SBBW class is a very soft-fired, black sooty ware, on the exterior, and in some cases the interior, of which is burnished to a high lustrous polish (Fig. 24). Burnishing lines are often visible on the surface. The fabric is quite sandy, with dense, well-sorted sand inclusions, little evidence of plant temper, and no visible mica on the surface. The class is very friable and has rough fractures. Small fragments of what appears to be charcoal are embedded in the surface of some sherds. This class corresponds to the later Early Historic or early Medieval 'coarse grey', 'burnished-black' or 'coarse black' ware traditions common in India in the late Early Historic and early Medieval periods (Kennet 2004: 89). Other Indian classes could not be identified with much precision. They are characterized by a thin hard fabric ware with moderate levels of mica flecks throughout, visible on surface and within fabric, 4 to 7 mm thick. The surface is flattened and smoothed. Colour ranges from 5YR5/6 yellowish red to 5YR 3/2 dark reddish brown, possibly over-fired. It consists in cooking pots and bowls (Fig. 24).

The African or Yemeni cooking pots (Fig. 25) are made of thin hard yellowish red fabric with small inclusions (1 mm, 2%) and black core. The surface is smoothed and sometimes decorated with impressions. It is difficult to determine whether these sherds are Yemeni or African.

Some sherds made of coarse ware with fine white inclusions present a band of shell impressions on the shoulder of the jar (Fig. 26). This pottery, decorated with shell impressions, is well attested in the Comoros Islands for the 9th-10th century (Wright 1984: 25-35)[1].

Distribution analysis

In J9, the Samarra Horizon makes up the following proportions of the total ceramic assemblage: COBALT (0.62%), YBTIN (6.2%) and LUSTRE (0.21%) (Fig. 27). Turquoise Glazed wares represent 4.74%, and three sherds of Turquoise Glazed ware with *appliqué* decoration are also attested. Eggshell (EGG)

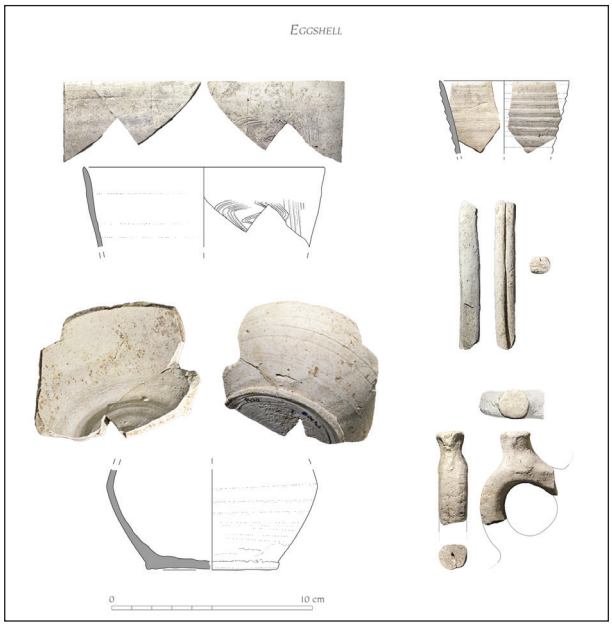

Fig. 22: Eggshell ware. Drawing: Hélène David-Cuny.

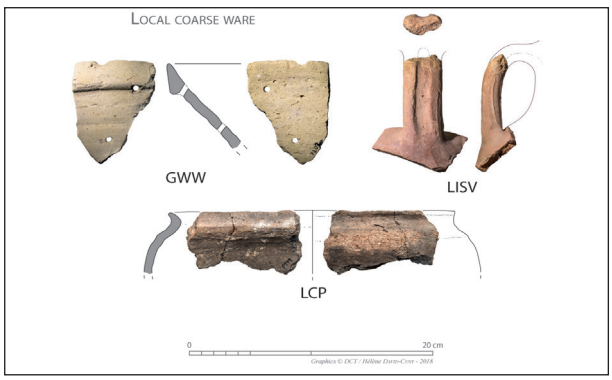

Fig. 23: Local coarse ware. Drawing: Hélène David-Cuny.

represents 29.1% of the assemblage. Local cooking pot (LCP) ware represents 15.88% of the material. Thus the 9th-10th century material is well represented in J9. This suggests occupation of this area at this time.

Table 1: The wares from J9

Trench	Locus	Ware	Qnt	Base	Rims	Handles	
J9	2	IA	14				
J9	3	IA	3				
J9	3	BA	8				
J9	3	TURQ.LB	4	0	0	0	1 APPLIQUE
J9	3	GWW	16	0	2	3	
J9	3	EURO	1	0	0	0	
J9	3	COBALT	1	0	1	0	
J9	3	YBTIN	15	2	8	0	
J9	2	EGG	83	12	8	13	
J9	3	EGG	55	13	5	2	
J9	3	TURQ.DB	5	0	0	0	1 APPLIQUE
J9	3	SPLASH	1	0	0	0	
J9	2	BUV	26	0	4	0	
J9	3	LUSTRE	1	1	0	0	
J9	3	BUV	18	0	0	0	
J9	3	COARSE 1	25	3	5	1	
J9	2	LCP	34	0	6	0	
J9	2	UNID	6	0	0	0	
J9	2	GRIT	5	0	0	0	
J9	1	BUV	2	0	0	0	
J9	2	GLAZED	3	2	1	0	
J9	2	CP 1.1	1	0	1	0	
J9	2	LCP	33	0	5	0	
J9	3	LCP	9	0	3	0	
J9	1	LCP	0	1	0	0	
J9	1	IND?	3	0	2	0	
J9	2	IND	8	0	3	0	
J9	1	TURQ.LB	2	0	0	0	
J9	3	UNID	16	2	0	0	
J9	2	COARSE 2	21	0	0	0	
J9	1	TURQ.DB	1	0	0	0	
J9	1	YBTIN	1	0	0	0	
J9	4	FWHITE	1	0	0	0	
J9	4	EGG	1	1	0	0	
J9	2	SPLASH	1	0	1	0	
J9	2	COARSE 1	13	0	7	0	
J9	2	YBTIN	14	1	4	0	
J9	1	COARSE 2	3	0	0	0	
J9	2	COBALT	2	0	2	0	
J9	2	EGG	2	0	0	0	
J9	4	GWW	1	0	0	0	
J9	1	GRIT	3	0	0	0	
J9	1	GWW	3	0	0	0	
J9	2	GWW	9	0	1	1	
J9	1	COARSE 3	1	1	0	0	
J9	1	CLIO	1	0	0	0	
J9	2	TURQ.LB	8	0	1	0	1 APPLIQUE
J9	2	TURQ.DB	3	0	0	0	
J9	3	CSWL	11	1	0	0	
J9	4	PREHIST	1				
J9	3	COARSE 2	9	0	0	0	
J9	2	COARSE 2	2	0	0	0	

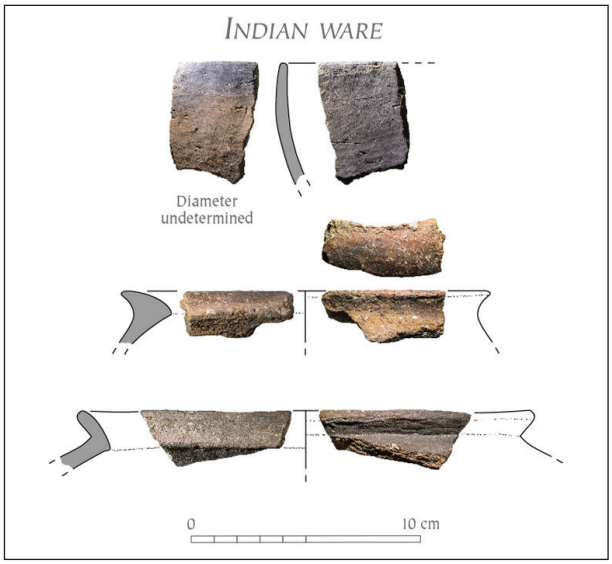

Fig. 24: Indian ware. Drawing: Hélène David-Cuny.

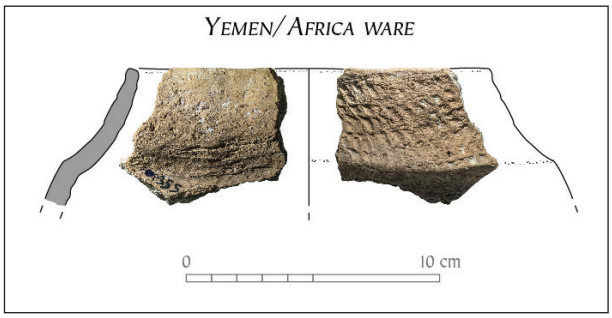

Fig. 25: Yemen or African ware. Drawing: Hélène David-Cuny.

A sequence *per locus* reveals that the material is mixed. Yet we can draw a brief chronological development. The locus 04 corresponds to a 200 cm deep excavation. There are few artefacts and among them are a Bronze Age or Iron Age sherd and a fragment of Eggshell. Locus 03 was excavated between 70 to 200 cm in depth and Locus 02 between 20 to 70 cm. Both trenches yielded similar material, as they comprise the largest quantities of Eggshell (Fig. 28 and 29). This unglazed class is associated with COBALT, YBTIN and LUSTRE, indicating a Samarra Horizon, along with Turquoise Glaze pottery. However, Locus 02 also yielded Julfar ware (CP 1.1). Julfar ware is a hand-made or slow-wheel-made unglazed

Fig. 26: Sherd of Comoros Island Ware with shell impressions on the shoulder.

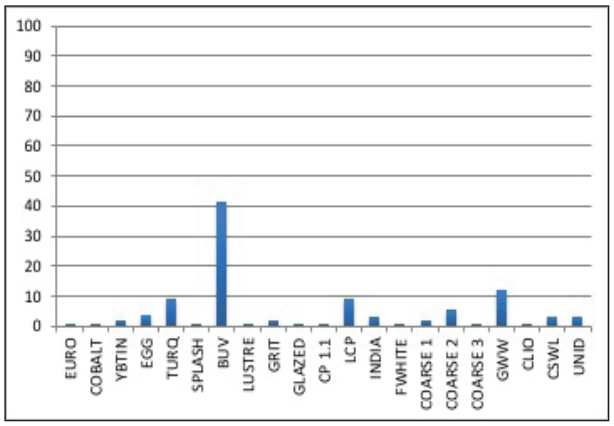

Fig. 27: The pottery assemblage from J9

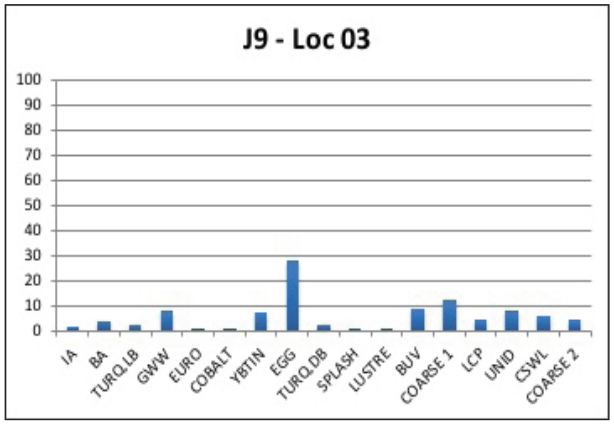

Fig. 28: The pottery assemblage from Locus 03 in J9

pottery used to make cooking pots, bowls, jars and jugs. It has a brick-red body firing to black or grey and a coarse fracture. The fabric always contains distinctive frequent, sub-angular, badly-sorted, opaque red platelets between 2 mm and 8 mm. The CP 1.1 class consists in cooking pots with lug handles and a sloping rim and are attested between the 14th and the 17th century (Derek 2004: 70-76). It thus indicates a later sequence (or it was mixed with the upper Locus 01). Moreover, Locus 01, excavated from the surface to a depth of 50 cm, also yielded Turquoise Glaze and YBTIN sherds, though in small quantity (Fig. 30).

In P14, some Abbasid material was found, like Turquoise Glaze ware (0.85%) or LISV (2.1%) (Fig. 31). The presence of one fragment of Hatched Sgraffiato (HGRAF) seems to indicate an occupation until the eleventh century, even though scarce. Moreover, some late material like Julfar ware (0.85%) is attested. Thus, it is difficult to date this occupation because Early and Late Islamic material is attested in the same proportions – although middle Islamic material such as later sgraffiatos and frits are missing.

This area is remarkable for the large quantity of late unglazed pottery yielded. This material is called the "Rectangular Rim" (RR). This class consists of coarse, clinky ware with small inclusions. The shapes are "flower pot" like with a 10 cm diameter. One or two rims show a diameter of 18 cm. No parallels are known yet. The RR class composes 89% of the total Islamic pottery, excluding Bronze and Iron Age material (Fig. 31). 78.2% of the RR ware comes from Loc 02 (Fig. 34). This ware corresponds to small pots. Their function is not clearly identified as no trace of fire or use is shown.

Table 2: The wares from P14

Trench	Locus	Ware	Qnt	Base	Rims	Handles	
P14	1	BA	1				
P14	1	IA	6				
P14	2	IA	56				
P14	3	IA	20				
P14	4	IA	6				
P14	4	EGG	1	0	0		
P14	2	GWW	7	0	0	1	
P14	2	EURO 3	1	1	0	0	
P14	2	HGRAF	1	0	0	0	Hatched sgraffiato
P14	2	CLIO	2	0	1	0	
P14	2	CSWL	1	0	0	0	
P14	2	UNID	9	0	0	0	
P14	2	EGG	1	0	0	1	
P14	2	FWHITE	2	0	1	0	
P14	1	RR1	36	3	9	0	
P14	1	RR3	13	1	3	0	
P14	3	LISV	1	1	0	0	
P14	2	RR2	54	7	14	0	
P14	3	JULF	1	0	1	0	
P14	2	JULF	5	0	0	0	
P14	3	GLAZED	1	1	0	0	
P14	3	BAHLA 1	1	1	0	0	
P14	3	SBBW	1	0	0	0	
P14	2	COARSE 1	3	2	0	0	
P14	3	COARSE 1	3	1	0	0	
P14	1	CLIO	2	0	1	0	
P14	4	TURQ.LB	1	0	0	0	
P14	4	UNID.GL	1	0	0	0	
P14	3	TURQ.DB	2	0	0	0	1 APPLIQUE
P14	3	RWDR	1	0	1	0	
P14	2	BAHLA	1	0	0	0	
P14	2	COARSE 2	7	0	0	1	
P14	2	TURQ.LB	3	1	1	0	
P14	2	RR1	310	31	104	0	
P14	2	RR3	131	19	28	0	
P14	2	LISV	14	1	0	0	
P14	3	RR	32	4	13	0	
P14	3	RR3	19	1	8	0	
P14	3	RR1	32	4	13	0	
P14	4	RR	2	0	0	0	
P14	4	RR	4	0	3	0	
P14	2	RWDR	2	0	2	0	
		TOTAL	797				

The mosque was excavated in 2000. The corpus studied is a selection made prior to the present study. It comprises 24 sherds. The pottery classes are mainly TURQ (58.33%) with two early sub-classes (Fig. 36). It is associated with Splash ware (SPLASH) and Plain Tin glaze (YBTIN) that indicates a 9th-10th century horizon. The dating is reinforced by the presence of one Dusun sherd. Finally, the presence of the

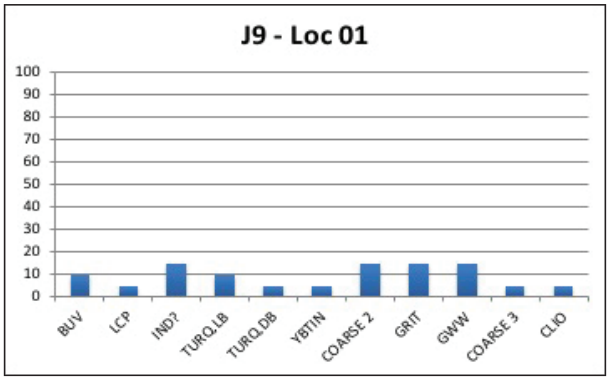

Fig. 29: The pottery assemblage from Locus 02 in J9

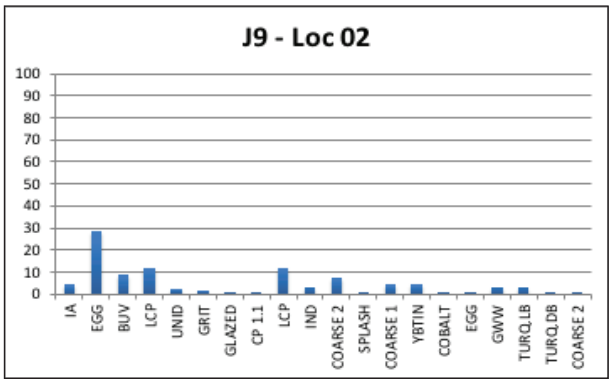

Fig. 30: The pottery assemblage from Locus 01 in J9

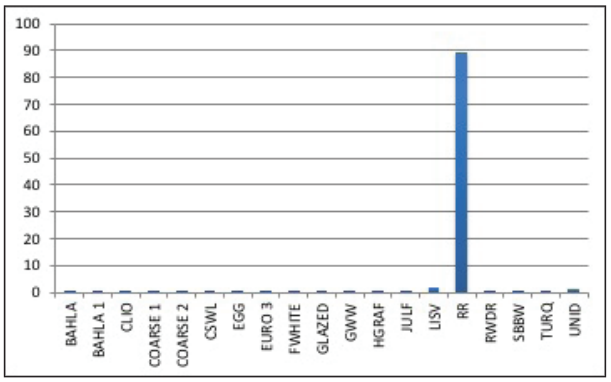

Fig. 31: The pottery assemblage from P14

Local cooking pot (LCP) ware also indicates an early period. This material was found not only in the Mosque area but also inside the Mosque. This material is thus associated with the phase of occupation, suggesting that the mosque seems to have been used as early as the 9th–10th century.

Table 3: Pottery from the Mosque and vicinity

Trench	Locus	Ware	Qnt	Base	Rims	Handles	
Dump mosque		TURQ.DB	2				APPLIQUE
Between mosque and FalaJ 1		TURQ.DB	1				APPLIQUE
Between mosque and FalaJ 1		TURQ.LB	2				
Between mosque and FalaJ 1		GREEN SPLASH	1		1		
Between mosque and FalaJ 1		SPLASH	2		2		
Well		TURQ.LB	1				
Well		EARLY TURQ	1				INCISED
Well		SPLASH	1	1			
Well		YBTIN	1				
Well		GLAZED	1				
H5		TURQ.DB	4			2	
H5		SPLASH	1		1		
Inside mosque		EARLY TURQ	1				
Mosque courtyard		DUSUN	1				
Mosque courtyard		TURQ.DB	2			1	
Mosque courtyard		LCP	2				
		TOTAL	24				

Building 4 was excavated during the 2015 campaign. It is cut by a water pipe that divides the building into two: Northern and Southern sections. One hundred and sixty-eight (168) sherds were yielded along with a chlorite cooking pot fragment. The material bulldozed and out of context is not included in the study.

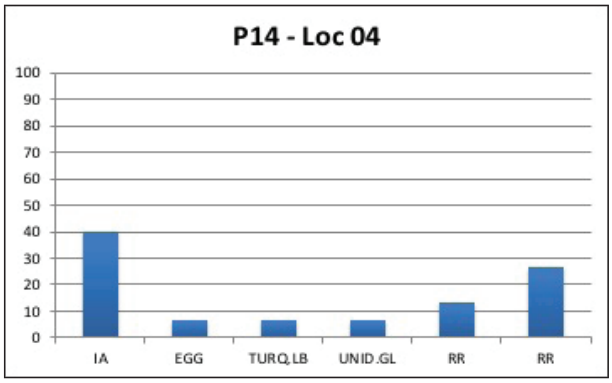

Fig. 32: The pottery assemblage from Locus 04 in P14

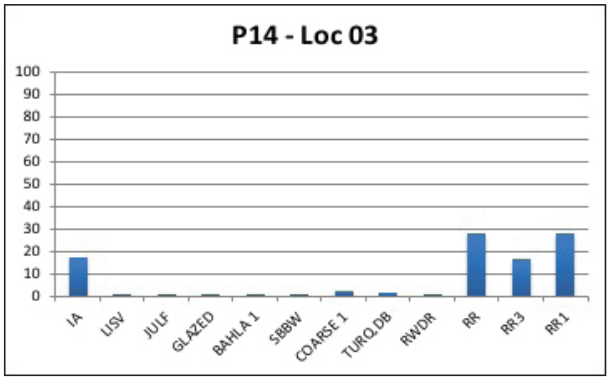

Fig. 33: The pottery assemblage from Locus 03 in P14

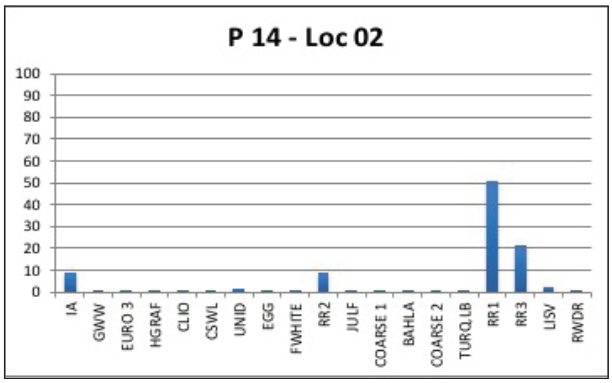

Fig. 34: The pottery assemblage from Locus 02 in P14

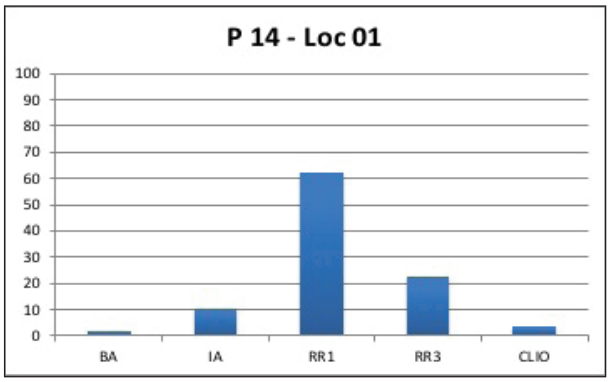

Fig. 35: The pottery assemblage from Locus 01 in P14

Only two *loci* were identified or yielded material: Locus 02 (50 -70 cm) and Locus 03 (70 – 80 cm). A few sherds of Iron Age pottery and a few flints were found.

The assemblage is very similar to the rest of the site (Fig. 37). The presence of Turquoise Glaze ware sherds is attested despite its small quantity (3.57%). Among this class, only one piece bears appliqué decoration. The Samarra Horizon is represented through the presence of SPLASH ware (1.79%), Tin glaze ware (YBTIN) (4.17%), and Cobalt (2.38%). Eggshell is well represented with 55 sherds (32.54%) and is our main dating element here. The presence of two sherds of Dusun ware suggests a contemporaneous occupation with the Mosque.

On the floor level found in F11, one SPLASH ware and three Eggshells were found. Another floor level was found in G11 filled with ash. The material associated is Eggshell (1), Local cooking pot (LCP) (4) and one sherd of Turquoise Glaze ware decorated with appliqué lines and dots. It suggests a 9th – 10th century occupation for the building.

A chlorite cooking pot fragment made of a friable greenish stone was found within the building and may be related to its occupation (Fig. 40). It is a straight-sided bowl with lugs and crude decoration with vertical bands made by chisels during the fabrication. This material is also typical of the Abbasid period and was used, during the Islamic period, between the 8th and the 11th century.

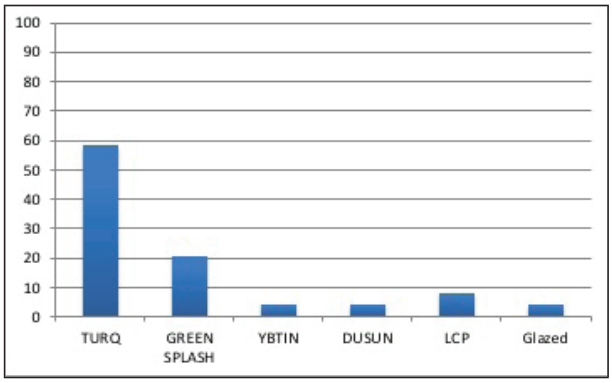

Fig. 36: The pottery assemblage from the Mosque

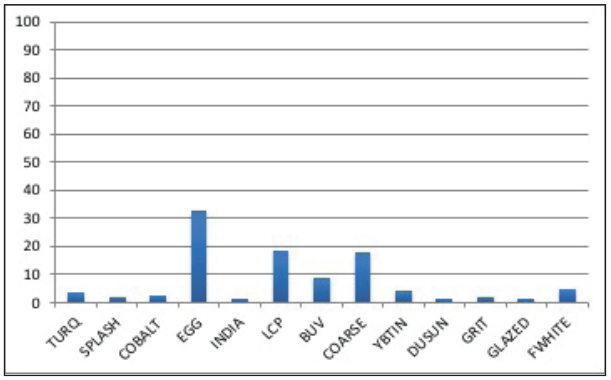

Fig. 37: The pottery assemblage from Building 4

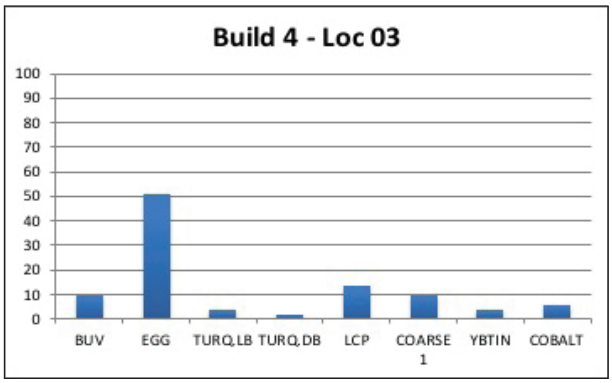

Fig. 38: The pottery assemblage from Locus 03 in Building 4

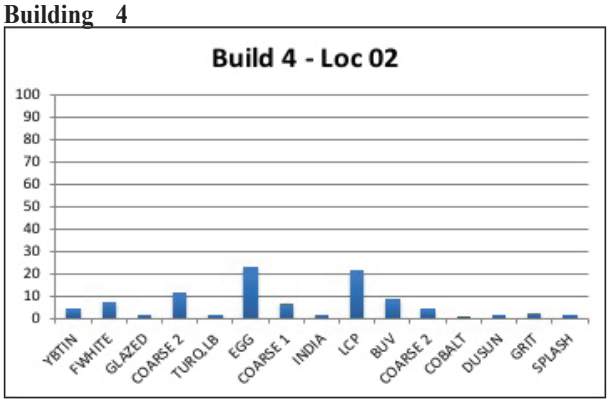

Fig. 39: The pottery assemblage from Locus 02 in Building 4

Table 4: The wares from Building 4

Trench	Locus	Ware	Qnt	Base	Rims	Handles	
BUILD 4-N	2	YBTIN	5	1			
BUILD 4-N	2	FWHITE	8	0	1	1	
BUILD 4-N	2	GLAZED	2				
BUILD 4-N	2	COARSE 2	13				
BUILD 4-N	2	TURQ.LB	2				
BUILD 4-N	2	EGG	26	5	1	5	
BUILD 4-N	2	COARSE 1	7	1	1		
BUILD 4-N	2	INDIA	2				
BUILD 4-N	2	LCP	24		3		
BUILD 4-N	2	BUV	10	1	0	1	
BUILD 4-S	Floor level	SPLASH	1	0	1	0	
BUILD 4-S	Floor level	EGG	3	0	1	0	
BUILD 4-S	3	BUV	5				
BUILD 4-S	3	EGG	26	1	5	1	
BUILD 4-S	3	TURQ.LB	2				
BUILD 4-S	3	TURQ.DB	1				
BUILD 4-S	3	LCP	7				
BUILD 4-S	3	COARSE 1	5	1	0	0	
BUILD 4-S	2	COARSE 2	5				
BUILD 4-S	3	YBTIN	2				
BUILD 4-N	2	COBALT	1				
BUILD 4-N	3	COBALT	3	1	2		
BUILD 4-N	2	DUSUN	2	0	0	0	
BUILD 4-N	2	GRIT	3				
BUILD 4-N	2	SPLASH	2	0	1	0	
BUILD 4-S	Floor level	TURQ.LB	1	0	0	0	APPLIQUE
		TOTAL	168				

Discussion and Conclusion

The investigations have demonstrated that this Early Islamic site is much more extensive than originally thought, as indicated by the size of the irrigation network and the class of buildings, especially Building 1, which has been discussed elsewhere, as it may have been an administrative function or have been used as a garrison. It also consolidated evidence that in this part of al-Ain, or in the vicinity, a large oasis must have existed in the early Islamic period. Also, it hints to the location of the historical Tawam, widely known as the old name of al-Ain/Buraymi oasis, and which, as inferred from the complexity of this irrigation network, must have had a landscape not much different from what existed before modernity. In addition to the architecture and irrigation network, the pottery, especially the imported glazed classes, including the luster ware, is in compliance with the history of Tawam, which reached its climax during the Abbasid period but has pre-Islamic roots as well. It is known that Tawam does not necessarily refer to a town by itself but also to a province with several locations. It must have extended several centuries before falling into obscurity. It has been mentioned elsewhere that Early Islamic glazed pottery was sporadically known on surface locations at al-Foaa (previously known al-Auha) to the north of al-Ain. It is also worth noting that a small collection of Early Islamic pottery mixed with fewer Iron and Bronze Age sherds was found while surveying a strip of land extending along the northern edge of Wadi al-Jimi. Unfortunately, this new location, which is only a few hundred metres north of the site, is badly disturbed and overrun by dying trees. Recently, building remains were excavated at the neighbouring town of Buraymi (Hamasa area) along the border with the Sultanate of Oman and provided evidence for Early Islamic architecture with similar material, both local and imported. Historically the area of Tawam was larger and extended to include now al-Ain and Buraymi Oases.

The pottery assemblage has consolidated evidence that a strong occupation during the Abbasid period took place at the centre of the modern city of al-Ain. The mosque and its related features, Building 1 and Building 4 were occupied during the 9th/10th century. Due to their importance, these structures, together with sections of the *aflaj,* have been conserved and

incorporated in the precinct of the grand mosque of Sheik Khalifa bin Zayed Al Nahyan, standing as a monument to the early Islamic occupation of the city of al-Ain.

The absence of TURQ forms, like carinated bowls dating from the 7th-8th century, attested in sites like Kush (Kennet 2004: 30), Sir Bani Yas (Carter 2008: 81-83) and Kadhima in Kuwait (unpublished) suggests that the site was unoccupied in the 8th century. Moreover, the presence of appliqué decoration on Turquoise Glaze sherds might reinforce a 9th-10th century dating, though such sherds might also be found in earlier levels.

The earliest dating of COBALT is established between 803/4 and 835/6 whilst YBTIN was introduced after 835/6 and before 861 (Northedge & Kennet 1994: 25). The latest of the early wares, Hatched Sgraffito, is normally dated to the 11th century, though it is uncertain that there is much, apart from a few splashed wares that can be dated to the late 9th and the early 11th century (Morgan 1994: 121).

The presence of Julfar ware CP2.1 (14th-16th cent.) and CP1.1 (14th-17th century) is the only evidence that the site was reoccupied from the 14th century and perhaps onwards.

Apart from three sherds of Dusun ware, there are no examples of Far Eastern imports. This suggests differences with contemporary coastal sites and different trade patterns. This raises the question of the role of the al-Ain oasis in the Early Islamic period. To consolidate the above mentioned evidence, according to textual sources, al-Ain, known in Early Arabic textual sources as "Tu'am", was a garrison settled by the 'Ibāḍī imam of Oman. There is no mention of the town after the 9th century until the 17th century when the Banī Yās attacked the town of Buraymi in 1633 (Petersen 2009: 312). Thus the archaeological evidence and the textual sources indicate a long period of recession experienced by the oasis.

Fig. 40: Fragment of a chlorite cooking pot with horizontal handles. Photo: Le Maguer- Gillon.

Finally, we assume that most remains of ancient Tawam have been either completely destroyed by the development of modern al-Ain or remain buried below the modern city. If so, the centre of Tawam was close to the existing oases of al-Ain and Mu'ataredh and not far from Wadi al-Ain, which runs along the edge of the al-Ain oasis. On the other hand, the populated area at the confluence of the two *wadis* (the one which runs along the eastern side of the northeast arm of Jebel Hafit and Wadi al-Sarooj) is another place to search for Early and pre-Islamic remains. The chance to find further ruins of Greater Tawam in less developed areas, such as Buraymi, is more promising than the highly developed al-Ain. We reiterate our previous statement that the Ūd al-Tawba/al-Mu'taredh site was a 'permanent Early Islamic occupation' rather than being seasonal and void of permanent structures (Al Tikriti *et al*. 2015). This is now further confirmed by the results of the second stage of excavations and the discovery of Building 4. Furthermore, to better understand the settlement pattern of the region during the Early Islamic period, further investigations and comparative studies should be conducted on materials from al-Ain and Buraymi.

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of H.H. Sheikh Khalifa bin Zayed Al Nahyan, President of the United Arab Emirates. His interest in the archaeology of the U.A.E. in general and the archaeology of the plot, where the new mosque is built, in particular was a real support to continue investigations at the site for a decade. We would like to extend our gratitude to the Ministry of the Presidential Affairs (MPA) for adopting our idea of protection and conservation of main archaeological monuments. Also, we thank ICON Consultancy, the project landscaper, for their service and assigning a conservation company. We thank Rami Daher, Manager of TURATH, and his team for drafting and implementing the conservation plan of the monuments. The efforts and participation of Mohamed Amer Al Neyadi, the former director of the Historic Environment Department (HED), during the first stage of excavations at the site, as well as his communication with MPA in the years to follow, is greatly appreciated. The encouragement of Jaber Salih Al Merri, Director of HED, and Ali Al Meqbali, Head of Archaeology Unit, to have this paper published is very much appreciated. Finally, many thanks go to the anonymous reviewers for their in-depth and constructive comments.

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ملخّص: تم اكتشاف فلج ومسجد من الطين في أرض خاصة بوسط مدينة العين في دولة الإمارات العربية المتحدة، وتنقيبهما وذلك في عام ١٩٩٩م، وقد نشرت نتائج تلك الحفائر في دورية جمعية الدراسات العربية (التكريتي ٢٠٠٣)، كما ضمّنت في كتاب «الأفلاج في دولة الإمارات العربية المتحدة» (التكريتي ٢٠٠٢ و ٢٠١١). وفي الفترة بين ٢٠١١ و ٢٠١٤م، أجريَ المزيد من عمليات التنقيب في الموقع نفسه كان من نتائجها اكتشاف مزيد من الأفلاج والمباني الأثرية، نُشرت في «دورية ندوة الدراسات العربية – لندن ٢٠١٥». إن اكتشاف هذه المباني وأنظمة الري القديمة المتمثلة بالأفلاج وقنوات الري يعد على قدر كبير من الأهمية، لكونه الدليل الوحيد المتوافر حتى الآن، على وجود آثار من العصر الإسلامي المبكر بمدينة العين؛ وعلى عكس الحقبة المتأخرة من عصر ما قبل الإسلام، والعصر الإسلامي المبكر، توجد في المدينة بقايا مباني كثيرة من العصرين البرونزي والحديدي. إن اكتشاف هذه الأفلاج وقنوات الري المفتوحة والتي وجدت مطمورة بالرمال وبقايا الأنقاض الحديثة، تشير إلى أن واحة كبيرة كانت موجودة في هذا المكان أو بالقرب منه. لقد ركزت عمليات النشر السابقة على تلك المباني والأفلاج، وحاول المنقبون من خلالها أن ينسبوا هذا المكان إلى كونه جزءًا من «توام»، الذي يعتقد أنه الاسم القديم لمدينتي العين والبريمي. يقدم هذا البحث خلاصة بهذه المكتشفات الأثرية، ووصفًا لبناية أخرى اكتشفت في عام ٢٠١٥ ولم تنشر من قبلُ، إضافة إلى دراسة لفخاريات العصر الإسلامي المبكر المكتشفة في الموقع.

Notes

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