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Bilad al-Qadim Revisited: Recent Archaeological Research at the Al-Khamis Mosque, Ain Abu Zaydan, and Abu Anbra, Bahrain

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Keywords:	Bahrain, Bilad al-Qadim, Al-Khamis, Abu Anbra, Abu Zaydan

Abstract:	In comparison to our understanding of pre-Islamic occupation and land use on Bahrain that of the Islamic period has remained less well known. In connection with the building of a visitors centre at the Al-Khamis Mosque and the planning of an associated heritage trail, renewed archaeological research has taken place in Bilad al-Qadim, an archaeologically important area of Islamic settlement in the northeast of the main island of Awal. This has involved excavations in the Abu Anbra cemetery, at Ain Abu Zaydan, and at the Al-Khamis Mosque. The results of these excavations are reported here and these contribute to our understanding of Islamic settlement on Bahrain in supporting the interpretation that Bilad al-Qadim was the main centre of Islamic settlement in the 11th-13th centuries AD.

Context	Description	Date
AZ14-2	Common Ware (CW) body sherd with handle stump and decorated with incised wavy lines (**Figure 14.1**). Comparable to example illustrated by Carter (2005: fig. 4.2: 31) dated to 11th to mid 12th centuries	11th to mid 12th centuries
AZ14-3	Chinese Dusun stoneware body sherd (**Figure 14.2**)	8th to 10th centuries
AZ14-3	Chinese white ware body sherd with vegetal pattern on interior (**Figure 14.3**)	11th to 13th centuries
AZ14-3	Iranian Sgraffiato body sherd with brick red fabric and traces of cream slip and glaze (hatched) (**Figure 14.4**)	11th to 13th centuries
AZ14-4	CW rim sherd. Simple unincised rim from a small bowl (**Figure 14.5**) comparable to example illustrated by Carter (2005: fig. 4.2: 13) dated to 11th to 12th centuries	11th to 12th centuries
AZ14-5	3 Iranian Sgraffiato body sherds, 2 with pale pink fabric and green glaze (Monochrome), one with pinky red fabric and brown and yellow glaze (Hatched)	11th to 13th centuries
AZ14-5	CW vertical rim with orange/brown glaze on the interior and incised horizontal lines on the exterior (**Figure 14.6**). It is similar but not identical to ribbed and incised CW vertical jar forms illustrated by Carter (2005: 428, fig. 4.4: 1-10) and dated to the late 12th to 14th centuries	Possibly late 12th to 14th centuries
AZ14-4	CW handle formed of twisted ropes of clay (**Figure 14.7**) comparable to example illustrated by Carter (2005: 435, fig. 4.4: 29) and dated to the late 12th to 13th centuries	Late 12th to 13th centuries
AZ14-7	Eroded Iranian Sgraffiato body sherd with pale pink fabric and glaze missing	11th to 13th centuries
AZ14-7	Turquoise glazed body sherd of probable Iraqi provenance (cf. Mason and Keall 1991: 57-61; Carter 2005: 409)	8th to 10th centuries
AZ14-7	CW body sherd with incised wavy line decoration (**Figure 14.8**) comparable to example illustrated by Carter (2005: fig. 4.2, 31, 32) and dated to the 11th to 12th centuries	11th to 12th centuries AD
AZ14-8	4 Frit body sherds with cobalt blue glaze and dark blue incised lines on interior of 3 sherds (**Figure 14.9**). Comparable to wares described by Carter (2005: 422) as from "delicate, thin-walled bowls" with a "pinkish-white and slightly grainy" body that appears in the 11th century in Bilad al-Qadim, and is dated through to the late 13th century at Siraf (ibid; Tampoe 1989: 73, 79)	11th century (possibly to 13th century)
AZ14-8	Sirafi bowl rim sherd. Simple slightly out-turned rim in pink fabric with pale yellow brown slip (**Figure 14.10**)	8th to 10th centuries
AZ14-8	Sirafi storage jar body sherd with incised decoration (**Figure 14.11**). "Lower Gulf Red Ware" (Carter 2005: 403), or Large Incised Storage Vessel (Kennet 2004).	8th to 10th centuries
AZ14-9	2 Sirafi storage vessel body sherds. Fine pink brown fabric with pale cream slip and incised line decoration on exterior (**Figure 14.12**)	8th to 10th centuries
AZ14-9	2 Turquoise glazed body sherds	8th to 10th centuries
AZ14-9	2 Iranian Sgraffiato rim sherds, both in pale pink fabric 1 lacking glaze, the other with green, brown and cream glaze (**Figure 14.13**)	11th to 13th centuries

AZ14-9	1 abraded Iranian Sgraffiato base sherd with brick red fabric and green glaze (Monochrome?)	11th to 13th centuries
AZ14-9	2 Iranian Sgraffiato body sherds in pale pink fabric with light and dark green glaze, possibly Monochrome Sgraffiato	11th to 13th centuries

Table 1. Diagnostic sherds from AZ14

Context	Description	Date
AZ15-2	Iraqi early polychrome splashed glazed ware rim sherd in pale pink fine fabric. Green mottled glaze on interior and exterior (**Figure 15.1**)	9th to 10th centuries
AZ15-2	Turquoise glazed body sherd of probable Iraqi provenance	8th to 10th centuries
AZ15-4	CW rim sherd. Simple out-turned rim with light brown glaze on interior and exterior and cross hatched incised decoration on exterior (**Figure 15.2**). Similar to examples described by Carter (2005: 429, Fig.4.3, 22-25)	Mid-11th to 12th centuries
AZ15-4	Chinese Blue and White body sherd (**Figure 15.3**)	13th-14th centuries
AZ15-5	Iranian Hatched Sgraffiato rim sherd from a bowl in mid pink fine fabric. Green, brown, grey and cream linear glaze on interior, patchy glaze on exterior. Repair hole (**Figure 15.4**)	11th to 13th centuries
AZ15-5	CW rim sherd. Pale yellow fabric. Brown slip in horizontal channeling towards rim. From a vertical sided jar comparable to an example illustrated by Carter (2005: Fig. 4.2, 1-5) (**Figure 15.5**)	11th to 12th centuries
AZ15-6	Iranian Sgraffiato body sherd. Pale pink fabric with traces of yellow glaze on exterior	11th to 13th centuries
AZ15-6	Iranian Sgraffiato rim sherd. Pinky red fabric. Green glaze on interior, green and yellow glaze on exterior (**Figure 15.6**)	11th to 13th centuries
AZ15-6	Sirafi storage jar body sherd. Red brown fabric with incised line decoration on exterior (**Figure 15.7**)	8th to 10th centuries
AZ15-6	Chinese white ware body sherd, probably from southern China. Undecorated	10th to 12th centuries
AZ15-6	Sirafi storage jar body sherd. Dark red brown fabric with incised line decoration on exterior (**Figure 15.8**)	8th to 10th centuries
AZ15-6	Iranian Sgraffiato body sherd. Pinky red fabric with traces of green glaze on interior	11th to 13th centuries
AZ15-7	Iranian Hatched Sgraffiato body sherd possibly from Makran coast area. Pinky brown fabric with olive green and brown glaze on interior and light green and yellow glaze on exterior (**Figure 15.9**)	11th to 13th centuries
AZ15-7	Chinese Longquan Celadon body sherd	13th to 14th centuries
AZ15-7	Abraded Iranian Sgraffiato body sherd. Pinky brown fabric and traces of green glaze	11th to 13th centuries
AZ15-7	Abraded Chinese Dusun body sherd (**Figure 15.10**)	8th to 10th centuries
AZ15-7	Southern Iranian Coarse Ware body sherd. Coarse dark red fabric with dark grey brown slip and ribbed decoration on exterior. "Lower Gulf Red Ware" in Carter (2005: 404) (**Figure 15.11**)	9th to 10th centuries
AZ15-7	Iranian Sgraffiato body sherd. Pinky red fabric with traces of yellowish glaze on the exterior (**Figure 15.12**)	11th to 13th centuries
AZ15-7	Frit body sherd with cobalt blue glaze. Fine white fabric	11th century (possibly to 13th century)
AZ15-7	Abbasid Tin Glaze white ware with cobalt blue decoration base	9th century

	sherd (**Figure 15.13**)	
AZ15-8	2 Southern Iranian Coarse Ware body sherds. Coarse red brown fabric. Undecorated	9th to 10th centuries
AZ15-8	Iranian Sgraffiato body sherd. Brick red fabric with green glaze on interior and exterior	11th to 13th centuries
AZ15-8	Iranian Sgraffiato body sherd. Pale pink fabric with light and dark green glaze on interior and exterior	11th to 13th centuries
AZ15-8	Chinese Dusun body sherd	8th to 10th centuries
AZ15-8	Chinese Longquan Celadon body sherd.	13th to 14th centuries
AZ15-8	Iranian Sgraffiato body sherd. Pinky red fabric with olive green glaze on interior	11th to 13th centuries
AZ15-8	Turquoise monochrome Iranian Frit body sherd	11th to 13th centuries
AZ15-9	Iranian Monochrome green glazed body sherd (**Figure 15.14**)	11th to 13th centuries
AZ15-9	Iranian Monochrome green Sgraffiato rim sherd	11th to 13th centuries
AZ15-9	3 Iranian Monochrome green Sgraffiato body sherds	11th to 13th centuries
AZ15-9	Turquoise monochrome Iranian Frit body sherd	11th to 13th centuries
AZ15-9	Iranian Monochrome green Sgraffiato body sherd with kiln spur and repair hole	11th to 13th centuries
AZ15-9	Iranian Sgraffiato body sherd. Brick red fine fabric with cream glaze on interior	11th to 13th centuries
AZ15-10	Iranian Sgraffiato body sherd. Pale pink fine fabric with cream and green glaze on interior and olive green and brighter green glaze on exterior	11th to 13th centuries
AZ15-10	Abraded Iranian Sgraffiato base sherd. Pale pink fine fabric with traces of cream and light brown glaze on interior (**Figure 15.15**)	11th to 13th centuries

Table 2. Diagnostic sherds from AZ15

Context	Description	Dimensions
AZ14-2	Fragment of clear green glass vessel	1.6 mm thick
AZ14-3	Fragment of clear light green glass vessel	2 mm thick
AZ14-4	Rim fragment of moulded clear glass vessel with vertical ribbing on exterior (**Figure 16.1**)	2.5 mm tapering to 1.3 mm thick
AZ14-6	Rim fragment of thin eroded clear yellow glass vessel (**Figure 16.2**)	0.4 mm thick
AZ14-7	Cylindrical (neck?) fragment of clear pale blue glass vessel (**Figure 16.3**)	0.4 mm thick
AZ14-7	Fragment of clear blue glass vessel	2.8 mm thick
AZ14-9	Rim fragment of clear glass vessel containing a lot of air bubbles (**Figure 16.4**)	2.2 mm thick
AZ15-4	Degraded clear glass vessel fragment	0.8 mm thick
AZ15-7	Base fragment of clear glass vessel. Dimple in centre of base (**Figure 16.5**)	3.8 mm tapering to 1.8 mm thick
AZ15-8	5 fragments of vessel glass too small or degraded to be identifiable	NA
AZ15-8	Fragment of light green clear glass vessel	1.3 mm thick
AZ15-9	Fragment of a large clear glass vessel handle. Glass contains several air bubbles. An additional piece of applied pointed decoration projects vertically from the surface. Flattened semi-circular cross section (**Figure 16.6**)	47.5 mm (length) x 12.3 mm (width). Decoration 18.3 mm (length) x 17.3 mm (width)
AZ14-2	Degraded fragment of monochrome blue glass bracelet with a flat interior and semi-circular cross section (**Figure 16.7**)	30.4 mm (length) x 2.4 mm (depth) x 3.1 mm (width)
AZ14-7	Fragment of monochrome red twisted pattern glass bracelet with a circular cross section (**Figure 16.8**)	21.1 mm (length) x 5.2 mm (diameter)
AZ15-4	Fragment of a blue/black monochrome ridged glass bracelet with a semi-circular cross section and degraded surface (**Figure 16.9**)	40.5 mm (length) x 7.1 mm (depth) x 7.3 mm (width)
AZ14-3	Crudely made orange carnelian bead. Surface pitted and short barrel shape is distorted (**Figure 16.10**)	4mm (length) x 6.2 mm (diameter). 1 mm (perforation diameter)
AZ14-7	Slightly flattened green glass long cylinder bead with an iridescent surface (**Figure 16.11**)	17.1 mm (length) x 4.4 mm (diameter). 1.5 x 1 mm (perforation diameter)
AZ15-8	Small green/blue glass cylinder bead (**Figure 16.12**)	7.4 mm (length) x 1.7 mm (diameter). 0.2 mm (perforation diameter)

Table 3. Glass vessel fragments, glass bracelet fragments and beads from AZ14 and AZ15

Context	Material	Quantity	Description
AZ14-3	Bitumen	10 g	2 pieces of bitumen. Larger piece was applied to a stick or reed
AZ14-3	Haematite	4 g	1 small unmodified piece
AZ14-6	Copper alloy	1	Small, eroded piece. 10 x 10.9 x 4.8 mm maximum dimensions
AZ15-2	Copper alloy	1	Tarnished copper alloy coin of recent date with "United Arab Emirates" on one face
AZ15-8	Crucible fragment	1	Rim fragment from a large grey clay crucible with vitreous deposits on exterior. 11.6 to 9.8 mm thick x 15 cm diameter (**Figure 16.13**)

Table 4. Metal, bitumen, and miscellaneous artefacts from AZ14 and AZ15

Site and Context	Frequency of Specimens
AZ15-9	35
AZ15-7	23
AZ15-2	4
AZ15-5	11
AZ15-6	15
AZ15-4	13
AZ15-8	74
AZ15 Total	**175**

Table 5. Frequency of specimens recorded

Species	NISP	MNI
Cow	13	1
Goat	4	1
Sheep	7	1
Sheep/Goat	21	2
Horse	3	1
Total	**48**	**6**
Ovicaprid	32	2

Table 6. Frequency of species within the AZ15 assemblage, quantified as the number of identified specimens (NISP) and the minimum number of individuals (MNI), based on landmark data (cf. Dobney and Reilly 1988). Note the 'Ovicaprid' totals, calculated by combining sheep, goat and sheep/goat quantification data

Context and Species	NISP	MNI
AZ15-2		
Ovicaprid	**1**	1
AZ15-4		
Ovicaprid	**2**	1
AZ15-6		
Ovicaprid	3	1
AZ15-7		
Ovicaprid	8	1
AZ15-8		
Cow	8	1
Ovicaprid	12	1
AZ15-9		
Cow	5	1
Horse	3	1
Ovicaprid	6	1
Total	**48**	**9**

Table 7. NISP and MNI frequencies of identified species from each context within the AZ15 assemblage

Context	Skeletal Element	Proximal Epiphyses	Distal Epiphyses	Age
AZ15-2	Calcaneous	Fused	Fused	>2.5-3yrs
AZ15-6	Humerus	n/a	Fused	>10 months
AZ15-7	Femur	n/a	Unfused	<3-3.5 years
AZ15-7	Phalanx I	Fused	Fused	>13-16 months
AZ15-7	Phalanx I	Fused	Fused	>13-16 months
AZ15-7	Phalanx II	Fused	Fused	>13-16 months
AZ15-8	Metatarsal	n/a	Fused	>20-28 months
AZ15-8	Humerus	n/a	Fused	>10 months
AZ15-8	Humerus	n/a	Fused	>10 months

Table 8. Epiphyseal fusion data for ovicaprid specimens within the AZ15 assemblage

Context and Species	Tibiotarsus		Ulna		Longbone Fragment	Total
	Left	Right	Left	Right	Unsided	
AZ15-4						
Bird					2	**2**
Chicken		1				**1**
AZ15-5						
Chicken	1					**1**
AZ15-7						
Bird					4	**4**
Chicken				2		**2**
AZ15-9						
Chicken			1			**1**
Total	**1**	**1**	**1**	**2**	**6**	**11**

Table 9. NISP frequencies of bird remains from AZ15. For specimens identified to element each specimen represents an individual element; therefore the NISP figures for tibiotarsus and ulna can also be read as MNE

Site/Context and Skeletal Element	Species				
	Fish	Scaridae	Scombridae	Sparidae	Total
AZ15-4					
Basipterygium	1				**1**
Premaxilla	1				**1**
Dentary				1	**1**
AZ15-6					
Lower Pharyngeal		1			**1**
AZ15-7					
Caudal Vertebra			1		**1**
AZ15-9					
Abdominal Vertebra			1		**1**
Caudal Vertebra			2		**2**
Total	**2**	**1**	**4**	**1**	**8**

Table 10. NISP frequencies of fish remains within the AZ14 and AZ15 assemblages

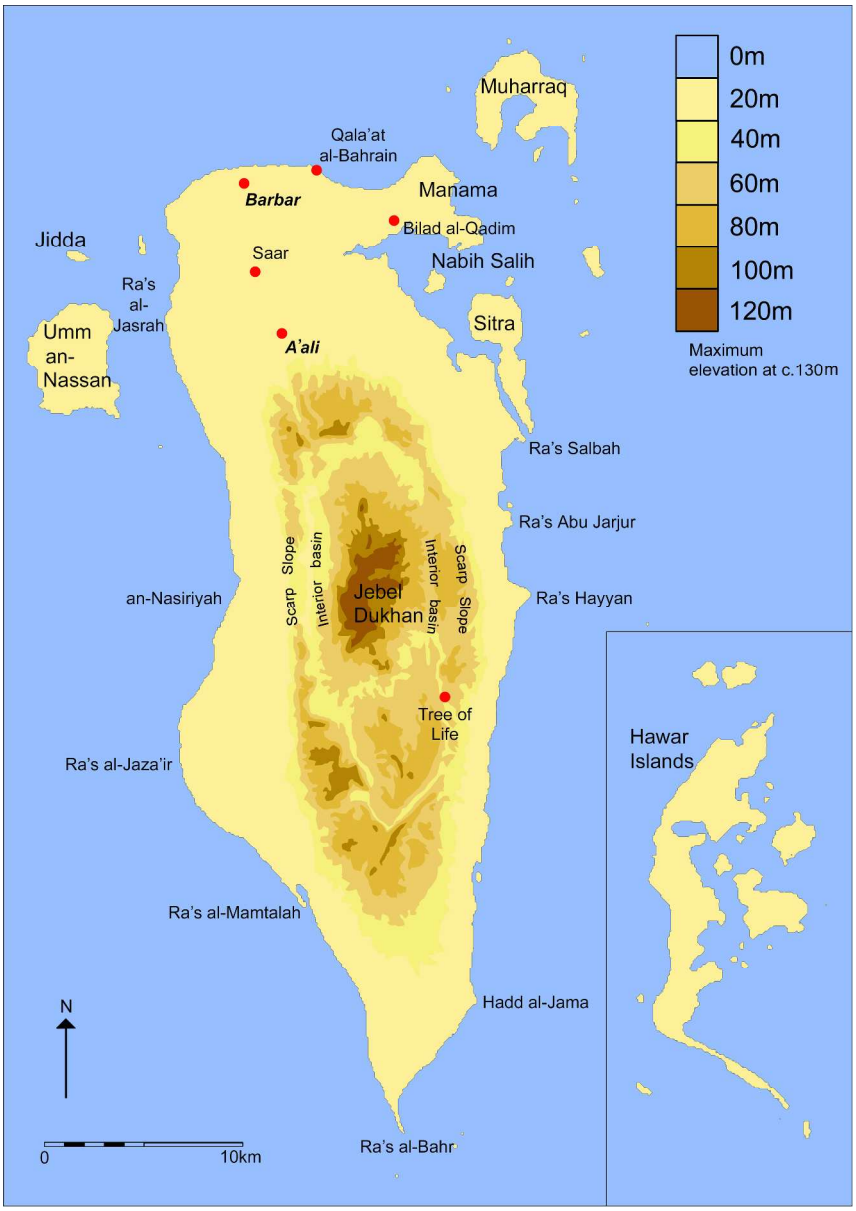

Figure 1. The location of Bilad al-Qadim in Bahrain
296x419mm (300 x 300 DPI)

Figure 2. 1996 aerial photograph of Bilad al-Qadim with locations of Abu Anbra, Al-Khamis Mosque and Ain Abu Zaydan marked (courtesy, Ministry of Housing, Kingdom of Bahrain)
208x218mm (300 x 300 DPI)

Figure 3. Abu Anbra mound with grave markers (photo. T. Insoll)
327x219mm (300 x 300 DPI)

Figure 4. Al-Khamis market, meat section, 1928. Note mound in background (photo. Dr Louis and Mrs Elizabeth Dame, courtesy, Archives of the Reformed Church in America)
63x36mm (300 x 300 DPI)

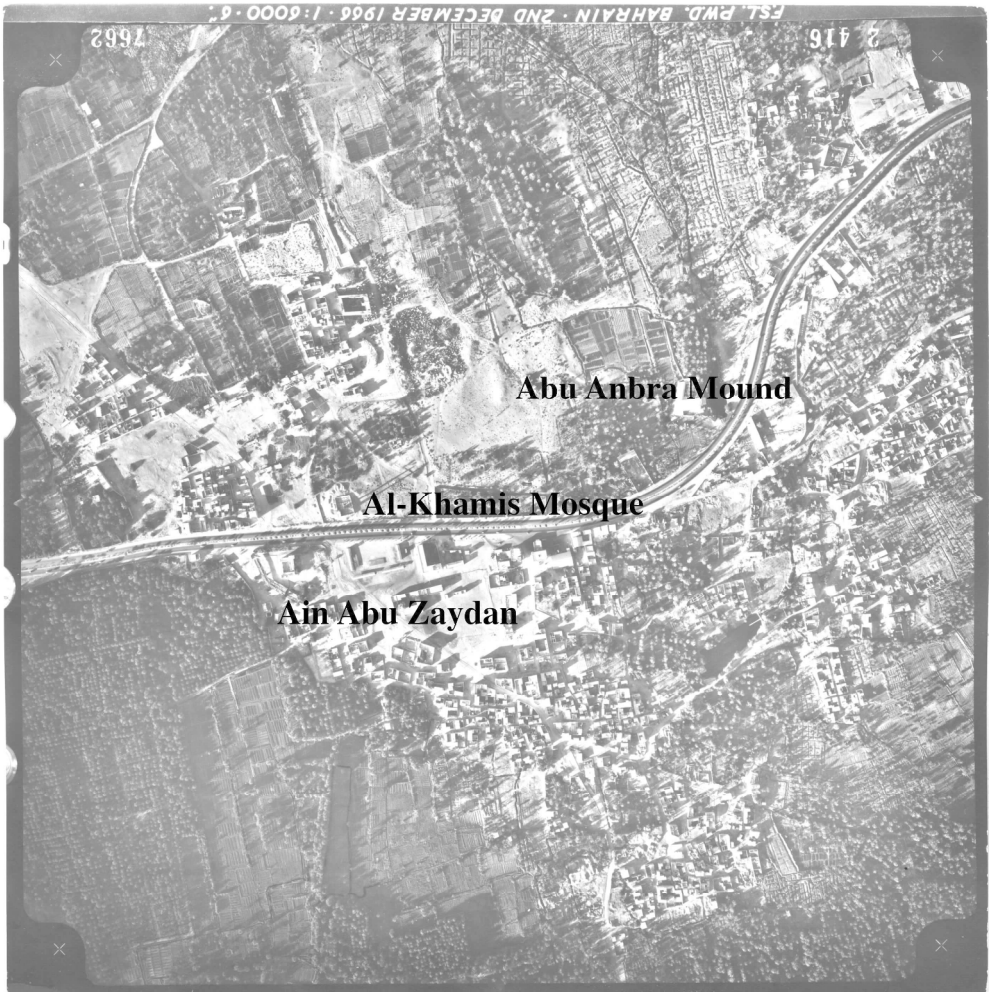

Figure 5. 1966 aerial photograph of Bilad al-Qadim with Abu Anbra mound clearly visible where marked (courtesy, Ministry of Housing, Kingdom of Bahrain)
239x237mm (300 x 300 DPI)

Figure 6. The tomb wall recorded in the Abu Anbra mound (photo. T. Insoll)
327x219mm (300 x 300 DPI)

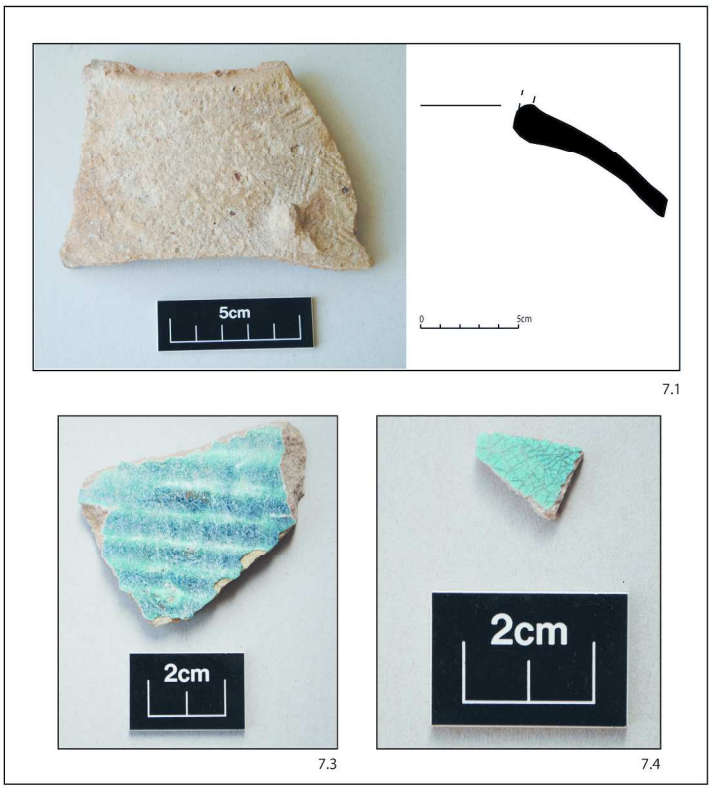

Figure 7. Ceramics from ABN15. Top. CW jar (ABN15-4). Bottom left. Turquoise Glazed ware (ABN15-1). Bottom right. Cobalt Blue Frit (ABN15-1)
268x242mm (300 x 300 DPI)

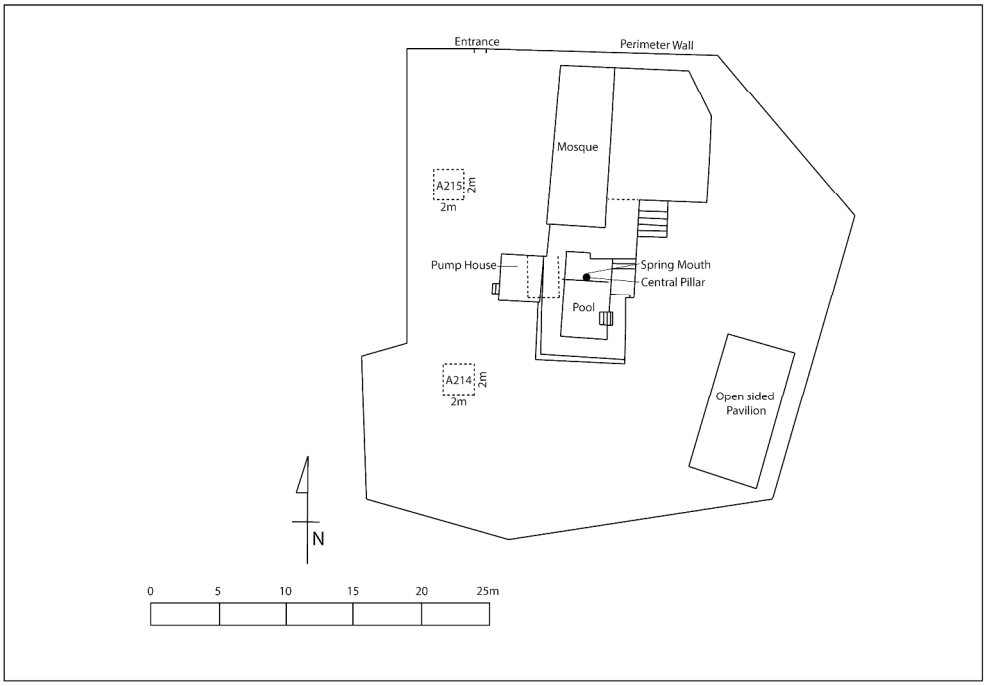

Figure 8. Plan of the Ain Abu Zaydan site complex after survey by Marzooq al-Afoo
288x204mm (300 x 300 DPI)

Figure 9. Ain Abu Zaydan. Left. The pillar incorporating re-used masonry, including an upturned altar slab. Right. Monumental masonry in the pool wall (photos. T. Insoll)
219x163mm (300 x 300 DPI)

Figure 10. Ain Abu Zaydan, 1928 (photo. Dr Louis and Mrs Elizabeth Dame, courtesy, Archives of the Reformed Church in America)
83x53mm (300 x 300 DPI)

Figure 11. Base of AZ14-9 with, left, rubble fill/wall and, right, plastic water pipe (photo. T. Insoll)
914x1365mm (72 x 72 DPI)

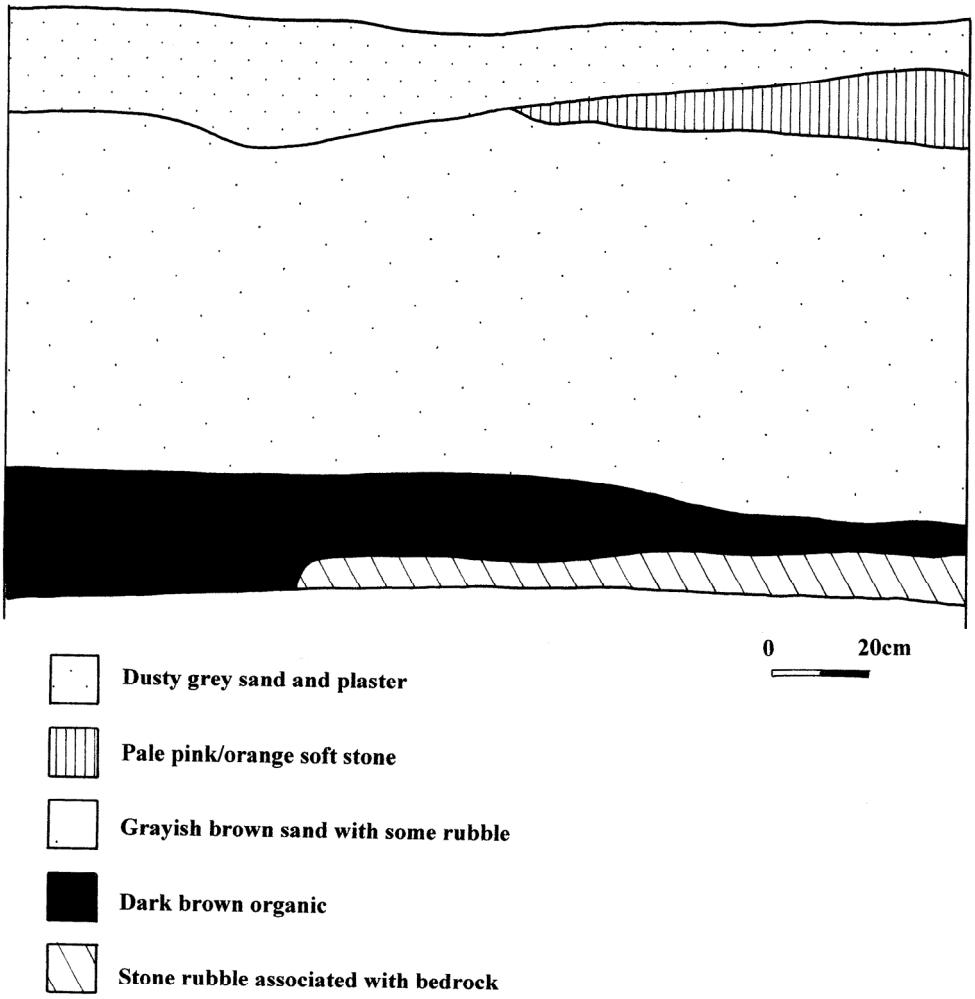

Figure 12. AZ15, stratigraphic profile, eastern face
864x1041mm (72 x 72 DPI)

Figure 13. AZ15-10, channel, at centre, between two slight raised banks (photo. T. Insoll)
327x219mm (300 x 300 DPI)

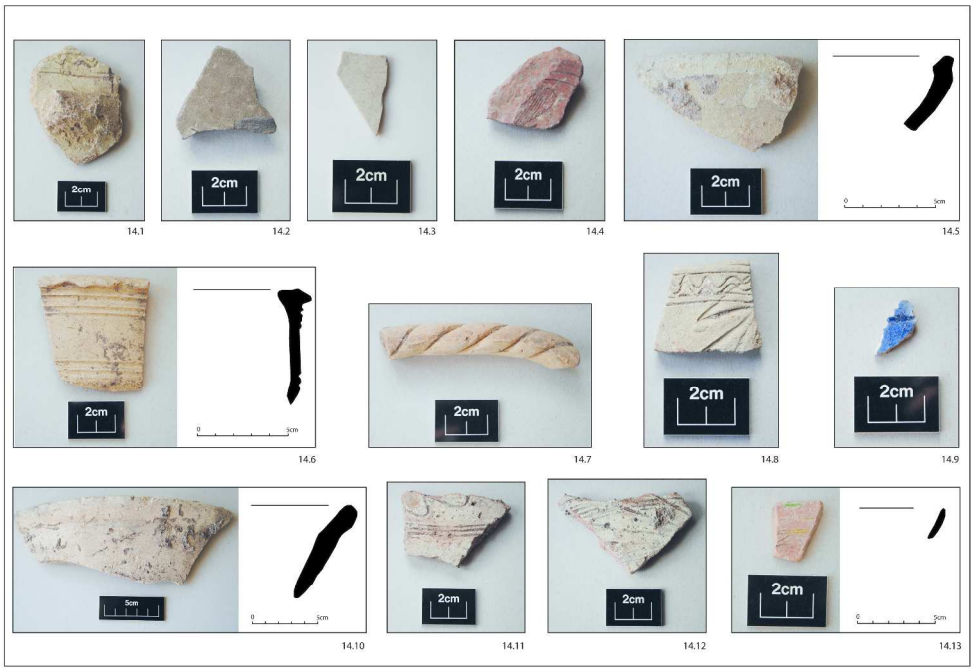

Figure 14. Diagnostic sherds from AZ14
414x287mm (300 x 300 DPI)

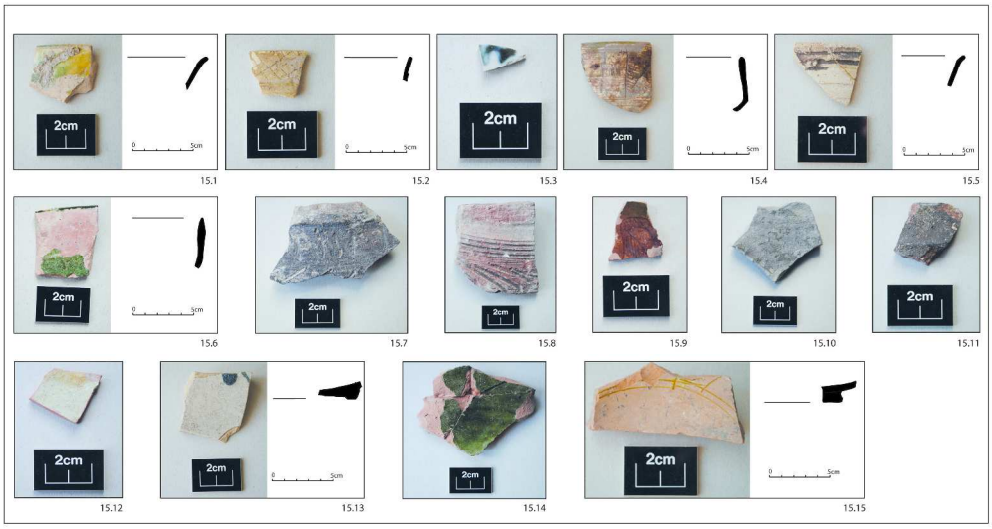

Figure 15. Diagnostic sherds from AZ15
420x240mm (300 x 300 DPI)

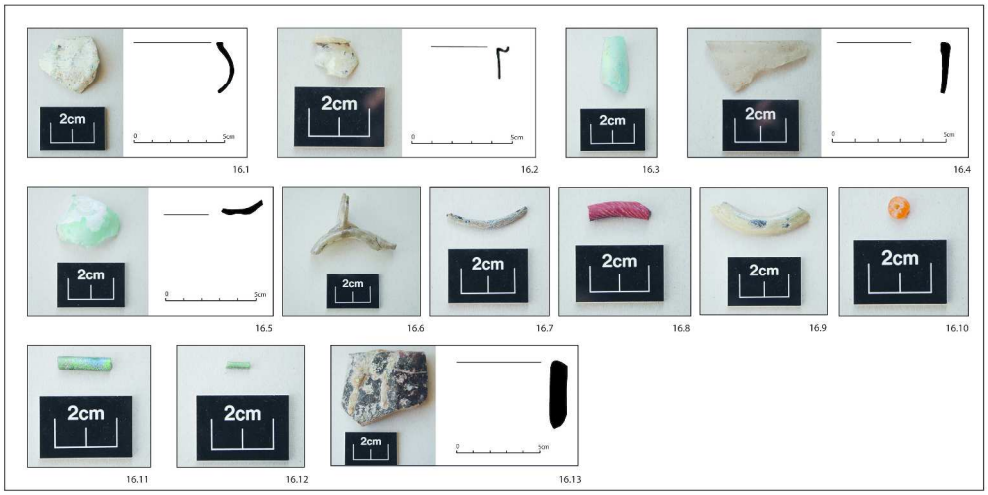

Figure 16. Glass vessel and bracelet fragments, beads, and crucible fragment from AZ14 and AZ15
419x238mm (300 x 300 DPI)

Figure 17. Plan of the Al-Khamis Mosque site indicating the areas of recent Bahraini excavation (courtesy, Bahrain Authority for Culture and Antiquities)
398x279mm (300 x 300 DPI)

Figure 18. Al-Khamis Mosque site. Left. The well (Area B) with fallen column base in-situ. Right. The multi-roomed building (Area D), after conservation. Bottom. The collapsed shrine (Area A), after conservation (photos. T. Insoll)
193x268mm (300 x 300 DPI)

Bilad al-Qadim Revisited: Recent Archaeological Research at the Al-Khamis Mosque, Ain Abu Zaydan, and Abu Anbra, Bahrain

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Abstract. In comparison to our understanding of pre-Islamic occupation and land use on Bahrain that of the Islamic period has remained less well known. In connection with the building of a visitors centre at the Al-Khamis Mosque and the planning of an associated heritage trail, renewed archaeological research has taken place in Bilad al-Qadim, an archaeologically important area of Islamic settlement in the northeast of the main island of Awal. This has involved excavations in the Abu Anbra cemetery, at Ain Abu Zaydan, and at the Al-Khamis Mosque. The results of these excavations are reported here and these contribute to our understanding of Islamic settlement on Bahrain in supporting the interpretation that Bilad al-Qadim was the main centre of Islamic settlement in the 11th-13th centuries AD.

Keywords. Bahrain, Bilad al-Qadim, Al-Khamis, Abu Zaydan, Abu Anbra.

Introduction

In comparison to our understanding of pre-Islamic occupation and land use on Bahrain (e.g. Højlund and Hellmuth Andersen 1994; Lombard 1999; Hellmuth Andersen and Højlund 2003; Killick and Moon 2005; Højlund 2007) that of the Islamic period has remained less well known. In connection with the building of a visitors centre at the Al-Khamis Mosque and the planning of an associated heritage trail (MacLean and Insoll 2014), renewed archaeological research has taken place in Bilad al-Qadim, an archaeologically important area of Islamic settlement in the northeast of the main island of Awal (**Insert Figure 1 here**). Although occupied from at least the 8th/9th centuries AD, Bilad al-Qadim seems to have been a particularly important area of settlement on Bahrain between the 11th-13th centuries AD (all dates are AD unless otherwise specified). It then declined to a village level of occupation from the 14th century (Insoll 2005a: 100-101).

Central within Bilad al-Qadim, the Al-Khamis Mosque is the most prominent Islamic archaeological site in Bahrain. The Mosque was partly excavated by a French team in the 1980s (cf. Kervran and Kalus 1990) and has generated discussion about its architectural form, phasing, and chronology (e.g. Kervran and Kalus 1990; Whitehouse 2003; Potts in press). Three construction phases were proposed for the mosque by Kervran and Kalus (1990: 7), first Umayyad, apparently represented only by the qibla wall and mihrab, second, mid-11th century represented by ashlar construction of a prayer hall and courtyard, and third, mosque enlargement during the Uyunid dynasty in the mid-12th century. This Mosque sits within an area of archaeological importance formed of different sub-surface site components including an extensive cemetery, and remnants of housing and workshops. Surviving in small pockets of undeveloped land in Bilad al-Qadim are further archaeological indications of its former significance. Both the area surrounding the Al-Khamis Mosque and various other sites in Bilad al-Qadim were the focus of archaeological research in 2001 (Insoll 2005a).

As part of the preparatory work for the visitors centre, renewed excavations were completed at the Al-Khamis Mosque site by a Bahraini team directed by Muhammad Al-Mearaj in 2012 (Al-Mearaj 2012) for which Timothy Insoll acted as an advisor, and three of the authors (Timothy Insoll, Salman Almahari, Rachel MacLean) completed two seasons of fieldwork at other sites in Bilad al-Qadim in April 2014 and February-March 2015. These had the aims of investigating two sites previously identified as important, the spring of Ain Abu Zaydan, and

a large mound in the Abu Anbra cemetery (Insoll 2005a: 24-31) (**Insert Figure 2 here**). These sites were test excavated to assess their chronology and to provide further information for their inclusion in the heritage trail. The results of these excavations are reported here. Seth Priestman examined the ceramics from these excavations in London in June 2015 and the identifications arising from this formed the basis of the expanded ceramic analysis subsequently completed by Timothy Insoll, and rechecked by Seth Priestman. Nick Overton analysed the faunal remains. A third research aim was the compilation of an inventory of all known Islamic funerary inscriptions dating to before AD 1900 in Bilad al-Qadim, and elsewhere in Bahrain (Insoll, Almahari, and MacLean in preparation). Although some of the epigraphic data is drawn upon, this aspect of the research is not a focus of discussion here.

Abu Anbra Trial Excavation

i) Site Background.

The existence of a mound described, as measuring "47.4 m length x 34 m width" was first recorded in the Abu Anbra cemetery in 2001 (Insoll 2005a: 31). It is located at the southern end of the cemetery and rises to some 3-4 m above the surrounding ground surface (**Insert Figure 3 here**). Initially it was thought that this was a settlement mound (ibid), based upon its size and the presence of five large blocks of limestone aligned approximately north to south on the summit. These seemed to be structural remains for they differed from the crudely cut limestone grave markers otherwise scattered across the mound surface (Insoll 2005a: 31) (**Figure 3**). To assess the validity of this hypothesis and to gain an understanding of chronology, permission was gained to excavate a 2 x 2 m unit near the summit of the mound in February 2015 (N26.20976˚ E050.55068˚).

Understanding the Abu Anbra mound chronology is significant for reconstructing the history of Bilad al-Qadim. Durand (1879: 3), writing in the 1870s, refers to the large mounds in "Bilad-i-Kadim", the residue of "the ancient city, where, probably from time immemorial, building has been piled upon building". Mackay, in 1925, also mentions the existence of low mounds of "late date", as well as large tumuli, which had been "rifled" (Mackay et al. 1929 cited in Rice 1984: 159). A photograph taken by the American Reformed Church medical missionaries Dr Louis and Mrs Elizabeth Dame in the 'Suk al Khamees Meat Market' adjacent to the Al-Khamis Mosque in 1928 shows in the background one of these mounds, possibly, though this is unproven, the Abu Anbra mound itself (**Insert Figure 4 here**). The

Abu Anbra mound can also be clearly seen at the centre of an aerial photograph from 1966 (**Insert Figure 5 here**).

ii) ABN15. Excavation Methodology and Stratigraphy.

The excavation was given the code ABN15 (Abu Anbra 2015). All deposits were sieved through a 3mm mesh and arbitrary levels of 10cm depth were removed where natural levels or archaeological features could not be discerned. The initial 10 cm of deposits were of sterile yellow sand containing no artifacts (ABN15-1). At the base of this level, though the pale yellow sand continued (ABN15-2), sherds of pottery and a fragment of white lime plaster were recorded. The same yellow sandy deposit continued to a depth of c. 40cm (ABN15-3 and 4), but a small lens of organic material was encountered, slightly darker brown and containing some bone, in the southwestern side of the unit. Large fragments of plaster as if from a building collapse were also recorded in the northeastern side of the unit associated with darker sandy deposits containing degraded bone (ABN15-4). The darker deposits extended down, giving way to a stone rubble spread in the northeastern corner (ABN15-5), with the remainder of the deposits in the unit being the same sandy yellow matrix (ABN15-6 and 7). After cleaning it was evident that the rubble formed part of a wall running north to south for approximately 1m, part of a tomb structure overlying a human burial (**Insert Figure 6 here**). The wall then continued in the form of an area of further rubble, bitumen and plaster at a depth of 65-70cm from the surface. This was sampled for C14 dating (ABN15-7), but, unfortunately, the AMS date of Cal BC 26790 to 26395 (Cal BP 28740 to 28345, 2 sigma calibration, Beta 409134) has to be discounted as it was obtained from bitumen (originally thought to be charcoal) and thus dates the material and not the context.

The tomb and rubble/bitumen was left in-situ and another 10cm of sandy yellow deposit excavated (ABN15-8) containing fragmentary bone, the remains of disturbed burials, and an area of organic staining, possibly the residue of a textile or matting shroud. Further removal of the same yellow sand (ABN15-9) indicated that the bitumen/rubble was a continuation of the tomb wall running north south. Four other human burials were encountered west of the tomb wall (ABN15-10), which ran almost continuously across the unit (**Figure 6**). Two of these were left in-situ, and two fragmentary burials removed (ABN15-11). Again, the former presence of textile or matting shrouds was suggested by black staining associated with the human remains. Because of the three burials left in-situ (the tomb overlying one), the available excavation area was reduced in size, but a further 30 cm depth of sterile yellow

sandy deposits were excavated from the area below where the burials had been removed (ABN15-12, 13, and 14). Excavation was halted at a depth of 122 cm from ground level, as it was apparent that only natural deposits remained. The homogeneity of the stratigraphic profile rendered its recording irrelevant and the unit was backfilled.

Abu Anbra Artifacts Analysis

Other than pottery, artifacts were rare in ABN15. No faunal remains or shell were recovered despite the use of sieving. Human remains were present but these were left undisturbed wherever possible. Where removed, this was under the supervision, and with the permission of the Shia Jaffaria Waqf Authority. They were removed only temporarily to the safekeeping of the cemetery caretaker, were not studied, and were carefully reburied again under the supervision of the Jaffaria prior to backfilling.

i) Ceramics.

The ceramics from the units are not analyzed in detail here as they will form the subject of a dedicated doctoral research project, focusing in particular upon the predominantly unglazed presumably Bahraini made Common Wares (cf. Carter 2005: 425-435) that form the vast majority of the pottery found. Instead the emphasis for chronological purposes was placed upon the diagnostic sherds identified by Seth Priestman.

90 sherds of pottery were recovered from ABN15 and the majority (87 sherds) were unglazed wares or locally produced Bahraini Common Wares where the glaze has degraded, of types recorded in previous excavations in Bilad al-Qadim (cf. Carter 2005: 129). These, excluding one base fragment and one part of a rim, were body sherds. All the Common Ware fabric types noted by Carter (2005: 426) were present including the most common “medium-fine, pale brown, cream or buff in colour”, along with “brick red” and “pale grey”. Decoration, present on the exterior of 11 sherds was confined to incised parallel lines, usually fine, and in one instance crossing (ABN15-9). The single reconstructed vessel form was a large jar with a flat top (ABN15-4) (**Insert Figure 7 here**) (**Figure 7.1**). Comparable forms first appeared in the Al-Khamis mosque excavations in the 11th century AD (Carter 2005: 434, fig. 4.2: 21). The sole diagnostic imports were 2 sherds of Turquoise glazed ware of 8th to 10th centuries date (ABN15-1) (**Figure 7.2**) and 1 sherd of cobalt blue frit of 11th to 13th century date (ABN15-1) (**Figure 7.3**).

ii) Metals.

Two corroded and otherwise unidentifiable scraps of iron were recovered from ABN15-2 and 1 flat-headed iron nail from ABN15-3 (24.4 mm L x 19.6 mm W at head).

iii) Bitumen.

48 g of bitumen was recovered from ABN15-7. Five fragments of this had impressions on one side caused by a matting-type material of palm leaf or reeds that the bitumen had been applied to. One fragment of bitumen weighing 4 g was also recovered from ABN15-9, again with matting impressions on one side. The precise use of the bitumen is not known but it is likely to have functioned as a sealant. Similar mat/reed impressed bitumen was found at the Al-Khamis Mosque site and Al-Hassan Mosque mound (Insoll 2005a: 325-26). The source of the bitumen is also unknown, though Connan et al. (1998: 178) have indicated that archaeological bitumen from Qala'at al-Bahrain, dated to the 13th to 16th centuries, was imported from Iran and Iraq, whereas local sources such as the surface seepages south of Jebel Dukhan seem not to have been utilized (ibid: 175). Whether similar patterns existed in the 9th-13th centuries merits future investigation.

Ain Abu Zaydan Trial Excavation

i) Site Background.

Historically, Ain Abu Zaydan is significant as the location of a spring that seems to have been one of the sources of water used during the Early (c.8th-10th centuries) and Middle Islamic (c.11th-14th centuries) periods in Bilad al-Qadim. Al-Idrisi, writing in the mid-12th century, refers in his book *Nuzhat al-Mushtaq* to the spring of Abu Zaydan (Al-Doy 1993: 159). Ain Abu Zaydan was possibly also utilized in the pre-Islamic period. The incorporation of four large stone drums within the central pillar that supports the upper mosque from the pool floor suggest this inference, and potentially indicates the existence of a pre-Islamic temple, possibly Dilmun in date (c.2500-400 BC), in the vicinity (Insoll 2005b) (**Insert Figures 8 and 9 here**). The types of masonry present in the column, which include an upturned altar, or libations table similar to examples from Barbar Temples I and II (cf. Hellmuth Andersen and Højlund 2003: 60-62), suggest this. Further blocks of monumental masonry also form part of the walls

of the pool towards the spring mouth where these are now covered in modern white glazed tiles (**Figure 9**).

The Ain Abu Zaydan site complex is formed of a modern tiled pool accessed from ground level by a short flight of steps. At the northern end of the pool is the spring mouth. Above the spring mouth and the northern section of the pool is a small mosque partly supported by a column embedded in the floor of the pool. South of the pool and mosque is an open sided pavilion (**Figure 8**). West of the pool is a pump house that was apparently used to supply the pool with water once the aquifer supply from the spring had been disrupted (see below). Unfortunately, the site is structurally unsound. Deterioration is evident with the eastern pool wall partly collapsing and exfoliation of large pieces of concrete from the underneath of the floor of the upper mosque structure occurring, with these falling into the pool and spring mouth. The Bahrain Authority for Culture and Antiquities intends future restoration of the structure and the inclusion of the site in the Bilad al-Qadim visitors trail.

To assess the chronology of the site, initially Ain Abu Zaydan was made the focus of survey and trial excavation in 2001 (Insoll 2005a: 24-30). Excavation of the deposits in the pool yielded only modern material (plastic, glass fragments, coke bottles, a newspaper from 1993, a child's marble), and excavation in the spring mouth itself provided a few water worn potsherds of indeterminate date (Insoll 2005a: 27). Thus subsequent excavation was focused on the area surrounding the spring. A 2 x 2 m unit, AZ14 (Abu Zaydan 2014), was completed in April 2014 (N28.20673˚ E050.54709˚) to examine whether there was any archaeology in the vicinity. When this was confirmed, a second 2 x 2 m unit, AZ15, was excavated in March 2015 (N28.20679˚ E050.54705˚) (**Figure 8**). Fortuitously, the two units were placed on the far bank of the spring fed pond that can be seen in another of the Dame's photos in **Figure 10** (**Insert Figure 10 here**), rather than in the pond itself, which like the spring mouth was potentially periodically cleaned. Ultimately, the flooded area appears to have been significantly reduced with the construction of the tiled pool that acted to contain it.

ii) AZ14. Excavation Methodology and Stratigraphy.

The deposits removed were homogenous in colour and consistency and formed of a grayish brown sandy matrix that was differentiated by the amount of modern rubbish apparent in the upper part of the sequence, and by cleaner sand at the base. The absence of stratigraphic differentiation again made the provision of a profile drawing impractical. The top 23 to 26 cm

of deposits were contaminated with modern rubbish (AZ14-1, and 2). Below this the modern material ended and some plaster fragments were found in the darker, softer deposits recorded (AZ14-3). The plaster fragments formed part of a fill that bisected the unit north to south. It is uncertain if this was part of a wall or merely rubble fill. The small size of the unit made clear distinction of the purpose of this feature impossible.

As a significant part of the original unit was composed of the rubble fill/wall the unit boundaries were extended with a strip of 1 x 2 m to the east, and excavation was concentrated on this eastern section. Underneath the same modern contaminated surface fill encountered previously, a grey plastic water pipe was found at a depth of 26 cm below ground level running north to south. This had been used to supply water to the pool once the spring had dried up (see below). Below the water pipe undisturbed deposits, indicated by an absence of modern contamination, were apparent (AZ14-4). No discernible trench for the pipe was seen (**Insert Figure 11 here**). At a depth of between 41 to 48 cm only the area between the western edge of the plastic pipe and the eastern edge of the rubble fill/wall was excavated (AZ14-5). Some loose pieces of rubble and a large piece of worked stone were recorded (AZ14-6). The stone rubble continued down into the next level (AZ14-7), but was only one course thick suggesting it was not part of a structural feature. At a depth of 108 to 115 cm the quantity of stone rubble lessened, and there was an increase in potsherds and faunal remains (AZ14-8). The final 10 to 20 cm of deposits removed (AZ14-9) continued to be materially rich, but artifact density soon reduced and clean natural beach type sand was encountered. Excavations were stopped at a depth of 126 to 145 cm (**Figure 11**), and the unit backfilled.

iii) AZ15. Excavation Methodology and Stratigraphy.

In contrast to the exploratory nature of AZ14, the excavation and sieving methodology employed in AZ15 was the same as at Abu Anbra with all archaeological material (pottery, faunal remains, shell, other small finds) kept, and all deposits sieved through a 3 mm mesh. The deposits in AZ15 were much less homogeneous than AZ14 (**Insert Figure 12 here**). The top 10 cm was of dusty grey modern rubbish filled sand (AZ15-1). The next 10 cm removed revealed a hard lens of clay in the southern half of the unit, with softer dusty deposits in the remainder and a spread of lime plaster below giving way to patches of charcoal (AZ15-2). This layer contained a copper coin of later 20th century date and very little pottery and it is possible that the clay was debris from the type of materials used or even resulting from the

demolition of the earth and stone wall surrounding Ain Abu Zaydan shown in the Dame's photo (**Figure 10**).

Beneath the clay and plaster (AZ15-3, and 4) was an orangey brown deposit across the unit that yielded to a more dusty friable grayish brown matrix similar to that recorded in AZ14. This continued to a depth of between 87-93 cm (AZ15-5, 6, and 7) with increasing fragments of lime plaster and stone and clay rubble found toward the base of the layer. A small pit filled with organic sediment was recorded in the northeastern corner of the unit. A sample of the sediment was taken for C14 dating (AZ15-8), and gave an AMS date of Cal AD 885 to 995 (Cal BP 1065 to 955, 2 sigma calibration, Beta 411340).

The pit was then emptied (AZ15-8), and 20 cm depth of darker brown deposits containing roots and charcoal that continued across the unit removed (AZ15-8). This darker brown organic layer gave way to stone rubble associated with the bedrock and the quantity of pottery decreased (AZ15-9). Ultimately, the bedrock formed two slight raised banks, one running along the east of the unit and between 117-128 cm below the ground surface and the other along the west and between 118-120 cm below ground level. Between these was a channel of approximately 80 cm maximum width and 7-18 cm depth below the banks (AZ15-10) (**Insert Figure 13 here**). It is not known if this was a natural channel or cut into the bedrock, but a potential water association makes sense in the context of the adjacent well. A charcoal sample was taken from the channel fill for C14 dating (AZ15-10). This provided an AMS date of Cal BC 800 to 755 (Cal BP 2750 to 2705, 2 sigma calibration, Beta 409135). Excavation was ceased at a maximum depth of 135 cm below ground level and the unit was backfilled.

Ain Abu Zaydan Artifacts Analysis

The exploratory nature of the archaeological research at Ain Abu Zaydan dictated different collection strategies at AZ14 and AZ15. As AZ14 was focused on understanding archaeological potential the ceramics were sampled with emphasis placed on selecting chronologically significant potsherds. All glass fragments, beads, and coins were also collected. Other potsherds and faunal remains and shell were discarded. All materials recovered from AZ15 were kept. Soil sampling for archaeobotanical remains was not completed in this phase of research but will be included as a component of excavation that will be completed when the building is restored as a component of the heritage trail in the future.

i) Ceramics.

AZ14. 115 sherds were kept from AZ14 of which 28 were diagnostic (**Insert Figure 14 and Table 1 here**). These indicate that the chronology of the test excavation primarily encompasses the period between the 8th to 13th centuries, but with the greatest density of diagnostic ceramics dating from the 11th to 13th centuries (**Table 1**).

All the ceramics found are of types recorded previously in Bilad al-Qadim (cf. Carter 2005). They attest international contacts with Iran, Mesopotamia, the Lower Gulf, and Indian Ocean trade networks. The results also indicate that there is some residuality or mixing evident in the deposits and the terminal end of the ceramics chronology is more difficult to reconstruct. This appears to be the 14th century, but with the possibility of some later locally produced Common Ware also present. These local wares will be a particular focus of the doctoral research.

AZ15. 1152 sherds were recovered from AZ15. The 38 diagnostic sherds (**Insert Figure 15 and Table 2 here**) indicate an overall chronology of the 8th to 14th centuries but again, as with AZ14, primarily between the 11th to 13th centuries. Also as in AZ14 some residuality or mixing of deposits has occurred. It is interesting that the frequency of imports (36 sherds) in the assemblage is low, constituting just 3.30%. This is in contrast to other littoral sites in southern Iran or Arabia, which – in cases where suitable information exists – typically provide assemblages in which 30-40% of the ceramics are derived from non-local sources during a period equivalent to the occupation of AZ15 (Priestman, 2013: table 6.5). At the time it is important to acknowledge that the overall sample size of the AZ15 is small compared with other equivalent assemblages and this could have a significant influence on the reliability of the information provided.

ii) Glass and Beads.

In total 16 glass vessel fragments, 3 glass bracelet fragments, and 3 beads were recovered from AZ14 and AZ15 (**Insert Figure 16 and Table 3 here**). Some parallels are apparent with the glass vessel and bracelet fragments and beads previously recovered from Bilad al-Qadim. Vessel fragment AZ14-4 is similar but not identical to a ribbed moulded glass fragment from the Al-Khamis Mosque site (unit KHA01- [A]) dated to the 12th to 14th centuries AD (cf. Insoll 2005a: Fig. 7.5). The glass vessel handle is comparable in its form to material

illustrated by Whitehouse (2010) as, for example, with the handles on a ewer dated to the 9th to 10th centuries and a cup and pitcher dated to the 10th to 11th centuries (ibid: 73-74, 100-101, 142-43). Both glass bracelet fragments from AZ14 are comparable to examples previously excavated in Bilad al-Qadim where monochrome twisted and plain examples were dated to between the late 12th to 14th centuries (Insoll 2005a: 485-89). Twisted black or green glass bracelets were also the earliest types recovered from Qala'at al-Bahrain and dated to the 12th to 13th centuries (Frifelt 2001: 163). The orange carnelian bead from AZ14-3 is identical to an example from unit KHA01- (D) dated to the late 12th to 13th centuries (Insoll 2005a: 491). In contrast, the glass bracelet fragment from AZ15-4 is a unique type not previously recorded in Bilad al-Qadim or Qala'at al-Bahrain (cf. Frifelt 2001: 164-65). Similarly, the other two beads found are unparalleled at either of these sites.

iii) Metals, Bitumen, and Miscellaneous Artefacts.

Few other artefacts were recovered (**Insert Table 4 here**). The purpose of the haematite from AZ-14 is unknown. Unmodified pieces of haematite, and a haematite bead, were recorded during the previous excavations in the Al-Khamis Mosque precincts (Insoll 2005a: 295-96, 514). Besides as beads, the uses of haematite recorded in Islamic contexts on Bahrain include for pearl weights and touch stones for testing gold at Qala'at al-Bahrain (Frifelt 2001: 151). The function of the crucible, whether for glass making or metalworking is unknown, and is a unique find. Vitrified ceramics of a greenish colour were previously recovered from the MOS (Al-Hassan Mosque) site in Bilad al-Qadim. These were interpreted as from the lining of a smith's furnace rather than crucible fragments (Kostoglou 2005: 509-510).

iv) Faunal Remains.

a) Mammalian Remains: Species Frequency, Skeletal Elements and Population Dynamics. A total of 175 fragments were recorded from AZ15 (**Insert Table 5 here**), and 48 identified to species by Nick Overton. The dominance of sheep/goat indicated by NISP quantification is reflected in the minimum number of individual (MNI) figures (**Insert Table 6 here**), derived from landmark data and minimum number of element (MNE) frequencies. Whilst **Table 6** shows the general species representation across the whole assemblage, the faunal material is derived from multiple contexts; therefore, producing cumulative MNI figures from multiple contexts assumes the material from potentially temporally separate

contexts originate from the same individual(s). Thus, **Table 7** presents NISP and MNI frequencies for each species within each context.

The species frequencies (**Insert Table 7 here**) suggest a consistent presence of ovicaprids throughout the contexts; the assemblage is too small to comment on any potential differential frequencies of sheep and goat between the contexts. Inter-context species frequencies might suggest cow and horse are only present in the lower contexts (AZ15-8 and 9), however, due to the extremely small size of the assemblage such patterns must be viewed with extreme caution. The skeletal element frequency of ovicaprids within the AZ15 assemblage shows no clear patterning or focus on any one part of the body, or groups of elements that indicate specific practices. The cow and horse sub assemblages from contexts AZ15-8 and 9 are also too small to draw any meaningful conclusions.

A single ovicaprid mandibular tooth row from AZ15-7 was aged according to tooth wear (cf. Grant 1982, Greenfield and Arnold 2008), returning a broad age range of between 16-22 months to 3-4 years of age, due to the advanced stage of wear. The two horse premolars from AZ15-9 were from the deciduous dentition; identified as either pm^3 or pm^4, these teeth are present at birth, and replaced by 3½ years of age (Silver 1969: 291). However, based on the lack of wear on these teeth, they may be from a very young individual, perhaps even neonate or newborn. Epiphyseal fusion data from ovicaprid specimens (**Insert Table 8 here**) indicate all individuals were over 10 months of age, and a number significantly older, over 20-28 months and over 3-3½ years of age.

b) Non-Mammalian Species: Birds, Reptiles, and Fish. A total of 11 specimens were identified as bird; of these, five were attributed confidently to species. All identified specimens were chicken. Based on size, the long bone fragments could also originate from chicken. However, it was not possible to confirm this through morphological identification. A summary of the distribution across contexts and the skeletal element frequencies is presented in **Table 9** (**Insert Table 9 here**). All of the species identified as chicken, whilst morphologically chicken, were notably small; some are the same size as the Bantum hen illustrated in Cohen and Serjeantson (1986), but others were slightly smaller.

A total of 16 specimens were identified as fish (**Insert Table 10 here**). 11 were identifiable to general element, however, due to post-depositional damage, a number lacked the diagnostic features necessary to attribute specimens to particular families/species. A total of six specimens were identified to family, four from the Scombridae family, which based on size are most likely tuna, and single specimens from the Scaridae family, most likely to be

parrotfish, and Sparidae, most likely to be seabream. A single specimen was identified as reptile (AZ15-4), the proximal 50% of a right humerus of a tortoise. Based on size and morphology, this has been tentatively identified as *Testudo graeca*, or spur thighed tortoise. The 19 fragments of shell from AZ15 await analysis pending access to a suitable comparative reference collection.

Al-Khamis Mosque Site

Additionally, further excavations to identify and display archaeological features associated with the Al-Khamis Mosque site have been completed. Three features of particular interest were exposed, which await final publication (cf. Al-Mearaj 2012). The first (area A) is an artificially dug well of 3.2 m depth directly north of the mosque and accessed by three walled staircases made of stone and gypsum running approximately from the south for 2.8 m, east for 5.05 m, and west for 3.9 m (Area A, **Insert Figure 17 here**). A further northern entrance appears to have been associated with water supply or disposal. At the base of the western staircase a stone and gypsum bench was recorded that might have been used when drawing water. Three parts of cylindrical stone columns were found in the base of the well, including one with a square shaped base (Al-Mearaj 2012: 6-7) (**Insert Figure 18 here**). Kervran and Kalus (1990: 25) excavated a passage of approximately 10 m length leading to the well, but not the well itself, which they suggested was 30 or 40 m north of the mosque. In reality it was 2 m further north from their excavated passage (**Figure 17**) suggesting the well is contemporary with the mosque and was used for ablutions.

Ablutions areas have been excavated in other mosques in Bahrain and the wider region but these differ in form. For example, cement basins of 30-40 cm diameter and 20-30 cm depth were used for ablutions in the courtyard of the mosque recorded at Barbar South, Bahrain. A site dated on the basis of the ceramics recovered to between the 12th-13th and 18th centuries (Salles et al 1983: 89, 158). At Qalhat in Oman, where the Great Mosque was built c. 1300 and destroyed by the Portuguese in 1508, what seems to have been a water tank was recorded in the mosque basement, which was possibly used for collecting rainwater, thus also differing from the well at the Al-Khamis site. Ablutions rooms appear to have been located on both sides of the tank in the Qalhat Great Mosque (Rougeulle et al. 2012: 347). The ablutions area in the Period 2 (c. 850-1100) Congregational Mosque at Siraf on the Iranian shore of the Gulf also differs to the Al-Khamis example. This was outside the main area of the mosque and

formed of a rectangular enclosure of 14 m length by 11 m width (Whitehouse 1980: 16). With a paved floor and a rectangular cistern made of bonded rubble, it had a row of three small rooms, maximum 3 m length by 180 cm width, that were used for washing (ibid: 19).

No details on ablutions facilities and the means by which they were supplied with water is provided by King (1980) in his review of the last surviving traditional-style mosques in eastern Saudi Arabia. Further away from Bahrain, King (1978: 498), in his earlier consideration of mosques in Najd, states that ablution facilities were "situated in various places". These were most frequently near the mosque door, but nothing comparable to the Al-Khamis well is mentioned. Precise parallels cannot be drawn with the Omani mosques described by Costa (2001) either, except that mosques were located either a natural water source or provided with a water supply through a well or falaj, i.e. a comparable water conduit to a qanat.

Northeast of the Al-Khamis mosque, part of a structure formed of three small, connected rooms measuring 6.45 m east to west and 1.67 m north to south was uncovered (Area B, **Figure 17**). These had walls built of stone and gypsum and had gypsum floors (**Figure 18**). The western wall of the structure had been partly destroyed by later grave digging (Al-Mearaj 2012: 12-13). The function and date of the buildings are not known, but they appear similar to structures previously excavated on the opposite, southeast side of the mosque site. These were interpreted as potentially serving "contemporaneously as housing, workshops, retail units and storage space" (Insoll 2005a: 68), and were dated on the basis of the ceramic assemblages present to between the 8th or early 9th and 14th centuries (Carter 2005).

The third important feature uncovered by the Bahraini team was a shrine that was connected with the later phase of Islamic burial already noted as contributing to the partial destruction of the previous structure described. The shrine built of rough blocks of stone and mortar was formed of an approximately square room with internal dimensions of c. 4 m x 3.9 m. Attached to this was a rectangular arcade with maximum dimensions of 10.35 m by 3.65 m (Area C, **Figure 17**) (Al-Mearaj 2012: 14-15). Collapsed arches from the roof were preserved where they had fallen to the north and east of the shrine room (**Figure 18**).

The date of this structure has been established from 4 gravestones that were found in and around the shrine. Of these, inscription KHA 7 was inside the main room and provides a date of 1105 AH or AD 1694 (**Insert Figure 19 here**) (**Figure 19.1**). Two of the other gravestones

also provided dates of 997 AH or AD 1589 (KHA 5) (**Figure 19.2**) and 407 AH or AD 1017 (KHA 6) (**Figure 19.3**). KHA 4 is undated (**Figure 19.4**) (Insoll, Almahari, and MacLean, in preparation). These three gravestones were found outside the main shrine and one of the gravestones, KHA5, was possibly associated with another smaller shrine room (Al-Mearaj 2012: 15). KHA 6 is considerably older that KHA 5 and 7 and it is suggested that KHA 5 and 7 date the period of shrine construction whilst KHA 6 is linked with the earlier occupation of the area around the Al-Khamis mosque. It is possible that the shrine was connected with the later funerary commemoration role of the Al-Khamis Mosque within a *mashhad* type function as proposed by Kervran and Kalus (1990: 39).

Parallels for the shrine are scarce as this is an understudied category of monument. Bibby (1996: 154) briefly describes the Shia shrine of al-Khidr on Failaka Island, Kuwait, in the context of it being repeatedly pulled down, as the Kuwaiti authorities did not agree with the ritual practices completed there. Survey by an Italian team of the shrine in 1976 indicated that it was then roofless but was built on an oblong ground plan with an "egg-shaped dome" (Patitucci and Uggeri 1984: 419). They (ibid) describe the shrine as dedicated to the god Khidr as protector of barren women and fishermen. The photograph provided indicates that the main part of the shrine is circular in shape on rectangular foundations, built on a low mound and accessed by a flight of steps. As such it differs from the Al-Khamis excavated shrine. Archaeologically, the focus at Al-Khidr has been on the Bronze Age (Dilmun) occupation in the vicinity (e.g. Barta et al 2008). Similarly, the shrines on the former course of the Sat al-Nil in Iraq surveyed by Costa (1994) differ from the Al-Khamis example. These are earlier, dating from the 8th to 12th centuries, and although comparable in size (e.g. Umm Al Awlad and Abu Hatab), are built of fired brick often finished with elaborate stucco work (e.g. Abu Hatab) (cf. Costa 1994: 4-5, plates 1 and 5).

Elsewhere in Bahrain, a small funerary shrine was excavated in the Abu Anbra cemetery as part of the 'Islamic Funerary Inscriptions' Project. Measuring 430 cm by 520 cm, as in the Al-Khamis structure the roof had collapsed leaving pieces of roofing arches in situ as they had fallen. The shrine contained a gravestone dated, based on a preliminary reading, to 1037 AH (AD 1627) (Insoll, Almahari, and MacLean in preparation). The remains of a small undated shrine formed of two sections of wall and a reused grave marker, measuring c. 246 cm by 199 cm, were also excavated at the end of an occupation sequence at the Al-Hassan Mosque mound in Bilad al-Qadim (Insoll 2005a: 69, 73). Eight small mosques/shrines were also previously recorded at various locations in Bahrain, and four were associated with graves

(Insoll 2005a: 35-38). No traces of arched roofs were associated with these shrines. Various other funerary shrines have also been extensively rebuilt and are now modern buildings, as at the Amir Zaid Mosque in Malkiya, and the shrines of Shaikh Abdiraf al-Bahraini and Shaikh Latfulla in Jidhafs (Insoll, Almahari, and MacLean in preparation). The artefacts from the Al-Khamis excavations have been stored in the Bahrain National Museum and will be the subject of future analysis by the Bahraini team.

The Al-Khamis mosque itself has also been the focus of restoration directed by Salman Almahari. As a component of this a sample was taken for C14 dating by Timothy Insoll and Salman Almahari from one of the two mosque timbers on display in the Islamic gallery of the Bahrain National Museum. The dated timber formed part of the roof structure of the Al-Khamis mosque and was recorded in-situ by Diez in 1914 (Diez 1925: 101). He describes the roof as supported by two teak columns 4 m in height and 24 x 15 cm diameter (ibid: 103). Kervran and Kalus (1990: 24) note that the timbers in the Bahrain National Museum are the ones described by Diez, and the dated timber appears to be one of the saddle beams illustrated by Diez (1925: Figure 9), as the carving and position of a hole for a supplementary smaller beam or wooden pin are identical (**Insert Figure 20 here**). This beam provided an AMS date of Cal AD 1220 to 1280 (Cal BP 730 to 670, 2 sigma calibration, Beta 409133), and thus postdates all three phases of Kervran and Kalus's (1990; 7) suggested chronology for the Al-Khamis Mosque.

Discussion

i) Abu Anbra.

The results of the excavation in the Abu Anbra cemetery indicate that the mound was not linked with settlement but is a natural dune formation that was used for burial purposes. Although not discernible in the aerial photographs (**Figures 2 and 5**), it is one of four mounds in the cemetery, three used for burial, and the fourth formed of the remains of a collapsed mosque. The approximately north to south orientation of the burials is the same as that of the gravestones recorded in Abu Anbra and the other cemeteries investigated as part of the 'Early Islamic Funerary Inscriptions of Bahrain' project (Insoll, Almahari, and MacLean in preparation). This indicates that all the burials encountered are likely to be Muslim, as also suggested by the absence of grave goods and the possible use of shrouds (cf. Insoll 1999: 170-3). No evidence for pre-Islamic occupation was found. The radiocarbon date has to be

discounted, as described, and the absence of inscriptions means there is no absolute indication of date. However, the diagnostic ceramics indicate that the chronology, primarily 11th-13th centuries with some early Islamic residual material of the 8th-10th centuries, concurs with the broader Bilad al-Qadim sequence.

ii) Ain Abu Zaydan.

A comparable ceramics chronology is evident in the units at Ain Abu Zaydan. Overall, most ceramics date from the 11th-13th centuries, with some earlier residual material of the 8th-10th centuries, and a couple of later intrusive sherds from the 14th century. The radiocarbon date from the base of the unit (AZ15-10) provides the first indication of a possible pre-Islamic presence in Bilad al-Qadim, and might be connected with use of the spring at Ain Abu Zaydan. However, no artifact correlation for the C14 date has been found as all the ceramics and other materials from the excavations are of Islamic date so this awaits confirmation. The second radiocarbon date from AZ15-8 is in accord with the lower end of the ceramic chronology, and this date and the ceramics from both AZ14 and AZ15 attest the use of Ain Abu Zaydan during the Early and Middle Islamic periods, but primarily in the latter. The amount of material recovered suggests that formerly there was occupation in the vicinity of Ain Abu Zaydan rather than it only being generated by the occasional use of the spring. This will be further explored in the future when larger scale excavation will be completed as part of the restoration works at the site.

Although hiatus in the utilization of the spring probably occurred, it continued to be used after the Middle Islamic period. In the 19th century, Durand (1879: 6) described the spring as serving "as the foundation of part of the walls of a small mosque". Similarly, Theodore Bent (Rice 1984: 78) refers to the well of "Abu Zeidan" as "built round" and "reserved for the private use of Sheikh Esau and his family", with adjacent "a tiny mosque". Mrs J. Theodore Bent adds further detail in her travel chronicles, writing in February 1889, that she and her husband, stopped "near the 'Thursday Market' to see the Sheikh's bath, with a wall round it and partly roofed in with a pillar standing in the water, irregular, pretty and rather dirty. Close by was a sort of 'loggia' where he prays, takes coffee and spends the day" (Bent 2010: 15). Theodore Bent also described the "Madresseh-i-abu-Zeidan" with "its two slender and elegant minarets" (Rice 1984: 78). This is of interest, as it appears to be a reference to what is today called the Al-Khamis mosque and its characteristic minarets, rather than a description of the small mosque associated with Ain Abu Zaydan itself. It also suggests that Ain Abu Zaydan

was of continuing importance as its name was being associated with other buildings in Bilad al-Qadim.

The use of the spring fed pool at Ain Abu Zaydan continued up until at least the early 1970s. Belgrave (1973: 89) refers to the "Abu Zaidan Mosque", built over the spring of the same name, being "much used by the Shia people of Manama, especially by the women during weddings". When Ain Abu Zaydan finally ceased to be used is not known, though the cause was described as due to the water table being disrupted, either by dynamiting carried out in connection with the construction of Mina Salman port in the 1960s, or because of similar activity associated with the oil and gas industry (anon pers. comm. 22/4/14). It is possible that some of the locally produced Common Ware found is linked with periods of later use, but the extent of settlement in Bilad al-Qadim retracted to a low-level village occupation by the 13th to 14th centuries (Carter 2005: 157; Insoll 2005a: 56), suggesting that indicators of later use could be marginal.

iii) Al-Khamis Mosque Site.

The ceramics from the Al-Khamis Mosque site await study but preliminary indications are that they do not differ from those previously published from units in the Mosque precincts (cf. Carter 2005) or from the other units described here. As in the previous excavations, the multi-functional nature of the site is evident with mixed residential/industrial/commercial use represented east of the Mosque, probably the earliest phase, which was cut into by later burials, and ultimately the shrine was constructed. The C14 sample from the carved roof beam indicates that parts of the extant Al-Khamis Mosque structure are of 13th century date or later and thus the woodwork is not Abbasid (e.g. Belgrave 1973: 88). Moreover, Kervran and Kalus (1990: 7, 36) suggested that the Al-Khamis Mosque was an Umayyad foundation indicated by the presence of a qibla wall with a mihrab in its centre. No comparable architectural indication or any evidence for an Umayyad presence was found in the excavated units to support this Early Islamic foundation date for the Al-Khamis Mosque and it must be discounted. As such this agrees with Potts (2016: 77) recent refutation of Kervran and Kalus' (1990) Al-Khamis Mosque chronology, though equally the excavation results do not provide the degree of historical specificity Potts (2016: 76-77) suggests as an alternative construction sequence for the Al-Khamis Mosque. Whether the woodwork formed part of the original mosque or a remodeling of the structure is not known, but currently there is nothing plausible to suggest that the Al-Khamis Mosque predates the 12th-13th centuries.

Conclusions

The results contribute to our understanding of the Islamic occupation sequence on Bahrain. They support the interpretation that Bilad al-Qadim appears to have been the main centre of Islamic settlement in the 11th-13th centuries (Insoll 2005). Some imported materials are attested, likely glass, and ceramics from Iraq, Iran and, through Indian Ocean trade routes, China. However, the overall picture is of a settlement supplied through local manufacture of pottery and imported materials are comparatively rare. Diet appears to have been varied including avian, mammal, fish, reptile, and as yet unanalyzed, mollusc species, whilst the crucible fragment attests some local industry.

Prior occupation is attested but it is probable that Muharraq eclipsed Bilad al-Qadim in the early Islamic period. Excavations at various sites there (Carter 2011), notably in the Mohammed bin Faris parking lot, provided evidence through ceramics (e.g. Turquoise Glazed, Honeycomb, and Umayyad White Wares) and C14 dates of Umayyad occupation of 7th-8th centuries date so far lacking on Awal. Based on this, Carter (2011: 46) has indicated how Muharraq was abandoned at approximately the time that Bilad al-Qadim was founded in the 8th-9th centuries, and the results described here support this scenario. Smaller scale early Islamic occupation, though slightly later in date, was also located at A'ali, as indicated by imported Iraqi and Chinese ceramics dated to the 8th-10th centuries (Sasaki 1990), and possibly also in the Barbar area. The latter suggested by an assemblage of Iraqi Samarra Horizon ceramics (9th-10th centuries) that had been dumped into a much earlier well connected with a temple dated to c. 2000 BC (Frifelt 2001: 13). The excavation results also attest that terminal occupation in Bilad al-Qadim, at least on a scale beyond village level, does not appear to postdate the 14th century, correlating with the previous occupation sequence recorded (Insoll 2005a: 55-56). It is probable that the main area of settlement was then concentrated around Qala'at al-Bahrain (cf. Frifelt 2001; Kervran et al. 2005: 329-334), where previously there had been a shore fortress (cf. Højlund and Hellmouth Anderson 1994: 481; Kervran et al. 2005: 284).

The excavations also stress the importance of preserving what remains of the archaeology in Bilad al-Qadim. Archaeology and heritage face various threats. Comparing **Figures 2** and **5** gives an idea of the rate of urban growth in Bilad al-Qadim between 1966 and 1996. For example, besides the increase in size of many of the buildings, the gardens north of the Al-

Khamis Mosque were lost, as were the open areas adjoining the highway south of the Abu Anbra cemetery. Ain Abu Zaydan is more fortunate, and remains so, through the continued survival of the palm gardens west of the site, though the condition of the palms is poor. Development has continued apace over the intervening 20 years since the last aerial photograph was taken presenting further challenges for the preservation of archaeological sites in Bilad al-Qadim. However, by indicating the value of heritage through the construction of the Al-Khamis Visitor Centre and the eventual completion of the heritage trail this is beginning to be redressed through signaling the importance of Bilad al-Qadim within the overall history of Bahrain.

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Figures

Figure 1. The location of Bilad al-Qadim in Bahrain

Figure 2. 1996 aerial photograph of Bilad al-Qadim with locations of Abu Anbra, Al-Khamis Mosque and Ain Abu Zaydan marked (courtesy, Ministry of Housing, Kingdom of Bahrain)

Figure 3. Abu Anbra mound with grave markers (photo. T. Insoll)

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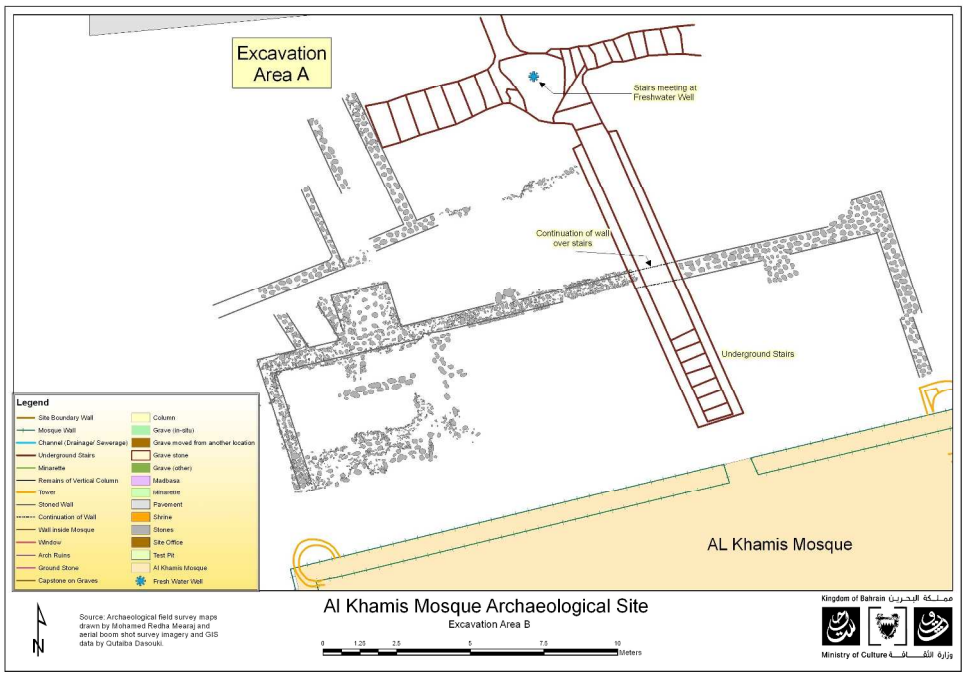

Figure 19. Plan of the well area (Area A)
419x297mm (200 x 200 DPI)

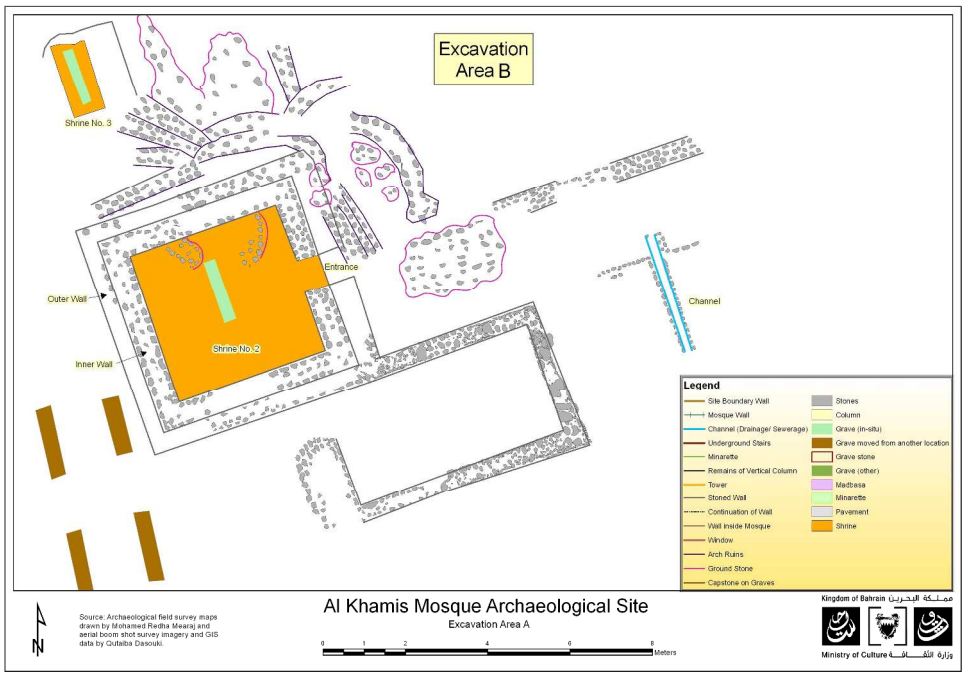

Figure 20. Plan of the shrine (Area B)
419x297mm (200 x 200 DPI)

Figure 21. The gravestones associated with the shrine (photos. T.Insoll)
228x163mm (300 x 300 DPI)

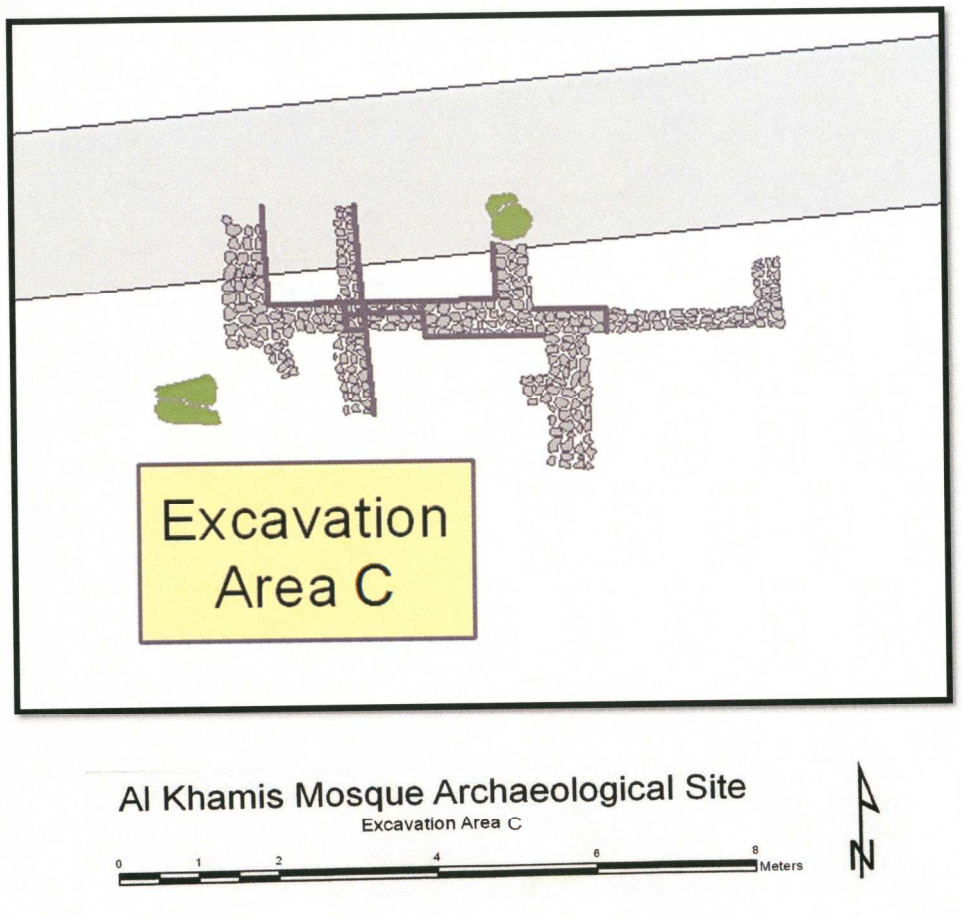

Figure 22. Plan of the multi-room structure (Area C)
158x150mm (600 x 600 DPI)

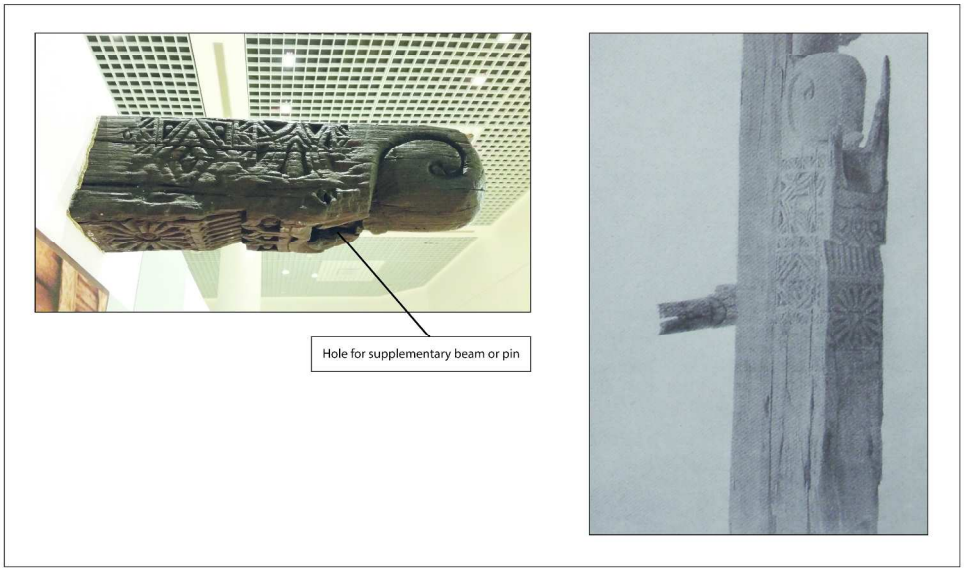

Figure 23. Left. Radiocarbon dated beam in the Bahrain National Museum. Right. Beam illustrated by Diez (1925: Figure 9)
378x246mm (300 x 300 DPI)