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The 2016 Season of the Al-Wajh – Al-'Ula Survey Project : Preliminary Report

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The 2016 Season Of The Al-Wajh – Al-ʿUla Survey Project: Preliminary Report

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The al-Wajh – al-ʿUlā Survey Project (UWSP) has conducted the second season of fieldwork activities between March 17 and April 1, 2016. The Project is approved by the Saudi Commission for Tourism and National Heritage (SCTH), and is affiliated with the Finnish Institute in the Middle East. The funding for the 2016 fieldwork was provided by the Deutsche Forschungsgemeinschaft (DFG). The Project was directed in field by Dr. Zbigniew T. Fiema, University of Helsinki. The fieldwork team included Dr. Caroline Durand, IFPO, Amman, and Mr. Will Kennedy, Humboldt- Universität zu Berlin. The Saudi component of the fieldwork team was headed by Dr. Nayef A. al-Qanoor and included Mr. Badr Abu Hassan, Mr. Ibrahim al-Dayel and Mr. Majid al-Faqeer. Their work and assistance in all matters are most gratefully acknowledged. The project wishes to offer thanks to Dr. Ali al-Ghabban for the permit to conduct the fieldwork as well as to Dr. Abdullah S. Al-Saud, Dr. Abdallah and A. Al-Zahrani all from SCTH, for their assistance in the preparation of the 2016 season. We are also grateful to Prof. Gary Rollefson, Whitman College, for the preliminary assessment of the collected lithic material, and to Dr. Jacqueline Studer, Museum of Natural History, Geneva, for the photo-based preliminary identification of the bone deposits at al-Qusayr. Equally, we appreciate thoughtful comments on the monumental building at al-Qusayr, offered by Prof. Laurent Tholbecq, Université Libre de Bruxelles.

The al-ʿUlā – al-Wajh Survey Project is the archaeological investigation of potential ancient trade and communication routes and associated archaeological sites between the ancient settlements of al-ʿUlā and Madāʾin Ṣāliḥ (ancient Hegra; 26º 36’ 41.38’’ N; 37º 55’ 25.44’’ E) and the Red Sea littoral in the area between al-Wajh (26º 13’ 42.06’’ N; 36º 28’ 08.25’’ E) and the Cape of Kurkumah (Ras al Jurayjib) - (plate 6.1a). This investigation is related to the economics of long distance maritime and caravan trade and the utilization of the so-called “Incense Route,” which served to convey frankincense and other commodities from South Arabia to the Mediterranean during the Hellenistic-Roman periods (4th c. B.C. – 3rd c. A.D.). The Project is also concerned with the localization of potential Nabataean seaports on the Red Sea coast, such as Leuke Kome and Egra Kome, mentioned in ancient literary sources. Through the exploration of potential trade routes in the region, the UWSP strives to provide better understanding of the mechanisms of trade networks, their infrastructure and movement of goods as well as provide evidence for inter-culturalexchange.

Historical Background

While the fieldwork activities of the UWSP appear spatially modest, the project's interest delves into a much larger and complex historical phenomenon, i.e., the international long distance trade between the Indian Ocean area, the incense- growing areas of South Arabia, and the Mediterranean (plate 6.1b). It was a complex commercial undertaking in which the Nabataeans played a significant role and which reached its peak of operations between the 1st century B.C. and the 1st c. A.D. By that time, Hegra (modern Madāʾin Ṣāliḥ in NW Hijaz) had become the major Nabataean political center in the southern part of the kingdom and a significant commercial emporium on the "Incense Route" – a complex system of interrelated routes and caravan tracks connecting the eastern Mediterranean with the areas of South Arabia (see Potts 1988, for the presentation of routes). Despite the annexation of the Nabataean kingdom by the Roman emperor Trajan in 106 A.D., there is no indication that the Arabian long-distance trade in aromatics had ceased; at least not until the 3rd century A.D. (Fiema 2003). However, it is evident that the overland trade operations faced a significant competition from the maritime trade traffic on the Red Sea, as associated with the development of the Egyptian seaports, such as Myos Hormos (Quseir al-Qadim) and Berenike (Arab Saleh), which was both faster and cheaper means of transport in antiquity (Fiema 1996). Undoubtedly, the Arabian commerce would have much benefitted from the combination of the coastal sea- borne transport with the land transhipment further north, using the Incense Route.

Several seaports on the Egyptian side of the Red Sea, which participated in South Arabian/Indian trade, are known and were excavated, but the classical literary sources mention only two relevant Nabataean localities on the eastern Red Sea coast: Leuke Kome or the "White Village" and Egra Kome or the "Village of Egra" (see Hackl *et al*. 2003: 564-566 and 606-615, for all texts and commentaries). Leuke Kome is mentioned both by Strabo (*Geogr*. 16.4.23-24) and the *Periplus Maris Erythraei* (19). At the end of the 1st c. B.C., narrating the disastrous Roman expedition of Aelius Gallus to South Arabia in 25 B.C., Strabo described Leuke Kome as a "large emporium" where the highly prized Asiatic and South Arabian commodities were disembarked before being transported overland to Petra. According to the *Periplus*, around 50 years later, Leuke Kome was a cabotage harbor for small commercial vessels arriving from South Arabia, yet posessed a customs post with a detachment of soldiers to ensure his safety. *Periplus* also describes this harbor as located at two or three days of uninterrupted navigation from Myos Hormos eastward, which corresponds more or less to a direct crossing of the Red Sea. Both sources unequivocally state that Leuke Kome was a major element in combined seaborne/ overland transshipment of merchandise from South Arabia to Petra. Although the exact localization of Leuke Kome is unknown,

two main hypothetical locations are debated: 'Aynunah, in the northernmost part of the Red Sea coast (Kirwan 1984, Bowersock 1983: 48; Sidebotham 1986: 124-126; Ingraham *et al.* 1981; Eadie 1989; Young 1997; Graf 2000; Tomber 2008: 68), and the al-Wajh area (including the al-Qusayr site) located further south (Starcky 1961; Gatier and Salles 1988: 186-187; Cuvigny 2003: 28-29;Durand

2008: 332-336, 2012: 88). Recent examination of the distances preserved in ancient sources, combined with the features of the natural terrain and the comparative analysis of the location of Myos Hormos and 'Aynunah demonstrated that Leuke Kome should have been located further south than 'Aynunah and that the area of al- Wajh is indeed the optimal location (Nappo 2010).

Egra Kome is only mentioned by Strabo (*Geography*, 16.4.24), also in the context of Aelius Gallus' expedition, as a locality situated in the Nabataean territory and by the sea. Although the text lacks precision in this matter, it is generally assumed that Egra was the place from where the Roman troops embarked on the way back to Myos Hormos in Egypt. The location of Egra Kome is even more enigmatic than of Leuke Kome. Nappo (2010: 340-341) proposed that Strabo might have confused the embarkation point of Aelius Gallus with the city of Hegra (Madāʾin Ṣāliḥ), where he stopped during his withdrawal from South Arabia. But other scholars proposed specific locations, and usually for different reasons. The area south of al-Wajh was considered (Musil 1926: 299-301), specifically, in the delta of the Wādī al-Ḥamḍ, Egra Kome being the harbor of Hegra, as postulated by Hackl *et al.* (2003: 615). Based on the hypothesis that modern 'Aynunah corresponds to Leuke Kome, A. al-Ghabban has recently suggested the identification of Egra Kome with the site of al-Qusayr (*infra*) located in the area of the Cape Kurkumah (or Karakomi), ca. 45 km south of al- Wajh and ca. 15 km NE from the tip of the cape, by the outlet of the Wādī al-Ḥamḍ, where remains of a building interpreted as a Nabataean temple are preserved (Ghabban 1993).

Despite the variations in scholarly opinion, it appears reasonable to propose that a seaport participating in the Red Sea trade should be located in the area of al-Wajh, and this hypothesis finds support in the Nabataean remains at al-Qusayr. Thus if the South Arabian produce was apparently unloaded in such seaport for further transshipment overland, as ancient sources indicate, and if such seaport was indeed located somewhere in the area of al-Wajh, it would be logical to expect a caravan route(s) leading from this area to Hegra (Madāʾin Ṣāliḥ).

Methodology and Progress of Fieldwork

The determination and evaluation of potentially most economic and convenient route(s) with regard to difficult terrain and challenging environmental conditions play

the crucial role in the project's considerations. This is because the entire region between al-'Ulā and al-Wajh is dominated by the range of the Hijazi mountains (between ca. 900 and 1600 m asl), which generally are oriented NW-SW and which culminate in the highest formation in the region being Jabal al-Ward at 2096 m asl. Typical for the region are valleys which cut across the mountains as well as the large natural drainages, which could serve as convenient communication routes, of which the Wādī al-Jizl and the Wādī al-Ḥamḍ are the most significant ones. It is apparent that to reach inland settlements from the coast must have been a formidable and well-planned undertaking, especially for larger groups of humans and merchandise- carrying animals.

The UWSP has extensively utilized GIS-based methods, specifically the calculation of the so-called least-cost paths (LCP) method being a realistic survey strategy-building device. The method not only aims to reconstruct the possible course of ancient routes, but it also renders information on overall ancient landuse, i.e. the avoidance of difficult terrain types, etc. (e.g., Herzog and Posluschny 2011: 236-237). LCP- calculations assist the modeling of infrastructure and spatial organization of ancient landscapes in terms of transportation velocity, security and the connectivity of different sites but cannot calculate certain social factors, such as personal preferences, and cannot take missing archaeological data into account (Posluschny 2012: 115).

The pre-fieldwork investigations based on GIS analysis identified two least-cost routes between al-ʿUlā and the coast. Early calculations took al-Wajh as a convenient western terminus but the results of the 2016 season deemed it necessary to recalculate, with the site of al-Qusayr at the outlet of the Wādī al-Ḥamḍ as the western terminus. These two routes are: the central route (orange broken line; minimum time and energy expenditure) and the southern route (mostly along the Wādī al-Ḥamḍ; black broken line; the minimum energy expenditure only). During the first season of the UWSP survey (2013), possible alternative routes were explored, which were discerned using satellite/aerial imagery (Fiema *et al*. forth.). These are Route 1 (mostly along the Wādī Fuḍalā; blue color), Route 2 (mostly along theWādī Tharī; light brown color) and Route 3 (mostly along the Wādī al-Jizl and through al- Kurr and as-Sudayd; green color) - (plate 6.2a) for all. Both Route 1 and Route 2 are shorter and more direct communication means between the area of al-ʿUlā and the Red Sea but these routes must traverse considerable mountainous terrain (plate 6.2b).

This is not always practical regarding the specifics of large-scale caravan traffic, including the presence of large numbers of camels which need quantities of fodder and water, and the preference of laden camels to move in a non-mountainous terrain (see Kennedy 2016, for the interdependence between the natural landscape and possible caravan routes in the Petra area). Furthermore,

no significant archaeological or epigraphic sites were found there in 2013 although Route 1 may hold potential if investigated in greater detail. Route 3 may be a convenient possibility but if the terminus is located at al-Wajh. As for the central least-cost route (orange broken line), only the southern part of it was investigated so far (between al-Kharrār and al- Manjūr), which also coincides with the southern parts of Routes 1, 2, and 3. The central part of the orange least-cost route, which appears to pass over high mountains, was neither easily discerned on the maps nor known as passable by the local informants and thus will have to be more closely investigated in the future.

With these facts in mind, the 2016 UWSP fieldwork season concentrated on the southern part of the survey area and, specifically, *south* of al-Wajh, as suggested by some participants in the aforementioned discussion, and considering the fact that previous surveys did not locate any sites with Nabataean/Roman pottery *around* that city (Ingraham *et al.* 1981: 78). The main target of the fieldwork was the southern GIS least-cost path (black broken line), which is characterized by the minimum energy expenditure only but which also is considerably longer than any other route from the al-ʿUlā area to the coast. This route leads in southeasterly direction from the Wādī al- ʿUlā, then follows the Wādī al-Jizl to its confluence with the largest natural drainage in the region, i.e. the Wādī al-Ḥamḍ, and continuing all along this wadi, it finally enters the coastal plains NE of the Cape Kurkumah, passing by the important archaeological site at al-Qusayr located ca 6-7 km away from the Red Sea coast.

While the fieldwork concentrated in the western part of that route (plate 6.3a), a brief visit to the area SW of al-Qusayr, i.e., the Cape of Kurkumah, was undertaken but turned out to be inconclusive because of the time constraints, the presence of the military zone there, and the lack of easily discernible ancient features. Additionally, the survey team, guided by the local informant, made an excursion to the western foothills of the Hijazi mountains, located in the central part of the UWSP area.

Technically, that area was not the subject of survey in 2016 fieldwork, but six sites (A-G) were recorded, primarily tribal *wusum* and rock art representations.

The Site of Al-Qusayr

The fieldwork started at al-Qusayr (Site 001) as that site lay on the Wādī al-Ḥamḍ and thus on the southern least-cost route, and because the site preserves important Nabataean remains (plate 6.3b). In the later 19th century, the site was visited by Richard

F. Burton who described there the remains of a monumental building (the so-called *Qasr*), which he interpreted as representing "Classical culture" (Burton 1879: 219-233; see also Starcky 1961, col. 912, and Cuvigny 2003: 28-30). In 1992, that building

was excavated by the SCTH. Several high-quality architectural elements – e.g., a typical Nabataean blocked-out capital and a highly decorative corner pilaster base – and ceramic, stone and metal artifacts from these excavations are currently exhibited in the Riyadh National Museum (plate 6.4d). These all are labelled as coming from "Akra Komi," but undoubtedly originated from al-Qusayr (Nehmé 2009: 41). A short publication in Arabic interprets the excavated structure as a Nabataean temple and also mentions other remains, including a probable settlement beside the temple, as well as the surface pottery (Ghabban 1993). The explorations carried out by the UWSP in 2016 confirm the importance of the Saudi discoveries while proposing an alternative interpretation of the monumental building.

The "Temple"

The monumental building is located on the southern bank of the Wādī al-Ḥamḍ, beside a large Islamic cemetery surrounded by a wall (plate 6.4b). The structure is built of alabaster-like, shell limestone blocks, characterized by a multiplicity of irregular streaks on the light brown background, while the substructure uses sandstone blocks. The construction is exceedingly good, including the use of high-quality mortar and iron clamps to hold blocks together, although the building is currently in a poor state of preservation. The structure is nearly square (ca. 8.30x m) and is standing on a roughly rectangular stereobate/podium. Rather than the sides/main walls, it is the corners of the structure which almost exactly mark the cardinal points (N, W, S, E). Inside the building, there are two wide (ca. 1.92-2.00 m) benches built against the NW and SW walls (plate 6.4c). Most probably, there was another one, against the SE wall, as reconstructed by the Saudi archaeologists, but it is no longer extant.

The NE wall is not preserved; this entire side of the building eroded away into the wadi. The floor of the interior, made of well-cut slabs and still visible in the western corner, is ca. 0.30 m below the tops of the benches and ca. 0.60-0.70 m below the preserved tops of the surrounding walls; thus the interior is clearly "sunken". The SCTH excavators have reconstructed the entrance in the SE, flanked by two large columns, and in the alignment with the four access stairs, which – according to the AutoCAD reconstruction and the model exhibited in the Riyadh National Museum – have been found on this side of the building (plate 6.4d). These steps, however, appear to lead to the top of the stereobate; to enter the structure one would need to step onto the (preserved) top of the SE wall and then step down on the (not preserved) SE bench.

It is perhaps instructive to also review the information provided by Burton more than 150 years ago. He suggested that the square structure on top of the podium was accessed through an entrance on the (currently non-preserved) NE side, and flanked by two engaged columns (plate 6.5a). One of his illustrations shows what appears to be a

threshold and the base of one of the flanking columns, both on the NE side of the structure (Burton 1879, ground plan, p. 225, upper figure; (plate 6.5b). The two flanking columns could have been engaged with the inner face of the NE wall (as on Burton's plan), forming large rounded pilasters, presumably crowned by Nabataean half-capitals, but the outer face engagement is perhaps preferable. Burton proposed another raised area (bench) against the NE wall inside the structure. This opinion, however, is not followed here, the preference being for three benches, as in the reconstruction by the SCTH excavators. At any rate, with an entrance on the NE side, one would proceed, by stepping down (or not), from the level of the stereobate or the threshold into the interior, with one bench being straight ahead and one on each side.

Presumably, monumental, highly decorated bases of corner pilasters, one of which is currently in the Riyadh Museum (plate 6.4a), decorated the external far corners of the NE wall, if not all four external corners. Besides the large pilaster bases, all still extant architectural elements are of highest quality and are located, often reused, inside the Islamic cemetery, in addition to those currently in Riyadh. The impressive array of architectural elements includes fragments of column drums, Nabataean blocked-out capitals (plate 6.5c), column and pilaster bases, at least one cornice, bevelled uppermost blocks of the crepidoma, and fragments of thick, stucco decorative elements. The size of the elements implies the presence of two orders - large pilasters in the two (or four) external corners of the building, and smaller, shallower pilasters on the outer, rather than inner, sides of the walls. Burton suggested a central niche (no longer visible) in the back wall, flanked by two colonnettes, and corresponding to the door axis (Burton 1879: 227). A fragment (wing) of an eagle statue found in the *Qasr*, perhaps from such niche, is today displayed in Riyadh. A parallel can be provided by the main rock-cut *triclinium* of the "Obodas Chapel" in Petra, where fragments of an anthropomorphic statue have been found at the foot of the central niche (Nehmé 2002: 247-250, fig.9-11).

The larger and smaller order evidenced by pilasters may also have been mirrored by columns. Burton has noted the presence at the site of ten column bases (drum diameter ca. 0.45 m) clearly smaller than the entrance flanking columns -*cum*- pilasters (diameter ca. 0.65 m) mentioned above, and his reconstruction of the interior includes 12 columns standing on the "benches," as in a peristyle-like arrangement. However, it is unclear if columns or semi-columns were meant, no traces of their location were found on the extant benches and such arrangement would prove incompatible with the hypothesis presented below. So the original location (and function) of these smaller columns remains unknown and the SCTH reconstruction has not addressed this problem either. The columns could, theoretically, represent a remodelling phase of the building. After all, the NW bench seems

to stand directly on the pavement implying that it might already be a modification of the earliest arrangement (i.e., paved interior without benches and columns?). Columns could also have been located on the podium, surrounding the building. In one of the hypothetical reconstructions proposed by the UWSP team, ten semi-columns are located in the interior, but such proposal remains a speculation (plate 6.6). Burton proposed that the building was hypaethral or covered with light a roof. If the latter, he opted for a pitched roof, consistent with classical architecture.

But since no clear elements of pediment or roof tiles were found during the survey, the matter remains unresolved and a flat roof is also not impossible.

Although there is no doubt that this is a monumental Nabataean building, there are some interpretive arguments which may point in the direction other than that of a temple. One would expect a raised platform/ *motab* in the center of a Nabataean temple (see Tholbecq 1997, for examples) while at Qusayr, the benches surrounding the paved, depressed floor appear as dominant elements. This configuration suggests that this building could have been a monumental *triclinium,* a gathering place for ritual banquets and official meetings. *Triclinia* are well attested in Petra and the Nabataean kingdom, and can be parts of large monumental sanctuaries, such as in Khirbet edh-Dharih or in Khirbet Tannur, but were also found in isolated places, without an apparent link to a temple, for example, the "Obodas Chapel" in Petra (Tholbecq and Durand 2013) or *triclinia* in Madāʾin Ṣāliḥ. A large Nabataean *triclinium,* recently uncovered in Dūmat al-Jandal (Charloux *et al.* 2016), could indicate the importance of this type of communal structures in the "Nabataeization" of the peripheral areas of the kingdom. This *triclinium*, as well as one of the "Obodas Chapel" *triclinia* and several examples in Madāʾin Ṣāliḥ are also "open air" structures.

If our hypothesisis correct, the Qusayr structure was probably used for official/ ritual purposes by the Nabataean elite and/ or other social groups or local tribes settled there (compare Nehmé 2013: 114, 116, table 1, for the situation in Petra).The localization of the *Qasr*, overlooking the wadi and the settlement, could suggest that it was intentionally built to be a landmark for the visitors following the Wādī al- Ḥamḍ, either coming from the coast or from the opposite direction.

Other Archaeological Remains at al-Qusayr

Ca 60 m NWW of the temple, inside the cemetery enclosure, there is a roughly quadrangular depression in the surface (Site 001.1) which exposed a well preserved pavement (or foundation course) made of limestone slabs, ca 0.28 x 0.07 m each.

Remains of lime-plastered walls surround the "pavement." This exposure might have

been created either through the settling of the pavement in the soft soil or through illegal digging. Another, depression (Site 001.2), presumably caused by the same factors, is located in the center of the cemetery, and it features remains of four walls forming a quadrangle. Their external faces were all plastered with whitish lime plaster as if facing some open space. Large chunks of whitish plaster (stucco?) were also found nearby. The last site within the cemetery is S.001.3, which may also have been intentionally exposed, is a squarish space (ca 0.9 x 0.9 m) in a form of a "well" (plate 6.7a). The walls of the "well" are made of excellent ashlars, continuing down to ca.

1.35 m below the surface. The lowermost ashlar course seems to stand on a layer of whitish mortar, ca 0.5 m thick, and below it is a layer of cobbles and soil. An oval robbers' hole penetrated the mortar and the stone/ soil level to the depth of ca 2.10 m below the surface. The function of this installation is unclear; perhaps a well or a part of a substructure (cellar?). At any rate, these three remains amply demonstrate that there were some (monumental?) buildings in the close vicinity of the *Qasr*.

Ca 110 m SW of the *Qasr* (ca 40 m from the cemetery wall) there is a roughly circular white tumulus (Site 001.4), ca 10 m in diameter, formed by huge quantities of animal bones (plate 6.7b). This "ossuary" was already mentioned by Burton who recognized the material as camels' bones (Burton 1879: 232), an observation confirmed by the analysis of closeup photos taken at the site. It cannot be confirmed whether this enormous deposit was created relatively recently (at least in the 19th century) or is related to the ancient site. A sounding and a C14 determination of bones from the bottom of the deposit would be most productive. If the interpretation of the *Qasr* as a *triclinium* indeed be entertained, this camel bones' deposit could represent an intentional burial of bones deposited over a long period of time and linked to ritual banquets in the *triclinium*.

To the east of the *Qasr* and along the Wādī al-Ḥamḍ stretches an oasis with wells. But the area (S.001.5) directly south of the cemetery, at least ca. 300 m E-W and 200 m N- S, is characterized by very low, gentle hillocks which most probably hide remains of structures. This area should correspond to the ancient settlement associated with the monumental building and it was recognized as such by both Burton and the Saudi excavators. The surface pottery collection revealed a very impressive ceramic assemblage (*infra*), predominantly dated to the 1st c. B.C. – 1st c. A.D. Ruins of some quadrangular structures (S.001.6) are located further south, fenced off by the SCTH. Additionally, the area of al-Qusayr possesses two wells. B1 is located across the wadi and was in use until recently. B2 is located on the southern side of the wadi, near S.001.6, and is also fenced off.

Surface Ceramics

Samples of pottery sherds were collected from the surface of Site 001.5 (the settlement) in order to determine the *facies* and chronological time-span of the site. The collection presents a striking assemblage of imports, mainly from the Mediterranean area, and of typical fine and common Nabataean pottery produced in the Petra area (see Table 1 at the end of this section).

Numerous amphorae sherds have been collected. Among these, several sherds probably belong to the Lamboglia 2 type (plate 6.7c (A-B)), produced in the Adriatic region and diffused between the end of the 1st c B.C and the first half of the 1st c.

A.D. Notable in this category is an amphora sherd showing traces of an inscription on the external surface, probable titulus pictus (plate 6.7d). Several sherds belonging to Campanian amphorae production have also been identified (plate 6.7c (c)), thanks to their typical "black sand" fabric, characteristic of the Bay of Naples region (Peacock and Williams 1986, Class 10; Peacock 1971, Fabric 2; Tomber and Dore 1998: 88; Williams and Peacock 2005). In this group, some rim sherds correspond to the Dressel 2-4 type, which was widely distributed in the entire "Erythraean Sea" area, and particularly in India, during the Early Roman period (Tomber 1998, 2008: 43, 2012: 206; for example in India, see Gupta *et al.* 2001). One collected sherd can probably be classified among the biconical Egyptian amphorae, type AE3 (plate 6.7c (d); see Empereur and Picon 1989: 234-235, fig. 11). These amphorae, produced in the Nile Valley, are characterized by their muddy "chocolate" fabric, their elongated profile and rather thin walls. It is worth mentioning that these two last groups – Dressel 2-4 from Campania and AE3 – were the two main groups comprising the amphorae jetty discovered in Myos Hormos, a seaport on the Egyptian coast of Red Sea and directly facing al-Qusayr on the opposite coast (Tomber 2012: 203; on the jetty itself see Blue 2011).

Mediterranean imports in al-Qusayr also include an amount of Eastern terra sigillata sherds from Asia Minor (plate 6.7c, (F-G)). One sigillata sherd could possibly be identified as a western production, from Italy or Gaul. Also notable is one sherd of the "Green glazed ware" produced in the Mesopotamian region (plate 6.7c (E)). Similarly to the aforementioned amphorae, all these types of fine wares were common in Myos Hormos, where a significant number of *sigillata* sherds has also been found (Whitcomb and Johnson 1980: 64-66; Tomber 2012: 203).

The other pottery group includes fine and common Nabataean pottery coming from the Petra area. Petra, the capital of Nabataea, was also the main pottery production center and it distributed its fine and common products all over the kingdom. A few fine painted sherds found (plate 6.7e) can be dated between the mid-1st c. B.C. and the very beginning

of the 1st c. A.D. (Phases 2a and 2b: see Schmid 1996: 202-205; 2000, figs 78-88). A sherd dating to the same phase and probably coming from the 1992 Saudi excavations, is exhibited in the Riyadh Museum. Notably, the unique Nabataean painted sherd found in Myos Hormos and published so far belongs to the same phase (Whitcomb and Johnson 1982, Pl. 21:d). The rest of the assemblage is composed of Nabataean common ware – cooking-pots (plate 6.8a (A-C)), jugs (plate 6.8a (D-E)) – and Nabataean unpainted fine ware, mainly bowls and small pots (Fig. 20, F- Q), sometimes with rouletted decoration (Schmid 2000, fig. 215). The entire Nabataean assemblage – fine and common ware – is chronologically very homogeneous and can be dated between the mid-1st c. B.C. and the first third of the 1st c. A.D. This rather short occupation time range (ca. 70 years) is nevertheless

indicated only by surface collection and should, therefore, be verified by excavations in the settlement area. At any rate, the significant amount of not only fine ware but also of utilitarian ceramics, most probably produced in the Petra area, implies the presence of a rather important Nabataean settlement, directly linked to the Nabataean capital city.

Table 1. Pottery Catalog

Fig.	Description	Fabric	Type	Parallels	Provenience	Date
17-A	Rim sherd Amphora	Light red fabric, fine and dense texture, pale brown to buff surface, a few small black and whitemineral inclusions	Lamboglia 2?	PEACOCK & WILLIAMS 1986, Class 8	Adriatic area	Late 1st c. BC - early 1st c. AD
17-B	Base sherd Amphora	Light red fabric, fine and dense texture, buff surface, a few small black and white mineral inclusions	Lamboglia 2 or Dressel 2-4?	PEACOCK & WILLIAMS 1986, Class 8 Myos Hormos: WHITCOMB, JOHNSON 1982, Pl. 15:f,27:g	Adriatic or Aegean area?	Late 1st c. BC - early 1st c. AD

Fig.	Description	Fabric	Type	Parallels	Provenience	Date
18	Body sherd Amphora *Titulus pictus* on the shoulder (Latin number or ___ Greekletter?)	Light red fabric, fine and dense texture, buff surface, a few small white mineral inclusions	Lamboglia 2? (based on the fabric)	PEACOCK & WILLIAMS 1986, Class 8	Adriatic area	Late 1st c. BC - early 1st c. AD
17-C	Rim sherd Amphora	Red, sandy fabric, numerous very small black inclusions and mica	Dressel 2-4	PEACOCK & WILLIAMS 1986, Class 10 **Myos Hormos:** WHITCOMB, JOHNSON 1979, Pl. 24:h, 25:o, 28:m, 30:l WHITCOMB, JOHNSON1982, Pl. 15:b & d, 27:a & h TOMBE R2012: 203	Campania ("black-sand fabric")	Late 1st c. BC - 1st c. AD
17-D	Rim sherd Amphora	Brownish fabric, muddy texture, a few white and red mineral inclusions, a few vacuoles left by vegetal temper	Biconical amphora (AE3)	EMPEREUR, PICON 1989: 234-235, fig. 11 **Myos Hormos:** WHITCOMB, JOHNSON 1979, Pl. 21:z, 22:e, 25:p, 28:k, 29:m, 31:f, 32: m WHITCOMB, JOHNSON 1982, Pl. 14:f-g TOMBER 2012: 203	Egypt (Nile Valley)	1st c. BC - 2nd c. AD
17-E	Rim sherd Bowl/cup?	Light brown to buff fabric, whitish to greenish surface (degraded alkaline greenglaze)	Green Glazed Ware		Mesopotamian area	Hellenistic to Roman

Fig.	Description	Fabric	Type	Parallels	Provenience	Date
17-F	Rim sherd Bowl/cup	Buff fabric, fine and dense texture, traces of red glaze on both faces	Eastern Sigillata A	HAYES 1985: 34; Pl. VI:11-14 (Forms 45-46) **Myos Hormos:** WHITCOMB, JOHNSON 1982, Pl. 29:e,30:m	Asia Minor	First half 1st c. AD
17-G	Flat ring base sherd,thick walledplate	Buff fabric, fine and dense texture, red glaze on both faces	Eastern Sigillata A	HAYES 1985: 14-16, Pl. I:7-12 (Forms 3-4)	Asia Minor	1st c. BC - early 1st c. AD
19	Rim sherds Bowls	Light red fabric, extremely fine, red paint on the interior	Nabataean Fine Painted Ware	SCHMID1996: 202-205;2000: figs. 78-88 (phases 2a-2b) **Myos Hormos:** WHITCOMB, JOHNSON 1982, Pl.21:d	Petra	Mid-1st c. BC – early 1st c. AD
20-A	Rim sherd Cooking-pot	Reddish fabric, dark slip, small sandy inclusions and some big dark mineral inclusions	Nabataean Common Ware	GERBER 1997: 408-409, fig. 2 THOLBECQ, DURAND 2013: close to fig. 10, H, p. 214	Petra	1st c. BC
20-B	Rim sherd Cooking-pot	Reddish fabric, grey core, a few small black and white mineral inclusions	Nabataean Common Ware	THOLBECQ, DURAND2013: close to Fig. 10, J-L, p.214	Petra	1st c. BC
20-C	Rim sherd Cooking-pot	Light red fabric, greyish-brown slip on the exterior, small sandy inclusions	Nabataean Common Ware	DURAND 2011: 349, close to fig. 13bis (91021_P02)	Petra	Late 1st c. BC - 1st c. AD

Fig.	Description	Fabric	Type	Parallels	Provenience	Date
20-D	Rim sherd Jug	Grey fabric, brownish surface (eroded), small — sandyinclusions	Nabataean Common Ware	SCHMID2000: fig. 296(type G11a 49)	Petra	Mid-1st c.BC – mid 1st c.AD
20-E	Rim sherd Jug	Brownish fabric, rather fine, light-brown to whitish slip (eroded), a few small white and dark mineral inclusions	Nabataean Common Ware		Petra	1st c.BC - 1st c.AD
20-F	Rim sherd Bowl	Light red fabric, red slip on the exterior of the rim, probable unpainted part of a paintedbowl	Nabataean Painted Fine Ware	SCHMID1996: 202-205;2000: figs. 78-88 (phases 2a-2b)	Petra	Mid-1st c. BC – early 1st c. AD
20-G	Rim sherd Bowl	Red fabric, dark grey slip on the exterior of the rim, a few white mineral inclusions (calcite)	Nabataean Fine Ware	SCHMID2000: fig. 20(group 2)	Petra	1st c. BC
20-H	Rim sherd Bowl	Light red fabric, grey core, dark grey slip on the exterior of the rim	Nabataean Fine Ware	SCHMID2000: fig. 46(group 6)	Petra	Late 1st c. BC - early 1st c.AD
20-I	Rim sherd Bowl	Light red fabric, fine texture, white slip on the exterior of the rim	Nabataean Fine Ware	SCHMID2000: close to fig. 19 or 40 (group2 or 5)	Petra	1st c. BC

Fig.	Description	Fabric	Type	Parallels	Provenience	Date
20-J	Rim sherd Bowl	Red fabric, dark grey slip on the exterior	Nabataean (Painted?) FineWare	SCHMID2000: fig. 39(group 4)	Petra	1st c. BC
20-K	Rim sherd Bowl	Light red fabric, red slip inside	Nabataean Fine Ware	SCHMID2000: close to fig. 122 (type E6a 23)	Petra	1st c. BC
20-L	Rim sherd Small pot?	Light red fabric, a few very small dark mineral inclusions	Nabataean Fine Ware	SCHMID2000: fig. 290(type G9a 36)	Petra	Mid to late 1st c. BC
20-M	Rim sherd Small pot	Light red fabric, rouletted decoration on the exterior	Nabataean Fine Ware	SCHMID 2000: fig. 215(type F3a 249)	Petra	Mid to late 1st c. BC
20-N	Ring base sherd, bowl	Light red fabric, light grey core, a few very small black and white mineralinclusions	Nabataean Fine Ware		Petra	1st c.BC - 1st c.AD
20-O	High ring base sherd, juglet?	Light reddish fabric, reddish slip, small sandy inclusions	Nabataean Fine Ware		Petra	1st c.BC - 1st c.AD
20-P	Ring base sherd, bowl	Light red fabric, red slip inside and outside, a few small white and sandy inclusions	Nabataean Fine Ware		Petra	1st c.BC - 1st c.AD
20-Q	Flat base sherd, bowl	Greenish fabric, a few small white and sandy inclusions	Nabataean Fine Ware?		Aqaba?	1st c.BC - 1st c.AD

The Wādī al-Ḥamḍ Route

The survey continued from al-Qusayr eastward, along the Wādī al-Ḥamḍ, and on both banks of the wadi, occasionally venturing into the wadi bed, especially where water sources were located. Altogether, the length of the surveyed area (W-E) totalled more than ca. 90 km, from the sea, at the outlet of the Wādī al-Ḥamḍ, eastward, always following the main wadi, which there corresponds to the southern GIS least-cost path (plate 6.3a). The area of the confluence of the Wādī al-Ḥamḍ with the Wādī al-Jizl and then the eastward continuation of the GIS-postulated least cost path was not reached, the task of investigations there being reserved for the 2017 fieldwork season. Similarly, the area between al-Quasyr and the sea coast – ca 6-7 km in straight line – was only superficially covered, mainly because the last 3-4 km to the sea is very difficult to survey. The wadi forms a wide delta there, with the ground periodically inundated thus featuring a very soft surface characterized by great salinity and marshy vegetation (plate 6.8b). Despite these difficulties, this area will require more investigation in thefuture.

Already some past surveys of NW Hijaz indicated that the Wādī al-Ḥamḍ was the best candidate as the principal communication route linking the eastern side of Hijaz, across the mountains, to the Red Sea coast (Ingraham *et al.* 1981: 63; Kisnawi *et al.*

1983: 80). Concerning the part of the wadi under the survey in 2016, Burton has observed in the later 19th century that there was no difficulty traveling up the wadi, the water was plentiful there, and caravans reached al-Wajh coming from Wādī al- Ḥamḍ (Burton 1879: 107, 221). The UWSP has confirmed that water is available in notable quantities, thanks to the perennial water sources. Starting from al-Qusayr till the end of the survey route (ca. 90 km eastward), there are at least eight wells (*B'ir*) situated in the wadi or at the outlets of side wadis, which are located between 10 to 20 km from each other (plate 6.3b). Some are old and disused, others modified to utilize modern lifting devices. In addition to seasonal water sources (plate 6.8c), subsurface water is easily available, especially in the sabkhah flats, and water holes can be dug there and directly in the wadi bed producing water muddy but suitable for animals.

The western third of the environs of the wadi, as covered by the UWSP survey in 2016, consists of a flat, stony, coastal plain, the central part being the premontane zone turns into the hill-country, especially on the southern side of the wadi, while the last third features the wadi cutting through the western range of the Hijazi mountains which generally run NW-SE. On the average, the wadi is no wider than 0.1-0.3 km, especially in the western part, with well-defined sandy banks. But further east, especially toward the attained end of the survey, the wadi often widens into a vast expanse of grassland, more than ca 2-3 km wide. In many locations the wadi features extensive clusters of grass

and shrubs and occasional trees, thus the provision of animal fodder is possible (plate 6.9a).

Generally, the passage along the wadi seems easier on the northern bank which, with the exception of one area around B'ir Akra, is only slightly higher than the wadi bed and consists of very low plateaus or undulating hills. The southern bank is often much higher, forming cliffs at places, and the high plateaus are often disarticulated

or crossed by transversal wadis and ravines, making the area difficult to traverse. Some sites there - mostly graves - are located on the top of the high plateaus, overlooking the wadi. The bed of the Wādī al-Ḥamḍ - generally a silty, alluvial deposit, occasionally turning into major sand deposits - can be easily used for animal and human movement in dry seasons.

The Recorded Sites

The site distribution was uneven, with a higher concentration of sites on the northern wadi bank in the western-central part of the surveyed area. Altogether, 39 archaeological sites (including al-Qusayr) were recorded on the banks and high ground bordering the wadi bed (Table 2 and see plate 6.3a). Generally, the recorded sites well reflect the repertoire of sites already recorded in the NW Province of the KSA. These include: stone circles and enclosures of different forms, which may indicate burials or habitation installations; different types of cairns and tumuli, being most often burials; complex enclosures or structures, isolated or in clusters, usually representing campsites of pastoral nomads. Rows of standing stones (small "pillars") were also noted on one site with complex enclosures. However, no "kites" or cairns with "tails," recorded in the Northern and Western Provinces (see Ingraham *at al.*

1981: 69-71; Gilmore *at al.* 1982: 15-16 for discussion and typology of sites) were found by the UWSP survey.

Table 2. Catalog of Sites with Coordinates

UWSP 2016 Site	Easting (X)	Northing (Y)	Elevation (m a.s.l)	Site Description
001 al-Qusayr	36,7548586	25,95411	22,23596191	monumental structure (“temple”)
001.1 alQusayr	36,7546302	25,9541167	12,6229248	foundation course and pavement (?) of a structure
001.2 al-Qusayr	36,7543986	25,953881	19,11181641	foundation course/cellar (?) of a structure
001.3 al-Qusayr	36,7543213	25,9537949	29,44592285	cellar/well (?)
001.4 al-Qusayr	36,7537066	25,9529635	19,35217285	large deposit of animal bones
001.5 al-Qusayr	36,7532575	25,95252	15,98754883	settlement site and ceramic scatters
001.6 al-Qusayr	36,7547091	25,9476766	9,979248	ruined structures
002	36,8352159	25,8854461	25,11999512	two burial enclosures
003	36,8179773	25,9000286	45,78820801	large burial ground
004	36,8151322	25,9328928	26,3215332	small burial enclosure
005	36,7944743	25,946099	35,93469238	two burial enclosures
006	36,8460584	25,877936	50,59472656	series of enclosures/possible campsite
007	36,8492119	25,8777367	47,23010254	campsite or small settlement; tumulus
008	36,8601033	25,8773623	52,27697754	cluster of rooms or pens
009	36,8795455	25,8830052	50,35437012	two stone enclosures
010	36,8846143	25,8882166	44,58654785	clusters of enclosures/campsite
011	36,8862393	25,8887505	42,42358398	large campsite or settlement consisting of clusters of enclosures
012	36,9042958	25,8961488	59,72717285	small oval cairn or tumulus
013	36,9373492	25,8927793	50,11413574	two stone enclosures/ burials (?)
014	36,941309	25,892127	46,02856445	two burial enclosures or tumuli
015	36,9948216	25,9062582	62,61108398	small Islamic burial ground
016	36,9887273	25,9090949	74,38708496	burial enclosures/ tumuli
016.1	36,9877265	25,9093217	83,27929688	stone enclosures on hilltop
016.2	36,987625	25,9089328	78,47277832	large rectangular stone enclosure or tumulus
016.3	36,9875056	25,9084935	83,27929688	boulder with with small markings (wusum?)
017	36,9570384	25,9119767	42,42358398	single Islamic burial enclosure
018	36,9032896	25,9108055	45,54785156	large oval cairn or ruined tumulus
019	36,9651402	25,9593588	88,32617188	large oval cairn or ruined tumulus
020	36,9929981	25,9198048	79,91467285	large oval ruined tumulus
021	37,0042069	25,9012823	90,00842285	oval cairn or tumulus
022	37,0241657	25,9111996	121,2510986	two large cairns or tumuli on the hilltop

UWSP 2016 Site	Easting (X)	Northing (Y)	Elevation (m a.s.l)	Site Description
023	37,1272933	25,8426017	70,78222656	large squarish stone enclosure/tumulus
024	37,1508158	25,8406515	92,41186523	large campsite including enclosures and rows of standing stones
025	37,162663	25,8388534	100,1022949	four stone burial enclosures
026	37,1639216	25,8382586	107,7927246	oval burial enclosure (Islamic?)
027	37,1662295	25,8372241	117,8864746	several ruined enclosures (campsite or burial ground)
028	37,186002	25,8815037	171,9602051	two ruined stone structures with walls several courses high (towers or dwellings?)
029	37,1005732	25,9648	174,1231689	large round stone tower/ tumulus, several courses high, several smaller stone structures
030	37,1029318	25,9665696	182,534668	ruined rectangular stone structure
031	37,2211512	25,8085231	94,57470703	cavity in large burial enclosed by stones (probably a burial)
032	37,3412112	25,8440969	140,2370605	oval burial enclosure
033	37,1394465	25,796495	95,77636719	rock art site - several animal/human figures and tribal marks
034	37,1397607	25,7962175	79,67443848	large burial ground and a campsite (?)
035	37,1404215	25,7831828	107,5523682	large burial ground with burial enclosures and oval tumuli
036	37,1361803	25,7837547	163,5488281	two large stone structures, several courses high - hilltop stronghold or refuge
037	37,0875401	25,8271679	99,62158203	large stone tumulus and a small cairn
038	36,9463416	25,8666658	98,90063477	large stone ruined hilltop structure
039	36,9452373	25,8653206	89,76806641	two large stone ruined structures on top of a high outcrop of rock
B1 Bi'r a- Qusayr North	36,7605287	25,956598	6,374389648	water source
B2 Bi'r al-Qusayr South	36,7554093	25,9489413	6,854980469	water source
B3 name un-known	36,8139416	25,9110494	20,31335449	water source
B4 Bi'r Akra	36,9899006	25,905997	48,67211914	water source
B5 Abu Zurayy-ibat	37,1087485	25,8447321	69,34033203	water source

B6	Bi'r al-Usaylah	37,2064006	25,8068696	89,04711914	water source
B7	Bi'r Suwayqah	37,2808496	25,8525233	117,8864746	water source
B8	name unknown	37,4000152	25,779239	87,12451172	water source
Site A		37,0126413	26,1561719	167,8746338	Thamudic (?) inscription
Site B		36,9963314	26,1764378	195,2719727	three burial tumuli
Site C		36,987726	26,1758873	188,5429688	two cairns
Site D		36,9817307	26,1802556	180,3717041	possible ancient welll
Site E		36,982043	26,1798877	182,7750244	several tribal marks on large boulders
Site F		36,9711502	26,172655	176,0457764	several tribal marks
Site G		36,9691872	26,1729229	180,1313477	rock art site - several animal /human figures and wusum tribal marks

All sites recorded in a WGS84 (decimal degrees) environment

Except for site S.001 (al-Qusayr), no surface ceramic material was found anywhere and the lithic material found on three sites could not be precisely dated. Therefore, while most of the sites must be related to pastoralist nomads, the dating of all sites is exceedingly difficult and some may be relatively recent in date. On the other hand, comparisons indicate that some sites along the Wādī al-Ḥamḍ may possibly be dated to the Chalcolithic/Early Bronze Age, as characterized by circular enclosures and larger cairns, or even to the Nabataean period (for comparisons, see Rosen 2007). Only one site (S.039) yielded iconographic material – animal and human images as well as *wusum* tribal marks – and no epigraphic finds were noted during the survey. This may relate to the fact that the suitable outcrops of rock along the wadi in the coastal plains were rare. Once the wadi enters the mountainous range, the prevailing stone is either a porous, chipped-off, almost black volcanic rock or a very disarticulated dark limestone, neither one being suitable for carving inscriptions or images upon.

Generally, the sites can be divided into six roughly defined categories which indicate the general appearance rather than the function. The majority of sites – stone piles of various forms and dimensions, made of cobbles and small boulders – may generically be labelled as "cairns" although they actually include a variety of construction types (for discussion, see Parr *et al.* 1978: 40; Abu-Azizeh *et al.* 2014: 161). Burial cairns are often termed as tumuli (e.g., Gilmore *et al.* 1982: 15), especially if featuring more intentionally regular, sometimes conical, form, but not every cairn was intended as aburial.

I. Isolated Simple Circles/ Enclosures and SmallCairns

These include Sites 002, 004, 005, 009, 013, 017, 025, 026, 031, 032, most often

isolated, or in small clusters no more than 3-4 in each (e.g., S.025). These are usually circles or ovals made of stones with empty interior (plate 6.9b). Generally, most must be considered as burials, and these with headstones (Sites 002, 017) indicate an Islamic burial. The majority of sites in this category is located in the western part of the surveyed area and is probably relatively recent in date. The exception is Site 013 - two stone circles/ovals, side by side - which yielded some lithics, one of which may be a small core dated to Lower Palaeolithic (based on the steep angle of the striking platform), but equally, of the Chalcolithic/Early Bronze date. Site 031 is an alcove in the very large boulder, the front of which is sealed by a simple enclosure, apparently a burial.

II. Larger StoneTumuli/Cairns

To this category belong Sites: 012, 014, 016, 0.16.2, 018, 019, 020, 021, 022, 023 and 037. These are larger and more regular, oval or roundish piles of stones, of types known from the other parts of the KSA (e.g., al-Saud *et al*. 2005: 41, Pls. 7.4, 7.6, 7.8a). Despite all being ruined, some still feature a relatively conical shape, i.e., in most of the cases, the interior is filled with stones, in contrast with Category I. Generally, these tumuli/cairns mark burials but alternatively, if in less regular *rujm* form, they might also be route markers or even collapsed buildings. These tumuli/cairns are often isolated or in clusters of up to 3-4 but Site 016 features several tumuli. Some are very large structures - e.g., Site 020 (ca 10 x 7 m, ca. 1 m high). Site 016.2 is a large, rectangular (ca 7 x 4.5 m) structure which might be a tumulus but equally a ruined building or enclosure. A large, almost round enclosure S.023 (diam. ca. 7 m), has its interior empty, yet its walls sloping inward produce an effect of a low tumulus or cairn. S.037 is a large almost round (diam. ca. 6 m) ruined tumulus which has a small oval stone enclosure on the top (plate 6.9c), and is associated with a pile of stones (ca. 3 m long) located nearby.

III. Burial Grounds

This category – Sites 003, 015, 034, 035 – points to quantity rather than any special type of installations, and features at least several burials of tumulus/cairn type, often associated with enclosures. Site 003, located on a plateau overlooking the wadi, is particularly large (ca 100 m x 60/70 m), consisting of many stone oval cairns and small enclosures, often in "pairs." Ca. 100 m SE of the first large cluster there is another one which, however, features mostly rectangular enclosures which might, perhaps be remains of a nomadic campsite. Site 015 is a small cemetery with several Islamic graves featuring headstones. Site 034 is also a large burial ground (ca 150 x 80

m) and it again seems to consist of burial cairns/enclosures in the eastern side of the site, while the western half is occupied by predominantly rectangular enclosures which may represent a campsite. Less than 1 km away, there are sites 033 (rock art) and 035,

the latter being a burial ground with at least 10 graves, mostly small oval tumuli but also some enclosures.

IV. Complex StoneEnclosures

These sites – 006, 007, 008, 010, 011, 024, and 027 – are clusters, often very complex, of stone enclosures of varying size and shape, subdivided or isolated and often connected to each other, all of which should represent desert habitation of nomadic pastoralists. Examples of such sites in the southern Levant and in the Arabian Peninsula are numerous (e.g., Tarawneh and Abudanah 2013: 241-244). Site 006 has a long (ca. 15 m) low stone wall, perpendicular to the edge of the wadi bank, which is abutted by several smaller enclosures. Site 007 has a large conical cairn/ tumulus (ca. 6 m in diameter) with the empty interior, associated with an area (ca. 20 x 9 m) featuring series of irregular enclosures or compartments the walls of which are made of mudbrick interspersed with layers of stones. Additionally, several concentric oval lines, made of small stones, belong to this site. Site 008 – a campsite or cluster of animal pens – is an irregular rectangle (ca. 15 x 9 m) of tightly spaced enclosures (some with clear openings) made of mudbricks with stones on the top. Site 010 (ca.

45 x 30 m) has also several oval or rounded enclosures, some with openings. Nearby is S.011 – a very extensive site consisting of several clusters of enclosures, mostly oval and semicircular but also rectangular. One long, rectangular space formed by well-built, low wall expands into a large oval space also surrounded by the wall (plate 6.9d), similarly to the enigmatic "keyhole" installations known from the northern and central regions of the Kingdom (Gilmore *et al.* 1982: 16, Pls. 8A, 14A). Lithic material found at this site includes Chalcolithic or Early Bronze core and a possible Levallois point (Middle/Late Palaeolithic?). Site 024 is a large campsite including a large, oval stone circle (ca 8 m in diameter) with an opening and a small compartment inside (fireplace?) and a small platform beside. One long row (ca 1.5 m long) and two shorter parallel rows of standing stones were also noted at the site (plate 6.9e). Similar rows, in large quantities, and perhaps of religious significance, were found elsewhere, e.g., in the Northern Province, datable to the Chalcolithic period (Parr *et al.* 1978: 40-41, Pl. 23). There is one large stone circle (ca. 6 m in diameter) andseveral smaller oval enclosures clustered on Site 027. Lithic material from that site – one possible Levallois point of the Middle Palaeolithic date and some other artifacts which may be of the Early Bronze Age (or earlier) date (plate 6.9f), indicate that Site 027 was probably a campsite.

V. Rock artsites

Only one major site (S.033) of this kind has been located on the southern bank of the Wādī al-Ḥamḍ (plate 6.10a). There are several panels there on three large boulders which display groups of engravings of

humans, animals and tribal marks (*wusum*). These include a figure of small camel with a big hump and long rear and hind legs engraved in the abstract style, with a blank in the middle. A figure of horse with a rider holding reins is located under the image of the camel. In addition, small tribal marks were found scattered over the valley, sometimes associated with animal figures. The forms of camels, horses and tribal markings are a common phenomenon which occurs across the Kingdom of Saudi Arabia. Compared to other petroglyphs, the engravings at Site 033 date back to the late second millennium B.C., and were executed in the same period due to the homogeneity of patina. The petroglyphs further confirm that the valley of the Wādī al-Ḥamḍ was once frequented and populated by more than just a single tribe, due to abundant water sources and vegetation in the area (N. A. Al-Qanoor, pers. comm. 2016).

VI. Isolated or ClusteredBuildings

This category – Sites 016.1, 028, 029, 030, 036, 038 and 039– includes rounded or quadrangular structures of a significant height due to relatively well defined and preserved stone masonry. The coursing is always irregular and stone material usually includes broken, relatively flattish irregular slabs rather than oblong cobbles found in structures of other categories. These buildings, which are either isolated or occur in complexes, could have served as dwellings, storage units, towers or defensive structures (walls). Possibly, some might have served as *nawamis* – tower- like burial structures (Abu Azizeh *et al.* 2014: 161). Unfortunately, none of the ruined buildings surveyed by the UWSP yielded any datable material. Site 028 has two stone structures located ca. 20 m away from each other on the route from the Wādī al-Ḥamḍ to the al-Manjūr – al-Wajh road. The northern one is a large rounded (ca 8-9 m in diameter) structure, ca. 10 courses high (1.3 m). While the main external wall is made of larger irregular blocks, the interior is currently filled with small broken stones. The southern one is a rectangle (6-7 x 2.5 m), four courses high, made of large stones and with the empty interior. The northern one could have been a solid tower; both structures may be relatively recent in date. There are several stone structures at

Site 029 (plate 6.10b), the largest being a round "tower" (diameter ca. 8-9 m; ca. 10 courses high = 1.5 m). It appears not solid; a possible opening on the eastern side is currently closed by a large flat slab. There are two smaller, round or square, structures nearby, all with larger stones in the external walls. Site S.036 was unique as it was situated on a high hilltop overlooking the Wādī al-Ḥamḍ on the southern side, with two large buildings there (plate 6.10c). One was roughly quadrangular (ca. 7 x 6 m) and subdivided into three rooms, the other was trapezoidal (ca. 10 x 7 m). Dry masonry walls featured several courses of stones (up to 9-10 preserved) and a considerable width (up to 1.5 m). The construction and location indicated that these structures might have

been a hilltop stronghold, small settlement or even a cultic site. AlsoSites

S.038 and S.039 were located on two large, high outcrops of rock rising from the wadi bed where the Wādī al-Ḥamḍ was particularly wide, and offering excellent all-round visibility. Substantial remains of round and quadrangular stone structures, made of porous broken volcanic stone, were situated on flat tops of these hills, some divided into smaller compartments.

Preliminary Observations

The 2016 UWSP fieldwork season has produced significant results, among which is the confirmation of a meaningful association between the site of al-Qusayr as a probable Nabataean seaport, and the Wādī al-Ḥamḍ as a potential major caravan route, as already suggested through GIS analysis. Although this is a preliminary opinion and other options will need to be evaluated in the field, it seems reasonable to suggest that the Wādī al-Ḥamḍ, while the longest, appears as the most convenient communication route between the area of al-ʿUlā/ Madāʾin Ṣāliḥ (ancient Hegra) and the Red Sea littoral and, as such, would most probably have been utilized also in antiquity. Its terrain allows for a relatively smooth movement of larger number of humans and pack animals, and its water resources and vegetation can easily sustain such travelling groups, based on modern environmental conditions.

Undoubtedly, the site of al-Qusayr warrants much more attention in the context of the archaeology of the Kingdom of Saudi Arabia and the history of the Red Sea trade, than it is usually accorded. Whether a temple, or, as suggested here, a monumental *triclinium*, the main structure at Qusayr should be examined in connection with other components, i.e., the wells, the settlement, surface ceramics, and bone deposits, as these all constitute a sizeable Nabataean coastal town, apparently involved in long-distance trade. The presence of a large amount of both common and fine Nabataean pottery from Petra confirms the Nabataean occupation of the site, already suggested by the characteristic design and architectural decoration of the monumental building. Additionally, surface ceramics indicate that al-Qusayr is also strongly linked to the Roman Red Sea trade routes and to Myos Hormos (Quseir al-Qadim) in particular. Numerous typical Roman amphoras (Dressel 2-4 from Campania, probable Lamboglia 2 from the Adriatic area, biconical Egyptian amphora) and the fine Mediterranean products (Western and Eastern *sigillata*) suggest direct contacts with the Egyptian harbors of the Red Sea. Certainly, it is not a coincidence that the same ceramic types were found in Myos Hormos, located almost at the same latitude as al-Qusayr, on the other side of the Red Sea (plate 6.10). The excavations of Myos Hormos (Whitcomb and Johnson 1979, 1982; Peacock and Blue 2006, 2011) demonstrated its main occupation phase as being between the late

1st c. B.C. and the 3rd c. A.D., with the peak of activity during the 1st c.A.D.

The chronological frame provided by the archaeological finds from al-Qusayr, i.e., mid-1st c. B.C. –mid-1st c. A.D., perfectly fits with the time of Aelius Gallus' expedition and with the peak in Leuke Kome's trade activities. Therefore, in addition to already expressed proposition of al-Qusayr area as being Egra Kome (al-Ghabban (1993), the identification of the site as Leuke Kome should also be seriously entertained. The localization of al-Qusayr, almost at the same latitude as Myos Hormos, would well correspond to the geographical description of Leuke Kome as presented in the *Periplus Maris Erythraei*. Also, sailing conditions are particularly difficult in the northern part of the Red Sea (e.g., Strabo, *Geogr.* 16.4.23, note 3), which is a strong argument against 'Aynunah. The imaginary line connecting Myos Hormos with al-Qusayr, across the Red Sea, seems to have been the maximum latitude, beyond which the smaller sailing boats could not easily navigate (De Romanis 1996: 23-28; Cuvigny 2003: 29, note 164; Facey 2004).

On the other hand, neither the surface ceramics nor any other evidence from al- Qusayr suggest the occupation of the site after the 1st c. A.D., despite Leuke Kome being mentioned in the inscription of the Adulis throne, copied by Cosmas Indicopleustes in the 6th c. A.D. (Cosmas, *Christian Topography* 2.62). This inscription, known only from the Cosmas' description, is generally attributed to an anonymous 3rd/early 4th c. Axumite king, and it would imply that by then Leuke Kome was still an active settlement. Notably, according to the recent re-evaluation of the Adulis throne and its inscription, these should be dated to the early 1st c. A.D. (Fauvelle- Aymar 2009). In light of this proposition, the identification of al-Qusayr with Leuke Kome becomes more plausible.

The acceptance of this hypothesis, however, leaves open the question of the localization of Egra Kome. It may, possibly, be located somewhere in the environs of Ras Kurkumah. Incidentally, there is a modern locality called B'ir Akra ("well of *Akra*"), situated by the Wādī al-Ḥamḍ (see B4 on plate 6.3a), and ca. 30 km east of Qusayr,[1] which might, perhaps, be worth considering as Nabataean Egra, especially regarding the proximity of the sea and the striking similarity between the toponym *Akra* and *Egra*. Notably, Strabo's account does not specify the name of the place from where the Roman troops departed to Myos Hormos. Egra could have been a halt on their way to the sea, just before arriving in Leuke Kome. It is worth mentioning that a locality named *Akra* is also mentioned by J. L. Burckhardt as a station on the Hajj Route between Cairo and Mecca, just after

1 Burton's map (1855) of his journey to Mecca and Madina, shows Akra, south of Wej (modern al-Wajh) but that place appears located too far south. His map of Midian (1879) shows a locality called el-Adra which is geographically much closer to B'ir Akra visited by the UWSP in 2016.

"Kalat el Wodjeh" (al-Wajh), and described as a short halt because the water here is "of a most offensive smell" (Burckhardt 1829, Appendix no.5).

The proposition above remains highly speculative also since no ancient ceramics were found in B'ir Akra during the 2016 survey season, that could corroborate the idea of a Nabataean settlement there. Thus in the opinion of the authors, the identification of al-Qusayr with an ancient toponym still remains unresolved, although Leuke Kome remains a distinct and favored possibility. At any rate, it is now firmly established that al-Qusayr was an important Nabataean settlement, directly linked to Roman harbors on the Red Sea between the mid-1st c. B.C. and the mid-1st c. A.D. Future intensive explorations at the site – a geophysical survey of the settlement site, potentially followed by excavations - are highly warranted and should prove most fruitful.

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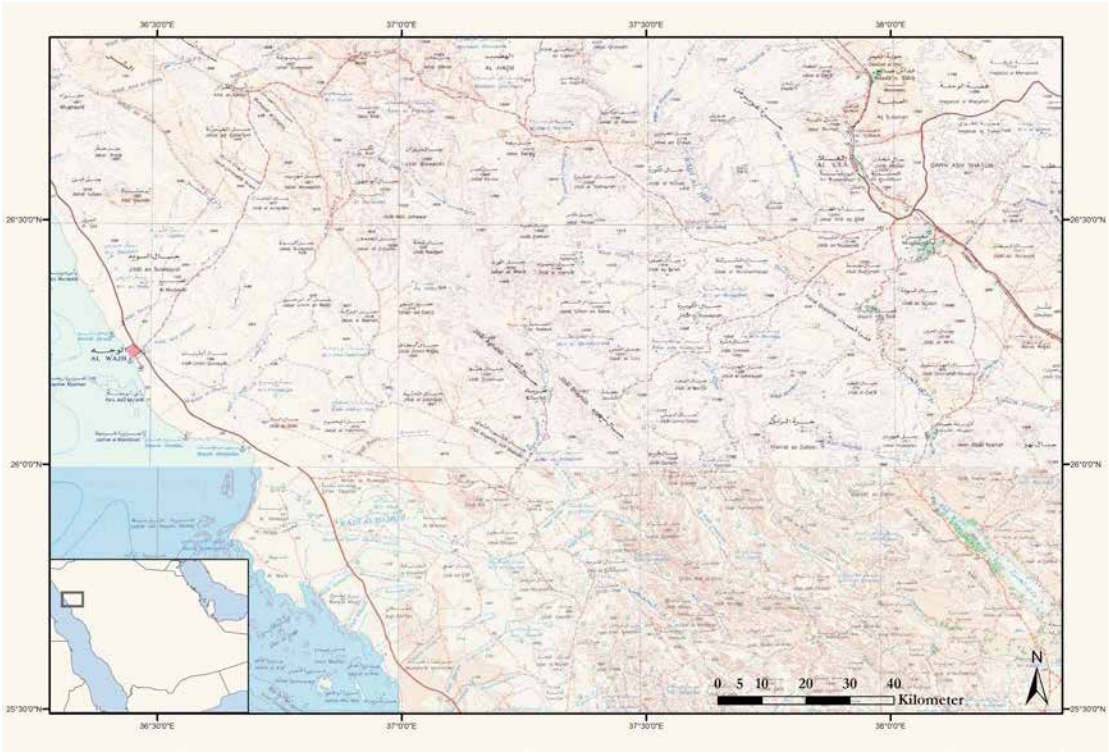
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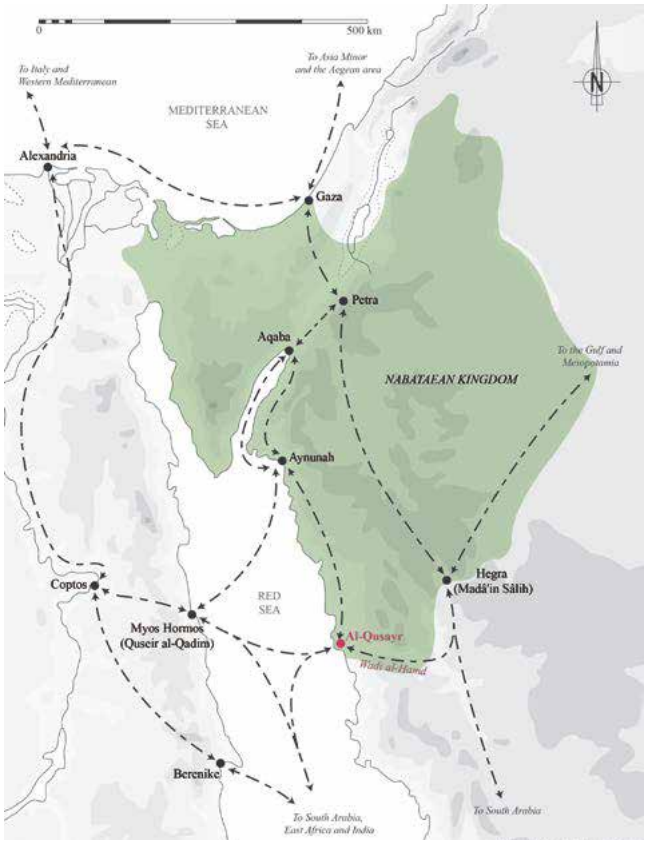
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أ. خريطة منطقة مشروع مسح الوجه–العلا.

a. Map of the al-Wajh – al-ʿUlā Survey Project area.



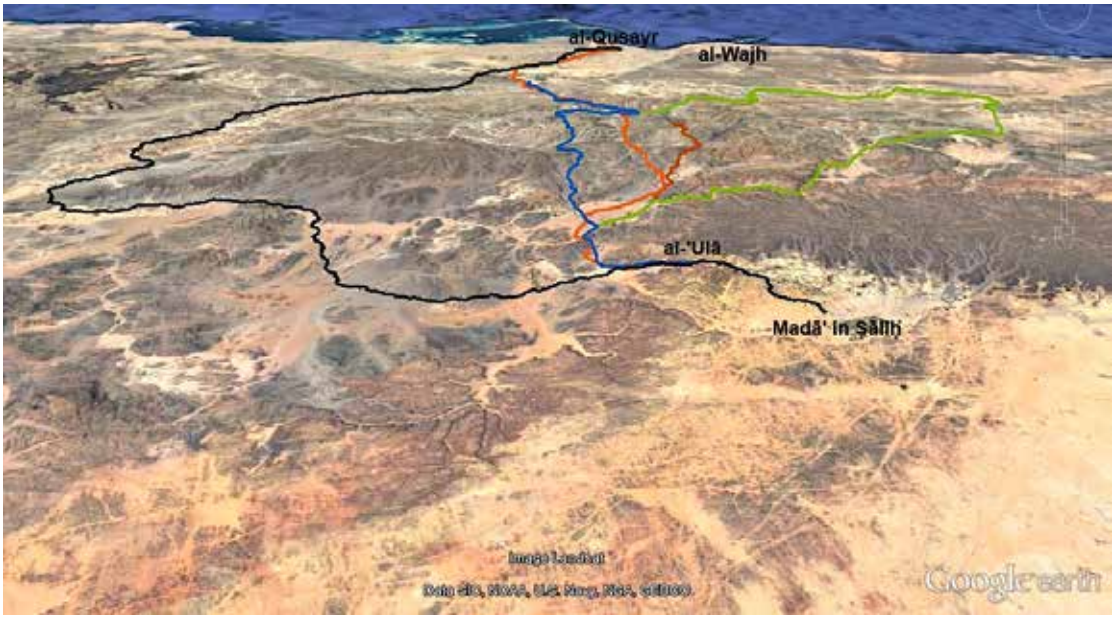
ب. المراكز التجارية القديمة ودروب التجارة بمنطقةالبحر الأحمر.

b. Ancient commercial centers and the trade routes in the Red Sea area (by C. Durand).



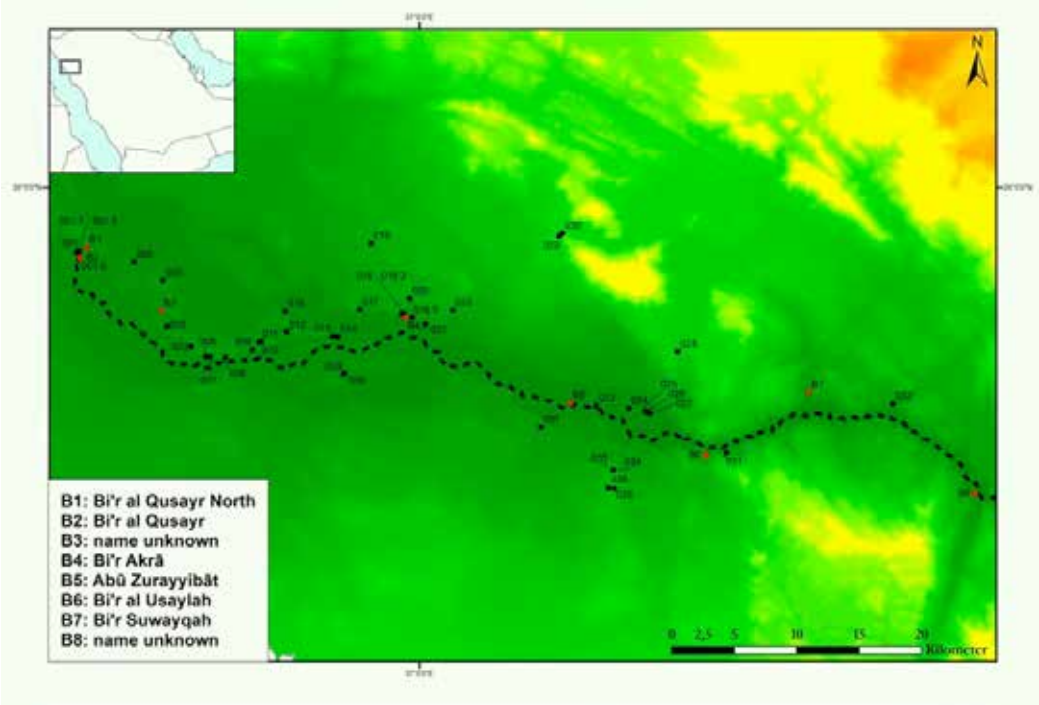
أ. مسار قليل الكلفة: الدرب الرئيس برتقالي اللون متقطع، والدرب الجنوبي أسود اللون متقطع، وكذا الدروب التي مسحها فريق مشروع مسح العلا–الوجه عام ٢٠١٣م ١ أزرق، ٢ أحمر، ٣أخضر.

a. The least-cost paths: Central Route (minimum time and energy expenditure; orange broken line) and Southern Route (minimum energy expenditure only; black broken line). Also shown routes explored by the UWSP in 2013: Routes 1 (blue), 2 (red) and 3 (green). By J. Schiettecatte and W. Kennedy.



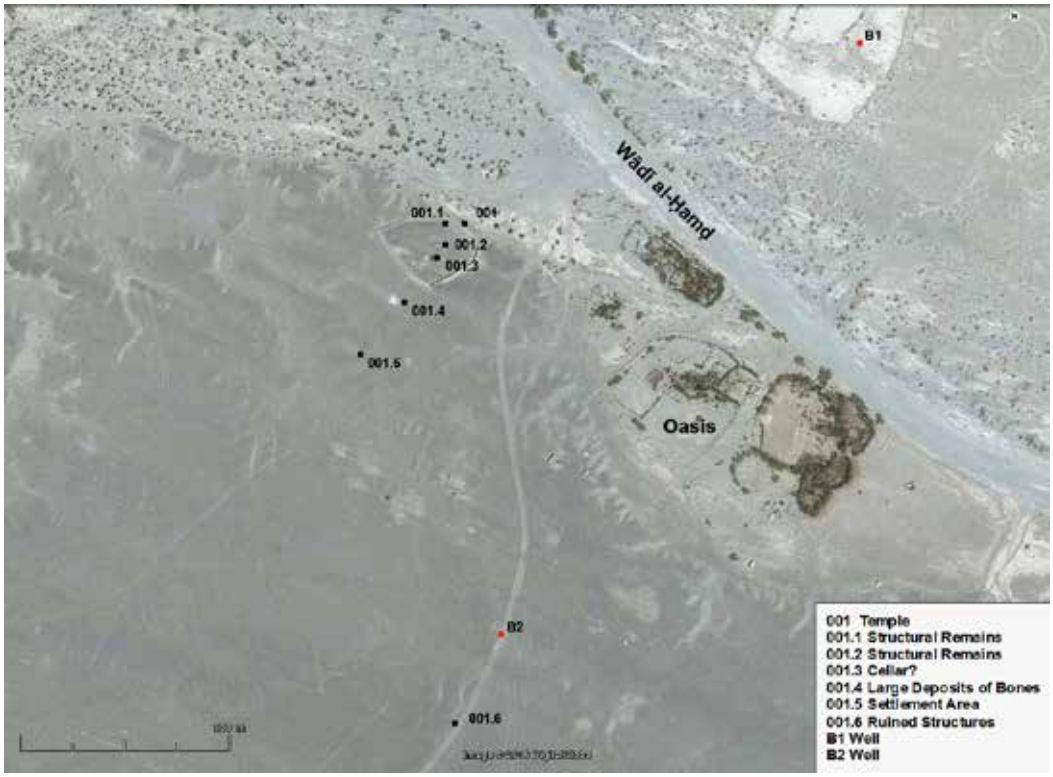
ب. المسارات قليلة الكلفة: الدرب الرئيس خط برتقالي متقطع، والدرب الجنوبي خط أسود متقطع، والدروب : الأزرق والأحمر والأخضر صممت ببرنامج ثلاثي الأبعاد.

b. The least-cost paths: Central Route (minimum time and energy expenditure; orange broken line) and Southern Route (minimum energy expenditure only; black broken line) as well as Routes 1 (blue), 2 (red), and 3 (green), all overlaid on the 3D digital elevation model (based on Google Earth). View from E (by W. Kennedy).



أ. تسجيل المواقع ٠٠١–٠٣٩ أثناء مشروع مسح العلا–الوجه ٢٠١٦م ويتطابق الدرب الجنوبي الأسود المتقطع بنظام تحديد المواقع مع وادي الحمض.

a. Sites 001-039 recorded during the 2016 UWSP fieldwork season. The GIS Southern Route which corresponds in this area to the Wādī al-Ḥamḍ, is marked by black broken line (by W. Kennedy).



ب. موقع القصير على خريطة قوقل إيرث.

b. The site of al-Qusayr, as based on Google Earth imagery (by W. Kennedy).



أ. عناصر معمارية من حضارة الأنباط بموقع القصير، معروضة بالمتحف الوطني بالرياض.

a. Nabataean architectural elements from al-Qusayr in the Riyadh National Museum (by W. Kennedy).



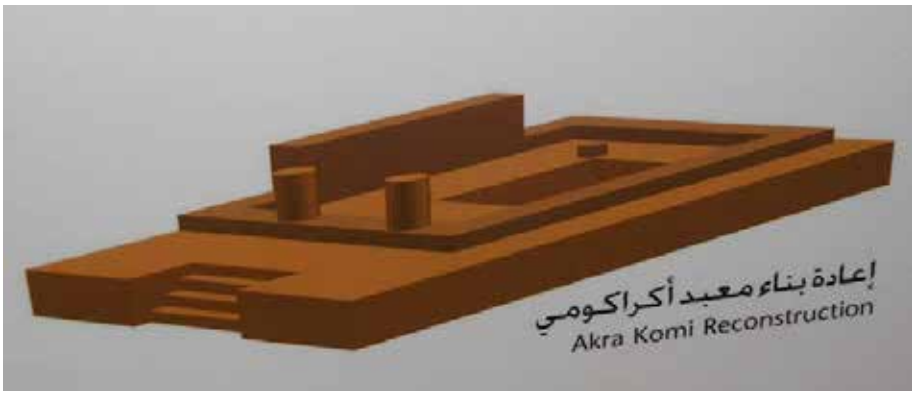
ب. منظر من الجنوب الشرقي للمبنى الضخم بموقع القصير.

b.. The monumental building at al-Qusayr. View from SE (by Z. T. Fiema).



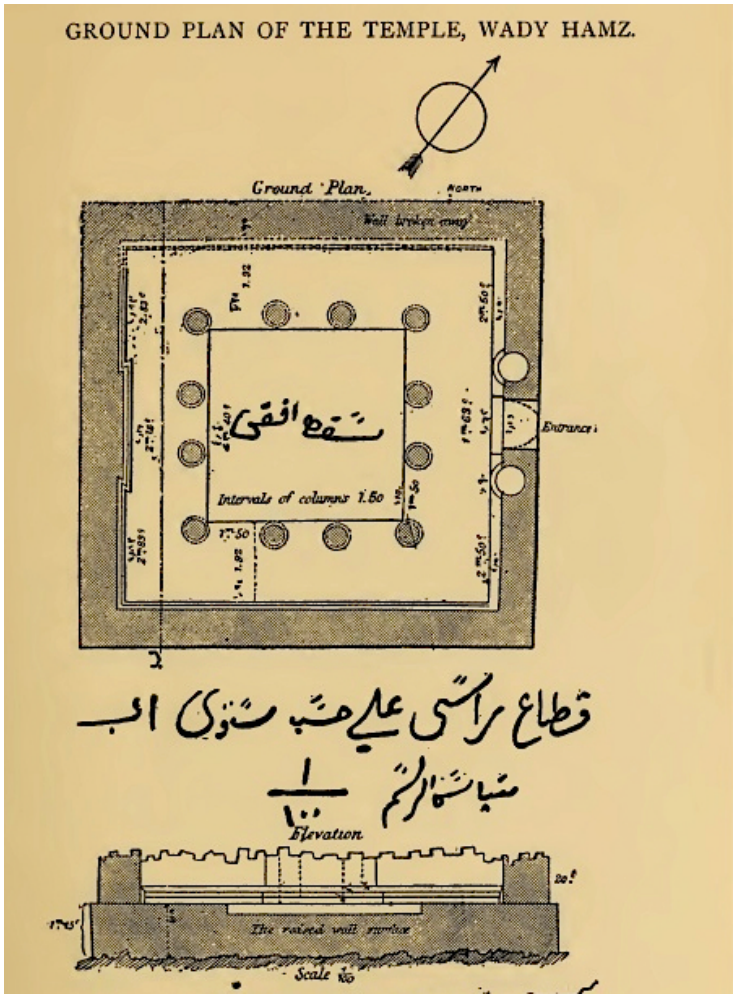
ج. الزاوية الغربية من الداخل للمبنى بالقصير عن يمينها مقاعد وخلفها الأرضية مرصوفة.

c. The monumental building at al-Qusayr. The western corner of the interior, with the benches to the right and in the background, and the pavement in the foreground (by Z. T. Fiema).

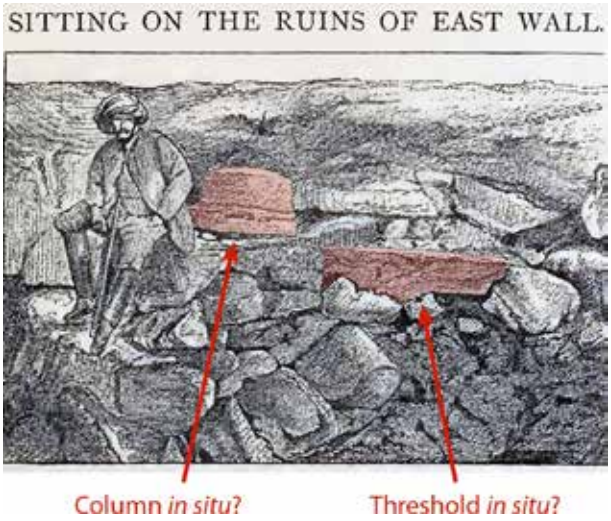


د. نموذج للمبنى ببرنامج الأوتوكاد بموقع أكرا كومي/القصير، معروض بالمتحف الوطني بالرياض.

d.. Auto CAD reconstruction of the monumental structure from "Akra Komi"/al-Qusayr, currently in the Riyadh National Museum (photo by W. Kennedy).



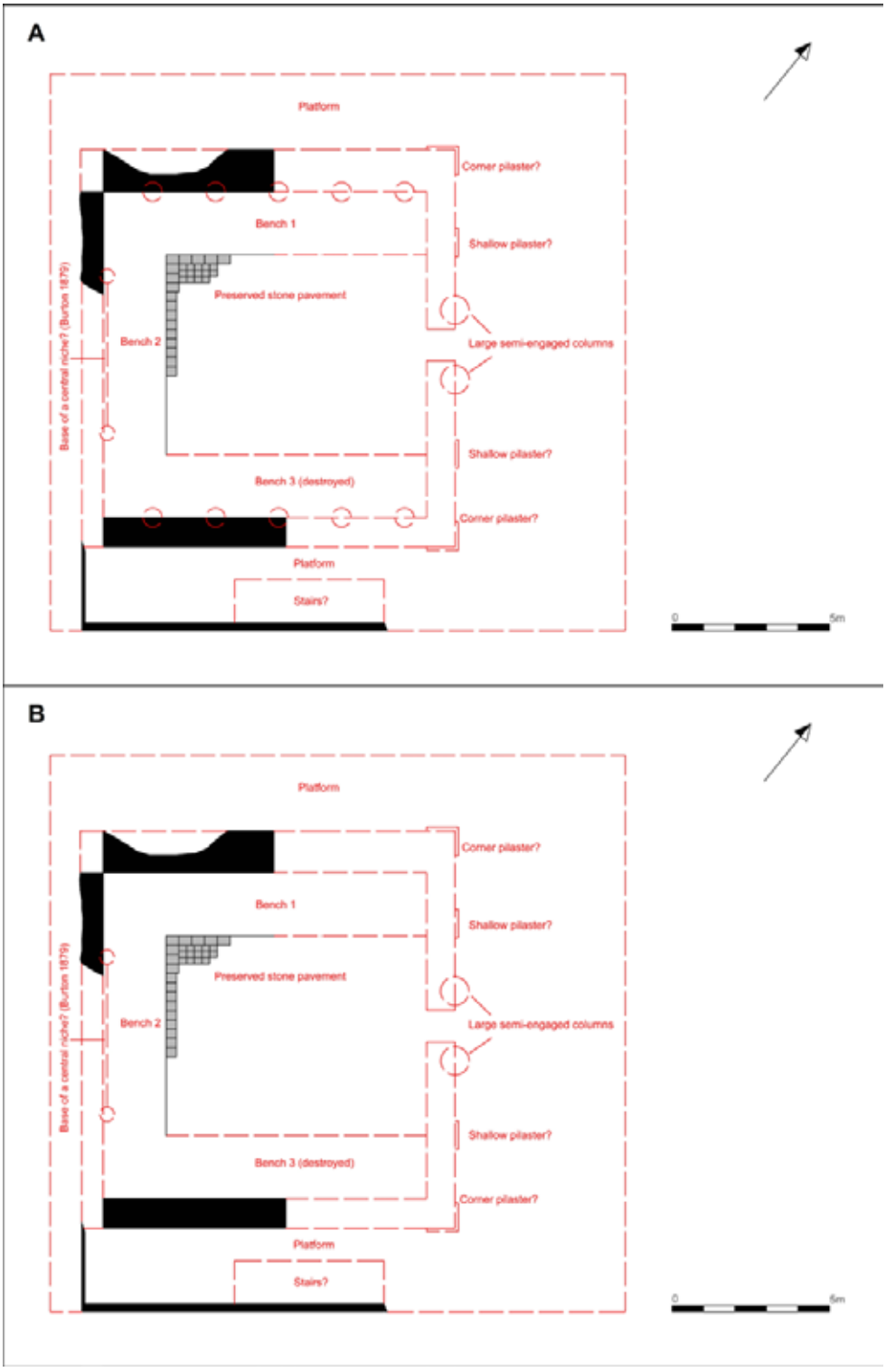
أ. مخطط بيرتون للمبنى الضخم بموقع القصير
a. Burton's plan of the monumental structure at al-Qusayr (1879: 222).



ب. شرح رسمة الجدار الشرقي للمبنى (وجهته جنوبية غربية) بموقع القصير حسب رسم بيرتون.
b. The interpretation of the drawing of the East Wall (i.e., the NE wall) of the monumental building at al-Qusayr, according to Burton (1879: 225).



ج. كتلة من تاج عمود نبطي بموقع القصير.
c. Fragment of the Nabataean blocked-out pilaster capital from al-Qusayr (by Z. T. Fiema).



رسمتان تقريبيتان لمبنى القصير، يدل الأحمر على اندثار العناصر، وضمنت الرسم وفقاً لوصف بيرتون.

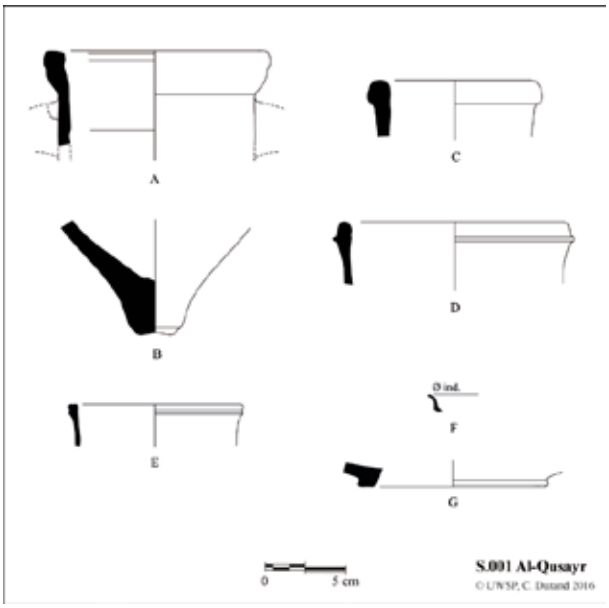
Two tentative reconstructions of the monumental building at al-Qusayr, offered by the UWSP team. Red color denotes elements no longer visible but reconstructed on the basis of Burton's description and other parallels. A. Version with ten semi-columns in the interior. B. Version without internal columns, i.e., a minimal reconstruction (by W. Kennedy, C. Durand and Z. T. Fiema).



أ. موقع ٠٠١,٣ بئر في القصير.
a. Site 001.3 - a "well" in al-Qusayr (by W. Kennedy).



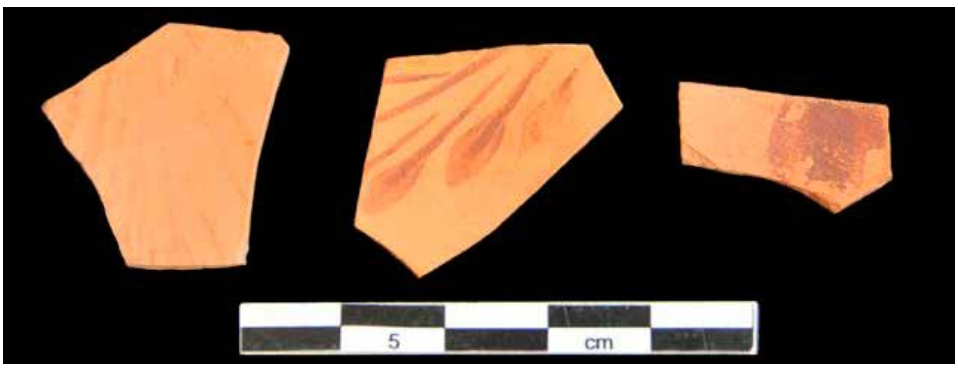
ب. موقع٠٠٤ أكبر مخلفات عظام الإبل في القصير.
b.. Site 00.4 - the large deposit of camel bones in al-Qusayr (by Z. T. Fiema).



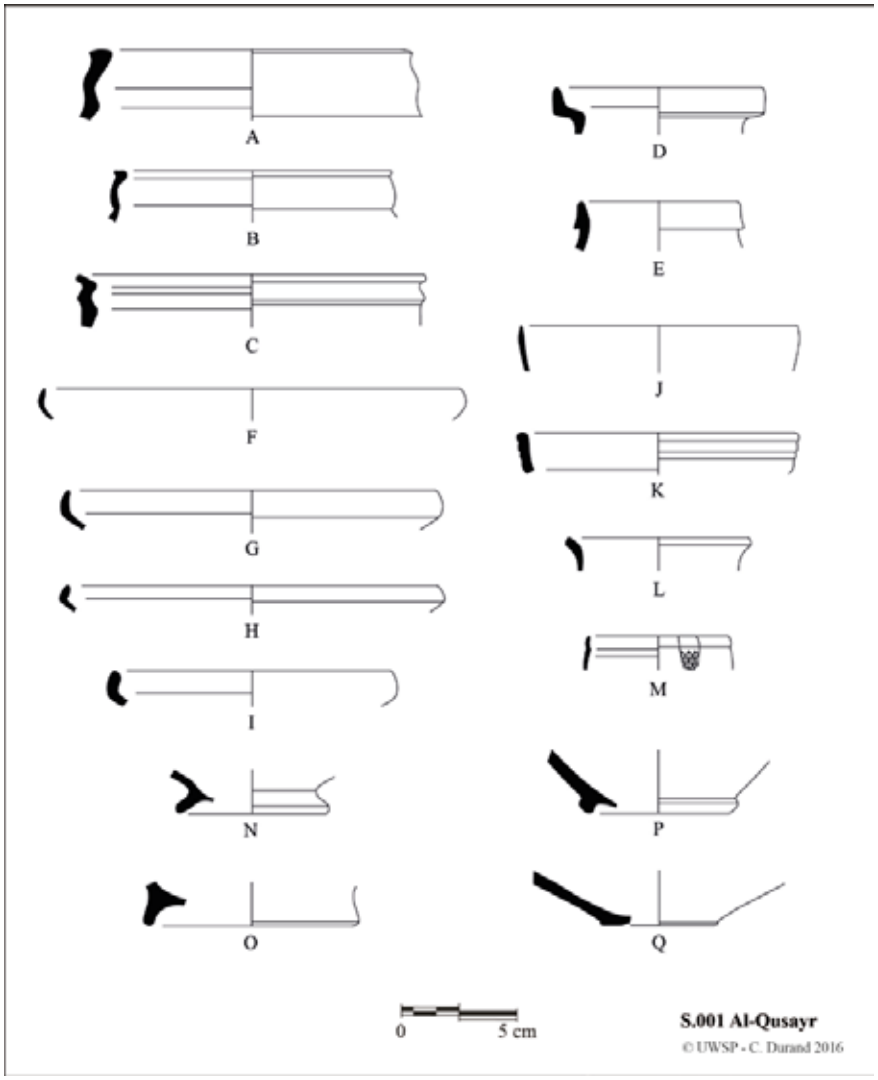
ج. صحن فخار بموقع القصير.
c. Al-Qusayr pottery plate 1 (by C. Durand).



د. شقفة من جرة أمفورة عليها طبعة تجارية من موقع القصير.
d. Al-Qusayr, amphora with titulus pictus (by Z. T. Fiema).



هـ. فخار نبطي ناعم.
e. Nabataean Fine Ware pottery



أ. صحن٢ فخار من موقع القصير.
a. Al-Qusayr pottery plate 2



ب. رواسب من مفيض وادي الحمض.
b.. The delta area of the Wādī al-Ḥamḍ (by C. Durand).



ج. مياه موسمية بوادي الحمض.
c. Seasonal water in the Wādī al-Ḥamḍ (by C. Durand).



أ. نباتات وادي الحمض.
a. Vegetation in the Wādī al-Ḥamḍ (by C. Durand).



ب. موقع ٠٠٥.
b. Site 005



ج. موقع ٠٣٧.
c. Site 037



د. موقع ٠١١ حجارة منضودة على هيئة مدخل مفتاح.
d. Site 011. The "keyhole" installation.



هـ. موقع ٠٢٤ صف من حجارة قائمة.
c. The row of standing stones (by Z. T. Fiema).



و. كسر حجارة بموقع ٠٢٧: رقم١ ربما رأس سهم صنع بطريقة الليفلوى من العصر الحجري القديم، رقم٢+٣ قطع حجارة تتراوح أعمارها من العصر الحجري القديم حتى أوائل العصر البرونزي.
d. Lithics from Site 027: 1 (probably a Palaeolithic Levallois point), 2-3 (lithics with the dating range from Palaeolithic to Early Bronze Age). By Z. T. Fiema.



أ. موقع ٠٣٣.
a. Site 033. (by Z. T. Fiema).



ب. موقع ٠٢٩.
b. Site 029



ج. منظر من الجنوب الغربي لموقع ٠٣٦ ويظهر وادي الحمض بخلفية الصورة.
c. Site 036. The Wādī al-Ḥamḍ in the far background. View from SW