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**Umm an-Nar Settlement Pottery from Dahwa 7 (DH7), Northern Al-Batinah, Oman**

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**Abstract**

This research focuses on studying the pottery sherds collected in 2018-2019 from the settlement of DH7 in northern al-Batinah region in northeastern Oman. The material mainly comes from stratified contexts from the largest building at the settlement which is building S42 that its function interpreted as a warehouse. Three main classes of pottery are recognized: The Indus Red Micaceous Ware, the Umm an-Nar Fine Red ware, and the Dahwa Sandy Buff ware. Compared to most of the other known Umm an-Nar settlements, the Black-Slipped Jars (Indus red Micaceous Ware) is clearly over represented at DH7. Intriguingly, local pottery - Dahwa Sandy Buff ware shows a typical Indus rim form. This is presumably a result of existing Indus potters in al-Batinah region who adapted to the local market. Radiocarbon dates date the beginning of the occupation of the DH7 settlement to around 2500 cal. BC.

Such a date accords well with the results of the stylistic comparisons of DH7 pottery with other sites of the Umm an-Nar period.

**Keywords:** Umm an-Nar, Pottery, Settlement, al-Batinah, Dahwa DH7, Indus Potters

## 1 | INTRODUCTION

The site of Dahwa 7 (DH7) is located ca. 24 southwest of the coastal city of Saham at the eastern foothills of Al-Hajar mountains (Fig. 1). DH7 includes a vast Umm an-Nar settlement and a small late Islamic village built at the southern edge of the site. The area of Dahwa was investigated in three seasons of survey (2013, 2015 and 2016), during which five Umm an-Nar sites came to light. They are designated as Dahwa DH1, DH5, DH6, DH7, and DH8 (Al-Jahwari et al., 2018). They cluster in an oblong area of less than 1km long around a wadi system (Fig. 2). The Umm an-Nar settlement at DH7 with its 31 buildings is considered the largest among the five Umm an-Nar settlements (Figs. 2&3). DH7 is ca. 6.4ha. extending on the northern wadi terrace of Wadi Al-Sukhn and raises ca. 10 m from the floor of the *sayl* wadi (Fig. 3). The aim of the work at DH7 is to understand the chronology, settlement organization, and the cultural correlation between the DH7 and the nearby previous excavated settlement DH1 (Al-Jahwari et al., forthcoming) as well as the whole al-Batinah region in northern Oman.

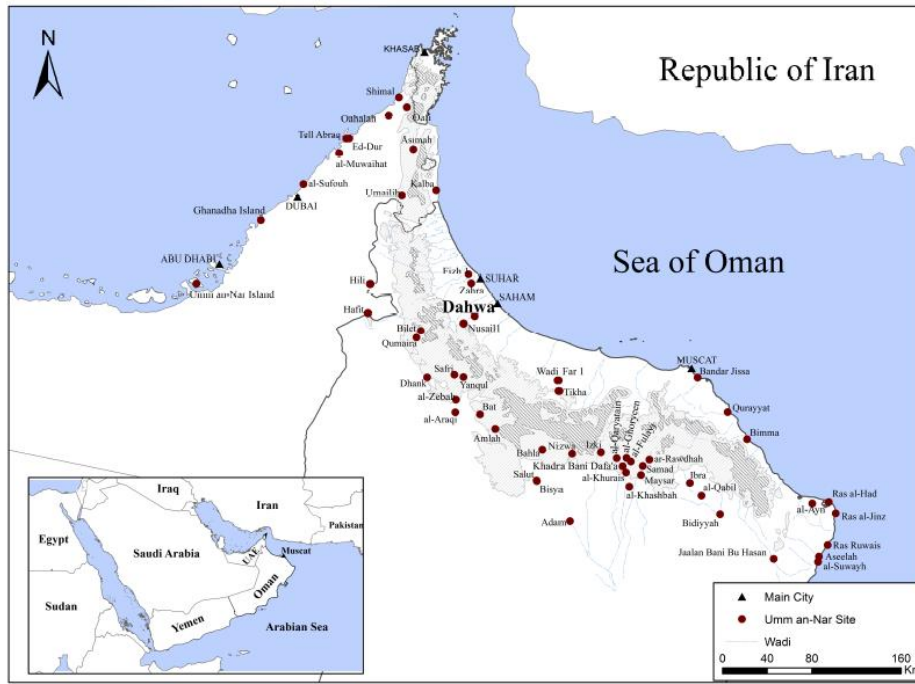
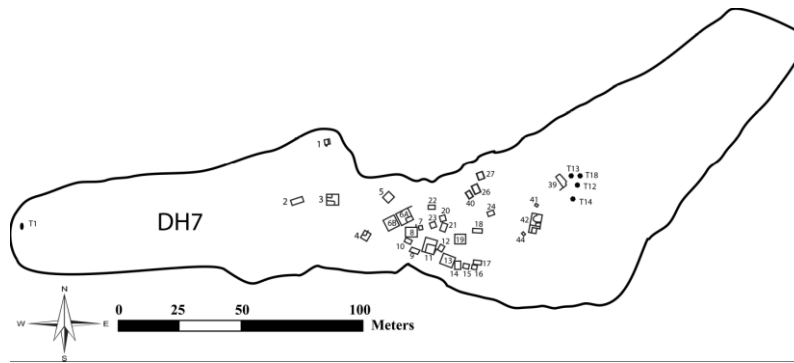


Fig. 1 Location of Dahwa and other Umm an-Nar site in SE Arabia (prepared by M. Hesein).



Fig. 2 Umm an-Nar settlements in Dahwa.



*Fig. 3 General plan of Umm an-Nar settlement at DH7 site.*

DH7 was excavated in three seasons (2018, 2019 & 2021) directed by Khaled Douglas and Nasser Al-Jahwari from the Archaeology Department at Sultan Qaboos University with the contribution of Kimberly Williams from Temple University (Douglas et al., forthcoming). Four Umm an-Nar buildings were excavated partially in 2018 (S1, S3, S19, and S42) and one from the late Islamic village (S58) (Fig. 3). In 2019, excavations took place on a small scale, concentrated only on one Umm an-Nar building, that is S42 and some other small structures from the late Islamic village. Furthermore, the major Umm an-Nar tomb located at the western edge of the DH7 (Fig. 3) was excavated completely (Williams et al., forthcoming).

### **1.1 | Building S42**

Building S42 is located at the eastern edge of the settlement (Fig. 3). With its total size of ca. 190m<sup>2</sup> (17.25 x 10.85m) it is considered the largest building within the settlement. It consists of two parts: the SW part which is the core of the building, six rooms, and the NE part which was added later and forms a large open courtyard (R4) with a small room (R8) in its southwest corner (Fig. 4).

The SW part is composed of a central rectangular room (R3/6); it is the largest room in the building (5.6 x 3.7m, Fig. 4). It is surrounded by four other rooms: Room R1 (3.9 x 1.95m) at

the northern side with an entrance opens directly towards R3/6, to the western side is a rectangular room (R2, 5.6 x 2.4m) with a doorway opening towards R3/6, to the southeast is room R7 (3.50 x 2.25m), and to the northeastern corner is a wide opening/corridor opened to room R5 (4.0x 2.2m). The main entrance between the courtyard (R4) and the southeastern part of the building is located at the northeastern side of room R5 (Fig. 4). The open courtyard is a large open space of (9.7 x 6.4m) with a wide gate (1.5m) flanked by two walls. It has a small room (R8) (2.7 x 1.8m) in the southwestern corner with steps built in a half oval shape, leading up from the courtyard to the narrow entrance (65cm). Building S42 is the only building at the settlement of DH7 that has an open courtyard which could be related to a special function. The closest parallel to S42, in regards to the location inside the settlement, the size and the architectural plan is building S10 in the nearby settlement DH1 (Al-Jahwari et al., 2018 & forthcoming). Different installations were found inside the courtyard R4: two half round platforms, one in the northwest (R4:L003) and one in the southern (R4:L008) part, both were made of flat stones (Fig. 4). A small round silo (R4:L004, 90cm in diameter and 50cm deep) was found close to the platform (R4:L003) in the northwestern part of the courtyard (Fig. 5). Between the silo and the platform, a small jar was found *in situ* (Fig. 6). In the northeast of the courtyard a large rectangular fireplace covered with ash (R4:L006) was excavated. Two small benches (R4:L009) were found on the corner of the fireplace. Furthermore, a small rectangular bench (R4:L012) attached to the curved step (R4:L011) was found in the southeastern corner of the courtyard. The latest floor (R4:L002) of the courtyard was made of light brown mud. Excavations stopped on the level of this floor.

All rooms inside building S42 were partially excavated; only the open courtyard (R4) was almost completely uncovered where excavations concentrated only on the latest phase of use. Excavations in S42 did not reach the virgin soil.

The southeastern part of the building suffered partially from heavy disturbance. It was completely removed and reused by the inhabitants of the late Islamic village for copper production where a furnace with large size of copper slags were found. C14 sample from the furnace was analyzed and produced a  $2\sigma$  calibrated date (UGAMS#41309) of 988-1147 AD.

With regard to the function of building S42, we assume that it was used for multiple purposes. One of the main functions is presumably a warehouse. This presumption is based on four factors. First, preliminary analyses of the finds inside the building shows that this building yielded the largest number of pottery sherds compared with other excavated buildings at the settlement. Specifically, a total of approximately 5,548 pottery sherds were collected in DH7 during excavation and the surface collections. Over half of these sherds ( $n=3,286$ ) belong to the Umm an-Nar period while almost all the rest belong to late Islamic phase. The largest amount of sherds ( $n=2,395$ ) came from building S42, and these sherds were divided almost equally between the local and Indus wares (Table 2). In fact, most of these are jar sherds. Among these, we determined that there were at least 32 Black Slipped Indus Storage Jars. More than half of these were found in the open courtyard R4 (17 jars), and importantly came only from the latest phase of occupation in the building.

The second factor that leads use to infer that S42 was used as a warehouse is the size and plan of the building. This building is the larger structure at DH7. In fact, it is more double the size of the the second largest building in the settlement (S3). This size differential between S42 and other buildings at the settlement surely emphases that S42 was not used as a regular domestic building.

The third reason we suspect that S42 is a warehouse is the location of the building. S42 was built on an almost flat area on the eastern edge of the settlement, and it is separated from other domestic structures. This placement preserved a large open space around the building that

facilitated movement to, from, and around the building, and this spatiality also indicates that it was not part of the domestic sphere of the site

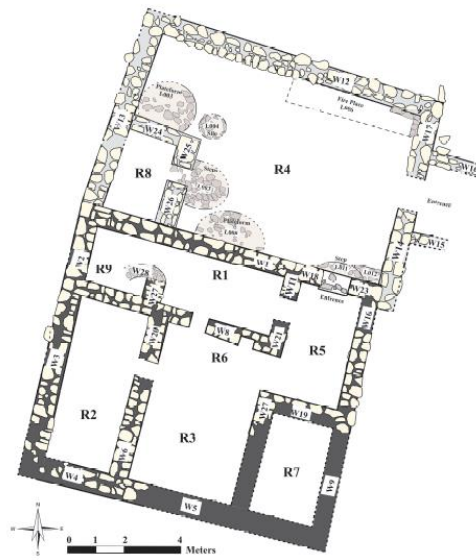
Finally, there is the great similarity between building S42 and building S10 in the nearby settlement Dahwa 1 DH1. One of the main functions of building S10 use as a warehouse (Al-Jahwari et al, Forthcoming). Both buildings are similar to the warehouse (1013) discovered at the settlement on Umm an-Nar Island (Frifelt 1995; Al-Tikriti 2011, Fig. 8).

On the whole, seven C14 samples from building S42 were analyzed (Table 1). Three samples were collected from a trench that was excavated inside room R5 in 2018 (sample #s 36620-36622), and four samples (sample #s 41306-41308 and 41310) were collected in 2019 from the open courtyard R4 and the small room R8 inside the courtyard. All of the samples were analyzed at the Center for Applied Isotope Studies at the University of Georgia, USA.

The three samples from the excavated trench inside room R5 were collected from two successive floors (R5:L002 and L009) and underlying destruction layer (R5:L010), and produced very close dates (Table 1). They fall into the third quarter of the third millennium B.C with no notable occupation gap.

In the courtyard R4 and its small room R8, three samples (samples #s 41306-41308) were analyzed from the most recent floor (R4:L002) of the courtyard, the filling inside the silo (R4:L007), and the most recent floor inside room R8 (R8:L007). They revealed a similar date as the samples analyzed from R5 (Table 1). One sample that came from the fireplace (R4:L006) in the northeastern corner of the courtyard showed a late Umm an-Nar date (2-sigma calibrated B.C 2137-1966). This places the fireplace sometime between the end of the Umm an-Nar period and the start of the Wadi Suq period.





*Fig. 4 Top plan of building S42 (drawn by M. Hesein).*



*Fig. 5 Building S.42 at the end of excavations 2019.*



*Fig. 6. Small jar found in situ near a silo in the courtyard R4 of building S42 (photo Y. Al-Rahbi).*

## **2 | POTTERY FROM DH7**

The main aim of this study is to present the research on the pottery sherds collected over two seasons of excavations 2018 and 2019 from the settlement of DH7. The material mainly comes from stratified contexts. Levels L000, L001, L002, L003, L006 and L007 from S42, Room 4 are well represented. Additional material comes from Rooms 5, 6, and 7 – Level 001, of the same building. The rest comes from the surface outside building S42, except few sherds from Building S19.

The examination and analyses consisted of 443 potsherds (rims, bases, decorated sherds, technical pieces); but only the ones considered as diagnostic will be discussed here. Most of the sherds are covered by secondary salt deposits, which make it difficult to identify the ceramic paste in some cases.

Few attempts to reassemble the sherds was done at this stage, but examination of the macrotraces was done in order to identify specific sets of technological and stylistic attributes of the pottery.

The material is classified by macrofabric (examined with a x6 hand-lens), and when preserved, by general shape of the vessel, shape of the rim, and additional elements (e.g., relief band or ridge, lug). The traces left by the shaping and finishing processes were recorded as well. The presence of a slip or a wash (more liquid than a slip when applied, thus thinner) and painted motifs were also considered.

Based on this sorting and the identification of diagnostic sherds, three main classes of pottery have been identified:

- Indus Red Micaceous Ware (number of fragments or NF=110).
- Umm an-Nar Fine Red ware (NF=50).
- Dahwa Sandy Buff ware (NF=251).

Other uncommon categories included: Indus Buff ware (NF=5), Indus Fine Red ware (NF=3), Hili Sandy Red ware (NF=3), Ridged (Snake?) ware (NF=3), Indus Sandy Red ware (NF=1), and Makran Fine Grey ware (NF=1).

We will first describe here the Indus pottery wares.

## **2.1 | Indus Pottery Wares**

Four types of Indus wares were present in this sample, but the Red Micaceous ware was the most common at Dahwa DH7.

### **2.1.1 | *Indus Red Micaceous Ware***

A Total of 110 potsherds were classified in this group (among them 2 potsherds that come from the same vessel with a small and narrow base).

This ware is very distinctive, with a highly fired reddish ceramic paste tempered with sand rich in micaceous fine sand. The micas are usually visible to the naked eye. Clay and

calibrated micaceous sand used as temper are thoroughly mixed until blended and smooth (Fig. 7). There is a variety among the sherds, as micas are more or less concentrated and macroscopically visible. This variability is verified among the other Indus Red Micaceous Ware assemblages both in the Oman Peninsula and Pakistan. The sherds are very hard, and mechanically resistant.

Without petrographic and INAA analysis of the ceramic paste it is not possible to precisely establish the origin of the DH7 Red Micaceous ware, but the results of previous analysis (e.g., Méry & Blackman, 2006) show that they possibly come from the southern part of the Indus basin in Pakistan where Mohenjo Daro and Chanhu-Daro are located.



*Fig. 7 The section of this Indus Red Micaceous ware bodysherd shows the strong homogeneity of the ceramic paste and the regularity of its firing (photo Y. Al-Rahbi).*

The firing of the vessels was regular and homogenous, but the ceramic paste was not always fully oxidized. Specific technical features complemented the picture: a number of DH7 sherds show evidence of rough scraping (probably from a flint blade used to compact, regularize, and thin the pottery wall) on their inner wall, but the outside of these sherds is carefully smoothed.

A black (or red) slip usually covers both sides of the sherds. Breaking delineation is indicative of wheel-thrown coils (except for the base), as well as the clay pattern visible in the vertical sections of the sherds (Fig. 8).

Besides the aforementioned small and narrow base, a second vessel type also with narrow U-shaped base was identified, as well as 17 typical folded-over beaked rims (Figs. 9; 26: 4,6). The latter type shows the typical diversity of Black-Slipped Jars from Mohenjo Daro, or Harappa (see Méry, 2000: fig. 135) and belong to the type described as ‘Complex, external, wide, beaked’ by Dales and Kenoyer (1986: 32, rim form IIIC sub-form 2, 3 and 5 mainly). In Pakistan, this variety of Indus thick folded-over rims is preferably associated with Black-Slipped Jars. At DH7, a number of large body and shoulder sherds with approximately one centimeter thick walls, together with the discovery of narrow bases and funnel-shape sherds make possible the reconstruction of this peculiar Indus transport-jar type (Fig. 10).



*Fig. 8 Typical break at the base of the coil forming the rim of a Black-Slipped Jar (photo Y. Al-Rahbi).*



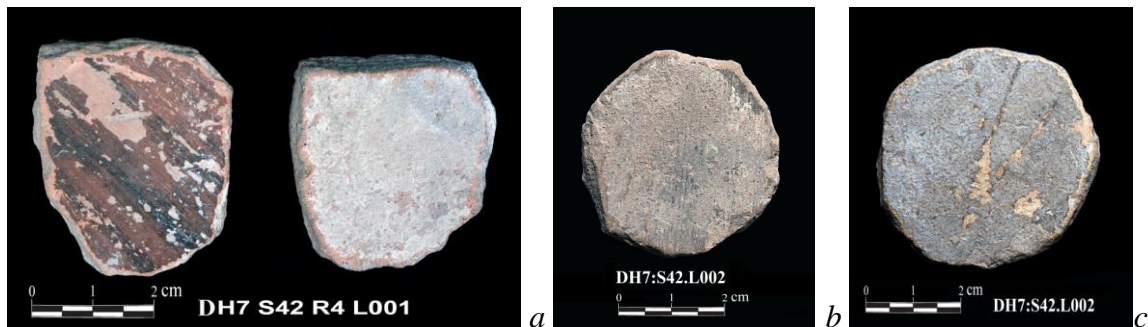
*Fig. 9 Thick beaked rims of Black-Slipped Jars, two different view of the same sherds (photo Y. Al-Rahbi).*



*Fig. 10 Funnel-shape sherds of Black-Slipped Jar (photo Y. Al-Rahbi).*

Several sherds of Black-Slipped jars were reworked and used as tools (Fig. 11). Roughly circular, they measure approximately four centimeters in diameter. Such reworked Black-Slipped Jar sherds have been seen at Ra's al-Hadd HD1 and Ra's al-Jinz RJ2. Reshaped Sandy Red Hili domestic ware sherds are well known from Hili 8 (Period IIc2), and in the

post-destruction layer of Hili Tomb M (Cleuziou, Méry & Vogt, 2011: 66). Other reshaped sherds found at an Umm an-Nar warehouse (Frifelt, 1995: fig. 248) are bigger than the ones recovered at Dahwa DH7; they are interpreted as lids by K. Frifelt (ibid: 178).



*Fig. 11 Examples of reshaped sherds of Black-slipped Jars (photo Y. Al-Rahbi).*

Most of the Red Micaceous ware can be assigned to a single and well-known type of transport jar, the Black-Slipped Jar, and come from the warehouse of Dahwa DH7, but a few sherds correspond to other vessels shapes. Three short beaked rims are associated with small to medium size pots (comparable to Mohenjo Daro rim type IIc, in Dales & Kenoyer, 1986: 32). A flat base corresponds to a medium to large pot.

### **2.1.2 | Indus Buff Silty Ware**

This category is uncommon at Dahwa. Five sherds have been identified so far, among them three come from level L001 of Room 3, Building S42.

The ceramic paste of this ware is different from the Indus Micaceous Red ware. Specifically, there is little to no micaceous material is seen macroscopically, and this ware is slightly siltier. Its color is specific: light brown to pinkish or greyish. The visible mineral inclusions are not

more than 200-250  $\mu\text{m}$  and calibrated. The paste was well mixed to obtain a homogeneity, and the firing was high and regular. The quality of the ceramic was very good.

The shape was very regular and well mastered. The walls were quite thin (approximately 7-8 mm) given the overall size of the pots. Breaking delineation and clay pattern visible in the vertical sections are indicative of wheel-thrown coils. A technical piece was identified, that demonstrates the use of coils for making (at least some, or part) of the pots (Fig. 12). The external surfaces were carefully smoothed.



*Fig. 12 Part the coil was not integrated to the wall when added to make the neck of a pot. This is a very rare piece of evidence among Indus pottery found in the Oman peninsula (photo Y. Al-Rahbi).*

The decoration of a body sherd from a medium to large vessel (Figs. 13, 26: 18) is close to the one of a Ra's al-Hadd HD1 sherd (Méry, 2000: fig. 144 n. 9). In the case of the DH7 sherd, the black painting motifs were applied on a red brown slip of high quality. Pointed



quadrangular patterns, well attested at Indus sites (for example at Mohenjo Daro, see Dales & Kenoyer, 1986: fig. 88 n. 6) are associated in the Oman Peninsula with small imported bottles that are funerary wares (Méry, 2000: fig. 152 n. 3).

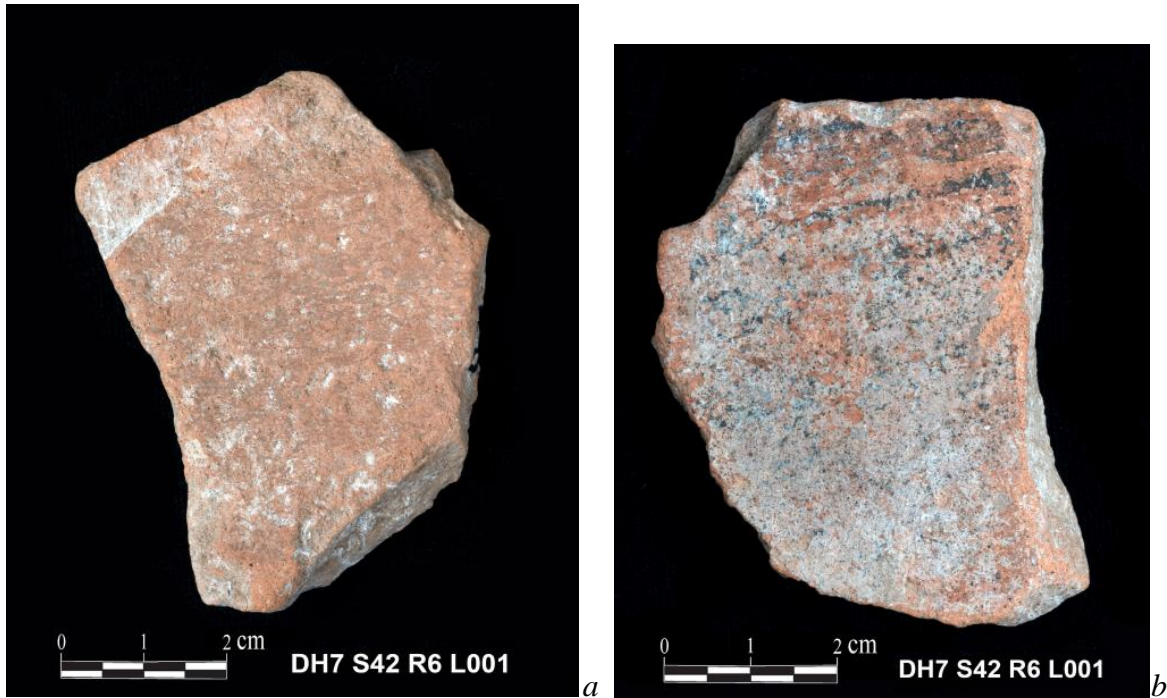


*Fig. 13 Indus painted vessel, buff ware (photo Y. Al-Rahbi).*

Three other sherds display the same type of red brown slip. One of them is a short beaked rim, comparable to Mohenjo Daro rim type IIC (Dales & Kenoyer, 1986: 32). More quadrangular, a second rim associated to this type of ceramic paste can be compared to type IID (*Ibid*).

### **2.1.3 | Indus Red Sandy Micaceous ware**

A unique body sherd of Sandy Micaceous Ware was recovered at Dahwa DH7. It corresponds to a thick (ca 1 cm) and large jar, with preserved traces of a black external slip (Figs. 14, 26:15).



*Fig. 14 Red sandy micaceous ware (photo Y. Al-Rahbi).*

#### **2.1.4 | Indus Red Fine Ware**

It is rare at DH7, with three sherds only (not illustrated): a short beaked rim is comparable to type IIC at Mohenjo Daro, a base, and a potsherd with two narrow lines on a red slip.

All are surface finds outside building S42.

The paste ware is a little siltier than the Red Fine Omani ware, and more pinkish or reddish as well. The quality of the ceramic paste is very good.

## **2.2 | Omani Pottery Wares**

### **2.2.1 | Umm an-Nar Fine Red Ware**

In the selected assemblage, this category is represented by 50 sherds. Among them 29 potsherds come from the same vessel.

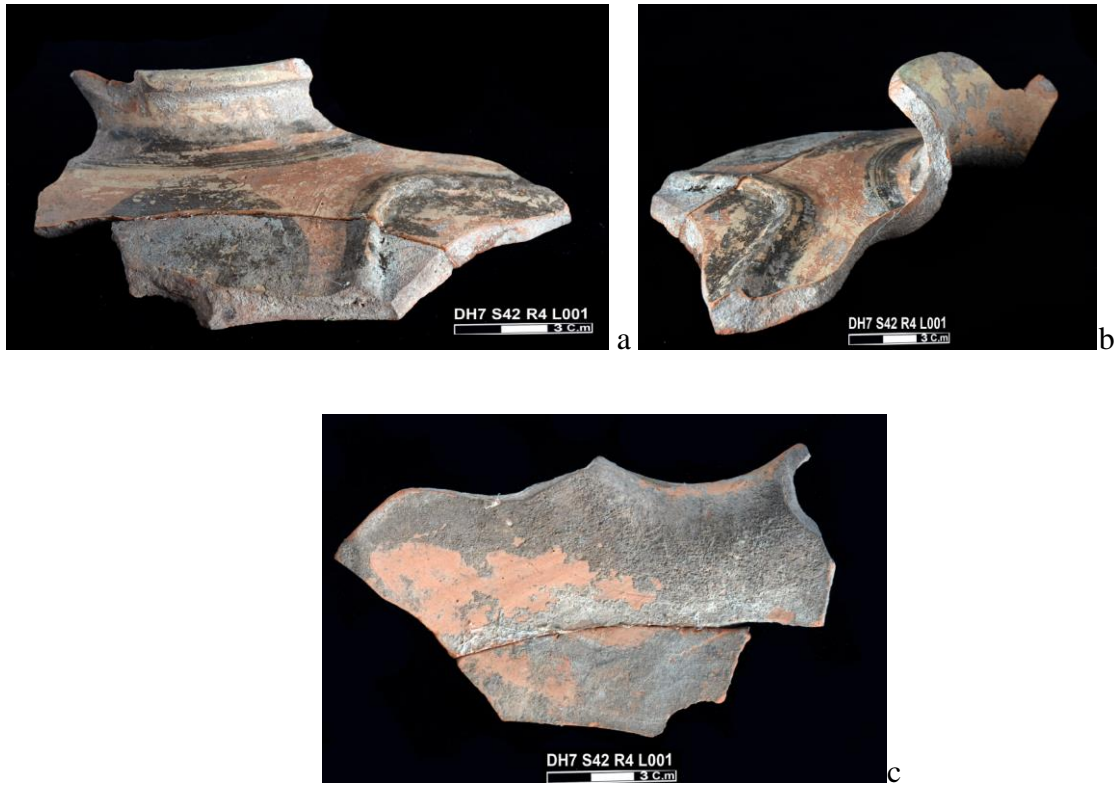
At Dahwa DH7, most of the Fine Red Umm an-Nar Ware displays the same features as at the other sites dated from the second part of the 3<sup>rd</sup> millennium BC in the Sultanate of Oman and the United Arab Emirates. The ceramic paste is extremely fine and smooth; its color varies from light buff to light orange or reddish. The visible mineral fraction is rare, with black or brown rounded elements up to 100–150 µm. The external surface of the sherds are usually smooth with no or few fine parallel striations, perpendicular to the rotation axis of the vessel. The inner wall is marked by more striations, left by a tool. The thickness of the walls are generally 5 to 6 mm.

Eight sherds have a harder ceramic paste than the others, and slightly siltier as well.

Regarding the shaping and finishing of the pots, the skill level was high but comparable to the Classical Fine Red Umm an-Nar ware, from sites like Umm an-Nar and Hili. The quality of the paste is the same, and its composition most probably identical or very close. The specifications of the red-orange slip and the black paint do match as well; the types of alteration are the same. The firing of the pots is regular and primarily oxidizing.

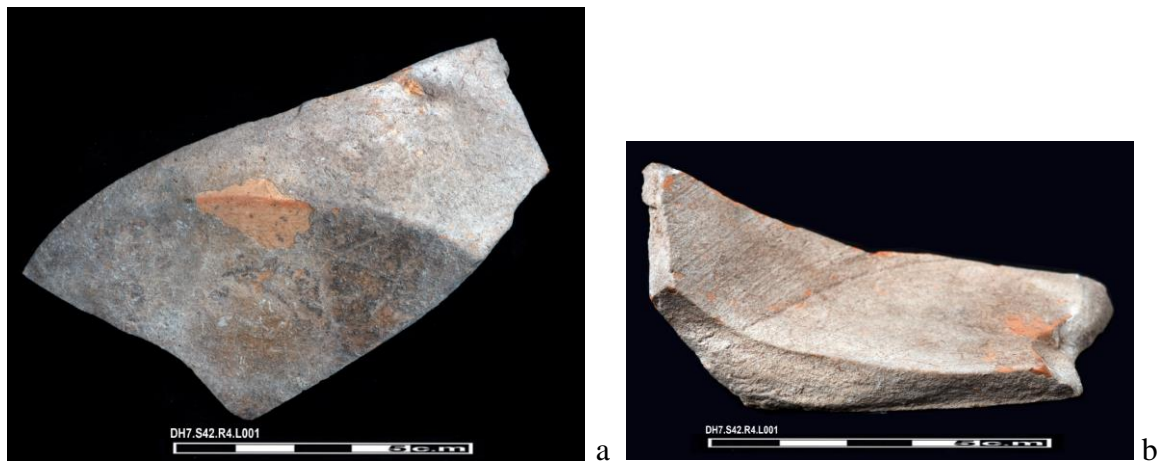
Among the material, a medium to large vessel with a more restricted neck than the classical Umm an-Nar pots, has been decorated with two black horizontal lines at the base of its neck, and an applied wavy relief band on the shoulder (Figs. 15, 26: 1). A black painted band covers the ridge, which is framed by spirals. The combination of painted spiral and relief band decoration is documented at Hili 8, Period II d or e (Cleuziou, 1989: pl. 27 n. 8).

Few other sherds are decorated with a painted spiral or a hatched motif.



*Fig. 15 This vessel of fine red ware stylistically belongs to the Ridged ware group. The examination of the numerous sherds belonging to this vessel reveals a good mastery of techniques for the production of pottery clay as shown as the thinness and regularity of the wall, indicating a perfect incorporation of the coils when thrown (photo Y. Al-Rahbi).*

A flat base of a medium Umm an-Nar Fine Red pot was recovered (Figs. 16, 26: 13).



*Fig. 16 Flat base of a medium Umm an-Nar Fine Red pot. The sherd is covered by a thick layer of salts (photo Y. Al-Rahbi).*

There is no clue as to whether or not Umm an-Nar Fine Red Ware was produced at Dahwa. The possible location of its production area was discussed elsewhere (Méry, 2000: 109–110). To sum up, the chemical composition of the Fine Red Umm an-Nar Ware is so homogeneous (ibid: 44) that its origin is considered as geographically bound, but as of yet unlocated. The results of the analysis of more than a hundred of samples from both inland and coastal sites located in the United Arab Emirates and the Sultanate of Oman (Hili, Umm an-Nar, Shimal, Asimah, Amlah, Bat, Maysar, and Ra's al-Jinz), will not be detailed here again.

### **2.2.2 | *Dahwa Sandy Buff Ware***

A total of 251 potsherds have been classified in this group.

The Sandy Buff Umm an-Nar Ware is characterized at Dahwa DH7 by a fine to semi-fine sandy and soft ceramic paste. Its color is pale buff white to pale buff red. Small red, brown, black and/or white inclusions are macroscopically usually visible, under 350-400  $\mu\text{m}$  but there is a certain diversity amongst the material. The firing is predominantly oxidant.

This ware is different from the Sandy Red Ware of Hili, as it is less sandy and pale in color. It seems also different from what we know from Salut, Bat or Amlah but future petrographic and INAA analyses will be needed to confirm.

According to the scale of the body sherds and their thickness, we may differentiate three rough classes: small, medium, and large vessels. Breaks and organization of the clay patterns indicate that the pots were shaped with thrown coils, but the bases were done by hand.

A number of sherds correspond to small and medium jars, without a neck but rims of Indus type (Figs. 17, 26: 2,10,12 & 18, 26: 14). They are comparable to type IIB and IIC of Dales and Kenoyer (1986: 32). Few sherds (Figs. 19, 26: 8) may correspond to Indus cooking pots

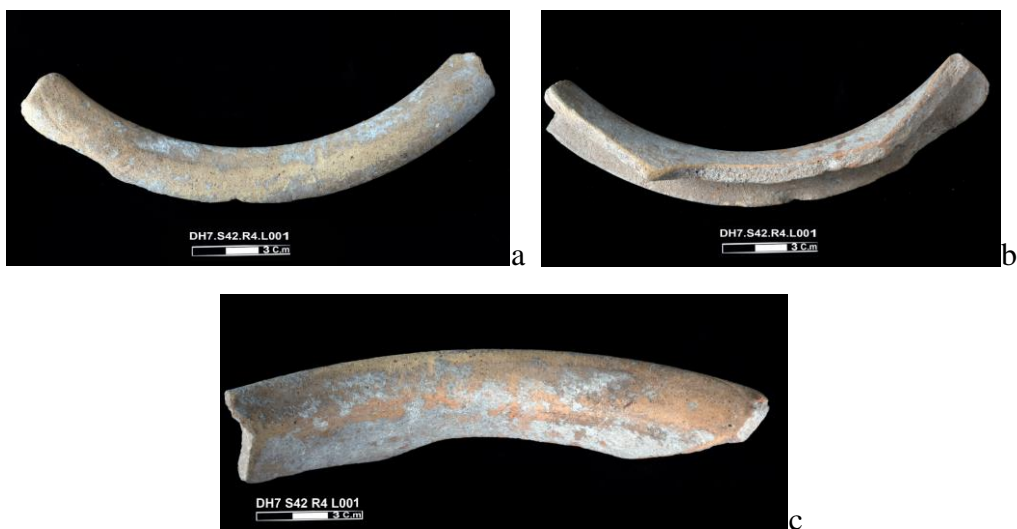
(*Ibid*: fig. 28), according to the shape of their neck and the profile of their shoulder. The same type is known in a number of sites in Oman, especially Salut (Frenez et al., 2016: fig. 4b). At Hili 8, there is a case dated from IId or e but not identified by the excavator (Cleuziou, 1989 pl. 26 n. 10). A beaked rim similar to rim from IIIc9 of Dales and Kenoyer (1986: 34), and red slipped, was identified (Fig. 20). It relates to a famous vessel type of the Indus crockery set – the pedestalled dish (*ibid*: 389) - and is not commonly recovered in the Oman Peninsula to date, but known at Hili, Bat, and Salut.

Other sherds belong to the Omani assemblage according to the shape of their rims (Figs. 21, 26: 3,5,7) or the style of their painted motifs, as a spiral pattern or hatched motifs (Figs. 22, 26: 16,19). All are comparable to what was previously described for the Umm an-Nar Ware and date from the Umm an-Nar period based on Hili 8 Period II a-c1 to IIe assemblage (Cleuziou, 1989: pl. 23 n. 1 and 8, pl. 24 n. 13, pl. 25 n. 8, pl. 27 n. 6-11). Wavy relief bands, sometimes perforated, and lugs (Figs. 23, 26: 17) also belong to the Oman assemblage from Hili Phase II c2 to d or e (comparable to Cleuziou, 1989: pl. 24 n.9, pl. 25 n. 3, pl. 26 n. 6).

Finally, two protruding bases may correspond to the full solid base of small pots or goblets (Figs. 24, 26: 9,11). They are not diagnostic for the Umm an-Nar period, but better recall the base of small Indus globular pots (see for example Dales & Kenoyer, 1986: fig. 24 n. 11).



Fig. 17 Examples of Indus style rims associated with the Sandy Buff domestic ware of Dahwa. Different views of the same four sherds (photo Y. Al-Rahbi).



*Fig. 18 Several views of an Indus style rim of Sandy Buff ware jar from Dahwa. The break of the rim corresponds to the attachment of a last coil (photo Y. Al-Rahbi).*



*Fig. 19 A possible Indus cooking pot, in Dahwa Sandy Buff Ware (photo Y. Al-Rahbi).*



*Fig. 20 Rim of the plate of an Indus pedastalled dish (photo S. Méry).*



*Fig. 21 Examples of Umm an-Nar style rims associated with the Sandy Buff Domestic Ware of Dahwa. Different views of the same three sherds (photo Y. Al-Rahbi).*





Fig. 22 Two examples of hatched motifs, painted in black (photo Y. Al-Rahbi).



Fig. 23 Examples of wavy band in relief unperforated (left) or perforated (right) (photo Y. Al-Rahbi).



Fig. 24 Two protruding bases, modeled in a small dough of clay (photo Y. Al-Rahbi).

### 2.2.3 | *Hili Sandy Red Ware?*

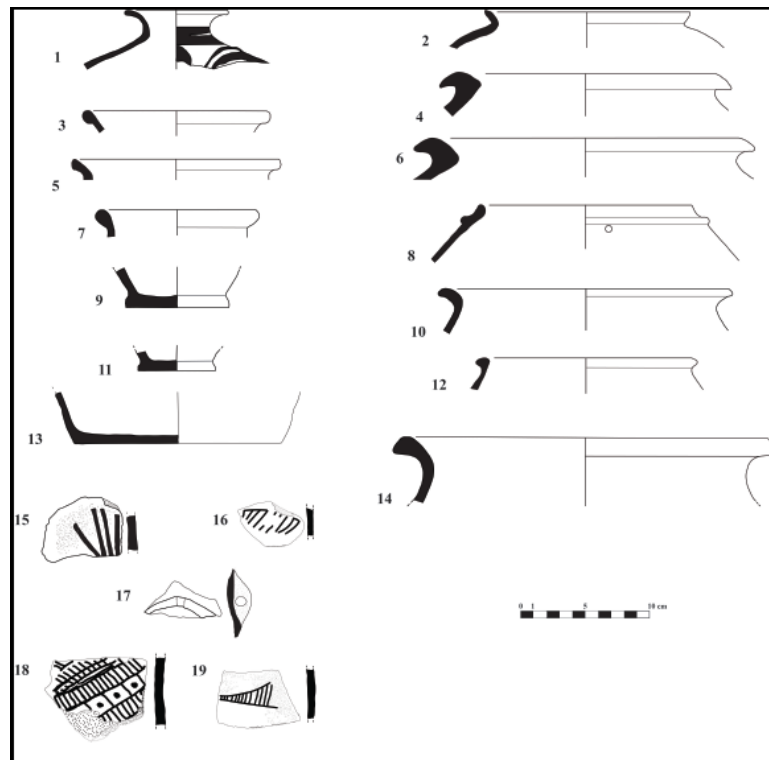
Two bodysherds (not illustrated) have an orange reddish color and a fine sandy texture evocating the Hili Sandy Red Ware that is a domestic ware. Hili Sandy Red Ware has been macroscopically identified at the Umm an-Nar settlement (Frifelt, 1995: 174–175) and petrographically at Shimal UNAR 1 Tomb (Méry, 2000: 167).

### 2.2.4 | *Ridged (Snake?) Ware*

Two thick beveled rims and a possible third one, correspond to very large vessels decorated with horizontal and meandering ridges (Fig. 25). They find close *comparanda* at the Umm an-Nar House Complex (Frifelt, 1995: fig. 217, TX1 and KU4) and Salut (Méry et al., 2017: fig. 5 n. 1). This type of pottery is well known in south-eastern Iran, as at Tepe Yahya Period IV and Bampur Periods III and IV (de Cardi, 1970: fig. 22 n. 72, fig. 23: n. 173–175; Lamberg-Karlovski & Tosi, 1973: fig. 113). There is however to date no attestation at DH7 of proper snake representations known from House Complex at Umm an-Nar and at Bidya 2 (Al-Tikriti, 1989: pl. 80 A).



*Fig. 25 Example of a thick bevelled rim of Ridged Ware (photo S. Méry).*



*Fig. 26 Drawings of some examples of pottery sherds (drawn by K. Dogulas, Digitized by drawn by M. Hesein)*

The ceramic paste of the DH7 sherds is macroscopically different from the Sandy Buff Ware: it is harder and light brown to greyish in color. The area of production of such a ware may be

located both in Iran and in the Oman Peninsula, but no program of chemical or petrographical analyses has been done to date in order to confirm this hypothesis.

## **2.3 | Makran Ware**

### **2.3.1 | *Emir Ware***

At Dahwa DH7, a single body sherd belongs to this category. Its ceramic paste, with no visible mineral inclusions and blue grey color is identical to the Emir pottery, both painted and incised, found in the Oman Peninsula, mainly in funerary contexts. This pottery most probably comes from the Dasht workshops or South West Pakistan, according to its similarity with other sherds and vessels recovered in Oman and the United Arab Emirates.

Emir pottery is very rare in the Umm an-Nar settlements, but known at Hili 8 as early as phase IIc2 (Méry, 2000: 193). At Umm an-Nar, it is known in several tombs after 2300 BC according to K. Frifelt (1995: table 12, 239).

## **3 | DISCUSSION**

The first season of excavation at Dahwa DH7 added new strong evidence regarding the date of the first contact between the local Umm an-Nar period communities and the Indus sailors and merchants, as well as the intensity of this contact. Radiocarbon dates (Table 1) place the beginning of the occupation of the site around 2500 cal. BC. Such a date is consistent with the results of the stylistic comparisons of DH 7 pottery with other sites of the Umm an-Nar period.

Examples of decorated Umm an-Nar Fine Red Ware and the Dahwa Buff Sandy Ware provide additional indications about the date of the material.

Relief meandering decoration is known at Hili 8 at Period Iia-c1, c2, IId and possibly IIE (Cleuziou, 1989: 75–77, pl. 23–26), Hili 1 (Al-Tikriti, 1981: pl. 65 E.), Hili Tomb B (Al-Tikriti, 1981: pl. 101 A and C), as well as Tell Abraç (Potts, 1990: fig. 56 n.2), Ghanadha (Al-Tikriti, 1985: pl. 11 D-G) or Umm an-Nar (Al-Tikriti, 1981: pl. 106 g). Some are flat bands, others have a more protuberant or triangular section and can be pierced. At Hili 8, it is usually combined with various black painted motifs (Cleuziou, 1989: pl. 24 n. 8, 10-12, 14), among them hatched motifs (ibid 1989: pl. 24 n. pl. 25 n.3, pl. 26 n. 8 and 11). Such a combination is also known at Hili 1 (Al-Tikriti, 1981: pl. 65 a) and Umm an-Nar (Al-Tikriti, 1981: pl. 106 g). The spiral decoration is regarded as typical of Period IIE at Hili 8 but possibly attested from IId (Cleuziou, 1989: 77, pl. 27 n.6, 7, 10, 11). It is known for example at Bat (Frifelt, 1975: fig. 30e, 1976: fig. 6 top, Fig. 8 left), at Asimah North (Vogt, 1994: fig. 74 n. 4) and Umm an-Nar settlement Period II (Frifelt, 1995: fig. 98). As mentioned before, there is an example of painted spiral and relief band decoration at Hili 8 Period IId or e (Cleuziou, 1989: pl. 27 n. 8).

Usually, medium sized pots and jars are concerned by relief decoration in the Umm an-Nar period, but large to very large vessels with thick walls are also decorated with relief bands at Asimah North, Bidya 2 and Umm an-Nar Periods I and II settlement (Al-Tikriti, 1985: pl. 80 C-G; Vogt, 1994: fig. 74 n. 9-10; Frifelt, 1995: fig. 65, fig. 87). There is a case at Salut ST1 as well (Méry et al., 2017: fig. 5a). This is a type known at Dahwa DH7 in association with a light brown to grey brown ceramic paste, harder than the one of the Sandy Buff ware found at the site. The Ridged Snake Pottery, identified at the House Complex of Umm an-Nar (Frifelt, 1995: 217–217) and Bidya 2 (Al-Tikriti, 1989: pl. 80 A) is not fully confirmed to date in the material of Dahwa DH7 but it seems very likely as several rims of very large vessels with meandering ridges and a thick beveled rim from DH7 are identical or very close to rims TX1 and KU4 from the House Complex at Umm an-Nar (Frifelt, 1995: fig. 217).

Pierced knobs or lugs are attested at Hili 8 phase IIC2 (Cleuziou, 1989: pl. 27 n. 9), Hili 1 (Al-Tikriti, 1981: pl. 65 c), Hili 3 (ibid: pl. 68 B).

All these decorative patterns more or less disappear in the context of the last third of the 3<sup>rd</sup> millennium BC, both in tombs and settlements. On the contrary, the absence of typical pottery types of the last part of the Umm an-Nar period is striking at Dahwa DH7. For example, suspension vessels are missing, and there is only one rim of bowl that is typical of phase IIf at Hili 8 (Cleuziou, 1989: pl. 30 n. 3-8).

In brief, there is a chronological consistency of the possible comparisons. Hili 8 Period II phases c2-e are considered contemporary to the end of period I and period II at Umm an-Nar, and the Asimah North settlement (Cleuziou, 1989; Vogt, 1994; Frifelt, 1995). The date of the occupation of Dahwa DH7 seems to be back around the mid-third millennium BC. Such an ancient date also corresponds with what we know to date from the first contacts in the Ja'alan region, at Ra's al-Hadd HD1 (Frenez et al., 2016) and Ra's al-Jinz RJ2 sites (Méry, 2000). We should also not forget that few Indus ware sherds were found in the interior, at Hili 8 as early as Period IIC2 (Cleuziou, 1989: pl. 24 n. 5) and Salut from 2600-2500 BC (Frenez et al., 2016).

Regarding the imported Indus pottery that is very frequent at Dahwa DH7 (especially in Building S42), two other 3<sup>rd</sup> millennium BC sites have delivered a high amount and proportion of Black-Slipped Jars. The first is Ra's al-Hadd HD1, a port of disembarkation where a large diversity of Indus goods was found (Cattani et al., 2019). The second is Asimah, an inland site (Vogt, 1994) not far from the Strait of Hormuz. Both are dated from the second part of the 3<sup>rd</sup> millennium BC with strong indication of occupation from 2500 BC onwards.

At Dahwa DH7, the high quantity of Indus Black-Slipped Jars sherds reinforces the interpretation of Building S42 as a warehouse during a rather long period of occupation. Compared to most of the other known Umm an-Nar settlements, the Black-Slipped Jars (Indus red Micaceous Ware) are clearly over represented at DH7, despite bias due to the different dimensions and volume of the vessels (the Indus Black-Slipped Jars are much bigger than the jars and pots from Dahwa Sandy Buff Ware), and strength of the pottery ware as well (Dahwa Sandy Buff Ware is softer and more easily breakable). After reconstruction, the number of rims will be certainly revised, and a calculation of EVE (Equivalent Vessel) will adjust the coefficient of fragmentation.

The question of the Dahwa Buff Sandy Ware is more problematical at this stage of the study, because some of the stylistic elements point to the Umm an-Nar period in the Oman Peninsula and others to the Harappa phase in the Indus valley. The globular pots with a wide opening but no neck appear in the Umm an-Nar pottery assemblage since Period I and Period IIa-c1 at Hili 8 and constitute one of its main morpho-types from Period IIc2. At Dahwa DH7, some sherds belonging to this morpho-type are also well identified as stylistically typical to the Umm an-Nar Period assemblage, due to their black painted pattern, as spirals, hatched patterns, or the combination of black horizontal and wavy lines. Moreover, the majority of the rims attached to the same morpho-type have at DH7 a typical Indus rim form. Finally, the typical Indus shapes among the Dahwa Buff Sandy Ware are a cooking pot and a unique case of pedestalled dish.

How can this paradox be explained? Are we facing the arrival in the al-Batinah, at the beginning of the Harappa Phase (ca 2600-2500 BC), of the first (or one of the first) Indus goods together with Indus craftsmen, among them potters? Was the Dahwa Buff Sandy Ware produced at Dahwa, in the Batinah or in the oasis of central Oman oasis? The hypothesis of

Indus potters in central Oman was done recently at Salut (Ibid; Méry et al., 2017), and the pottery of Dahwa DH7 reinforces the assumption of the presence of Indus potters in Oman from about 2500 BC. The Hili 8 sequence does not contradict it, but Indus pottery forms are rare at this inland site during the first part of Period II; there may be a number of reasons for such a smaller «impregnation», such as the distance, accessibility, and variability of the control networks from the al-Batinah to Buraimi and Al-Ain region. Installation of Indus craftsmen most probably depended on the geographical zones in the Oman peninsula, was plausibly progressive, with relatively low numbers of individuals.

#### **4 | CONCLUSIONS**

As a result of the analytical study of the Umm an-Nar Period pottery from the settlement of Dahwa DH7, al-Batinah region, Oman, three main classes of pottery are recognized: the Indus Red Micaceous Ware, the Umm an-Nar Fine Red ware, and the Dahwa Sandy Buff ware. Other categories are uncommon, as the Makran Fine Grey Ware.

In regards to the Indus pottery wares four types are identified. The Indus Red Micaceous Ware is the most represented at Dahwa DH7 while the other three are uncommon or rare (Indus Buff Sandy Ware, Indus Red Sandy Micaceous Ware, and Indus Fine Red Ware). The Omani pottery wares are also identified by four different types; two of them are well represented, the Umm an-Nar Fine Red Ware and the Dahwa Sandy Buff ware while the other two types are uncommon, the Hili Sandy Red Ware and the Ridged (Snake?) Ware.

Radiocarbon dates (Table 1) date the beginning of the occupation of DH7 settlement around 2500 cal. BC. Such a date accords well with the results of the stylistic comparisons of DH7 pottery with other sites of the Umm an-Nar period. The date of the occupation of Dahwa DH7



seems to be back around the mid-third millennium BC. This dating corresponds with what we know to date from the first contacts in the Ja'alan region, at Ra's al-Hadd HD1 and Ra's al-Jinz RJ2 sites.

As said above, the Indus Black-Slipped Jars are much more represented at DH7 compare to most of the other Umm an-Nar sites, and their high proportion in Building S42 strengthens the hypothesis as a warehouse. In order to interpret the co-existence of such a high quantity of Indus Black-Slipped Jars and Dahwa sandy pottery with Indus features, the hypothesis of the arrival in the al-Batinah, at the beginning of the Harappa Phase (ca 2600-2500 BC), of the first Indus goods together with Indus craftsmen, especially potters is in accordance with the Indus potters in central Oman recently proposed at Salut (Frenez et al., 2016, Méry et al., 2017). Our working hypothesis is as follows. If the manufacturers of the Dahwa pots which have typical Indus rims are Indus craftsmen, did they adapt to a local market? Probably, because the morpho-type of vessels they made seem to have been created and used in the Oman Peninsula long before their arrival.

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