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Beyond Tombs and Towers

Domestic Architecture of the Umm an-Nar Period
in Eastern Arabia

Edited by Stephanie Döpfer



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Titelfoto: Der Fundort Al-Zebah nahe Bat (Foto: Conrad Schmidt).

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Contents

Preface of the Editor	VII
Chapter 1: Introduction (<i>Stephanie Döpfer</i>)	1
Chapter 2: The Domestic Architecture of Umm an-Nar Island (<i>Jonas Kluge</i>).....	7
Chapter 3: The Early Bronze Age Settlements of the Sohar Hinterlands: Scratching the Surface (<i>Bleda S. Düring and Samatar A. Botan</i>)	17
Chapter 4: Umm an-Nar Settlement at Dahwa (DH1), Oman: Preliminary Results of the Archaeological Investigation, 2014–2016 (<i>Nasser Said Al-Jahwari, Khaled Douglas, Mohammed Al-Belushi and Kimberly D. Williams</i>)	29
Chapter 5: Bat and the Umm an-Nar Settlement Tradition (<i>Jennifer Swerida</i>)	51
Chapter 6: The Umm an-Nar Settlement of Al-Zebah (<i>Conrad Schmidt</i>)	71
Chapter 7: Al-Zebah and its Position in the Regional Settlement Pattern of Central Inner-Oman (<i>Stephanie Döpfer</i>)..	87
Chapter 8: Exploring Cultural, Social and Economic Complexification: Settlement Life through the Umm an-Nar Period at Ras al-Jinz RJ-2 (<i>Valentina M. Azzarà</i>).....	97

Chapter 4:
Umm an-Nar Settlement at Dahwa (DH1), Oman:
Preliminary Results of the Archaeological Investigation, 2014–2016

Nasser Said Al-Jahwari, Khaled Douglas, Mohammed Al-Belushi and Kimberly D. Williams

4.1 Location and history of research

The site of Dahwa (DH1) (56° 41' 44.778" E, 24° 3' 2.01" N), is located approximately 24 km south-west of the coastal city of Saham and 18 km to the west of the village Falaj al-Harith, on the eastern foothills of

Al-Hajar Mountains (Fig. 1). The archaeological site is spread over an almost flat wadi terrace and rises about 8 m above the surrounding wadis (Fig. 2). Its highest point is located 163 m above sea level. Two wadis sur-

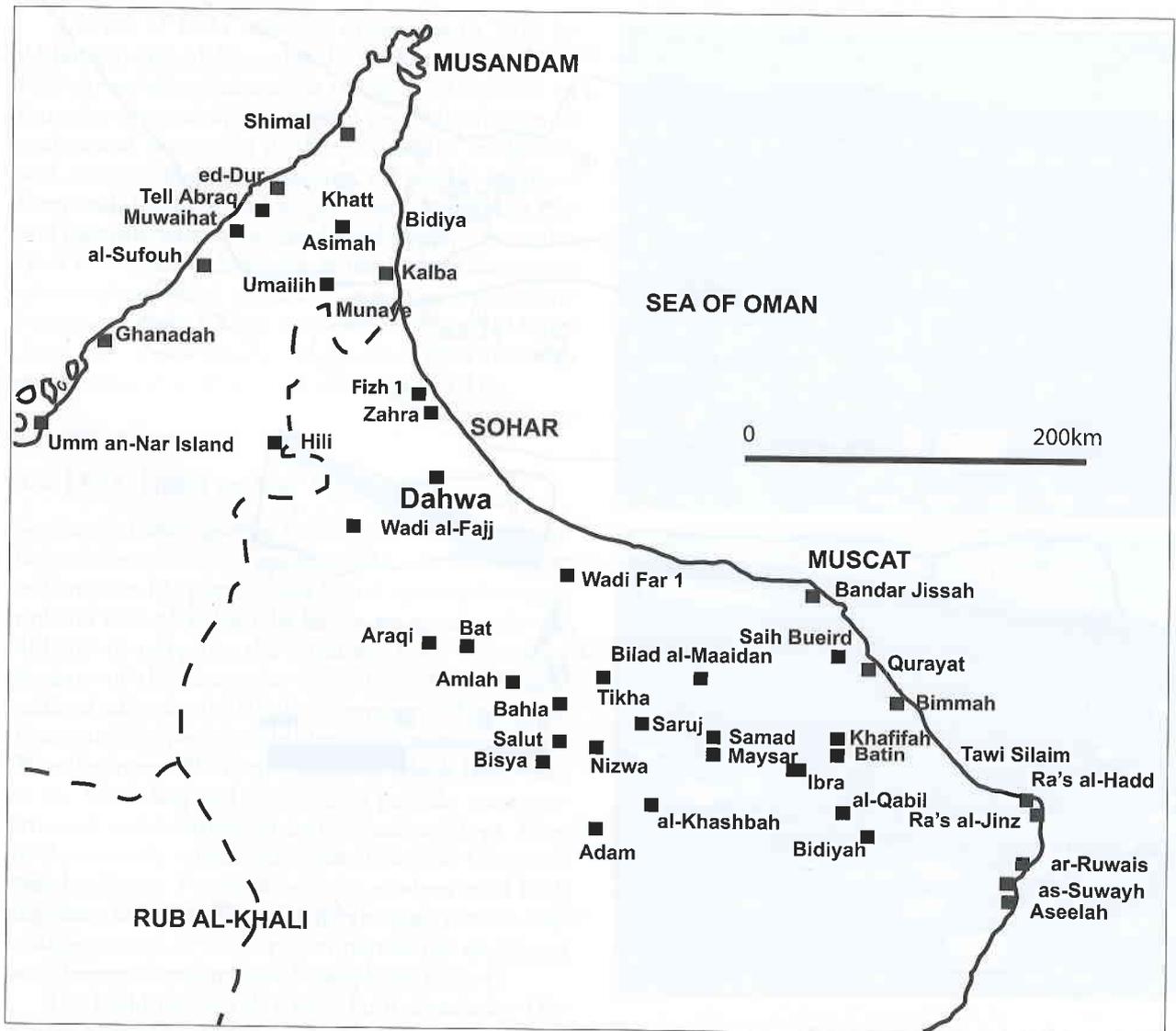


Fig. 1: Location of Dahwa and related Umm an-Nar sites in Oman Peninsula.



Fig. 2: General view of the site of DH1, facing west.

round the site: the Wadi al-Sarmi in the north and the Wadi al-Shafan in the south. Both wadis run from Al-Hajar Mountain in the west, toward the coastal area of the Sea of Oman in the east.

The site of DH1 is one of the focal points of excavation of a regionally oriented research project, conducted by the Department of Archaeology at Sultan Qaboos University, aimed at understanding the chronology, settlement organization, and ecology of the 3rd millennium BC in the Batinah Plain of north-eastern Oman. In the Dahwa region, several archaeological sites from different periods have been discovered and identified as Dahwa (DH) with different numbers (e.g. DH1, DH2, DH3, and DH4; Fig. 3).

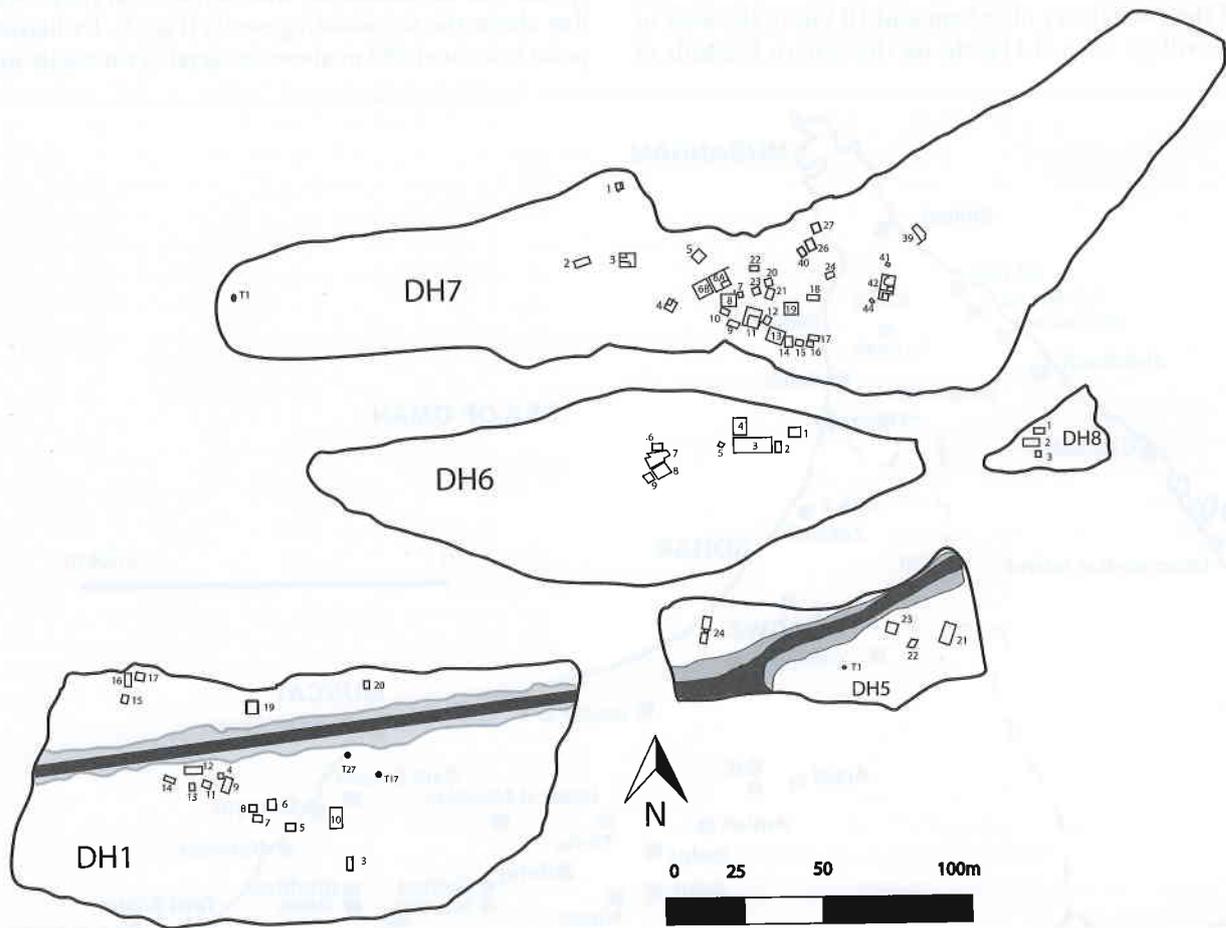


Fig. 3: Distribution of Dahwa (DH) sites.

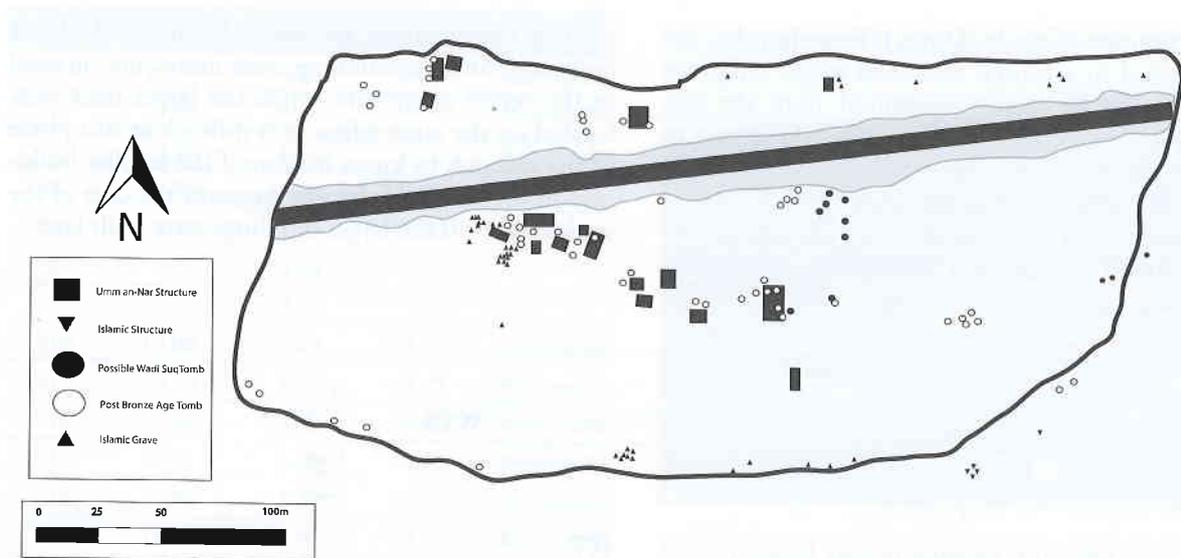


Fig. 4: Distribution of buildings and tombs (from various periods) at DH1.

The site of DH1 was first discovered in 2010 by Al-Jahwari and Al-Muzzaini. In 2013, a short preliminary survey was conducted at the site, and in 2015, an intensive foot survey was carried out with the aim to understand the spatial distribution of the settlement and its use, through collecting all surface artifacts from each building and its perimeter. In 2016, a second intensive survey was conducted to map the entirety of the visible architecture at the Dahwa sites using advanced geospatial methods. Soundings at one of the buildings (S.10) in DH1 were performed in 2014 and 2016. This article presents the results of 2014 and 2016 excavations of building S.10 at the site of DH1.

4.2 DH1: Umm an-Nar Settlement

Seventeen Umm an-Nar buildings have been identified within an area of approximately 2–3 ha and 3rd millennium BC pottery was found scattered in a peripheral area of at least 16 ha. In many cases, it was difficult to recognize the buildings from the surface because of the successive reuse that the settlement suffered after its initial abandonment following the Umm an-Nar period. Additionally, a number of post 3rd millennium BC tombs, some of which likely date to the Wadi Suq and more recent periods, were constructed at the settlement and its surroundings. Most of these tombs reused the stones from the Umm an-Nar buildings. Furthermore, the modern road leading from Saham to Yanqul runs through the site, and a large portion of the northern part of the settlement was destroyed and removed completely (Fig. 4).

The buildings at DH1 were built separately. Distances between buildings varied, and there is a large open area located in the eastern part of the settlement.

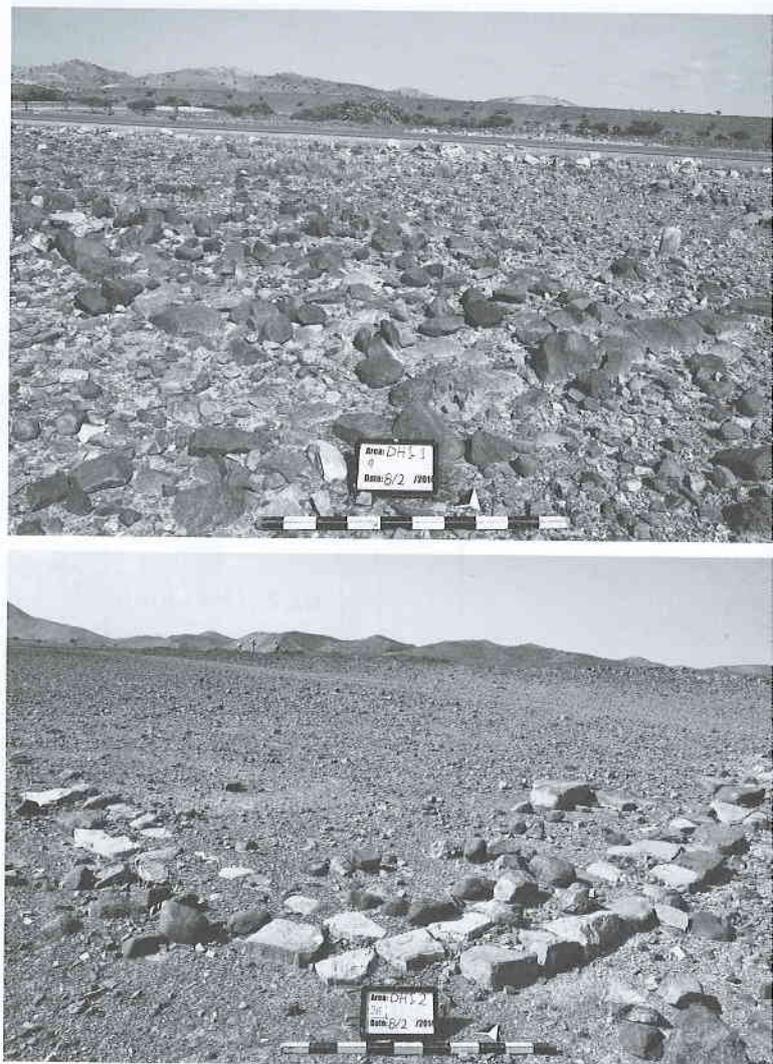


Fig. 5: Examples of DH1 buildings: a) Building S.9 and b) Building S.3.

The distribution of the buildings is irregular; they are not clustered in a central area, and major buildings cannot always be clearly recognized from the surface. Despite these facts, the buildings do appear to be more concentrated in the apparent center of the settlement compared with the periphery. No round towers are present at the settlement. The majority of the buildings (75 %) have a rectangular shape, while few of them (12.5 %) were square.

Tab. 1 summarizes the size and shape of the DH1 buildings. Smaller buildings were more concentrated in the center of the site, while the larger ones were located on the outer edges. It is difficult at this phase of the research to know for sure if the smaller buildings in the center of the site represent the core of the settlement or if the larger buildings were built later.

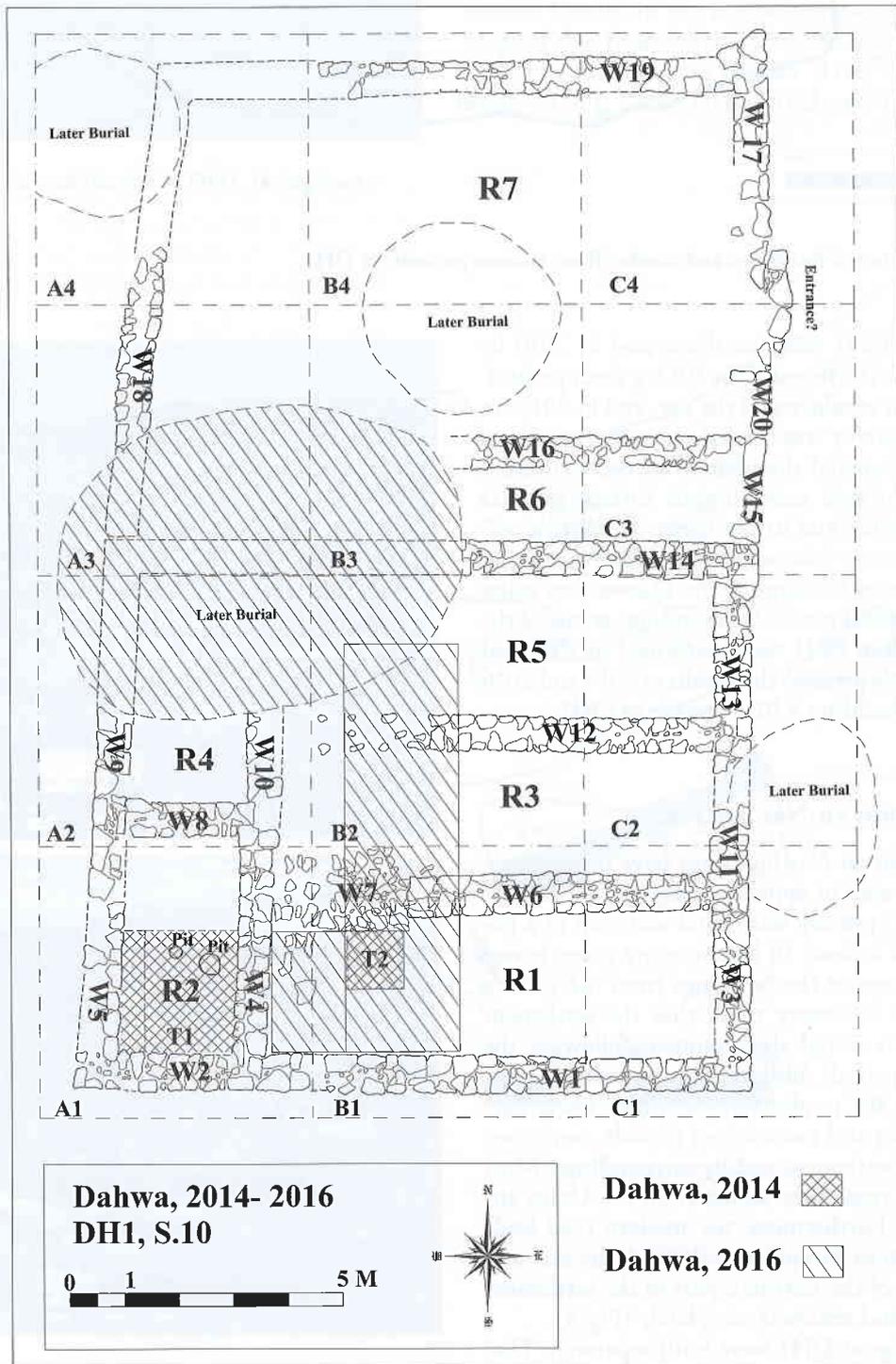


Fig. 6: Overhead plan of building S.10.

Building	Length (m)	Width (m)	Total Size (m ²)	Shape
S3	10.30	4.80	49.44	Rectangular
S4	9.80	5.00	49.00	Rectangular
S5	9.60	6.20	59.52	Rectangular
S6	12.00	10.00	120.00	Rectangular
S7	5.70	5.50	31.35	Rectangular
S8	---	4.00	---	---
S9	---	9.60	---	---
S10	19.00	12.00	228.00	Rectangular
S11	8.50	7.50	63.75	Rectangular
S12	13.00	6.00	78.00	Rectangular
S13	10.00	6.00	60.00	Rectangular
S14	8.80	3.70	32.56	Rectangular
S15	11.00	7.50	82.50	Rectangular
S16	11.00	11.00	121.00	Square
S17	11.00	11.00	121.00	Square
S18	---	---	---	---
S19	12.00	11.00	132.00	Rectangular

Tab. 1: Dimensions of Umm an-Nar buildings at DH1.

It was impossible to locate the outer entrances of most of the buildings, but it was possible to ascertain that most of the buildings were oriented north-south, and that only a few were built in a northwest-southeast direction. Based on surface observations, most buildings at DH1 were composed of several rectangular rooms, except for the very smallest buildings that simply consist of a single room. The complexity or lack of complexity of construction as indicated by the number of rooms may suggest either differences in building functions or social status, but these hypotheses cannot be tested at this time.

The buildings were constructed of local stone and while some were robbed for the construction of later tombs, a large amount of fallen stones were found inside and near to the buildings as well (Fig. 5). All stones were unhewn and collected from the surface of the site itself or the nearby wadis, where such natural stones are available in abundance. Walls were built from two rows of medium to large sized stones, with smaller stones in between the two. Mortar was used in the construction of the walls. Most buildings still stand between one to two courses tall, and overall preservation of the buildings varies between well preserved and partially damaged. The main cause of damage appears to be the removal of stones for later tomb construction. There is no evidence that construction of these building included mud-bricks.



Fig. 7: General view of building S.10 after surface clearance, southwest corner.



Fig. 8: General view of trench T1 in room R2 (left) and trench T2 in room R1 (right), facing north.

4.3 Building DH1, S.10

Building S.10 is located at the south-east border of the settlement. Based on its location, preservation, and size, building S.10 was chosen in 2014–2016 to be studied in detail and probed to gather information on its date and stratigraphy. Most walls of building S.10 were already exposed on the surface before excavation (Fig. 7). Topographically it is situated on the highest area of the settlement (163 m above sea level) and oriented perfectly north-south (Fig. 6). Parts of the building were disturbed post-3rd millennium BC (strata V–IV; Fig. 6–Fig. 7), when four tombs were built inside and on the outer walls of the building.

Building S.10 has a total area of *c.* 228 m², and it is the largest building located at DH1 (Tab. 1). It has a rectangular outer shape with a total length of 19 m and total width of 12 m. The building is composed

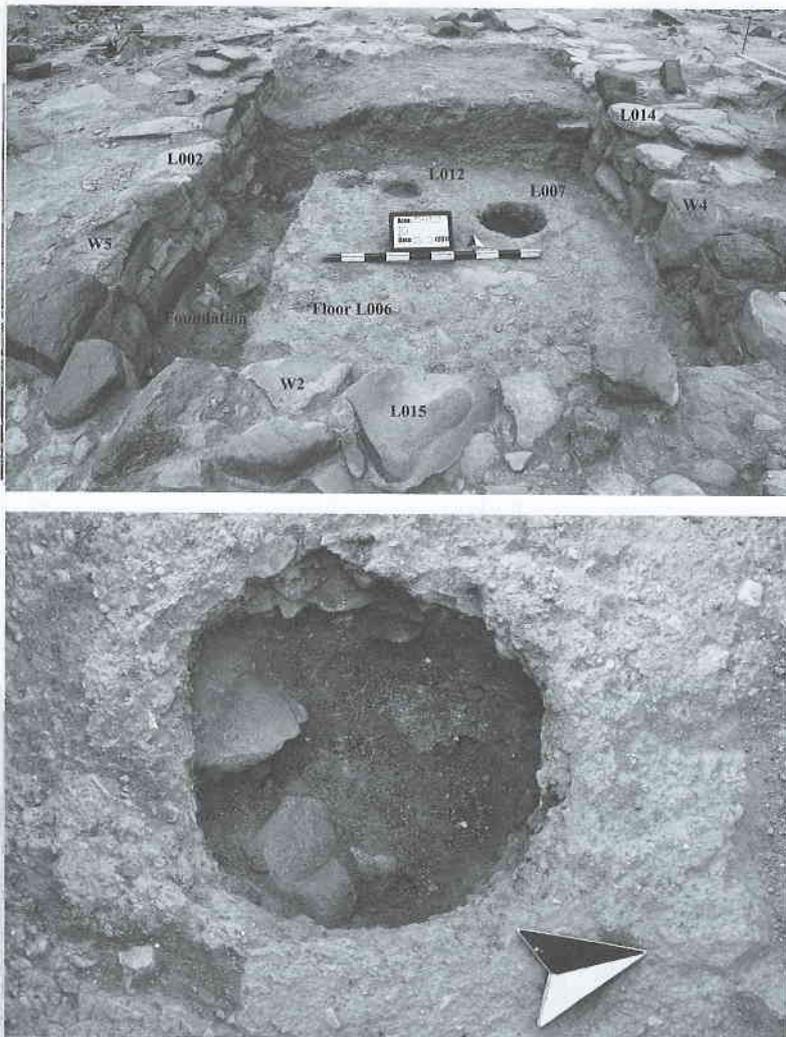


Fig. 9: a) Trench 1, Room R2, earliest floor (Floor L006) with two pits (L007 right, L012 left); b) close-up of pit L007.

of northern and southern parts (Fig. 6). The southern part is the primary space and the earliest built (phase VI.7a). It has a rectangular shape (12.30 x 10.00 m) with an overall size of (123 m²). It includes six rooms (R1–R5; R8). In order to document the building completely, a grid of (15 x 20 m), divided into 12 squares each 5 x 5 m was set.

The southern part of the building can also be divided into eastern and western sections. In this case, the eastern section contains three rectangular rooms (R1, R3, and R5) which are parallel to each other and extend east-west connected through a long corridor (R8). The western section has two rooms (R2 and R4) running north-south. The western and eastern sections are separated by walls (W4 and W10), and there is no communication between the sections.

The southern part of building S.10 seems to be built according to a specific and well thought-out plan. The three rooms on the eastern side (R1, R3, and R5) were all built equal in size (5.50 x 2.50 m; Tab. 2). The same

situation applies for the western rooms (R2 and R4) as their sizes are equal to one another as well (4.0 x 2.0 m). All walls in this part of the building were built jointly with the outer walls. This may be an indication that the entire southern part of the building was built at the same time (one phase: VI.7a). Further, the outer and inner walls show no real differences in their width (c. 60 cm; Tab. 3). They were built from two rows of large unhewn limestone and smaller stones were between the two skins. The entrance for this part of the building has not been found. It might be located on the northern side, since this is the only side that is still not exposed fully because of a later tomb (Tomb 9), which used this wall as its foundation.

Room #	Length (m)	Width (m)	Total Area (m ²)
R1	5.50	2.50	13.75
R2	4.00	2.00	8.00
R3	5.50	2.30	12.10
R4	4.00	2.00	8.00
R5	5.50	2.50	13.75
R6	---	1.30	---
R7	10.00	8.00	8.00
R8	8.80	2.50	22.00

Tab. 2: Building S.10 room dimensions.

Wall #	Length (m)	Width (m)	Height (m)
W1	8.00	0.60–0.70	0.20–0.40
W2	3.20	0.60–0.64	0.30–0.43
W3	3.70	0.59	0.20–0.40
W4	4.20	0.58	0.35–0.65
W5	4.30	0.60–0.65	0.50–0.60
W6	5.10	0.64	0.20–0.40
W7	2.10	---	1.30
W8	1.90–2.00	0.60	0.20–0.40
W9	---	0.60	0.20–0.40
W10	---	0.60	0.20–0.40
W11	2.00	0.60	0.25
W12	---	0.60	0.20–0.40
W13	2.40	0.60	0.20–0.40
W14	---	0.60	0.20–0.40
W15	3.00	0.20–0.32	0.20–0.40
W16	---	0.60	0.20–0.40
W17	3.60	0.60	0.30
W18	---	0.60	0.20–0.40
W19	---	0.58–0.62	0.20–0.40
W20	0.40	0.22	0.20

Tab. 3: Building S.10 wall dimensions.

The northern part of building S.10 is smaller than the southern part of the building (Fig. 6). It is rectangular (9.0x12.0 m) with a total area of 108 m². It is composed of one small room (R6) and a large open courtyard (R7). Room R6 is very narrow; in fact, it is the smallest room of the building (Tab. 2). Its width is *c.* 1.30 m, but its full length is still not exposed. Approximately 5 m of this room has been uncovered, and the western part is below the later tomb (Tomb 9). The open courtyard (R7) is quite large (10.0x8.0 m). It is enclosed by a wall that presumably was never built as high as the walls of the south part of the building because some of its large stones were standing upright which it makes it difficult to hold more courses of stone. Furthermore, very few stones have been found around the walls that could be fallen from the walls. Additionally, there is no indication of fallen mud-bricks around the walls.

The entrance of the north part is approximately 1.0 m wide and located in the middle part of the eastern wall with a stone threshold in the front. All walls of the northern part of the building are built jointly with each other, but not with the southern part of the building. Wall W15, which is the western wall of room R6 and part of the eastern wall of the courtyard (R7), was built against the outer edge of wall W14 (Fig. 6). This could be an indication that the northern part was added to the southern part of the building at a later time (e.g. phase VI.6). All walls of the northern part of the building were built less well than walls of the southern part. For example, they were not built as straight as the walls of the southern part, the sizes of the stones were irregular, and finally, the direction of the walls did not follow the same line as the southern part.

4.4 Excavations

The 2014 and 2016 excavations at the site of DH1 focused on building S.10. In 2014, two small trenches were excavated: Trench 1 (T1) in room R1 and Trench 2 (T2) in the nearby room R2 (Fig. 8). These two rooms (R1 and R2) were chosen because they were not disturbed by the later tombs as the other rooms had been.

4.4.1 Trench 1

Trench 1 is located in square A1 and extends across most of the southern half of room R2 with a dimension of 2.30x2.10 m. Excavations in T1 reached the earliest surface floor (A1:L006) of room R2 (Phase: VI.7a; Fig. 9). The floor was gray in color and composed of very hard clay mixed with small stones, running against the inner side of walls W2 and W5. Two shallow round pits (A1:L007 and A1:L012) were found in R2 (pit L007: 0.26 m deep & 0.33 m diameter; pit L012: 0.10 m deep & 0.23 m diameter; Fig. 9b). These pits may have been used for storage purposes. A few small pieces of charcoal



Fig. 10: Bench (L005) alongside the east wall (W4).

have been collected from the fill layer (A1:L008) inside the pit (A1:L007) in room R2 and produced a date of 2482–2309 cal. BC (MAMS 23203; Tab. 4). This may indicate the end of the use of the pit (phase VI.7a).

To the west of room R2 an approximately 0.40 m wide trench was dug inside the earlier floor (A1:L006), along the west wall (A1:L002/W5), to uncover the depth of the foundation of walls W5 and W2 (they are about 0.30 m beneath the surface floor A1:L006). The walls and floor (A1:L006) were built on a hard foundation, composed of a stone layer (A1:L009) mixed with gray clay (Fig. 9a). The walls are still standing 2 to 4 courses. Furnace wall fragments were found inside a filling layer (A1:L009; phase VI.7b) that lay underneath the earliest floor (A1:L006).

After using room R2 for a time (phase VI.7a), a new brown mud surface floor (A1:L004) covered the entire room (Phase VI.5), with a gray soil/ash layer (A1:L011) underneath. Two charcoal samples were analyzed from these two layers. They produced similar dates (MAMS 23201: 2466–2298 cal. BC and MAMS 23202: 2466–2296 cal. BC; Tab. 4). These dates are very close to the above-mentioned date of the filling layer A1:L008, which is additional evidence of the end of phase VI.7a and the beginning of phase VI.5. On top of floor A1:L004 a bench, composed of 1–2 course of flat stones approximately 0.10–0.15 m thick (A1:L005) was placed along the eastern wall (W4) of R2 (Fig. 10).

No pits were found from this phase inside the room. This might indicate that the function of the room changed between phase VI.7a and VI.5. Later, in phase VI.2 a thick brown mud floor (A1:L003) was placed inside R2 and covered the previous floor (A1:L004). This floor was used inside R2 until the building was abandoned completely and the room was filled with fallen stones and soil (Fig. 11). Unfortunately no datable material has been found on this floor (A1:L003) which it makes it impossible to date the end of use the building S.10.

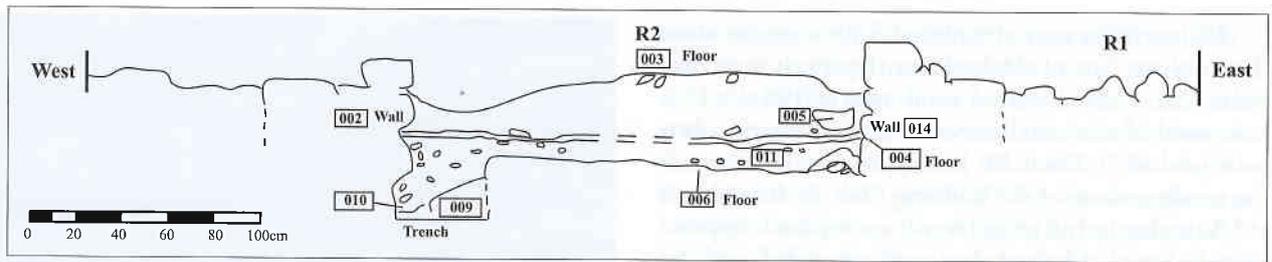


Fig. 11: The north section of Trench T1 in Room R2.

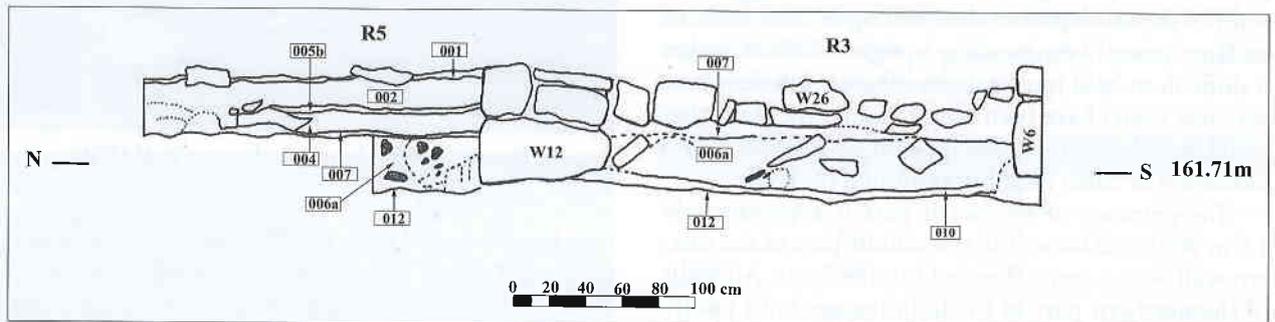


Fig. 12: The east section of the Trench T2 in Corridor R8.

Lab #	Provenience	Description of Context	Material	Uncalibrated 14C age (BP)	2 σ calibrated range BC (95.4% confidence)
MAMS 23201	S.10-A1:L004	Room R2, Floor	wood charcoal	3892 \pm 25	2466–2298 BC
MAMS 23202	S.10-A1:L011	Room R2, Ash Layer	wood charcoal	3892 \pm 27	2466–2296 BC
MAMS 23203	S.10-A1:L008	Room R2, fill layer inside Pit A - A1:L007	wood charcoal	3926 \pm 24	2482–2309 BC
MAMS 23204	S.10-B1:L006a	Corridor R8, Ash Layer	wood charcoal	3932 \pm 24	2548–2339 BC
MAMS 23205	S.10-B1:L005	Corridor R8, Floor	wood charcoal	4025 \pm 25	2618–2474 BC
UGAMS 24909	S.10-B2:L012	Rooms R3/8, Floor	burned date stone	3840 \pm 25	2456–2203 BC
UGAMS 24910	S.10-B2:L010	Rooms R3/8, Ash Layer	wood charcoal	3850 \pm 25	2458–2207 BC
UGAMS 24911	S.10-B2:L006	Room R1, Floor	wood charcoal	3910 \pm 25	2472–2306 BC
UGAMS 24912	S.10-B1:L008	Corridor R8, Ash Layer	wood charcoal	3880 \pm 25	2464–2290 BC

Tab. 4: Radiocarbon dates (Sample #s 23201–23205 were performed by the Curt-Engelhorn Center for Archaeometry at Universität Heidelberg and samples 24909–24912 were performed by University of Georgia Center for Applied Isotope Studies). Calibrations calculated with OxCal 4.3 (Bronk Ramsey 2009) with IntCal13 Atmospheric Curve (Reimer *et al.* 2013).

4.4.2 Trench 2

Trench 2 is located in squares B1 and B2 (Fig. 8). Excavation was planned in 2014 to uncover the southern part of corridor R8 (3.0 x 2.5 m). Time limitations reduced the trench size to 1 x 1 m. In 2016, this trench was extended further to the north into an L-shape, with a total length of 7.0 m (Fig. 6). The final dimensions of the trench were 2.5 m wide in the northern part and 4 m wide in its southern part. The trench was designed to cover nearly the entire east half of corridor R8 and the west end of rooms R1, R3, and R5.

As a result of the excavations, the west end of both walls W6 and W12 were uncovered, which enabled us to clarify the exact length of the three rooms (R1, R3, and R5) as 5.50 m. The inner side of the excavated walls was covered with whitish, thick plaster. For example, in the south-west corner of R8 the plaster was c. 40 cm thick at the bottom of walls W1 and W4 and became thinner (c. 15 cm) in the upper part.

The earliest floor (B1:L013, B2:L012) in corridor R8 was also uncovered (Phase: VI.7a). It was identical to the earliest floor (A1:L006) of room R2 and composed of very hard gray clay mixed with small stones. This floor was placed directly on top of a virgin soil layer (B1:L014). This layer was composed of the natural local gray soil mixed with a large quantity of small stones. The relationships between floor (B1:L013 and B2:L012) and walls W6 and W12 are not yet clear. For example, although the level of the floor is c. 5 cm deeper than the foundation of W6, no evidence was found to say that this floor runs underneath W6 (R1/R3). Moreover, in the north part of the trench this floor (B2:L012) was very close to the base of the south side of W12 (R3), while it was laid 2–4 cm lower than its foundation in the north side (Fig. 12). A charred date stone from this floor (B2:L012) produced a radiocarbon date of 2456–2203 cal. BC (UGAMS 24909; Tab. 4). This date is very close to the end date of phase VI.7a in the nearby room R2.

Corridor R8 seems to have been used intensively during the earlier phase (VI.7a). In the middle part of this corridor, a copper furnace was partially uncovered (B2:L011). The rest of it runs through the west section of the trench and is unexcavated. The preservation of the furnace is not good. It was laid directly on top of floor B2:L012 and it has an oval shape that was built with clay lumps. No stones were found around the furnace. Approximately 2.5 kg of small copper slag fragments were found *in situ* around the furnace (Fig. 13). Their average size is approximately 3 cm diameter. This is evidence that this furnace was used for copper processing. A fragment of a copper hook was found near to the furnace (Fig. 15d). It is not clear if the furnace was used for processing such a tool or if the tool was used in some part of the copper smelting process. No remains of molds have been

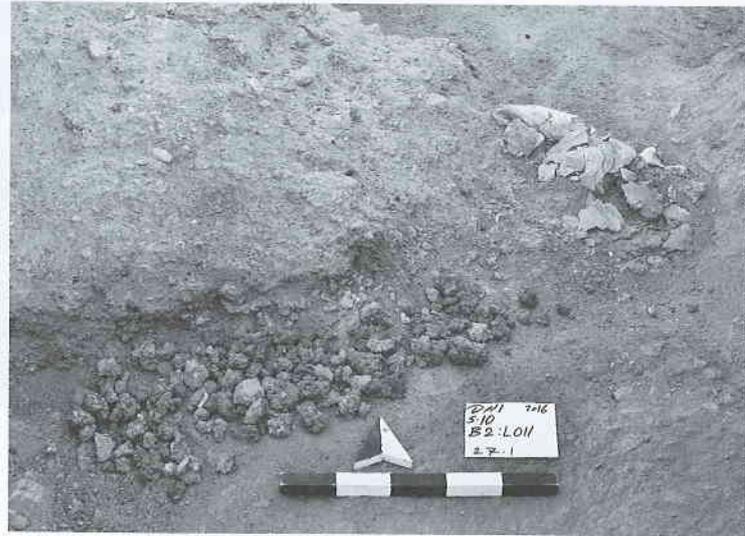


Fig. 13: Copper slag recovered from area near furnace in corridor R8.



Fig. 14: Indus Black-Slipped storage jar with other Indus coarse Storage Jar in the SW corner of the corridor R8.

found. It is worth mentioning that similar material to the furnace was observed in other parts of both sections along the trench inside corridor R8. Presumably, this is an indication that other furnaces exist in the corridor. A thick ash layer (2–3 cm thick) was found inside and around the furnace. This layer (B2:L010) extended all over floor B1:L013 and B2:L012 in the excavated part of corridor R8. A charcoal sample from B2:L010 produced a date of 2458–2207 cal. BC (UGAMS 24910). Again, this date is identical to the end date of phase VI.7a.

At the east side of the furnace, an approximately 30 cm long shell was found (Fig. 13). Preservation was not good since it was crushed by the upper lay-

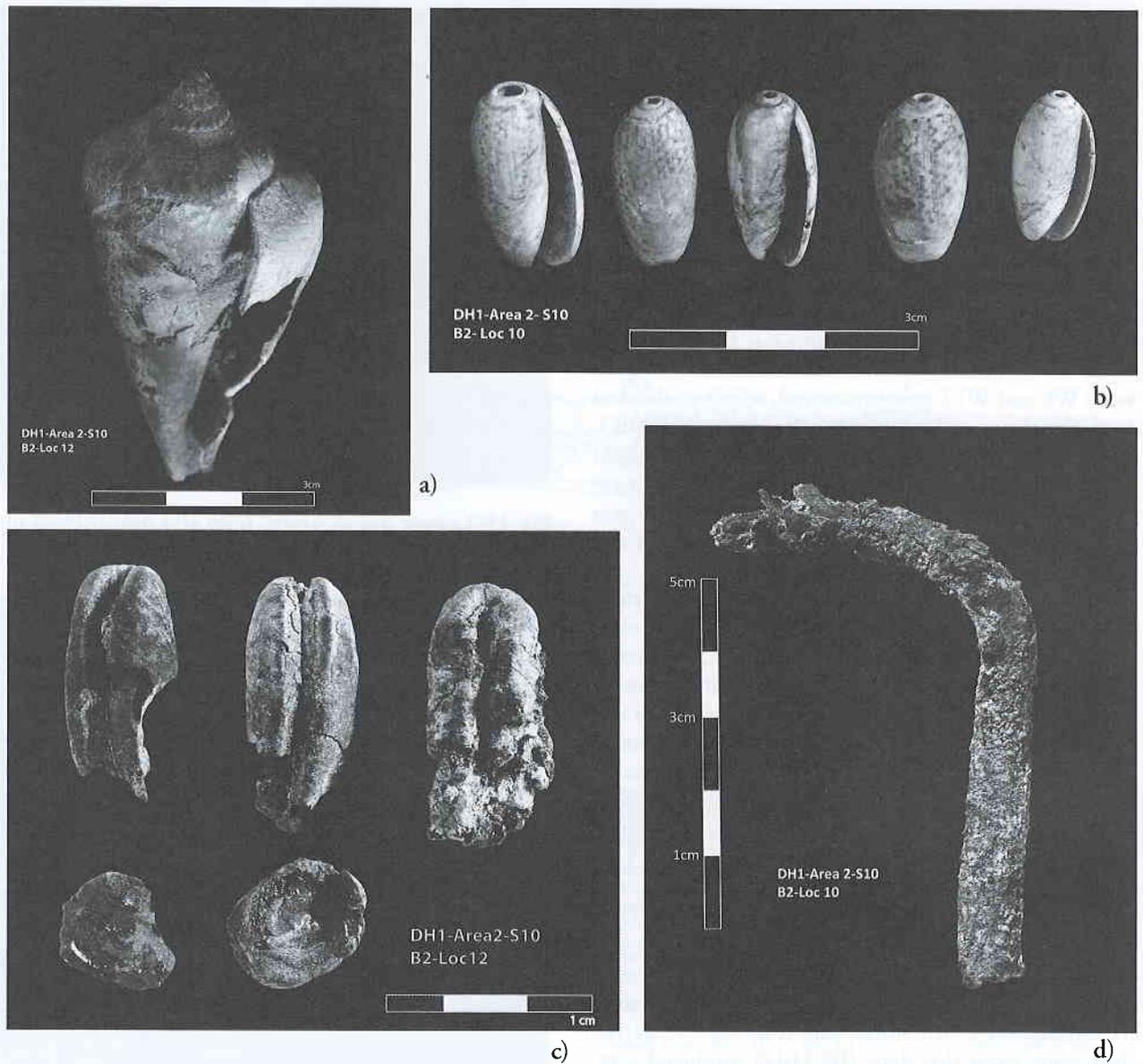


Fig. 15: Examples of a) burned shell, b) worked shell, c) date stones, and d) bronze/copper hook recovered from building S10.



Fig. 16: Restorable Indus Black-Slipped Storage Jar broken into 624 sherds.

ers. In addition, on the southern side of the furnace more than 50 medium sized (4–6 cm long) shells were found (Fig. 15a). In a distance of about one meter to the north-east of the furnace, another group of more than 100 small shells (2–4 cm long) was found. Most of them had been burned. All the small shells have holes on their top, which indicate that they were formed as beads (Fig. 15b). Furthermore, to the south of the furnace six burned date stones were found (Fig. 15c).

In the south-west corner of corridor R8 (Fig. 6) one typical Indus Black-Slipped Storage Jar was found (Fig. 14, Fig. 16, and Fig. 17.9) together with another coarse ware Indus storage jar. Both jars were broken and their sherds were stacked on top of each other with burning traces covered by two ash layers B1:L008 and B1:L006a. Stratigraphically, these two ash layers were lying on the level covering the earliest floor (B1:L013) and the broken Indus Storage Jars (Fig. 14). One charcoal sample from each ash layer was analyzed (Tab. 4). The sample from ash layer B1:L008 produced a date of 2464–2290 cal. BC (UGAMS 24912), and layer B1:L006a produced a date of 2548–2339 cal. BC (MAMS 23204; Tab. 4). Although the date of layer B1:L008 is identical to the other above-mentioned dates, the date of the other layer (B1:L006a) appears to be earlier. Closer examination of the radiocarbon results (Fig. 18), reveals that in fact, there is a 93.9 % probability (as opposed to the 95 % probability reflected by the 2-sigma calibration) that the date falls between 2489 and 2339 cal. BC, which strongly indicates that the date for the sample from B1:L006a also fits in the established chronology (Fig. 18). This date marks the end of use of the Indus Black-Slipped Storage Jar and the other coarse ware Indus jar as well. However, it is difficult to ascertain at this phase of the excavations whether this ash layer was caused by an intentional action designed to destroy the earlier phase or was a result of copper processing inside the building.

The ash layer (B1:L008, B1:L006a, B2:L010) was later (phase VI.5) covered completely with a solid brown mud floor (B1:L006, B2:L007) that covered the entire corridor (R8) and the other rooms (R1, R3, and R5) (Fig. 12). Floor B1:L006 was excavated in the south part of corridor R8 and produced a date of 2472–2306 cal. BC which is identical to the date of floor (A1:L004; 2466–2298 cal. BC) in the nearby room R2 (Tab. 4). An odd date for the same floor that was excavated in room R1 (B1:L005) produced a much earlier date, 2618–2595 cal. BC (MAMS 23205). This date is much earlier than the date of underneath ash layer (B1:L008, B1:L006a, B2:L010) and may indicate contamination from an earlier occupation layer.

However, this floor (B1:L005, B1:L006, B2:L007) differs from the earlier one; it was made of medium hard brown clay, mixed with a few small stones. It

is identical to the floor (A1:L004) that was found in room R2. The material of this floor is not indigenous to the site, and the source of the brown soil is still not clear. By laying out this floor, it seems that the function of the building was dramatically changed during this phase (VI.5). Neither remains of furnaces nor were ashes found inside the trench after this phase. This might indicate that no copper processing was practiced in the building in this phase. Moreover, far fewer pottery sherds were found at this time compared with the earlier phase (VI.7a).

An indication of another change in the function of the building is in the next phase (VI.4) where the general plan of building was changed permanently by construction of two division walls (W7 and W26). Wall W7 separated *c.* 2.5 m long block of the southern part of corridor R8. This new part became the west section of room R1. The total length of R1 was changed to 8 m. No entrance has been found so far for R1 in this phase. The other division wall (W26) was built between W6 and W12, and separated R3 from corridor R8 (Fig. 12 and Fig. 19). No access has been found for R3 after the construction of the blocking wall (W26). Both division walls were built directly on top of floor (B1:L009b and B2:L007) of the previous phase (VI.5). The construction technique of these walls differs from the other walls of the building. They were not straight, and they were built with medium to large sized stones. Further, their courses were randomly built with irregular edges. Although the separated rooms (R1 and R3) show evidence of use in the later phases, no doorways have been found.

A stone layer and soil layer found inside rooms R1, R2, R3, and R8 covered the previous floor of phase (VI.5). It is not clear whether this layer was caused by a destruction or it was a filling layer for the above laid floor. It has been marked as phase (VI.3). This layer was not accompanied by burned remains in the excavated trench.

Phase VI.2 is the last occupation stage of building S.10. It is represented by a new brown mud surface floor (B1:L005, B2:L005b) that covered the stone and soil layer in all the excavated parts of rooms R1, R2, R3, and R8. No traces of hearths or furnaces have been discovered in this phase. A very small amount of local Sandy Ware Umm an-Nar pottery sherds were recovered here. It seems that the building was used for only a short time in this latest phase. At the end of this phase, building S.10 was abandoned. The absence of destruction layers inside the excavated areas shows that the building was abandoned peacefully. After the abandonment, the walls of the building collapsed inside, outside the rooms, and alongside the outer walls. Together with blowing wind, the building was filled with stones and sand.

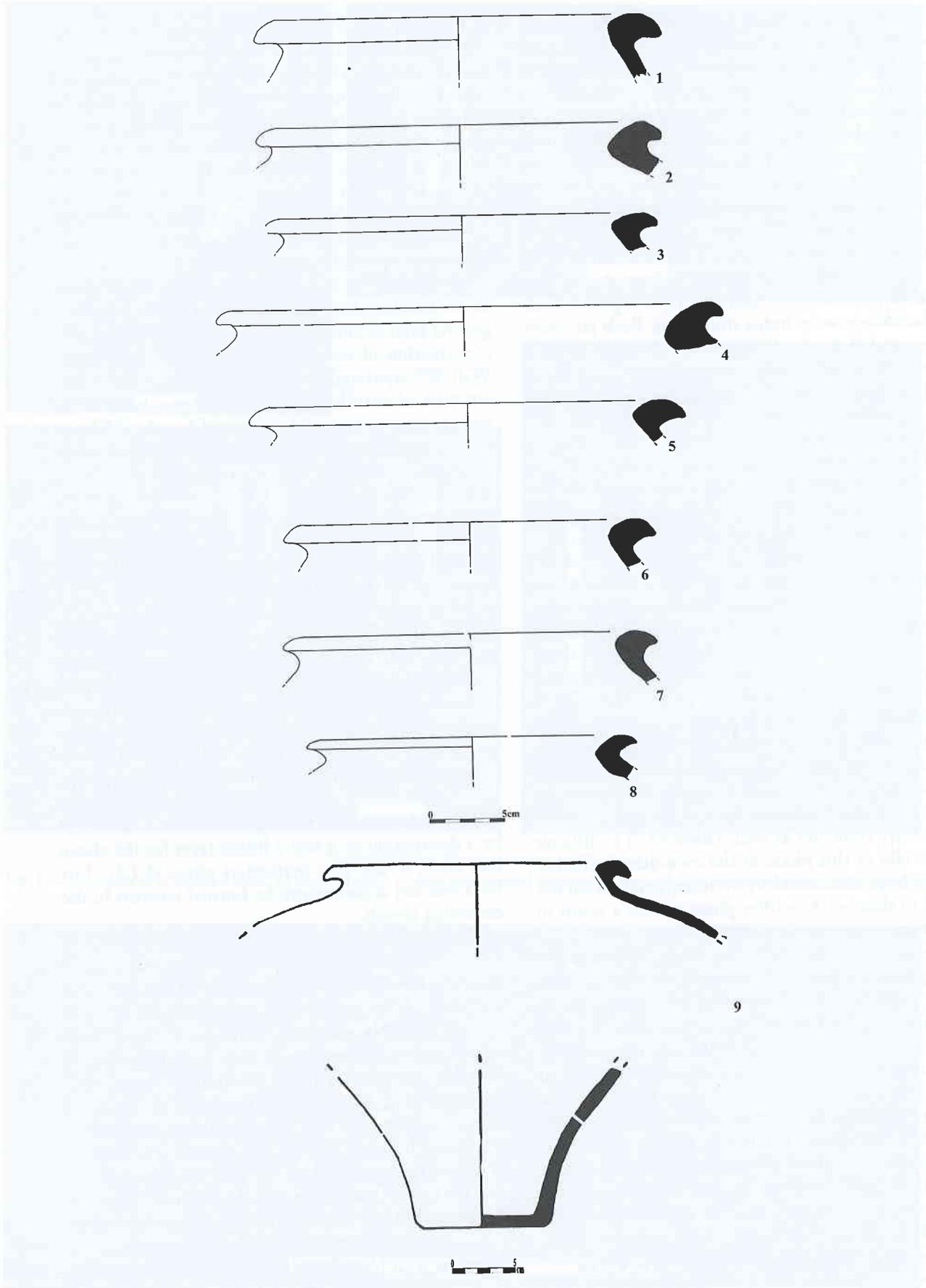


Fig. 17: Pottery from DH1.

4.5 Chronology and stratigraphy

The archaeological investigations at S.10 from 2014 to 2016 preliminarily identified six main strata (VI–I) which were further subdivided into 14 different phases. These strata begin in the Early Bronze Age and extend to recent times. A summary of the phases is shown in Tab. 5. The earliest stratum (VI) is subdivided into seven phases (VI.7–1) and belongs to the Umm an-Nar culture. Nine samples have been analyzed from this stratum. They yielded calibrated ^{14}C dates that cover nearly all of the second half of the 3rd millennium BC. The second stratum (V) belongs to the Wadi Suq period, where just one phase was identified (V.1). The third stratum (IV) marked as post-3rd millennium BC and was also represented by a single phase (IV.1). Stratum (III) dates to the Samad period and is represented by one phase (III.1). The fifth stratum (II) represents the Islamic period and includes two phases (II.2–1), while the latest stratum (I) represents the most recent use of the site.

Stratum VI is the earliest, and it belongs to the second half of the 3rd millennium BC. So far, the earliest phases of the Umm an-Nar settlement at DH1 have been exposed in only a limited area; however, the chronology, as well as the stratigraphy of the settlement has been established based on the excavation of the small trenches (T1 and T2) in building S.10. Radiocarbon dates place the construction and use of building S.10 around 2500 BC (Tab. 4). At present, seven main building phases (VI.7–1) are distinguished in this stratum, which provide evidence of a continuous sequence of use, without major cultural gaps (Tab. 5).

Phase (VI.7) is subdivided into two sub-phases: phase VI.7b is the earliest and represents the period of time before the walls of building S.10 were erected (pre-building S.10), while phase VI.7a represents the establishment of building S.10 and perhaps the other buildings at the settlement. Building S.10 was built in this phase skillfully and carefully. Unfortunately, the exact date that the building S.10 was first established cannot be determined at this point because no datable samples for ^{14}C analysis were recovered from this phase. However, the earliest floor that belongs to this phase was uncovered in room R2 (A1:L006) and corridor R8 (B1:L013, B2:L012). In rooms R1 and R3 just a small part of this floor was excavated along with corridor R8. One radiocarbon sample was analyzed from the surface of this floor. It comes from corridor R8 (B2:L012) and produced a calibrated date of 2456–2203 BC (Tab. 4). It marks the date when the earliest floor was used.

The use of this phase (VI.7a) was sealed in all excavated parts with an ash layer. Since this layer contained a large amount of burned wooden beams, four radiocarbon samples were collected and analyzed.

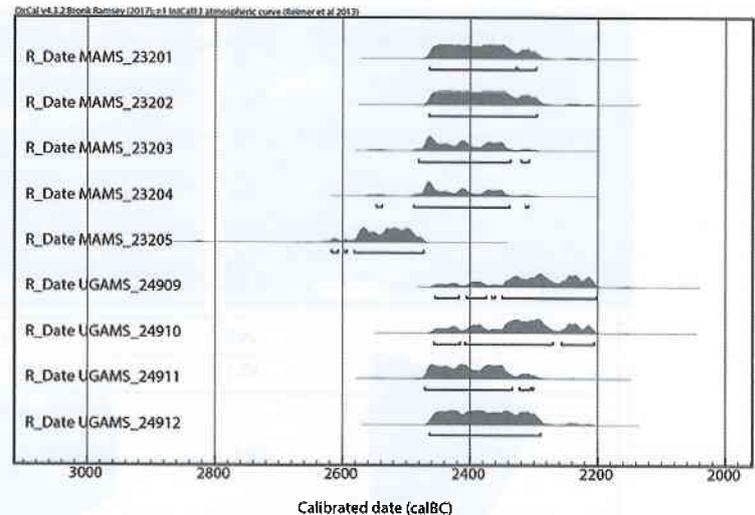


Fig. 18: Probability distributions for radiocarbon dates at DH1.

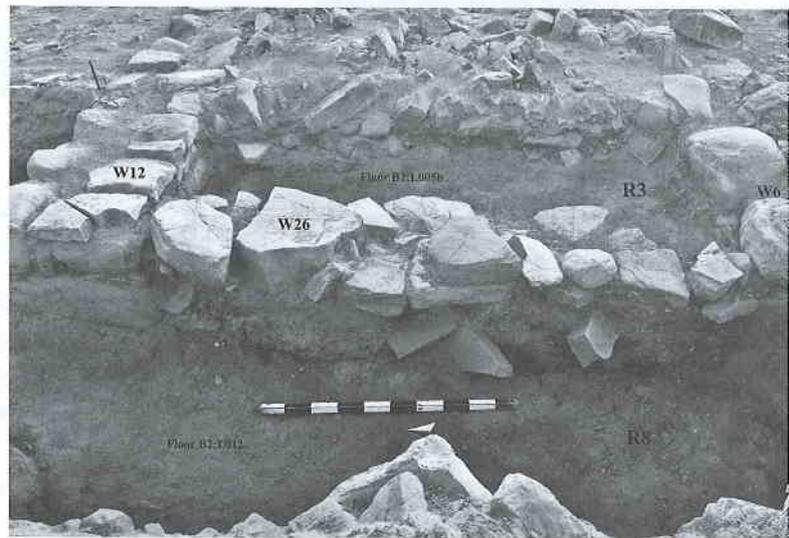


Fig. 19: The division wall W26, separating R3 in the back from corridor R8 in the front, looking east between.

Three of the samples produced almost identical dates (A1:L011 from R2: 2465–2298 BC; B2:L010 from corridor R8: 2457–2207 BC and B1:L008 from corridor R8: 2463–2291 BC), however the fourth sample (B1:L006a from corridor R8) produced a date that was almost one hundred years earlier (2548–2311 BC, Tab. 4).

The next phase (VI.6) witnessed expansion of the size of building S.10 where the north part was added to building S.10. At this phase of the excavation it is difficult to determine if the northern part was added before or after the above-mentioned ash layer was formed.

In phase VI.5 a major change took place in building S.10 where rooms R1, R2, R3, and R5, as well as corridor R8, were covered with a floor made of new material – a brown mud that covered the earlier gray

STRATUM	PHASE	OCCUPATION TYPE	DATE
VI UMM AN-NAR	VI.7B	PRE-S.10 CONSTRUCTION	2500 BC
	VI.7A	SETTLEMENT ESTABLISHED	2400 BC
	VI.6	BUILDING S.10 ENLARGED	
	VI.5	PARTIAL REBUILDING OF SETTLEMENT?	2300 BC
	VI.4	REPLAN BUILDING S.10	2200 BC
	VI.3	DESTRUCTION?	2100 BC
	VI.2	LATEST USE OF S.10	2000BC
	VI.1	SETTLEMENT ABANDONED	
V WADI SUQ	V.1	BURIALS REUSE OF UMM AN-NAR BUILDINGS?	1300BC
IV POST 3RD MILLENNIUM BC	IV.1	BURIALS	300BC
III SAMAD	III.1	BURIALS	AD650
II ISLAMIC	II.2	EARLY ISLAMIC BURIALS AGRICULTURE	AD1800
	II.1	LATE ISLAMIC DOMESTIC BURIALS COPPER MINING	
I MODERN	I.1	DOMESTIC BURIALS AGRICULTURE	PRESENT

Tab. 5: Chronology of building S.10.

plaster floor. The pit and furnace system from the previous phase (VI.7a) was abandoned completely at this time and replaced by a new system of benches that were added in some rooms. This suggests a major change in the function of building S.10. Three wood charcoal samples were collected from this floor (phase VI.5). A sample from room R2 (A1:L004) produced a date of 2465–2331 cal. BC, a sample from room R1 produced a date of 2471–2305 cal. BC, and a third sample from corridor R8 (B1:L005) produced a date of 2618–2474 cal. BC (Tab. 4). The dates of the first two samples from rooms R1 and R2 agree very well with each other. One explanation is that both events the end of phase VI.7a and beginning of the renovation phase VI.5 were occurred in a short period of time without any break in between. Further support

for this hypothesis is the fact that the bottom parts of the brown mud floor in the corridor R8 and rooms R1 and R3 that covered the ash layer had burning traces. This indicates that the floor was made while the ash and the burned wooden beams were still hot. The earlier date from this same floor in corridor R8 may have produced an earlier date because the process of formation of the floor may have incorporated mud that contained burned material from a yet earlier use of this or a nearby space.

At the end of phase VI.5, building S.10 suffered from a decline phase that comprises stratum VI.4. This decline might have continued until the end of use of the settlement. The building was re-planned where some parts of it were separated by building stone division walls (W7 and W26). This might be an indi-

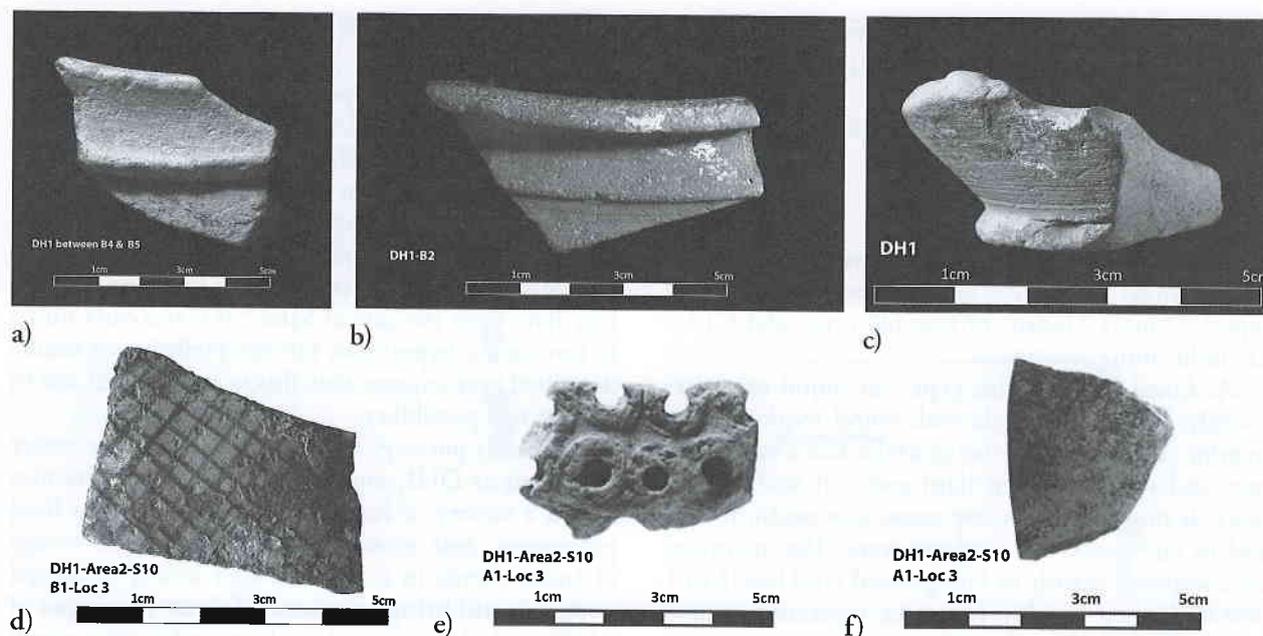


Fig. 20: Pottery from DH1: a) Indus cooking pot; b) Indus jar: red fine fabric; c) Makran fabric; d) Local fine red ware with black net painted; e) Indus perforated vessel sherd; f) Local Magan fabric with chevron painted pattern.

cation of a second functional change in the building. This phase was later ended by what seems to be a destruction event marked by a fallen stone layer that was found in multiple different parts of the excavated trenches (phase VI.3). It is difficult to prove the cause of this destruction since no burning remains have been found. Following this event, building S.10 was reused again (phase VI.2), and the large fallen stones were removed from some rooms and leveled with a soil layer. It was then covered by a new mud brown surface floor. At the end of this phase, the settlement was permanently abandoned with no evidence of deliberate destruction of the existing buildings. No traces of burning or destruction have been found through the thick fallen stone layer that covered the latest floor.

After the site of DH1 was abandoned for a while, it was reused sometime in Wadi Suq period (stratum V) as a cemetery where some burials found in the east side of the Umm an-Nar settlement as well as possibly on top of some of the settlement buildings. Other tombs were built on top of and between the Umm an-Nar buildings using both stone from the buildings and wadi cobbles. Based on their preservation, plans, and setting they have been preliminarily categorized as 'post-3rd millennium BC tombs' (stratum IV). These tombs are more concentrated in the area of the Umm an-Nar settlement, perhaps both because they utilized the existing Umm an-Nar building walls as foundation courses (as in the case of Tomb 9) and because the builders repurposed the fallen wall stones of these same buildings to build the walls of the tombs (Fig. 4).

Stratum II represents the Islamic period at the site. It includes two main phases (II.2–1). The earlier phase (II.2) belongs to the early Islamic period and is represented by very few pottery sherds while the later phase (II.1) was represented by a few very simple buildings concentrated mainly at the southern edge of the site looking towards the wadi (Fig. 3). Burials from this stratum were found all over the site. Many pottery sherds (e.g. Bahla Ware) distributed in different places at the site shows that the site seems to be used in as a seasonal camp for pastoralists.

During the recent time, Stratum I several small huts were constructed at the southern edge of the site (Fig. 3). A few modern pottery sherds were distributed in different areas of the site, which indicate that the site was not used intensively during the modern time. Modern Islamic burials were found on the western side of the site.

4.6 Pottery from DH1

All of the pottery described in this paper was found in the settlement of DH1. Although some Early Bronze Age tombs exist at the site, no funerary pottery is described here. The settlement pottery was collected from two different contexts. The first group comes from the surface, which it represents the majority. It was collected through the survey conducted at the site in 2014–2016. The second group, which is much smaller, comes only from building S.10 where a few small trenches have been excavated.

A very preliminary analysis of both groups of ceramics shows that the 3rd millennium BC ceramics can be generally categorized into two main groups: 1) local (Type A) and 2) imported (Type B) types.

4.6.1 Type A Local Ceramics

In general, the majority of the ceramics found at the settlement of DH1 were local. There are three local types: A) local Magan, B) fine red type, and C) local-Indus imitation type.

A. Local Magan: This type was found most frequently. It is wheel made with wheel marks on the interior. The surface of the ceramics has a sandy texture and varies between hard and soft surfaces. Its fabric is mostly fine, in few cases, it is medium fine, and in rare cases, it is a coarse ware. The inclusions are composed mainly of fine-grained sand less than 1 mm in diameter, and in few cases, vegetation temper is observed. Black horizontal, wavy line(s) or a chevron pattern (Fig. 20f and Fig. 21.11) was applied on the outer slipped surface. This type is represented by different forms: small jar (Fig. 22.7–8), medium jar (Fig. 22.6), small bowl (Fig. 21.5), all the vessels have a flat base (Fig. 21.6, 9).

B. Fine Red Ware: This ware is less well represented at DH1 compared to the local Magan type. The surface of this ware is harder than the local Magan type. The exterior surface is covered with red slip, a net black painted pattern was applied on the exterior (Fig. 20d and Fig. 21.12), and in some cases, circular grooves are observed (Fig. 21.14). The fabric is very fine, well fired, and wheel made. The inclusions are composed of very fine sand. Most vessels of this type are small with thin, flaring, everted rims (Fig. 22.9) and a flat base (Fig. 21.10).

C. Local-Indus imitation type: This type is quite well represented at the site. The fabric is typical local Magan Sandy Ware and the texture of this ware is similar to Type A. Most likely, the surface was covered with yellowish red slip and painted with a black horizontal band (Fig. 22.4) or parallel horizontal and wavy black bands (Fig. 21.1). The fabric color is reddish yellow, pink, and yellowish red, and vessels are mostly well fired. This type is wheel made. Inclusions are composed of few visible white, black, or sand grits, all less than 1 mm in diameter. In a few cases, vegetation temper was found. The shape and rim of the vessels of this type are similar to Indus wares. This type includes carinated bowls (Fig. 21.4), large open vessels (Fig. 21.1), medium jars (Fig. 22.4, 12), and small jars (Fig. 21.2 and Fig. 22.5, 11). The bases of the vessels are flat (Fig. 21.8).

4.6.2 Type B Imported Ceramics

Imported ceramics (Type B) at DH1 are represented by two main types: A) Indus and B) Makran pottery. The existence of the different types and wares of Indus ceramic tradition in DH1 clearly indicate an intensive connection between inhabitants of DH1 and Indus Valley culture. Should this be interpreted as an indication of an Indus community living at DH1 as may have been the case at Salut?¹ It is too early for us to test such a hypothesis, but the preliminary results described here suggest that this is an excellent site to explore this possibility.

A. Indus pottery: Indus ceramic types are rather numerous at DH1, and indicate that these ceramics served a variety of functions including storage food processing, and presentation. The total percentage of Indus sherds in compared with locally produced pottery is still being calculated. At least four types of fabrics of Indus pottery have been so far recognized: 1) fine black-slipped fabric, 2) coarse fabric, 3) sandy fabric, and 4) red fine fabric. The presence of a large amount of Indus ceramics at DH1 suggests considerable mobility and trade with the Indus Civilization.

1. Fine black slipped fabric:

This type is best known from the large Indus Black-Slipped Storage Jars (Fig. 23). This type is well represented at DH1. Rims from more than 25 typical Indus Black-Slipped Storage Jars were found at the settlement (Fig. 17). This form has been reported from different sites along the coasts of Oman and the UAE, as well as from inland settlements.² This type of jar has a distinctive curvilinear profile and thick layers of blackish to brown-purplish slip, completely coated in their internal and external surfaces (Fig. 23b). Fabric of this type is fine to medium fine ware. The fabric color is red to buff. Some vessels have no visible inclusions (white/black grits and mica) and they are made from well levigated clay. The vessels are well fired, and walls show rilling marks on their interior, suggesting wheel-made technique. This type of jars was found all over the site and is represented by different forms of their distinguished rim profile (Fig. 17). Similar jars were found in the circular stone tower (ST1) in Salut that date to the second half of the 3rd millennium BC (c. 2400–2000 BC).³ Furthermore, in building S.10 a restorable jar of this type was excavated *in situ* in the south-west corner of corridor R8 (Fig. 14 and Fig. 17.9). It was found on top of the surface floor (B1:L013/B2:L012, phase VI.7a), broken into 624 sherds (Fig. 16) covered with ash layer (B1:L008) (Fig. 14). A charcoal sample from this ash layer produced a calibrated radiocarbon

1 Frenez *et al.* 2016.

2 Méry – Blackman 2005; Frenez *et al.* 2016.

3 Frenez *et al.* 2016: fig. 4a.

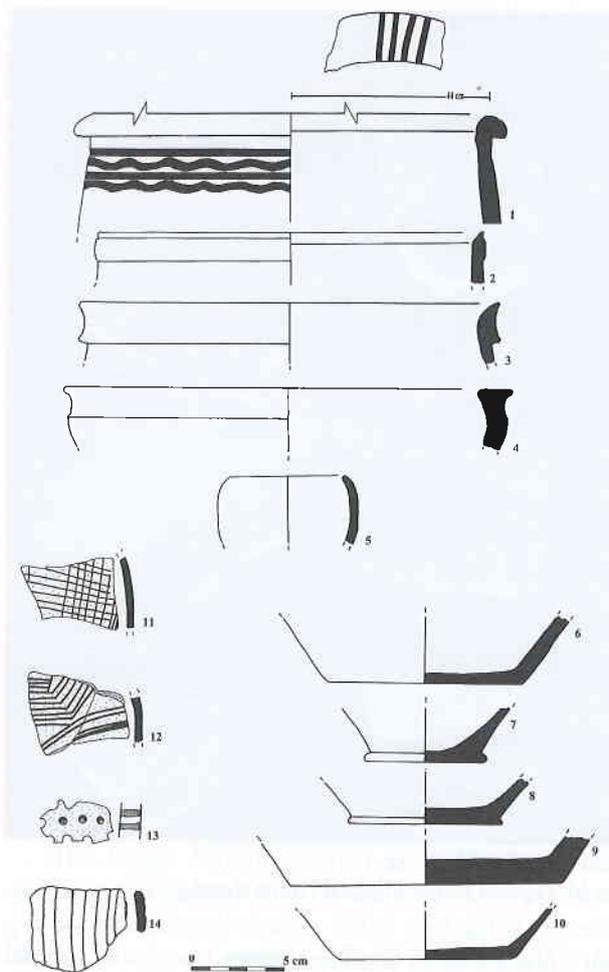


Fig. 21: Pottery from DH1.

date of 2463–2291 BC (Tab. 4). On top of the jar rim were two marks (Fig. 24). One is in a form of three nail impressions that were made before the jar was fired, while the other located on the opposite side of the rim, was made of three post-firing incised lines (Fig. 17.9). Post-firing linear incisions are reported on similar jar found in Salut.⁴ The external rim diameter is 25.5 cm, while the base diameter is 10.7 cm.

2. Coarse fabric:

This type is mainly restricted to storage jars. It is represented by few cases at the settlement of DH1. One of these jars was found *in situ* in the south-west corner of the corridor R8 in building S.10 together with a Black-Slipped Indus Jar. Unfortunately, neither the rim nor the base of this jar was found. The fabric of this type is very coarse. The external surface is covered with very thick red slip. Marks of thin rope-lines are visible underneath the slip on the outer surface. There is no slip on the internal surface. The uneven surface of the thick body sherds (0.70 cm thick) indicates a

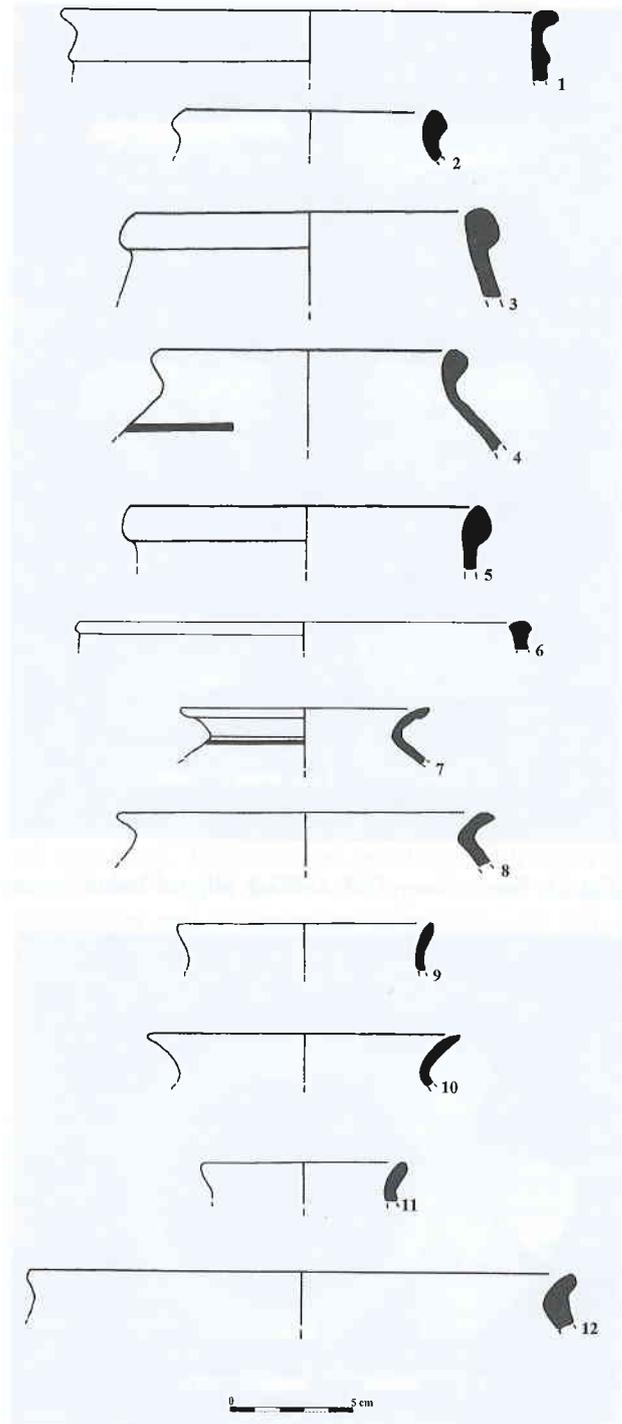


Fig. 22: Pottery from DH1.

handmade technique. The pot is well fired. The difference in the fabric between these two types of storage jars found in the same corner of corridor R8 indicate that they were used to store different material. For example, the Black-Slipped Jar was presumably used to store liquid, while this coarse type storage jar was most likely for dry material.

⁴ Frenéz *et al.* 2016: fig. 4a.2.

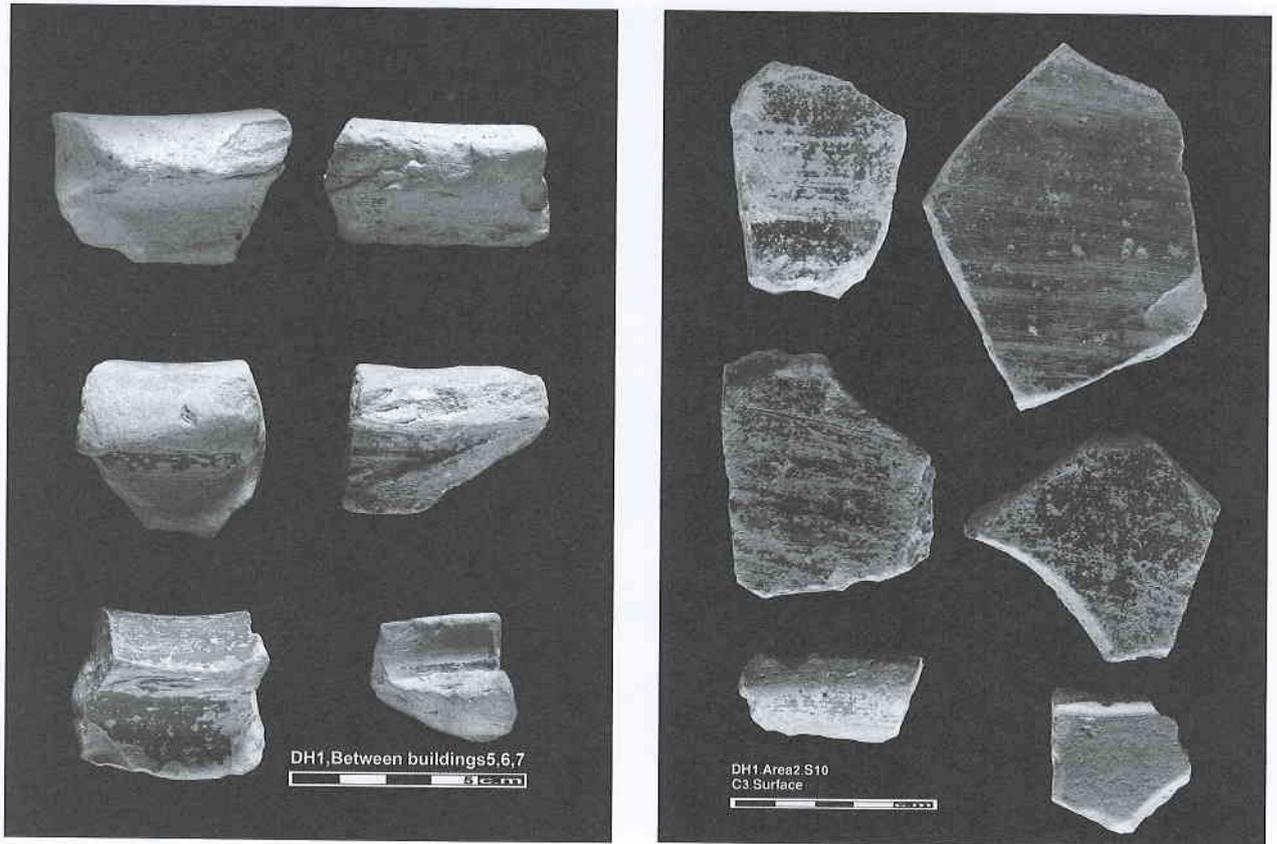


Fig. 23: Pottery from DH: a) Black-Slipped Indus Storage Jars; b) Typical Black-Slipped Indus sherds.

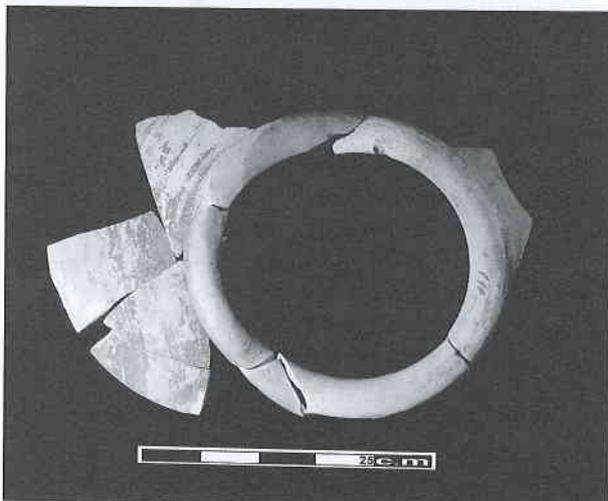


Fig. 24: Black-Slipped Indus Storage Jar with nail impressions (right) and incised lines (left) on a rim from DH1.

3. Sandy fabric:

This type is well represented at the site. It is represented by two sub-types:

3a: Large storage jars and medium jars belong to this type. The fabric has a sandy texture, mixed with large amount of fine black grits and mica. Traces of thin rope lines are visible on the external surface of the large Storage Jars but not on the medium sized

jars. A thick black slip layer covered both the external and the internal surfaces of the large storage jars. The external surface (but not the internal surface) of the medium jar is covered with reddish slip.

3b: Medium and small jars belong to this type. The fabric has a yellowish color and is mixed with large amount of very fine white grit. A few examples with a vegetation temper also exist. The exterior surface has creamy slip with black horizontal bands on top. In a few cases, a black slip was applied on the exterior surface, interior rim, and neck (Fig. 22.10). This type also includes perforated vessels (Fig. 20e and Fig. 24.12) that might belong to the typical tall Indus perforated jar that was probably used as strainer. Indus-style perforated vessel sherds have also been reported from Salut (ST1) and Ras al-Jinz RJ-2.⁵ Ridge cooking pots belong also to this type (Fig. 20.1 and Fig. 24.3).

4. Red fine fabric:

This type is well represented at the site. The fabric is red in color, inclusions are composed of a few fine white grits and mica, and it was well fired. Medium jars with ridge underneath the rim (Fig. 20b and Fig. 23.1) and small jars with thickened rim (Fig. 22.2) belong to this type.

5 Frenez *et al.* 2016: fig. 4d; Cleuziou – Méry 2002: fig. 5g.

B. Makran fabric: This type was represented by very few sherds. The fabric is very fine, gray in color, and inclusions are invisible. It was wheel made and well fired (Fig. 20c and Fig. 24.7).

4.7 Discussion

4.7.1 DH1 and Building S.10

Recent archaeological survey and excavations at Dahwa (DH1) in the area around Saham on the Batinah Coast has provided evidence for an Umm an-Nar settlement (DH1) dated to the second half of the 3rd millennium BC. DH1 is a large settlement, consisting of at least 17 typical Umm an-Nar stone buildings, some of which are quite large. DH1 is an important site because no other Umm an-Nar sites are known from this area. Settlement during this period had been thought to be concentrated in other regions such as Al-Dhakhilyah, Al-Dhahirah, and Al-Sharqiyah. This site, therefore, has the potential to change our knowledge of the Early Bronze Age in Oman and of the settlement history of the Batinah. It offers important new understanding of the changing nature of the ancient economy of the Batinah plain.

The largest building (S.10) at DH1 was found at the south-eastern edge of the settlement and was partially excavated during 2014 and 2016. It was shown to contain multiple phases of occupation. As described above, the building measures 228 m², and it is subdivided into eight internal rooms. In terms of chronology and stratigraphy, the recovered materials (e. g. ¹⁴C samples and pottery) as well as the structural remains (from both the surface and stratified contexts) indicate that there are initially six main strata (VI–I) that have been recognized and subdivided into 14 different phases, ranging from the Early Bronze Age to the recent time. The earliest stratum (phases VI.7–1) belongs to the Umm an-Nar period. Nine analyzed charcoal samples from this stratum yielded calibrated ¹⁴C dates, covering the second half of the 3rd millennium BC (Fig. 18). This Umm an-Nar settlement was the major occupation stratum. The construction of the settlement dates to around 2450 BC (Tab. 5). The excavation of building S.10 helps us understand the function of the building and perhaps that of the settlement in general. So far, none of other buildings within the settlement can be compared with Building S.10 in terms of size, layout, and function.

It is known that the Batinah region has always been a key center of Oman's population and agriculture.⁶ Thus, it is expected that one would find a high percentage of archaeological sites on the Batinah, which might reflect its economic importance over

time. Nevertheless, only few Umm an-Nar sites have so far been found there, mostly in Sohar,⁷ and most recently in Rustaq.⁸ The lack of Bronze Age sites in a region where more intensive settlement is expected suggests that long held assumptions about the nature of Bronze Age exploitation of the land should be challenged. For example, perhaps different land use patterns were practiced during this period and with regard to the local and international trade relationships in this specific environment. Elsewhere on the Oman Peninsula, Al-Jahwari⁹ has suggested that the economy of Bronze Age society was agricultural. Of course, this may not have been the case on the Batinah coast, but the local economy may also have differed from other better-known regions in ways that we do not yet fully understand. This is an important point that still needs to be addressed by future research.

4.7.2 DH1 Ceramics and Possible Trade Interactions

Previous fieldwork in the Oman Peninsula detailed other Umm an-Nar settlement sites across the Oman Peninsula.¹⁰ This work has documented variation in Umm an-Nar complex settlements and postulated the organization and function of Umm an-Nar period structures. The excavated building (S.10) at DH1 contributes to this understanding of Umm an-Nar settlements and is beginning to provide new information about how these settlements may have formed in response to their role in regional and international trade relationships. We make this assertion at this early stage of inquiry because of the robust evidence from the ceramic assemblage so far recovered at DH1.

The Indus Civilization was a key center of commerce and cultural interaction in the Bronze Age world. At DH1, we have discovered a large number of Indus Black-Slipped jar sherds both on the surface and in stratified contexts (Fig. 17). The large amount of Indus sherds suggests trade and goods exchange, which resulted in large quantities of Indus goods at Dahwa. This could include trade between this site and other as-yet-undiscovered nearby settlements or with coastal ports. The mechanisms of this exchange are still unclear, but vitally important to understand the site and its economy.

DH1 would have been in an excellent geographical position to influence inland trade routes linking the coast and other 3rd millennium BC sites further inland and south of the Al-Hajar Mountains. DH1 is

6 Lorimer 1908: 1411.

7 E. g. Frifelt 1975; Costa – Wilkinson 1987; Düring – Olijdam 2015.

8 Kennet *et al.* 2014; Kennet *et al.* 2015; Kennet *et al.* 2016a; Kennet *et al.* 2016b.

9 Al-Jahwari 2009; Al-Jahwari 2013.

10 E. g. Costa – Wilkinson 1987; Frifelt 1995; Schmidt – Döpfer 2014.

located about 24 km from the traditional coastal trade road, which would have allowed the inhabitants of DH1 to make use of their geographic location in order to have direct contact with the coastal trade roads. These interactions most likely linked DH1 to civilizations further abroad such as Indus and Makran, and this is supported by the large amount of foreign ceramics, as well as the locally produced Indus-imitation wares documented at this site. Relationships between DH1 and sites further inland are less easy to document at this time, but DH1 is located near to the opening of Wadi Hibi, which it forms the natural passageway to cross the Al-Hajar Mountain, connecting both sides, east and west of the Mountain.

Our current stage of investigation leaves us with many questions about the role of DH1 played on a regional level. There is a strong evidence for international trade from this initial excavations and survey, but what was the role of DH1 locally? What reason is there for the large number of Indus Black-Slipped Jars and other types of Indus fabrics at this site? One hypothesis is that DH1 may have been a regional 'redistribution center' for goods traded at coastal ports and beginning their trade along coastal and inland trade routes. Perhaps this trade centered on the copper smelting that occurred at this site in abundance. DH1 is in an ideal location to receive foreign goods, produce valuable copper, and redistribute goods (perhaps copper ingots or trades Indus products) to both the coast and inland. The overabundance of wall furnace lining fragments and copper slag at the site support the notion that copper mining was a main industry for the inhabitants of DH1. Specifically in the stratified context of building S.10, the excavated furnace is also evidence of significant copper processing. Further excavation within building S.10 and other buildings at DH1 and other Dahwa sites will con-

tinue to shed light on the scope of copper processing at DH1 as well as the role this site may have played regionally and internationally.

4.8 Conclusion

Here we present the results of preliminary archaeological survey and excavation carried out at the site of DH1, south-west of the center of Wilayat Saham on the Batinah Coast of the Sultanate of Oman. DH1 is a large site that is described here for the first time. This site is important because of its location and size and because of the potentially important role this site may have played in Early Bronze Age Batinah Coast economy. Data from this site will offer information that contributes to our understanding the nature of the Umm an-Nar settlements on the Batinah Coast, as well as the entirety of the Oman Peninsula. The function of the building S.10, certainly included copper processing, but the function of the larger settlement is still being uncovered. One possibility is that this site benefited from its opportune geographic location and was 'redistribution center' for goods coming from the coast and the interior. This is supported by evidence of large scale copper smelting and an abundance of foreign ceramics and locally made imitation ware, most especially Indus Black-Slipped Jars and Indus-inspired locally produced ceramics.

The excavation results at DH1 most strongly indicate trade contact with the nearby coast and the Indus Civilization. The location of the settlement close to the traditional 3rd millennium BC inland and coastal trade routes suggest that DH1 may have held an important role in local copper production and trade with international power agents in the Early Bronze Age.

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