

Internal report of an archaeological rescue operation at al-Khod, Hor al-Dab⁶ (al-Hawd, Hur Ad-Dab⁶), Muscat Governorate, 12.01. to 26.01.2023 for the Ministry of Heritage and Tourism, version 1

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A rescue excavation and mapping of hut tombs and niche tombs

Abstract

In September 2018 the population of the capital area reached 1.4 million. Places such as al-Khod need room for growth. The development of this area during the past 20 years includes the building of the Nizwa road, highway 15, to its north-east Lulu al-Bandar super market and flanking to its west a large housing settlement. Tombs are scattered over the three mountains (600m x 300m area). The Ministry of Defence plan to develop the mountains (Fig. 1) as a recreational facility – the 'Heritage Hill' project.

This document reports first on the excavation and documents 140 burial structures, the excavated finds, the clearance of stone from the tomb cluster on the southern mountain, figures of the 3D and drawings of the tomb floors as well as thumbnails of the tombs ordered sequentially in ascending order.

Introduction

On the southern side of the property of the Ministry of Defence, 200m south-west of the Lulu al-Bandar parking lot lies a concentration of prehistoric hut tomb on the backs of the three east-west mountain chains and prehistoric niche graves in the piedmont zones. The Lulu parking lot is separated from the archaeological site by a cobbled masonry trench 1m in depth. To the west highway 15 closes it off. But to the west and south the site is still not built on. Further local building plans, while not yet announced, are certain to follow in coming years generated by population increase. The entire archaeological site has been damaged by road building and construction. This is visible most recently in the bulldozing of the north-eastern and eastern flanks.

In 2018 Ali Khamis al-Rasibi of the then Ministry of Heritage and Culture (today Ministry of Heritage and Tourism) began planning this facility to protect and turn them to good use. He posted ministry antiquities signs to show that the site stood under protection of the ministry. In October 2018, May 2019 and October 2021 Michela Gaudiello, Stephan Blum, Fausto Mauro and Paul Yule of the Heidelberg University team surveyed this site as a service for the ministry. It was necessary to change the numbers which the team wrote on the architectural features, which often do not correspond with those used here. Owing to electronic defensive disturbance, the hand-held GPS did not work in this military area and yielded bizarre results for our site mapping. With the help of the Differential GNSS receiver of the GUtech this team already submitted a first hut tomb plan of Hūr al-Dab⁶ to the Ministry which was published in 2021 (Yule *et al.* 2021, 301 Fig. 24). This season it was possible to complete the mapping of the niche tombs optically.



Fig. 1. This Google Earth satellite image from April 2013 shows the Hūr al-Dab' site and its archaeological features. The site lies between Lulu al-Bandar, above and road no. 15 to the left. The blue flags signify niche tombs and the red huts hut tombs. The blue 'safires' signify completely ruined tombs while the 5-point stars designate sangars (Fig. 5).



Fig. 2. Photogrammetric orthographic view of hut tomb HDh7, seen from four sides and from above.



Fig. 3. Orthographic view of the niche tomb, HDh84.

80 hut tombs, 56 niche tombs, 6 recent sangars (temporary fortified defensive position with a breastwork constructed of stone) as well as 10 destroyed structures comprise the main features. The two kinds of tombs (Fig. 2 & 3) on site need not be contemporary sensu stricto with each other. Some tombs comprise merely a few remaining stones. In most cases the tomb roof has collapsed. The hut tombs typically use a sandwich wall construction (Fig. 4). They spread on three parallel ESE–WNW oriented mountains. Between them lies a 50m wide empty valley. Some 30 tombs lie on the northern mountain nearer to Lulu. But more lie on the ridge of the third mountain 150m to the south. The preservation of the tombs is heterogeneous; a few still are roofed. They are built of broken stone 20 to 100 cm in size. Hut tombs consists of the local limestone, but those on the south mountain show a mixture of light-coloured limestone and dark mafic rock. Hut tombs are understood to date to the Early Iron Age (Yule – Gaudiello 2017), but this dating has been seriously challenged (Düring - Olijdam 2015). In the Batina and Wadi al-Jizzi, recent surveys show destroyed tombs, only rarely well-preserved ones. The hut tombs and niche tombs as at Hūr al-Dab' have been little studied and give us significant information with regard to local demography, burial customs and social structure of the local population. They reveal building methods which have not yet been documented in the different parts of the Sultanate. In their form the hut tombs are more closely related to those of north-eastern and eastern Oman. The entrance is from the top, not from the end.

Investigating tombs with caved in roofs without damaging them is difficult and collapse is irreversible. They easily may collapse just to gain access, which we avoided (*e.g.* tomb HDh8). We completely excavated tombs HDh6 and HDh7. Experimentally we re-constructed HDh7 with six workmen. This took four hours, but the roof was not completely re-closed. We avoided excavating niche tombs, because these lay outside the possible site of the Heritage Hill building. No site plan was available to us of the planning or the topography, which would have improved or speeded up our mapping. We focussed on the northern mountain which seemed the likely site of the new building.

The shape of the niche tombs varies according to the shape of the natural geological niche which forms one side of the structure. Given the wide variation, this is not a tomb type, but rather only a simple way to build tombs. This is not specific to a place or a time, but is wider. It also occurs in Zafar (al-Shaḥrî 1991, 187 fig. 8). Examples from al-Buḥayṣ (Sharja emirate), contained EIA finds (Jasim 2012, tombs BHS16, BHS17, BHS22, BHS23, BHS26–BHS33, BHS35, BHS36).

Some of the niche tombs show skeletal remains *in situ* but could not be recorded for time reasons. Fortunately, Halima al-Shehhi was available to study the human remains.

In 2018 in his project estimate to the ministry Yule proposed excavating and documenting Hor al-Dab⁶ during a period of 60 or of 30 days. However, funds enabled survey and excavation for only 14 days in the field (6 days/week). Our fieldwork is thus only a pilot project. Compared to other salvage operations in the Batina we had a critically low relation of documenters (de facto 4) and labourers (6) in relation to the number of tombs. On the third day it was decided that the well-preserved Hūr al-Dab⁶ tombs were not be destroyed, as opposed to those of the Bațina salvage operations. In the available time, first we recorded 24 tombs by means of 'Structure from Motion' (SfM) software. The graphic documentation of the tombs and writing requires more time than does actual excavation. The 140 archaeological features appear on the site map and in a gazetteer of the site (pp. 10-37).



Fig. 4. Sangar perhaps less than 30 years old to judge from the kind of ammunition found in them.

feature no.	SfM	excavated	plan sketch	final photo
Hdh001	х	х	х	x
Hdh002	х	x	x	х
Hdh003 sangar	х	х	х	х
Hdh004	х	x	x	
Hdh005	х	x	x	
Hdh006	х	х	х	x
Hdh007	х	x	x	х
Hdh008	х			
Hdh009	х	х	x	x
Hdh010	х	х	x	x
Hdh011	х	х	x	x
Hdh012	х			
Hdh013	х			
Hdh014	х	х	x	x
Hdh015	х			
Hdh016	х			
Hdh017	х			
Hdh018	х			
Hdh038	х			

Hdh039	x		
Hdh078	x		
Hdh079	х		
Hdh080	x		
Hdh081	x		
Hdh082	x		

Fig. 5. Work accomplished 12.01. to 26.01.2023 at Hūr al-Dhab⁶. The work consisted of the fashioning of ⁶Structure from Motion⁷ 3D images, excavation, plan drawing and a final photo of each structure.

On the southern mountain we also cleared the large cluster of tombs of stone fallen from the upper tomb courses, in order that visitors can freely move through it (pp. 38-41).

The finds

Surface finds were rare and included a few sherds of medieval TURQ pottery. The tombs contained few finds, all were disturbed. Most common finds were disturbed skeletons. Tomb HGh04 contained Pinctada beads (Fig. 6). Three broken late Sasanian glass *aryballoi* also occurred in the same tomb – the first of its kind in this part of Oman (Fig. 7). They find parallels from burials on Bahrain (Andersen 2007, 86 fig. 352). No diagnostic Early Iron Age finds came to light.



Fig. 6. Pinctada beads from tomb HDh04.



Fig. 7. At least two late Sasanian glass aryballoi from tomb HDh10.

find no.	type of find	level	date	tomb no.	gramme
23.01.	bone	debris	18.01.2023	6	3
23.02.	bone	debris	18.01.2023	7	10
23.03.	charcoal	debris	19.01.2023	12	3
23.04.	glass	debris	18.01.2023	7	2
23.05.	pottery sherd	debris	19.01.2023	7	0,5
23.06.	white	debris	18.01.2023	10	3
	substance				
23.07.	bone	debris	19.01.2023	11	493
23.08.	cartridge frag.	debris	19.01.2023	11	0,5
23.09.	bone	debris	18.01.2023	12	0,5
23.10.	bone	debris	22.01.2023	12	186
23.11.	glass	debris	19.01.2023	12	0,5
23.12.	mollusc shell	debris	22.01.2023	12	0,5
23.13.	seed	debris	19.01.2023	13	0,5
23.14.	bone	debris	22.01.2023	10	1512
23.15.	tooth	debris	22.01.2023	10	2
23.16.	tooth	debris	22.01.2023	11	0,5
23.17.	shell	debris	22.01.2023	10	8
23.18.	bone	debris	22.01.2023	4	30
23.19.	bone	debris	22.01.2023	5	45
23.20	bone	debris	23.01.2023	9	127
23.21	lithic	debris	23.01.2023	4	5
23.22	glass vessel	debris	23.01.2023	10	37
	frags				
23.23	bead	debris	23.01.2023	4	4
23.24	bone	debris	25.01.2023	4	417
23.25	bone	debris	26.01.2023	5	636
23.26	bone	debris	24.01.2023	2	103
23.27	charcoal	debris	24.01.2023	10	7
23.28	bone	debris	24.01.2023	1	201
23.29 see	glass	debris	25.01.2023	10	
23.22					
23.30	bone	debris	26.01.2023	14	57

Fig. 8. The finds from the Hūr al-Dab' excavation of January 2023.

Archaeological Insights

The excavation gives a more concrete idea of the hut tomb means of construction in this part of Oman. Such hut tombs are not documented outside of the Batina. Their form is partly conditioned by the locally available stone – whether rolled or broken. The frontal entrance, as known at hut tomb sites in eastern Oman are not present at Hūr al-Dab' which belongs to the Batina EIA tomb tradition. Nor is the common small type 2 cell tomb (Yule et al. 2021, 296 Fig. 20). The EIA chronology question for these tombs can best be resolved by OSL dating. The only datable finds are late Sasanian glass vessels which are taken to be from reuse. Hūr al-Dab' is important as part of the typological scaffolding for the EIA chronology to be further developed. The authors still hold to a provisional dating of hut tombs in the EIA.

The team of 2023 at Ḥūr al-Ḑabʿ consisted of:							
1 Prof. Dr. Paul A. Yule	coordinator						
2 Jabar al-Shiriani	archaeologist						
3 Hanan al-Harthi	archaeologist						
4 Halima al-Shehhi	student anthropologist						
5 Hilal al-Qasimi	archaeologist						
6 Marcel Juhas	student archaeologist						
7 Luisa von Schlammersdorff	student archaeologist						
8 Fanny Weber	student archaeologist						
9 Walid al-Gahfri	advisor						
10 Ali al-Mahruqi	advisor ex officio						
11 Sultan al-Bakri	Director General of Archaeology						
Six labourers excavated except for t	he fine work, six day per week, 07:30 – 13:00.						

Team of 2018:	Michela Gaudiello, P. Yule
Team of 2019:	Fausto Mauro, P. Yule
Team of 2021:	Michela Gaudiello, Stephan Blum, Ahmed Hadidi, P. Yule

Special Arabic vocabulary:

niche tomb: محانة القبرmakānat al-qabr hut tomb: كوخ القبرkuḫ al-qabr Hur al-Dhab' حور الذبع Ḥūr ad-d̠ab'

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number	length	width	height	ori.	type	location	notes	photo
1	3,30	1,90	1,30	E-W	x	NW	oval in plan, roof broken in	
2	2,90	2,20	1,40	E-W	x	NW	chamber wall intact, roof entirely missing	
3	1,80	2,00	0,75	SE-S	/	NW	sangar, open to SE-S	
4	2,90	2,30	1,20	NW-SE	x	NW	upper portion of both ends demolished, roof 25% extant	

5	2,40	2,10	1,20	~NW-SE	x	NW	no trace of an entrance end, roof collapsed at E end	
6	3,30	2,70	1,60	E-W	x	NW	60% of roof collapsed at W end, sandwich wall construction	
7	3,40	2,40	1,65	E-W	x	NW	good preservation, roof perforated in middle, reconstructed after excavation	
8	3,30	2,80	1,50	E-W	x	NW	NE corner upper courses damaged, roof collapsed	

9	3,30	2,30	1,25	E-W_	x	NW	9-11 together, E end is demolished, roof collapsed	
10	3,50	2,30	1,70	E-W	x	NW	end demolished, roof 50% intact	
11	4,00	1,80	1,65	E-W	x	NW	E end demolished	
12	3,60	2,70	1,55	E-W	x	NW	upper courses of E wall and SE end of roof destroyed	

13	3,90	2,60	1,70	NE/E- SW/W	x	NW	upper courses of E wall and roof demolished, otherwise basically intact	
14	2,90	2,20	1,20	E-W	x	NW	built together 14-17, most of roof & uppermost N side demolished	
15	3,20	2,20	1,65	E-W	x	NW	roof caved in	
16	3,80	2,40	1,40	E-W	x	NW	roof mostly collapsed	

17	3,10	2,50	1,25	E-W	x	NW	roof collapsed	
18	2,00	2,10	0,65	s/sw- N/NE	1	NW	small sangar	
19	3,10	2,10	1,45	E-W	x	mid E	NE corner & roof collapsed, black stones mixed in	
20	3,20	2,20	1,65	E-W	x	mid E	black stones mixed in, roof collapsed	

21	3,10	2,20	1,40	NE-SW	x	mid E	21-4 built together, dishevelled, roof largely intact	
22	3,00	1,50	1,40	NE-SW	X	mid E	roof & presumed entrance largely collapsed	
23	3,10	2,00	1,60	SE-NW	x	mid E	upper courses of NE corner damaged	

24	3,00	2,20	1,20	SE-NW	x	mid E	SE part of the roof is demolished	
25	2,60	2,60	0,40	~E-W	#	mid E	square in plan, not a hut tomb	
26	3,10	3,00	1,40	SE-NW	x	mid E	N-NW end upper courses missing, unclear where entrance is, white and black stones	
27	3,00	2,60	1,10	E-W	x	mid E	NE corner upper courses are destroyed, roof collapsed	

28	3,00	2,40	1,40	SW-NE	x	mid E	oval plan, roof collapsed	
30	2,70	2,00	0,80	E-W	1	mid E	points to the W, ca. 5 courses of stone/ in front is a large monolith	
31	3,00	2,70	0,50	NW-SE	/	SE	oval sangar	

32	3,00	2,40	2,00	E/SE- W/NW	x	SE	roof collapsed	
33	3,50	2,70	1,65	NW-SE	x	SE	part of SE wall and roof collapsed	
34	3,90	2,20	1,60	~E-W	x	SE	roof collapsed, thick entrance at SW end	
35	3,50	2,15	1,50	~E-W	x	SW	roof largely intact, NE wall damaged	

36	3,30	1,90	1,10	E-W	x	SW	36-7 built together, white & black stones, roof collapsed	
37	3,50	2,40	1,70	E-W	x	SW	SE upper courses damaged, roof collapsed	
38	3,60	2,00	1,60	SE-NW	x	SW	perforation in the roof, NE side damaged	
39	3,30	2,20	1,45	E-W	x	SW	NE end and roof collapsed	

40	3,20	1,90	1,55	E-W	X	SW	40-1 built together, upper courses esp. in NW dishevelled, roof collapsed	
41	3,20	2,30	1,30	E-W	x	SW	NNE end collapsed, roof partly intact	
42	3,50	2,25	1,55	E-W	x	SW	42-4 built together, W end demolished, roof collapsed	
43	4,20	2,50	1,80	E-W	x	SW	NNE corner & roof collapsed, this built 1st	

44	3,60	2,50	1,70	E-W	x	SW	upper courses of SSW side damaged, roof collapsed	
45	3,20	2,40	1,45	E-W	x	SW	S upper courses missing, roof collapsed	
46	3,00	2,20	1,60	E/SE- W/NW	x	SW	45-7 together, large hole in roof	
47	2,60	1,65	0,90	E-W	x	SW	just to N of 46, roof perforated,	

48	3,60	1,90	1,70	E-W	x	SW	E upper courses damaged, roof partly intact, black and white stones	
49	4,20	1,50	1,60	E-W	x	SW	lies between 48 & 50, roof indented	
50	3,60	2,30	1,30	NE-SW	x	SW	NE wall and roof demolished	

51	3,40	2,40	1,60	NE/E- SW/W	x	SW	upper walls badly damaged, roof demolished	
52	3,70	1,80	1,55	N-S	x	SW	N end upper courses and roof damaged,	
53	3,80	2,10	1,70	N/NW- S/SE	x	SW	lies between 52 & 54, BW mixed stones, roof collapsed	
54	3,80	2,10	1,40	N-W	x	SW	roof collapsed	

55	3,70	1,90	1,60	E-W	x	SW	55-6 twin tombs, 55 at NNW end, roof collapsed	
56	3,30	1,80	1,60	E-W	x	SW	at SSE end roof collapsed	
57	3,00	1,80	1,40	NE-SW	x	SW	roof collapsed	

58	3,30	2,10	1,00	E/NE- W/SW	x	SW	ENE end & upper courses demolished, roof intact	
59	3,45	1,90	1,35	E/NE- W/SW	x	SW	59-61 SSW end and roof destroyed	
60	3,30	2,50	1,80	NE-SW	x	SW	stones mostly dark	

61	4,60	2,20	1,70	E-W	x	SW	E upper courses and roof missing	
62	4,50	2,10	1,70	E-W	x	SW	E courses and roof missing, 20% of roof preserved	
63	3,80	2,20	1,60	E-W	x	SW	W end of chamber intact, NE wall missing	
64	3,50	2,80	0,60	E-W	x	SW	completely demolished hut tomb	

65	-	-	0,75	Not determi nable	x	sw	stone scatter, once a hut tomb	
66	3,80	3,20	1,20	E-W	#	sw	semi-circular, roof collapsed, not a hut tomb, standing rock defines one wall	
67	2,50	2,40	0,85	NE-SW	/	SW	located on a peak, sangar, breastwork to the SW	
68	-	_	_	E-W	#	SW	68-71 converted into a defensive emplacement, 68 northernmost	

69	-	-	_	Not determi nable	#	SW	yellow rectangle signifies position of grave 69	
70	-		_	N-S	#	SW	most westerly, floor recognisable	
71	_	_	_	E-W	#	SW	floor recognisable	
72	3,30	1,90	1,15	NW-SE	x	SW	72 built with 73, roof perforated	

73	_	_	_	E/SE- W/NW	#	SW	collapsed	
74	3,40	2,10	1,10	E-W	x	SW	collapsed chamber, roof dismantled	
75	4,90	3,40	1,50	NW-SE	#	S of S	ESE-WNW secondary use of stones, floor excavated, recent	
76	1,80	1,50	0,70	NW-SE	x	mid W	built on a steep slope leaning against bedrock, S side walled in, in plan pear-shaped	

77	3,00	1,80	1,30	E-W	x	mid W_		
78	3,40	2,30	1,20	E-W	x	NE	together	
79	3,60	1,90	1,00	E	x	NE	together	
80	3,20	1,60	1,20	E-W	x	NE	together	

81	3,20	2,00	1,20	E-W	x	NE	together	
82	destroye d	-	-	not determ	#	NE	twin	
83	destroye d	-	-	not determ	#	NE	Multiple tombs, bulldozed and destroyed.	
84	3,00	2,00	0,90	SW-NE	+	mid E	2 roof stones missing, outside wall intact. Previously designated grave 92.	

85	2,30	1,60	0,60	NNW- SSE	+	mid E	few stones in situ	
86	2,10	1,50	0,90	E-W	+	mid E	chamber build of rough stones	
87	2,00	1,70	1,10	N-S	+	mid E	grave build into north cliff face	
88	1,50	1,70	0,80	NNW- SSE	+	mid E	chamber wall in situ, roof destroyed, eastern cliff face	

89	1,30	2,00	0,80	N-S	+	mid W	build into south-west cliff face, chamber wall preserved	
90	2,80	1,80	1,00	ENE- WSW	+	mid W	build into wester cliff face, chamber extant	
91	3,00	2,10	1,20	NW- SE	+	SW	chamber wall opposite eastern cliff face	
92	3,00	2,00	1,40	E-W	+	mid W	roof missing, chamber stones are only at W end	

93	3,60	2,50	1,70	E-W	+	mid W	W part of roof damaged, otherwise intact	
94	3,30	1,80	1,20	E-W	+	mid W	roof preserved at W end, E end missing	
95	3,10	1,90	1,30	E-W	+	mid W	roof and wall destroyed, stones at E & W end still extant	
96	3,30	1,90	0,60	E-W	+	mid W	roof missing, wall largely destroyed, chamber roof very low	
								-
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97	2,40	1,40	0,60	E-W	+	mid W	grave destroyed, stones in situ at E end	
98	3,80	2,00	0,60	E-W	+	mid W	largely destroyed, stones in situ E end	
99	3,60	2,10	1,80	NE- SW	+	mid W	stones in situ in E end	
100	3,00	1,70	1,20	E-W	+	NW	stones piled up against N cliff	

101	3,00	1,40	0,80	NW- SE	+	NE	anthropogenic pile of stones resembling a grave	
102	3,20	1,70	1,10	E-W	+	NE	roof and S chamber wall largely missing	
103	2,10	1,90	0,50	ESE- WNW	+	NE	irregular stone walling against cliff	
104	2,70	1,50	0,90	SE-NW	+	NE	irregularly walled chamber	

105	2,10	1,60	0,80	SE-NW	+	NE	roof built build of stone slab, S end missing	
106	3,50	2,50	1,00	E-W	+	NE	irregular stone walling against slope	
107	2,50	1,60	0,80	NESW	+	NE	few stones W chamber wall intact	
108	1,80	0,70	1,20	E-W	+	SE	N face, chamber formed of rough stones, roof not intact	

109	3,10	2,00	1,20	E-W	+	SW	chamber wall extant, build against north cliff face	
110	3,50	1,60	1,00	NW-SE	+	sw	chamber wall extant, leans against eastern cliff face	
111	1,90	1,90	1,40	E-W	+	SW	chamber wall extant, leans against northern cliff face	
112	2,50	1,60	1,40	E-W	+	SW	chamber wall partly extant, leans against northern cliff face	

113	2,70	1,60	1,10	E-W	+	SW	chamber wall leans against northern cliff face	
114	4,80	1,70	1,60	E-W	+	SW	chamber wall partly intact, leans against northern cliff face	
115	2,30	1,60	0,80	NNW- SSE	+	SW	chamber wall damaged, leans against eastern cliff face	
116	2,40	2,30	0,50	NW-SE	+	SW	no roof , mixed black and white stones	

117	2,20	1,70	0,70	NNW- SSE	+	SW	cut into wadi , stones piled on W face	
118	3,30	2,00	1,00	NE-SW	+	SW	roof missing, 7 stone courses extant	
119	1,80	1,50	1,20	E-W	+	SW	roof missing, 7 stone courses extant	
120	3,00	1,60	1,20	NW-SE	+	SW	chamber intact, leans against northern cliff face	

121	3,00	2,60	1,30	NW-SE	+	SW	chamber wall partly intact, leans against northern cliff face	
122	2,60	1,80	1,30	E-W	+	SE	chamber intact, leans against north-eastern cliff face	
123	3,20	2,30	1,30	NNW- SSE	+	SE	chamber wall intact, leans against eastern cliff face	
124	1,80	1,20	0,80	E-W	+	SE	damaged chamber, leans against northern cliff face	

125	3,00	2,20	1,00	NE-SW	+	SE	rough chamber wall, leans against north-eastern cliff face	
126	3,00	2,60	0,80	E-W	+	SE	chamber recognizable, leans against northern cliff face	
127	2,80	1,70	1,00	E-W	+	SE	chamber recognizable, leans against northern cliff face	

128	3,60	2,20	0,90	E-W	+	SE	chamber well recognizable, at the foot of the mountain	
129	3,60	2,00	0,70	not determ	+	SE	chamber recognizable, leans against northern cliff face	
130	3,20	1,60	0,80	E-W	+	SE	chamber well recognizable, perched against northern cliff face	
131	3,40	1,80	0,60	NW-SE	+	SE	destroyed chamber, leans against western cliff face	

132	3,70	1,90	1,40	E-W	+	SE	recognizable grave wall, leans against northern cliff face	
133	2,60	1,40	1,10	E-W	+	SE	chamber intact, leans against northern cliff face	
134	2,20	1,00	0,70	SSE- NNW	+	SE	badly eroded niche grave	
135	3,00	1,60	0,60	E-W	+	SE	preserved chamber wall perched against north- eastern cliff face	

136	2,60	1,40	1,00	E-W	+	SE	recognizable chamber wall, leans against northern cliff face	
137	2,40	1,50	0,90	E-W	+	SE	badly damaged chamber wall against northern cliff face	
138	2,70	1,30	0,70	E-W	+	SE	badly damaged chamber wall against northern cliff face	
139	2,50	1,30	0,80	NE-SW	+	SE	badly damaged chamber wall against north- western cliff face	

140	3,20	3,00	0,80	N-S	/	mid W	dug into the conglomerate entrance in the south	and the second s

hut tombs on southern mountain (before)	hut tombs on southern mountain (after)
Cemetery choked with fallen stone	Fallen stone cleared away from the tombs
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	au the state of the state
	abraility attacks
and the second s	
	- The start
Cometery choked with fallon stone	Tombs freed from fallen stone
Contraction and	
	A CONTRACTOR
	H L LAND C LAND



Fig. 1. Hūr al-Dabʿ tombs HDh01-02.









Fig. 4. Hūr al-Dabʿ sangar HDh03.



Fig. 5. Hūr al-Dab' tombs HDh04-05.





Fig. 6-7. Ḥūr al-ṉabʿ tomb plans HDh04-05.



Fig. 8-9. Ḥūr al-Dabʿ tomb HDh006 SfM and plan.

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Fig. 10. Ḥūr al-Đabʿ tomb HDh007.



Fig. 11. Ḥūr al-Dabʿ. The lowest course of stones of the hut tombs shows in plan a sandwich wall construction.



Fig. 12. Hūr al-Dabʿ tomb HDh008 SfM.



Fig. 13-15. Ḥūr al-Đabʿ tombs HDh009-011 SfM.



Fig. 16-17. Hūr al-Dab' tombs HDh010 & 011 plan drawings.



Fig. 18. Hūr al-Dabʿ tomb HDh012 SfM.

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Fig. 18. Hūr al-Dabʿ tomb HDh014 SfM.



Fig. 19. Ḥūr al-ṉabʿ tomb HDh014-016 SfM.



Fig. 20. Ḥūr al-Đabʿ tomb HDh014 SfM.



Fig. 21. Hūr al-Dab['] sangar HDh018 SfM.



Fig. 22. Hūr al-Dabʿ tomb HDh038-039 SfM.



Fig. 23. Ḥūr al-Đabʿ niche grave HDh084 SfM.



Fig. 24. Ḥūr al-Dႍabʿ niche grave HDh084 drawing.



Fig. 25. Hūr al-Dabʿ hut tombs HDh038-039 SfM.



Fig. 26. Hūr al-Dabʿ destroyed hut tomb HDh088 SfM.



Fig. 27. Hor al-Dhab['] niche grave HDh123 SfM.





Tomb	File name	image	Author
01	grabsohle dwg.jpg		Juhas
01	P1240001.JPG		Juhas
01	P1240002.JPG		Juhas
01	P1240003.JPG		Juhas
01	P1240012.JPG		Juhas
01	P1240013.JPG		Juhas
01	P1240014.JPG		Juhas
01	P1240015.JPG	5	Juhas

01	P1240016.JPG		Juhas
01	P1240017.JPG		Juhas
01	P1240018.JPG		Juhas
01	P1240019.JPG	ar la company	Juhas
01	P1240029.JPG		Juhas
01	P1240030.JPG		Juhas
01	P1240031.JPG		Juhas
01	P1240034.JPG		Juhas

02	002 grabsohle dwg		Juhas, von Schlammersdorff
02	002 P1240004		Juhas
02	002 P1240005		Juhas
02	002 P1240006		Juhas
02	002 P1240023	3	Juhas
02	002 P1240025		Juhas
02	002 P1240035		Juhas
02	002 P1240037		Juhas
02	002 P1250003		Juhas
02	002 P1250005		Juhas

02	002 P1250008		Juhas
04	004 grabsohle dwg		Yule
04	004 P1230042	4	Yule
04	004 P1230043		Yule
04	004 P1230044		Yule
04	004 P1280006	<u>50</u>	Yule
05	005 grabsohle dwg	(C) "	Al-Harthi&Yule
05	005 P1230038	No.	von Schlammersdorff
05	005 P1250011		von Schlammersdorff
05	005 P1250015	105 105	von Schlammersdorff
06	006 grabsohle dwg	And	von Schlammersdorff

06	006 P1180001	von Schlammersdorff
06	006 P1180003	von Schlammersdorff
06	006 P1180004	von Schlammersdorff
06	006 P1180005	von Schlammersdorff
06	006 P1180007	von Schlammersdorff
06	006 P1180008	von Schlammersdorff
06	006 P1180009	von Schlammersdorff
06	006 P1180010	von Schlammersdorff
06	006 P1180015	von Schlammersdorff
06	006 P1180016	von Schlammersdorff

06	006 P1180017	von Schlammersdorff
06	006 P1180018	von Schlammersdorff
06	006 P1180021	von Schlammersdorff
06	006 P1180023	von Schlammersdorff
06	006 P1180025	von Schlammersdorff
06	006 P1180149	von Schlammersdorff
07	007 tomb floor dwg	Yule
07	007 P1180027	Juhas
07	007 P1190001	Juhas
07	007 P1190002	Juhas

07	007 P1190003		Juhas
07	007 P1190005		Juhas
09	009 dwg	1 and the second	Yule
09	009 P1220028		al-Shiriani
09	009 P1220029		al-Shiriani
09	009 P1230006		al-Shiriani
09	009 P1230007		al-Shiriani
09	009 P1230008		al-Shiriani
09	009 P1240007		al-Shiriani

09	009 P1240008	al-Shiriani
10	010 grabsohle dwg mit funden	Weber
10	010 P1220030	Weber
10	010 P1230002	Weber
10	010 P1230004	Weber
10	010 P1230005	Weber
10	010 P1230011	Weber
10	010 P1230012	Weber
10		Weber

		A second s	
10	010 P1230036		Weber
10	010 P1250027	are References	Weber
10	010 P1250028		Weber
10	010 P1250029		Weber
10	010 P1280003 Kopie		Yule
11	011 dwg		von Schlammersdorff
11	011 P1190006		von Schlammersdorff
11	011 P1190007		von Schlammersdorff
11	011 P1190008		von Schlammersdorff

11	011 P1220031	von Schlammersdorff
11	011 P1220032	von Schlammersdorff
11	011 P1220035	von Schlammersdorff
11	011 P1220055	von Schlammersdorff
11	011 P1220056	von Schlammersdorff
11	011 P1240009	von Schlammersdorff
11	011 P1240010	von Schlammersdorff
11	011 P1240028	von Schlammersdorff
12	012 P1190014	al-Shehhi
12	012 P1190020	al-Shehhi
12	012 P1220038	al-Shehhi
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12	012 P1220039	al-Shehhi
12	012 P1220041	al-Shehhi
12	012 P1220043	al-Shehhi
12	012 P1220045	al-Shehhi
12	012 P1220046	al-Shehhi
12	012 P1220053	al-Shehhi
12	012 P1220054	al-Shehhi
14	014 dwg	von Schlammersdorff
14	014 IMG_1484	von Schlammersdorff

14	014 IMG_1488	von Schlammersdorff
14	014 IMG_1492	von Schlammersdorff
view south	gen view to south P1180026	Yule