UMM RATTĀM SURVEY: SPECIALIZED REPORTS

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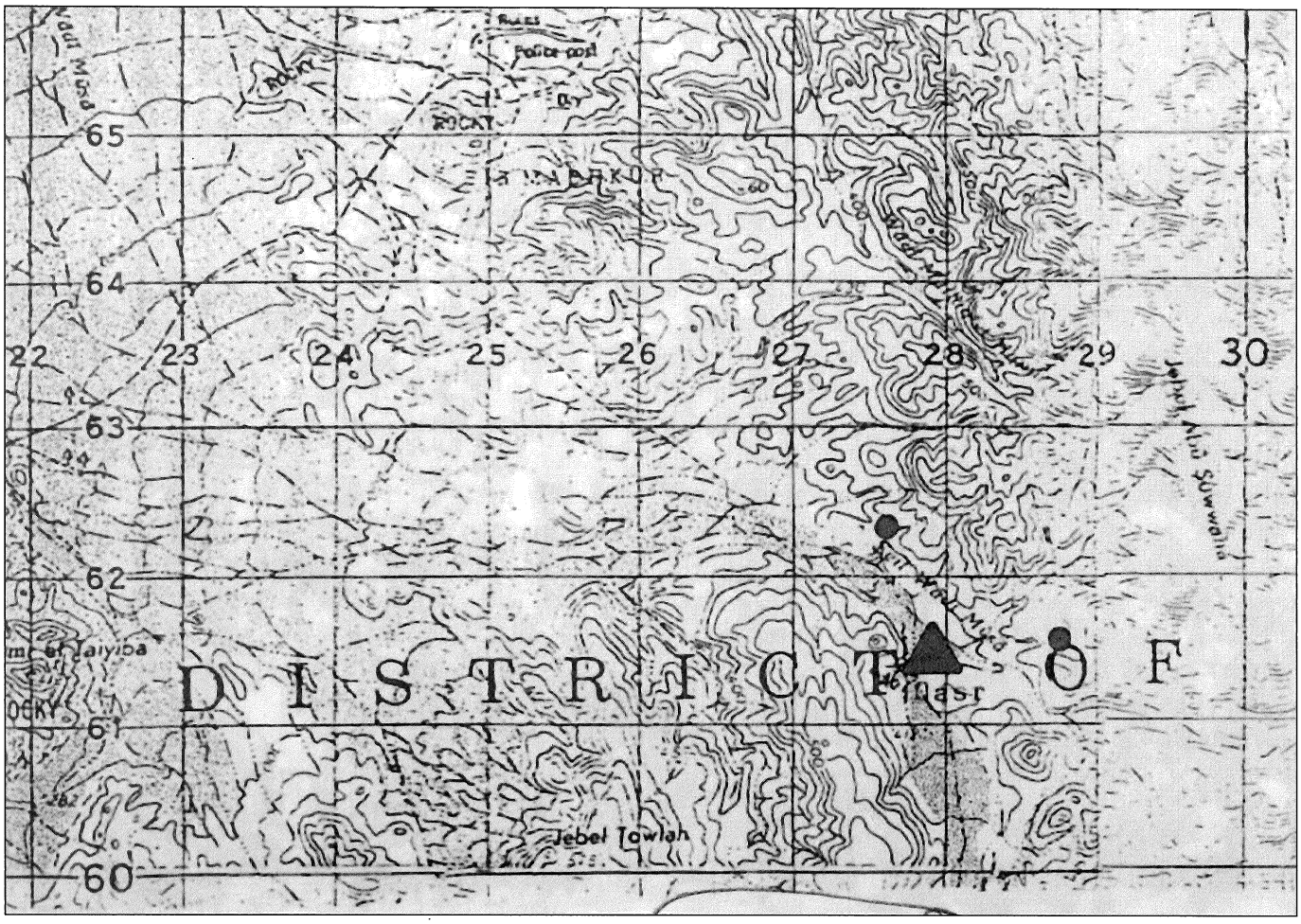
Introduction

The area in the 'Araba known as Umm Rattām is located SW of Petra in southern Jordan. The central point of this area is marked by a structure known as Qaṣr Umm Rattām (also Qaṣr Umm Rattām or Qaṣr Wādī Mūsā) located at the confluence of the Wādī Mūsā and the Wādī Umm Rattām (YU 279 615, according to the Palestinian grid). The importance of the site and the entire area cannot be overlooked, as it contains some of the main approaches to Petra from the west. The area was surveyed by teams of the Naturhistorische Gesellschaft Nürnberg (NHG) directed by M. Lindner, U. Hübner and J. Hübl in October 1997 and 1998. The preliminary report which contains the contextual information relevant for the analyses presented below, has been published in *ADAJ* (Lindner *et al.* 2000) (**Fig. 1**).

Before the presentation, the following constraints need to be specified. The authors of the contributions below were not able to visit



1. Approximate location of Qaṣr and lithic sites.

the sites and thus did not participate in the actual collection of the material nor were they responsible for the manner of collection. Their contributions, therefore, need to be understood in terms of research conducted on the material already outside of context. As such, the pottery and lithics presented here must be considered as a sample, which may or may not be representative for the entire survey area or a specific locations. However, the fact remains that the Petra area in general is still poorly known with regard to the archaeological artifacts found outside that ancient city. It is thus strongly felt that this material, even with the constraints listed above, warrants its dissemination among the scholars working in the area.

The Chipped Lithic Artifacts of the Umm Rattām Area (by H. Jansson)

The analysis of the lithic artifacts collected by the NHG Expedition was conducted in 2001 at the Department of Archaeology, University of Helsinki. Noting the constraints listed above, this analysis should be understood in terms of a description of what is and is not present in the material collected by noting the typological and technological elements. The material has been collected at two sites (see Lindner *et al.* 2000: 538, fig. 3), each represented by two bags of artifacts. The bags were treated as separate units.

Umm Rattām "the Palaeolithic site"

The site is located ca 1km WNW of Qaṣr Umm Rattām (Lindner *et al.* 2000: 551). Two dominant raw material classes are present. They also seem to develop a different patination. The fine-grained brownish chert shows a desert varnish almost in all artifacts while the medium grained greyish chert has a lighter greyish patination. Some of the artifacts have traces best described as abrasion and some have rounded ridges. Almost all artifacts have heavy post-depositional edge modification possibly due to rolling and trampling. This fact makes it difficult to distinguish the retouched or secondary modified artifacts from the unmodified ones.

Bag 1 (24 artifacts)

The bag has a slight domination of blades (III-IV) but flakes are also present. Some of the flakes but also blades show a classical Levallois platform remnant. The rest of the debitage display large and flat platform remnant. Six artifacts are classified as cortical flakes and one as a plunging flake. No other core-trimming elements are present. The cores are dominated by flake-technology; only one opposed platform blade-core was found. Of the flake cores two are discoidal levallois point cores. One Levallois point was found in the material. The point is quite irregular in its distal end but has the classical triangular shape and a wide base. Of the other tools a scraper on an irregular flake core and a truncated blade can be mentioned. Four artifacts (two cortical flakes and two flakes) have clear evidence of thermal alteration of their surface.

Bag 2 (23 artifacts)

There is a clear domination of flakes over blades in this assemblage. Most of the flakes have a large flat platform remnant. Only one plunging blade is present and of the cores two are blade cores and one an irregular flake core. Of the cores one is a sub-pyramidal blade core and one a bi-directional blade core. One Levallois point is the only tool in the assemblage. Many of the artifacts show a thermal alteration of the edges and surface.

Observations: All the flakes and blades are large and bulky. Also the two Levallois points are quite thick but show no retouch. The Levallois element present in the assemblage suggests a Middle Palaeolithic date, and the general character of the material could suggest *a ṭābūn* B/C type Mousterian. However, the relatively small sample and the lack of characteristics of the context make this suggestion uncertain. The type of the sub-pyramidal blade core would usually be classified as a later (possible Upper Palaeolithic) type, but as a single artifact it potentially indicates that the Middle Palaeolithic character of the assemblage is not fully proven and that the material may be contaminated by the elements dated to the other periods.

Umm Rattām "the Neolithic Site"

The site is located ca. 1km NEE of the Qaṣr (Lindner *et al.* 2000: 55, Plate V, 1). The assemblage is dominated by a greyish very fine-grained raw material with a white, milky patination present on most of the artifacts. There are three larger

flakes of a different raw material. One has a surface with a well-developed desert varnish. Most artifacts have relatively fresh edges and ridges. No artifacts show thermal alteration.

Bag 3 (14 artefacts)

The number of blades vs. flakes is almost equal; only one more blade was found in this assemblage. No bladelets (max width less than 12mm) were encountered. Three artifacts are classified as cortical flakes. No cores or diagnostic tools were present.

Bag 4 (33 artefacts)

The assemblage is dominated by bladelets in a ratio of 2,5:1 to flakes and 16:1 to blades. Almost all of the bladelets have a white patinated surface, and some of them are very narrow. Only one cortical blade and no cores were present in the material. Three tools could be distinguished in the material. One is an endscraper on blade with a curved profile. Two other tools are almost identical and these have been classified as truncated and backed bladelets.

Observations: Even though the site has been classified as a PPNB Neolithic site (Lindner *et al.* 2000: 551), no clear diagnostics for this period could be identified in the material. The dominance of small bladelets and the few tools present suggest a date more related to the Epipaleolithic period, but a more exact dating of this material is not possible.

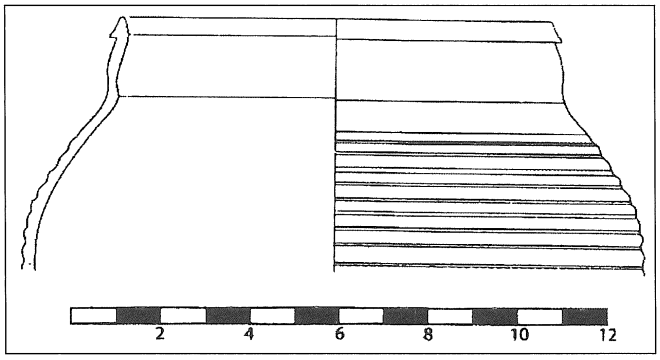
The Pottery from the Umm Rattām Area (by Y. Gerber)

The ceramic material presented here has been collected and divided by the surveyors into the "contexts" representing specific areas of survey. Therefore no statistical considerations or stratigraphic linkage will be undertaken in this study, besides that already specified in the previously published *ADAJ* report (Lindner *et al.* 2000), and briefly mentioned below. The dating of each context is based on the presence of the most representative and datable sherds associated with the context. Preliminarily, it should be stated that all sherds presented here are very comparable to the material known and already published from Petra, foremost being the excavations of the habitation quarters on az-Zanṭūr, a joint project of the Department of Archaeology of the University of Basel, Switzerland, and the Swiss-Liechtenstein Foundation for Archaeological Research Abroad (see Fellmann Brogli 1996; Gerber 1994, 1995, 1996, 1997, 2001; Gerber and Fellmann 1995; Schmid 1996, 2000). The dating of the lamps, mentioned in the text below, is provided by Matthias Grawehr, Department of Archaeology, University of Basel, Switzerland.

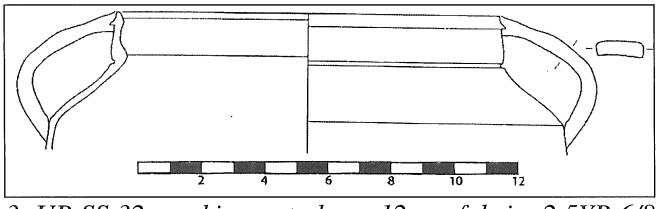
Umm Rattām General Surface Collection (Bags nos. 1-4 and 12)

This material has been collected from the surface of the entire site, including Building I, Reservoir II, and the Qaṣr (III). For description and the plan of the site, (see Lindner *et al.* 2000: 550).

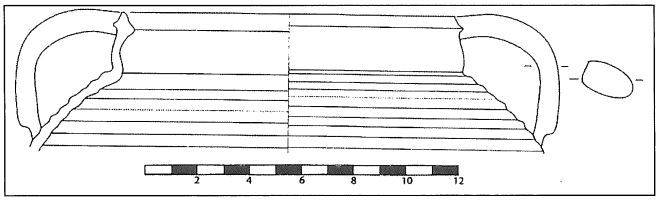
- *UR GS, Bag 1* : This assemblage can be dated to the second half of first century AD, and specifically to the last quarter of first century AD (**Figs. 2-10**). Two or three types could also be Byzantine in date, i.e., fourth century AD



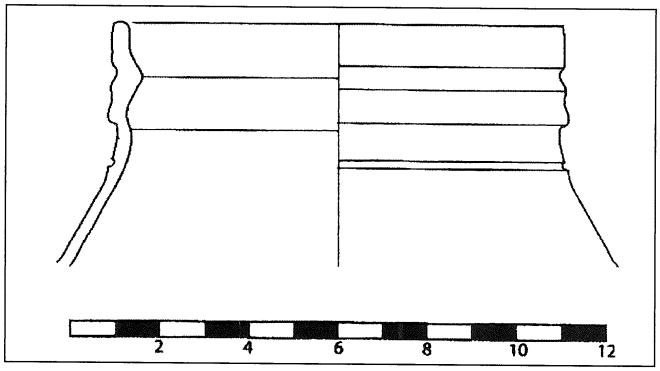
2. UR 11, small cooking pot, dm = 10cm; fabric: 2.5YR 6/8 (light red), slip: 7.5YR 8/2 (pink).



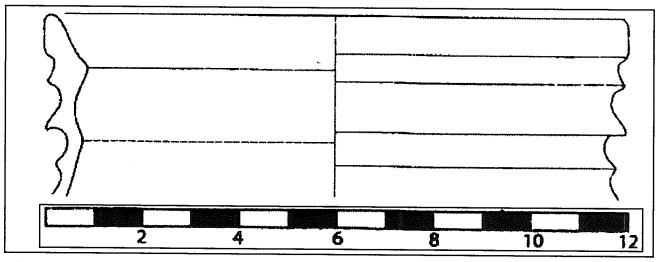
3. UR SS 32, cooking pot, dm = 12cm; fabric: 2.5YR 6/8 (light red), slip: 7.5YR 8/2 (pink); similar to cooking pots such as Gerber 1994: 290, fig. 16,F.



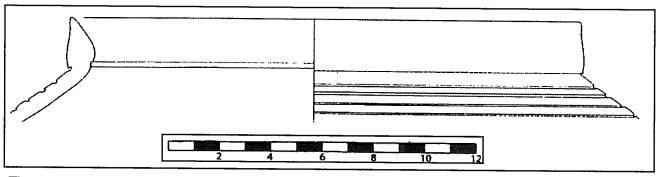
4. UR SS 136, jar, dm = 14cm; fabric: 10R 6/8 (light red), slip: 10R 5/3 (weak red); comparable to Gerber 1997: 409, fig. 4,A-B.



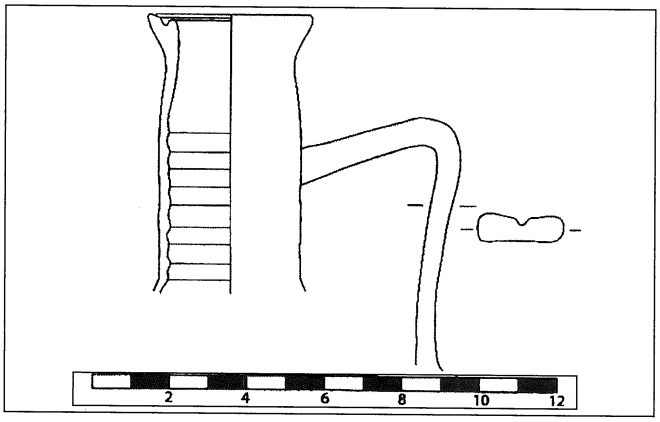
5. *UR SS 25, jar, dm = 10cm; fabric: 2.5YR 6/6 (light red), slip: 7.5YR 8/2 (pink); similar to Gerber 1994: 290, fig. 16,G.*



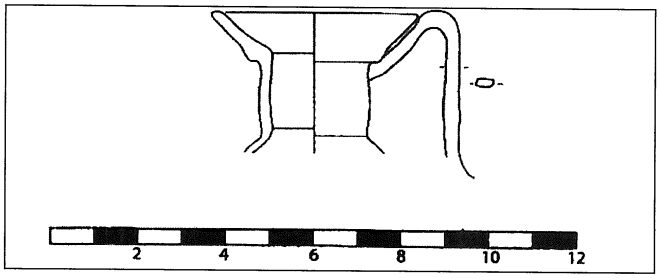
6. *UR SS 19, jar, dm = 12cm; fabric: 10R 6/8 (light red), slip: 7.5YR 7/1 (light gray); comparable to Gerber 1994: 290, fig. 16,G.*



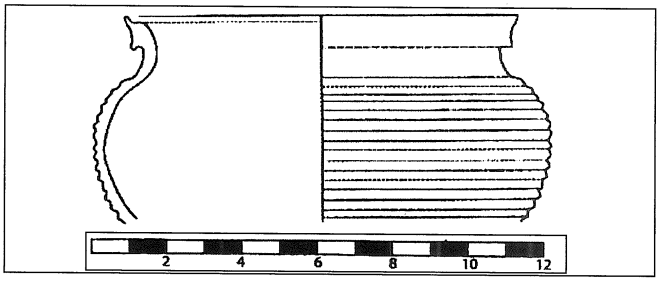
7. *UR SS 15, storage jar, dm = 21cm; fabric: 10R 6/8 (light red), slip: 7.5YR 7/2 (pinkish gray).*



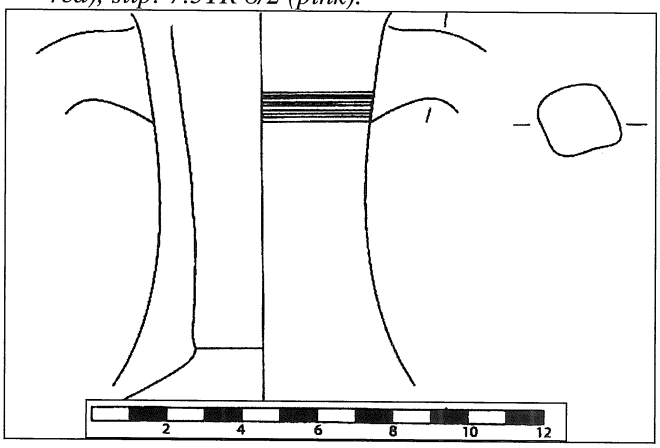
8. *UR SS without no., jug, dm = 4.2cm; fabric: 2.5YR 6/8 (light red), slip: 7.5YR 7/2 (pink).*



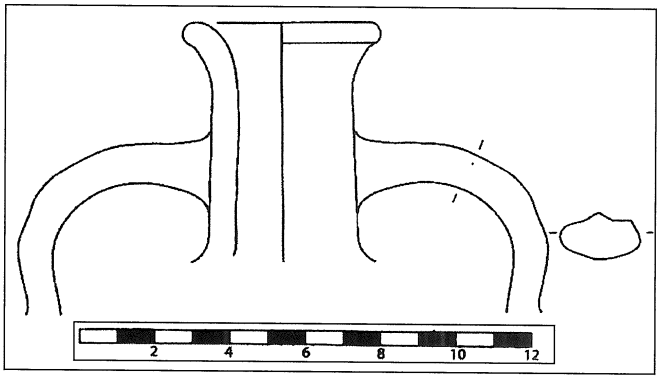
9. *UR 10, juglet, dm = 4.7cm; fabric: 2.5YR 6/6 (light red).*



10. *UR SS 27, bowl, dm = 8cm; fabric: 2.5YR 6/8 (light red), slip: 7.5YR 8/2 (pink).*



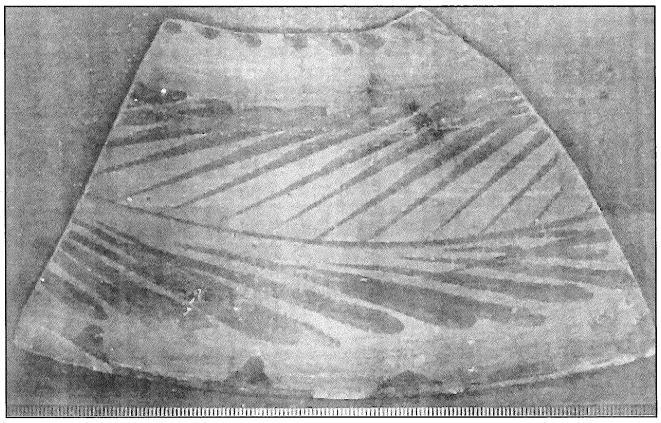
11. *UR SS 140, a kind of 'greenish ware' amphora, neck fragment; fabric: 7.5YR 6/4 (light brown), exterior: 10YR 7/1 (light gray).*



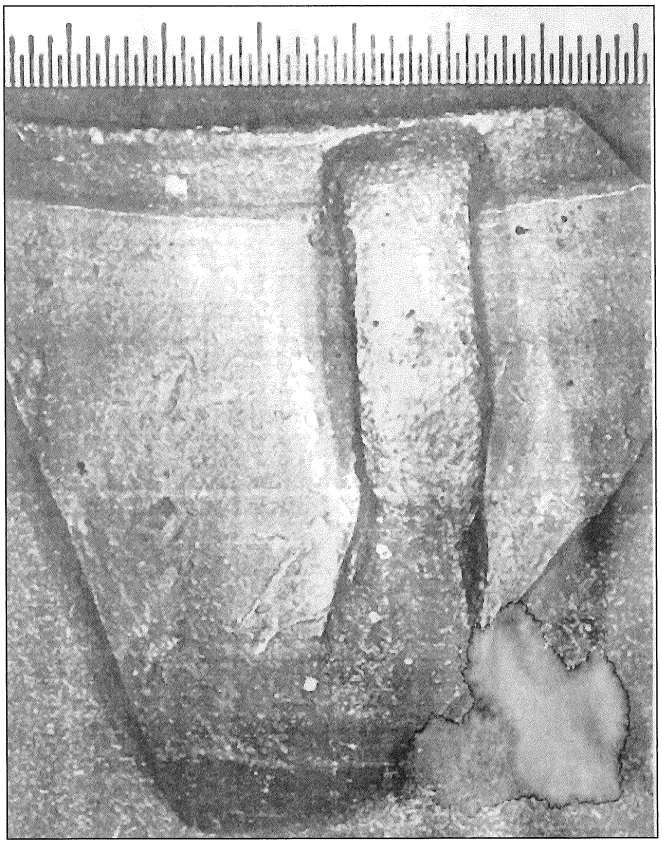
12. *UR GS 18, pilgrim flask, dm = 4.5cm; fabric: 10R 6/6 (light red), slip: 7.5YR 8/2 (pink); comparable to Fellmann Brogli 1996: fig. 827.*

(**Figs. 11-12**). Noteworthy is the neck fragment of a kind of greenish ware amphora with sieve inset (**Fig. 11**) and the rim of a pilgrim flask (**Fig. 12**). The "greenish ware" amphora with brown inclusions is not known yet from Petra and it suggests a Byzantine date (fourth century-fifth century AD) as well as the pilgrim flask rim. The Nabataean fine ware belongs to Phase 3 (Schmid 2000: fig. 97); none of the painted fine ware sherds should to be dated later than phase 3b (70/80–100AD) (Schmid 2000: fig. 98).

- *UR GS, Bag 2*: This collection comes specifically from the surface of the settlement area.



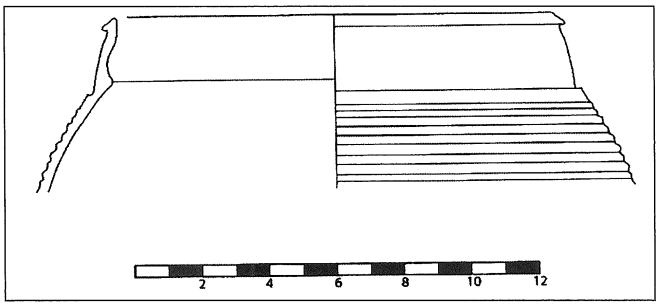
13. UR GS without no., painted, comparable to Schmid 2000, fig. 84, Phase 2b (last quarter of first century BC).



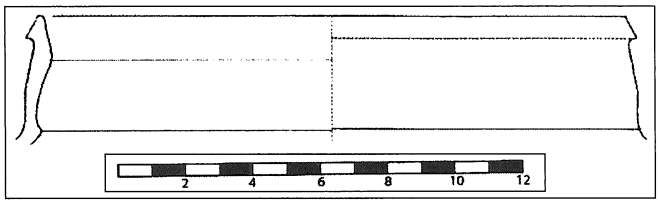
14. without no., fine ware pot with a small handle, stamped pattern on the exterior; may be attributed to fine ware phase 3.

Notably, this area is characterized by numerous illegal excavation pits, and thus the surface ceramics could easily have been mixed with those derived from deeper deposits.

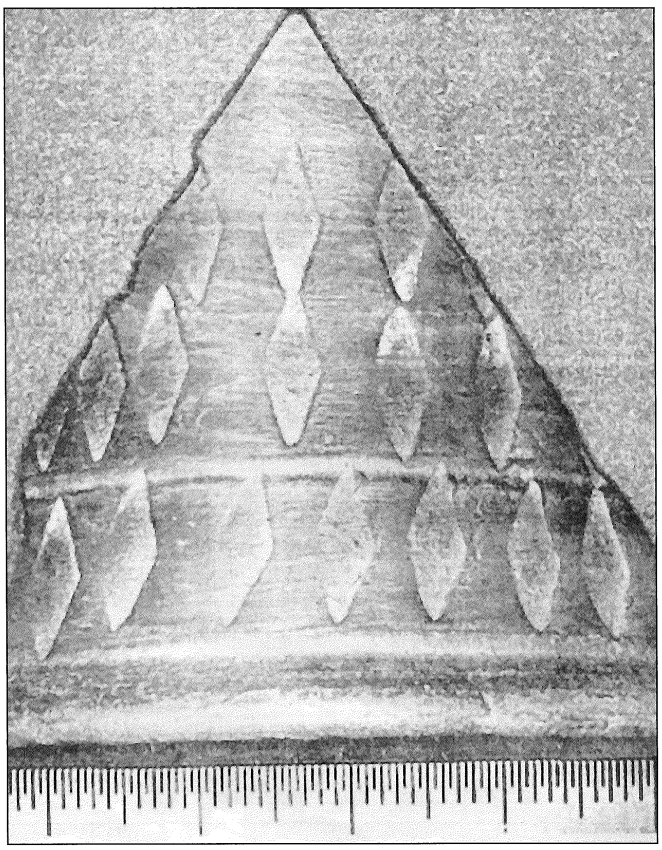
A few sherds (fine ware) are from the first century BC (**Fig. 13**). One fine ware bowl is unpainted, comparable to Schmid 2000: fig. 20, 'Gruppe 2', attributed to Phase 1 (late second century – mid-first century BC). **Fig. 14** shows a painted fine ware bowl, comparable to Schmid 2000: fig. 84, Phase 2b (last quarter of first century BC). The rest of the fine and coarse ware (**Figs. 15-16, 17**) was from the end of first century, and some may reach into the first half of second century AD. There are also 4 lamp fragments: One is a fragment of the type 'Negev 1b', dated to first century AD; another is a fragment



15. RS GS 101, jar, dm = 13cm; fabric: 2.5YR 6/8 (light red), slip: 10YR 8/2 (white); comparable to Gerber 1997: 410, fig. 7.



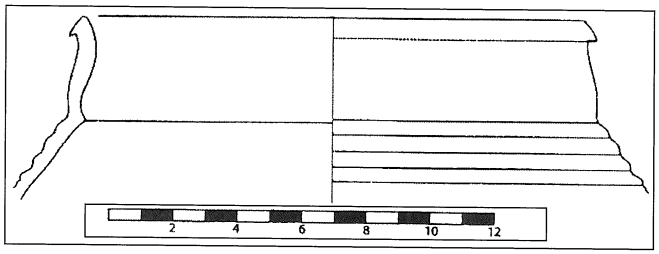
16. RS GS 103, jar, dm = 13cm; fabric: 2.5YR 6/8 (light red), slip: 10YR 8/2 (white).



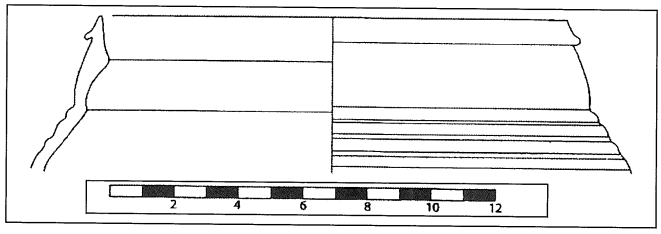
17. without no., fine ware form, stamped pattern on the exterior; may be attributed to fine ware phase 3.

of the type 'Omegalampe', dated to about 20-90AD; and two fragments can be attributed to the type 'Rundlampe mit kleinem Fülloch und Eierstab', dated about 80AD–early second century AD (**Fig. 8**).

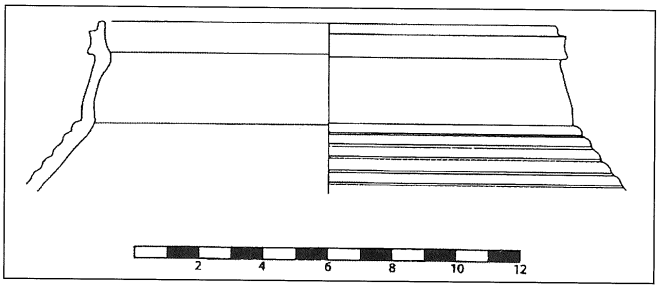
- *UR GS, Bag 3*: Material dated mostly to the last quarter of first century, turning into the early second century AD (**Figs. 18-20**). There are three sherds with the remark UR "oberhalb Versturz"; these should be dated to the fourth century AD, while the pre-363AD date is possible (**Fig. 21**).
- *UR GS, Bag 4*: Three to four sherds are from the last quarter of first century AD (**Figs. 22-23**). Other sherds may be later (**Figs. 24-26**), probably late third century — beginning of the fourth century AD, but the dating cannot be certain.
- *UR GS, Bag 12*: It includes sherds from the second half of first century/early second century AD. A large part of painted body sherds (fine ware) is from phases 2b-3c (70/80 – early second century AD).



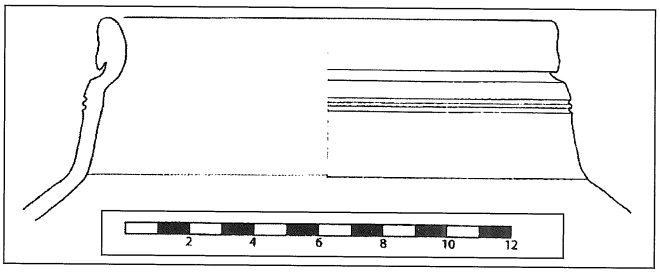
18. UR GS 12, cooking pot, dm = 12cm; fabric: 2.5YR 6/8 (light red); similar to cooking pots such as Gerber 1997: 410, fig. 7.



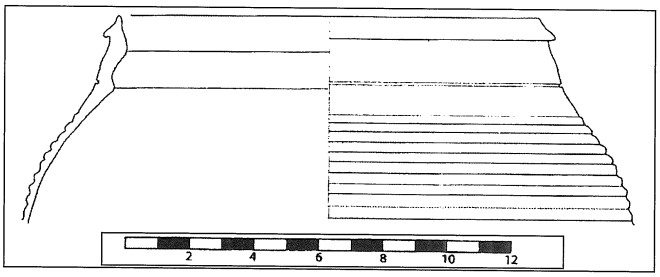
19. UR GS 1, jar, dm = 14cm; fabric: 2.5YR 6/6 (light red), slip: 7.5YR 8/3 (pink); similar to jars such as Gerber 1994: 290, fig. 16,B.



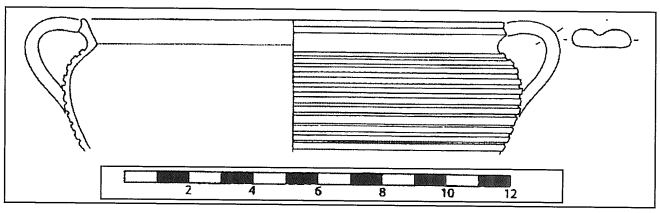
20. UR GS 3, jar, dm = 14cm; fabric: 2.5YR 6/6 (light red), slip: 10YR 8/2 (white); comparable to Gerber 1994: 290, fig. 16,A.



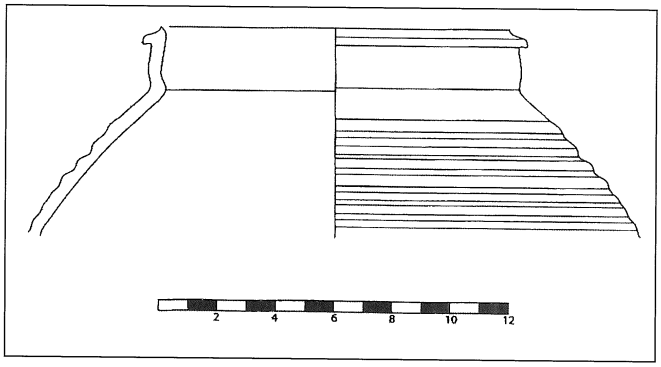
21. UR 'oberhalb Versturz' 17, jar, dm = 12cm; fabric: 10R 6/8 (light red), slip: 10YR 8/2 (white); comparable to Fellmann Brogli 1996, fig. 760.



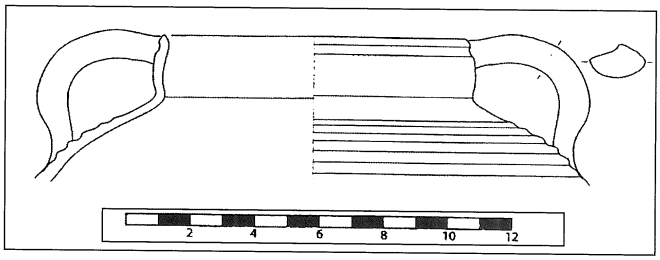
22. UR GS 95, jar, dm = 14cm; fabric: 2.5YR 6/6 (light red); similar to jars such as Gerber 1994: 290, fig. 16,B.



23. UR GS 93, bowl, dm = 14cm; fabric: 2.5YR 6/8 (light red), slip: 10YR 8/2 (white).



24. RS SS 90, jar, dm = 12cm; fabric: 5YR 6/8 (reddish yellow), slip: 5YR 4.5/2 (reddish brown).



25. RS SS 96, small pot, dm = 10cm; fabric: 2.5YR 6/6 (light red), slip: 5YR 5/1 (gray).

Qaṣr Umm Rattām, *Surface (Bag 9)*

This material comes specifically from the area of the Qaṣr (III). For description, see (Lindner *et al.* 2000: 548-9).

- Qaṣr *Surface, Bag 9*: Mixed material; mostly from the last quarter of first century/beginning of second century AD; closing date: fourth century/ early fifth century AD (**Fig. 27**), pre-363AD possible.

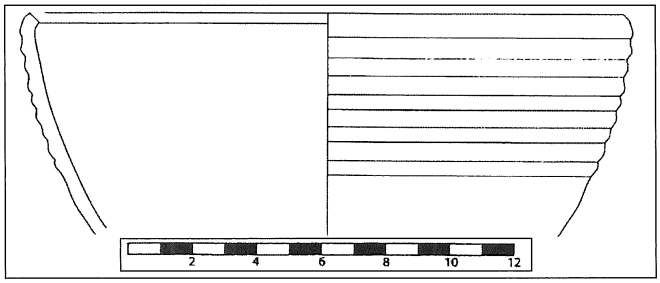
The following assemblages have been collected from the sounding located in the Qaṣr Umm Rattām settlement (see Lindner *et al.* 2000: 550).

Qaṣr Umm Rattām, *Stratum I (Bags 5-6 and 13)*

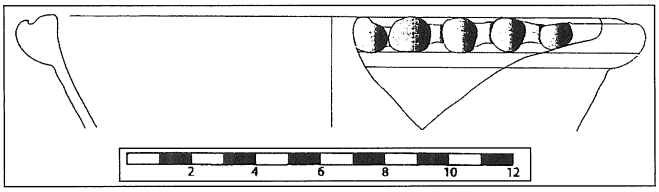
- *UR I, Bag 5*: The composition of this assemblage is homogeneous. Closing date: fourth century AD, and generally, a pre-363AD date is possible (**Figs. 28-30**).
- *UR I, Bag 6*: Closing date for this material is the fourth century AD, pre-363AD possible (**Figs. 31-35**). Noteworthy is the coarse ware bowl, painted inside. The same motif (**Fig. 36**) is also found at az-Zanṭūr, in fourth century AD-contexts.
- *UR I, Bag 13*: Closing date for this material is the fourth century AD, pre-363AD possible (**Figs. 37-42**).

Qaṣr Umm Rattām, *Stratum II (Bag 7)*

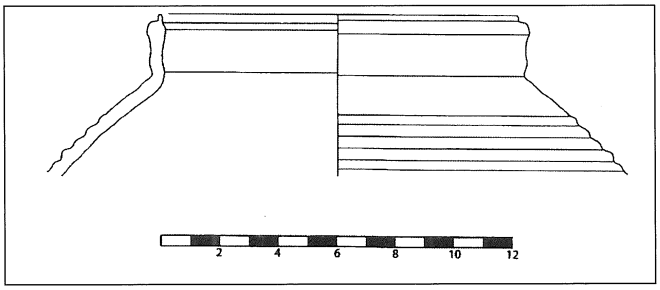
- *UR II, Bag 7*: Closing date for this assemblage is the fourth century AD, pre-363AD possible



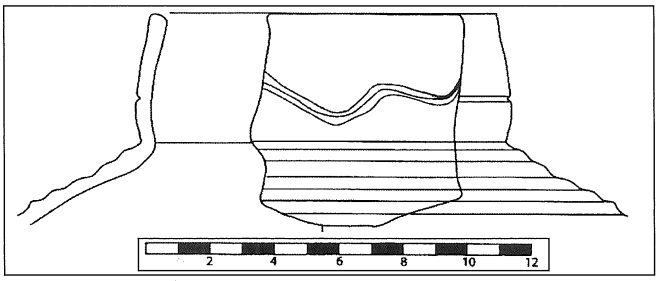
26. UR SS 87, casserole, dm = 20cm; fabric: 5YR 6/8 (reddish yellow), slip: 5YR 4.5/2 (reddish brown).



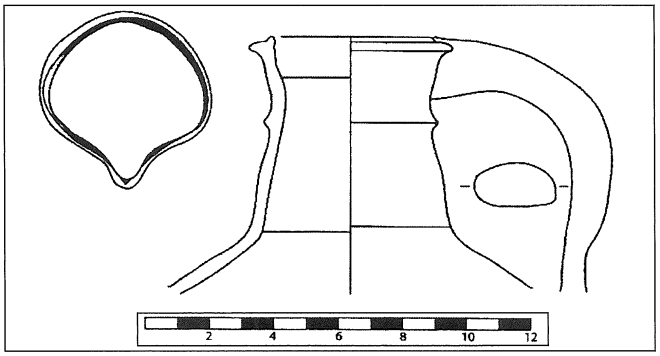
27. Q UR 1, basin, with a trim of fingerprints and horizontal handles, dm = 30cm; fabric: 2.5YR 6/4 (light reddish brown), slip: 7.5YR 8/2 (pink).



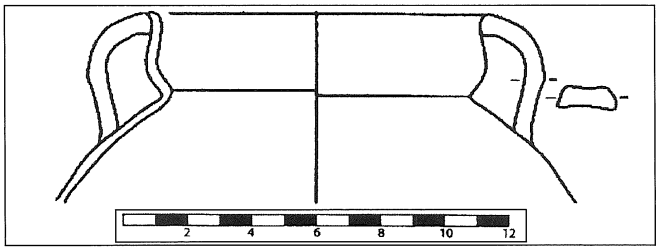
28. UR I 73, cooking pot, dm = 12cm; fabric: 2.5YR 6/6 (light red), slip: 5YR 5/1 (gray) comparable to Fellmann Brogli 1996, fig. 733.



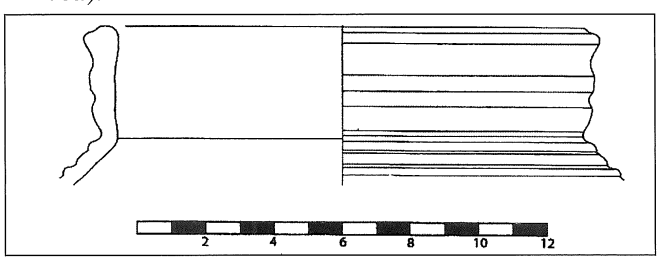
29. UR I 71, jar, dm = 10cm; fabric: 10R 6/6 (light red), slip inside: 5YR 5/1-5/2 (gray-reddish gray), slip outside: 10YR 7/1 (light gray).



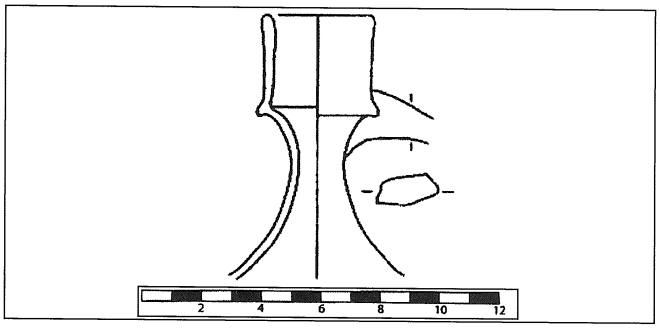
30. UR I 72, jug, dm = 4cm; fabric: 2.5YR 6/8 (light red), slip: 7.5YR 5/2 (brown).



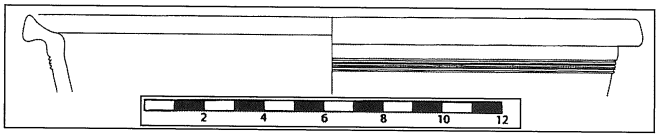
31. UR I 8, small pot, dm = 6cm; fabric: 10R 6/8 (light red).



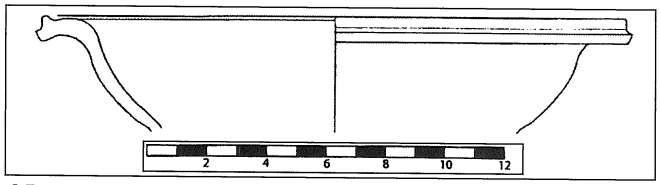
32. UR I 5, jar, dm = 14cm; fabric: 2.5YR 6/6 (light red), slip: 5YR 5/2 (reddish gray).



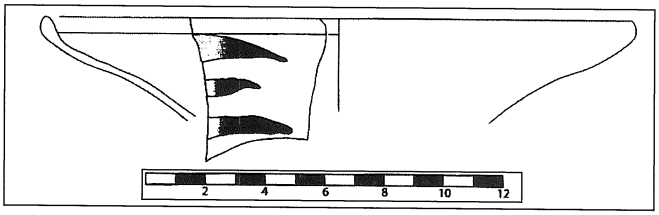
33. *UR I 1, juglet, dm = 2.7cm; fabric: 5YR 5/1-5/2 (gray-reddish gray); similar to jugs such as Fellmann Brogli 1996, figs. 835-836.*



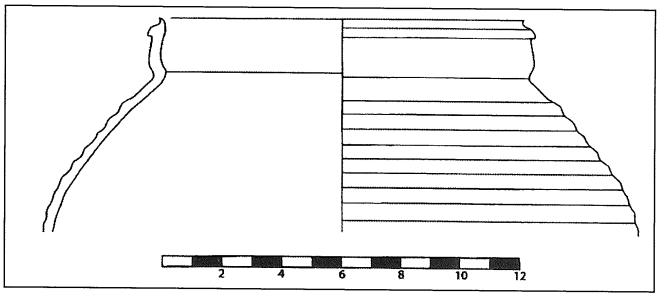
34. *UR I 7, basin, with a bundle of horizontal incised lines on the body part, dm = 30cm; fabric: 5YR 5/1 (gray); similar to basins such as Fellmann Brogli 1996, figs. 788-790.*



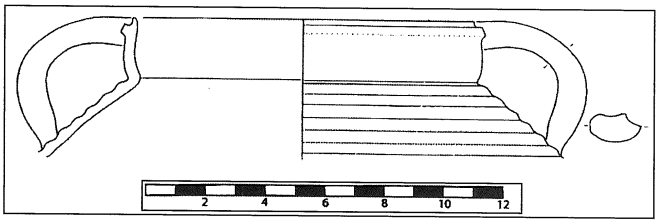
35. *UR I 2, bowl, dm = 16cm; fabric: 10R 6/6 (light red), slip: 5YR 5/1 (gray).*



36. *UR I 74, bowl, painted inside, dm = 20cm; fabric: 10R 6/6 (light red), interior: 10R 5/4 (weak red), painting inside: 10R 4/2 (weak red).*

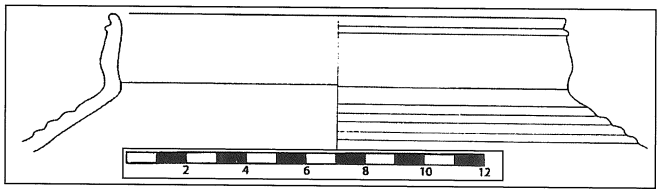


37. *UR I 4, cooking pot, dm = 12cm; fabric: 2.5YR 6/8 (light red), slip: 10YR 7/2 (light gray).*

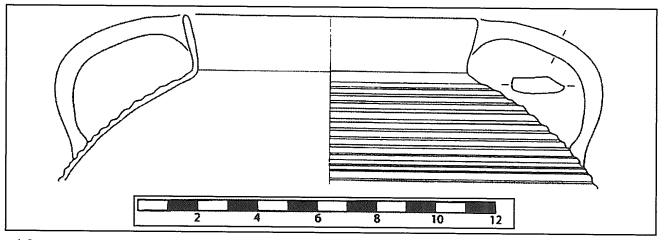


38. *UR I 2, cooking pot, dm = 14cm; fabric: 10R 6/8 (light red), slip: 5YR 5/2 (reddish gray).*

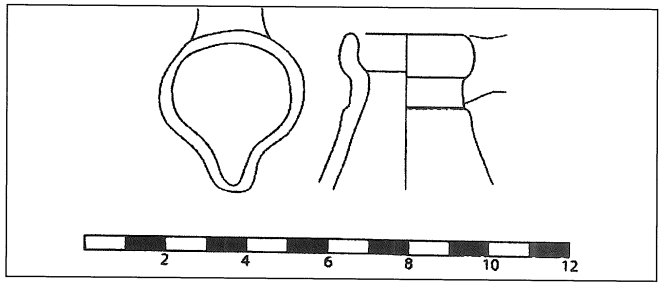
(Figs. 43-44). Note a large bowl (comparable to EZ I, not published yet) and a jug (similar to Fellmann Brogli 1996, fig. 820) A mid-fourth



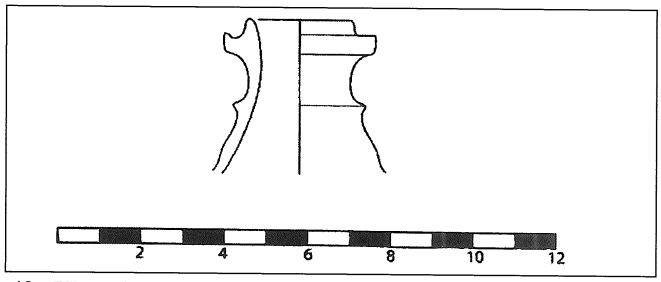
39. *UR I 3, jar, dm = 15cm; fabric: 10R 6/6 (light red), slip inside: 5YR 5/2 (reddish gray), slip outside: 5YR 5/1 (gray); similar to jars such as Fellmann Brogli 1996: figs. 730.732-733.*



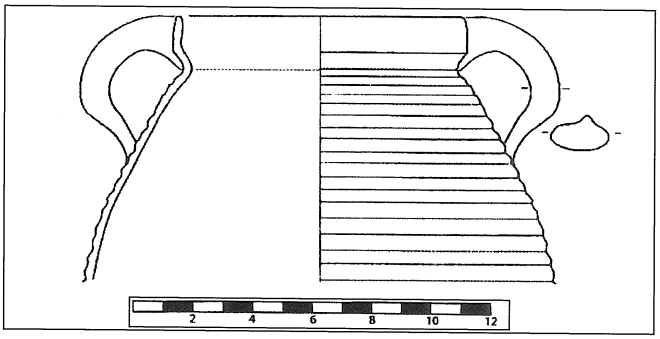
40. *UR I 10, cooking pot, dm = 11cm; fabric: 10R 5/6 (red), slip: 10R 4/3 (weak red).*



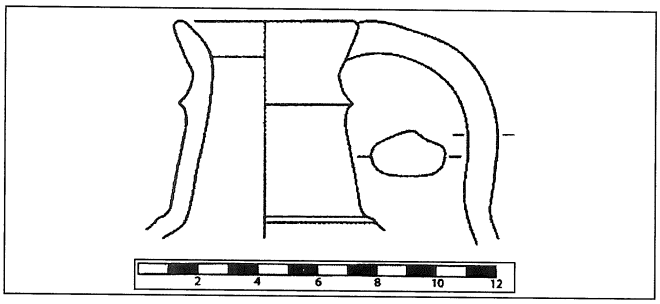
41. *UR I 12, jug, dm = 3.6cm; fabric: 2.5YR 6/6 (light red), slip: 10YR 8/2 (white).*



42. *UR I 15, jug, dm = 3cm; fabric: 10R 6/6 (light red), slip inside+outside: 5YR 5/1 (gray); similar to jugs such as Fellmann Brogli 1996: figs. 822-823.*



43. *UR II 124, small pot, dm = 7cm; fabric: 10R 4/4 (weak red).*

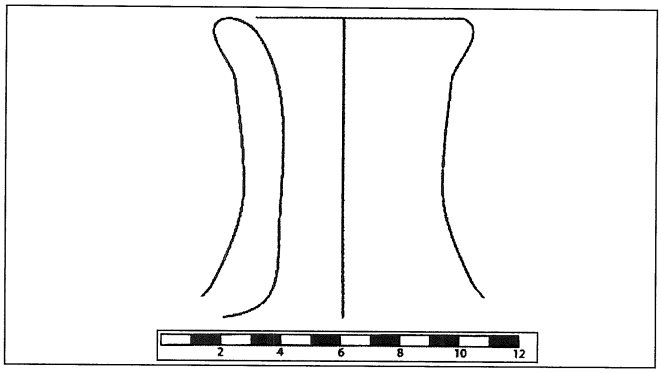


44. UR II 3, jug, dm = 3.5cm; fabric: 5YR 6/4 (light reddish brown), slip: 5YR 5.5/1 (gray).

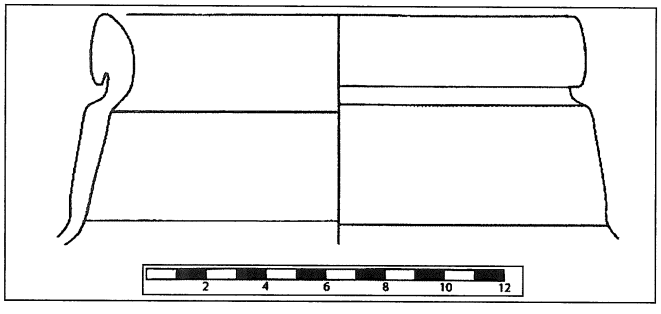
century AD date is possible. Note also lamp fragments (**Plate VI, 1**). None of these types are known from the Petra city area, but the shape, manufacture techniques and decoration suggest a date into the fourth century, similarly to the other ceramic sherds from Bag 7.

UR Stratum III (Bag 8)

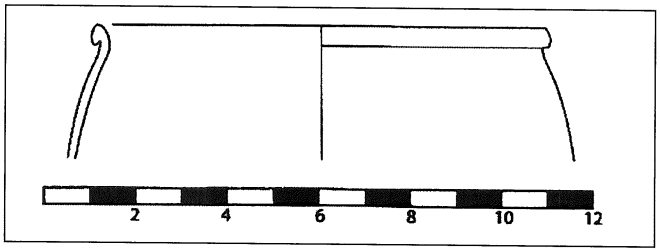
- *UR III, Bag 8* : Closing date for this assemblage is somewhere in the fourth century AD, pre-363AD possible; a few sherds are usually well-dated in the fourth century AD (pilgrim flask (**Fig. 45**), storage jar such as type A.22 (**Fig. 46**), cooking pot [not shown here] comparable to that one from az-Zanṭūr [EZ I] in which the coins were stored [Fellmann Brogli 1996: fig. 770], etc.). But there are also many elements which date to the late second/third century AD such as type A.16a (**Fig. 47**), cooking casserole (**Fig. 48**) — this form could already have begun in the course of third century AD; also the small thin-walled coarse ware bowls — they could be of second/early third century AD date (**Figs. 49-51**); and the African Red Slip rim sherd (of a large dish with steep wall rising at an angle to a plain rim, dm = 32cm)



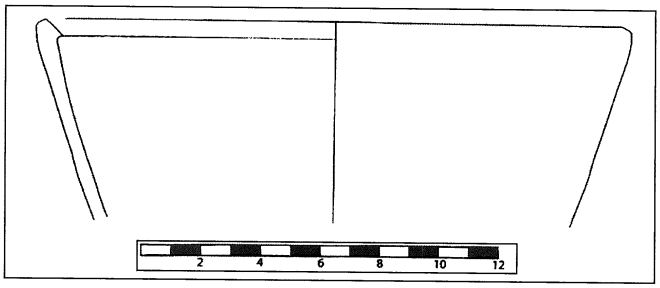
45. UR III 38, pilgrim flask, dm = 5cm; fabric: 10R 6/8 (light red), 10YR 8/2 (white), comparable to Fellmann Brogli 1996: fig. 827.



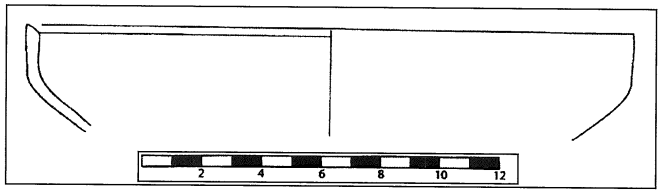
46. UR III 19, jar, dm = 11cm; fabric: 10R 6/8 (light red), slip: 10YR 7/2 (light gray); comparable to Fellmann Brogli 1996: fig. 760.



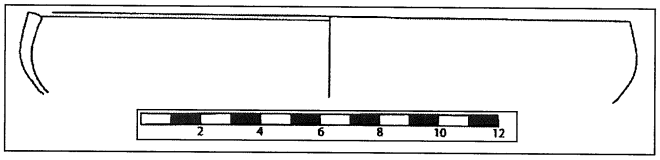
47. UR III 35, small pot, dm = 10cm; fabric: 10R 6/8 (light red), comparable to Fellmann Brogli 1996: figs. 815-816.



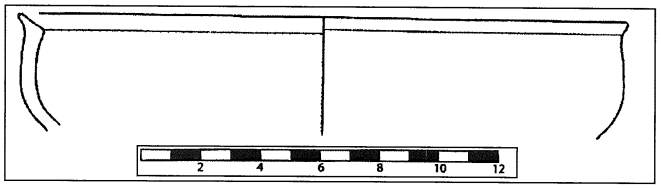
48. UR III 18(?), casserole, dm = 18cm; fabric: 10R 6/8 (light red), slip: 10YR 7/2 (light gray); comparable to Fellmann Brogli 1996: fig. 774.



49. UR III 7, bowl, dm = 17cm; fabric: 2.5YR 6/6 (light red), slip: 10R 5/4 (weak red).



50. UR III 8, bowl, dm = 17cm; fabric: 2.5YR 6/6 (light red), slip: 10YR 8/2 (white).



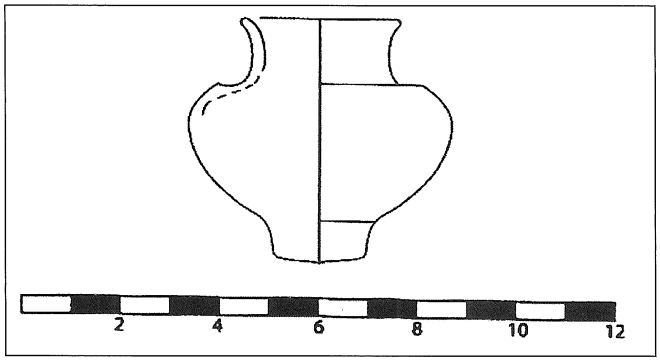
51. UR III 9, bowl, dm = 14cm; fabric: 10R 6/8 (light red).

which can be dated according to Hayes to 230/240–325AD (Form 50 Variante A; Hayes 1972: 68, fig. 12,7-8). The small bottle (**Fig. 52**), which is described as found deposed on bedrock of the excavation trench is seemingly a vessel form which is known from the fourth century AD contexts (see other small bottles with similar fabric from EZ I: Fellmann Brogli 1996: fig. 832) (**Plate VI, 2**).

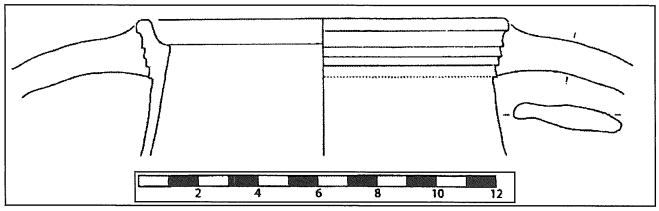
Tower Surface

This material has been collected from the surface of a tower located ca. 1km NEE of Qaṣr Umm Rattām. The surface sherds are probably contaminated by an illegal digging, found spread around (Lindner *et al.* 2000: 550-51).

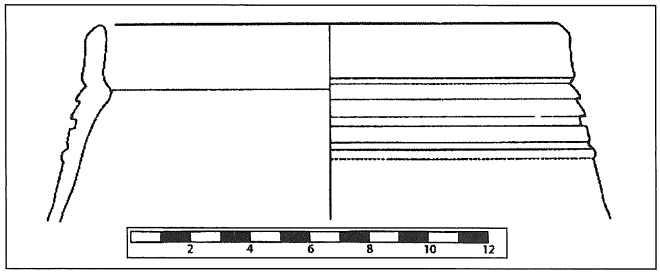
- *UR T, Bag 10*: The material is homogeneous representing the very beginning of second century AD (**Figs. 53-64**). Noteworthy is a kind of "green ware" jar (**Fig. 65**) and unusually many



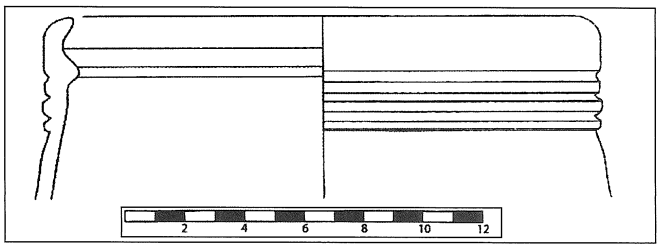
52. UR III 41, small bottle, dm = 3.2cm; fabric: 2.5YR 6/6 (light red), slip: 10YR 7/2 (light gray).



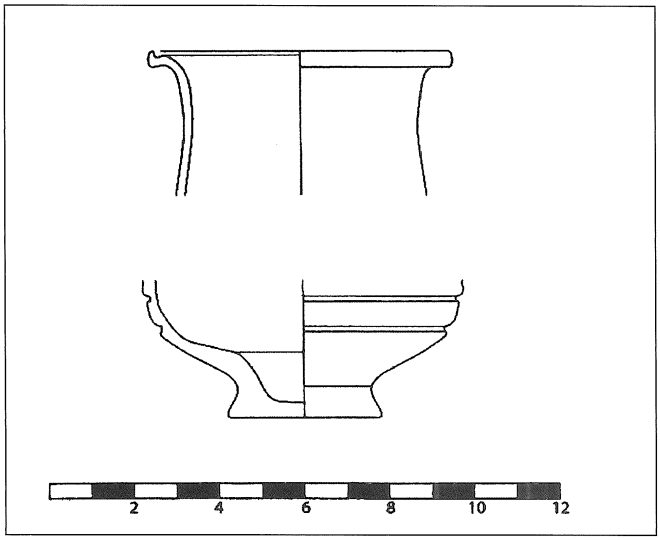
53. UR T 4, jar, dm = 10cm; fabric: 2.5YR 6/6 (light red), slip: 10YR 8/2 (white); similar to jars such as Gerber 1994: 290: fig. 16,G.



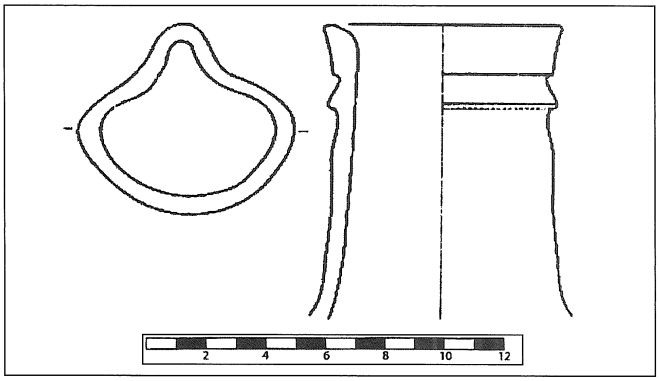
54. UR T 9, jar, dm = 10cm; fabric: 2.5YR 6/6 (light red), slip: 10YR 8/2 (white); similar to jars such as Gerber 1994: 290, fig. 16,G.



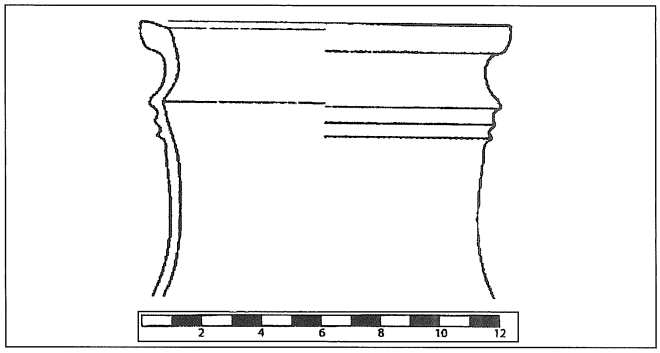
55. UR T 12, jar, dm = 12cm; fabric: 2.5YR 6/6 (light red), slip: 10YR 8/2 (white); similar to jars such as Gerber 1994: 290, fig. 16,G.



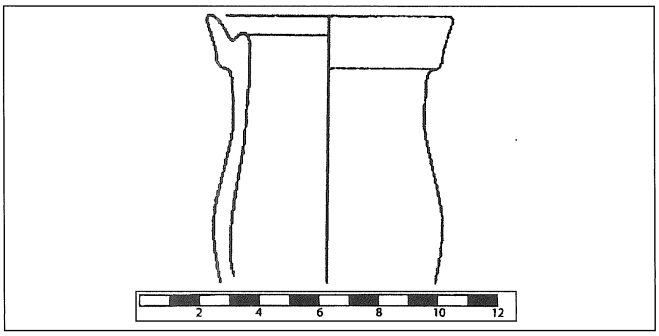
56. UR T 18, jug, dm = 7cm; fabric: 2.5YR 4/3 (dusky red), core: 10YR 3.5/1 (very dark gray).



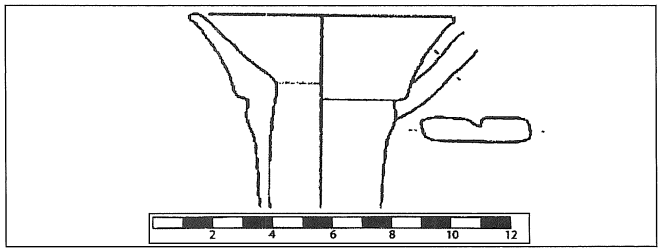
57. UR T 27, jug, dm = 3.5cm; fabric: 10R 6/8 (light red).



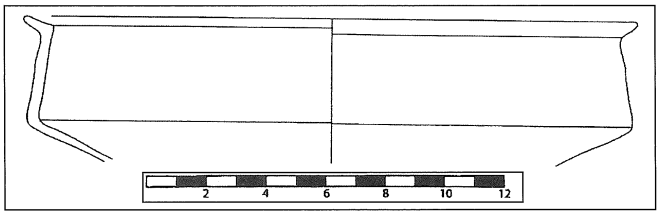
58. UR T 13, jug, dm = 6cm; fabric: 2.5YR 6/6 (light red).



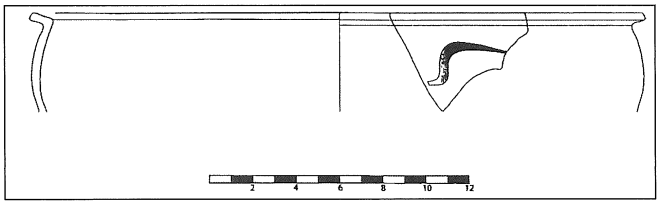
59. UR T 21, jug or bottle, dm = 3.8cm; fabric: 2.5YR 6/6 (light red); comparable to Gerber 1994: 290, fig. 16,P.



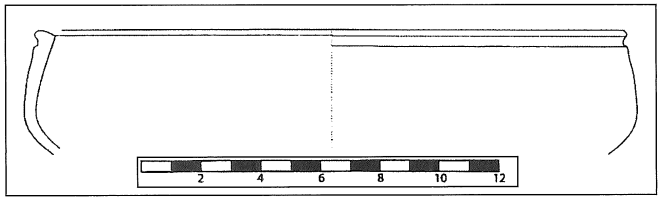
60. UR T 26, juglet, dm = 4cm; fabric: 10R 5/6 (red).



61. UR T 22, (cooking) casserole, dm = 20cm; fabric: 2.5YR 6/6 (light red); comparable to Gerber 1994: 290, fig. 16,I; Gerber 1996: 410, fig. 8.



62. UR T 6, bowl, with incised wavy line, dm = 28cm; fabric: 2.5YR 6/6 (light red), slip: 10YR 8/2 (white).

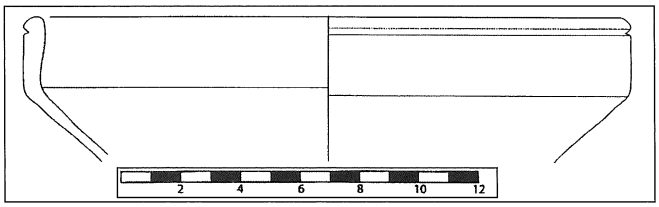


63. UR T 14, bowl, dm = 20cm; fabric: 2.5YR 6/6 (light red), slip: 7.5YR 8/2 (pink).

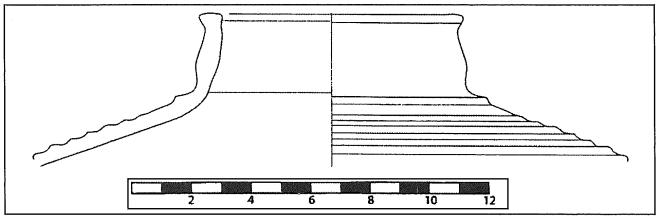
variants of the fine ware "Gruppe 9" bowls with grooved pattern on their exterior, Phase 3 (20/30–early second century AD).

UR Cistern

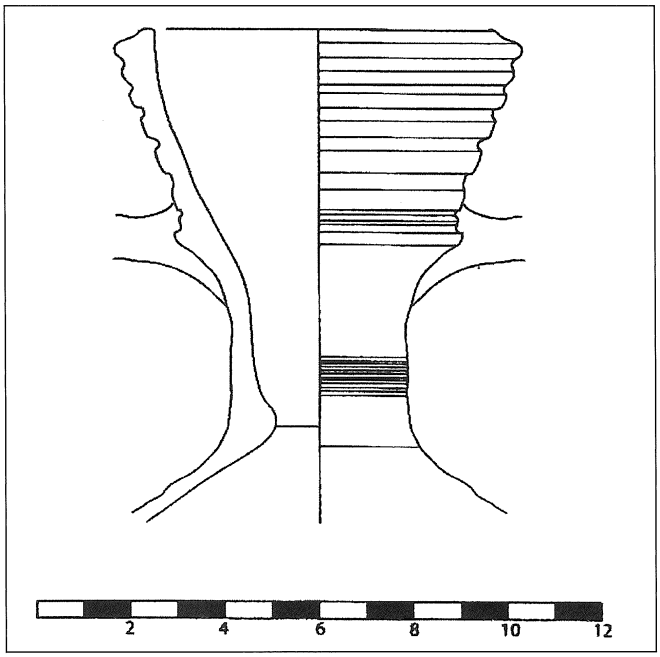
This material comes from a Nabataean cistern located on the right wadi bank at the end of a catchment area and ca.500m in upstream direction from Abū Khushayba to Umm Rattām (Lindner *et al.* 2000: 562). It was still used in 1998.



64. UR T 5, bowl, dm = 22cm; fabric: 5YR 5/1-5/2 (gray-reddish gray).



65. UR T 7, jar, a kind of green ware, dm = 10cm; fabric: 10YR 8/3 (very pale brown).



66. UR Z 1, green ware amphora, dm = 7cm; fabric: 10YR 7/3 (very pale brown), exterior: 10YR 8/2 (very pale brown).

- *UR Z, Bag 11*: Only one rim sherd, a green ware amphora, dated to the second century AD (**Fig. 66**).

Roman or Nabataean Gardens

This material was collected on the plains at Sayl Wādī Mūsā, generally known as "Roman or Nabataean Gardens". The area is characterized by the existence of cross-walls, which divide the plains into irrigated plots (Lindner *et al.* 2000: 533-554)

- *Roman Gardens, Bag 11*: sherds generally dated to the second/ fourth century AD.

Table 1: Chart of lithic finds at Umm Rattām (H. Jansson).

Cores	Bag 1	Bag 2	Total
Discoidal flake cores	2		2
Irregular flake cores	2	1	3
Of which were used as tools	*1*	*1*	*2*
Bidirectional blade core		1	1
Opposed platform blade core	1		1
Sub-pyramidal blade core		1	1
Total	5	3	8

Tools	Bag 1	Bag 2	Total
Levallois point	1	1	2
Scraper	1		1
Retouched blades IV	1		1
Truncated blade	1		1
Tools total	4	1	5

Core Trimming Elements			
Cortical flakes	6		6
Plunging flakes/blades	1	1	2
Total	7	1	8

Debitage			
Unretouched flakes (Ø> 25mm)	5	13	18
Of which were used as tools	*1*	*1*	*2*
Unretouched blades I (<25mm)			
Unretouched blades II (25-50mm)			
Unretouched blades III (50-80mm)	2	5	7
Of which were used as tools	*1*		*1*
Unretouched blades IV (>80mm)	4		4
Of which were used as tools	*1*		*1*
Fragment of unretouched blade IV	1	1	2
Total	12	19	31

Grand Total	24	23	47

Plate I

Core Trimming Elements	Bag 3	Bag 4	Total
Cortical blades	3	1	4
Total	3	1	4

Tools	Bag 3	Bag 4	Total
Endscraper		1	1
Truncated and backed		2	2
Tools total		3	3

Debitage			
Unretouched flakelets (Ø 10-25mm)		3	3
Unretouched flakes (Ø> 25mm)	4	6	10
Fragm of unretouched flakes (Ø> 25mm)	1		1
Unretouched bladelets I (<10mm)			
Unretouched bladelets II (10-25mm)		3	3
Unretouched bladelets III (25-40mm)		11	11
Of which were used as tools		*2*	*1*
Unretouched bladelets IV (>40mm)			
Fragm of unretouched bladelets II-III		4	4
Unretouched blades I (<25mm)			
Unretouched blades II (25-50mm)		4	4
Of which were used as tools		*1*	*1*
Unretouched blades III (50-80mm)	5	1	6
Unretouched blades IV (>80mm)			
Fragm of unretouched blades II-III	1		1
Total	11	32	43

Plate II

	Bag 3	Bag 4	Total
Grand Total	14	33	47

Preliminary Comments (M. Lindner and Z.T. Fiema)

The results of the lithic and ceramic analyses demonstrate a well-known truth in archaeological investigation. The preliminary observations on the surface material, made during the survey, need to be confirmed through selective excavations or soundings and the following post-fieldwork analysis. It is possible that the dating of the two prehistoric sites found during the NHG survey may need to be reconsidered. It will probably be productive to return to these sites and to carefully examine the context of finds, including the local geomorphology and the potential sources of raw material.

Some comments can also be proposed in conjunction with the ceramic analysis presented above. Puzzling is the comparison with the results of the survey conducted by G.R.D. King in the 1980s. While the first century AD Nabataean ceramics was well represented in the surface collection of the NHG survey, these were relatively scarce in the assemblage collected by King (King *et al.* 1989: 212). Roman-Byzantine ceramics were common in the King's collection. The survey and limited excavations conducted by the NHG Project provided substantial quantities of Roman-Byzantine ceramics as well, but mostly not later than the fourth century AD (Early Byzantine period). This slight discrepancy in the results of both surveys may partially be explained through the continuing erosion and exposure of earlier deposits, as well as through other negative phenomena, such as the deplorable, illegal excavations in the area.

At any rate, it seems that the best represented periods in the history of the Umm Rattām area are the later Nabataean, Roman and Early Byzantine periods (first century AD through the later fourth century AD). This observation probably well-reflects the history of the central-east 'Araba area. Notably, the significance of this area was related to two major factors: the communication between Petra and the West (Negev), and the potential of agricultural production if enhanced by the water conservation and management methods. The beginnings of the settlement in Umm Rattām may indeed date to the first century BC (as few found sherds indicate) but the real development should be dated to the first century AD, especially its later part. It is worth observing that the area of Jabal Hårøn located further south seems to have experienced a substantial agricultural development in the first century AD — beginning of the second century AD. Complex water conservation and irrigation installations there should most probably be associated with that development, considering the overwhelming quantities of Nabataean plain and fine ware found in association with these installations and dated to that period (Lavento and Frösen *et al.* 2000; Fiema, 2003: 353). A similar development might also have taken place in the Umm Rattām area, perhaps with the exception of the Wādī Mūsā Conduit which definitely was a later improvement of the water supply in the area (Lindner *et al.* 2000).

Furthermore, the expansion of occupation in the Umm Rattām area should be associated with the Petra-Gaza commercial route, which flourished in the first and second centuries AD, and passed through the nearby Bīr Madhkør. In this context, the re-examination of the Qaṣr Umm Rattām is necessary. The structure appears to be composite in construction. Its early, well-built component (A1 and A2) might reasonably be associated with the expansion of the first-second centuries AD, and would imply a road station or a small caravanserai, rather than a fort. Its eastern extention (B), built in simpler yet more massive manner, may indeed be later, as proposed in the preliminary report. According to its crenels, this structure was probably more defensive in nature although its identification as a typical Late Roman *castellum* cannot be verified. At any rate, it is apparent that both the Qaṣr and the settlement continued throughout the third and the fourth centuries AD. However, the investigations along the Petra-Gaza road indicate that by the end of the third-early fourth century AD, the sites along this road were largely abandoned (Cohen 1982: 240-7). It might be that the commercial significance of the Umm Rattām as the staging area of the caravan traffic in East-West direction was also diminished by then. At any rate, compared with the previous periods, the fifth century is poorly attested through the ceramic finds, and no sixth century pottery was identified at all.

It is apparent that the area definitely requires further investigations, as already proposed in the preliminary report (Lindner *et al.* 2000:

564). Detailed studies of the Qaṣr structure will be necessary as well as new soundings — especially in the Qaṣr and the settlement area — in order to provide new analytical data.

Finally, the analysis of the history of the area will require more incorporation into the larger historical framework. This should include the comparative studies on the occupation period in the Petra area and the sites in the central Wādī ʻAraba, such as Bīr Madkhūr.

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