

# INVENTORY OF A LATE ISLAMIC SETTLEMENT: SMALL FINDS AND ANIMAL BONES FROM THE EXCAVATION AT BA‘JA I

*Jutta Häser*

*with contributions by Benjamin Schröder and Michael Hochmuth*

## **Introduction**

In 1998 and 1999, the German Protestant Institute of Archaeology (GPIA) carried out a project with the support of the Department of Antiquities of Jordan (DoA), the Petra Regional Planning Council (PRPC) and the Kirchliche Hochschule Wuppertal, under the joint directorship of Hans-Dieter Bienert, Roland Lamprichs and Dieter Vieweger. Generous financial support was received from the Fritz Thyssen Foundation and the Evangelische Kirche in Deutschland (EKD) (Bienert *et al.* 2000: 119; Bastert *et al.* 2000: 39; Bienert *et al.* 2002: 161).

The project was designed to study the archaeology of the Ba‘ja region, situated in the greater Petra area, and document its remains from the earliest time of human occupation until the Ottoman period.

The research history and survey results, including pottery collected during the survey and general stratigraphy, together with *loci* descriptions, have previously been published in a number of articles (Bienert *et al.* 2000: 119; Bastert *et al.* 2000: 39; Bienert *et al.* 2002: 161). Micaela Sinibaldi is studying the pottery collected during the excavation seasons (in prep.).

The objective of this article is to present the small finds and the animal bones excavated at Ba‘ja I in 1999. Although these finds are not particularly remarkable, they do however give an overview of the inventory of a rural Mamluk/Ottoman household. Very few sites from this period have been excavated, and even more rarely published. Therefore, the finds from this site provide a significant addition to the literature.

## **Stratigraphy and Architectural Features**

In 1998, a survey was conducted by Hans-Dieter Bienert and Roland Lamprichs at Ba‘ja I; the pottery collected was identified as: Iron Age II (?) (0.72 %), Nabataean (10.04 %), Late Roman/Byzantine (12.90%) and Late Islamic/Ottoman (76.34 %) (Bienert and Lamprichs 1999: 97–131, Tab. 3–4; Bienert *et al.* 2002: 173 Tab. 8).

Based on these results, a four-week excavation was conducted under the joint directorship of Hans-Dieter Bienert, Roland Lamprichs, and Dieter Vieweger in autumn 1999, in order to define the stratigraphy and architectural structures of this primarily Late Islamic site. An area of more than 120 m<sup>2</sup> was selected on the highest point of the terrain, southeast of a modern stone house, where traces of architectural structures were visible on the surface. An architectural edifice was uncovered in this central excavation area, consisting of an agglomeration of six rooms (AA 52, AA 53, AA 52/53, AB 52, AB 53 and AC 52) founded on bedrock. The bedrock was levelled with soil and stone fills, creating a nearly horizontal surface (Vieweger 2000: 135; Bienert *et al.* 2002: 174).

Two Late Islamic settlement phases – designated respectively as ‘older’ and ‘younger’ – can be distinguished; represented by two distinct floor levels and changes in the interior room layout. In some cases, the same walls and floors were used in both phases. No architectural remains were encountered below the older Late Islamic stratum, although a few pre-Islamic pottery sherds were uncovered, both in the filling and the construction level below the older level. Therefore, it can be concluded that there was no settlement at this excavation

area prior to the Late Islamic.

The rooms of the Central Area were constructed at the same time, but used different construction methods. The entrances of AA 53, AA 52/53 and AA 52 face west. AA 52/53 and AB 53 were originally connected by a door, which was blocked in the younger Late Islamic phase. Rooms AB 52 and AC 52 formed a single unit, probably entered by the unexcavated room AA 51.

In order to examine the extension to the architectural structure in the Central Area, a trench was opened to the north (Northern Trench AA 54–56; Vieweger 2000: 137–138); four occupational phases can be distinguished. Two levels dating to the Late Islamic period, contemporaneous with the phases in the Central Area, as well as an Ottoman stratum on top. In AA 56, a large gate was uncovered belonging to the older Late Islamic phase; it was blocked during the younger Late Islamic phase and used as a wall during the Ottoman phase. The area immediately to the south of the gate was carefully paved in the older Late Islamic phase; during the younger Late Islamic phase, the area was used as a rubbish dump which yielded countless sherds and animal bones (L 80).

According to the pottery, the Late Islamic strata can be dated to the Mamluk/Ottoman period (*pers. com.* M. Sinibaldi).

In contrast to the Central Area, a considerable quantity of Roman and Nabataean artefacts was uncovered below the older Late Islamic level in the Northern Trench. Beneath the Late Islamic Walls 99 and 100, a Nabataean/Roman stratum was exposed, which included an extremely hard layer (L 116) with a fire place (L 167) (Vieweger 2000: 138; Bienert *et al.* 2002: 175). However, no built structures could be discerned. The excavators believe it received only seasonal use during the Nabataean/Roman period.

As canals, cisterns, water reservoirs, terraces and wine presses were found close to the site of Ba'ja I, it had been assumed that a larger permanent Nabataean settlement must have existed in that area. However, the excavations at the Central Area and the Northern Trench do not provide evidence to support expectations in this regard. Therefore, another area on the hill southwest of the Central Area was chosen for excavation. Houses constructed at this place

would best fulfil Nabataean requirements for safeguarding the area (Vieweger 2000: 138). While cleaning the surface of this small hill, the foundations of a rectangular building measuring *c.* 13m x 16m were uncovered. Roman and Nabataean sherds were collected on the eastern slope of the hill; it was decided to open a trench at this place (K 51, L 51 and L 52). As in the Central Area, two Late Islamic architectural phases could be identified. Below the Late Islamic walls (W 122 and W 119), architectural remains (W 162) of the Roman/Nabataean stratum were exposed. This site was identified as a seasonal campsite during the Nabataean/Roman period, but may possibly be a permanent outpost of nearby Petra (Vieweger 2000: 139).

### Small Finds

The assemblage of small finds from the Central Area, the Northern Trench and the Western Hill excavations is comprised of 63 ground-stone tools, 42 flint objects, 84 metal objects, 279 fragments of iron slag, three ceramic objects and five glass sherds. These objects have been categorized according to their material and function below. Following the catalogue, the distribution of finds is examined, in order to understand the functions of the various rooms, and the layout of the settlement.

The catalogues for the objects are arranged according to the following system:

- Inventory number
- Square locus phase
- Measurements
- Description.

The following abbreviations have been used:

- dm. = diameter
- g. = gram
- h. = height
- l. = length
- max. = maximum
- w. = width
- wt. = weight
- rem. = remaining
- th. = thickness

### Metal Objects

84 metal objects, 279 fragments of iron slag, and one piece of lead were uncovered

in the course of the excavation. The corpus is comprised of three tools, 65 fitting objects, one weapon and five personal ornaments. The tools consist of three knife blades (**Fig. 1a**). The fittings consist of 48 bands, one nail head, five hooks, two bolts, four rings, and four disc-shaped objects (**Fig. 1d**). The personal ornaments consist of two finger rings (**Fig. 1f**), two bracelets (**Fig. 1e**), and one belt buckle. The weapon is represented by one arrowhead (**Fig. 1b**). It was not possible to determine the function for ten of the objects.

78 of the objects are made of iron (**Fig. 1a. b. d.**); the five personal ornaments were made from bronze (**Fig. 1e. f**). One indeterminate lead object (**Fig. 1c**) was found.

Finds distribution is classified according to the class of objects (**Fig. 2**). Personal ornaments were only found in rooms AB 52 and AB 53 of the Central Area. One knife blade was excavated in room AB 53 of the Central Area; the other two on the Western Hill (L 52). The arrowhead was uncovered in room AB 52. Fragments of 15 bands, 14 bands with rivets, four rings, four ring-shaped disks, one hook, and 18 undetermined pieces were found in a single *locus* in room AA 53; it can be assumed that they belong to a single object (for example, a box or a door) made of some now vanished material. No other metal objects were found in this room. A single nail head was found in room AA 52. Another concentration of fittings was found in room AB 52. No metal objects were found in rooms AA 52/53 or AC 52, nor in the Northern Trench (AA 54–56). The slag fragments, together with the lead object, were uncovered in the excavation on the western hill (K 51, L 51, L 52).

The object groups (tools, fittings, personal ornaments and weapons) were found in both older and younger Late Islamic strata. The iron slag was present in the Late Islamic strata as well as the pre-Islamic stratum of the Western Hill excavation.

The distribution of the metal finds corresponds with the activities which can be identified by the distribution of ground-stone tools (see below): Household tasks were done in rooms AA 53, AB 52 and AB 53. Iron processing was only carried out on the Western Hill.

## Catalogue of Metal Objects

### *Central Area*

#### **7903**

AA 53 L 51 both phases below floor level  
Iron, fragments of 15 bands with rivets, 14 bands, 1 knob with rivet, 4 ring-shaped discs, 4 rings, 1 hook, 18 fragments of undetermined function and shape

#### **7906**

AB 52 L 72 younger phase on floor level  
Rem. l. 5.8 cm, max. w. 1.5 cm  
Iron, 1 hook

#### **7905**

AB 52 L 73 older phase  
Rem. l. 2.3 cm, max. w. 2.2 cm  
Iron, 1 nail head

#### **7907-7908**

AB 52 L 89+90 older phase  
Rem. l. 7.9 cm, max. w. 0.6 cm, th. 0.15 cm  
Bronze, 2 fragments of hook of a buckle

#### **7910**

AB 52 L 91 older phase  
Max. l. 1.5 cm, th. 0.15 cm  
Iron, 1 small fragment

#### **7914-1**

AB 52 L 91 older phase  
l. 7.0 cm, w. 1.6 cm, th. 0.4 cm  
Iron, 1 arrowhead

#### **7914-2**

AB 52 L 91 older phase  
l. 2.5 cm, th. 1.0 cm  
Iron, 1 hook

#### **7911**

AB 52 L 104 older phase  
Dm. 2.1 cm, th. 0.4  
Bronze, 1 closed finger ring with one flattened end, the other is broken off

#### **7913**

AB 52 L 105 older phase  
l. 6.6 cm, w. 2.8 cm, th. 0.6 cm  
Iron, 1 hook

#### **7919-1**

AB 52 L 112 older phase  
Rem. l. 4.7 cm, w. 2.3 cm, th. 0.5 cm  
Iron, 1 fragment of band

#### **7919-2**

AB 52 L 112 older phase  
l. 3.6 cm, w. 1.0 cm, th. 0.9 cm  
Iron, 1 hook

#### **7919-3**

AB 52 L 112 older phase  
l. 4.2 cm, max. dm. 1.6 cm

Iron, 1 bolt

**7915**

AB 52 L 114 older phase

Rem. l. 5.8 cm, rem. w. 1.4 cm, th. 1.0 cm

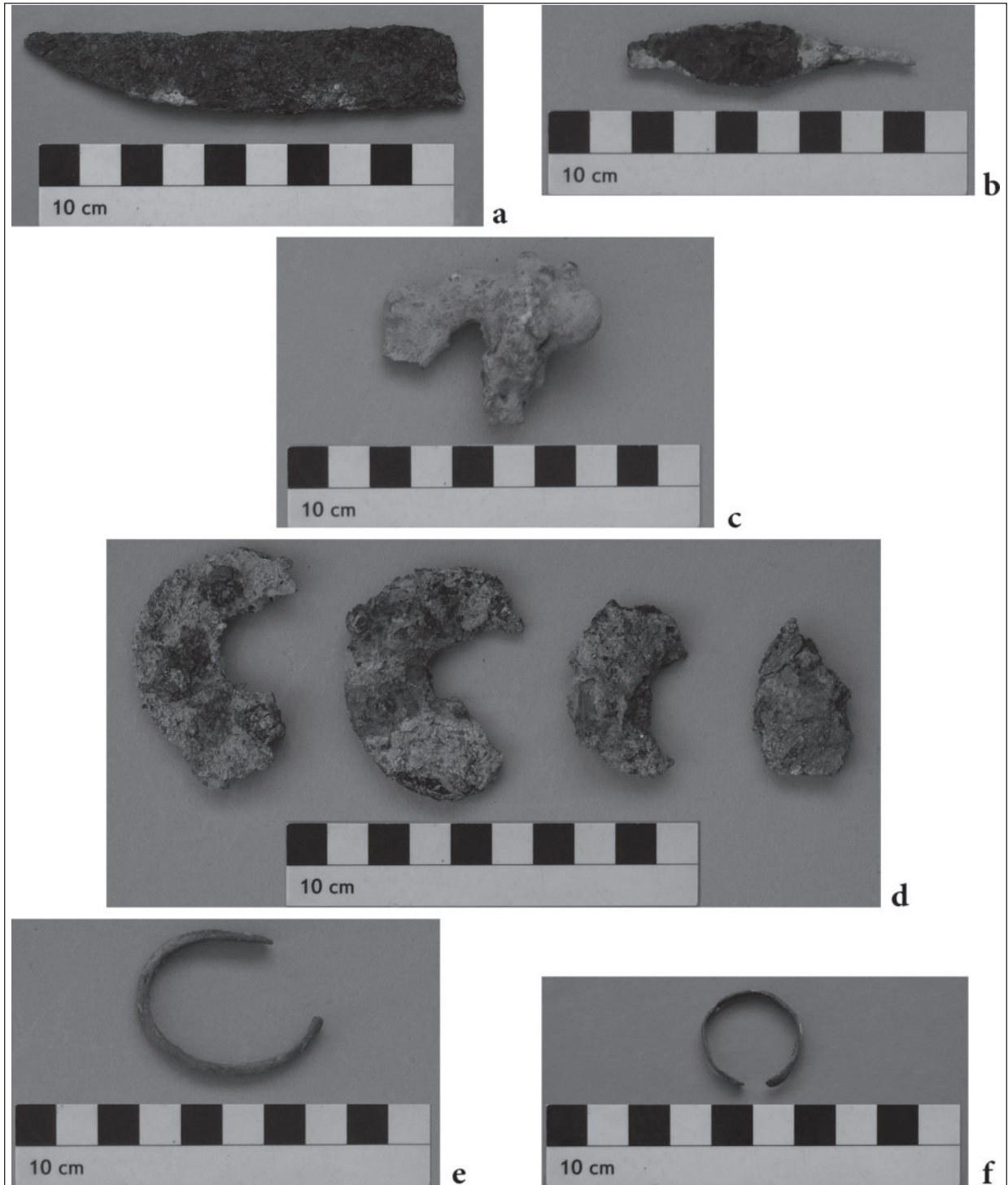
Iron, 8 fragments of a hook

**7925**

AB 53

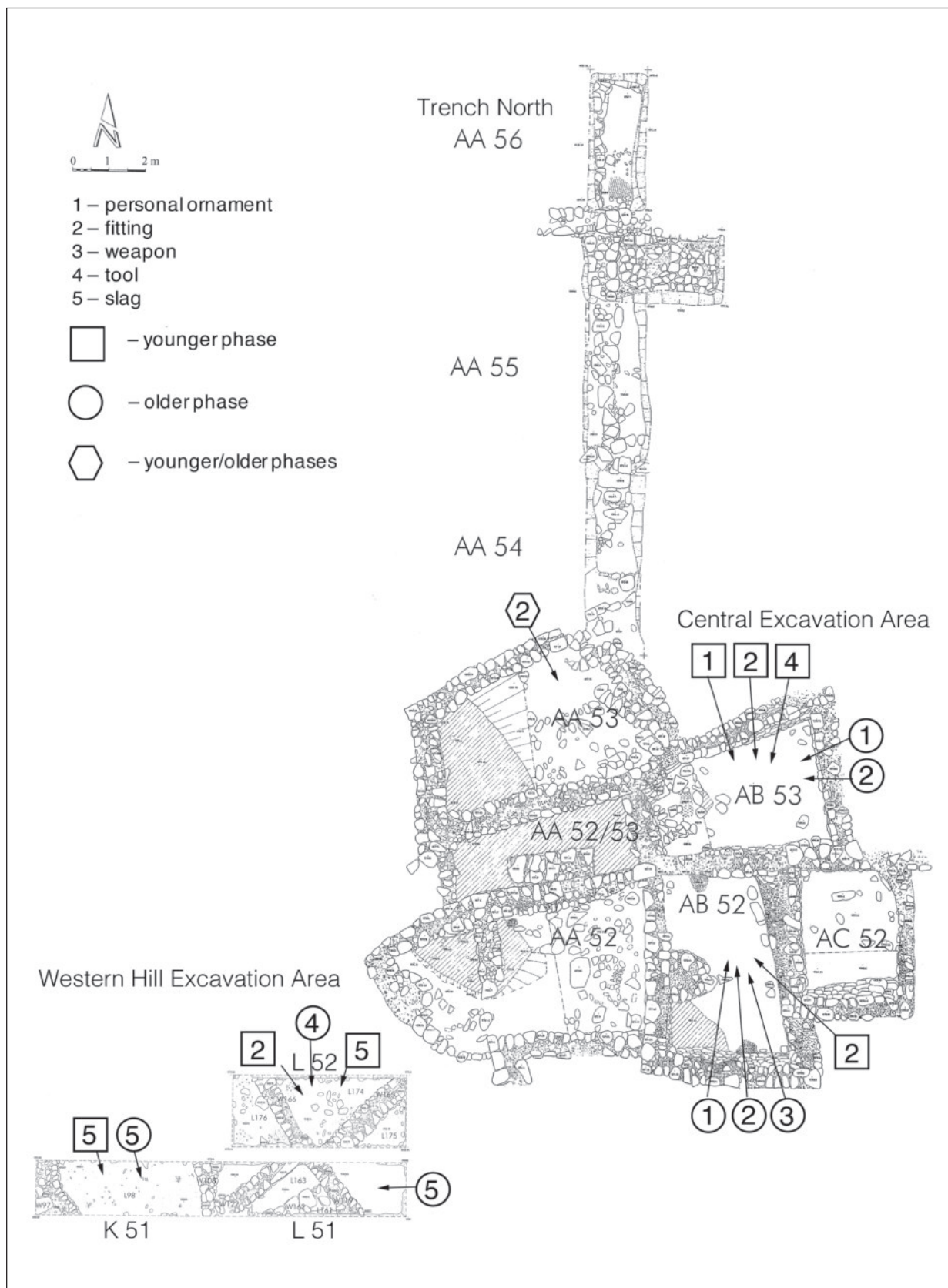
Max. dm. 4.4 cm, th. 0.3 cm

Bronze, 1 small bracelet with one flattened end, the other end is broken off



1. a) Iron knife blade 7901; b) Iron arrow head 7914; c) Piece of lead 7924-2; d) Iron fittings 7903; e) Bronze bracelet 7925; f) Bronze finger ring 7900.





2. Distribution of metal finds.

**7900**

AB 53 L 14 younger phase  
Max. dm. 2.4 cm, th. 0.1 cm  
Bronze, 1 open finger ring

**7901**

AB 53 L 14 younger phase  
Rem. l. 10.65 cm, max. w. 2.0 cm, th. 0.3 cm  
Iron, 1 knife blade

**7902**

AB 53 L 50 younger phase  
Iron, 8 small undetermined pieces

**7909**

AB 53 L 94 older phase on floor level  
Max. dm. 4.3 cm, th. 0.3 cm  
Bronze, 1 small open bracelet with one flattened end, the other is broken off

*Western Hill Excavation*

**7912**

K 51 L 98 younger phase  
iron, 4 pieces of slag

**7917**

K 51 L 108 younger phase  
Iron, 1 slag

**7916**

K 51 L 121 older phase  
Iron, 50 slags

**7918**

K 51 L 123 older phase  
iron, 22 slags

**7922**

L 51 L 126 older phase  
Iron, 11 slags

**7920**

L 52 L 150 younger phase  
iron, 46 slags

**7921-1**

L 52 L 147 younger phase  
Iron, 30 slags

**7921-2**

L 52 L 147 younger phase  
Rem. l. 11.4 cm, max. dm. 3.0 cm  
Iron, 1 fragment of a bolt

**7921-3**

L 52 L 147 younger phase  
iron, 3 fragments of one(?) knife

**7923-1**

L 52 L 154 older phase  
Rem. l. 6. cm, max. w. 2.1 cm, th. 0.7 cm  
Iron, 2 fragments of a knife blade

**7923-2**

L 52 L 154 older phase

Iron, 114 slags

**7924-1**

L 52 L 174 oldest phase, pre-Middle Ages?  
iron, 1 slag

**7924-2**

L 52 L 174 oldest phase, pre-Middle Ages?  
Lead, 1 undetermined fragment

*Ground-Stone Objects*

63 ground-stone objects were uncovered during the 1999 excavation season; the corpus is comprised exclusively of household items and architectural objects, almost half of which (30 objects) were used for grinding. Types include 14 upper grinding stones (**Fig. 3a**), 11 lower grinding stones (one uncertain; **Fig. 3c**), and five manually operated flour mills (**Fig. 4a. b**). Four undressed stones with holes were probably used as loom weights (**Fig. 5b**). The rest can be categorised as rubbing stones (**Fig. 3b**), a ring stone (**Fig. 5a**), mortar bowls (**Fig. 3d**), and hammer stones (**Fig. 4d**). The architectural objects are comprised of seven door sockets of various types (**Fig. 4c**).

There are three stone types: basalt, the least numerous with three objects (**Fig. 4b**), limestone and sandstone, of varying stone quality. No obvious regularity can be discerned for using a particular type of stone for the different types of objects, nor can typological differences in the various groups of ground-stone objects be recognized.

The objects were found in all excavated areas except AA 52/53 and AC 52 (**Fig. 6**). The objects identified as loom weights (**Fig. 5b**) are concentrated in younger Late Islamic phase contexts of AB 52; It can be proposed that a standing loom was situated in this room. Grinding tools were always found when stone objects were excavated. Therefore, it can be proposed that grinding and milling was performed in all these rooms, rather than concentrated in a single place.

The mills (**Fig. 4a. b**) were found in *loci* which cannot positively be associated with either the younger or older Late Islamic phases. Therefore, it is not possible to say whether they were used in both phases or belong only to one phase. Upper and lower grinding stones were found in both the older and younger phases.

Catalogue of Ground-Stone Objects

*Central Area*

**6001**

AA 52 L 3 both phases  
l. 12.4 cm, w. 8.5 cm, h. 8.2 cm  
Limestone, door socket

**6002**

AA 52 W 7 both phases  
rem. l. 7.5 cm, w. 6.3 cm, h. 2.9 cm  
Sandstone, fragment of upper grinding stone

**6012**

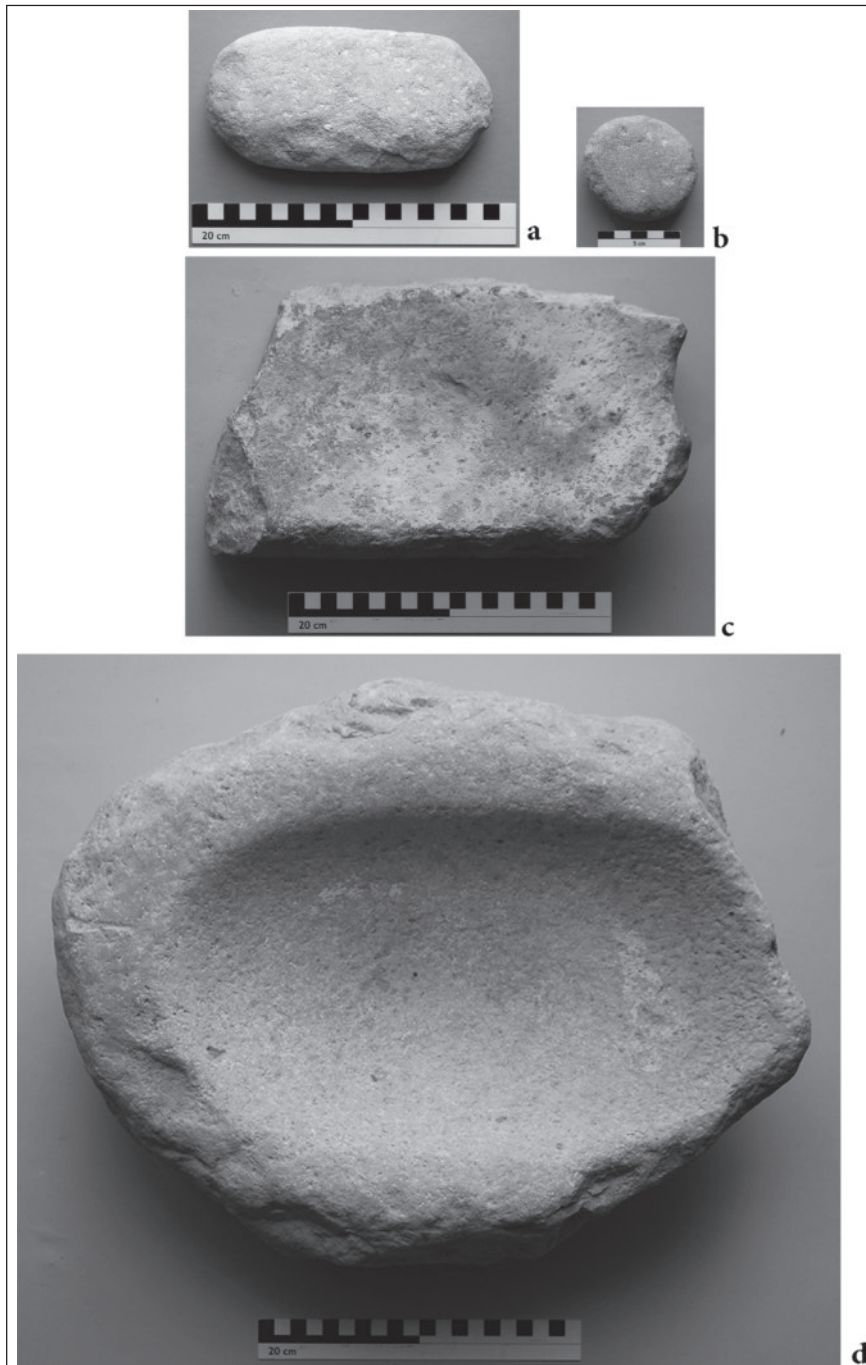
AA 53 L 12 both phases  
Rem. l. 8 cm, rem. w. 8.4 cm, rem. h. 4.1 cm  
Basalt, fragment of 6010

**6013**

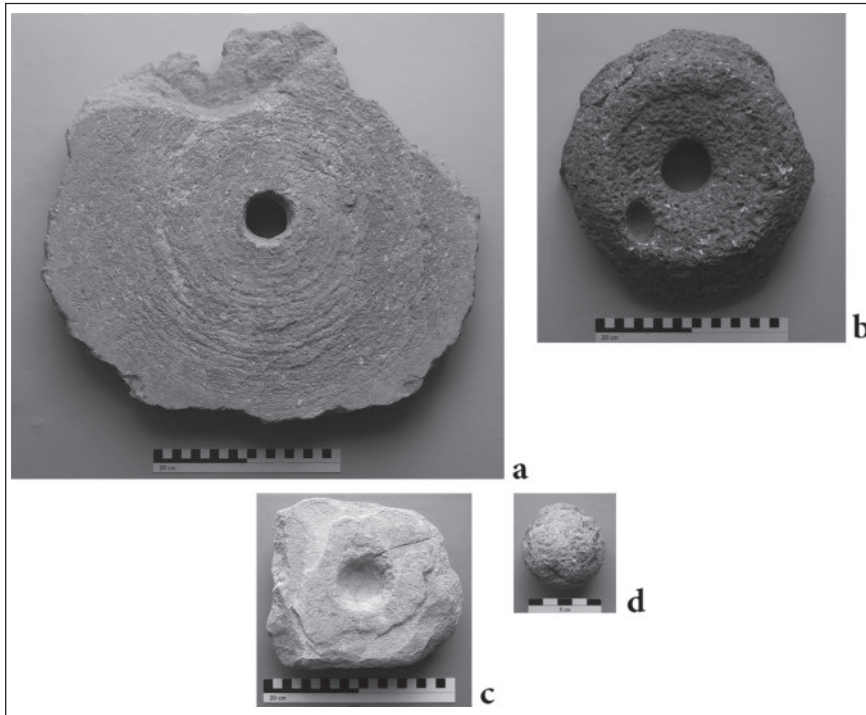
AA 53 L 12 both phases  
Rem. l. 7.5 cm, w. 8.3 cm, h. 4.3 cm  
Sandstone, upper grinding stone

**6500**

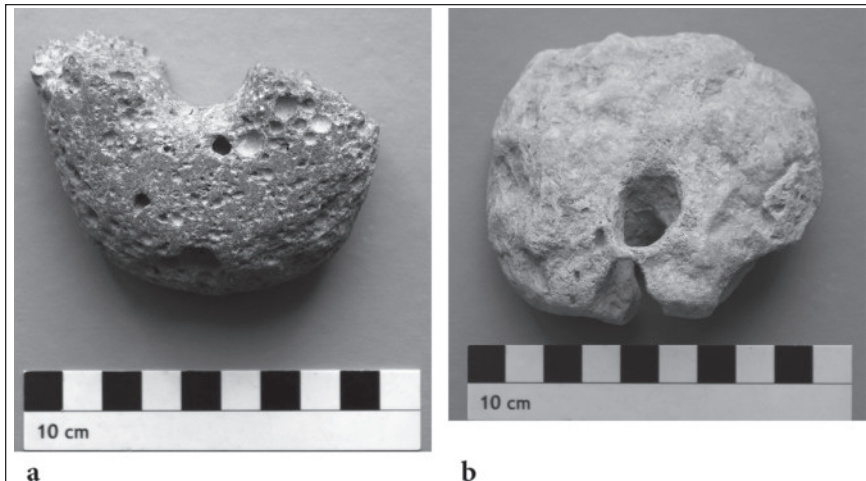
AA 53 L 12 both phases



3. a) Upper grinding stone 6008-2; b) Rubbing stone 1820-4; c) Lower grinding stone 6016-4; d) Mortar bowl 6020-1.



4. a) Lower part of manually operated flour mill 6015-1; b) Upper part of manually operated flour mill 6010+6012; c) Door socket 1808; d) Hammer stone 1816.



5. a) Ring stone 1805; b) Loom weight 1809.

Rem. l. 22.2 cm, rem. w. 19.9 cm, rem. h. 5.8 cm

Sandstone, fragment of lower grinding stone?

**1801-2**

AA 53 L 17 both phases

Max. dm. 39.0 cm, h. 4.4 cm

Limestone, fragment of upper part of manually operated flour mill

**1801-3**

AA 53 L 17 both phases

Rem. dm. 22.8 cm, h. 4.9

Limestone, fragment of lower? part of manually operated flour mill

**1802**

AA 53 L 17 both phases

Rem. l. 12.5 cm, rem. w. 27.5 cm, rem. h. 9.5 cm

Sandstone, fragment of lower grinding stone

**1803**

AA 53

l. 31.6 cm, w. 20.7 cm, h. 17.2 cm

Limestone, cubic shaped stone with depression, mortar?

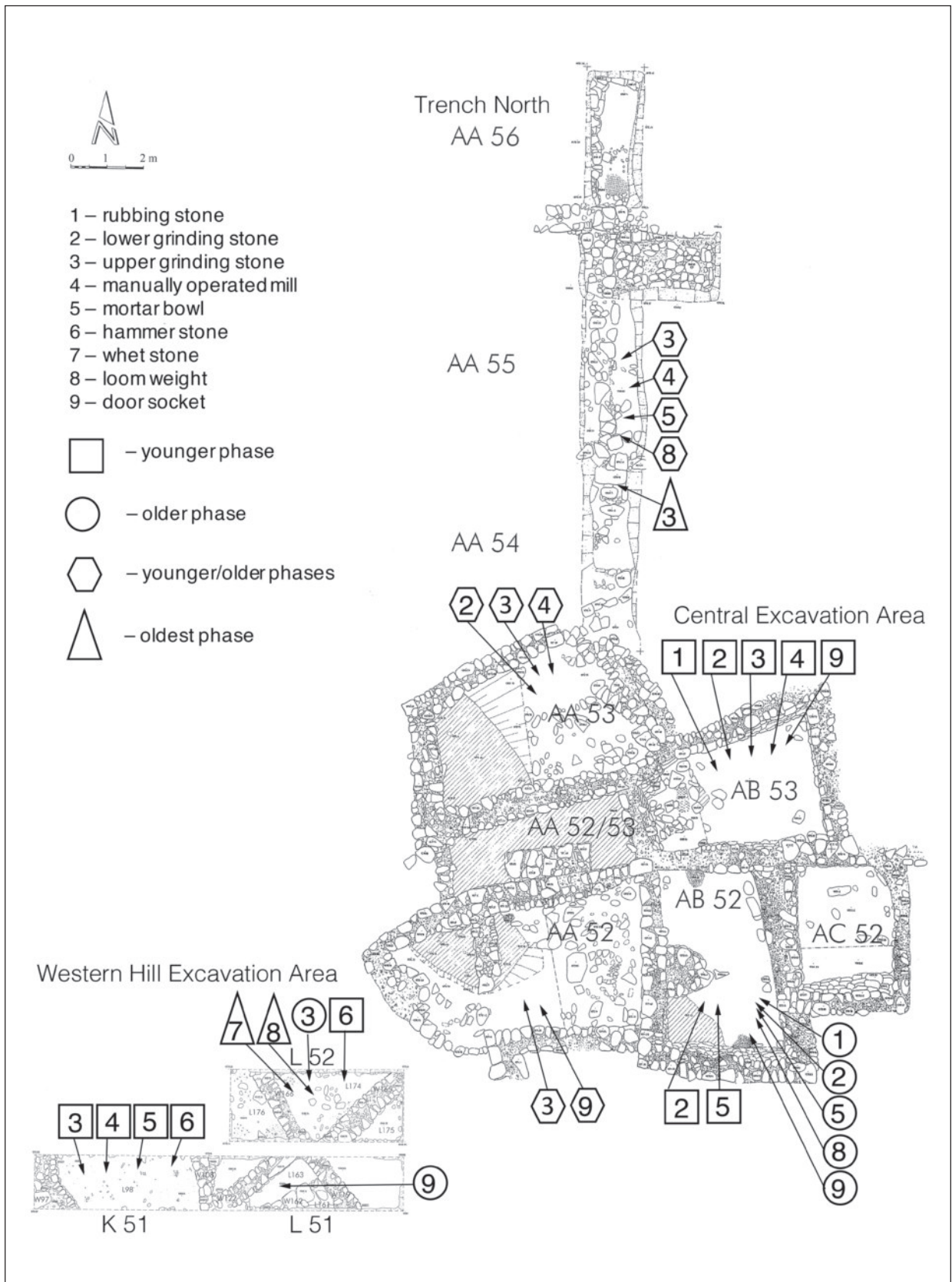
**6000**

AA 53 L 52

l. 17.6 cm, w. 10.4 cm, h. 5.4 cm, wt. 1460 g

Limestone, upper grinding stone





6. Distribution of ground-stone finds.

- 1806**  
 AB 52 L 61 younger phase  
 Rem. l. 14.9 cm, rem. w. 14.6 cm, h. 6.6 cm  
 Sandstone, fragment of lower grinding stone
- 6007**  
 AB 52 L 61 younger phase  
 Rem. l. 22.0 cm, rem. w. 19.0 cm, h. 7.7 cm  
 Limestone, fragment of lower grinding stone
- 6009**  
 AB 52 L 61 younger phase  
 Rem. l. 29.0 cm, w. 27.2 cm, h. 14.0 cm  
 Sandstone, mortar
- 6014**  
 AB 52 L 61 younger phase  
 Rem. l. 14.4 cm, rem. w. 19.3 cm, rem. h. 8.7 cm  
 Limestone, fragment of lower grinding stone or bowl
- 6016**  
 AB 52 L 61 younger phase  
 Rem. l. 27.2 cm, rem. w. 17.0 cm, h. 9.3 cm  
 Basalt, fragment of lower grinding stone
- 1808**  
 AB 52 L 89 older phase  
 l. 17.5 cm, w. 15.0 cm, h. 6.5 cm  
 Limestone, door socket
- 1809**  
 AB 52 L 89 older phase  
 l. 8.3 cm, w. 7.2 cm, h. 3.4, wt. 286 g  
 Limestone, perforated undressed stone, loom weight?
- 1810-1**  
 AB 52 L 89 older phase  
 l. 7.7 cm, w. 4.5 cm, h. 4.3 cm, wt. 158 g  
 Limestone, perforated undressed stone, loom weight?
- 1810-2**  
 AB 52 L 89 older phase  
 l. 4.4 cm, w. 4.4 cm, h. 2.4 cm, wt. 54 g  
 Limestone, perforated undressed stone, loom weight?
- 1819**  
 AB 52 L 89 older phase  
 l. 22.4 cm, rem. w. 15.8 cm, h. 7.5 cm  
 Limestone, door socket
- 6017**  
 AB 52 L 89 older phase  
 Rem. l. 28.0 cm, rem. w. 21.7 cm, h. 8.1 cm  
 Limestone, fragment of mortar bowl
- 6019**  
 AB 52 L 89 older phase  
 Rem. l. 22.5 cm, w. 22.5 cm, h. 5.0 cm  
 Sandstone, fragment of lower grinding stone
- 1811**  
 AB 52 L 91 older phase  
 Rem. l. 12.3 cm, w. 11.3 cm, h. 6.3 cm  
 Sandstone, fragment of upper grinding stone re-used as loom weight?
- 1813**  
 AB 52 L 114 older phase  
 l. 7.0 cm, w. 5.5 cm, h. 3.4 cm, wt. 125 g  
 Sandstone, rubbing stone
- 6022**  
 AB 52 L 114 older phase  
 Rem. l. 225.0 cm, rem. w. 31.5 cm, h. 10.5 cm  
 Sandstone, mortar bowl
- 1800**  
 AB 53 L 4 younger phase  
 l. 13.6 cm, w. 12.8 cm, h. 6.4 cm  
 Limestone, door socket
- 1801-1**  
 AB 53 L 4 younger phase  
 l. 31.7 cm, w. 25.8 cm, h. 5.1 cm  
 Sandstone, door socket
- 6004**  
 AB 53 L 14 younger phase  
 Rem. l. 11.3 cm, w. 10.4 cm, h. 3.0 cm  
 Sandstone, upper grinding stone
- 6005**  
 AB 53 L 14 younger phase  
 l. 18.0 cm, w. 14.7 cm, h. 6.7  
 Sandstone, trapezoidal, flat stone with uprising edges on two sides of unknown function
- 6008-1**  
 AB 53 L 14 younger phase  
 l. 17.8 cm, w. 8.4 cm, h. 9.2 cm, wt. 1967 g  
 Sandstone, rubbing stone
- 6008-2**  
 AB 53 L 14 younger phase  
 l. 17.1 cm, w. 8.6 cm, h. 4.1 cm, wt. 864 g  
 Sandstone, upper grinding stone
- 6010**  
 AB 53 L 14 younger phase  
 Max. dm. 27.0 cm, h. 9.5 cm  
 Basalt, upper part of manually operated mill (+ fragment 6012)
- 6015-1**  
 AB 53 L 14 younger phase  
 Max. dm. 45.0 cm, h. 7.8 cm  
 Limestone, lower part of manually operated

flour mill

**6015-2**

AB 53 L 14 younger phase

Rem. l. 26.1 cm, w. 18.6 cm, h. 7.0 cm

Sandstone, fragment of lower grinding stone

*Northern Trench*

**1804**

NTr L 30 floor level both phases

l. 5.7 cm, w. 4.5 cm, h. 2.9 cm

Sandstone, hook-shaped object of unknown function

**6003**

NTr L 34 both phases

Rem. l. 8.6 cm, w. 8.5 cm, h. 2.4 cm

Sandstone, fragment of upper grinding stone

**6006**

NTr L 42 both phases

Rem. l. 8.5 cm, w. 14.5 cm, h. 3.8 cm

Sandstone, fragment of upper grinding stone

**1805**

NTr L 56 both phases

Rem. l. 6.9 cm, rem. w. 8.2 cm, h. 4.0 cm

Basalt, fragment of upper grinding stone re-used as ring stone, loom weight?

**1807**

NTr L 59 both phases

l. 19.4 cm, w. 11.5 cm, h. 7.8 cm,

Basalt, upper grinding stone and mortar on two sides

**6018**

NTr L 59 both phases

Rem. dm. 21.8 cm, h. 4.7 cm

Limestone, fragment of upper part of manually operated flour mill

**6011**

NTr L 71 pre-older phase

Rem. l. 10.3 cm, rem. w. 14.5 cm, h. 7.3 cm

Sandstone, fragment of rubbing stone

**1818**

NTr AA 55 L 129 pre-Middle Ages?

Opening dm. 7.2 cm, rem. h. 7.9 cm

Sandstone, rim and wall fragment of mortar

6024-1

NTr AA 55 L 129 pre-Middle Ages?

Rem. l. 10.6 cm, w. 10.5 cm, h. 4.0 cm

Limestone, fragment of upper grinding stone

**6024-2**

NTr AA 55 L 129 pre-Middle Ages?

Rem. l. 11.6 cm, w. 8.0 cm, h. 5.7 cm

Limestone, fragment of upper grinding stone

**1820-1**

NTr AA 55 L 146

l. 6.8 cm, w. 6.0 cm, h. 3.6 cm, wt. 190 g

Sandstone, rubbing stone

**1820-2**

NTr AA 55 L 146

Max. dm. 3.8 cm, h. 1.9 cm

Chalk, lid

*Western Hill Area*

**1812**

K 51 L 97

l. 17.4 cm, w. 9.7 cm, h. 6.4

Limestone, hook-shaped object of unknown function

**1814**

K 51 L 98 younger phase

l. 5.5 cm, w. 4.8 cm, h. 4.0 cm, wt. 134 g

Limestone, ovoid undressed stone of unknown function

**6021**

K 51 L 98 younger phase

l. 19.6 cm, w. 7.7 cm, h. 4.3 cm, wt. 1092 g

Sandstone, upper grinding stone

**1815**

K 51 L 108 younger phase

l. 38.3 cm, w. 35.9 cm, h. 10.0 cm

Limestone, lower part of manually operated flour mill

**6020-1**

K 51 L 121 younger phase

l. 43.5 cm, w. 33.8 cm, h. 15.0 cm

Limestone, mortar bowl

**6020-2**

K 51 L 121 younger phase

l. 40.8 cm, rem. w. 22.2 cm, h. 12.5 cm

Sandstone, fragment of mortar bowl

**1816**

K 51 L 130 younger phase

Max. dm. 5.5 cm, wt. 207 g

Silex, nodule – hammer stone?

**1817**

L 51 L 120 older phase

l. 13.7 cm, w. 8.8 cm, h. 6.1 cm

Sandstone, mortar or door socket used from two sides

**1826**

L 51 L 120 older phase

l. 5.4 cm, w. 4.6 cm, h. 3.5 cm

Fossilised snail

**6023**

- L 51 L 122  
Rem. l. 18.5 cm, rem. w. 21.5 cm, rem. h. 6.4 cm  
Sandstone, fragment of lower grinding stone?  
**1822**  
L 51 L 151  
Rem. l. 8.4 cm, rem. w. 6.7 cm, wall th. 2.0 cm  
chalk, wall fragment of bowl  
**1821**  
L 52 L 147 younger phase  
Max. dm. 5.4 cm  
Silex, nodule – hammer stone?  
**6025**  
L 52 L 153 older phase  
Rem. l. 9.5 cm, w. 10.2 cm, h. 3.6 cm  
Sandstone, fragment of upper grinding stone  
**1823**  
L 52 L 174 oldest phase, pre-Middle Ages?  
Max. dm. 43.0 cm, max. h. 9.0 cm, inner dm. of centre hole 3.0 cm  
Limestone, upper part of manually operated flour mill  
**1824-1**  
L 52 L 174 oldest phase, pre-Middle Ages?  
l. 4.5 cm, w. 4.4 cm, h. 3.8 cm  
Limestone, perforated undressed stone, loom weight?  
**1824-2**  
L 52 L 174 oldest phase, pre-Middle Ages?  
Rem. l. 4.6 cm, w. 3.0 cm, h. 1.3 cm  
Steatite, fragment of whetstone Surface  
**1825**  
AB 45 surface  
l. 12.9 cm, rem. w. 10.5 cm, h. 10.8 cm  
Sandstone, fragment of door socket or mortar

#### *Flint Objects*

The flint assemblage is comprised of 42 objects; most are flakes created during the production process, with some used as scrapers, blades, and cutting tools. More than half (24 objects) were found in the Northern Trench, while only three were found in the Western Hill area. Fourteen objects were uncovered in the same rooms as the ground-stone objects (AA 53, AB 52, and AB 53). All flint objects were found in contexts associated with the Late Islamic settlement (both the older and younger phases); none were found in contexts dated earlier than the Late Islamic period.

Thus, the flint assemblage of Ba‘ja I verifies

that this material was still in use in the Late Islamic period, although to a minimal extent.

#### Catalogue of Flint Objects (by Benjamin Schröder)

##### *Central Area*

- 2012-1**  
AA 53 L 17 both phases  
l. 3.6 cm, w. 2.3 cm, th. 0.5 cm, wt. 4.7 g  
Tabular flake core-trimming element  
**2008-1**  
AB 52 L 90 older phase  
l. 3.9 cm, w. 1.5 cm, th. 0.7, wt. 3 g  
Non-parallel sided blade, blade-core trimming element  
**2008-2**  
AB 52 L 90 older phase  
l. 2.9 cm, w. 3.3 cm, th. 0.9, wt. 6.4 g  
Flake core trimming element or ecofact  
**2008-3**  
AB 52 L 90 older phase  
l. 3.3 cm, w. 2.1 cm, th. 0.7, wt. 3.9 g  
Flake core trimming element or ecofact  
**2004-1**  
AB 53 L 14 younger phase  
l. 6.4 cm, w. 2.4 cm, th. 0.8 cm, wt. 10.1 g  
Blade core trimming element  
**2004-2**  
AB 53 L 14 younger phase  
l. 5.6 cm, w. 2.4 cm, 1.0 cm, wt. 13.9 g  
Cutting tool medial-terminal fragment of a parallel-sided blade, lateral-retouched  
**2004-3**  
AB 53 L 14 younger phase  
l. 4.4 cm, w. 2.7 cm, 1.3 cm, wt. 13.6 g  
Fragment of a lateral-retouched blade  
**2004-4**  
AB 53 L 14 younger phase  
l. 5.8 cm, w. 4.7 cm, th. 2.8 cm, wt. 32.8 g  
Flake core trimming element or ecofact  
**2004-5**  
AB 53 L 14 younger phase  
l. 5.3 cm, w. 3.6 cm, th. 0.7 cm, wt. 10.8 g  
Scraper fragmented retouched flake  
**2004-6**  
AB 53 L 14 younger phase  
l. 4.9 cm, w. 2.9 cm, th. 1.2, wt. 14.8 g  
Lateral-retouched flake  
**2004-7**  
AB 53 L 14 younger phase  
l. 3.3 cm, w. 4.6 cm, th. 0.6 cm, wt. 10.8 g  
Tabular retouched retouched flake  
**2007-1**



AB 53 L 81 older phase  
l. 6.9 cm, w. 4.2 cm, th. 1.3, wt. 35.3 g  
Cutting tool distal fitted blade, lateral-  
retouched

**2007-2**

AB 53 L 81 older phase  
l. 4.8 cm, w. 1.9 cm, th. 0.9, wt. 7.3 g  
Non-parallel-sided blade core trimming  
element

**2007-3**

AB 53 L 81 older phase  
l. 4.8 cm, w. 3.8 cm, th. 1.5, wt. 13.9 g  
Flake core trimming element

*Northern Trench*

**2000-1**

NTr L 30 both phases floor level  
l. 6.1 cm, w. 7.8 cm, th. 2.7 cm, wt. 125.7 g  
Flint ad-hoc-tool/scrapper crude retouched  
flake

**2000-2**

NTr L 30 both phases floor level  
l. 4.7 cm, w. 1.7 cm, th. 0.7 cm, wt. 4.8 g  
Cutting tool lateral-retouched blade, distal  
fragmented

**2000-3**

NTr L 30 both phases floor level  
l. 4.5 cm, w. 1.8 cm, th. 1.2 cm, wt. 10.9 g  
Medial fragment of a lateral-retouched blade

**2000-4**

NTr L 30 both phases floor level  
l. 3.3 cm, w. 1.4 cm, th. 1.2 cm, wt. 5.8 g  
Distal fragment of a blade

**2000-5**

NTr L 30 both phases floor level  
l. 2.9 cm, w. 4.6 cm, th. 1.2 cm, wt. 13.5 g  
Flake, core trimming element or ecofact

**2000-6**

NTr L 30 both phases floor level  
l. 2.7 cm, w. 3.4 cm, th. 2.3 cm, wt. 11.7 g  
Flake, core trimming element

**2000-7**

NTr L 30 both phases floor level  
l. 3 cm, w. 3 cm, th. 0.9 cm, wt. 7.6 g  
Flake, core trimming element or ecofact

**2000-8**

NTr L 30 both phases floor level  
l. 3.3 cm, w. 2.9 cm, th. 0.8 cm, wt. 5.9 g  
Ad-hoc-tool/cutting tool distal retouched/  
notched with slight gloss

**2000-9**

NTr L 30 both phases floor level

l. 3.2 cm, w. 2.3 cm, th. 0.4 cm, wt. 2.4 g  
Flake core trimming element or ecofact

**2000-10**

NTr L 30 both phases floor level  
l. 2.7 cm, w. 1.7 cm, th. 0.8 cm, wt. 2.8 g  
Limestone ecofact

**2001-1**

NTr L 34 equal to both layers in AA/AB  
52/53

l. 6.8 cm, w. 3.2 cm, th. 0.8 cm, wt. 17.2 g  
Cutting tool distal fragmented, lateral-  
retouched, parallel-sided blade

**2002-1**

NTr L 40 equal to both layers in AA/AB  
52/53

l. 6 cm, w. 3.7 cm, th. 0.8 cm, wt. 12.5 g  
Ttabular flake core trimming element

**2011-1**

NTr L 43 equal to both layers in AA/AB  
52/53

l. 4 cm, w. 4.3 cm, th. 1.0 cm, wt. 15.2 g  
Fragmented retouched flake

**2011-1**

NTr L 43 equal to both layers in AA/AB  
52/53

l. 3.4 cm, w. 2.9 cm, th. 1.2 cm, wt. 11.5 g  
Flake core trimming element or ecofact

**2005-1**

NTr L 57 equal to both layers in AA/AB  
52/53

l. 5.6 cm, w. 2.5 cm, th. 1.0 cm, wt. 12 g  
Ad-hoc-tool lateral use-retouched (?) blade

**2005-2**

NTr L 57 equal to both layers in AA/AB  
52/53

l. 2.9 cm, w. 4.1 cm, th. 0.7, wt. 9 g  
Flake core-trimming element

**2006-1**

NTr L 59 equal to both layers in AA/AB  
52/53

l. 8.1 cm, w. 4.6 cm, th. 2.1, wt. 58.7 g  
Ad-hoc tool distal use-retouched flake

**2006-2**

NTr L 59 equal to both layers in AA/AB  
52/53

l. 2.9 cm, w. 4.1 cm, th. 0.9, wt. 10.7 g  
Fragmented flake core trimming element

**2006-3**

NTr L 59 equal to both layers in AA/AB  
52/53

l. 1.6 cm, w. 3.2 cm, th. 0.8, wt. 3.4 g  
Parallel-sided blade, blade-core trimming  
element

**2014-1**

NTr AA 55 L 146

l. 4.5 cm, w. 3.7 cm, th. 1.2 cm, wt. 14.4 g

Flake core trimming element

**2015-1**

NTr AA 55 L 148

l. 4.6 cm, w. 2.2 cm, th. 1.2 cm, wt. 8.9 g

Blade, core trimming element

**2015-2**

NTr AA 55 L 148

l. 2.4 cm, w. 3.4 cm, th. 0.7 cm, wt. 1 g

Flake, core trimming element

**2015-3**

NTr AA55 L 148

l. 3.4 cm, w. 1.9 cm, th. 0.8 cm, wt. 5.6 g

Ecofact

**2015-4**

NTr AA55 L 148

l. 2.4 cm, w. 2.7 cm, th. 0.8 cm, wt. 4.1 g

Tabular flake core trimming element

*Western Hill Area*

**2010-1**

K 51 L 98 younger phase

l. 2.2 cm, w. 1.6 cm, th. 0.9, wt. 3.5 g

Retouched flake core-trimming element

**2013-1**

L 51 L 126 older phase

l. 4 cm, w. 6.3 cm, th. 1.2 cm, wt. 30.9 g

Fragmented flake core trimming element

**2013-2**

L 51 L 126 older phase

l. 5.9 cm, w. 2.7 cm, th. 0.9 cm, wt. 8.9 g

Ad-hoc-tool use-retouched blade

**2003-1**

Z 52 L 52 younger phase

l. 4.9 cm, w. 3.1 cm, th. 1.5 cm, wt. 17.3 g

Retouched flake core trimming element

*Glass Objects*

Five glass sherds from two distinct vessels were uncovered during the excavation; both were made of light blue glass. The four sherds (7500 and 7502) from the Northern Trench belong to one vessel, although they were found in different *loci* (L 106 and L 110). They form a concave base and probably belonged to a flask. The *loci* predate the Late Islamic period, and are most likely to be from the Nabataean/Roman period (Fig. 7).

Sherd 7501 is a fragment from the beaded stem of a wine glass (Gorin-Rosen and Winter 2010: 169 Fig. 3) or a lamp. The context is in room AB 52 (L 91) in the Central Area, and dated to the older phase of the Islamic occupation (Fig. 7). However, this glass sherd appears to be intrusive (possibly a result of looting), as it dates from the 6<sup>th</sup>–7<sup>th</sup> century AD, and complements the Roman/Byzantine material found on the surface during the survey.

Catalogue of Glass Objects

**7501**

AB 52 L 91 older phase

Rem. h. 1.1 cm

Light blue fragment of beaded stem of wine glass or lamp.

**7500**

NTr L 106 pre-Middle Ages

Rem. h. 1.0 cm, bottom dm. 4.6 cm, th. 0.1-0.28 cm

Light blue bottom fragment of glass vessel (joint with 7502)

**7502**

NTr L 110 pre-Middle Ages

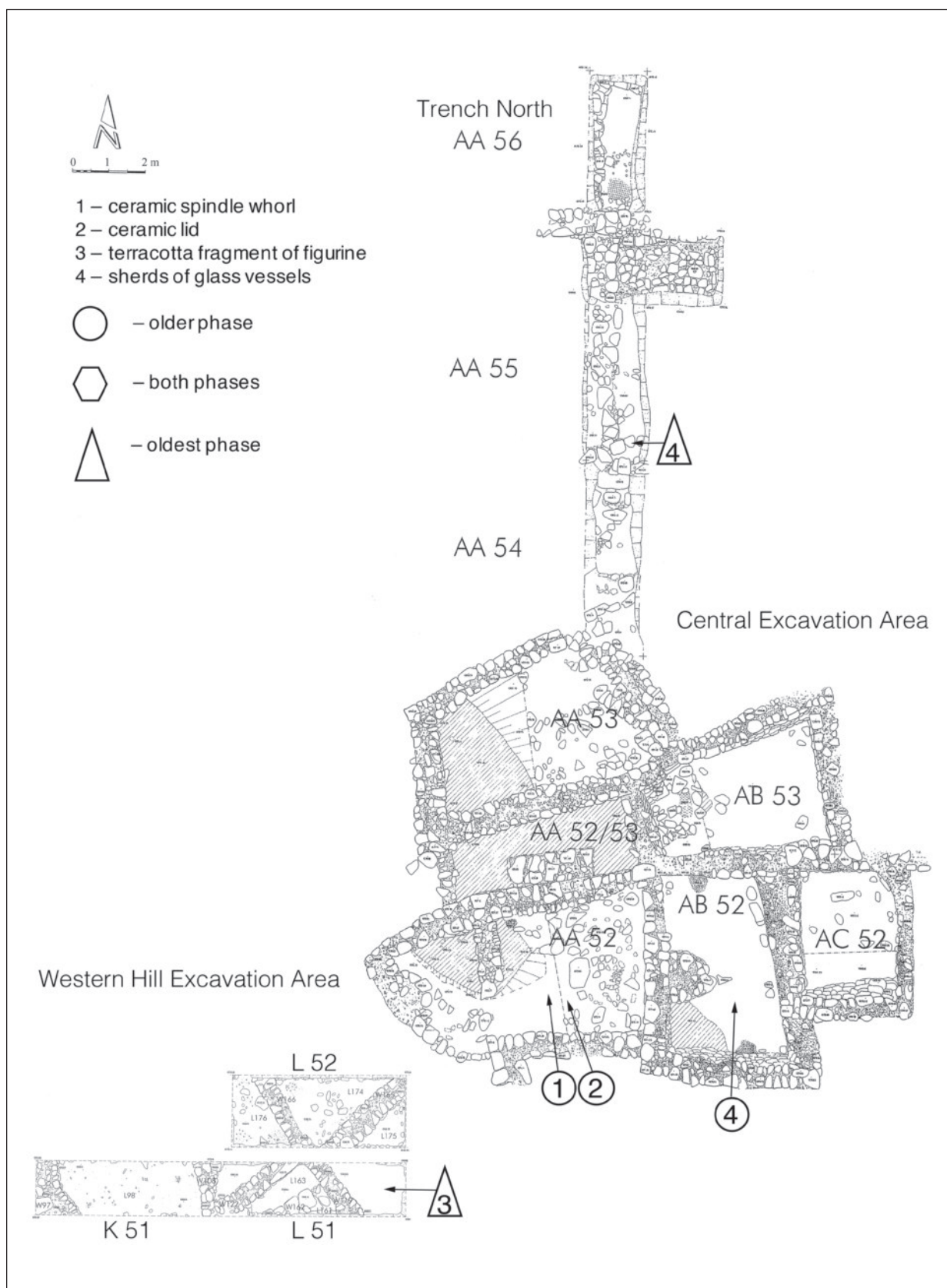
Rem. h. 1.0 cm, bottom dm. 4.6 cm, th. 0.1-0.28 cm

3 light blue bottom fragments of glass vessels (joint with 7500)

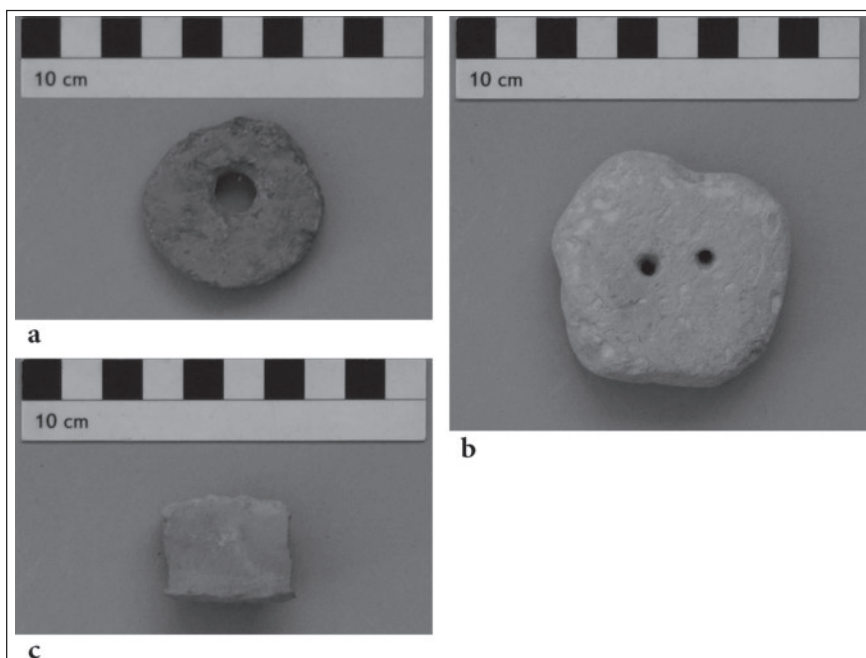
*Ceramic Objects*

Three ceramic objects were found which cannot be categorized as vessels. The first is an irregularly shaped spindle whorl made from a reworked pottery sherd (Fig. 8a). The second, an almost round object with two small holes (Fig. 8b), probably functioned as a lid and not as a button, as it is very thick. The third is probably the lower part of a mould-made terracotta figurine (Fig. 8c), although the original shape cannot be determined.

Both the spindle whorl and the lid were found in room AA 52 (both phases) from the Central Area of the excavation (Fig. 7). The terracotta figurine fragment was found in L 51, from the excavation on the Western Hill (Fig. 7). Although it does not have a specific context, it is more likely that it dates from a Nabataean/Roman rather than an Islamic stratum, due to its shape and manufacture.



7. Distribution of glass and ceramic finds.



8. a) Ceramic spindle whorl 1600-1;  
b) Ceramic lid 1600-2; c) Lower part of molded terracotta figurine (no inventory number).

#### Catalogue of Ceramic Objects

##### 1600-1

AA 52 L 20 both phases  
Max. dm. 4.4 cm, th. 1.1 cm  
Ceramic, spindle whorl

##### 1600-2

AA 52 L 20 both phases  
Max. dm. 5.9 cm, th. 2.2 cm  
Ceramic, lid

##### No Inventory Number

L 51 L 151  
l. 3.2 cm, w. 23 cm, rem. h. 2.7 cm  
Ceramic, lower part of a mould made figurine

#### Animal Bones

414 animal bones which could be determined were found in the excavation. 410 are identified as domestic mammals such as sheep, goat, cattle, camel, donkey and horse. Three bones are identified as gazelle; one bone, which could not be positively identified, may be either sheep, goat or gazelle. Sheep/goat bones comprise 83.4 % and cattle bones 11.20 % of the total assemblage (Table 1). This substantiates that domestic mammals are dominant, beasts of burden are extremely rare and gazelles, which were probably hunted, were eaten sporadically.

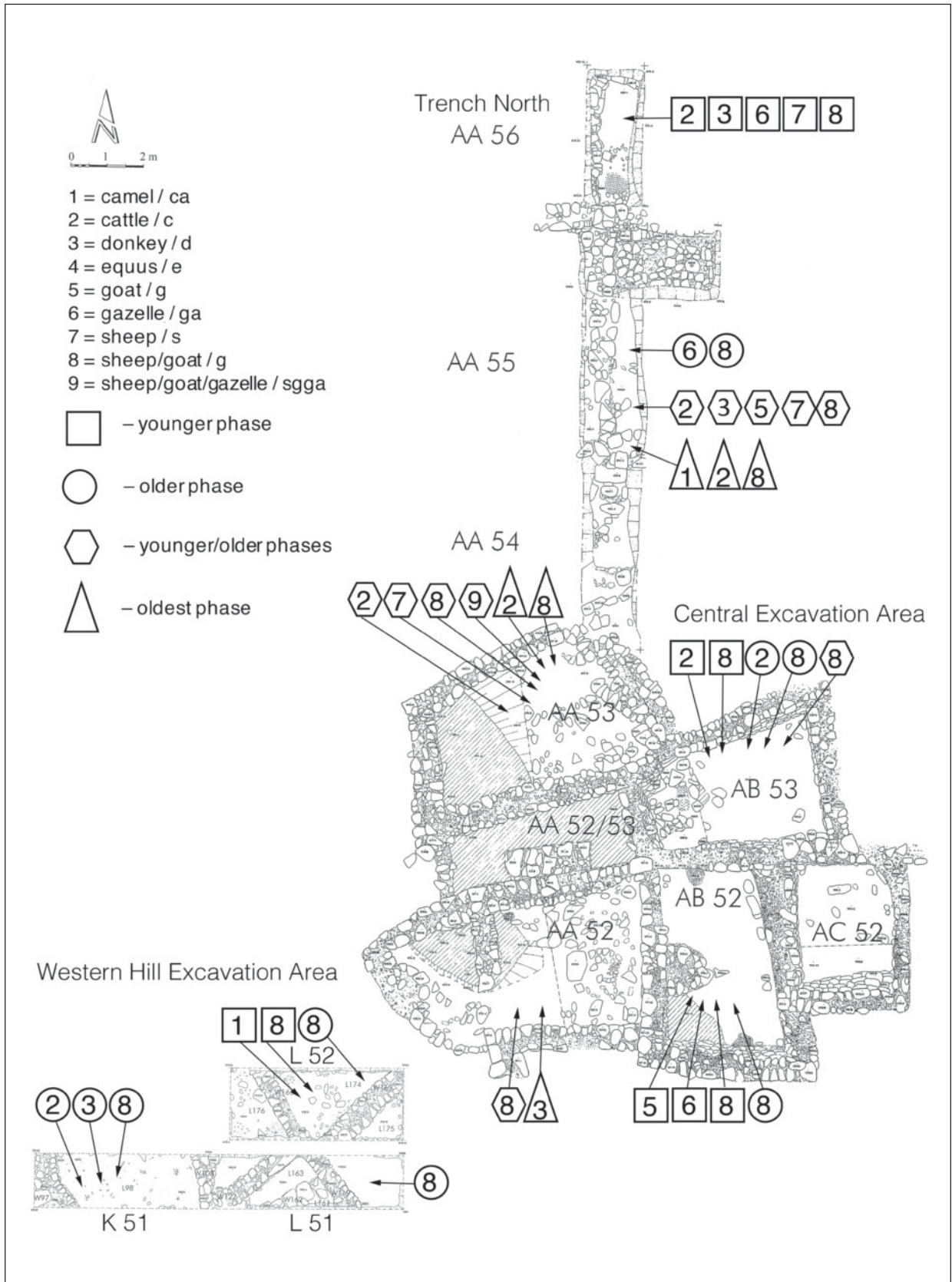
Sheep and goat bones were present in all rooms except AA 52/53 and AC 52 (Fig. 9). Cattle bones were found only in room AB 52, the Northern Trench and in K 51 of the Western

Hill excavation. Camel bones were located only in the Northern Trench and in L 52 on the Western Hill. Donkey bones were excavated from the Northern Trench, room AA 52 in the Central Area and in K 51 on the Western Hill. The single horse bone was uncovered in the Northern Trench. The gazelle bones were found in the Northern Trench and in room AB 52 of the Central Area. There is no distinctive distribution of the various species, however, it is noticeable that bones were completely absent in rooms AA 52/53 and AC 52, and that room AA 52 produced only two sheep/goat bones and one donkey bone from below the lowest floor level. This distribution corresponds with the allocation of small finds such as ground-stone, flint, metal, and ceramic objects.

Analysis of the distribution of animal bones with regard to time phases establishes that sheep, goat and cattle bones were found in all phases of the settlement and the strata below. Beasts of burden do not show any specific distribution in terms of time. The three gazelle bones were uncovered in the younger Late Islamic phase; it is not possible to definitively interpret this as an increase in hunting activity due to the insufficient number of bones.

The kind and distribution of animal bones ascertains that the inhabitants of the Late Islamic settlement lived from sheep and goat husbandry in addition to cultivating grain.





9. Distribution of animal bones.

**Table 1**

Species	Amount	%	Weight in g	%
cattle	46	11.2	2489	34.7
donkey	16	3.9	952	13.3
equus	1	0.2	19	0.3
camel	5	1.2	285	4.0
sheep/goat	342	83.4	3426	47.8
of this sheep	(5)	-	(61)	-
of this goat	(6)	-	(93)	-
<b>sum domestic mammals</b>	<b>410</b>	<b>100</b>	<b>7171</b>	<b>100</b>
sheep/goat/gazelle	1	-	2	-
gazelle ( <i>Gazella spec.</i> )	3	-	29	-
<b>sum</b>	<b>414</b>		<b>7202</b>	

Catalogue of Animal Bones (by Michael Hochmuth)

*Central Area*

4021	sg	ti	sub/ad	1	2	AA 52 L 21
4021	sg	ri	sub/ad	1	1	AA 52 L 21
4003	d	mc	sub/ad	1	8	AA 52 L 22
4000	c	cra	juvenil	2	24	AA 53 L 12
4000	c	man	juvenil	1	13	AA 53 L 12
4000	c	ul	juvenil	1	3	AA 53 L 12
4000	sg	man	adult	1	62	AA 53 L 12
4000	sg	man	juvenil	1	18	AA 53 L 12
4000	sg	fe	sub/ad	1	13	AA 53 L 12
4000	sg	ti	sub/ad	3	49	AA 53 L 12
4000	sg	mc	sub/ad	1	24	AA 53 L 12
4004	c	man	juvenil	1	4	AA 53 L 12
4004	s	mc	sub/ad	1	20	AA 53 L 12
4004	sg	fe	sub/ad	1	2	AA 53 L 12
4004	sg	ti	sub/ad	2	19	AA 53 L 12
4004	sg	ri	sub/ad	1	3	AA 53 L 12
4027	c	p3s	sub/ad	1	3	AA 53 L 12
4027	c	ri	sub/ad	1	4	AA 53 L 12
4027	sg	man	sub/ad	1	13	AA 53 L 12
4027	sg	man	sub/ad	2	20	AA 53 L 12
4027	sg	ti	sub/ad	1	7	AA 53 L 12
4027	sg	mt	sub/ad	1	10	AA 53 L 12
4027	sg	vt	sub/ad	1	2	AA 53 L 12
4027	sg	ri	sub/ad	2	5	AA 53 L 12
4034	c	mt	sub/ad	1	36	AA 53 L 12
4034	c	ri	sub/ad	1	12	AA 53 L 12
4034	sg	m1s	sub/ad	1	6	AA 53 L 12
4034	sg	m1i	sub/ad	1	4	AA 53 L 12
4034	sg	man	adult	1	2	AA 53 L 12
4034	sg	hu	sub/ad	1	3	AA 53 L 12
4034	sg	ti	sub/ad	1	9	AA 53 L 12
4034	sg	mt	sub/ad	1	3	AA 53 L 12
4034	sg	ri	sub/ad	3	3	AA 53 L 12

4014	sg	man	sub/ad	1	5	AA 53 L 17
4014	sg	sc	sub/ad	1	6	AA 53 L 17
4014	sg	pe	sub/ad	1	8	AA 53 L 17
4014	sg	fe	sub/ad	3	11	AA 53 L 17
4014	sg	mc	sub/ad	1	3	AA 53 L 17
4014	sg	ri	sub/ad	2	6	AA 53 L 17
4005	sg	ra	sub/ad	1	7	AA 53 L 18
4016	sg	cra	sub/ad	1	7	AA 53 L 45
4019	c	cra	adult	1	620	AA 53 L 60
4028	sgga	ra	sub/ad	1	2	AA 53, W 27
4054	sg	hu	subadult	1	12	AB 52 L 114
4059	sg	max	adult	1	25	AB 52 L 128
4059	sg	sc	sub/ad	2	17	AB 52 L 128
4059	sg	hu	sub/ad	1	16	AB 52 L 128
4059	sg	ra	sub/ad	1	4	AB 52 L 128
4059	sg	pe	sub/ad	1	4	AB 52 L 128
4059	sg	fe	sub/ad	2	46	AB 52 L 128
4059	sg	ti	sub/ad	2	26	AB 52 L 128
4059	sg	vt	sub/ad	1	3	AB 52 L 128
4059	sg	ri	sub/ad	1	2	AB 52 L 128
4023	sg	man	juvenil	1	16	AB 52 L 61
4023	sg	ti	adult	1	26	AB 52 L 61
4023	sg	ti	juvenil	1	12	AB 52 L 61
4023	sg	v cv	sub/ad	2	6	AB 52 L 61
4023	sg	vt	sub/ad	1	1	AB 52 L 61
4023	sg	vl	juvenil	1	1	AB 52 L 61
4026	ga	cal	adult	1	14	AB 52 L 72
4026	ga	pe	sub/ad	1	7	AB 52 L 72
4026	sg	hu	subadult	1	5	AB 52 L 72
4026	sg	ri	sub/ad	6	10	AB 52 L 72
4038	sg	sc	juvenil	1	1	AB 52 L 72
4038	sg	hu	subadult	1	14	AB 52 L 72
4038	sg	vt	sub/ad	1	2	AB 52 L 72
4038	sg	vl	adult	1	5	AB 52 L 72
4038	sg	ri	sub/ad	1	4	AB 52 L 72
4038	g	ru	sub/ad	1	32	AB 52 L 72

4050	sg	man	juvenil	1	8	AB 52 L 89
4061	sg	hu	subadult	1	5	AB 52 L 89
4061	sg	ti	sub/ad	1	8	AB 52 L 89
4061	sg	ri	sub/ad	1	4	AB 52 L 89
4041	sg	hu	subadult	1	10	AB 52 L 91
4041	sg	ra	subadult	1	8	AB 52 L 91
4041	sg	ti	sub/ad	1	13	AB 52 L 91
4049	sg	vt	sub/ad	2	6	AB 52 L 91
4049	sg	ti	sub/ad	1	9	AB 52 L 91
4006	sg	hz	sub/ad	1	2	AB 53 L 14
4006	sg	pdi	subadult	1	1	AB 53 L 14
4012	sg	hu	sub/ad	1	7	AB 53 L 14
4012	sg	ra	sub/ad	1	2	AB 53 L 14
4012	sg	ti	sub/ad	1	2	AB 53 L 14
4022	sg	ri	sub/ad	3	3	AB 53 L 14
4024	c	mt	sub/ad	1	14	AB 53 L 14
4024	sg	man	juvenil	1	7	AB 53 L 14
4024	sg	hu	sub/ad	1	2	AB 53 L 14
4024	sg	fe	sub/ad	1	11	AB 53 L 14
4024	sg	ti	sub/ad	1	5	AB 53 L 14
4031	sg	hu	subadult	1	6	AB 53 L 14
4036	sg	hu	sub/ad	2	19	AB 53 L 31
4036	sg	ra	sub/ad	1	7	AB 53 L 31
4036	sg	ra	juvenil	1	2	AB 53 L 31
4036	sg	ti	sub/ad	5	34	AB 53 L 31
4036	sg	cal	sub/ad	1	1	AB 53 L 31
4045	sg	sc	sub/ad	1	23	AB 53 L 31
4045	sg	ti	sub/ad	1	6	AB 53 L 31
4045	sg	ii	sub/ad	3	2	AB 53 L 31
4009	sg	ri	sub/ad	1	2	AB 53 L 48
4018	sg	hu	sub/ad	1	6	AB 53 L 48
4018	sg	ti	sub/ad	1	14	AB 53 L 48
4018	sg	ta	sub/ad	1	3	AB 53 L 48
4033	ca	p1	adult	1	80	AB 53 L 86
4033	ca	p3	adult	1	25	AB 53 L 86
4044	sg	max	adult	1	20	AB 53 L 94
4044	sg	fe	sub/ad	1	7	AB 53 L 94

*Northern Trench (NTr)*

4046	e	sc	sub/ad	1	19	NTr L 106
4046	ca	mp	sub/ad	1	104	NTr L 106
4046	c	hu	subadult	1	43	NTr L 106
4046	sg	sc	sub/ad	1	6	NTr L 106
4055	sg	mli	sub/ad	1	4	NTr L 110
4011	d	at	sub/ad	1	63	NTr L 30
4011	d	ii	adult	1	5	NTr L 30
4011	c	ra	sub/ad	1	82	NTr L 30
4011	c	mc	sub/ad	1	19	NTr L 30
4011	c	vt	sub/ad	3	59	NTr L 30
4011	c	ri	sub/ad	2	26	NTr L 30
4011	sg	max	adult	1	17	NTr L 30

4011	sg	man	sub/ad	1	12	NTr L 30
4011	sg	hu	sub/ad	1	11	NTr L 30
4011	sg	ra	sub/ad	4	51	NTr L 30
4011	sg	mc	sub/ad	1	6	NTr L 30
4011	sg	ti	sub/ad	4	25	NTr L 30
4011	sg	mt	sub/ad	1	11	NTr L 30
4015	d	man	adult	1	183	NTr L 34
4015	sg	hu	sub/ad	2	5	NTr L 34
4013	sg	sc	sub/ad	1	4	NTr L 40
5642	sg	ra	sub/ad	1	6	NTr L 42
4010	sg	man	sub/ad	1	18	NTr L 43
4010	sg	ti	sub/ad	1	2	NTr L 43
4053	sg	max	adult	1	14	NTr L 43
4053	sg	man	adult	1	32	NTr L 43
4017	sg	hz	sub/ad	1	8	NTr L 56
4017	sg	max	adult	1	26	NTr L 56
4017	sg	sc	sub/ad	1	28	NTr L 56
4017	sg	hu	sub/ad	2	43	NTr L 56
4017	sg	ra	sub/ad	2	45	NTr L 56
4017	sg	pe	sub/ad	1	9	NTr L 56
4017	sg	ti	sub/ad	2	21	NTr L 56
4017	sg	mt	sub/ad	2	11	NTr L 56
4017	sg	ri	sub/ad	1	6	NTr L 56
4029	c	man	sub/ad	1	25	NTr L 56
4029	c	pe	sub/ad	1	43	NTr L 56
4029	c	ul	sub/ad	1	7	NTr L 56
4029	s	sc	sub/ad	1	14	NTr L 56
4029	sg	man	sub/ad	2	46	NTr L 56
4029	sg	m3i	adult	1	12	NTr L 56
4029	sg	m1s	sub/ad	1	5	NTr L 56
4029	sg	hu	sub/ad	1	13	NTr L 56
4029	sg	fe	sub/ad	1	4	NTr L 56
4029	sg	ti	sub/ad	1	6	NTr L 56
4029	sg	mt	sub/ad	2	15	NTr L 56
4029	sg	ri	sub/ad	3	3	NTr L 56
4025	d	ra	adult	1	54	NTr L 59
4025	c	ri	sub/ad	2	37	NTr L 59
4025	c	vt	sub/ad	1	20	NTr L 59
4025	c	vcv	sub/ad	1	13	NTr L 59
4025	s	mc	sub/ad	2	15	NTr L 59
4025	sg	cra	sub/ad	1	14	NTr L 59
4025	sg	man	adult	2	34	NTr L 59
4025	sg	man	juvenil	1	3	NTr L 59
4025	sg	m3i	adult	2	21	NTr L 59
4025	sg	sc	sub/ad	2	26	NTr L 59
4025	sg	hu	sub/ad	3	22	NTr L 59
4025	sg	ra	sub/ad	3	47	NTr L 59
4025	sg	fe	sub/ad	1	5	NTr L 59
4025	sg	ti	sub/ad	3	13	NTr L 59
4025	sg	ri	sub/ad	2	8	NTr L 59
4032	d	pe	sub/ad	1	16	NTr L 59
4032	c	ra	sub/ad	1	26	NTr L 59

4032	c	pla	sub/ad	1	19	NTr L 59
4032	c	sc	sub/ad	1	20	NTr L 59
4032	sg	cra	sub/ad	1	1	NTr L 59
4032	sg	max	adult	1	21	NTr L 59
4032	sg	m2s	adult	1	9	NTr L 59
4032	sg	man	adult	1	41	NTr L 59
4032	sg	man	adult	4	145	NTr L 59
4032	sg	m2i	adult	1	3	NTr L 59
4032	sg	ra	sub/ad	1	7	NTr L 59
4032	sg	ra	sub/ad	1	9	NTr L 59
4032	sg	fe	sub/ad	2	32	NTr L 59
4032	sg	ti	sub/ad	5	32	NTr L 59
4032	sg	mt	sub/ad	2	14	NTr L 59
4032	sg	vt	sub/ad	1	2	NTr L 59
4032	sg	ri	sub/ad	3	6	NTr L 59
4032	sg	hu	sub/ad	1	13	NTr L 59
4032	sg	ra	sub/ad	1	15	NTr L 59
4032	sg	ti	adult	1	20	NTr L 59
4032	g	hz	sub/ad	1	9	NTr L 59
4032	g	hz	sub/ad	1	14	NTr L 59
4037	c	sc	sub/ad	1	18	NTr L 59
4037	c	hu	sub/ad	1	26	NTr L 59
4037	sg	max	subadult	2	23	NTr L 59
4037	sg	m3s	adult	2	16	NTr L 59
4037	sg	ms	sub/ad	2	14	NTr L 59
4037	sg	man	adult	3	89	NTr L 59
4037	sg	man	subadult	2	41	NTr L 59
4037	sg	sc	sub/ad	1	9	NTr L 59
4037	sg	ra	sub/ad	2	30	NTr L 59
4037	sg	mc	sub/ad	2	11	NTr L 59
4037	sg	fe	sub/ad	2	23	NTr L 59
4037	sg	ti	sub/ad	1	17	NTr L 59
4037	sg	ri	sub/ad	2	8	NTr L 59
4037	g	hz	sub/ad	1	6	NTr L 59
5675H	sg	man	adult	1	36	NTr L 59
5675A	sg	fe	sub/ad	1	4	NTr L 59
5675Q	g	pe	sub/ad	1	12	NTr L 59
4035	d	p1	sub/ad	1	24	NTr L 80
4035	ga	mt	sub/ad	1	8	NTr L 80
4035	s	cra	sub/ad	1	12	NTr L 80
4035	sg	man	sub/ad	1	4	NTr L 80
4035	sg	sc	sub/ad	5	99	NTr L 80
4035	sg	ra	sub/ad	2	12	NTr L 80
4035	sg	ul	sub/ad	1	2	NTr L 80
4035	sg	fe	sub/ad	3	36	NTr L 80
4035	sg	ti	sub/ad	2	28	NTr L 80
4035	sg	mt	sub/ad	2	12	NTr L 80
4035	sg	ta	sub/ad	1	6	NTr L 80
4035	sg	vl	adult	3	18	NTr L 80
4035	sg	ri	sub/ad	3	9	NTr L 80
4040C	d	hu	sub/ad	1	116	NTr L 80
4040A	d	ru	sub/ad	1	186	NTr L 80

4040A	d	ti	sub/ad	1	71	NTr L 80
4040A	d	p3	sub/ad	1	10	NTr L 80
4040B	d	max	sub/ad	1	48	NTr L 80
4040B	d	sc	sub/ad	1	73	NTr L 80
4040C	c	fe	sub/ad	1	44	NTr L 80
4040C	c	ti	sub/ad	1	86	NTr L 80
4040A	c	man	adult	1	181	NTr L 80
4040A	c	hu	sub/ad	1	160	NTr L 80
4040B	c	man	sub/ad	1	49	NTr L 80
4040B	c	fe	sub/ad	1	144	NTr L 80
4040B	c	mt	sub/ad	1	99	NTr L 80
4040B	c	mt	juvenil	1	19	NTr L 80
4040A	sg	man	adult	2	92	NTr L 80
4040B	sg	max	subadult	2	30	NTr L 80
4040B	sg	sc	sub/ad	1	5	NTr L 80
5674S	sg	ri	sub/ad	1	2	NTr L 80
4039	c	hu	sub/ad	1	33	NTr L 96
4039	c	ti	sub/ad	1	24	NTr L 96
4039	c	mt	sub/ad	1	149	NTr L 96
4039	c	tsk	sub/ad	1	176	NTr L 96
4039	sg	fe	sub/ad	2	33	NTr L 96
4039	sg	man	adult	2	111	NTr L 96
4039	sg	man	subadult	1	28	NTr L 96
4039	sg	man	juvenil	2	26	NTr L 96
4047	sg	man	subadult	1	37	NTr L 96
4047	sg	man	adult	1	51	NTr L 96
4047	g	hu	sub/ad	1	20	NTr L 96
4020	sg	vl	sub/ad	1	3	Z 52 L 52

*Western Hill*

4056	d	ra	sub/ad	1	24	K 51 L 109
4056	d	pe	sub/ad	1	21	K 51 L 109
4056	ca	p1	subadult	1	46	K 51 L 109
4056	sg	cra	sub/ad	1	8	K 51 L 109
4056	sg	hz	sub/ad	1	3	K 51 L 109
4056	sg	max	adult	1	24	K 51 L 109
4056	sg	man	sub/ad	1	8	K 51 L 109
4056	sg	sc	sub/ad	1	7	K 51 L 109
4056	sg	hu	sub/ad	1	6	K 51 L 109
4056	sg	ra	sub/ad	7	49	K 51 L 109
4056	sg	mc	sub/ad	1	2	K 51 L 109
4056	sg	pe	sub/ad	1	2	K 51 L 109
4056	sg	ti	sub/ad	5	34	K 51 L 109
4056	sg	ti	juvenil	1	15	K 51 L 109
4056	sg	mt	sub/ad	1	6	K 51 L 109
4056	sg	ri	sub/ad	2	1	K 51 L 109
4057	c	mt	sub/ad	1	13	K 51 L 120
4057	sg	max	adult	1	14	K 51 L 120
4057	sg	man	adult	1	24	K 51 L 120
4057	sg	man	sub/ad	1	23	K 51 L 120
4057	sg	ra	sub/ad	1	15	K 51 L 120
4057	sg	mc	sub/ad	1	4	K 51 L 120



4060	d	sc	sub/ad	1	50	K 51 L 120
4060	c	vcd	adult	1	17	K 51 L 120
4060	sg	ps	sub/ad	1	1	K 51 L 120
4060	sg	man	juvenil	1	6	K 51 L 120
4060	sg	de	sub/ad	1	1	K 51 L 120
4060	sg	sc	sub/ad	2	5	K 51 L 120
4060	sg	ra	sub/ad	1	7	K 51 L 120
4060	sg	mc	sub/ad	1	4	K 51 L 120
4060	sg	ti	sub/ad	2	15	K 51 L 120
4060	sg	fe	sub/ad	1	2	K 51 L 120
4060	sg	mt	sub/ad	1	7	K 51 L 120
4064	sg	m3s	adult	1	7	L 51 L 126
4058	sg	man	sub/ad	1	8	L 52 L 133
4058	sg	hu	sub/ad	1	2	L 52 L 133
4058	sg	ti	sub/ad	1	7	L 52 L 133
4062	sg	hu	sub/ad	1	4	L 52 L 133
4062	sg	ri	sub/ad	2	5	L 52 L 133
4063	ca	sc	sub/ad	1	30	L 52 L 147
4063	sg	man	sub/ad	1	11	L 52 L 147
4063	sg	sc	sub/ad	2	6	L 52 L 147
4063	sg	hu	sub/ad	1	3	L 52 L 147
4066	sg	sc	sub/ad	1	3	L 52 L 154
4066	sg	pe	juvenil	1	2	L 52 L 154
4066	sg	ti	sub/ad	1	6	L 52 L 154
4066	sg	ri	sub/ad	3	6	L 52 L 154

## Conclusion

Four strata were identified during the excavation of the three areas at Ba'ja I; the Central Area, the Northern Trench and the Western Hill. The older and younger phases of the Late Islamic period were found in all excavation areas. The Ottoman phase is evident only in the far northern part of the Northern Trench, established by the re-use of the Late Islamic walls. No small finds are associated with this phase.

In the Central Area, six rooms were uncovered. They belong to at least two, possibly three building units, which had been previously discerned by the building layout, but further proof is evidenced by the distribution of small finds (see below). In the Central Area, a soil filling was found below the older Late Islamic settlement layer; its purpose was to level the undulating bedrock for construction. This filling contained small finds from the Nabataean/Roman period, but no architectural remains.

In the Northern Trench, a floor with a fireplace was assigned to a Nabataean/Roman stratum, but the excavators believe the place

was used seasonally rather than as a permanent settlement during this period.

Contrary to these observations, the Western Hill excavation provided evidence for a more substantial occupation from the Nabataean/Roman period; the lower part of a mould-made terracotta figurine clearly associated with this period was uncovered there. However, the excavated area was too small for a more detailed interpretation of the site.

The small finds and animal bones are distributed in all excavation areas; however, a clear functional difference can be discerned between the individual rooms of the Central Area, and also between the Central Area and the Western Hill Area.

Rooms AB 52, AA 53 and AB 53 of the Late Islamic settlement in the Central Area yielded ground-stone tools, flint objects, metal tools and personal ornaments, together with animal bones. Only a few finds were uncovered in room AA 52, and none at all in room AC 52. This establishes that the majority of activities were conducted in rooms AB 52, AA 53 and AB 53. This distribution confirms the visual observation of the architectural features before the excavation season, verifying that rooms AA 52, AB 52 and AC 52 are part of one building unit, AA 52/53 and AB 53 another, and AA 53 is probably part of a third. It appears that each unit has an activity centre for household tasks such as grinding, milling and food processing. Room AB 52 is also used in the younger Late Islamic phase for weaving. The other rooms were probably used for other tasks. This may also be true for the rooms in the Northern Trench, but the excavated area is too small for more detailed conclusions.

Tools for milling and grinding, as well as animal bones, were also found on the Western Hill in both Late Islamic phases. However, the most prominent small finds from this area are the iron slag fragments, hammer stones and the whetstone, which were only found there. It can be deduced that this place was used, even if only partially, for iron processing. This may also be true for the Nabataean/Roman period, as iron slag was also found in the oldest stratum of the site.

Only five sherds from two distinct glass objects were found; one in the Central Area

and four in the Northern Trench. These almost certainly belong to the earliest filling layers, despite being found in a later context (as seen in room AB 52).

The preponderance of sheep and goat bones, accompanied by only a few bones from beasts of burden and almost none from hunted animals, accentuates the interpretation of the site as a rural settlement in the Late Islamic period, which is further substantiated by the presence of numerous milling and grinding tools.

Dr. Jutta Häser  
German Protestant Institute of Archaeology  
P.O. Box 183  
11118 Amman  
Jordan

Benjamin Schröder, M.A.  
Bolte Straße 39  
58455 Witten  
Germany

Michael Hochmuth  
Deutsches Archäologisches Institut  
Im Dol 1-6  
14195 Berlin  
Germany

## Bibliography

- Bastert, K., Bienert, H.-D., Lamprichs, R. and Vieweger, D.  
2000 Ba'ja Regional Project Report on the First Field Season, 1999. *Orient and Occident* 5 1-2: 39–42.
- Bienert, H.-D. and Lamprichs, R.  
1999 Der archäologische Fundplatz Ba'ja I: Keramik der Oberfläche – Eine Auswahl. *Ugarit-Forschungen* 30: 97–131.
- Bienert, H.-D., Lamprichs, R. and Vieweger, D.  
2000 Ba'ja, The Archaeology of a Landscape 9000 Years of Human Occupation: A preliminary report on the 1999 field season. *ADAJ* 44: 119–148.
- Bienert, H.-D., Lamprichs, R. and Vieweger, D.  
2002 Ba'ja: Archäologie einer Landschaft in Jordanien – Bericht über archäologische Feldforschungen. Pp.161–213 in R. Eichmann (ed.), *Ausgrabungen und Surveys im Vorderen Orient I*, Orient-Archäologie.
- Gorin-Rosen, Y. and Winter, T.  
2010 Selected Insights into Byzantine Glass in the Holy Land. Pp. 165–181 in J. Drauschke and D. Keller (eds.), *Glass in Byzantium – Production, Usage, Analyses*. Mainz. RGZM.
- Sinibaldi, M.  
in prep. Islamic Period Pottery of Ba'ja I (working title), *Levant*.
- Vieweger, D.  
2000 Ba'ja I – A Nabataean and Late Islamic Settlement, *ADAJ* 44: 134–139.