

UNIVERSITY OF COPENHAGEN

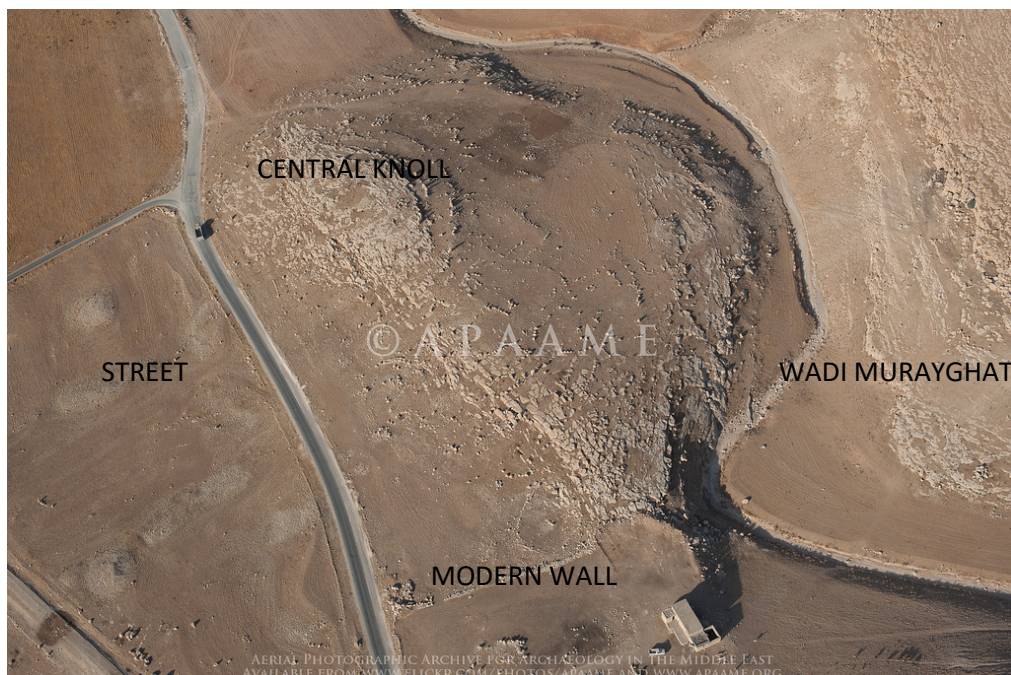
# The Ritual Landscape of Murayghat Project

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4. Season: 2017

Susanne Kerner  
Near Eastern Archaeology

ToRS



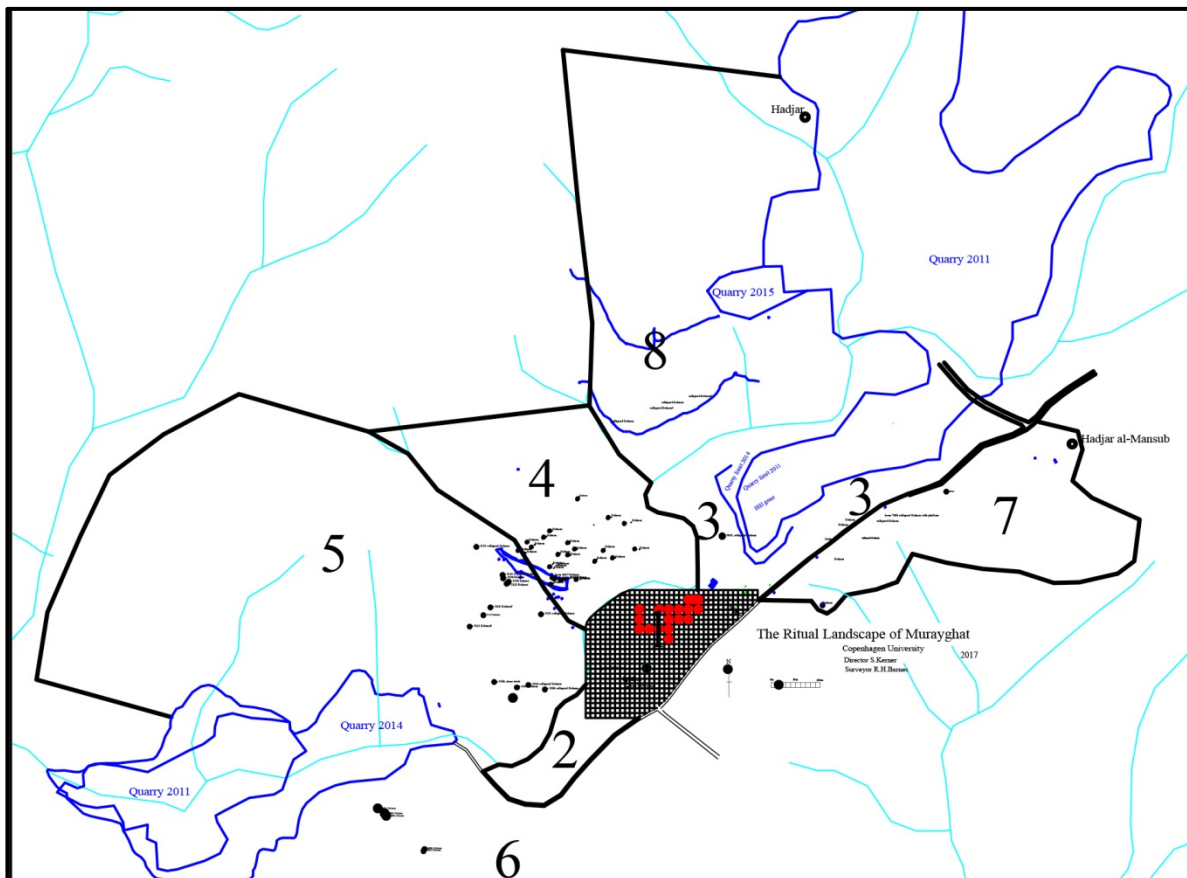
## The Ritual Landscape of Murayghat

*2017 report of 4. Season to the Department of Antiquities of Jordan*

Susanne Kerner

### Site and Present situation

The site consists of the central knoll (area 1; fig. 1) and the surrounding low hills to the north (area 3), west (area 4 and area 8), southwest (area 5 and area 6) and east (area 7). The fields contain most dolmens, while the largest ones are in area 3 and 7. In area 7 is also the Hadjar al-Mansub, a large standing stone, ca. 1 km from the centre of the central knoll. Area 7 leads down towards Wadi Zerqa Ma'in, and this connection has been studied in 2017. The north-eastern hill (area 3) is nearly eaten up by the northern quarry, but these activities have stopped in 2015. The northern quarry still works westwards (eating into area 8), but not anymore towards the site. The southern quarry is not threatening the site anymore. The third quarry in the south-west on the other hand still moves towards area 5. Along the road some disturbance of the dolmens is still continuing. The central knoll is ca. 3.5 ha, while all the area surveyed includes ca. 70 ha.



**Figure 1:** Survey areas in 2017, The Ritual Landscape of Murayghat.

### Project "Ritual Landscape" in 2017

The project by the University of Copenhagen (Institute for Regional and Cross-Cultural Studies) directed by Susanne Kerner is designed to study the dolmen fields, central knoll and related structures of Murayghat in order to understand the relationship between the single elements and comprehend the

reasons for the existence of the dolmen-field. The project is intended to understand the ritual meaning of the structures and identify their role in the ritual and socio-political make-up of the society as well as in the landscape of the periods involved.

The 2017 season had the following objectives: limited continuation of the central knoll survey, further study of structures on the central knoll, continuation of trenches 3 and 4, survey of the surrounding hills (finishing area 5 and continuing area 4 and area 7). The project took place between the 30.4. and 6.6. Between the 6.5. and 1.6. the annual field-school of the University of Copenhagen was part of the project (see list at the end). The other members of the team included, beside the director, Isabelle Ruben (vice-director) responsible for the excavation, Matthias Flender, responsible for the survey, and Hugh Barnes, responsible for the technical survey. Ann Anderson analysed the pottery; Christoph Purschwitz the lithic tools. The supervisors from Copenhagen University included Ann Sofie Drewsen (find-registration), Ditte Mikkelsen (from Lund-University) and Nadja Pedersen (both survey), Pernille Nielsen (survey central site, flint-assistant and draughtsperson), Youssuf Mohammed and Sandra Mularczyk (excavation), Ellen Brozst-Andersen (draughtsperson and find photography), and Reem Abed Aljader (pottery-assistant). Ditte, Anne and Pernille also worked in the museum-project.

Hearty thanks are sincerely offered to HE Dr Monther Dahash, Director-General of the Department of Antiquities of Jordan, for his full and unreserved backing of the project. In addition, Aktham Oweidi and his staff of the Department of Antiquities office in Amman made sure that the work could start in time and good order. It was also a pleasure to have Basem Mahamid, head of Madaba office, as our DOA representative, as well as Dr. Abdullah for the second half. Abu Ibrahim worked as guard and admitted us to his land; 6 Jordanian workmen and 11 Danish students worked in the project.

Support in Denmark came from Professor Ingolf Thuesen (ToRS), the H. P. Hjerl-Hansen Mindefondet for Dansk Palæstinaforskning and Peder Mortensen, and the Danish Institute in Damascus. Three of the supervisors were supported by the Elisabeth Munksgaard Fund and the work carried out in the museum was supported by the FACE fund from the Danish Foreign Office (Ehab Galal).

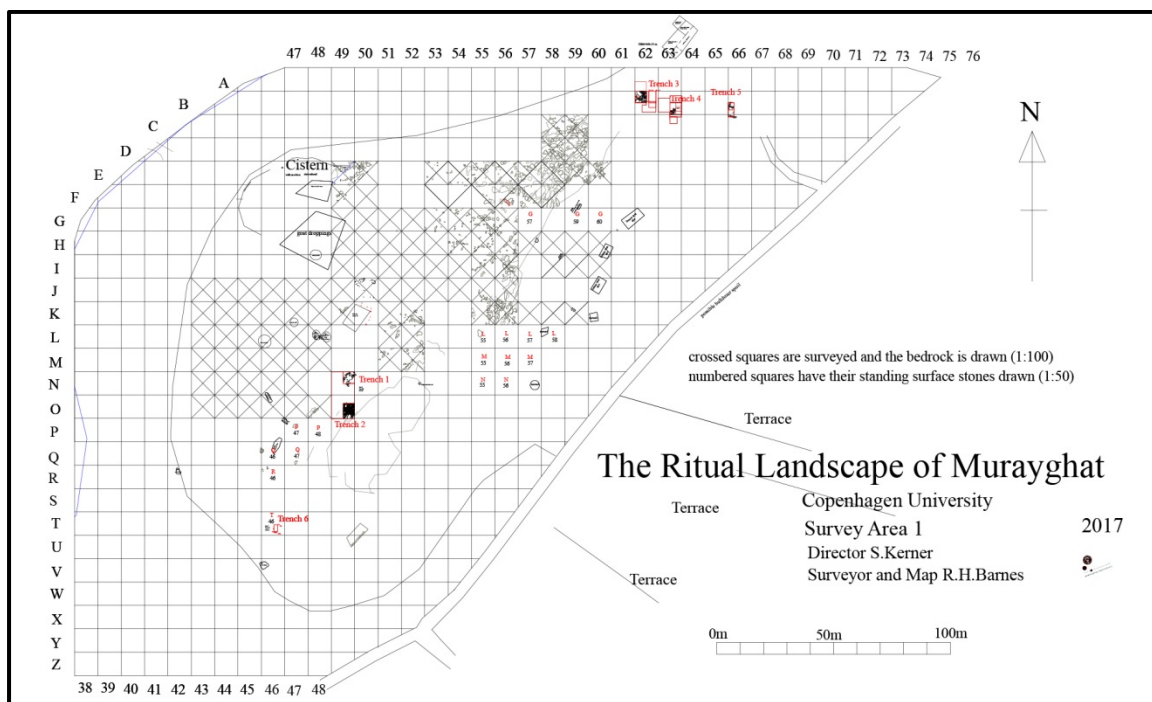
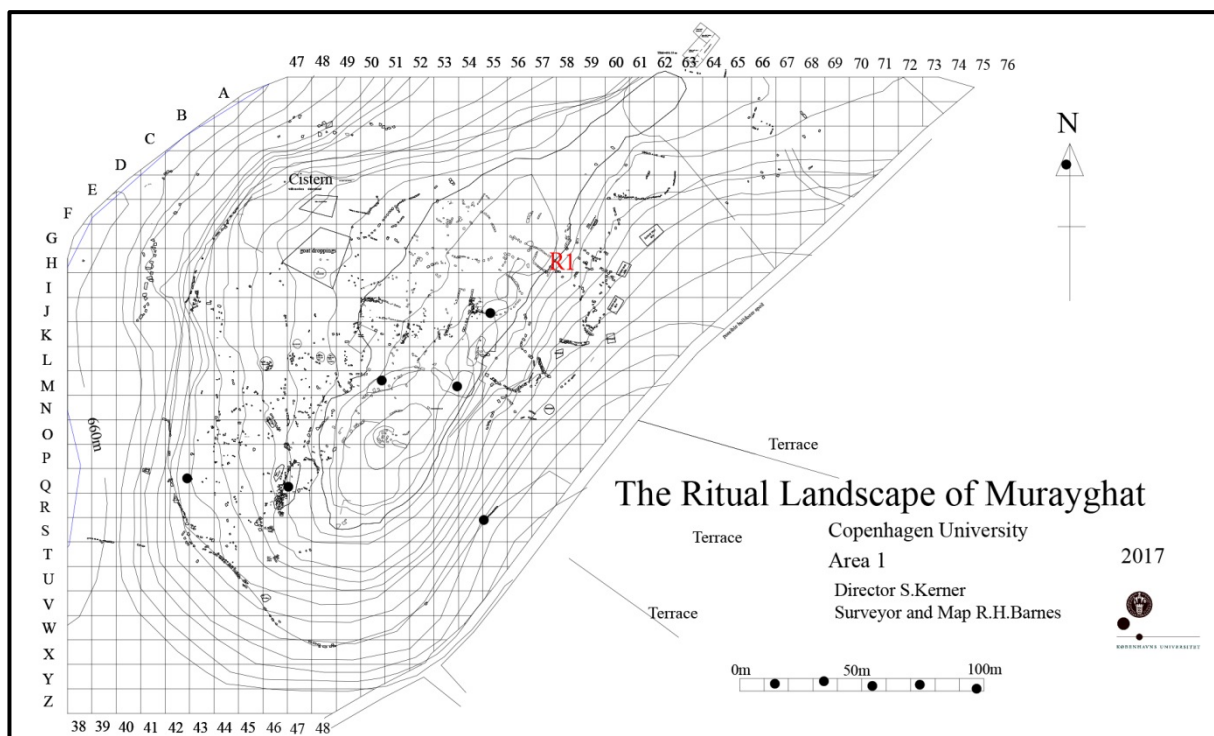


Figure 2: Area 1 with survey squares and trenches marked.

### Systematic survey of the central knoll

The central knoll is limited in the west by Wadi Murayghat (flowing into the Wadi Main) and in the east and south-east by the street towards the Wadi Main. The northern border is created by an artificial wall, formed by bulldozing activities since the 1970s. The southern border is a clear division between the knoll and an agricultural field. The knoll consists of two kinds of limestone, a material that breaks in relatively straight slabs, easy to use for the construction of dolmens or standing stones without the need of much further work and on top a different kind of limestone that is softer and breaks more irregularly. A 10 x 10 m net has been laid over the central knoll, which has also been surveyed intensively (fig. 2). In that process 105 squares (10.500 m<sup>2</sup> or just over 1 ha) have been surveyed, documenting the visible bedrock in 1:100 plans; while cup-marks or any other surface structures were documented in more detail. Each of the documented squares has also been surveyed, thus assembling surface collections of archaeological material, which is very fragmented. In 38 squares the stone structures visible on the surface (walls, circles etc.) have been documented in 1:50 plans. Survey work has been done in particular on the western edge of the central knoll, where the geo-magnetic survey showed archaeological structures.



**Figure 3:** Area 1 with Standing stones (Rectangles and Horse-shoe shaped)

The central knoll shows two possible circular alignments on the highest point on the bedrock (N-O/51-52, fig. 3). The other structures on the central knoll are four large horse shoe shaped and at least three rectangular arrangements. The south and west of the central site is delimited by a wall which has for most parts an interior and exterior face. Rectangular 1 (fig. 4) has been studied in more detail this season, which has led to the documentation of further cup-marks and some other interesting markings, consisting of irregular rows of indentations, similar but not identical to the gaming sets, known from much later time periods. These markings are on bedrock just north of Rectangular 1 (fig. 5). The numerous cup-marks along the western edge of the central knoll have also been precisely measured, drawn and studied (fig. 5), but only half of them is so far documented in detail. They have very varied

shapes and sizes, and the largest one is ca. 60 cm deep. Their creation might have been in some cases connected to water.

**Figure 4:** Rectangle 1 from south (left) and above towards North (right)



**Figure 5:** One of the markings and cup-marks north of Rectangular 1.

### Excavation

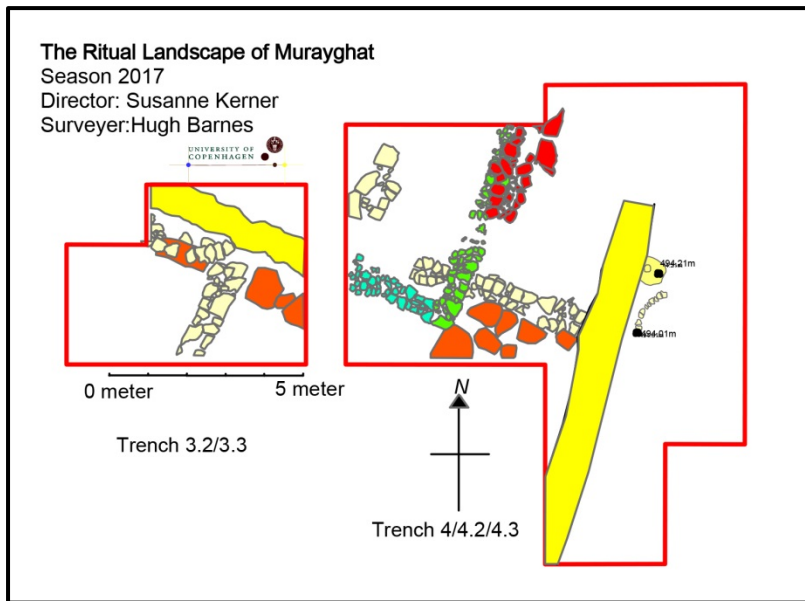
The two trenches started 2014 (trench 3 and 4) were re-opened in the 2017 season to further study the stratigraphy, and try to match the different walls and structures over a larger area. Most walls were from the MBA and only small remains from the EBA have been found so far. Particular the arrangement of the earlier structures needed further study. All trenches were re-filled at the end of the season. Several fill layers were sieved with different percentage from 20 to 100 %.

The manager (Imad Abu Jerez) of the southern quarry, owned by Qassara Jerez Isa Abu Jerez, helped with heavy equipment, when the trenches 3 and 4 were emptied at the beginning and then backfilled at the end of the season. The bulldozer was stopped when the first red cover material, used in 2016 to cover the surfaces, appeared in trench 4 and even before that in trench 3, as the walls in that trench had been unsubstantial and damage was avoided in

this way. Nevertheless one of the stones on the uppermost layer of wall 1 was removed accidentally by the bulldozer. At the end of the 2017 season, the entire surface of the trenches was covered again with the same material, but the pits and walls were additionally stabilised with sand-filled sacks.

Trench 3.2/3.3 (B62) in 2017 was formed by the partially re-opened trench 3.2. (from 2016) and new trench 3.3 which is south of the trenches 3 and 3.2. Trench 3.3 had been opened with 3 m N/S and 6 m E/W, forming a straight east line with trench 3.2 (fig. 6). Trench 3.2. was re-opened ca. 1 x 3 m adjoining trench 3.3 in the North, in order to catch the whole width of Wall 7. The excavation area of trench 3.2/3.3 in 2017 was thus 21 m<sup>2</sup> and the entire excavated area of trench 3 around 83.5 m<sup>2</sup>. This allowed us to study the southern side of Wall 7 (L. 1457) and also offered the opportunity to excavate in an area, where the bedrock was to be expected at a much lower level than in the original trench 3. With few exceptions the loci are mostly fill layers and show only very fragmented archaeological material. In the southern part of trench 3.3 badly made Wall 10 (L. 1493, fig. 7) was surrounded and stood on fill layers with smaller and larger stones. These fill layers were sand mixed with many stones and thus were often difficult to interpret, as several horizontal laying stones could be taken as small platforms or possible

walls (Wall 12 = L. 1704), which then proved to exist in only one layer of five stones. One platform (L.1700, fig. 7) in the north-western corner has not been removed or further excavated this year. These



**Figure 6** Trench 3 and 4 with Wall 7 (trench 3) and Wall 1 (trench 4) in yellow (excavated before) and the new walls excavated in 2017.

late structures are all above compact surface L.1701, which was not necessarily human-made, it could also have been an outside walking surface; it clearly existed only in the western half of the trench. In the eastern part of the trench L.1701 does not exist and the fill layers (L.1498/ 1707/1713/1715) reach deeper levels. In L. 1707 was a pit (L.1709) with ashy fill (L.1710), which also continues in trench 4.3 (L. 1904/1902/ 1905). The lower fill was divided by the massive Wall 14 (L. 1714, beige on Fig.6). In the central part the following fills L.

1717 and L. 1721 were only in the southern part of the central area, while the whole northern part

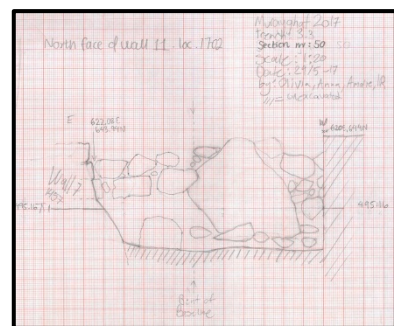


**Figure 7** Trench 3.3/3.2 with walls 10, 11 and 12 at earlier stage of excavation (photo oriented to S).

between Walls 11 and 14 was filled with a stone platform (L. 1718). East of Wall 14 the fill layer L. 1713 was followed down by two different layers: L. 1719 in the north next to Wall 7 and L. 1720 and L. 1724 towards the southern baulk. These two areas of fill are divided by another possible wall (L. 1723, red on fig. 6), which has not been excavated much further. On this fill was another small compact surface, which might go together with L. 1903 in trench 4.3. Wall 14 ends at this row of stone (L. 1723), which is in line with the large orthostat below Wall 11. This orthostat is ca. 1.2 m high and 1 m wide and the largest orthostat excavated so far. The three toppled orthostats (L. 1723) would, if they were put back upright,

form a rough line running NW-SE, interrupted (?) by wall 14. Whether this alignment continues eastwards beyond the east baulk has yet to be discovered; it may exist under fill layers in trench 4.3.

It turned out that Wall 7 excavated in 2016 in trench 3.2. is a very late construction in the stratigraphy of the excavated area. Wall 7 goes over the top of the end of the arced Wall 11 (L. 1702), which formed a small half-circle with Wall 7 (L.1457); so that work in that area was very difficult. The fill layers in that small area were very similar to the fills south of Wall 11, they included Loci 1499/1497/ 1705/1706/1716. The excavation in this small space was stopped when a depth over 1 meter below the top of Wall 11 and over 1.2 m below the existing top of Wall 7 was reached (fig. 8). Wall 11 (L.1702) is only 2-3 courses high, and only one stone wide. The stones to the east below the course belonging to Wall 11 are just tumble, and in the middle



**Figure 8:** Section of Wall 11.

they lean on a very large orthostate. The foundation trench (L.1712) for Wall 11 (L.1702) was difficult to follow and ended at the eastern side of the orthostat stone. This means that both the foundation trench L.1712 and the compact surface L.1701 end at approximately the same line: the large Wall 14 (L.1714).

In the earlier reports the stratigraphic order has been given from the lowest level (phase 1) to the uppermost level (phase 7 in 2016). From now on the phases will always start with number 1 on the surface and will consecutively count to the lowest level. This allows to keep the same numbers of the upper levels through the different seasons and just add at the lower level.

The stratigraphical order in trench 3 presents itself thus as follows:

Phase 1: Abandonement, uppermost fill-layers and modern bulldozer cuts.

Phase 2: Wall 10 (L. 1493) a boulder wall, sitting very much on top of other fill-layers. It could be contemporary with the wall (L. 1334) in trench 4 above the “crust” layer L.1329.. (Phase 4 in 2015-report). Around Wall 10 are several fill and rubble surfaces, which run above the lower walls.

Phase 3: The upper-part of rubble Wall 7 L.1457 (trench 3.2) = L. 1420 (trench 3.1.) = L.1371 (trench 4.2) that is running roughly E-W over several metres. The eastern end of Wall 7 is bonded in trench 4.3 with the southern end of Wall 13 (L.1909 and L. 1900). It is hard to associate any surfaces or layers that actually go with this large enclosure wall in trench 4.3; all the layers abutting it were tumbled stones. Perhaps in trench 3.3, the fill layers L.1498, lower part of L.1495 = L.1496 and lower L.1499 are associated. (Phase 5 in 2016 report, Phase 1 and 2 in 2015-report).

Phase 4a: Curved Wall 11 (L.1702), in trench 3.3 with a foundation trench (L. 1712) that was cut through fill L.1707 in the NW part of the trench, and Wall 11 was built resting in part on the top of a large standing orthostat that may be part of alignment L.1723. Wall 11 arcs round to be buried under later rubble Wall 7 (L. 1357) at its eastern end, and goes into the west section of the trench. Perhaps the small Wall 12 (L. 1704), composed of a single row and a single course of small rounded boulders in the SW part of trench 3.3 was associated with this curved wall, or it may belong to the next phase (3). Contemporary might be the small, rectangular cobble platform, L.1700, in the NW corner.

Phase 4b: In trench 3.3 the fill layers L. 1498 and L. 1707 with surface 1701 go over the top of the south end of Wall 14 (L.1714). Layer 1707 is roughly equal in elevation, colour and texture to L.1399 (=L.1903) in trench 4.3. Whether these two very similar layers belong together is impossible to tell at present, but given that they both go over the top of the big double-faced walls L.1714 and L.1919, it seems quite probable.

Phase 4c: Occupation fill layers 1713, 1715 and 1706.

Phase 5a: A series of big double-faced walls, (Wall 1= L.1307, Wall 15 = L.1916, Wall 17 = L.1919 and Wall 14 = L.1714) in trench 3.3. and 4.2, running roughly NE-SW and NW-SE, may or may not all belong to one phase. They are of a similar style of construction, but mostly without direct contact yet (fig.9).



**Figure 9:** Manipulated photo from 2016 (trench 3 and 3.2) and 2017 (trench 3.3 and 4) showing the walls at the end of the season. The walls marked blue are similar in construction and level.

Phase 5b: The alignment/wall of large orthostats (L.1723), similar to those on the central knoll surface, seem to be the earliest phase of large construction so far. It might be contemporary to L. 1917 in trench 4.3.

Phase 6: The upper orangey palaeosol formed (L.1488, trench 3.2 / L.1452, trench 3), and on its top there is a thin layer of topsoil development. This level was not reached in trench 3.3 this year.

Phase 7: Pre-settlement phase; the natural soil is very red with white flecks.

Trench 4/4.2/4.3 The trench 4/4.2 (B63/C63) was re-opened in the same area as 2016 with ca. 34 m<sup>2</sup>. The northern extension from 2015 was cleaned down to the (pond) surface L.1330. The southern extension was largely left covered, so that the work concentrated on Wall 1 and the features found east of it in 2016: the large limestone block (L. 1360) and the curved row of stones (L.1363), with the clearly different fill layers. While removing the backfill east of Wall 1, north of the 2016 test-trench, a 2 x 2 m area was removed erroneously in one step (L. 1370) from the surface L.1330 downwards, before realising that this was not part of the backfill. This whole fill was homogenous beige-brown sandy silt and part of the possible water-fill mentioned last year (L.1339, L.1341, L.1347). The excavation was then laid out south of the 2016 test-trench in order to understand the curving stone feature L. 1363.



The fill layers below the broken pond crust consisted here of L.1378 then L.1379 (small stones and pale brown slightly sandy silt). The bottom of the latter layer rested on two different-looking layers of fill – fairly stone-free L.1386 to the east and slightly earlier, and very stony L.1380 to the west, with a fairly clear line between them running diagonally across the square (Fig. 10). The diagonal division of the small trench continued downwards, so under L.1380 followed the fill layers L. 1393 (fine silt, containing bitumen and lumps of hardened soil) and L. 1395 and L.1396 (compact, yellowish-beige). Under L.1386 (east of the diagonal line) followed fill layer L. 1391. At the bottom of all these layers were some virtually stone-free deposits, L.1901 to the west and L.1907 to the east of the diagonal line, and then followed by the orangey palaeosol L.1397. L. 1901 runs over the stone arc (L.1363, excavated 2016), three more stones were excavated at the southern end of the arc and this southern end was 2 stone courses high. At the southern end the palaeosol L. 1397 also runs up and a little over the stone arc. In L.1901 some pottery fragments and a possible Late Chalcolithic flint fragment have been found.



**Figure 10:** Trench 4 showing the diagonal division line of fill layers.

The lowermost and natural reddish palaeosol L.1913 is underneath the stone arc as well as under the big limestone (L.1360) excavated in 2016, and the orangey palaeosol L. 1397. The large and long double-faced Wall 1 (L.1307) was built above the topsoil that developed on the orangey palaeosol 1397 and over the top of large stone 1360 (fig. 11).

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**Figure 11:** Trench 4 with large limestone bolder (L.1360) with foundation trench (L.1914) to the right, stone arc (L.1363) and test trench showing palaeosol L.1913. Above Wall 1 (L.1307).

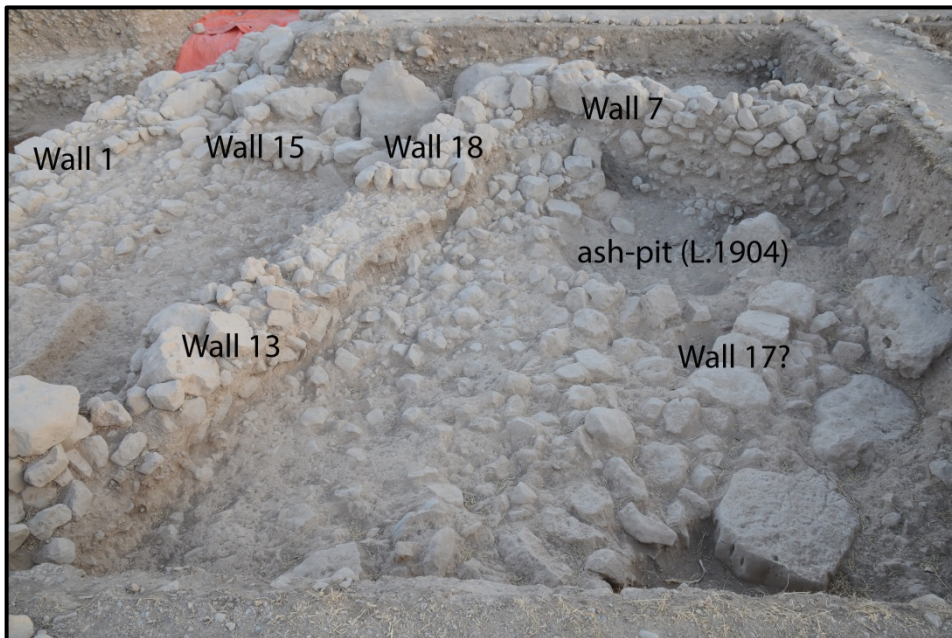
A test trench was opened to make sure that palaeosol L.1913 was virgin soil. It was dug into for a depth of over 0.5 m in a 1-metre-wide trench running from the east section, cutting the south end of the stone arc L. 1363 and ending against the soil below Wall 1 (L.1307). About 10 cm below the top

of this ancient soil, about 3 flint flakes were found, otherwise absolutely nothing was in it, not even any stones.

**Trench 4.3** was laid out 5 (E-W) x 6 (N-S) m west of trench 4 (fig. 6). As one of the rationales for the trench was the further study of Wall 1 there was no baulk left to the old trench 4 with Wall 1 running between trench 4 and 4.3.

First the bulldozer hole in the NW-corner, which had already been identified and trench 3.2 in 2016 were emptied (cut L.1373 and fill -L.1372). Wall 7, identified in trench 3.2 during 2016 and in trench 3 in 2014, continues in trench 4.3 (L.1371, fig. 6: turquoise). The wall is as badly constructed as described last year with irregularly placed small stones, but becomes a little better towards the eastern end. Several fill layers (L.1374/1375/1376/1381/1382/1389/1390/1399) north of Wall 7 were removed, which were divided along a line that turned out to be parallel to another badly made wall. Most of these layers, particularly those to the east, were full of tumbled stones. At the northern section ashy fill layers and burnt stones were excavated (L. 1383, L.1384). Wall 7 also runs over an ashy pit and its upper fill, which is both north (L.1904 and L. 1905) and south (same number for pit-cut L. 1904, but fill L. 1902) of the wall (fig. 12). The pit continued into trench 3.3 (L.1709/1710) and contained many bones.

In the eastern part of trench 4.3 Wall 13 (L.1900) and Wall 18 (L.1909) appeared under the stony fill (fig.6 green). Wall 7 (L.1371) changes eastwards to a rough double-faced wall made of larger boulders, as does the southern end of bonded wall 1909. About 1 metre north of this corner, Wall 18 (L.1909) seems to disintegrate, and there is a possible entranceway (fig. 12). North of this possible entrance is Wall 18 (L.1900), which is of even poorer rubble construction, such that it is still not sure if it really was a wall at all. The walls 18 and 13 (L.1909/1900) seem to be built on top of more rubble fill (L.1920/1921/1922). The only feature that can be directly associated with these walls is in the inside corner formed by 1371 and 1909; it is a small cobble fan-shaped ledge (L.1918), one stone deep, that



**Figure 12:** Trench 4.3 with the different walls (Wall 7, 13 and 18 from a later date), the large ash-pit and the stone tumble between Wall 1 and Wall 17.

abuts the inner wall faces. East of wall 13 (L.1900) was a single line of stones (L.1910), which was kept for a long while, as the line of this wall was not clear at all. The walls 13 and 18 divided trench 4.3 in a western half (L. 1399/ 1922) and an eastern half (L. 1908/ 1920/ 1921) with much stone tumble (fig. 9, fig. 12).

In the southeastern part of trench 4.3 two parallel walls, which run below Wall 18, were excavated in the last days of the excavation. The more northern wall 15 (L.1916) is a two-face wall of tightly packed large stones oriented from west to east, with very little rubble in-between the visible two rows of stones (fig. 6,

beige). The eastern end of this wall bonds into Wall 1(1307), while the western end is in the large pit (L.1904/1905), where any continuation might have been destroyed. The parallel southern Wall 16 (L.1917) is a short, slightly curved alignment of smaller orthostats, whose ends have not been defined yet (fig. 6, red).

Yet another wall appeared underneath fill layer L.1394 in the W side of trench 4.3, which is two- face Wall 17 (L. 1919), of which only the uppermost 2 courses have been found (fig. 12).

The stratigraphical situation on trench 4 is as follows (for changes in numbering, see above trench 3):

Phase 1: Final abandonment and later bulldozing.

Phase 2: Fill layers of rubble and less stony fill in trench 4.3. In trench 4 was orthostat Wall L. 1334 above a thin layer of fill on top of the pond crust (excavated in 2015).

Phase 3: The late rubble Wall 7 (L.1457=1371) running roughly E-W and Wall 18 (L.1909) as well as Wall 13 (L.1900) running roughly N-S were constructed. Wall 7 and 18 are bonded. The only feature that can be directly associated with these walls is in the inside corner formed by Wall 7 and 18; it is a small cobble fan-shaped ledge (L.1918) that abuts the inner wall faces. This wall should be MBA.

Phase 4a: Above all the rubble from the previous phases was a clayey fill L. 1399 in trench 4.3, which had a reasonable surface only in a few patches. This layer went over the top of Wall 18 (L.1919). At a later date, a large pit (L.1904) was cut through layers L.1399 and L.1903 (south of Wall 7) and into unexcavated rubble layer L.1922, thereby exposing and perhaps destroying the top course of earlier wall L. 1916, which is visible in the eastern part of the bottom of the pit. About 2 m to the north of this pit (in the NW corner of trench 4.3) was a small rectangular platform, one stone deep, of heavily burned cobbles and ash (1384), resting on burnt clay (1394) that would seem to be part of L.1399, but remains unexcavated. Given the proximity of the fire installation and the ash pit, one might assume that they go together. These layers are often mixed of mostly MBA and EBA material.

Phase 4b: Rubble fill and occupation phase. In trench 4.3 the excavation ended on a huge layer of rubble (L.1305/1921/1922), only the top part of which was partially excavated. This rubble is relatively tightly packed and is neatly contained by the big walls 1307, 1916 and 1919 (fig. 12). The areas outside the rectangle formed by these three walls had little or no rubble, except for some patches east of wall 1307 that were excavated in 2014.

Phase 5a: A series of big double-faced walls (Wall 1=L.1307, Wall 15 = L.1916, Wall 17 = L.1919, all in trench 4/4.3 and Wall 14 = L. 1714), running roughly NE-SW or NW-SE, may or may not all belong to one phase. All these big walls are of a similar style of construction; a combination of very large boulders that are roughly (but neatly) squared off at least on their visible outer face, mixed with smaller boulders, also with roughly dressed or undressed faces, and any space left in the centre between the two faces is filled with a rubble core and mud matrix. All are unevenly coursed. Each wall looks a little different from the others, but there is a kind of uniformity nonetheless, suggesting that they might all belong to the same phase (fig. 9, blue marked). The only direct physical contact is between Wall 7 (L. 1307), which is abutted by the eastern end of Wall 15 (L.1916).

Perhaps this is where the rubble accumulation east of Wall 1 (L.1307), followed by the mud accumulation (L. 1370) and pond crust (L. 1308/1321/1330) events in trench 4 fit in (fig. 13). The crust, which goes over the top of the north end of Wall 1, only seems to reach westwards for one or two metres on top of the rubble fill L.1305/1921.

Phase 5b: There are alignments of large orthostats, one in trench 3.3 (L.1723) and one in trench 4.3 (L.1917), which might be the earliest phase of large construction so far found. In trench 4.3, L. 1917 does not abut Wall 1 (L.1307). Its western end ends just short of the much later Wall 18 (L. 1909). The exact context needs to be further studied.

Phase 6: A probable abandonment phase followed, as there is a thin layer of topsoil development on L. 1397.

Phase 7a: Very close to 7b, possibly contemporary is the setting of the boulder with two holes in trench 4 (L.1360) underneath wall 1. The boulder seems out of context. Both of these phases date most likely to the EBA.

Phase 7b: This hard red, white flecked palaeosol (L.1913) is followed by the orange/brown material (L.1397), which also appears as natural soils (fig. 11). But the orange material is in clear connection with the quarter-circle of small stones (L.1363), which must be the oldest construction in the trench so far.

The difference of both colour and texture between 1913 and 1397, and the fact that the orangey soil is above the dark red one, suggests that they were not formed at the same time (fig. 13).

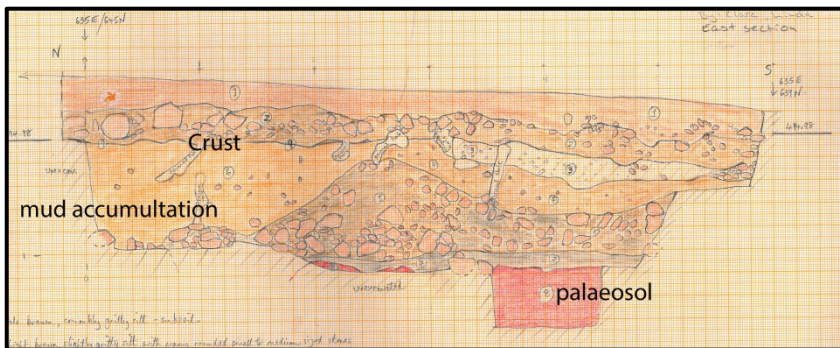


Figure 13: East section of trench 4

Pre-settlement phase; the natural soil is very red with white flecks.

## Survey

The systematic survey of the surrounding areas concentrated on area 4 and 7, but also included features in other areas. The areas were divided into fields (loci) where the whole surface was systematically surveyed. Other loci recorded included single structures (such as dolmens, standing stones, tombs, unclear structures). Area 8 was further defined this year (fig. 1).

**Area 4** (description see report 2015-2016) can be divided into a number of geographical-geological zones: a ploughed field at the bottom of the eastern slope and a steep slope toward the SW along the main wadi, another steep slope to the northern as well as the southern side wadis. There are seven rock terraces forming the slope up to the hilltop. The survey fields are usually arranged along these geographical formations and the dolmen are lying along the terraces (fig. 14). This year's documentary activities were concentrated around the upper SW slopes of Area 4.

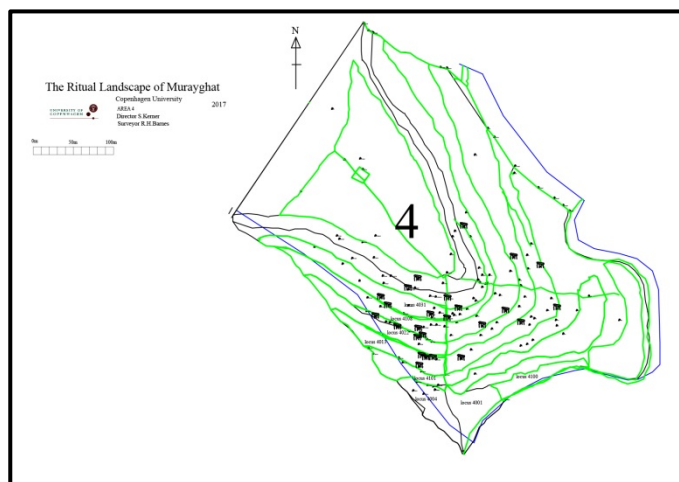


Figure 14: Survey area 4.

In Area 4 are now 76 loci defined, 13 of which are fields (as defined above); 4 of these fields were studied in 2017 (L.4118/4042/4050/4051). There are 39 dolmen (in all states of preservation) mostly consisting

of a platform/floor slab, with one or less often two orthostats at the side and a capstone. But only 12 dolmen are still standing and reasonably complete, although all have been emptied before our research started. Most slabs (side, floor and roof) are better smoothed on the inside of the dolmen than the outside, while the outside is weathered. The floor-slab as well as the blocking slabs at the entrances are much smaller than the orthostats at the side and the capstones. The floor-stones seem to be carefully chosen, since they fit very well in between the vertical slabs/orthostats. The dolmen in all fields are oriented along the contour lines.

Six small ancient quarries have been documented in area 4, they are usually in the direct vicinity of a dolmen and indicate by their shape that the dolmen slabs might come directly from them. Seven caves or holes in the bedrock have been recorded. A few walls or terracing walls have also been found.

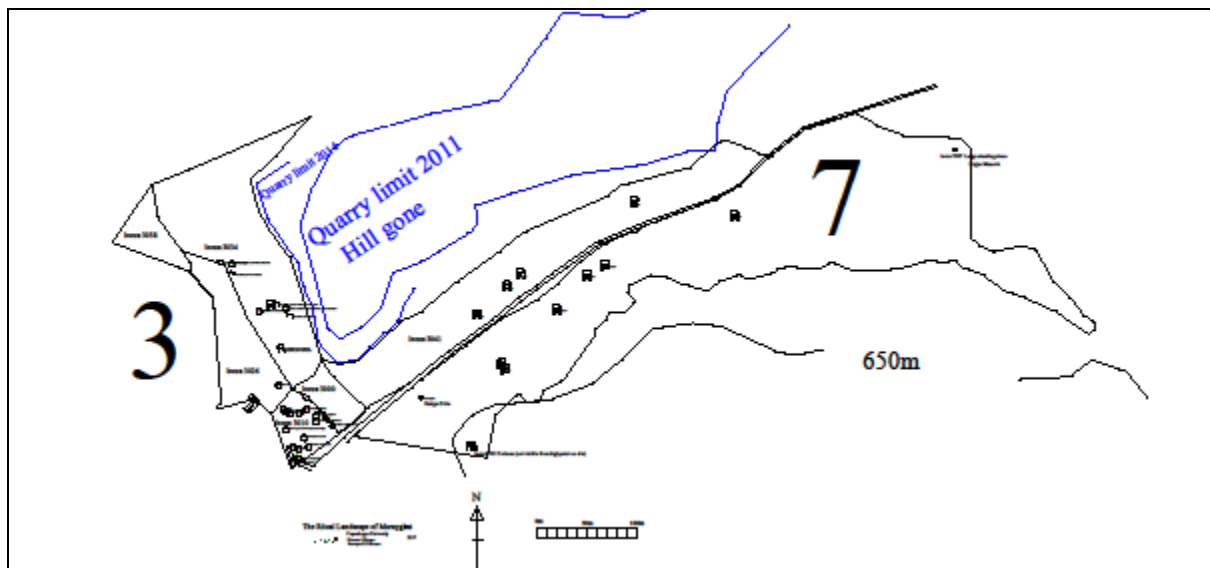


Figure 15: Survey area 3 and 7.

**Area 5** is also to the west of the central site (fig. 1), forming the southern hill (see reports 2014-2016). Only three structures, consisting of standing stones, unclear wall lines and cup-marks have been recorded.

**Area 7** is east of the street leading to the site. The area stretches along the steep slopes of the Wadi Zerqa Main. Three more collapsed dolmen and surrounding structures have been recorded this season (fig. 15), including some cup-marks close to the dolmen. One of these dolmen (L,7009) had been standing in earlier years, but had been as destroyed, when the work started in 2017 (fig. 16). At the eastern edge of the plateau is standing stone L. 7011, has been also documented this year (fig. 17).

The area has been preliminarily studied in order to prepare for next year's further research. From NE to SW a track is running more or less parallel to the modern Ma'in road. There is some evidence that it might be the ancient pathway, before it was replaced by the modern paved road leading down into Wadi Zeraqa Ma'in. During 2017 two tracks have been traced down into Wadi Zerqa Ma'in. One is starting close to the modern road in Area 7, leading down in eastern direction via two terraces, still used for agricultural and herding purposes, and a third terrace with a Bedouin cemetery, of which 20 tombs could be detected. From there the track is turning towards the southwest and after about 200 m of a very small path a quite commode track is leading down till it arrives at the EBZ site of WZM 01.

The second track starts in the wadi next to the complete dolmen Loc 7001 and leads down along the wadi in southeastern direction, to turn into southern direction along the steep slopes. The track leads towards the terrace of the Bedouin cemetery (see above) and follows from there the same southwestwardly direction like the first track. After 750 m the track ends at the EBZ WZM 01 site like the first track, at the same level.



Figure 16: Recently destroyed dolmen L. 7009



Figure 17: Standing stone L.7011

In the very east of Area 7, beyond the edge limiting its core area there is a moderate sloping surface, where some walls have been traced and a quite dense sherd scatter is noticeable. It seems to be a so far not recorded site and spreads on an area of about 1,5 ha. Except of the dolmens and two standing stones all other features are not documented so far and further recording work is necessary to complete the archaeological features in Area 7.

**Area 8** is a hill with a steep slope rising northwest of Wadi Murayghat (and a further tributary) and Area 4, west of Area 3 and the northern quarry. The hill forms a plateau and ends in the highest peak in the northern region of the Murayghat landscape with about 774 m a.s. On top of Area 8 are structures, including a tower, which most likely date to the Late Antique period. Long running walls are recorded in the NE of Area 8. They display a kind of field system, possibly markings of property. It is interesting to note, that no such running walls have been found in Area 3, 5 or even 7.

## Material

The archaeological material collected consists of lithic, ceramic, basalt items and a few glass items (see appendix). The amount of animal bones is very limited so far and the different soil samples have not been analysed yet.

## Pottery

The ceramics analysis dealt with over 26.000 pieces of pottery (2014-2017). In total a number of 7436 sherds (2017: 4125 sherds) were examined from **trench 3/3.2/3.3**, of which only 529 were diagnostic sherds. And even those diagnostic sherds were all fragments and mostly rather small fragments.

The EBA contexts are in trench 3 L. 1465 below the wall L 1408 (?), L.1466 north of the stone-lined pit, and L.1481 in trench 3.2, which was another fill layer next to the pit in the south-eastern corner.

Mixed levels with more EBA than MBA are L.1478 in trench 3, which is practically identical to L.1465, and L. 1477, as well as L.1482 in trench 3.2. The first is a lower fill layer over the center of the trench, while the latter a fill layer containing a large number of hardish straw-like lumps, partly below L.1477, running towards Wall 7. The upper layers in trench 3.2 and 3.3 are all containing MBA pottery, sometimes mixed with some EBA pottery. The MBA assemblage of trench 3/3.2/3.3 is dominated by

fabric 33, which is used for the cooking pots with thumb-impressed applications. They form over 13% of the assemblage, while wheel turned rims of jars (of medium to large jars, fig. 18) are less common. Some examples of combed decoration and “slit” decoration occur on body sherds. The EBA assemblage of trench 3/3.2/3.3 consists of a variety of well-known EBA fabrics and form types. Generally, rim forms are simple, with smaller jars being frequent in the assemblage along with a couple of larger everted rims that probably belonged to storage jars. Small bowls occur frequently, while plain hole mouth jars and hole mouth jars with decoration (round impressions below rims, on the “shoulder” of vessel) can occasionally be found in the assemblage. “Pie crust” decoration is also found on rims in the assemblage. Large ledge handles (plain and with “scalloped” decoration) and small ledge handles are also found in the assemblage, along with a decent quantity of handade bases in EBA fabrics.

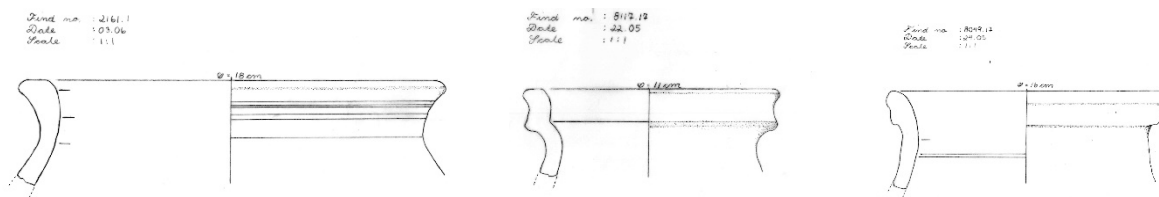


Figure 18: MBA Jars

In trench 4/4.2/4.3 6436 (3194 in 2017) sherds have been analysed, of which only 603 are diagnostics that are all fragmented and mostly very small. The largest groups are fabrics 2 (8%) and 4 (9%), which are both coarser wares, while the cooking-pot fabric 33 has under 6%. The clearly EBA dominated layers are so far all east of Wall 1. They are also all below the “pond-crust”, while several layers directly below the crust are mixed, the fill layers around the large stone with two indentations and around and above the small, arced line of stones date all into the EBA. This is also true for the few finds from the orange soil L. 1357.

The trench 4 MBA assemblage is dominated by MBA cooking pot sherds, while only a small part of the assemblage consisted of other rim types (generally wheel turned). A notable sherd in trench 4.3 is a “knob” base, which is unusual and dates later.

The EBA assemblage consisted of many small bowls (fig. 19), hole mouth jars with and without decoration, small jars (or hole mouth jars with everted rims) and large plain rims probably belonging to storage jars. Judging from the manufacture traces the EBA material is handmade. The small bowls are of varying quality, but some have line painting on the interior and exterior surfaces. Hole mouth jars are typically plain with a variety of lip forms, but occasionally decoration in the form of scalloping/“pie crust” at the lip occur. A variety of ledge handles can be found in the assemblage along with bases in EBA fabrics. The ledge handles are generally large (i.e. probably originally belonging to large vessels) and occur as plain handles or with decoration. Some cases of smaller ledge handles are also seen in the assemblage, but are relatively rare.

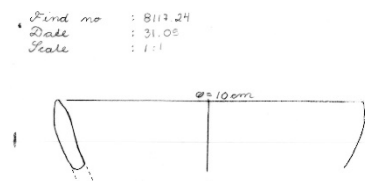


Figure 19: EBA small bowl

The very fragmented pottery material from the tell-survey dates mostly to the EBA, but has also MBA and material dating to the Classical, Late Antique and Islamic periods. The same late dating is true for the small amount of material, which has been collected in 2016 in Area 2 (field south of central knoll).

## Stone tools

### Lithic tools

The survey areas 3, 4 and 5 brought mostly scrapers and retouched flakes as secondary products, which account for at least three quarters of the identifiable material. The secondary products from the central knoll in Area 1 consist also predominantly of scrapers and retouched flakes, but have also considerable amounts of backed and retouched blades, borers and notched flakes, as well as a few sickle blades and denticulates. From the trenches 3 and 4 come quite a large number of tools, but alone over one third is



Figure 20: Cortical tools/Tabular scrapers

composed of scrapers, including a small number of tabular scrapers (fig.20). Retouched flakes are the second most common tool group, but backed and retouched blades, borers and notched flakes, sickle blades, bladelets, burins and denticulates in decreasing numbers have also been identified. The tool kit is thus mainly composed of ad hoc tools, such as scrapers, retouched flakes, or notched tools. Formal tool types, such as retouched blades/ bladelets, sickles, tabular scrapers account for less than 25% of the tool kit.

A lithic fragment possibly stemming from a stone disc has been excavated in trench 4 (fig. 21).

Cores are well attested by flake cores and a few bladelet cores also come mostly from the excavation, and in some contexts the amount of microdebris (chips, flakelets, debris) is very high, which indicates on-site knapping and flint processing. There are clearly increasing numbers of lithic artifacts (and in particular of microdebris) in the lower layers of the excavation. The same is true for (intrusive) early Neolithic bidirectional blades and (even earlier?) bladelets, which are commonly found in low numbers in related lithic collections.

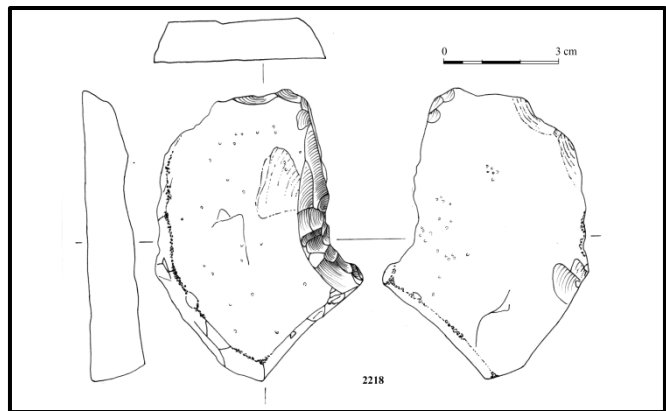


Figure 21: Stone disc fragment from trench 4.3.

### Groundstone tools

Basalt fragments have been reported from all squares in Area 1 (central knoll survey), which are mostly too small to be analysed further. Basalt fragments also come from the loci in Area 7. In trench 4 one more vessel fragment and grindingstone fragment made from basalt have been found. More fragments of limestone vessels, at least three hammerstone fragments, and one possible limestone grinder were excavated in trench 3.

### Other material

Only a certain amount of bitumen from the lower levels in trench 4 need to be mentioned here.



## Museum

Part of the 2017 season work was to develop an exhibition of Murayghat in the Madaba Museum together with Bassem Hamadi and his staff. The small exhibition included general information about the site and the different aspects of the archaeological project, the dating and archaeological work (fig. 22). The upper shelf was given to the survey and dolmen, including a small dolmen model, made from material collected in Murayghat (fig. 23). The middle shelf provided information about the archaeological work, finds from early periods and every day life items (fig. 24), while the lower shelf



Figure 22: Madaba Museum, Murayghat showcase

assembled information and finds about the excavations in Murayghat (fig. 25). The texts came in three levels (and sizes) with the largest font for the general information, the middle font for the more specific texts about landscape, dolmens and archaeology (fig. 24), while the smallest font was for the object specifications (fig. 25). Most of the objects were additionally presented in A4 drawings, which displayed the objects in clear and understandable contexts (the mace head fragment in a ritual action, the cooking pot used for cooking on fire, the beads as parts of

a necklace etc.) . Although the original English texts have also been translated into Arabic and will be added to the showcases, the drawings allow a non-verbal understanding of the objects.



Figure 23: Dolmen model



Figure 24: Arrow-head, scrapers and sickle-blades exhibited.



Figure 25: mace-head, lime-stone bowl and cooking-pot.

Added was the “find of the year”, which can be changed from season to season (and was this year the broken fragment of a stone disc), and a printed plan, how to get on the site and find an interesting path through the monuments at Murayghat. The latter will also be changed into a downloadable plan. Two tours of about equal length have been planned:

DT 1 starts at Abu Ibraims house, leading up in a steep but moderate track to the plateau of Area 4, passing some of the best preserved examples of dolmens. On the tower hill is a beautiful view around available, that also shows the landscape change caused by two of the quarries. The way down is moderate and leads via Area 5 and some of its dolmens down to the cave tombs just above the wadi. Crossing the Wadi Murayghat the tour ends by walking over the full length of the central knoll in Area 1 back to Abu Ibrahims house and the parking possibilities there. Time: about 1 – 1,5 hours with 24 stations.

DT 2 is in general not connected with steep slopes but leads along both sides of the main road close to the spectacular view down into Wadi Zerqa Ma'in. It starts again at Abu Ibrahim's house and runs over the central knoll lengthwise in SW direction. From the end of Area 1 and the double wall, the path runs through the vicinity of dolmens, but mainly to the standing stone in Area 6 with a good view into the Wadi Zerqa Ma'in. From here the way leads back in northern direction passing through Area 7 with its dolmen along the wadi edge to the well-known Hajar el-Mansub. From there one goes back via Area 3 (and some collapsed dolmens) towards Abu Ibrahim's house. Time: about 1 hour with 17 stations.

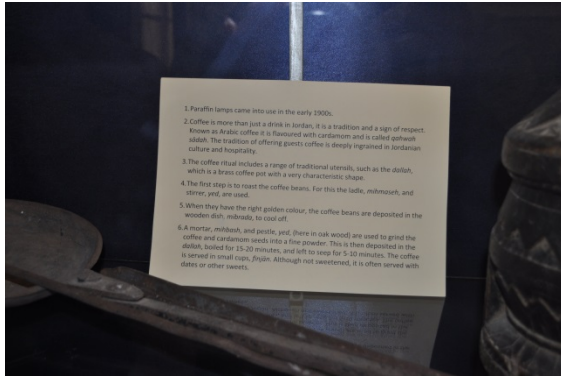


Figure 27: Longer description for folklore items

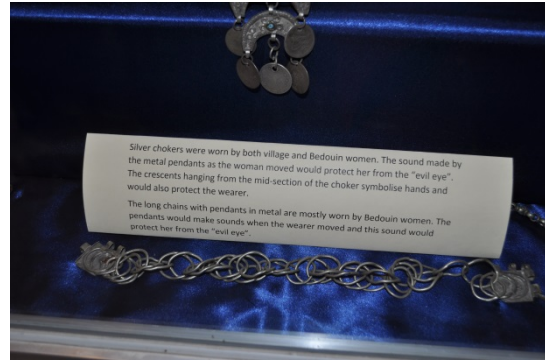


Figure 26: General jewellery description

The second part of the museum project consisted of a similar system of large fond general texts (e.g. about the many coffee-pots (fig. 26) or the specific meaning of certain jewellery fig. 27) and small fond specific texts about the finds in the folklore part of the museum. This has been partly finished, as photos and translations need to be added to the exhibit.

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