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## **The Danish-German Jarash North-West Quarter Project: Results from the 2014-2015 Seasons**

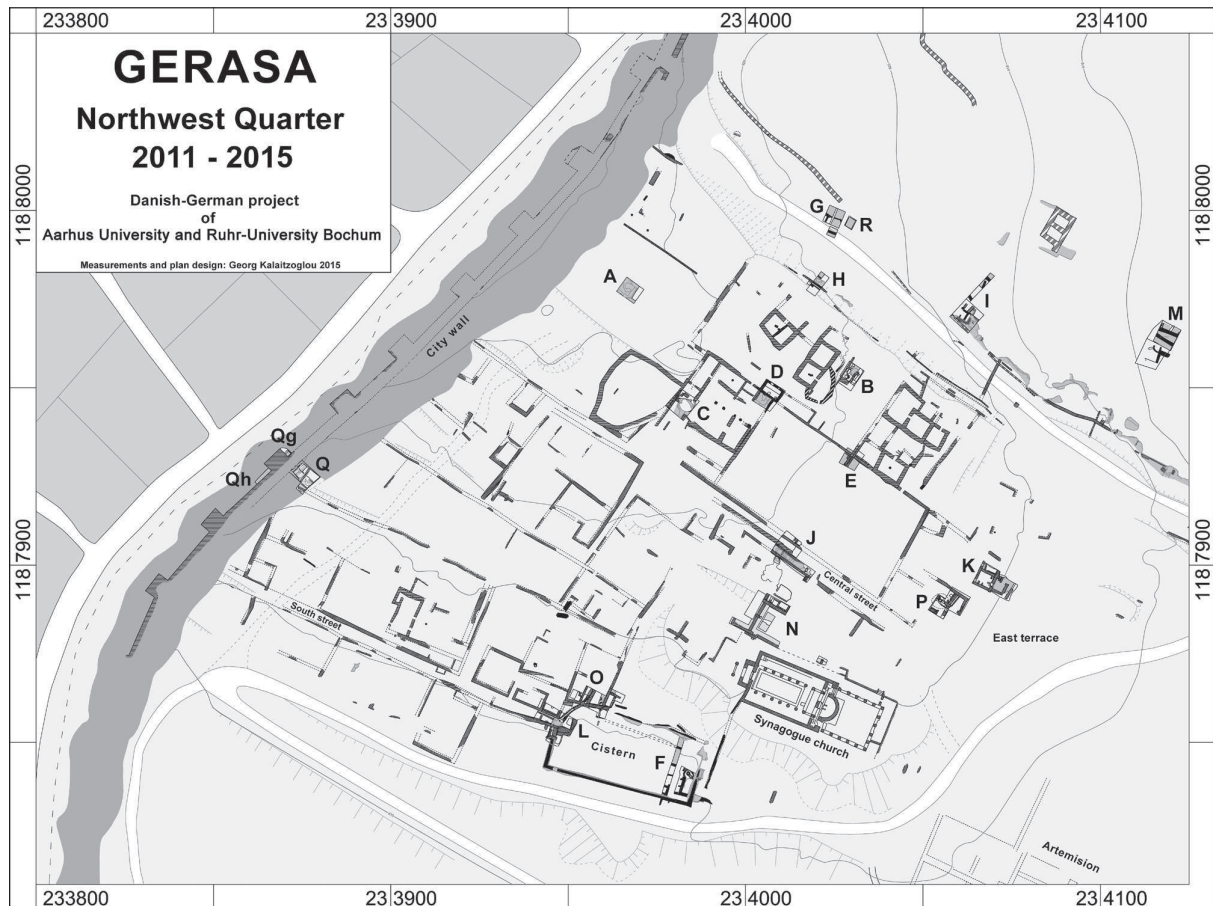
### **Introduction**

Since 2011 a joint Danish-German archaeological project headed by the authors investigates the North-West Quarter of Jarash (Lichtenberger and Raja 2015a, 2016a) (FIG. 1). Within the ancient walled city of Jarash, the North-West Quarter lies at the highest point of the settlement and overlooks the Roman period Artemision. The project aims at investigating the settlement history of this approximately 4 hectare large area and relate it to the overall archaeology and history of the city. Whereas in the past mainly the city center with the public monuments has been the focus of archaeological research (Kraeling 1938), our project aims at looking at one of the prominent areas situated away from the monumental colonnaded streets and massive temple complexes. The project covers all periods of the urban history of the site and it has been possible to trace evidence from the Hellenistic to the Ottoman periods, as well as some scattered, ex-situ evidence for prehistoric periods.

During the Roman period, the city of Gerasa in Northwest Jordan belonged to the Decapolis. The city was founded in Hellenistic times and it

thrived in the Roman, Byzantine and Early Islamic periods. Only a major earthquake in 749 AD, which shook large parts of the Southern Levant (Tsafrir and Foerster 1992; Sbeinati, Darawcheh and Mouty 2005: 362-364) brought a drastic decline to urban life at the site. A small resettlement dating to the Ayyubid-Mamluk period also exists (Tholbecq 1997-98) but a proper re-settlement of Jarash only took place in the 19th century with the advent of Circassian settlers.

The ancient city of Gerasa is located on both banks of a steep *wadi*, the ancient Chrysorrhoea, which divided the city into two parts (Lichtenberger and Raja 2016b). Walls enclosed the city. The Roman city had a north-south oriented *cardo* and two *decumani*. The eastern part of the ancient city is mostly covered by the modern city. But in the western half of the city including the colonnaded *cardo* most of the ancient remains are undisturbed by modern activities and extensive excavations have taken place for more than 100 years uncovering impressive urban structures. Research has mainly focused on the city center and the public buildings of the Roman city. Another focus has been the numer-



1. Plan of the North-West Quarter, showing 2012 – 2015 trenches.

ous Byzantine churches. Only in recent years more attention has been given to the early Islamic phases of the city.

Since 2011 a Danish-German project investigates a hitherto unexplored area of Jarash, the so-called North-West Quarter<sup>1</sup>. Work started with an intensive field survey in this approx. 3 ha large area documenting all evidence visible on surface and in addition a geomagnetic survey was done of the whole area (Lichtenberger and Raja 2012; Kalaitzoglou *et al.* 2012). Only after intense evaluation of the geophysical and survey data excavations were initiated. Between 2012 and 2015 in total 18 trenches have been excavated (2012-2013: Kalaitzoglou, Lichtenberger and Raja 2013, 2017; Lichtenberger, Raja and Sørensen 2013, 2017). The location of

the trenches were selected strategically in order to as comprehensive as possible understand the settlement history. All trenches were backfilled after excavation. Our excavation strategy focused on understanding stratigraphies and undertaking a High Definition Archaeology sampling programme for a variety of evidences in contexts.

It became clear that the North-West Quarter – in contrast to other areas of the ancient city – was only little occupied during the Hellenistic and Roman periods. Until now water supply installations and stone quarries are the most prominent features dating to the Roman period, although there is at this point is more than circumstantial evidence for occupation also in this period. Most extensive and well

1. The only archaeological work that has taken place in the North-West Quarter prior to the beginning of our project were some trenches excavated by Clark and Bowsher 1986 and the excavation of the

synagogue church in 1928 (Crowfoot and Hamilton 1929:211-219; Crowfoot 1938: 234-239 and Dvorjetski 2005).

preserved in the North-West Quarter, however, are the late Roman and Byzantine as well as the early Islamic periods, for which substantial occupation has been excavated. Especially on the so-called Eastern Terrace well-constructed houses of the early Islamic period have been excavated in 2014 and 2015 in trenches K and P. These houses give impressive evidence for the last phase of Umayyad Jarash. The houses were destroyed by the earthquake of 749AD and the area was never reoccupied, and therefore the complete inventory of these houses is preserved giving a glimpse into the very moment that the earthquake struck. After the earthquake the entire North-West Quarter of Jarash seems to have been abandoned until a Middle Islamic resettlement took place during the Ayyubid-Mamluk period. During this period, a considerable hamlet was constructed on the central top part of the North-West Quarter. This hamlet, of which parts were excavated during the 2012-2014 campaigns, is until now the most substantial Ayyubid-Mamluk settlement uncovered and published in Jarash (Lichtenberger and Raja 2016c).

The North-West Quarter was integrated into the urban layout of the Roman period city when the city walls were constructed and some structures were built. However, although being enclosed by these, the North-West Quarter entered into urban history of Jarash comparatively late, and we have to assume that during the Roman period, when it was already integrated into the city walls, this area was only little occupied in comparison to what was going on in the city centre.

### 2014 Season

During the 2014 campaign five trenches were excavated (trenches I – M). The trenches were selected on the basis of our previous research undertaken in the area (Lichtenberger and Raja 2016a). Two trenches (I and M) were laid out

on the northern slope of the hill in order to investigate this area and the possible course of the North Decumanus (FIG. 2). These trenches were continuations of the work carried out during the 2013 season (trench G). Another trench (J) was laid out on the southern side of the large terrace in front of the Ayyubid-Mamluk hamlet in order to investigate a possible street system in this area. Another trench (L) was excavated at the western end of the large cistern. This trench continued research from the 2013 season (trench F). One trench (K) initiated research on the so-called Eastern terrace, overlooking the Artemision, an area which had not been investigated earlier.

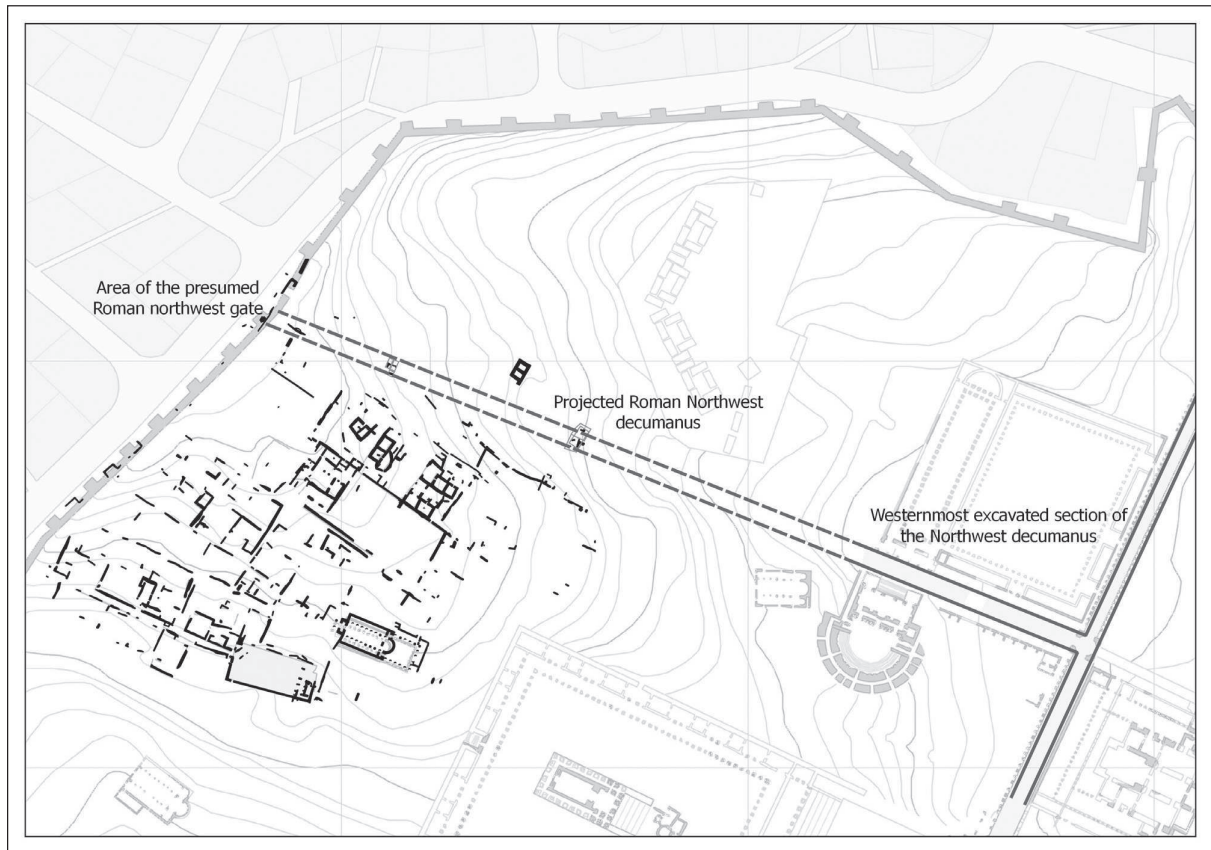
Already during the 2013 season it had become clear that it was highly dubious that the North Decumanus, which began at the Tetrapylon near the North Theatre, ever reached the city walls in the North-West Quarter in the shape of a colonnaded street<sup>2</sup>. No evidence had been found during the 2013 campaign, although we intentionally investigated this, and therefore one of the aims of the 2014 campaign was, to investigate this question further.

### *Trench I*

The main objective for laying out trench I was to investigate the possible continuation of the North Decumanus, which is documented running in western direction from the Tetrapylon to the area of the North Theatre. Furthermore the trench also allowed examination of an area with a cave that was partly visible and the nature of which needed to be clarified. One of the aims was to check the hypothesis put forward by some scholars that the caves in this area might have been used as tombs (Seigne 1992: 340-341, ills. 7-9). The trench was located on the slope of the north side of the hill approx. 20 m from trench G excavated in 2013 and 40 m from trench M, an area already excavated by an American-British team in 1982 (Clark and

2. See for this is more detail (Lichtenberger and Raja 2015a). For a discussion of the layout and dating of the street grid (cf. Raja 2012:

140-143).



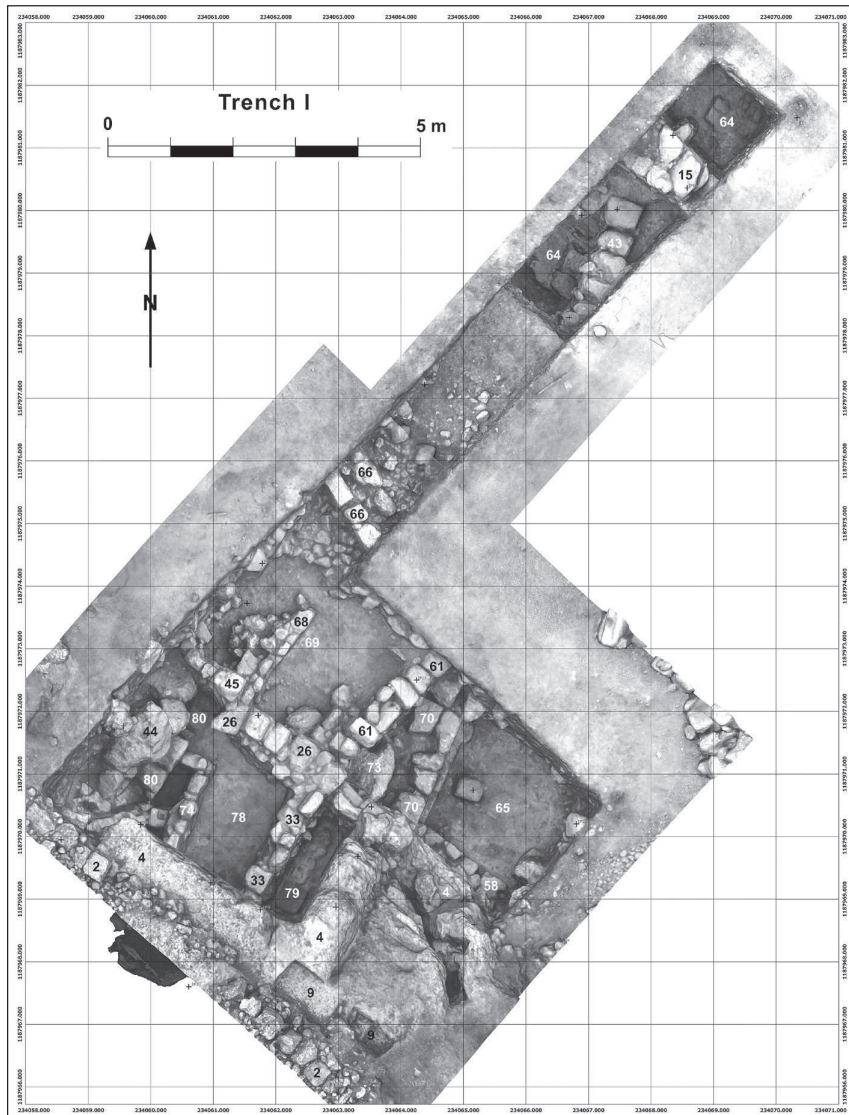
2. Plan showing projection of a possible “North Decumanus”.

Bowsher 1986) (FIG. 3). The location of the trench was chosen because trench G had not yielded results pointing to a continuation of the North Decumanus in this area. Therefore it was deemed necessary to investigate whether a possible North Decumanus would have run until the projected turn in the bedrock towards the south. Furthermore the trench excavated in 1982 had not yielded conclusive results regarding the possible continuation of the North Decumanus either and therefore trench I was intended to clarify the question of the existence of a street in the Roman period in this area.

The trench was for most parts excavated to bedrock, virgin soil or structures of which there were few. The northern extension sectors were not excavated fully since the northernmost sectors already had yielded bedrock and virgin soil and therefore the conclusion could be drawn that there definitely was not a street running east-west in this area at any point in time.

The overall results gained from the finds in trench I showed several phases of use, the latest of which was of Ayyubid-Mamluk date (FIG. 4). The earliest phases of occupation, which until now cannot be securely dated, include substantial wall structures running north-south protruding from the worked bedrock and a cave. These give the clear impression of habitation structures set against and using the bedrock as a back wall and the small cave as a room. At a later point this complex fell out of use and re-occupation of the area took place on a much smaller level, but also using the cave as the back of another room. There was no evidence for the cave having been used as a tomb at any point in time. Neither rock cuttings nor fittings indicated such use.

Trench I yielded no evidence for the supposed North Decumanus and therefore it was decided to continue further east through the re-investigation of what we term trench M, earlier



3. Photogrammetric plan of trench I.

partly excavated by an American-British team, to find out whether the colonnaded street could be traced in this trench.

#### *Trench M*

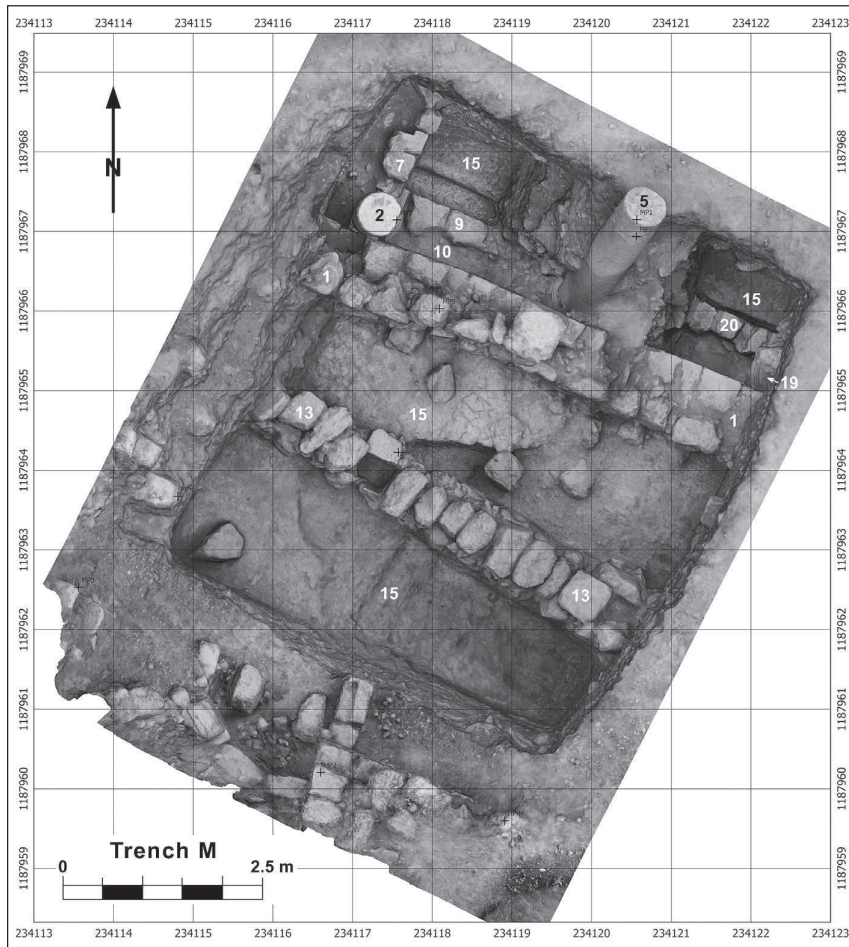
The main objective for laying out trench M was to clarify whether the North Decumanus continued in this area. This trench, which partly had been excavated in 1982 by Clark and Bowsher (Clark and Bowsher 1986) needed to be reexamined as it was not excavated fully to bedrock or virgin soil in the original excavation leaving a number of crucial research questions open, since the area is important for the understanding of a potential extension of the North

Decumanus towards the West.

The trench was located to the north of the north slope of the hill (FIGS. 5 and 6). Two in-situ columns were already partly visible when



4. Ayyubid- Mamluk jug from trench I.



5. Photogrammetric plan of trench M.

excavation was begun in 1982. Behind these columns a well-constructed wall ran in several courses. This wall is set on bedrock which stretches towards the south. Further to the south a line of stones ran in east-west direction through the trench. The southern side of the trench excavated by Clark and Bowsher was not the objective of reexamination in the 2014 campaign.

The re-excavation of trench M brought several new features to light. Firstly the line of stones running east-west through the trench turned out to be a stone constructed covered water channel which was mortared on the inside. Secondly a third column base came to light in the easternmost part of the trench confirming that the structure continues further towards the East. All three columns were standing on stylobates placed on the bedrock and in front of them a rock cut “channel” ran, which might have been a sort of fundament pit. Thirdly there

was no evidence of a street in front of these columns (“North Decumanus”). The exact nature of the structure, which very well may have been a façade monument, remains to be further investigated.

After the 2014 season it became clear that the North Decumanus never could have ex-



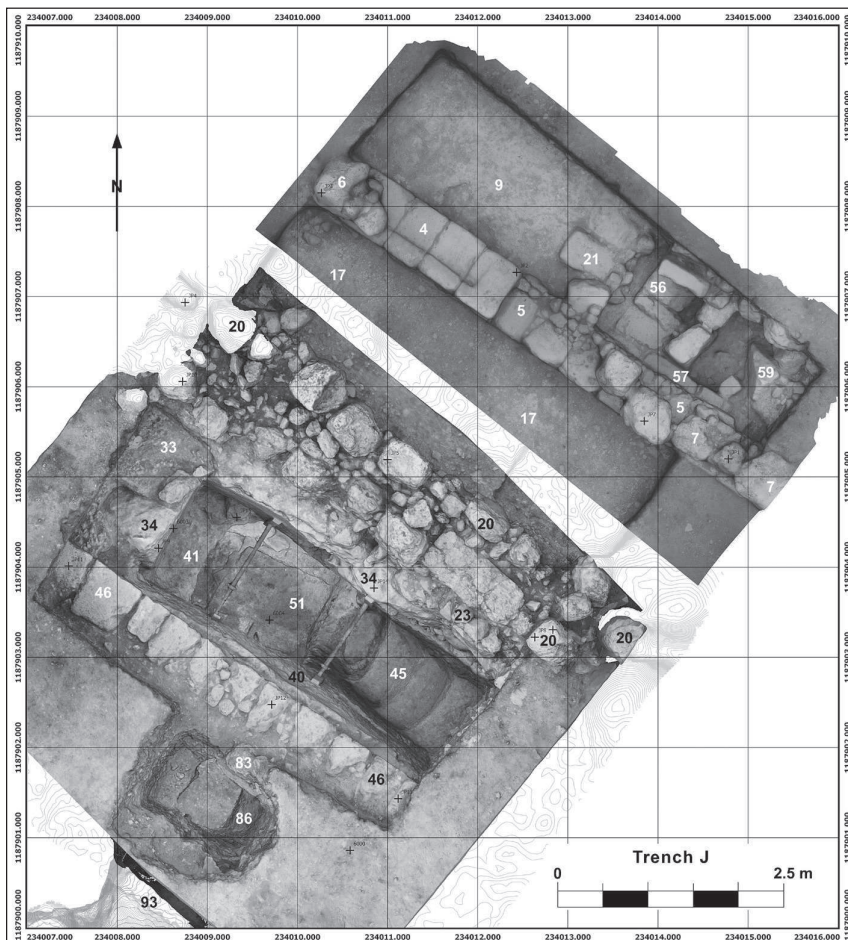
6. Trench M from West.

tended much further to the West than the North Theatre and that its projected course probably led through a partly unsettled area within the city walls, an area which remained open and used for gardening and agricultural purposes throughout Antiquity and the Middle Ages<sup>3</sup>.

*Trench J*

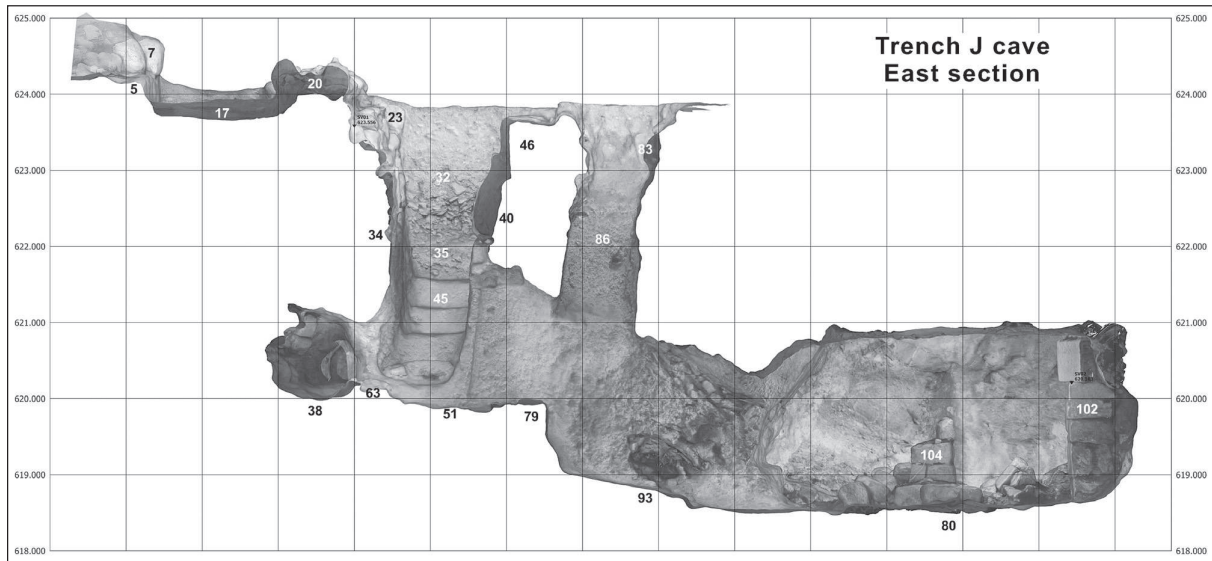
Trench J was laid out on the southern side of the large terrace east of the Ayyubid-Mamluk hamlet. The most surprising result was the discovery of an underground chamber system (FIGS. 7-9). The trench was laid out catching the inside of the terrace, the terrace wall as well as the outside of the terrace to the south where another wall was running east-west. Between the wall located outside of the terrace and the remaining area to the south bedrock was soon reached. However, the bedrock turned out to be

cut to a depth of 5 m. The fill from the surface to the bottom of the cut bedrock was full of pottery dating to mainly between the 3rd and 5th centuries AD. The fill was extremely dense and there was more pottery than soil in some of the layers. At the level of approx. 4 m three cave structures were encountered, which also had been intentionally filled. Towards the west a rock-cut staircase ascended. The full length to the surface of this staircase was not excavated due to the lack of time, but it is assumed that it led all the way to the surface. The cave structures to the north and the west were not very large and they were partly natural and partly artificially cut. In the area in front of the three caves two fire places came to light. An entrance to a larger cave complex was encountered at the south side where a door opening was situated. This door opened a short corridor leading



7. Photogrammetric plan of trench J.

3. Already with due caution (Lepaon 2011).



8. Photogrammetric section of trench J.

to a large open cave room on a lower level. In the ceiling of the corridor a shaft, which led to the surface, was located. The corridor had been blocked with walls and filled in from above through the shaft. This fill mainly contained material from the 6th/7th centuries AD. Behind this fill a large cave, partly natural and partly worked came to light. It measured approx. 7.5 m by 6.5 m. On the west side it had three roughly worked niches, on the east side it was vertically worked and on the south side it was blocked completely by an artificially constructed back wall. Within the back wall a blocked door was visible. This probably led to another room located to the south. Approx. in the middle of the back wall a support pier was located which was constructed by several well-worked blocks. It had been slightly moved out of place by a collapse in the bedrock which could be detected by a large piece of bedrock that partly had become loose and was pressing against the support. Another pier was standing in the center of the cave, but it had partly collapsed. One large mill stone made up the bottom of this central support. Another one was built into one of the courses of the artificially constructed back wall. The cave was not rich on finds belonging to the last phase of use; a few pottery sherds were found, but these may originally have be-

longed to the fill layers. It seems that the cave had been cleaned out before it was closed off. There were no traces of other than production usage of the cave in which remains of an oil press was found. The complex had two main phases of use. In one main phase, the staircase functioned as an entrance to the cave complex. Around the 5th century AD, it was backfilled and blocked. To this phase the tabuns, which were found in the staircase area, also belong. From then on the large cave was probably only accessible through the door in its southern wall and the shaft probably also would have given access to the cave. At a later point in time, possibly in the 7th century AD also this shaft was blocked and at this point in time, also the south



9. Inside of the cave in trench J.



wall with the entrance was closed and the cave was completely sealed off. Since excavation of trench J could not be concluded in 2014, it was covered and protected to be further investigated in the 2015 season (see below).

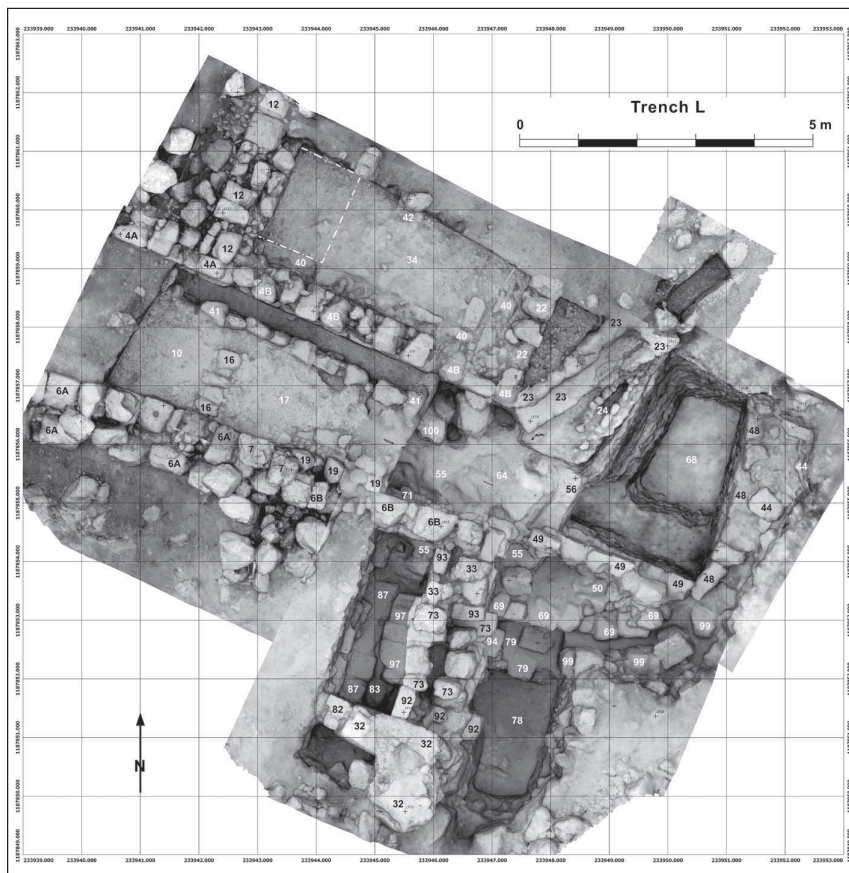
*Trench L*

Trench L continued our examination of the large cistern on the southern slope of the North-West Quarter. It was laid out on and covered the part of the area at the west end of the large rectangular cistern, the street running towards the west and the corner of the easternmost building standing on the northernmost street corner (FIG. 10). The aim of the trench was to clarify the relationship between the cistern and the quarter on the south slope of the cistern in order to examine the chronological relationship between these features.

The trench gave important insight into the building history of the area. Already the analysis of trench F, excavated in 2013, proved that

probably by the end of the 6th century AD the cistern fell out of use as a water reservoir and subsequently was filled with domestic/industrial structures inside. Such a chronology was also supported by AMS analysis of the mortar of the cistern (Lichtenberger, Lindroos, Raja and Heinemeier 2015).

Part of trench L was laid out in the cistern itself and in this area the western back wall of the cistern was traced. It was covered by a thick layer of mortar. In front of the mortar a dense fill layer was found which covered the cistern from the edge until approx. 3 m into the cistern, where a massive north-south running retaining wall was found (FIG. 11). The wall was standing directly on the floor of the cistern and was preserved up to eight courses; smaller stones were set between the large courses. A structure running east-west and binding into the retaining wall was found to the south at the end of the retaining wall. This latter wall was standing on a fill foundation. In the extension towards the



10. Photogrammetric plan of trench L.



11. Wall in the cistern in trench L.

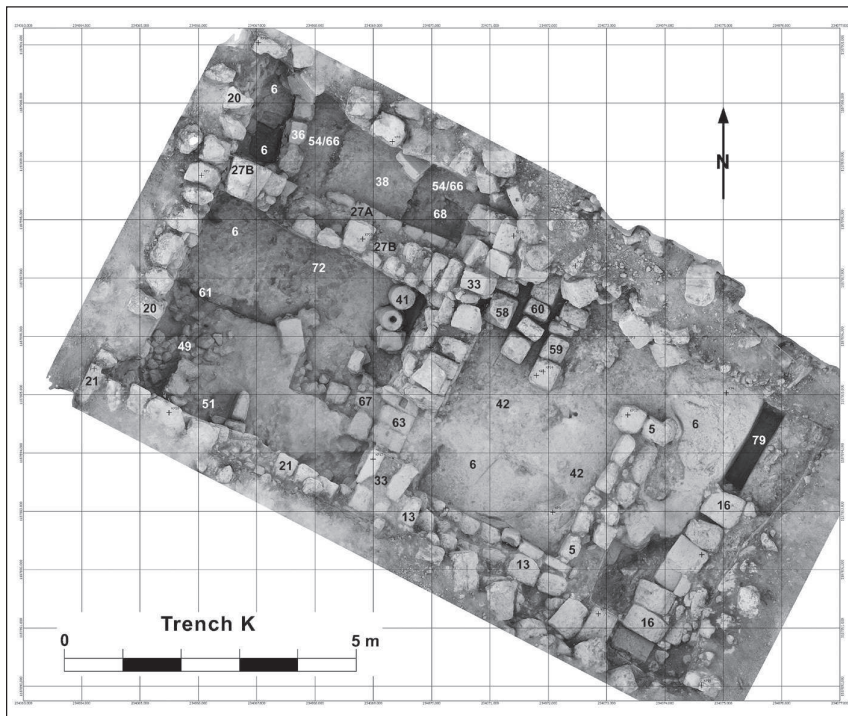
south the back wall of the cistern phases was also partly traced as was a massive structure, which was built into the bedrock, most likely as a post-cistern use. Later this structure had been closed off and turned into a wall. This area might have served as an entrance point to the cistern in the period in which it served as an area of housing and production. For now it is assumed that the walls formed part of a staircase construction leading down to the cistern when the cistern had fallen out of use as a water reservoir. At the same time this construction served as substructure of the street coming from

the west, bending at this point to the north.

The street had several walk-on levels and probably belonged to the same planning phase as the houses north of it. The chronological relationship between the street, the houses north of it and the phase in which the cistern still served as a water reservoir could not yet be determined with certainty.

#### *Trench K*

Trench K was laid out on the Eastern Terrace of the North-West Quarter, to the west of the monumental Artemision and to the east of the east end of the terrace in front of the Ayyubid-Mamluk hamlet. It yielded an important Early Islamic domestic structure with rich finds which we called “House of the Scroll” (FIGS. 12 and 14). The house did not seem to have had pre-Islamic phases and the area seemed to have been uninhabited before the construction of the house. The aim of the trench was to investigate activity in this area, which seems to have been heavily disturbed by destruction as seen through numerous larger stone blocks which lay scattered across the complete area of the east terrace that covers approx. 3,000 square meters.



12. Photogrammetric plan of trench K.

The excavated structures in trench K were comprised of two connected rooms whereof the easternmost room connected to yet another front room or courtyard in which a mortared rock-cut water channel covered by large stones running north-south through the easternmost part of the trench was discovered. To the north of the westernmost room part of another room was excavated. This room did not seem to bear any direct relation with the westernmost room of the trench. Bedrock was reached in many sectors. In the westernmost room a concentration of finds came to light. These included an Arab-Byzantine coin hoard. Among the coins was a rare specimen of a coin possibly minted in Jarash during the early Islamic period (FIG. 13) (Lichtenberger and Raja 2015b). Furthermore a number of iron and bronze items which seem to have belonged to an assemblage came to light. The items were almost all connected with textile production and sewing. They included needles for rough materials, Byzantine weights, spindle whorls and files. In the north-eastern corner of the trench several larger metal objects were found, among these a flax heckle, which again underlined a connection to textile production and the working of raw materials (FIG. 15). Also a small silver scroll in a lead container, which gave the house its name, was found in the debris of the house. A digital unfolding of the scroll proved that it carried pseudo-Arabic script and probably was intended for magical purposes (FIG. 16) (Barfod *et al.* 2015). The concentration of Early Islamic period finds seem to have fallen down onto the first floor during the collapse of a second story. The associated pottery and glass finds without doubt point to an Early Islamic date. The collapse probably took place during the earthquake of 749 AD, a date which is confirmed by 14C dates from the collapse and by the find coins.

### 2015 Season

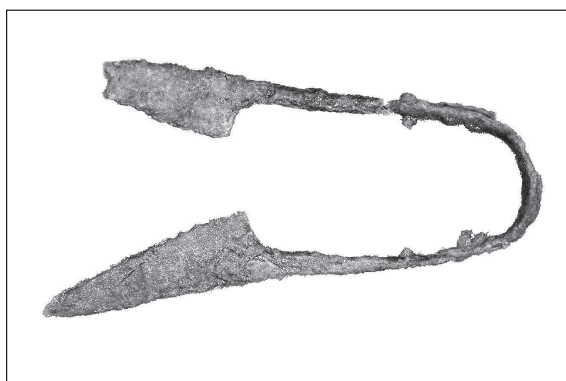
In the 2015 season five trenches (N – R) were excavated and trench J from 2014 was fin-



13. Obverse of a coin from trench K, Jarash (?).



14. View of trench K from West.



15. Scissors from trench K.



16. Silver scroll from trench K.

ished. The trenches mostly continued research foci started in previous years (trenches N, O, P, R) and one trench (Q) was laid out to investigate the city walls of Jarash.

*Trench J*

The main objective of work in trench J was to continue excavation of the cave complex which we had found in 2014 and to continue in a northern sector, north of an Ayyubid-Mamluk wall investigation of a possible street level of the so-called middle street.

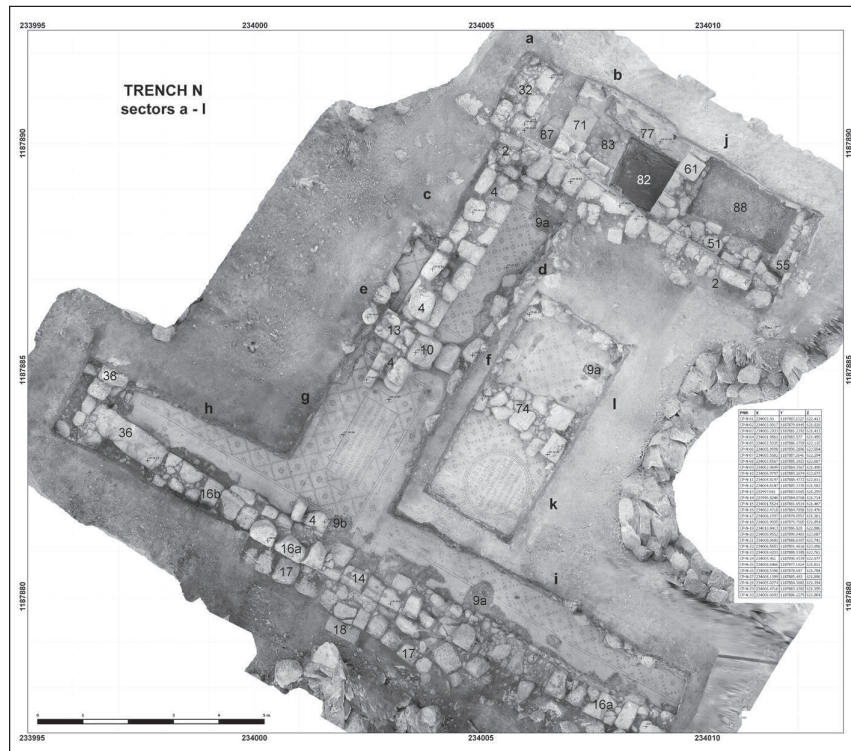
Unfortunately the protection roof which was built in 2014 did not prevent extensive illicit excavation in this trench. Several people must have excavated here during spring for approx. 2 weeks. They destroyed the entire inventory of the cave room and also destroyed the south wall of the cave. They continued excavation into the soil and found another cave room further south-east which was robbed. This heavy damage to the trench did not allow us to continue further investigation in the cave but it was clear that the cave had been used as an oil press before it was closed.

We excavated the staircase further to the east and reached its end. From the end of the staircase an opening to the north must have given access. In the northern sectors of the trench it became clear that a street indeed was running east-west and that this street was built of compact mortar floor. This street was termed “central street” by us.

*Trench N*

Trench N was a continuation of the work begun in trench J and the purpose was to investigate the southern side and the entrance to the cave complex (FIG. 17). The trench was laid out over the presumed rock edge and entrance and the rock cut entrance was found. The cave was accessible through a door from the west to enter a small anteroom from which the cave opened to the North. The anteroom was enclosed by two massive walls on the Eastern and on the Southern side. The cave was smaller than the cave found in 2014 but it was connected to it and it is probable that the cave was also part of the same olive oil press installation.

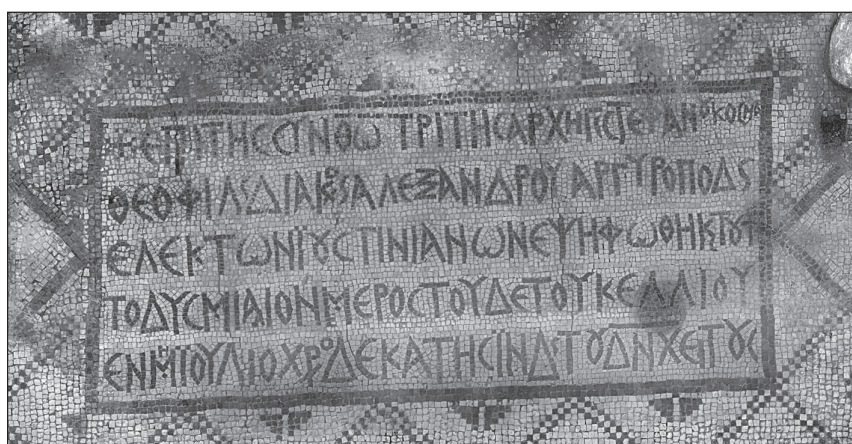
South of the massive east-west running wall



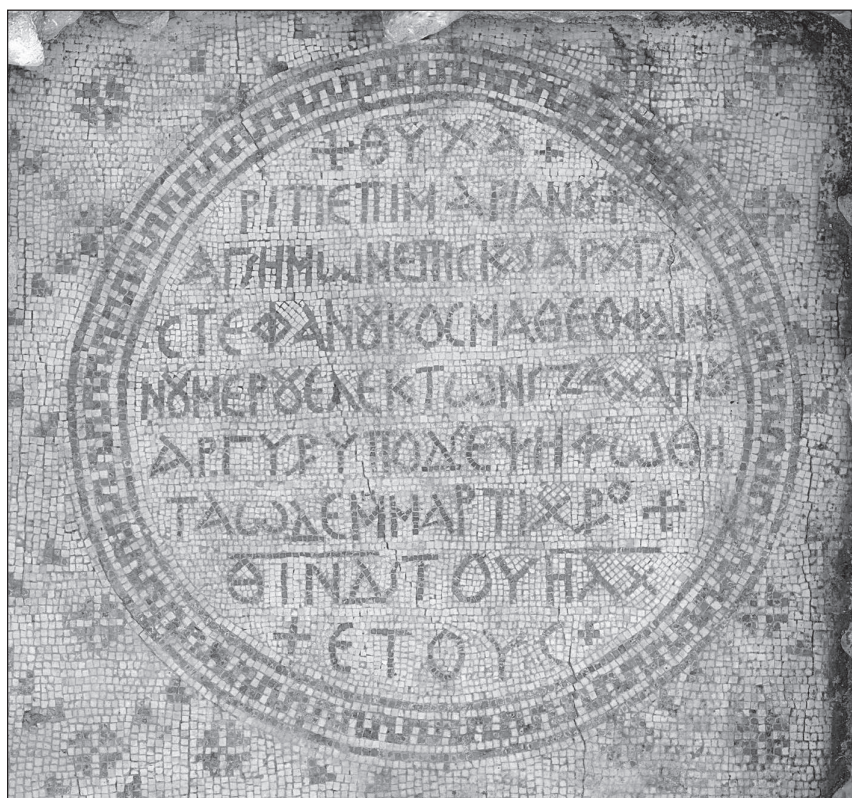
17. Photogrammetric plan of trench N.

a large room with mosaic floor was found. The floor was decorated in fields and had geometric patterns as well as two Christian inscriptions: One was set in a tabula ansata, the other in a medallion (Haensch *et al.* 2016) (FIGS. 18 and 19). The earlier mosaic inscription in the medallion dates to: 576AD and the younger one in the tabula ansata to 591AD. The room with the mosaic measured at least 9 × 15 m. However since the eastern border was not reached and the room was only partly excavated, it could have been considerably longer. It could

be established that the room had an inner wall running along the center which would have allowed roofing of the complex. This ensemble which could be only partially excavated during this campaign probably belonged to the church-phase of the so-called synagogue church from the 6th century AD further to the south, since it was directly connected to the atrium of the church through a small staircase. The inscriptions attest to military staff being involved in the decoration of the mosaic hall and the preliminary study of the hall and its inscriptions



18. Mosaic inscription (576 AD) from trench N.



19. Mosaic inscription (591 AD) from trench N.

suggest that we are dealing with an ecclesiastical complex related to the Byzantine army.

Sometime before the earthquake of 749 AD the large room with the mosaic was transformed into a structure with several smaller rooms by the implementation of several division walls, which all respected and continued use of the mosaic floor. Pottery found on the floor dates to the early Islamic period. The whole evidence is of special significance since it attests to the transformation of ecclesiastical spaces after the Islamic conquest. Excavation in this area is planned for the summer campaign 2016.

*Trench O*

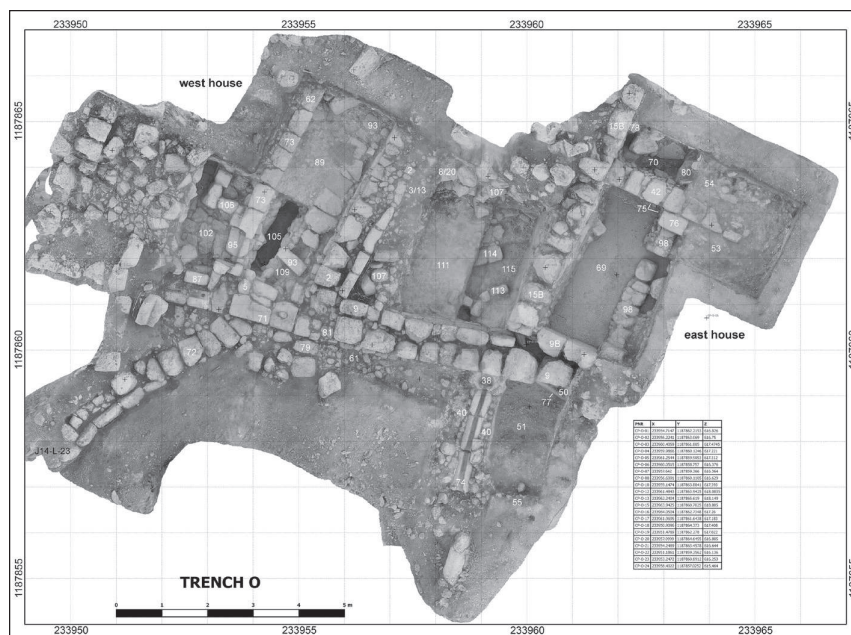
Trench O was laid out at the Northwest corner of the large cistern on the south slope of the North-West Quarter (FIG. 20). This large cistern had been partly subject to excavation in 2013 and 2014 (trenches F and L). The aim of the new trench was to investigate the possible water inlet and a possible sediment basin of the large cistern. What was found in the trench was an Early Islamic alley (?) from south to north with one house to the West and a water channel running along this alley (?). The southern continuation of this channel had been found in trench L in

2014 (see above). East of this a densely packed podium was encountered into which we made a deep sondage and found some Roman material and possible water installations. Among the Roman material was a bowl with bronze pigments for coloring (FIG. 21). These might have been related to an adjoining room to the East, in which a very hard mortar floor had been found, which could have been related to a water basin, but this needs further investigation in the upcoming 2016 season. Later, in the early Islamic period, this area was used as a house.

Due to buildings of later dates, which we did not remove, it was impossible to clarify the exact relationship between the strong mortar floor and the Roman/Late Roman phases of the large cistern. The most important result of this trench were the reconstruction of extensive Byzantine and Early Islamic building activity post-dating the large cistern. All evidences retrieved could be related to trenches F (2013) and L (2014) and support previous assumptions.

*Trench P*

Trench P continued work on the eastern terrace and it yielded a new Early Islamic house which was termed “House of the Tesserae”



20. Photogrammetric plan of trench O.



21. Photo of bronze pigments from trench O.

(FIG. 22). After we had found in the 2014 campaign a well preserved Umayyad house with rich domestic inventory (trench K) it was decided to continue investigation of this area (eastern terrace) in this campaign. The trench was laid out further south of the 2014 trench in a flat area where few structures were visible on surface. Excavation revealed parts of an Umayyad complex that probably has been destroyed in the 749AD earthquake. As in trench K, the house had no Byzantine predecessor. We excavated a well-built staircase which led from the southwest into an open (?) area with a cistern. The cistern had a nicely cut well-head (two phases) and the cistern itself was pear-shaped,

ca. 3.50m deep and apart from some collapse was empty (FIG. 23). The cistern was fed by a channel that led water, collected on the roof, into it. Close to the cistern several basins were also found.

From the open cistern court a door to another room to the east opened. Also to the North there was an opening to a room. This opening was given by an arch and a second arch ran in a line further to the east. Both opened to a room which at one point was divided by an intermediate wall running north-south. Attached to the eastern side of this later wall a stone built trough was constructed that ran along the wall and that was completely filled with thousands of white unused tesserae (FIG. 24). This evidence probably has to be interpreted as a preparation for laying a new mosaic in one or several rooms of the already existing house. Apart from many iron items probably belonging to a wooden door few finds were made in this part of the room and it seems this part of the house was undergoing renovation when it was destroyed in the earthquake. This is also supported by the find of a small basin with lumps of mortar in it which was used for some preparation of mortar and also by several fragments of wall plaster



22. Photogrammetric plan of trench P.



23. Well head from trench P.

with intentional cut marks on the surface for preparing for a new layer of wall plaster.

In the collapse of the room many fragments of mosaic stones partly still in larger formations with bedding were found. Since they were found quite high within the room and since no mosaic floor could be observed on the ground floor we have to assume that the first floor of the building had a mosaic floor.

This trench as last year's trench K gives important insight into the latest Umayyad phase of Jarash and it provides us with undisturbed and well preserved layers. Therefore it is planned to continue excavation on the east terrace also in 2016.

#### *Trench R*

This small trench R was laid out on the northern slope of the North-West Quarter. Its main aim was to analyze the different layers of erosion and human activity in this area. From our earlier excavations (2013 and 2014) in this area we already knew that we probably would not encounter built structures, a presumption confirmed by the excavation (FIG. 25). As we



24. Partly excavated tesserae trough from East.

had known before, this area was mainly used for intra-urban gardening, and therefore we took archaeobotanical and soil chemistry samples in the sequence of layers dating from the Roman period to modern times. This will help to better understand erosion processes, human activity and farming in this part of the North-West Quarter. The samples are currently under analysis.

#### *Trench Q*

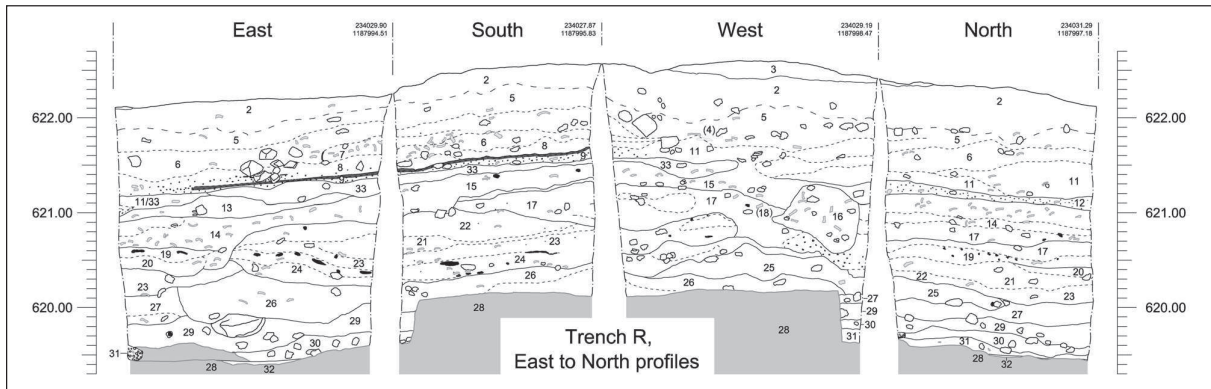
Trench Q was laid out at the city walls of Jarash with a stretch of a tower (FIGS. 26 and 27). Since the dating of the city walls of Jarash is contested<sup>4</sup>, it was the aim of this trench to investigate the date of construction of the city walls and its relationship to intramural buildings. Excavation took place from both sides of the city wall, inside and outside. From both sides the fundamentals of the city walls were reached. The fundamentals especially from the inside but also partly from the outside were filled with much pottery and other finds of a Roman date. They need to be further investigated but this evidence supports a Roman (possibly second century

4. There is no consensus yet on the city walls of Jarash (Fisher 1938: 12–14) for a description of the visible fortifications. Kraeling 1938: 41 was the first to advocate a first century AD date for the city wall based on epigraphic evidence supposedly belonging to the North-west Gate. This date has been questioned by Seigne on the basis of his excavations by the South Gate. Seigne argues for the erection of the city walls in this area in the late third or early fourth century AD. (Seigne *et al.* 1986: 55-59; Seigne 1992: 331). This date is disputed by Kehrberg and Manley (2001) who argue for an earlier date in the first quarter of the second century AD. for the western parts of the city wall (followed by Lichtenberger 2003: 193; Raja 2012:142-

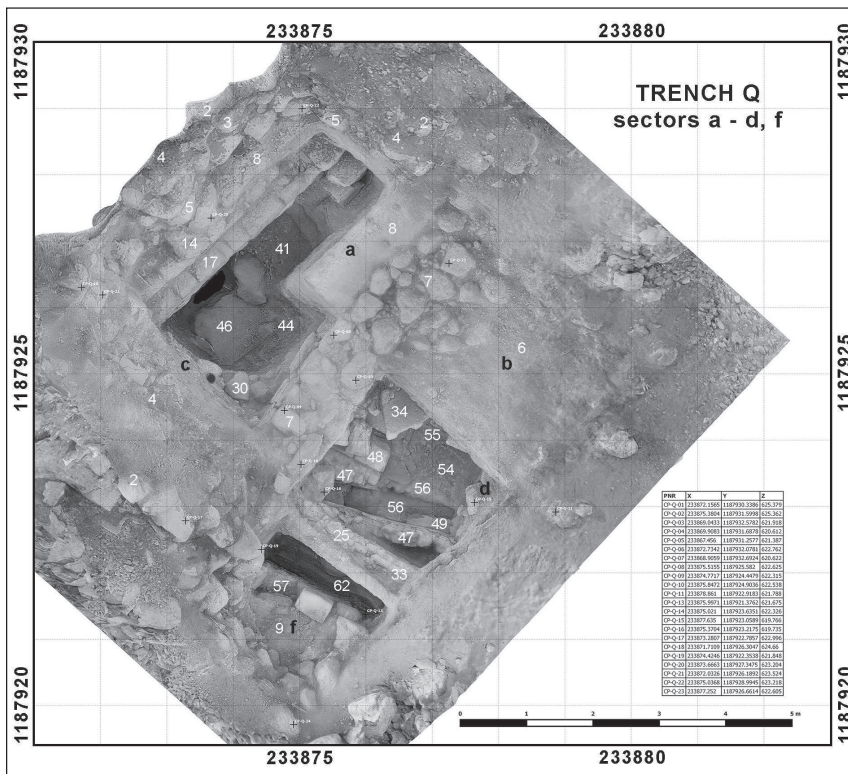
144). The Jarash City Walls Project headed by Kehrberg, Manley and Kennedy excavated strategically located trenches relating to the city walls and supplied data for an early second century AD dating, but without publishing all the related finds (Kehrberg and Manley 2001, 2002, 2003). In many places it is obvious that spolia were built into the city wall, which is a clear indication that at least some parts of the walls were heavily renovated or rebuilt at later points in time. All necropoleis of the second and third centuries AD are located outside the course of the city walls, indicating that the limits of the city were located here (walled or unwalled). For the necropoleis see (Seigne 1992: 340-341, ills:7–9).



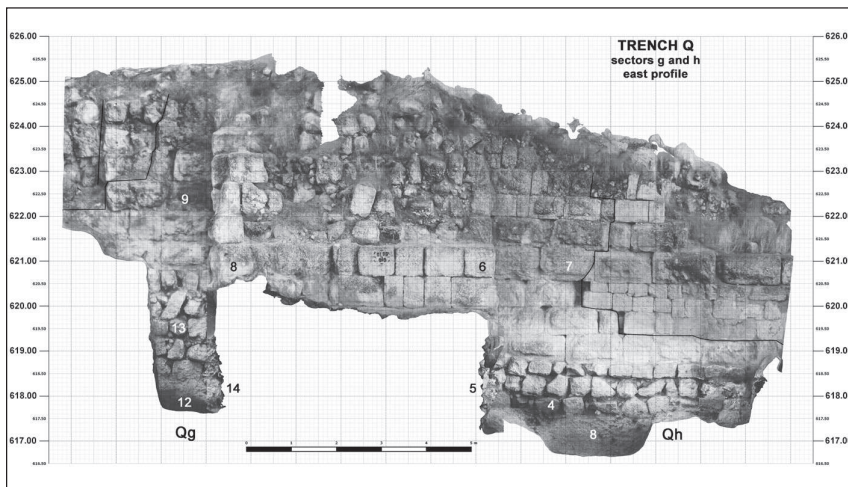
THE DANISH-GERMAN JARASH NORTH-WEST QUARTER PROJECT: RESULTS 2014-2015



25. Sections of trench R.



26. Photogrammetric plan of trench Q.



27. Photogrammetric section of trench Q.

AD) date for the construction of the walls (FIG. 28).

Approx. 2 m east of the city walls another later wall was constructed which in the excavated stretch ran parallel to the city walls. Further to the south an older well-built terrace wall running east west was found. Unfortunately its relationship to the city walls could not be determined since their projected meeting point could not be covered by the trench.

In the eastern part of the trench a water pipe (higher level) and a canal (lower level, on bed rock) were found. They are running east-west in a slightly oblique angle towards the south. The canal was a sewer, which was supported also by geochemical analysis. We tried to trace the course of these two water lines outside the city walls but we did not find them. Therefore the lower water canal either was cut by the construction of the city walls or it ran along the inside of the city walls and only crossing them in the area of a gate.

### Conclusions

The 2014 and 2015 excavations in the North-West Quarter provided further information for the settlement history of this part of the city and also for the general layout of Gerasa/Jarash. Regarding the bigger picture, the most important result of the 2014-2015 seasons is the absence of a North Decumanus stretching beyond the area immediately west of the North theatre. The urban space of Roman period Gerasa to a



28. Roman oil lamp fragment from the foundations of city walls in trench Q.

large degree concentrated around the *cardo* and the city center. This is also corroborated by the observation that there is only few Roman period remains from the first centuries AD in the North-West Quarter, suggesting that only later this area of the city became a densely settled part of the city. This only happened in the Late Roman/Byzantine and Early Islamic periods. The evidence from the eastern terrace, where Early Islamic houses were found also contribute to this: The houses were built in an area which had no earlier occupation and after the destruction in the 749 AD earthquake the area was not occupied again. Therefore parts of the North-West Quarter were only settled during the Early Islamic period, suggesting that this period – at least in the North-West Quarter – was the period of the largest urban expansion of Jarash.

Another important result from the two seasons is that there is still no noticeable evidence for the post-earthquake period and therefore it seems obvious that this area of the city remained unsettled after the catastrophe. This stands in contrast to what can be observed in the city center, where a small-scale Abbasid rebuilding took place (Gawlikowski 1986; Barns 2016). In the North-West Quarter only the Ayyubid-Mamluk period saw a noteworthy resettlement of the area.

As another general observation which must be mentioned that five seasons of archaeological research (including bone studies) yielded no evidence for the existence of Hellenistic and Roman necropoleis in the area of the North-West Quarter as previously assumed (Seigne 1992).

Concerning the Byzantine period the most important result of the 2015 season is the discovery of a mosaic hall with inscriptions dating to the years 576 and 591 AD. The hall had a direct spatial relationship with the so-called synagogue church. This building which lies south of the mosaic hall first was a synagogue, which most likely was converted into a church under the reign of the Byzantine emperor Justinian.

The military unit, mentioned in one of the inscriptions were the “*electi Iustiniani*”, a special unit, which was created by Justinian. Therefore it can be assumed that the fact that the mosaic hall was related to the Byzantine army had to do with the transformation of a synagogue into a church under the emperor Justinian. The later reuse of the mosaic hall after the Islamic conquest suggests that after the defeat of the Byzantine army the property status of the mosaic hall changed and the hall lost its ecclesiastical function. We therefore through this complex get a glimpse into one situation of the impact of the Islamic conquest on Byzantine Jarash. Whereas in other cases the Islamic conquest brought no interruption in civic life and material culture does not show abrupt change, in this army context, we can trace a clear discontinuity of use, although one has to emphasize that it is not possible to date the moment exactly when the mosaic hall was converted and reused as a non-ecclesiastic complex. In theory it could have happened anytime between 591 AD (the laying of the floor) and 749 AD (the destruction of the hall), although it is most likely that it happened sometime soon after the defeat of the Byzantine army and the Islamic conquest of the Levant in 636 AD.

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2014 team: The team consisted of the two directors Achim Lichtenberger and Rubina Raja, head of the field Georg Kalaitzoglou, head of the registration Annette Højen Sørensen, architect Jens Christian Pinborg, conservator Margit Petersen, the palaeozoologist Pernille Bangsgaard Jensen and the field and registration team: Anders Meander Bjerggaard, Philip Ebeling, Till Flüchter, Pawel Grüner, Niels Benjamin Hansen, Ditte Maria Damsgaard Hiort, Charlotte Bach Hove, Anne Ditte Koustrup Høj, Hans-Peter Klossek, Signe Bruun Kristensen, Nadia Schmidt Larsen, Line Egelund Nielsen, Sara Ringsborg, Ulrike Rübesam and Janek Sundahl. Geologist Alf Hilding Lindroos (Åbo University, Finland) took mortar samples for 14C-AMS-analysis (Accelerator Mass Spectrometry) and geologist Peter Fink Jensen tested a hand-held spectrometer in practice. DoA representative: Akram Atoum and Ali Oweisi.

2015 team: The team consisted of the two directors Achim Lichtenberger and Rubina Raja, head of the field team Georg Kalaitzoglou, heads of the registration team Annette Højen Sørensen and Heike Möller, architect Nicole Pieper (Vienna), conservator Margit Petersen (Viborg), the paleozoologist Pernille Bangsgaard Jensen (Copenhagen) and the field and registration team: Malene Byø, Philip Ebeling, Julian Einschenk, Alessandra Esposito,

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