

GHAWR AS-SAFI SURVEY, EXCAVATION AND CONSERVATION PROJECT 2013 AND 2015

Konstantinos D. Politis

Survey, excavation and conservation work was conducted in Ghawr as-Safi by the Hellenic Society for Near Eastern Studies (HSNES) in collaboration with the Department of Antiquities of Jordan (DoAJ) in 2013 and 2015. This work was supported in 2013 by the Al-Hima Foundation (Jordan) and Macquarie University (Australia), and in 2015 by the USAID-funded Sustainable Cultural Heritage through Engagement of Local Communities Project (SCHEP), ARAMEX LLC, the Australian Institute of Archaeology and the Comar-Fitzpatrick Trust. The team consisted of Jordanian, Greek, Australian, American and Turkish members directed by Dr Konstantinos D. Politis, under the supervision of Ms Jamila Shtewi and Mr Basil Halassa of the DoAJ.

Survey

Contour surveying and mapping continued by adding new findings in the areas of Tawahin as-Sukkar (TeS), Khirbat ash-Shayk 'Isa (KSI) and Tulaylat Qasr Musa Hamid (TQMH), and for the first time at Ameri (A) and Umm Tawabin (UT) which produced the first maps of these sites. The result was an updated site map ready for publication and public use (**Fig. 1-2**).

Excavations

During 2013 and 2015, work continued to focus on understanding the origins and development of the sugar-cane industry at the factory complex of TeS and the adjacent urban centre of KSI.

Tawahin as-Sukkar (TeS)

A primary objective of both seasons' work was

to reveal more of the functioning of the sugar cane factory at TeS. A great deal was discovered. Both of the two vaulted rooms below the pressing chambers were completely cleared, revealing the pivot stones (one *in situ*) and water chutes which powered the gearing mechanism (**Fig. 3**). Careful excavation of the pressing chambers above also revealed the plastered conduits that channelled the sugarcane juices resulting from the pressing process (**Fig. 4**).

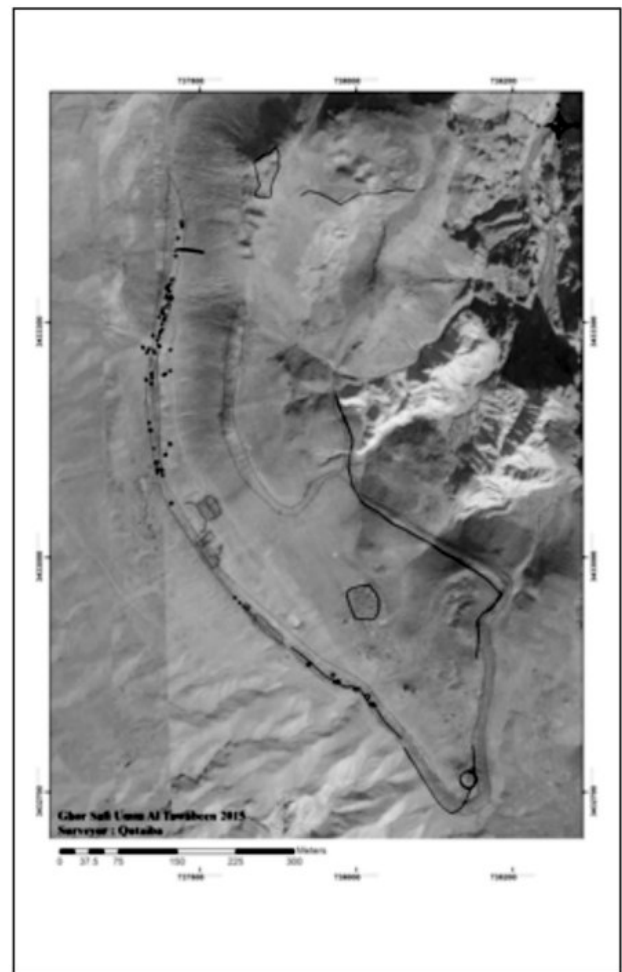
One of the walls outside the arched entrance of the lower chambers led northwards, presumably linked with the underground water channel flowing into agricultural fields. (**Fig. 5-6**) A stone-built stairway was also uncovered which apparently gave access to the rooms. This meant that the channel was lower than expected. Immediately to the east were remnants of arch supports for a small bridge that allowed the flow of the pressed sugar juices to continue northwards (**Fig. 4**).

On the western side of the excavation trench was a building whose construction method and materials were different to the upper parts, which were made of mud bricks apparently belonging to a later (probably Late Ottoman) period. The level and architecture of this building indicates an earlier association with the pressing rooms and their lower chambers to the south. However, it was clearly re-used in its final stage.

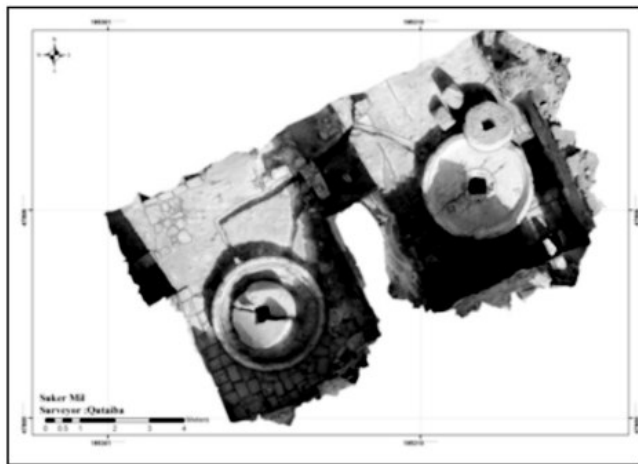
Closer investigation of all standing mud brick walls and study of related finds (particularly cartridge cases) indicate a final phase of occupation of the disused sugar factory when the structures were associated with hostilities related to the Arab Revolt in the early 20th century (Politis 2013: 200).



1. Ghaw as-Safi Sites map.



2. Umm Tawabin map.



3. Pressing chambers with newly discovered sugarcane juice conduits
Fig.4 below floors flowing northwards across a small bridge
(overhead photo and plan by Q. Desuqi.



4. Reconstruction illustration by Y. Dray based on photo by K. D. Politis 2015).

Khirbat Ash-Shayk 'Isa (KSI)

Khirbat ash-Shayk 'Isa (KSI) area excavations resumed in Trenches II and VIII (Politis 2013: 196). Three new trenches, IX, X and XI, were opened to the west with the objective of

following the long, 3-metre high, well-built wall (Fig. 7).

Trench II was extended north to complete the excavation, removing all subsequent Ayyubid - Mamluk and Abbasid architecture and



5. Vaulted gearing rooms below pressing chambers with pivot stones being shown to Dr Monther Jamhawi, director general of DoAJ, Professor M. Ibrahim and Professor Z. Kafafi by Derio Comar and Mohamed Zahran (photo by K. D. Politis 2015).



6. Overhead photo and plan by Q. Desuqi).



7. Plan at end of KSI excavations in 2015 (Q. Desuqi).

associated material finds to reveal the Byzantine pavement, (**Fig. 8-9**) with a third column base in an evenly spaced line running north - south. Fine white marble pavers, polycandelon glass lamp fragments and glass tesserae from a wall mosaic also found in this area indicate proximity to a church, possibly related to that found in Trench IX. If so, Trench II could be the atrium, making it one of the largest churches found in Jordan. Consequently, it was decided to maintain this phase for future consolidation and site presentation.

A deep sondage in Trench VIII below the mosaic pavement revealed Late Roman - Early Byzantine pottery sherds on wadi gravels, dating the earliest occupation on the site to the same period as that evidenced in the 2012 sondage in Trench II (Politis 2013: 196). However, the date of the wall was still enigmatic as it slightly overlaid the mosaic. Excavations in Trench IX helped to clarify this as the mosaic clearly ended at the wall. Additional finds, including a chancel post and screen fragments made of fine white marble, were strong evidence for a church in the immediate vicinity. The wall continued into Trenches X and XI. The upper strata of Trenches IX, X and XI mirrored the architectural remains in Trench VIII, viz. small, rough, stone-built rooms with finds dating to the Fatimid and Ayyubid - Mamluk periods (ca

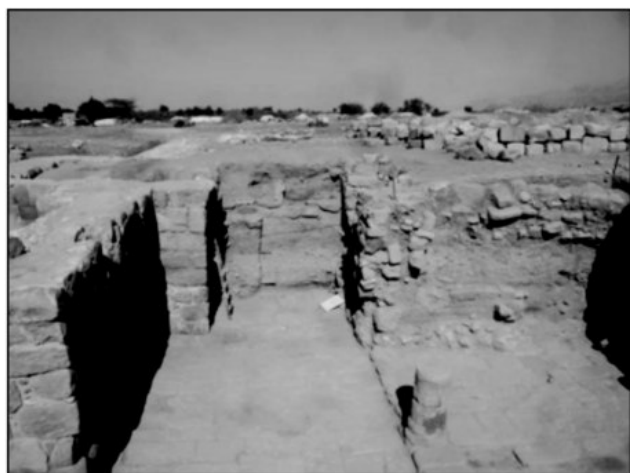
12th - 15th centuries) and, in the lower phase, larger mud brick rooms that were apparently peacefully abandoned in the Abbasid period (9th - 10th centuries), evidenced by complete pottery sitting in thick sandy-silt soil layers.

Trench IX was completely excavated down to the mosaic floor of the church of Byzantine Zoara. The doorway was discovered as well as two marble chancel posts and many fragments of a Prokonesian marble column. Trenches X and XI were also excavated to a lower level but time and space constraints did not allow completion (**Fig. 10**). However, these two trenches revealed substantial evidence for a pottery kiln, presumably primarily for the production of sugar pots. Evidently it is located immediately to the north of these trenches.

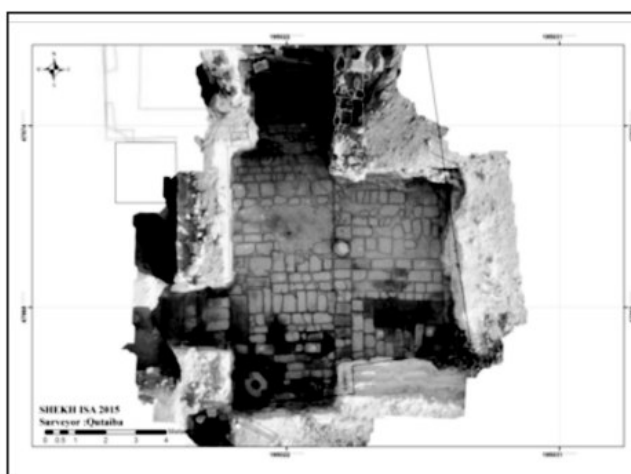
Preliminary Conclusions

Preliminary general conclusions for the main occupational phases of KSI are as follows. The area of KSI currently enclosed by a fence where we have conducted excavations since 2002 was probably the original location of the main, conceivably episcopal, church of Byzantine Zoara, as seen on the Madaba map (**Fig. 11**) and other illustrations (**Fig. 12-13**).

The later phases of occupation are an Abbasid-period settlement in the disused (but not destroyed) church building that was abandoned



8. KSI Trench II from south with pavement and equidistantly lined-up columns (photo by K. D. Politis 2015).



9. Overhead photo and plan (Q. Desuqi).



10. KSI Trench IX from south showing an entrance with mosaic flooring, marble chancel posts and columns. (photo by K. D. Politis 2015).



11. Zoara depicted on late 6th century mosaic map at Madaba (photo by K. D. Politis).

around the 10th or 11th centuries. A substantial occupation followed which was closely associated with the nearby sugar factory and related industries (pottery- and glass-making; ironmongery) during the 12th - 15th centuries. Along with workshops and the probable sale of sugar products, KSI also seemed to serve as the location of a workers' village since numerous tabuns (small traditional bread ovens) and domestic items were discovered inside some of the small rooms. It is planned that one of the KSI excavation areas be left at this level in order to illustrate life at the mediaeval town of Zughar, which was primarily engaged in the industrial production of sugar.

Ameri (A)

Ameri is an area covering approximately 100 x 200 metres, located on the southern bank of Wadi al-Hasa about one kilometre from the modern location of Safi town. It is a low mound covered on its eastern side by a modern cemetery (al-maqbara) where an abundance of pottery sherds, glass and metal fragments are visible on the surface amongst the graves.

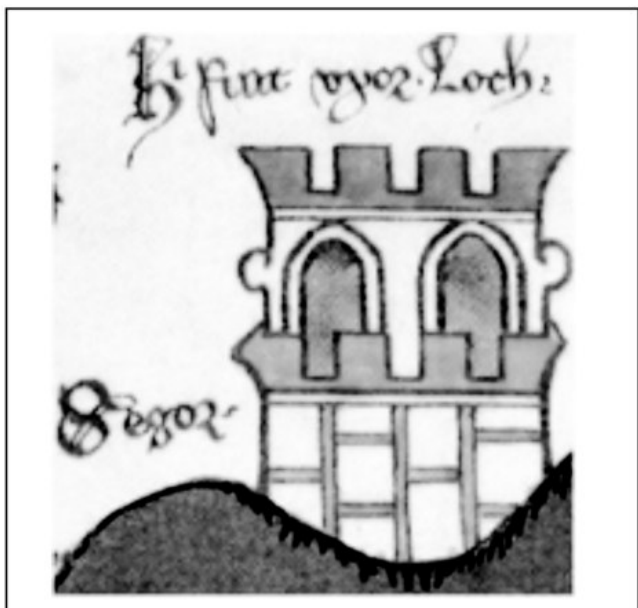
During early January 2015, we excavated a 3 x 3 metre sondage where a north - south wall intersected and bonded with an east - west wall, both walls being the only visible architecture on the site. This sondage was designated Trench I.



12. Segor - Zughar city in ca 12th century illuminated Bible (St Catherine's monastery library, Sinai) 1458 map by Wm.

It was excavated to the foundation of a rubble stone-made wall standing 13 courses at a depth of 3.3 metres (**Fig. 14**).

This was the first authorised excavation at Ameri (previous illicit activities were evident) and has helped define the history of Ghawr as-Safi during the Middle Islamic period (14th - 15th centuries) after the main earlier Islamic settlement of Khirbat ash-Shayk 'Isa (9th - 14th centuries AD). Its location just south-west of the narrowest ford over Wadi al-Hasa is ideally placed for crossing the wadi in a north-easterly direction.



13. Wey (Bodleian, library, Oxford).

Tulaylat Qasr Musa Hamid (TQMH)

The site of Tulaylat Qasr Musa Hamid (TQMH) is an extensive low-lying mound (Fig. 15) covered by modern agricultural fields near the south-eastern shore of the Dead Sea. Its limits have not been clearly defined, but it seems to extend (Fig. 16) over at least 500 square metres. It has been associated with Zoar of the Old Testament (one of the five 'Cities of the Plain').

Excavations were conducted there for first time since 2000 (Politis et al. 2001: 189-193) by opening another 5 x 5 metre trench, but this time on the high central part of the site. The objective was to get maximum stratigraphy of occupational phases. Below 3.2 metres depth, (Fig. 17) two phases of mud brick occupation were discovered. These were dated on the basis of the large number of querns and pestles on the surface, it seems that TQMH was a substantial Iron Age agricultural settlement, with the possibility of industrial activity. From the excavation of remnants of mud brick walls, (Fig. 18) cooking installations, pottery sherds and animal bones, all of which showed extensive burning, we can conclude that there was a violent destruction of the site in the 7th or 6th century BC.



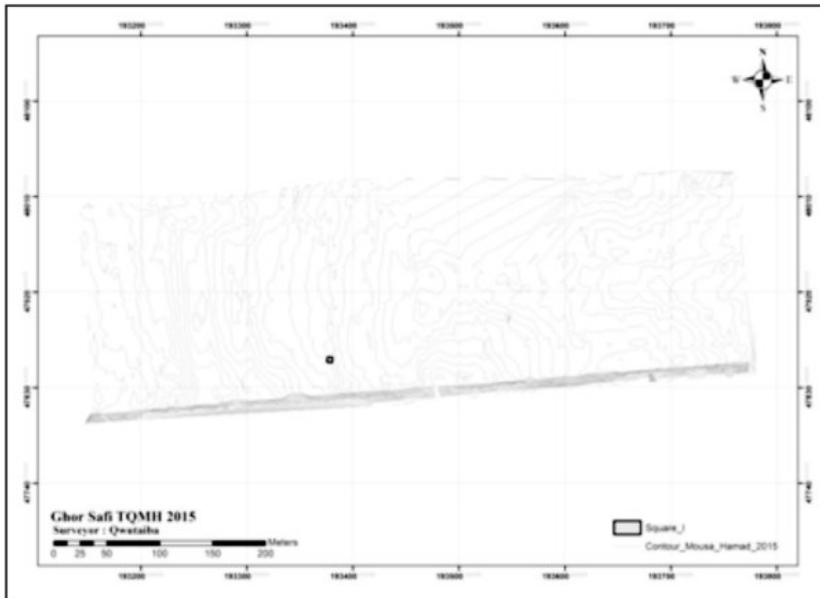
14. Trench I from east at final depth of 3.3 metres (photo by K. D. Politis 2015).



15. TQMH Trench I location from south (photo by K. D. Politis 2015).

Conservation and Museum Management

Restoration and conservation of objects found during excavations in Ghawr as-Safi was a high priority during the 2015 season as it greatly aided in their documentation, study and public display in the Museum at the Lowest Place on Earth. The emphasis was to employ and train locals in this task with the guidance of foreign



16. on contour map (by Q. Desuqi).



17. TQM Trench I (photo by J. A. Verduci 4 Feb 2015).



18. Pottery cup with pedestal and applied decoration. Iron Age IIC period, 7th - 6th centuries BC (photo by J. A. Verduci).

experts. Good museum management practice was also taught.

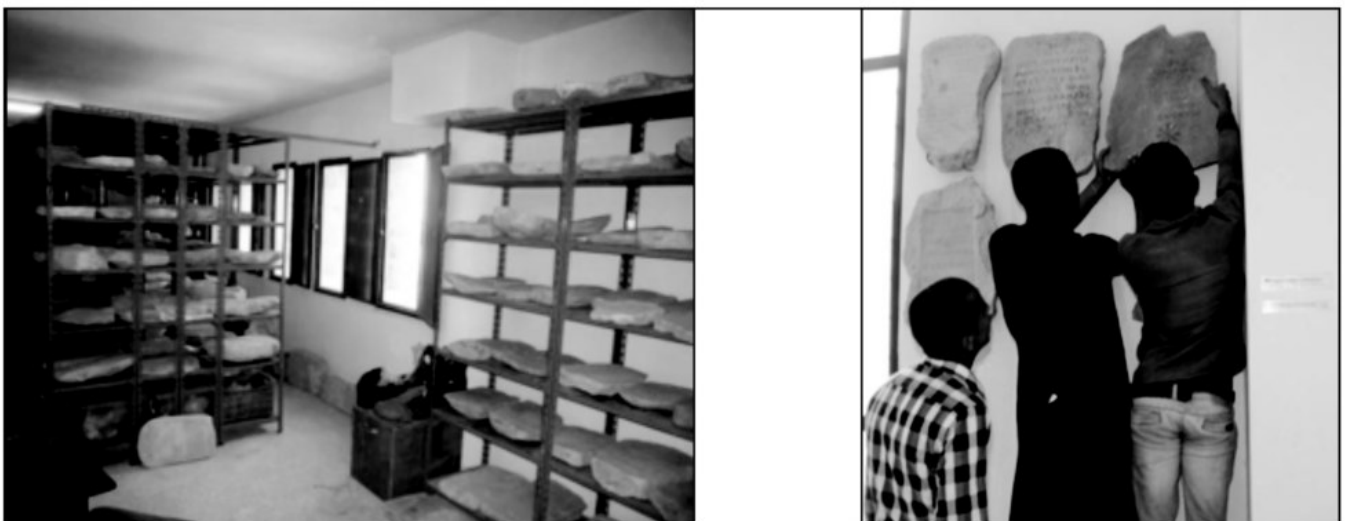
The three storage rooms and some adjunct areas in the Museum at the Lowest Place on Earth were reorganised and new inventories were made. Some important inscribed stones were chosen to be placed on exhibition.



19-20. Several pots were reconstructed and some placed on exhibition. Documenting thousands of other fragments (mostly sugar pots) was also undertaken.



21-22. Newly conserved pots being placed on exhibition at the Museum at the Lowest Place on Earth (photos by K. D. Politis).



23-24. Storage and exhibition of inscribed stones in the Museum at the Lowest Place on Earth (photos by K. D. Politis).

Konstantinos D. Politis,
Hellenic Society for Near Eastern Studies
Haronda 12
Chalkis
34133
Greece
Email: kdpolitis@hsnes.org

Bibliography

Politis, K. D.
2013 Ghawr as-Safi Excavations 2011-2012.
*Annual of the Department of Antiquities
of Jordan* 57: 195-200.
Politis, K. D. *et al.*
2001 Rescue Excavations at An-Naq' and Tulaylat Qasr
Musa al-Hamid 2000. *Annual of the Department
of Antiquities of Jordan* 45: 189-193.