

# EXCAVATIONS AT THE EPIPALAEOLITHIC SITE OF AL-KHARRĀNAH IV, SEASON 2018

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## **Abstract**

From 9 June to 12 July 2018, the Epipalaeolithic Foragers of al-Azraq Project (EFAP [University of California, Berkeley and University of Tulsa]) conducted excavations at the Epipalaeolithic site of al-Kharrānah IV. The 2018 excavation at al-Kharrānah IV is the seventh field season at the site, focused on exploring the nature of prehistoric (Late Pleistocene) occupation of al-Kharrānah IV. During this season we completed excavation of an Early Epipalaeolithic hut structure (Structure 2) discovered in the 2010 season. The goal of the 2018 excavation season was to fully excavate Structure 2 in order to understand the distribution of artifacts within the structure and the relationship between the structure and the surrounding deposits. This year's excavations have prepared us for targeting specific new areas for work, namely continuing to excavate several hut features during future field seasons.

## **Introduction**

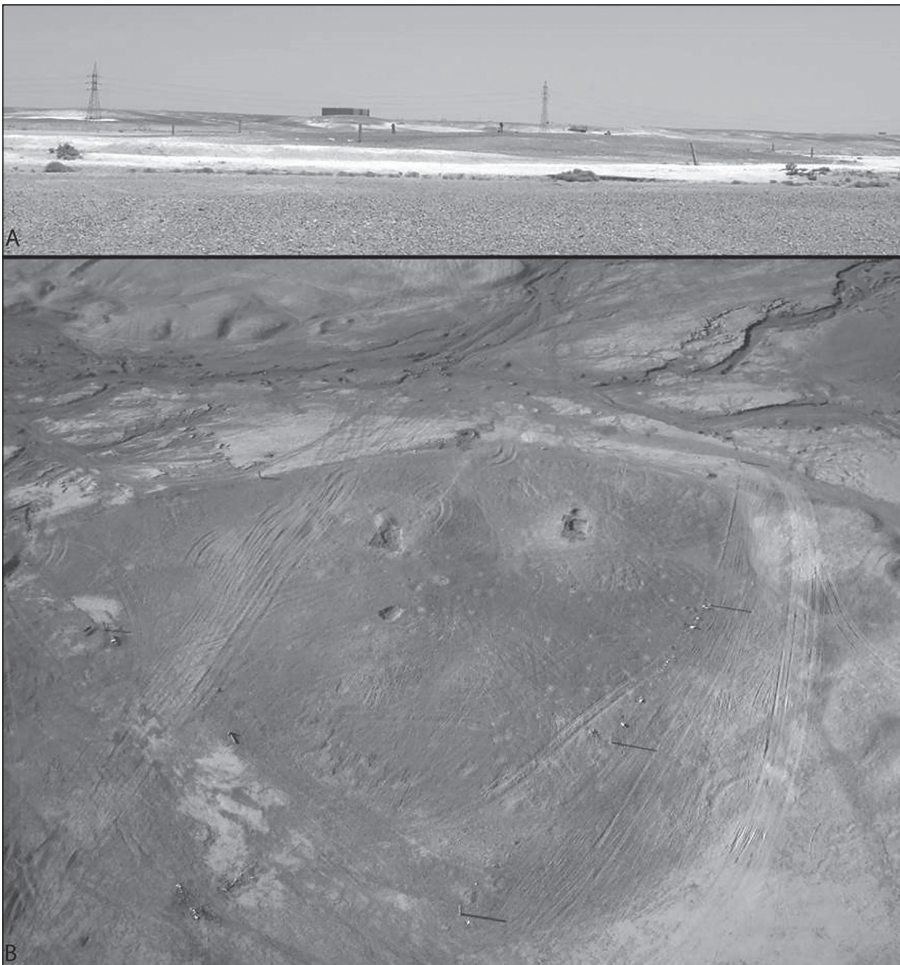
The transition from hunting and gathering to the origins of agriculture is one of the pivotal changes in human prehistory. To address long-term changes and explore the nature of hunter-gatherer behaviour at the cusp of agriculture, this paper discusses recent excavations at the Early Epipalaeolithic site of al-Kharrānah IV, located in the al-Azraq basin, Jordan. al-Kharrānah IV was occupied between 19,800 and 18,600 years ago and, in this 1,200-year span, multi-season, prolonged and repeated habitation of the site created one of the largest Palaeolithic sites in the region. The site contains some of the region's earliest evidence for architectural structures (in the form of brush huts), artifact

caching and symbolic artifacts. The wealth of archaeological material and immense size of the site suggests that al-Kharrānah IV was a hunter-gatherer aggregation locale. The presence of structures at the site suggests emerging trends towards sedentism, while the rich artifact record within the structures hints at ritual behaviours associated with the built environment prior to the origins of agriculture.

The 2018 excavation at al-Kharrānah IV was the seventh season of excavation at al-Kharrānah IV, exploring the nature of the prehistoric (Late Pleistocene) occupation of the site. al-Kharrānah IV is situated approximately 1 km southwest of Qaşr al-Kharrānah at an elevation of *ca* 640 m asl (**Fig. 1**). The site was originally surveyed in the 1970s by Garrard and Stanley Price (Garrard and Stanley Price 1977), and small test excavations were conducted in 1981 and 1983 by Mujahed Muheisen (Muheisen 1988a, b). Renewed work began at the site in 2008 as part of the Epipalaeolithic Foragers in al-Azraq Project (EFAP). As a result of the extremely large size of the site and the unique nature of its material record, our renewed excavations at al-Kharrānah IV are providing critical data on an under-researched period of Jordanian prehistory and highlight the significance of the site for our current understandings of the transition from forager to farmer in the southern Levant (*e.g.* Jones *et al.* 2016; Macdonald *et al.* 2018; Maher *et al.* 2016; Maher *et al.* 2012; Ramsey *et al.* 2018; Ramsey *et al.* 2016; Spyrou *et al.* 2019).

## **al-Kharrānah IV Background**

al-Kharrānah IV is extremely important as it is one of the largest and archaeologically



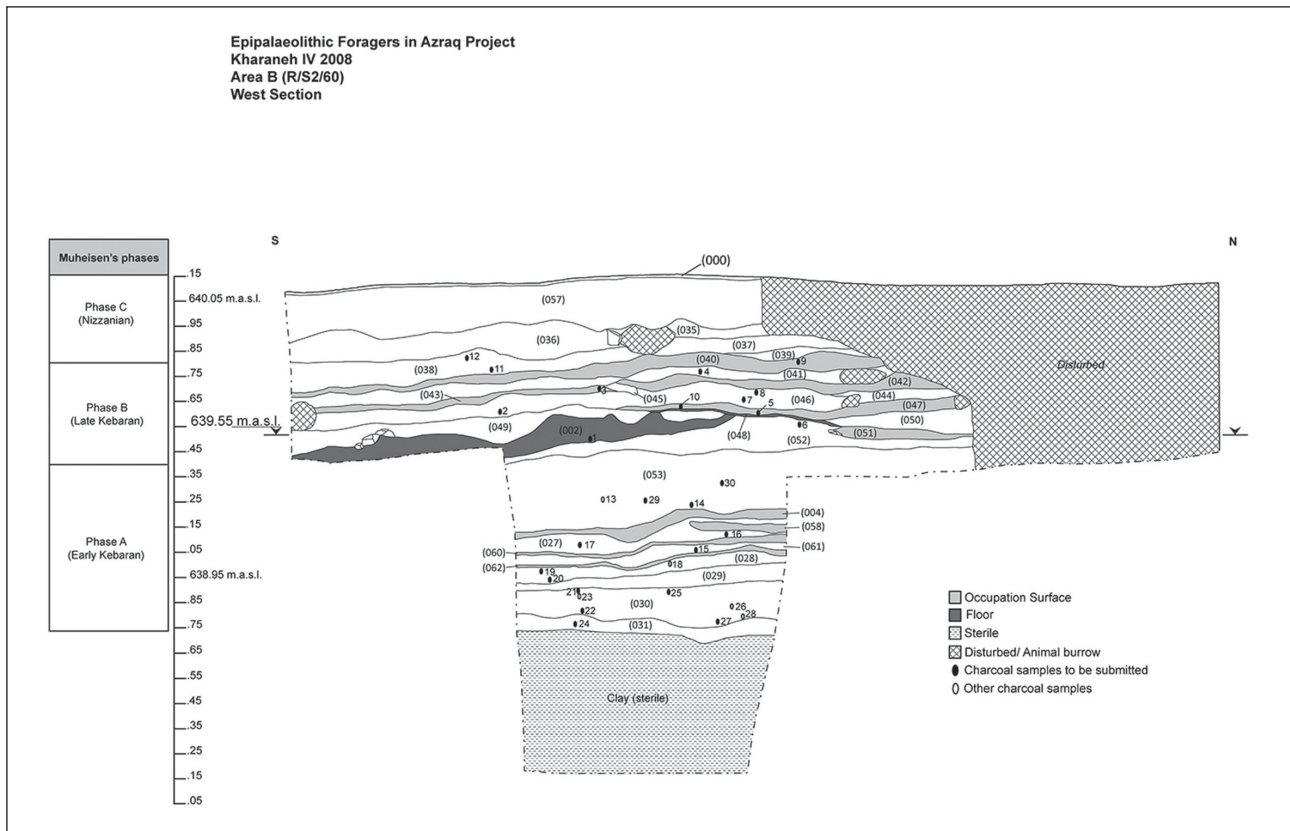
1. Aerial view of the Epipalaeolithic site of al-Kharrānah IV. Top image shows a view of the site from the south, with *Qasr al-Kharrānah* in the background.

densest Epipalaeolithic sites in Jordan, spanning the Early to Middle Epipalaeolithic periods. The site exhibits a complex suite of archaeological remains, including architecture and human burials. Sites containing such a wide array of features are extremely rare from this period in Jordan. In addition, the location of such a large occupation site near al-Azraq, a well-watered wetland environment during the late Pleistocene, suggests that al-Kharrānah IV has the potential to provide us with key data on palaeoclimate, prehistoric technology, mortuary practices, sedentism, architecture and plant use prior to the Neolithic period.

Excavations at al-Kharrānah IV in 2008-2010, 2013 and 2015-2016 were the first stages of work by EFAP to reconstruct the nature of the Late Pleistocene occupation at al-Kharrānah IV. The goals of the previous field seasons included: (1) re-locate and re-open Muheisen's two old excavation trenches in order to correlate his previous work at the site with our new excavations; (2) expand horizontally from these

two areas to expose the site's horizontal stratigraphy, as well as any archaeological features, such as hearths, living floors, burials and architecture; (3) excavate a deep probe in one of the trenches down to sterile deposits in order to fully document the site's vertical stratigraphy; (4) conduct a brief landscape survey of the immediate area to document landscape change and possible ancient lake or spring deposits. During the 2008-2016 field seasons we were able to document the complete vertical stratigraphy, and now better understand the excellent preservation conditions at the site, particularly regarding the charcoal samples which have provided an excellent sequence of dates for occupation at al-Kharrānah IV (**Fig. 2**).

During the 2010 excavation season we uncovered two hut structures, Structure 1 and Structure 2, in the Early Epipalaeolithic area (Area B), and in 2013 identified a potential third structure (**Fig. 3**) (Maher *et al.* 2012). These features are exceptionally rare for the Early Epipalaeolithic period and represent some of



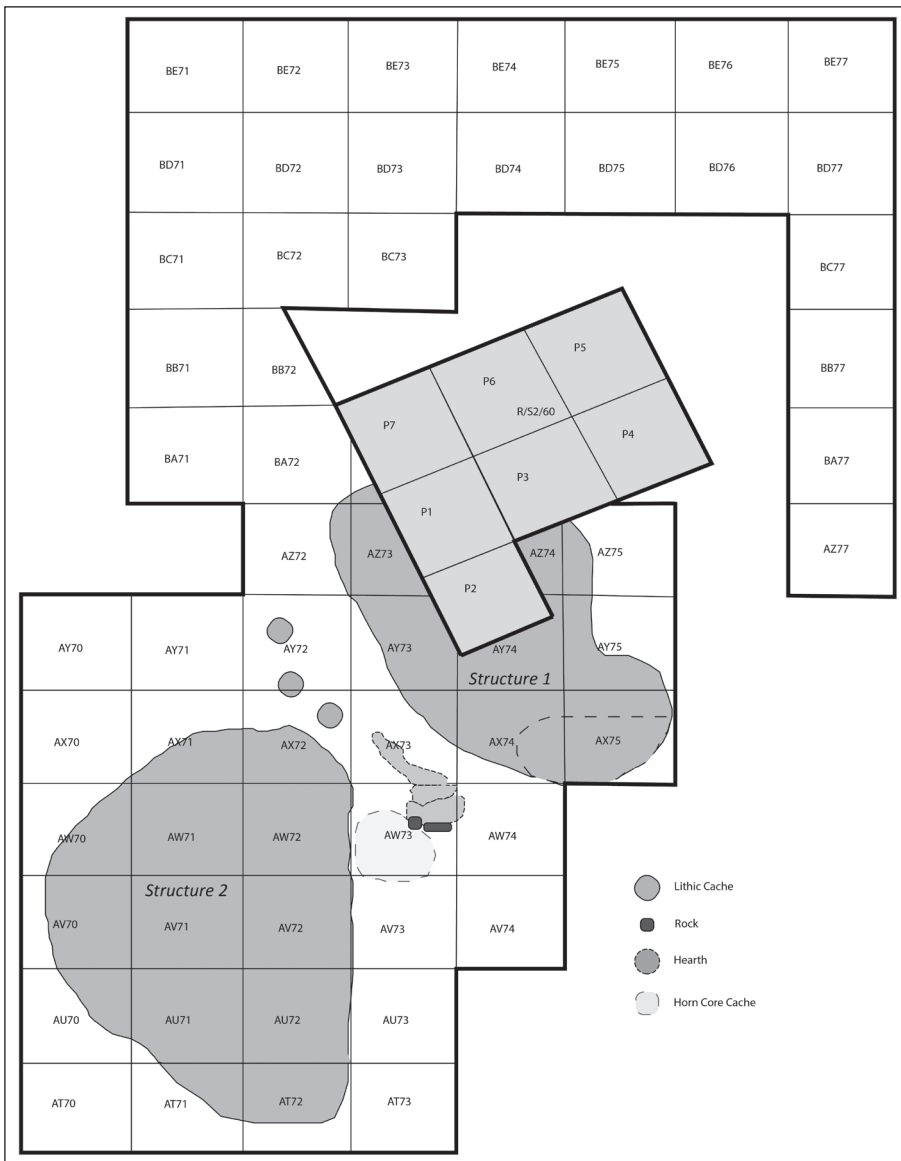
2. Stratigraphic section of Early Epipalaeolithic deposits (Area B). Section of hut Structure 1 can be seen, as indicated by the black layer.

the only known habitation structures from the Early Epipalaeolithic in the Levant (Maher *et al.* 2012). Structure 1 is semi-subterranean, kidney-shaped and approximately 2.5m by 3.5m in size. The structure is composed of several different strata. The lowest deposits are represented by three superimposed compact surfaces, interpreted as three stratified floor deposits. This suggests that although the structure was small, the floor surface was refreshed and the hut reused on several occasions. The deposit above these floors is a thicker fill deposit. The final hut deposit is characterized by an organic-rich burnt sediment, interpreted to be the burnt superstructure. Once the occupants of the structure decided to abandon it, they burnt the hut, thus terminating the cycle of reuse. After the hut was burnt, a deposit of sterile orange sand was placed over the burnt deposits, closing the structure's life history. The preservation of hut structures, flintknapping areas, food-preparation areas and living surfaces at al-Kharrānah IV is unique, and contributes crucial data for reconstructing people's on-site activities during the Epipalaeolithic.

During the 2015 season we returned to al-Kharrānah IV to expose and map the boundaries of Structure 2, originally identified in 2010. More than half of the structure was still covered by unexcavated squares when it was first discovered in 2010. During the 2015 and 2016 field seasons, we exposed and mapped the surface of the structure. The upper deposits of Structure 2 are similar to Structure 1, with a burnt layer interpreted to represent a burnt superstructure capping the deposits.

In 2016 we discovered a human burial lying on the structure's floor, just underneath the burnt superstructure (Fig. 4). The burial was situated directly underneath the burnt layer of the superstructure, suggesting that it was placed within the structure just prior to burning.

The burial was found in a semi-flexed position, with the head turned to one side and one hand resting on the face. This position suggests care in how the body was placed, arranging it in a specific manner. There are several artifacts surrounding the body, including lithics and faunal remains, but the lack of a clear burial pit makes it challenging to identify whether these



3. Plan map of Area B; Structures 1 and 2 are highlighted in light grey.

objects were interred intentionally with the burial or were objects that were already located in the hut.

The interred individual is an elderly woman, approximately 55 years old. She suffered from osteoarthritis, as evidenced by her vertebra, and had suffered a fall which resulted in a fractured wrist that had healed before she passed away. Her skeleton shows evidence of heating and burning, consistent with patterns seen when a body is encased in a protective layer while burning. It is likely that she was wrapped in a hide blanket or even covered by a thin layer of sediment before the hut structure was burnt on top of her, protecting the bones from the heat.

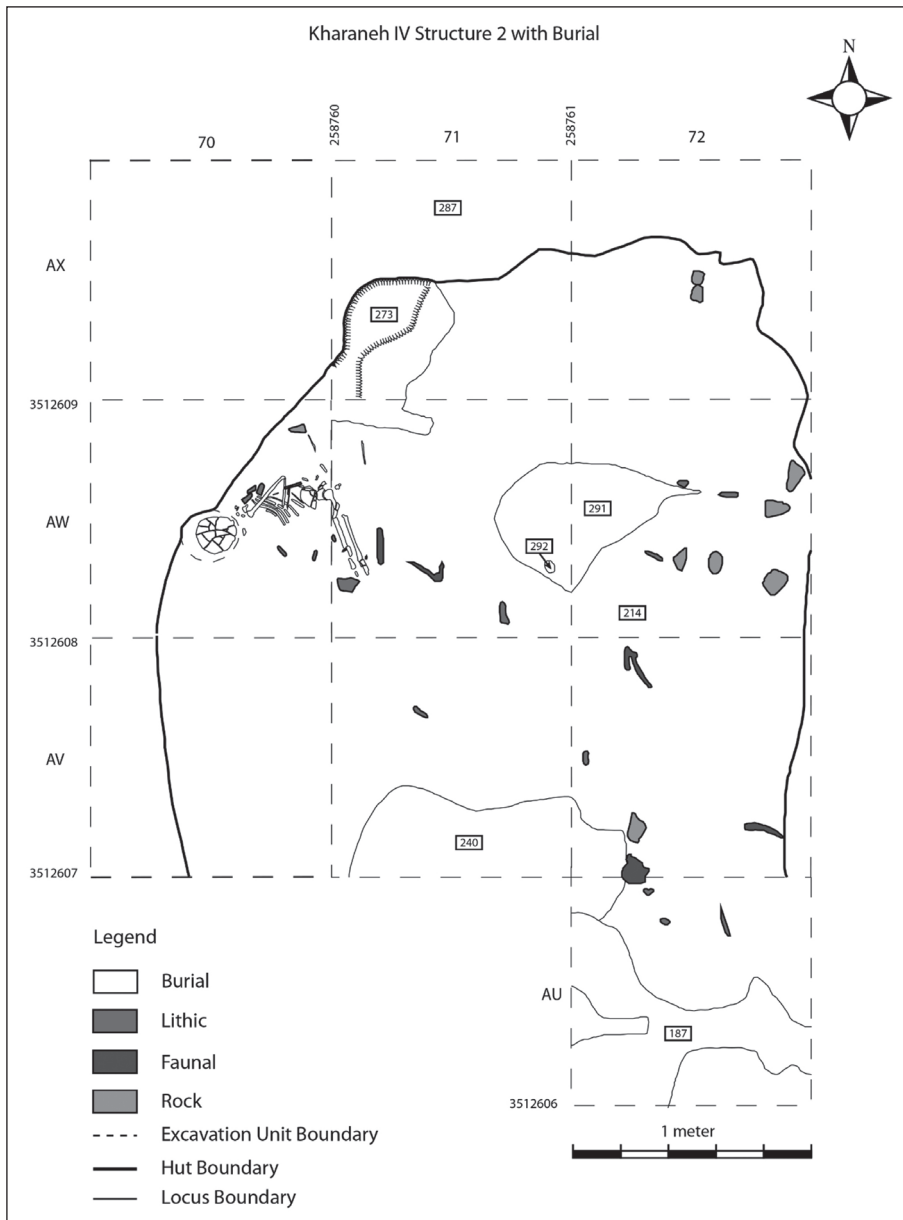
In 2018 we returned to excavate the remaining deposits from Structure 2 to identify the living floor(s) and explore the relationship

between the structure, the burial and the surrounding deposits.

### Excavations 2018

For the 2018 season, excavations focused on exposing, mapping and excavating Structure 2, initially uncovered in 2010. We re-opened a section of the Early Epipalaeolithic area (Area B, called R/S2/60 by Muheisen) that had been excavated in 2010 to expose Structure 2. We re-opened twelve 1×1m units previously excavated during the 2010, 2015 and 2016 excavation seasons (AU70, AV70, AW70, AX70, AU71, AV71, AW71, AX71, AU72, AV72, AW72 and AX72) (Fig. 5).

We began the 2018 field season by removing the backfill from areas where Structure 2 was initially exposed. In 2016, the last excavation

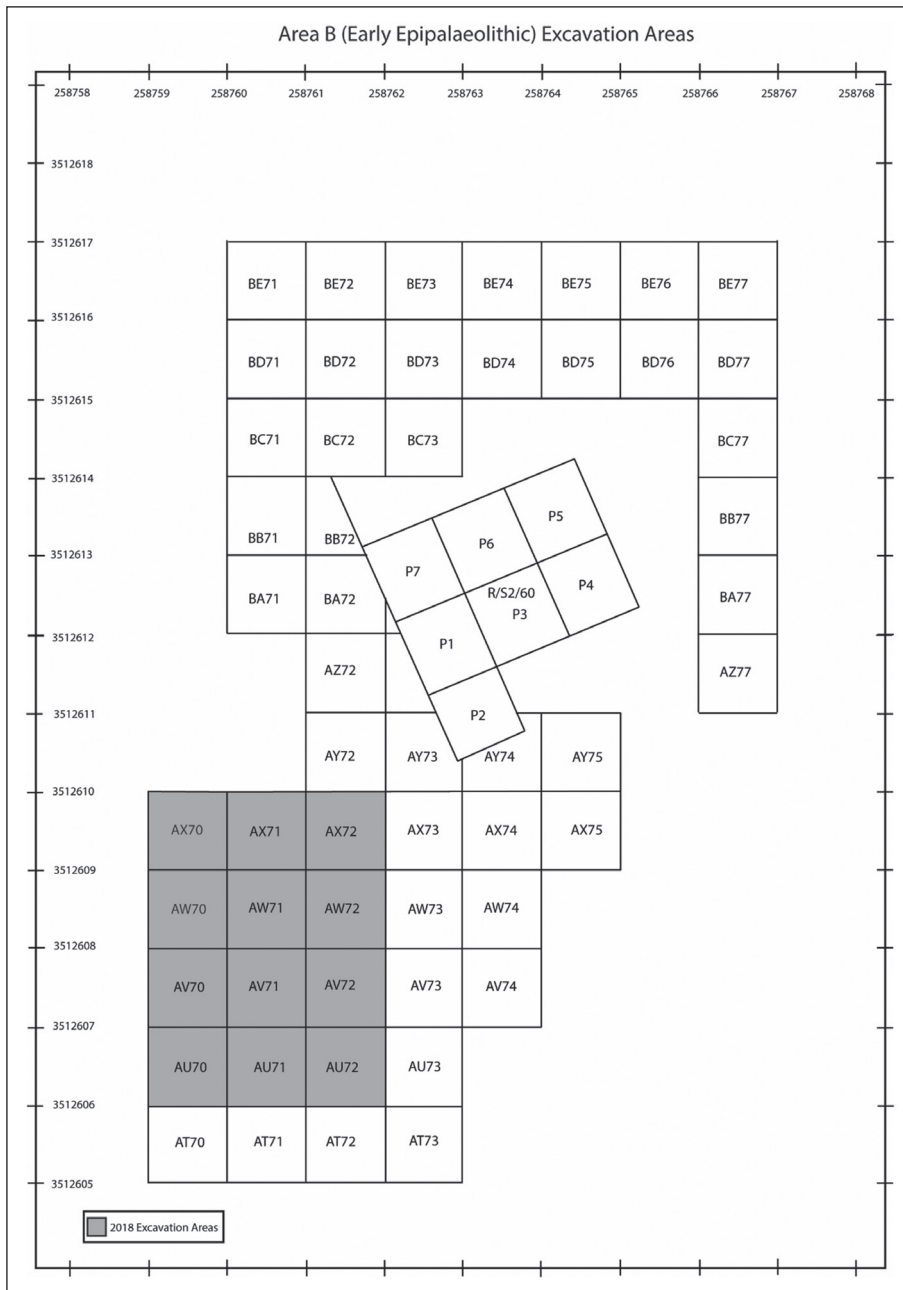


4. Plan map of exposed surface of Structure 2 (2016 field season).

season at the site, the surface of the structure was exposed. When we returned in 2018, the entire upper surface of the structure (locus 214) was exposed and subsequently excavated. This deposit is dark brown sediment with a very high density of charcoal fragments. Underneath is a medium brownish red sediment with burnt artifacts and charcoal (locus 324). These deposits are like the deposits found in the upper levels of Structure 1 (excavated in 2013) and are similarly interpreted as the burnt remains of the structure's superstructure. Phytolith analysis from Structure 1 suggests that the superstructure was composed of phragmites leaves and tamarisk branches, resulting in a roof constructed from locally available plant life (Ramsey *et al.* 2018).

Analysis of the burnt upper deposits from Structure 2 will determine whether this structure was also constructed from similar local flora.

Underneath the two burnt-superstructure deposits is a highly mottled and undulating deposit (locus 326). This deposit is very heavily disturbed by rodent burrows in the eastern half of the structure, causing various compact levels and textures throughout the locus. It contains a high density of lithics and bone, randomly orientated within the sediment. Owing to the undulating surface and random orientation of the artifacts, we interpret this locus to be a fill deposit within the structure. Sitting on top of the mottled and undulating deposit, between AX71 and AX72, is a small, burnt combustion feature (locus 328).

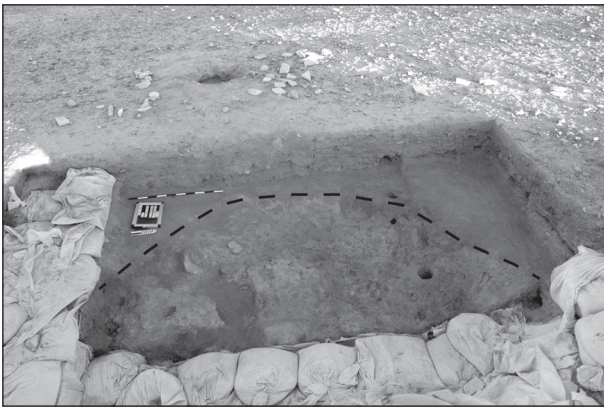


5. Plan map of excavation areas in Area B. Shaded areas represent excavation squares excavated in 2018.

Underneath is a compact, clay-rich sediment with large flat-lying objects (locus 332) (**Fig. 6**). This deposit contains large bones and lithics on the surface, while the subsurface deposits had a very low artifact density in comparison to other deposits on site. The compact, clay-rich nature of the deposits, as well as the low density of flat-lying artifacts, suggests that this is the floor of the structure. Sitting on this surface in AW72 was a burnt hearth feature with two episodes of use (*loci* 333, 334, 335 and 336). This suggests that there was a maintained combustion feature within the structure during its use. Beneath the compact, clay-rich surface (locus 332), we

discovered a second surface (locus 337). This surface was identified on the basis of several very large, flat-lying bones - including aurochs bones - which were not present in the deposit above (**Fig. 7**).

Abutting Structure 2 is a highly mottled, loose sediment (locus 316). This surface is likely contemporaneous with the use the structure, representing the deposit outside of the hut. The eastern outside surface of Structure 2 contained more than a dozen gazelle horn cores, many of them *in situ*. Beneath the outside surface is an artifact-rich sediment (locus 340) that abuts the deposits underneath the structure. The deposit



6. Floor surface of the western half of Structure 2 (locus 332). The boundary of the structure is outlined in black.



7. Large cranium (aurochs?) on the surface of locus 337.

underneath Structure 2 (locus 346) is looser than the clay-rich floor and contains a higher density of artifacts.

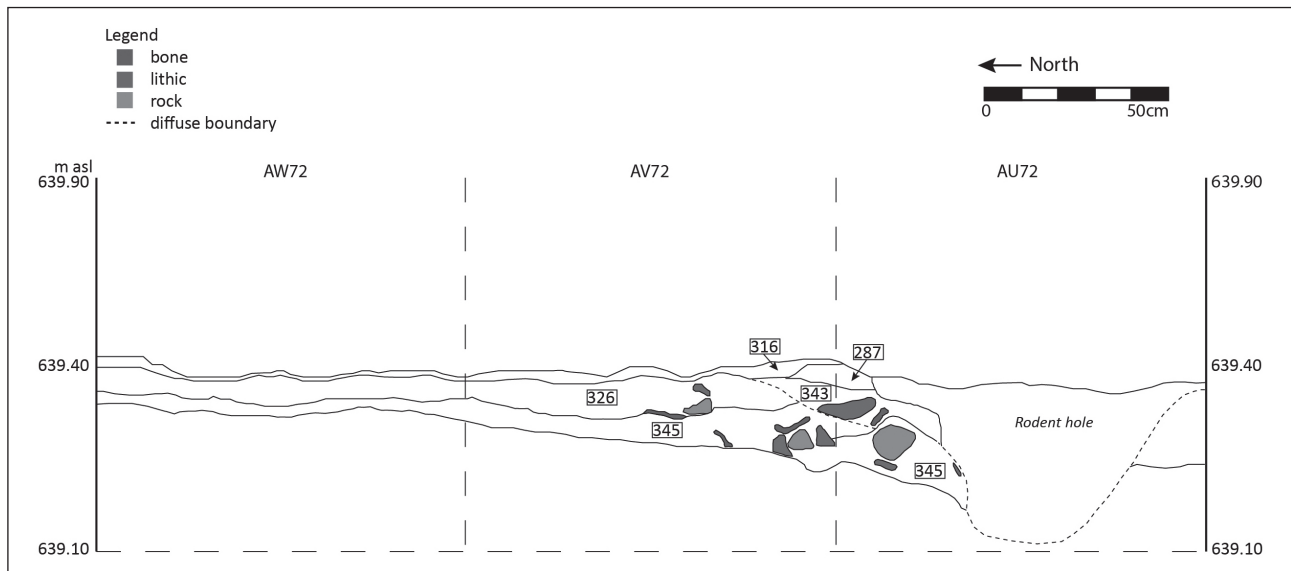
Overall, excavations in Area B revealed an *in-situ* series of deposits that relate to the Early Epipalaeolithic occupation of al-Kharrānah IV. The stratigraphy of Structure 2 includes a burnt superstructure (*loci* 214 and 324), a fill deposit (locus 326) and two compact clay-rich floors (*loci* 332 and 337), with an underlying deposit containing large mammal bones (locus 337) (**Fig. 8**). The area around Structure 2 (locus 316) is extremely rich in Early Epipalaeolithic material and will continue to be a focus of our future research.

## Discussion

The unique site of al-Kharrānah IV raises numerous interesting questions for future research, particularly regarding the intensity of

occupation at large sites like al-Kharrānah IV prior to the Natufian period. This research helps us to understand how the changing landscape during the Late Pleistocene affected land-use and settlement patterns during the Epipalaeolithic period (*ca* 20,000-16,000BP). We are interested in investigating why prehistoric people selected this particular location for settlement and why they repeatedly occupied the site throughout the Early and Middle Epipalaeolithic periods.

The excavations conducted during the 2018 field season will help answer important questions relating to the earliest evidence of hut features in Jordan and ritualized actions situated in dwellings. Through the analysis of the archaeological materials in Structure 1 and Structure 2, we can gain insight into how Early Epipalaeolithic people structured their indoor and outdoor spaces, giving us a glimpse of how they organized and



8. Structure 2 east section showing the hut deposits and associated macroartifacts discussed in the text.

negotiated daily life. Comparing the artifacts of the two structures will help reconstruct the differences and similarities between different ‘households’ during this period. Understanding how people used their built environment will give us a better understanding of the lifeways of people during the Late Pleistocene.

The Epipalaeolithic site of al-Kharrānah IV represents the largest Epipalaeolithic occupation in Jordan. The unique nature of the deposits, including the presence of several hut structures and an associated burial, highlights the importance of this site for understanding the nature of human behaviour prior to the origins of agriculture. Continued research into the nature of the hut structures at al-Kharrānah IV will illuminate how people organized their domestic space and the range of activities performed at this site. We hope to return in future field seasons to continue our work at this important site to gain a better understanding of why people aggregated at this place in the landscape.

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