

EASTERN BADIA ARCHAEOLOGICAL PROJECT (EBAP): 2019 AT WISAD POOLS

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The Eastern Badia Archaeological Project (EBAP) study area comprises a west–east transect across the southern part of the Jordanian “panhandle” that includes a variety of ecological zones. This area provides the opportunity to assess the evidence for links with the “Levantine corridor,” northern Arabia, and Mesopotamia. Two primary locations, Wadi al-Qattafi and Wisad Pools, are the primary foci of our field surveys and excavations. The project began exploratory investigations at Wisad Pools in 2008 and 2009, when our small team (3–4 people) focused on surveying the area and recording the locations of chipped-stone concentrations, structural features, and petroglyphs.

In those early seasons at Wisad Pools, we concentrated on documenting the core of the site. Broadly, the general region with structures measures about 4 km north–south, and 3.5 km east–west (Rollefson, Wasse and Rowan 2011; 2014). Within the core of this area (ca. 1.5 × 1.0 km) that concentrates around the pools, we documented more than 500 structures with handwritten notes, GPS points, and photographs.

Our first excavations at Wisad began in 2011. Initially we assumed that we were investigating a necropolis, and that our first selected building was a collapsed small tower tomb. We soon realized that what we were excavating a corbeled building with a central standing stone, dated to the Late Neolithic period. The interior of the original house, W66, had a floor with gypsum plaster, and an alcove on the NW edge that was raised above the house floor with evidence of four individual plastering episodes. Later we received a 14C date of 6,530 +/- 70 calBC from charcoal taken from these plastered layers. The central standing stone presumably supported a low roof, and there was also a standing stone along the eastern wall that may have represented an anthropomorphic figure (Rollefson, Rowan and Perry 2011; Rollefson et al. 2012). Arrowheads and a Yarmoukian potsherd also supported a date to the earlier phases of the Late Neolithic.

We subsequently began excavations at W80 in 2013, with seasons in 2014, 2015, and 2018 (see OI Annual Reports—2018–19, 2014–15). Those excavations revealed a much larger structure than W66. W80 was a large mound of basalt blocks approximately 12 m in external diameter, standing about 2 m above ground level. Clearance revealed the remains of an Early Iron Age (or possibly Late Bronze Age) tomb on top of the Late Neolithic structure (Rowan et al. 2015b). Below this, the Late Neolithic has multiple occupations and rebuilding episodes. In the latest phases, large grinding slabs with cup marks were prevalent in the northern half of the building. The earlier Late Neolithic phase within W-80 deposits proved different from the later Late Neolithic deposits excavated in 2013 and 2014. Instead of the large grinding slabs and deep firepits associated with the latter, the former consisted of multiple short-lived hearths and associated pale ash deposits in the southeastern quadrant of the structure, with darker occupation and activity deposits (associated with heavily worked cores and small grinding stones) elsewhere. All this activity, likely the result of short-term seasonal visits, seems to have badly damaged a gypsum-rich surface laid within W-80 at the start of the earlier Late Neolithic phase. As a result, this surface was only preserved around the perimeter of W-80’s interior and in isolated patches within the main activity areas. The earlier Late Neolithic phase

within W-80 deposits seems different from the later Late Neolithic deposits excavated in 2013 and 2014 (Rowan et al. 2015a). Instead of the large grinding slabs and deep firepits associated with the latter, the former consisted of multiple, short-lived hearths and associated pale ash deposits in the southeastern quadrant of the structure, with darker occupation and activity deposits (associated with heavily worked cores and smaller grinding stones) elsewhere. Arrowheads have been found in the hundreds, with nearly 90 percent transverse forms of arrowheads. Several hundred flint cores indicate that chipped stone tool production was a major activity, with drills and borers prevalent, but also including endscrapers, sidescrapers, cortical scrapers and knives, and denticulates.

THE 2019 SEASON AT WISAD POOLS

Two structures were being excavated during the 2019 season at Wisad Pools: W80 and W400. Our primary goal was to finish excavation of W80 while excavating W400, a structure to the north of W80 that appeared quite different from W80 or W66.

W80

The main objectives of the 2019 excavations at W-80 were: (1) to complete excavation of the final ~10–15 cm of cultural deposit remaining in the northern half of the structure and (2) to determine the stratigraphic relationship of an early paved surface that appeared to run beneath the earliest walls of W-80. In addition, we sought (3) to complete excavation of the curvilinear so-called porch, the latest phase of which was exposed during the 2013 season, but which had not been investigated further since then.

In the northern half of the structure, the basic stratigraphic sequence established in 2018 seemed valid, viz. a later Late Neolithic “narrow entrance” phase associated with areas of paving and large grinding slabs with central mortars and an earlier Late Neolithic “wide entrance” phase associated with the remnants of a gypsum-rich surface (fig. 1). Several features, such as a paved bench [080]



and the northwestern counterpart of bench [020] at the south-eastern end of the interior, which was excavated in 2013, were associated with the later “narrow entrance” phase of the building. The bench [080] yielded evidence for the intentional deposition of unusual ob-

Figure 1. W-80 at the close of the 2019 season (view to southwest). Note earlier Late Neolithic wide entrance at bottom center, plus pavers exposed in southeast quadrant of the structure.

jects within its construction, including cortical knives placed at regular ~40 cm intervals around its external perimeter; an intact, apparently burned stone labret; a substantial polished stone “bracelet” fragment; and a large patch of gypsum (?) plaster that was unassociated with any installation. A similar cortical knife was found immediately under a paving slab situated somewhat above the base of W-80’s central pillar. A number of spherical clay objects (“tokens”?), as well as a few polished stone examples that included quarter spheres among their number as well as whole spheres, (possibly broken gizzard stones) were associated with this phase.

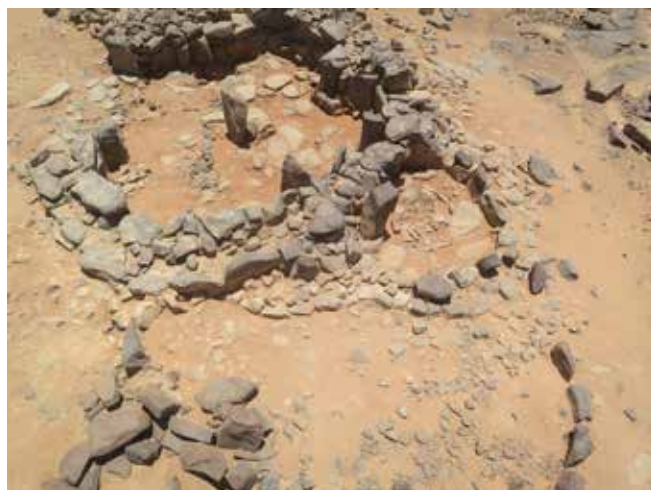


Figure 2. W-80 at close of 2019 season (view to southeast): note west and south walls of W-80 running over “west porch” walls at center right.

As we had observed in earlier excavation seasons, the amount of cultural material associated with the earlier “wide-entrance” phase was much less, though clearly still of Late Neolithic date. This phase was notable for its large number of hearths, located both around the edge and in the central part of the structure. These yielded abundant and seemingly well-preserved charred plant remains; 100% soil samples were taken from these hearths for flotation back in Amman, water being a precious commodity. A key discovery in 2019 was the realization that the northern and eastern walls of W-80, plus a number of hearths in the north-eastern part of the structure, predate the gypsum-rich surface that, hitherto, had been taken as the marker of the early, “wide-entrance” phase. This constitutes clear evidence for sub-phasing within the earlier Late Neolithic sequence. It seems probable that in its earliest iteration, W-80 was open on its south-west side, with that part of the structure being enclosed at the time the early, “wide-entrance” phase gypsum-rich surface was installed.

We debated whether the curvilinear “west porch” area was a later addition for some years. This season demonstrated that rather than a late addition during the “narrow-entrance” phase, we now understand that the southern and western walls of W-80 may run over and thus postdate the “west-porch” walls. Thus, it seems possible that the “west porch” was an integral part of the structure in its earliest architectural phase. The discovery of a grinding slab with central mortar in the “west porch” matching those from the interior of the structure associated with the later “narrow-entrance” phase confirms the continued utilization of the “west porch” area through different phases of use and remodeling of the W80. Below this grinding slab, a shallow (~30 cm) stone-lined pit (~120 cm diameter) [126] appears to be associated with the earliest phase of W-80’s use (fig. 2). Its function remains unknown, although a few flecks of charcoal and some fire-cracked rock were found in its upper part.

Despite our best efforts, the relationship of W-80 with the substantial paved surface [111] running beneath its walls remains uncertain. This surface, which seems to have been restricted to the eastern part of W-80, was laid on an extremely compact, sterile deposit around an exposure of higher bedrock. The pavers themselves, some up to 1 m in length, were covered by 10–15 cm of redeposited natural sediment, reddish in color. Although not sterile, this sediment yielded a sparse yet consistent presence of cultural material, only a few pieces of badly preserved bone, and very occasional chipped stone debitage. The fact that all excavated architectural elements of W-80 were constructed atop



Figure 3. Basalt pavement on ground surface, possibly similar to that exposed at earliest phases of W80.

this redeposited natural sediment implies a stratigraphic discontinuity between the paved surface and the W-80 architecture. A similar paved surface on the ground surface was identified about 150 m northwest of W-80, similarly laid around an exposure of higher bedrock (fig. 3). Significantly, this surface was not associated with any stone architecture. This raises the possibility that W-80 was constructed over an earlier area of paving [111], which either was a focus of open-air activity or was perhaps associated with some sort of temporary organic superstructure. The disarticulated remains of at least one

juvenile sheep were discovered directly beneath one of the pavers, which could conceivably be a type of intentional foundation deposit.

With the 2019 season, large-scale in-field investigation of W-80 is near a satisfactory conclusion. With the refinement that the abundant ^{14}C samples might yield, we anticipate a final short, small-scale season to examine a few points of detail while we complete excavations of W400.

W400

Two teams of equal size worked at Wisad during 2019. W400 was selected in 2018 because it was apparently an undamaged, smaller building that had not been looted; it was attached to an animal pen, a configuration we identified during our research along Wadi al-Qattafi. Our excavations this season support this assumption and provide a distinct contrast to the results of the much larger building, W80.

In 2018, after clearance of collapsed slabs, a section was drawn across the midpoint of the collapse, extending across the building and the enclosure. The circular building below this collapse was designated Structure 1, with the attached animal pen designated as Structure 2 (fig. 4).

A wall running east–west (L.006) extended approximately 2.60 m (fig. 4). In some places the wall is two courses, while in others a larger basalt block was used to attain a similar height. We were uncertain whether there are additional courses preserved below these. The breadth of the wall is also unclear, without distinct definition on the southern face.

During 2019, we excavated this later interior wall (L.006/013). The western end of this wall is built against the interior of the curving wall, and some standing uprights on the western aspect may be related to this exterior wall (L.008). On the opposite eastern end of wall 006, the juncture is unclear. The construction (L.013) is wider than the wall, with a jumble of basalt blocks surrounding a single upright stone. This section was excavated separately, and within the construction of L.013, an upright that clearly predates the wall was found within and set in deeper. This seems to be part of an earlier phase of the building and warrants future investigation.

Removal of wall 006 and the section of the wall L.013 (with the upright stone) make it clear that this wall was a later addition, dividing the interior space of the structure. This includes upright, standing stones that were incorporated into the later-built wall. A great deal of effort was spent on

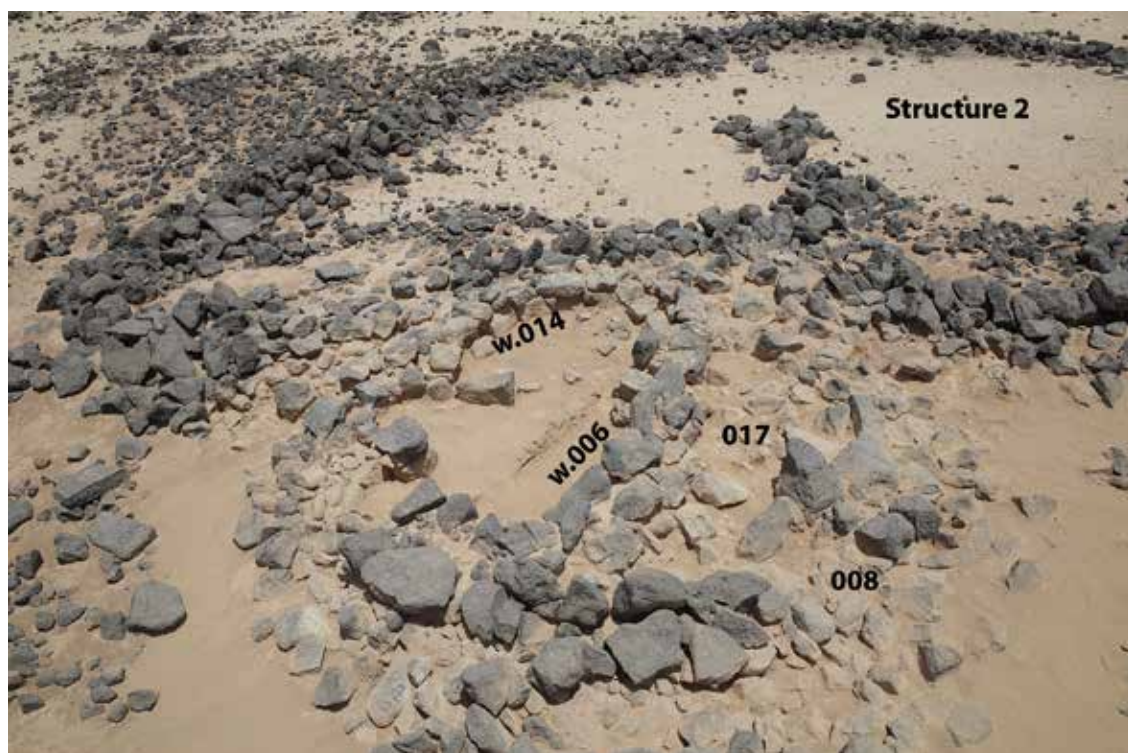


Figure 4. Overhead photo of W400, Structure 1 at the beginning of the 2019 season, looking east. Structure 2 is the attached animal pen.

delineating the exterior of the structure, particularly in relation to the walls of the attached animal pen. On the eastern side, L.016 delineated a second course of stones below the surface of wall L.008, but this did not seem to continue to the east, where wall L.008 meets the wall of the animal pen. This exterior area included burin spalls and small handstones. On the north-northwest side, L.015 also attempted to understand which stones are structural and which were collapsed. Both areas will require additional work to understand Structure 1 and its relationship to the walls of the animal pen.

We wonder whether there were two different entrances. One possible entrance is on the west (L.024), which may have been blocked in a later phase, creating a small alcove. On the east, an opening remains difficult to understand. There are three closely spaced uprights that are set lower than surrounding wall stones, suggesting an earlier phase (fig. 5). Where exactly this entrance was located, and why it would be an entrance into the animal pen, remains to be understood. For the next season, we propose to open a larger area



Figure 5. Final overview of W400 at the end of 2019 season.



LEFT: Figure 6. Arrowheads recovered in excavations of W400 during the 2019 season. RIGHT: Figure 7. Drills from W400 during the 2019 season. Photos: G. Rollefson.

around this juncture in the hopes of delineating the entrance, exposing the juncture between the pen wall and Structure 1.

In 2018, two Late Neolithic Badia points were found at W400, one in L.005, and the other in L.004, along the north side of wall 006. The 2019 season added four additional arrowheads to the corpus from W400, with a complete absence of the transverse arrowheads so commonly recovered at W80 (fig. 6). Taken together with the prominence of burin spalls and drills at W400 (fig. 7), the distinction between these two buildings is striking. Establishing the range of dates for each structure will be key to understanding whether they overlapped during the Late Neolithic.

Concluding Remarks

Research at Wisad Pools dramatically alters our initial assumptions about the area, and life in the Black Desert in general. The situation at Wisad Pools indicates that the development of pastoral-hunting exploitation of the desert/steppe area was far from tentative (Rollefson, Rowan and Wasse 2014). Combined with the Eastern Badia Archaeological Project's investigation of the settlements among the mesas along the Wadi al-Qattafi, a more exciting picture of what the badia was like eight thousand years ago is emerging with greater clarity, as well as the strategies that the new inhabitants were evolving to take advantage of this underutilized resource area during a time of socioeconomic and environmental uncertainty in the farming areas to the west.

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