ENDURING ENIGMAS: LATE PREHISTORIC PASTORALIST RITUAL STRUCTURES IN WĀDĪ RAMM

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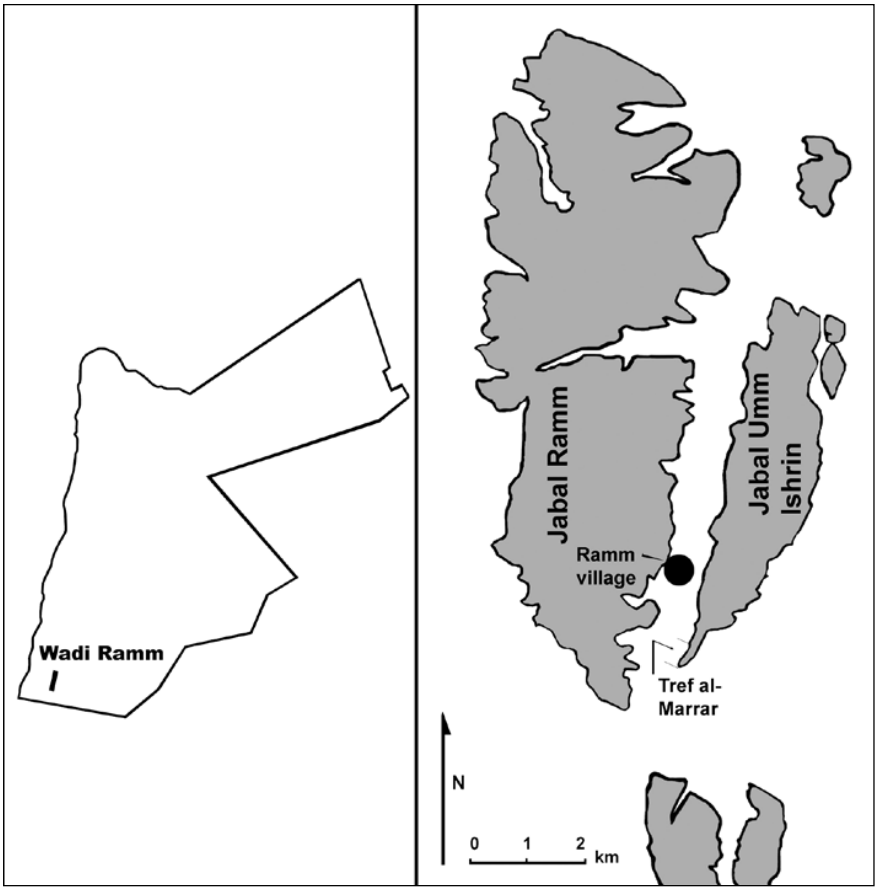
Introduction

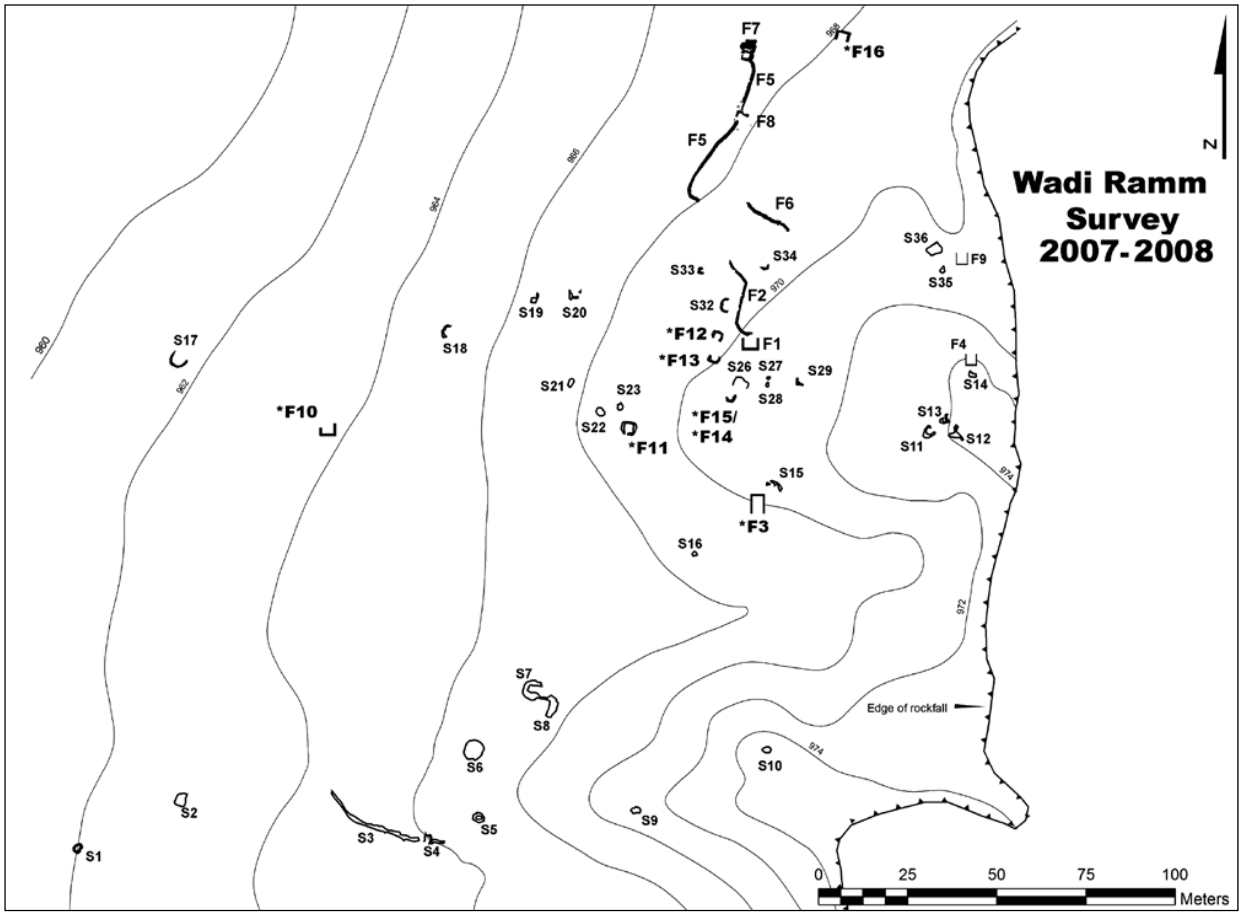
As our final contribution to the Wādī Ramm French - Jordanian Archaeological Project directed by Dr Saba Farès - Drappeau, the authors undertook a four week season of mapping and sand clearance to finish the work begun in 2007 (Rollefson and Matlock 2007). Along with our Department of Antiquities representative, Abdullah Rawashdeh, we spent four weeks (9 June to 4 July 2008) revisiting some of the 45 stone alignments that were mapped in 2007, in addition to locating three more in the same area (**Figs. 1 and 2**).

Methodology

Although indications of construction were clear, details were obscured by the movement and deposition of sediment, which necessitated clearance of drift sand. Using brushes and trowels, the drift sand was removed to expose selected features as completely as possible, down to the base of stones that constituted the various



1. Location of the Ṭurayf al-Marāgh area in Wādī Ramm.



2. The distribution of mapped structures (beginning with 'S') and features (beginning with 'F'). The newly investigated features are marked with an asterisk (*) before the 'F' (Map by T. Richter, W. Matlock and G. Rollefson).

features. In some cases this entailed the removal of up to 15-20cm of sand. Since *in situ* artifacts had been totally absent in the 2007 season (as they also seemed to be in the 2008 campaign), we took soil samples from beneath stones of seven of the features in order to obtain Optically Stimulated Luminescence (OSL) dates for the construction of the structures. All exposed features were re-covered with sand at the end of the season.

Results

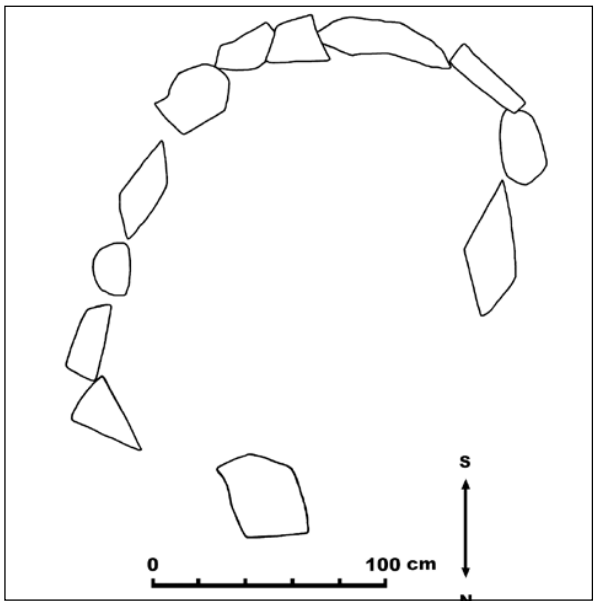
Owing to the persistent winds in the canyon, movement of sand since the 2007 season had exposed three new structures, *viz*. Features F10, F15, and F16 (**Fig. 2**), in addition to the 45 stone alignments mapped in 2007. These three structures, in addition to structures S24, S25, S30, S31 and F3 which had been mapped in 2007, were cleared of drift sand and drawn. Descriptions of the features are provided below.

Newly Discovered Structures

F10

Feature F10 was a small, asymmetrically u-shaped alignment of sandstone slabs and rocks set on edge or on end (**Figs. 3 and 4**). The axis of the building was oriented to 200° (somewhat west of due south). The eastern wall was dis-

3. Photo of F10; view to south.



4. Plan of F10; north to bottom of drawing.

proportionately long compared to the western wall: approximately two meters long compared to only one meter. The width of the alignment just before the apse-like south wall began to arc from one side to the other was about 1.20m.

In the south-western corner of the structure, several small triangular sandstone pavers about 1.5cm thick were placed between two stones set on edge, forming a small paved chamber-like arrangement of unknown function. The position of these stones, 5-10cm above the base of the structure walls, may represent secondary use of the feature after a period of time during which sand filled in much of the floor. The south-east corner of the feature also had several pavers, but their orientation indicates some post-depositional disturbance. Near the middle of the eastern wall we recovered a single Nabataean sherd about 15cm below the modern surface and at the same general level as the disturbed pavers in the south-east corner.

Although it cannot be demonstrated securely in stratigraphic terms, a striking element of the F10 *ensemble* is a lone standing stone at the northern end of the alignment. This is a sizeable rock set on end, nearly 40cm wide and 45cm high. It recalls a similar standing stone just to the north of the cobble-paved 'apron' of F7 (Rollefson and Matlock 2007) and thus might have served the same purpose, whatever that might have been. Attempts to align the center of this standing stone and any of the on-edge slabs in the southern wall with terrain landmarks on the horizon were unproductive.

The remarkable aspect of F10 is a low, broad (60cm wide) sandstone slab set on edge. About 30cm below the top of this slab is an area in the center with more than 50 minute pits intentionally pecked into the sandstone. No regularity in design was detectable, but there are clear indications that this alteration of the stone's surface was the result of Nabataean masons (see below).

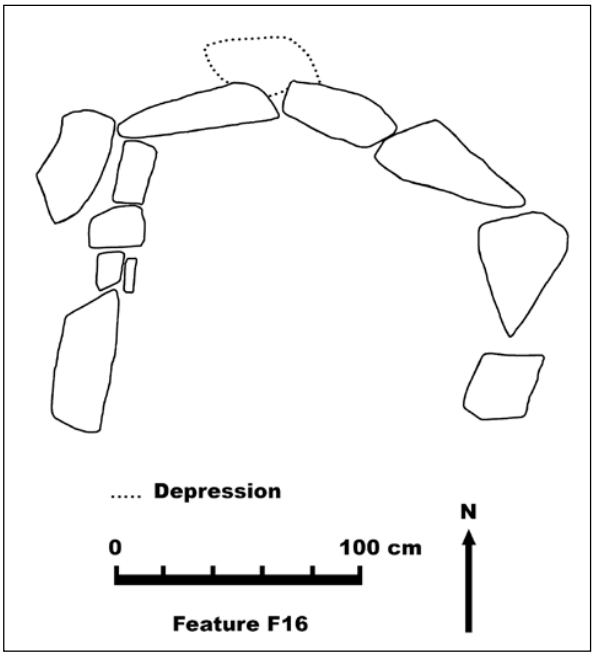
F15

In 2007 we noticed an area near a stone alignment (S24 in Rollefson and Matlock 2007: **Fig. 2**) that was marked by several thin sandstone slabs, similar to the pavers so common in the Ṭurayf al-Marāgh area, barely emerging through the drift sand surface. At the time there was no apparent pattern to these narrow slabs poking through the sand, so we did not map them as a feature at the time. In the interval since the end of the 2007 season, more sand had been driven by winds to expose additional on-edge pavers, which appeared to form small enclosures less than a half meter in maximum dimension. We spent some time exposing this cluster of 'chambers', but will postpone description and discussion until dealing with Feature F14 = S24 below.

F16

F16 was, despite its late number in the sequence, the first feature we worked on in the 2008 season. It is the northernmost feature in the Ṭurayf al-Marāgh area, and once again was noted only because of deflation by winds since the end of the 2007 season (**Figs. 5 and 6**). The axis of orientation is 20° east of north. As is the case with most of the structures at Ṭurayf al-Marāgh, the dimensions are relatively small: the western wall is about 1.40m long, the eastern wall about 90cm and the northern cross-wall 1.75m. The only notable feature of this structure is a relatively deep depression just outside the center of the northern wall. Although filled with drift sand, the difference in texture between the original depression and the loose fill was readily apparent. Removal of the drift sand revealed a 'socket' that measured 34cm by 30cm across

5. Photo of F16; north arrow is 35cm long.



6. Plan of F16; the depression that apparently once contained a standing stone is marked with dots.

and 11cm deep. This appears to have been the location of a standing stone that was later 'robbed' for some other purpose. Although the 'axis of symmetry' of the structure itself is oriented east of north, the midpoint of the space between the southern ends of the eastern and western walls forms an alignment with the 'vacant' standing stone that is directed towards true north.

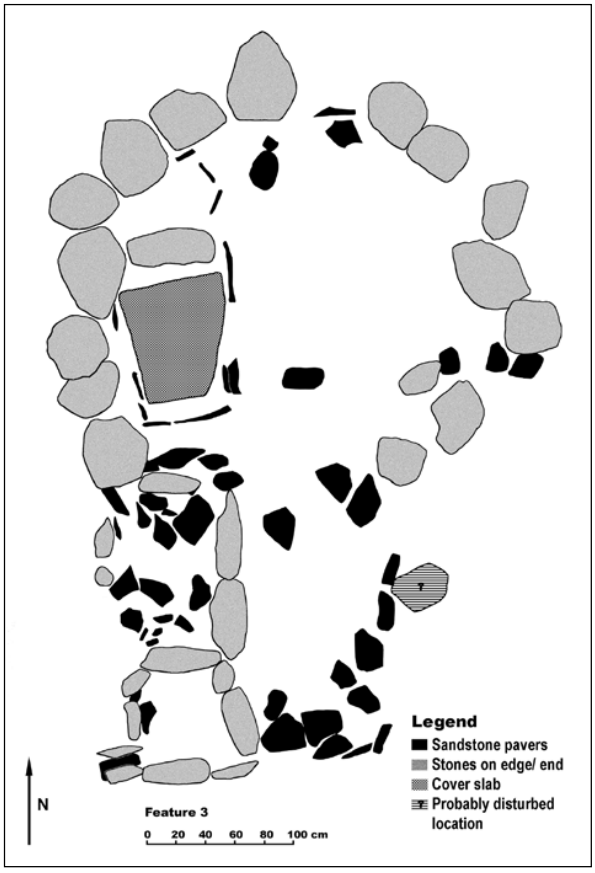
Re-investigation of Structures Mapped in 2007

The 2007 season was very short, so many of the objectives we would normally have pursued had to be postponed until the 2008 season. In 2008, we therefore took the opportunity to take a closer look at some of the stone alignments we had mapped in 2007.

F3

Feature 3 was one of the two most intriguing structures we uncovered in 2007. Aside from the serpentine meanders of Features F2, F6, and F7 (**Fig. 2**), this circular arrangement of stones set on end was not matched anywhere in the Ṭurayf al-Marāgh sector, and the addition of two sizeable rectilinear 'chambers' at the south-western rim of the circle added to its mystique. But perhaps the most attractive aspect of this architectural *tableau* was the large sandstone slab set off by upended pavers inside the circle (**Fig. 7**; cf. Rollefson and Matlock 2007: 211).

Because we had so little time in the 2007 season, and since we found no diagnostic artifacts directly associated with the features in 2007, in 2008 we determined to resolve the dating of at least some of the structures by taking sediment samples from which to obtain OSL dates that



7. Plan of F3 before the sandstone pavers were exposed (from Rollefson and Matlock 2007).

would give us a clear (albeit 'ballpark figure') time frame for the construction of the different kinds of features. This aspect of the 2008 season is treated more directly below, but its implementation led to some surprises concerning the architecture of Feature F3.

The large slab in the western side of F3 had a very magnetic effect on our imagination. Kirkbride had excavated small rectangular features at Rizqeh, for example, and found important dating and ritual evidence that tied the site to the Chalcolithic period (Kirkbride 1969: 191). Was this the case for F3 as well? In order to obtain soil samples from beneath the sandstone slab for dating purposes, it was of course necessary to dig beneath the slab. On the way we encountered a major surprise: the interior of the circular part of F3 was, in fact, covered with thin sandstone pavers, a circumstance we were not aware of in 2007 (**Fig. 8**). In contrast to most of the features we investigated in both the 2007 and 2008 seasons, this was the only structure that was completely paved, and this added to the curiosity we felt.

We probed the sandy sediments beneath the sandstone slab and, once this was accomplished, decided to lift the slab (**Fig. 9**) and investigate the material that it might have 'protected'. Unfortunately, sectioning the sandy sediments beneath the slab to a depth of 35cm (well beneath

8. Photo of the sandstone pavers in F3.

9. Photo of 'bins' and the large sandstone slab before investigation of the sand beneath it in Structure F3 (view to east); north arrow is 35cm long.

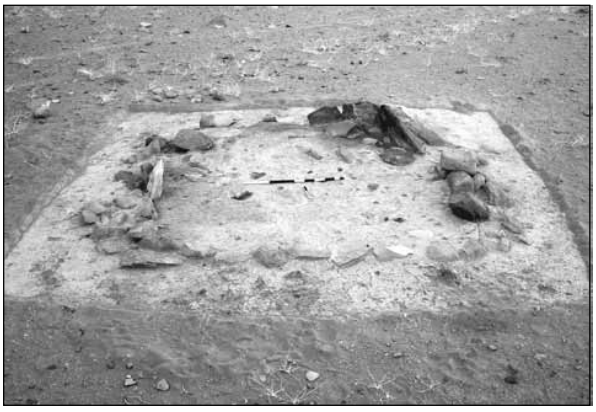
the floor of the feature itself) in a trench 25cm wide showed no indication of inclusions or of any incidents of burial or retrieval of objects. What the purpose of the slab may have been, it apparently had nothing to do with the soil beneath it.

After we had cleared the pavers, it was clear that the floor of F3 was not horizontal. Instead, the northern edge of the paved area was 6-7cm higher than the southern edge (a *ca* 3 % slope over two meters). This suggests this F3 may not have been a residential structure.

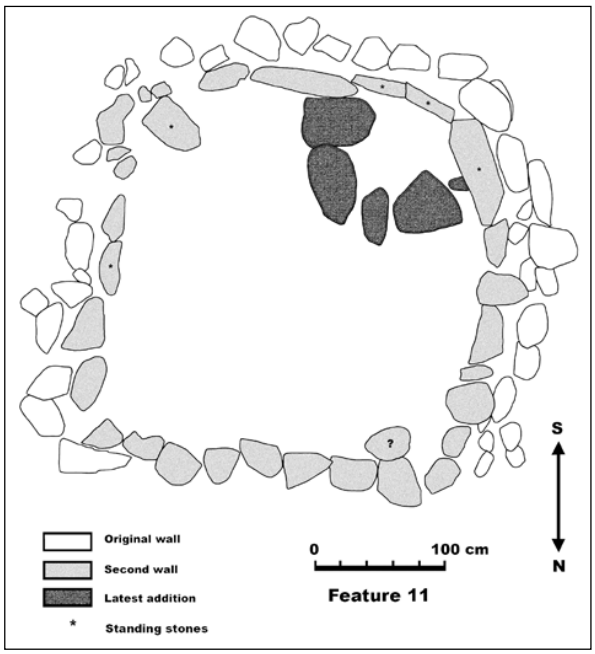
F11 = S24

In the 2008 season we wanted to sample the variety of sizes, orientations and configurations of the structures we had mapped in the 2007 season. Among this sample was S24, which was redesignated as Feature F11 (**Figs. 10-12**). It was among the largest of the structures we had found (the only larger one was F7) and was attractive because there appeared to be at least two (probably three) phases in its construction and function (not counting its recent use as a windbreak for making tea by 20th century shepherd groups, the traces of which were abundant in the upper portion of drift sand).

As **Fig. 11** clearly indicates, there are two walls associated with F11 = S24 (hereafter, F11). From the stratigraphic evidence (or lack thereof, in view of the nature of sandy soil accumulation), we suggest that the original structure consisted of the outer perimeter stones, even though the base of the stone in both walls was at approximately the same absolute elevation. The outer perimeter walls are very large in comparison with all of the other rectilinear structures we investigated, but this should not impress us with any special meaning, since the efforts involved in construction are not beyond the physical capabilities of even one individual. The orientation of the structure along the axis of symmetry is 190° (slightly west of south).



10. Photo of F11 to south.



11. Plan of F11.

12. Photo of the three standing stones in the south-west corner of F11; view to south-west.

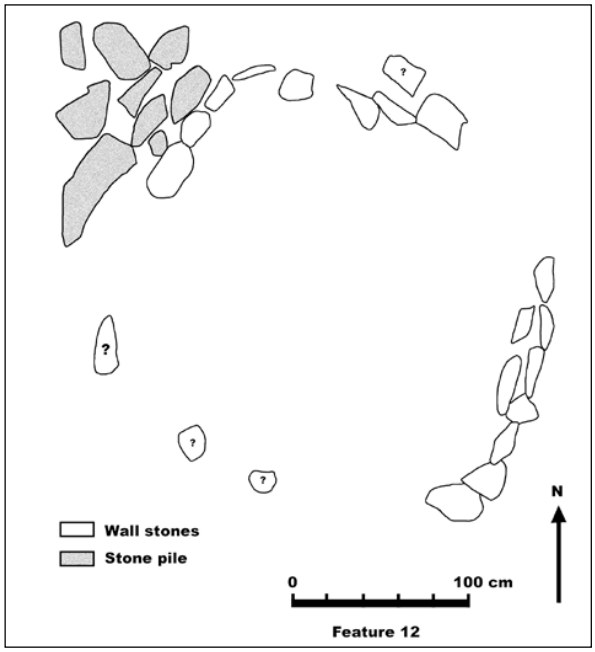
The outer arrangement of stones is not remarkable beyond the general rectilinear shape: the constituent stones are not particularly distinctive in terms of dimensions. The inner arrangement, however, shows some major departures from the outer stones. First, the interior of the u-shape of the earlier structure was replaced with a rectilinear enclosure, which is not echoed

anywhere else in the Ṭurayf al-Marāgh area of Wādī Ramm. Second, the south-eastern corner of the structure takes on special focus, since here there are sandstone slabs set on edge that are 56-66cm higher than any other stones in the other walls, and these stones appear to be from a later re-use and re-orientation of the structure. It might be mentioned that an axis from the north-eastern corner of the secondary wall aligns at an angle of 223° (i.e., virtually south-west) with a transect through the central standing stone of the south-western triad of standing stones to intersect on the horizon with a mountain peak called Jabal Redihi (**Fig. 12**). There are also two standing stones in the eastern wall: one (37cm high) in the center and another (51cm high) in the south-eastern corner; the latter had tumbled completely while the former was leaning at an angle of roughly 70°, both casualties of post-abandonment disturbance.

The other stones that filled in the south-western corner of F11 (dark grey in **Fig. 11**) are certainly later than both the original outer wall and the interior rectilinear rearrangement of the structure. The upper sandy deposits clearly indicate the use of this corner in very recent times, owing to the presence of the plastic store-bought containers of yoghurt-eating shepherds.

F12 = S31

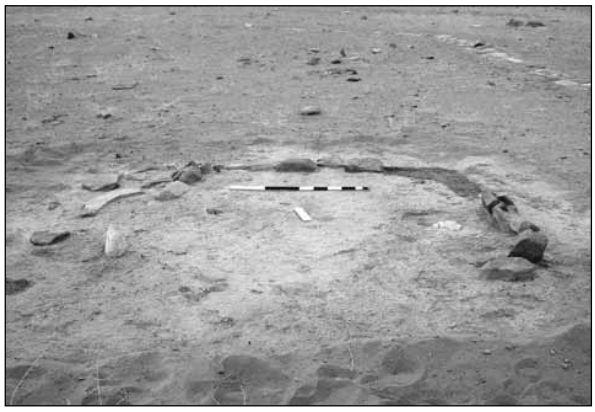
Feature F12 is an incomplete structure, in the sense that some of the stones in the alignment appear to have been removed and, perhaps, discarded just outside the north-west perimeter of the structure (**Figs. 13 and 14**). The orientation along the axis of symmetry is about 28.5° east of north. It seems to have been a hasty construction to begin with, measuring only 2.4m east-west and 2.0m north-south; none of the stones was very large.



14. Plan of F12.

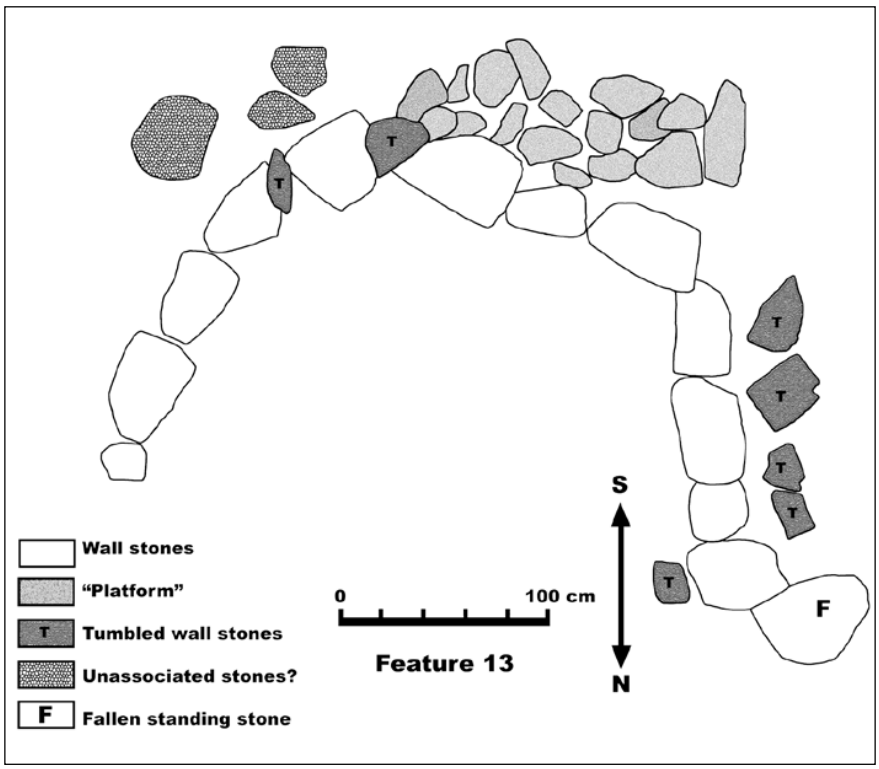
F13 = S30

Just 15 m south of F12 is the former Structure S30, now renamed F13 (**Figs. 15 and 16**). The massive stones (up to 80cm high) are aligned in a rough u-shape, oriented along the axis of symmetry at an angle of 199° (south of south-west). The feature measures 2.8m east-west and 2.0m north-south. The feature appears to have experienced two or three separate episodes of use: a secondary use of the alignment is indicated by the presence of light-colored sandstone cobbles and pavers inside the u-shaped structure (**Fig.**



13. Photo of F12; view to north. Serpentine F2 is at upper right corner.

15. Photo of F13; view to south.



16. Plan of F13.

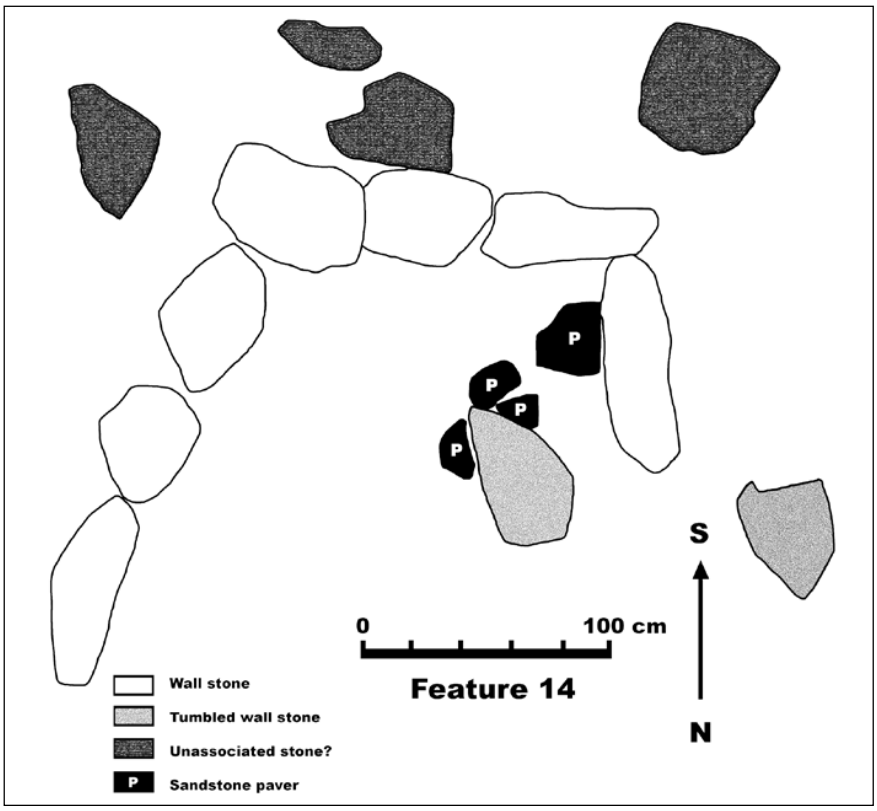
16). Included within the sandy fill, among the pavers and cobbles of this use, were four undecorated ribbed Nabataean potsherds. A tertiary use is represented by a scatter of very coarse sandstone boulders (from the Salib Arkose Bedded Sandstone formation about a hundred meters to the south) that may originally have been stacked atop the stone blocks in the original alignment but, if so, these evidently tumbled after the structure was eventually abandoned.

Outside the northern wall of F13 was a 'platform' of sandstone slabs and cobbles tucked up against the wall at the south-eastern corner of the feature (**Fig. 16**). The function of the 'platform' is not known, nor can it be definitely associated with any particular phase of the use of the feature. A possible utilized flint flake was found between the platform stones and, in view of the fact that flint sources are found only along the edge of the Ma'an Plateau about 50km to the north (Henry *et al*. 2003: 16), the artifact represents a valuable resource. However, it is also not impossible that the flake was picked up by someone visiting the abandoned MPPNB site of 'Ayn Abū Nukhayla just a couple of kilometers west across the Wādī Ramm from Ṭurayf al-Marāgh.

F14 = S25 and F15

The u-shaped stone alignment designated F14 (recorded as S24 in 2007) is comprised of large sandstone boulders oriented along an axis of symmetry facing due-south (180°). Four large sandstone boulders to the north of the alignment do not appear to be directly related to the feature, and two sandstone boulders near the northern end of the western wall appear to have been dislodged from the alignment sometime after F14 went out of use (**Fig. 17**). One of the tumbled stones ("T" in **Fig. 18**) lay atop the edges

17. Photo of F14; view to south. Southernmost part of F15 is visible at lower left corner.



18. Plan of F14.

of three sandstone pavers, indicating that at one time the feature may have had a paved floor, as was the case with F3 (many dislodged sandstone pavers were found in the hollow area of F14, indicating disturbance after abandonment).

As we followed the eastern wall, making certain that the end of it was not buried beneath drift sand, we came across some slabs of light-colored Disi sandstone that, when exposed more extensively, constituted a narrow arrangement that was orthogonal to the eastern wall of F14. Continued clearance of drift sand eventually exposed an extensive layout of horizontal slabs and small 'enclosures' set apart by sandstone slabs set on edge (**Fig. 19**). We designated the southern cluster of horizontal slabs and edged

19. Photo of F15; view to south.

'bins' as F15 since it was not absolutely certain that it was a part of F14, although it is likely the two features were in use at the same time. The east-west oriented pavers of F15 appear to follow a slight slope, decreasing in absolute elevation to the west. The center of the pavers in F15 is 13cm higher than the westernmost paver, and the westernmost paver is 8cm higher than the *in situ* pavers in F14. **Fig. 20** shows the plan of both features, displaying the relationship between them.

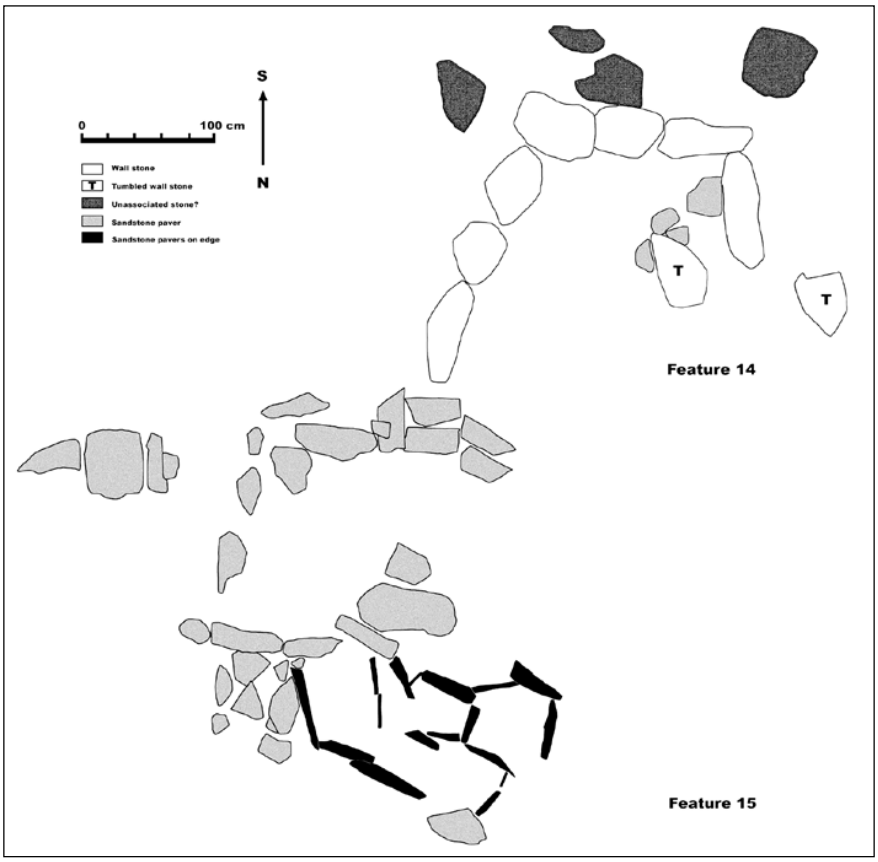
The 'bins' in F15 recall similar arrangements of on-edge sandstone pavers at the western side of F3, located about 25m to the south-south-east. In neither feature were the floors of the 'bins' paved with sandstone, but F3 and F15 are very different in terms of orientation and symmetry.

OSL Samples

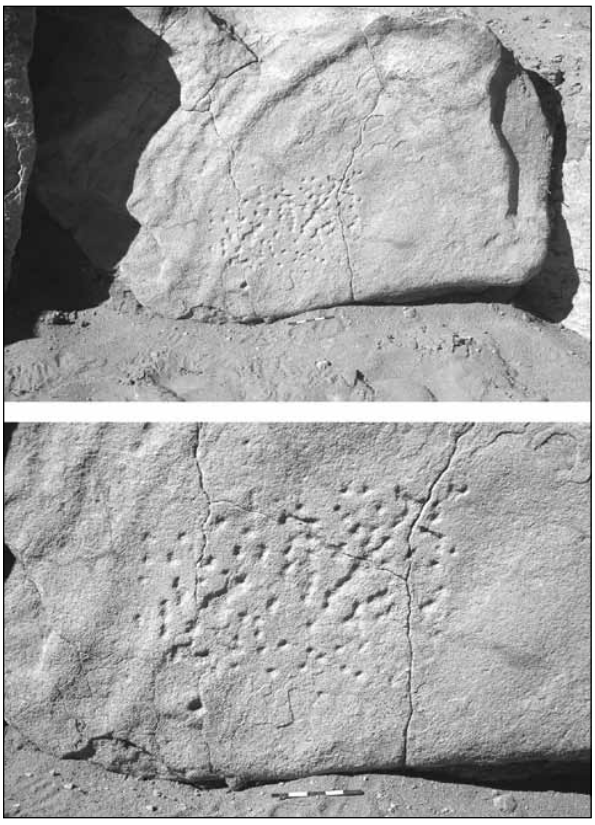
Because artifacts were absolutely rare and in all but one case in suspicious relationship to features that could be used to assign dates to the structures, we took sediment samples from beneath stones that made up the alignments in seven of the features. These samples of sandy soil would reveal by OSL how long the quartz crystals in the sand had been shielded from the energy of direct insolation by the sun. Sample #1 was taken from beneath one of the stones in the sinuous 'pathway' of F5 (Rollefson and Matlock 2007: 215). Sample #2 came from another pathway, F6, and Sample #3 from the sinuous pathway F2. Sample #4 was extracted from one of the standing stones that formed the southern wall of F7 (Rollefson and Matlock 2007: 217-218), while Sample #5 came from beneath the large sandstone slab at the western edge of the circular part of F3. Sample # 6 was obtained from under the broad standing stone at the southern wall of F9 (Rollefson and Matlock 2007: 216) and, finally, Sample #7 originated from beneath a standing stone in the south-western corner of F10. It will take some time for the results of the analyses of these samples to be produced.

Discussion

The features in the Ṭurayf al-Marāgh area of Wādī Ramm remain enigmatic in terms of their



20. Combined plan of F14 and F15; south to top of drawing.



21. Pitted stone in the center of F10.

purpose and age. The orientation of the structures virtually spans the compass, although several are aligned to the Pole Star or to the exact opposite azimuth reading. The axis of the northwestern corner of F11 with its south-western corner intersects a prominent mountain on the south-western part of the horizon, and while this might conform to Nabataean use of the inner renovation of the structure, it doesn't provide much clarity as to the age of the original u-shaped structure.

Ribbed potsherds of typical Nabataean manufacture occur dispersed across the surface of Ṭurayf al-Marāgh, although they are not abundant and appear to originate from a prominent tumulus (S12 in **Fig. 12**) uphill from all of the structures we recorded. Such sherds were found in five of the structures we cleared (F3, F10, F12, F13 and F15), but they only appeared in numbers of one to five sherds per structure, never indicating a pot-break for example. Small glass fragments with opalized patina are also very rare. The co-occurrence of a couple of the potsherds with, in one case, small numbers of mammal bones indicates that these particular examples are probably associated with animal burrows (jackal burrows being numerous in the region today) and animal disturbance to the *in situ* sediments. In no case was the ceramic evidence associated with a floor surface, occurring instead in fill above floors or in association with the disturbance of pavers on the original floors. Based on these observations, then, the appearance of Nabataean pottery does not provide secure dating for the original construction and use of any of the features (e.g., F11).

In only one case is there strong support for Nabataean construction of a u-shaped structure: the intentionally pitted sandstone slab set on edge in the center of the southern wall of F10 (**Fig. 21**). While it is likely that Nabataean pastoralists noticed and possibly re-used standing structures from earlier times, F10 is a case where they could also imitate earlier efforts at erecting u-shaped structures.

Acknowledgements

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