

# WĀDĪ BURMA NORTH, TAL'AT 'UBAYDA, AND WĀDĪ AL-QUṢAYR A PRELIMINARY REPORT OF THE JAFR BASIN PREHISTORIC PROJECT, 2004

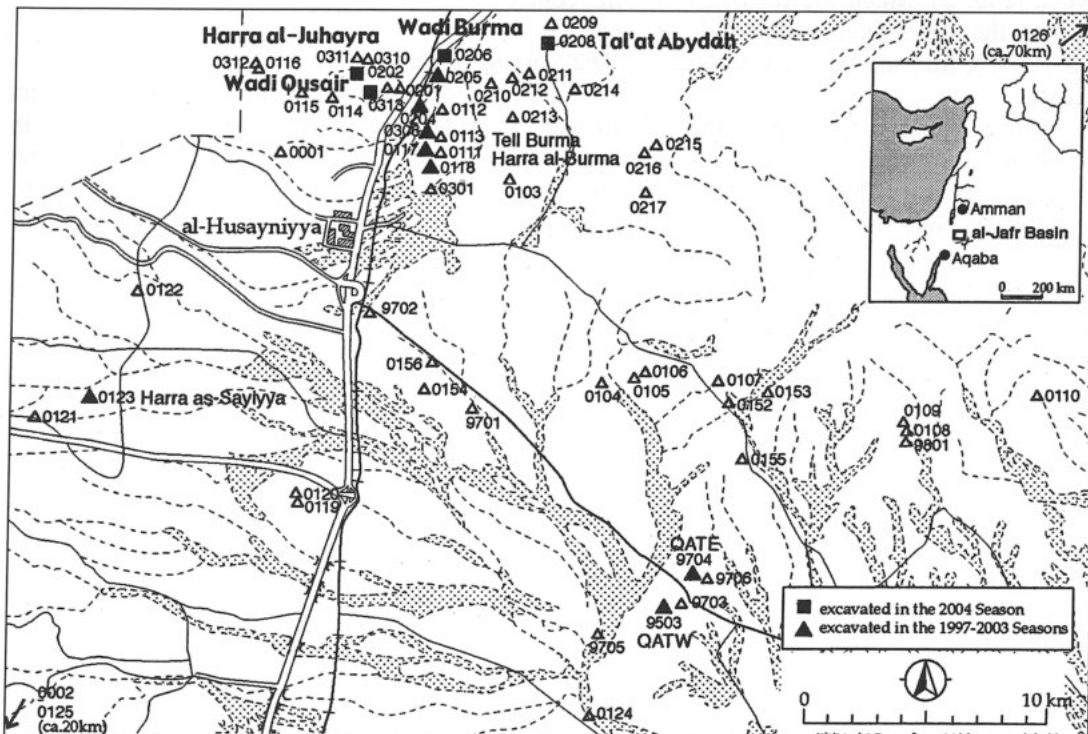
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## Introduction

The third excavation season of JBPP/2 (the Jafr Basin Prehistoric Project, Phase 2), headed by the author and cooperated by the Department of Antiquities of Jordan, was conducted from 8 August to 30 September in 2004, focusing on the Wādī Burma drainage area in the northwestern part of the basin. The primary objective of this season was, in common with the preceding two seasons, to complement the chronological sequence established at Qā' Abū Ṭulayḥa West (QATW), the primary concern of the JBPP/1 from 1997 to 2002 (Fujii 1998; 1999; 2000; 2001; 2002a; 2002b; 2003) and, in so doing, to found a reliable base to trace pastoral nomadization in southern Jordan. The focal points were twofold: first, to elucidate the chronological relationship between the Early Bronze Age (EBA, hereafter) pseudo-wall cairn enclosures at QATW and the cist enclosures that

was attested for the first time at Wādī Burma South in the last season (Fujii 2004b); second, to fill in the chronological hiatus between the Late Neolithic pseudo-settlement at QATW and a Pre-pottery Neolithic B (PPNB) small settlement at Jabal Ju'ayra that had been identified in our 2001-2002 winter season survey (Fujii 2002b: 41).

For these two goals, the following four sites were investigated: Wādī Burma North Cairn Field, Tal'at 'Ubayda Cairn Field 1, Wādī al-Quṣayr, and Ḥarrat al-Juḥayra Pseudo-settlement (Fig. 1). A series of investigations showed that: 1) Wādī Burma North cist enclosures are both smaller in size and deteriorated in techno-typology than Wādī Burma South cist enclosures and, therefore, can be regarded as a subsequent cairn complex of the latter; 2) Tal'at 'Ubayda is characterized by the corridor type cist enclosures and probably postdates Wādī Burma North and South that are marked by the



1. The site map of the investigation area.

forecourt type cist enclosure; 3) Wādī al-Quṣayr is a composite site that contains a wide range of archaeological occurrences from a Natufian small encampment, through an EBA tabular scraper cache, to early Islamic structures, 4) techno-typologically, Ḥarrat al-Juḥayra slightly antedates the pseudo-settlement at QATW, thus bridging the chronological hiatus between QATW and a small PPNB settlement at Jabal Juḥayra.

What follows is a brief summary of the investigations at the first three sites that were chosen in connection with the first goal. Since the fourth site, Ḥarrat al-Juḥayra, was investigated for the second goal and is quite different in nature from the other three, it will be described separately elsewhere in this volume.

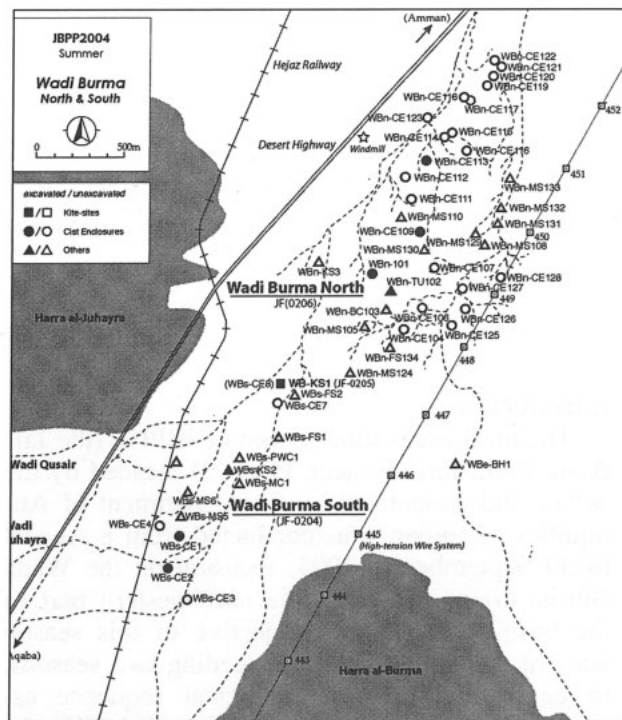
### WĀDĪ BURMA NORTH CAIRN FIELD

Wādī Burma is a small drainage system ca. 30km in total length that rises in Tall Burma, a small volcanic hill ca. 5km northeast of al-Ḥusayniyya, and runs northward roughly in parallel with the Desert Highway to merge into the uppermost stream of Wādī al-Ḥasā. A number of structural remains, mostly cist enclosures in our terminology, have been found on its sandbanks, especially along the course between Jurf ad-Darāwīsh to the north and al-Ḥusayniyya to the south. They fall into Wādī Burma North (WBn) and Wādī Burma South (WBs), with a large drive-hunting installation, Wādī Burma Kite-Site 1 (WB-KS1), just in between (Fig. 2). Since the previous season was devoted to the investigation of Wādī Burma South (Fujii 2004b), this season focused on its northern counterpart.

The site of Wādī Burma North extends from the SW toward the NE along the main stream of Wādī Burma, covering an area of ca. 100ha. (ca. 2km long and ca. 0.5km wide). Our mapping survey plotted about three dozens structural remains on its sandbanks, twenty-one of which were tentatively identified as cist enclosures. Three of these (CE101, CE109, and CE113) were excavated and two other examples (CE111 and CE116) were drawn after surface cleaning. In addition, though beyond the original scope of our investigation, a two-rowed upright stone wall structure (WBn-TU102) was excavated to trace task-specific land use in the PPNB period.

### Cist Enclosure 101

Wādī Burma North Cist Enclosure 101 (WBn-CE101 in our code system) was located at the western part of a large sandbank extending between the two major courses of Wādī Burma, on



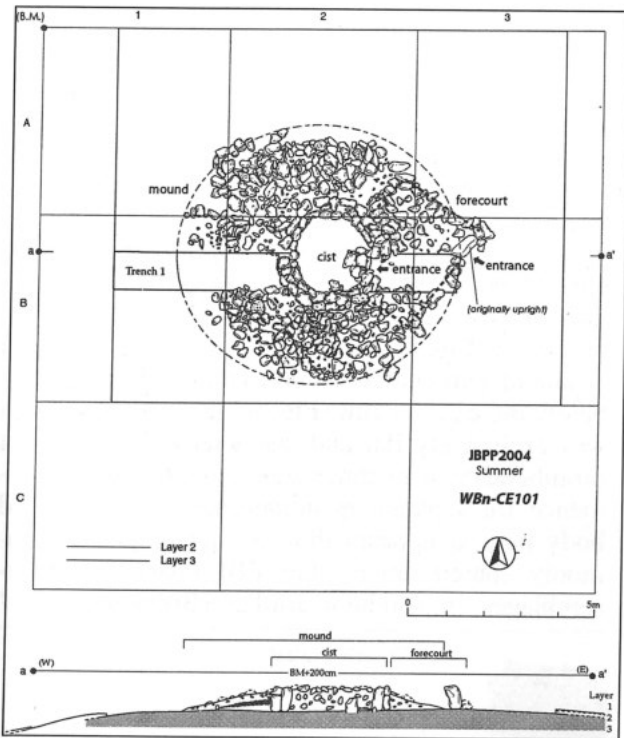
2. Wādī Burma North and South: the site map.

the top of a gentle slope overlooking a small wadi stream. In order to trace techno-typological transition from Wādī Burma South cist enclosures that were investigated in the previous season, it was excavated down to the original surface of the mound and, then, further examined by means of an E-W oriented, 1m wide trench that was opened across the center of the mound.

### The Structural Remain

This cist enclosure was relatively small in size, measuring ca. 7-8m in diameter and ca. 0.6m in height (Figs. 3, 4). Undressed limestone, flint, and basalt cobbles, mostly ca. 20-50cm long, were used for the main construction material, but the mound, its lower layers in particular, also included a large volume of smaller wadi pebbles and silty sand as filling material. The excavation showed that this cist enclosure was a ground-type structure constructed on the upper surface of Layer 3 of the site stratigraphy (The same is true for the other two excavated cist enclosures in this site).

Two major components — a round cist ca. 3m in outer diameter and a square forecourt ca. 2.5-3m each side — were found underneath the mound which was covered densely with cobbles. The cist had a two-rowed upright stone wall, on which either a single or two courses of fieldstones were put horizontally. A narrow entrance to this cist, flanked with a pair of upright limestone boulders and paved with limestone cobbles, was found at its



3. Wādī Burma North CE101: the plan and section/elevation.



4. Wādī Burma North CE101: the general view (from SE).



5. Wādī Burma North CE101: the close-up view of the cist (from S).

eastern periphery (Fig. 5). In addition, an upright stone was placed behind this entrance. Interestingly, some cobbles were packed irregularly into the entrance and, at the same time, a large stone was put over a pair of upright boulders, a suggestion that the cist was sealed after some funerary ritual had been performed. The forecourt was less elaborate in construction quality, being built with a single row and course of cobbles put horizontally on the ground surface in those days. As was the case in the Wādī Burma South cist enclosures, it was attached to the eastern periphery of the cist, making a 45-degree turn with the four corners being oriented to the four cardinal points. An entrance to this forecourt, originally flanked with a pair of upright boulders, was identified at the eastern corner.

This structure resembled Wādī Burma South cist enclosures in that it arranged a round cist to the west and a 45-degree turned, square forecourt to the east. It is also common to both of these that the path of flow from the outside into the cist is slightly refracted. There is no doubt that this cist enclosure was constructed following the same standard as Wādī Burma South cist enclosures. Nevertheless, a few remarkable differences are noticed between the two. Among these is the disappearance of a small, rectangular compartment that had intervened between a cist and a forecourt at the two excavated cist enclosures at Wādī Burma South (WBs-CE1 and -CE2). Suggestive in this respect is WBs-CE4 and -CE7, both of which had already shown a sign of size reduction in this minor component (Fujii 2004b: fig. 12). Taking this into consideration, we may reasonably assume that WBN-CE101 represents a simplified version of Wādī Burma South cist enclosures (Another critical difference was the existence at WBN-CE101 of a narrow entrance to the cist and an upright stone behind it, but the reexamination of WBs-CE1 and -CE2, as briefly referred to below, revealed that both of these cist enclosures were also equipped with similar features).

#### *The Finds*

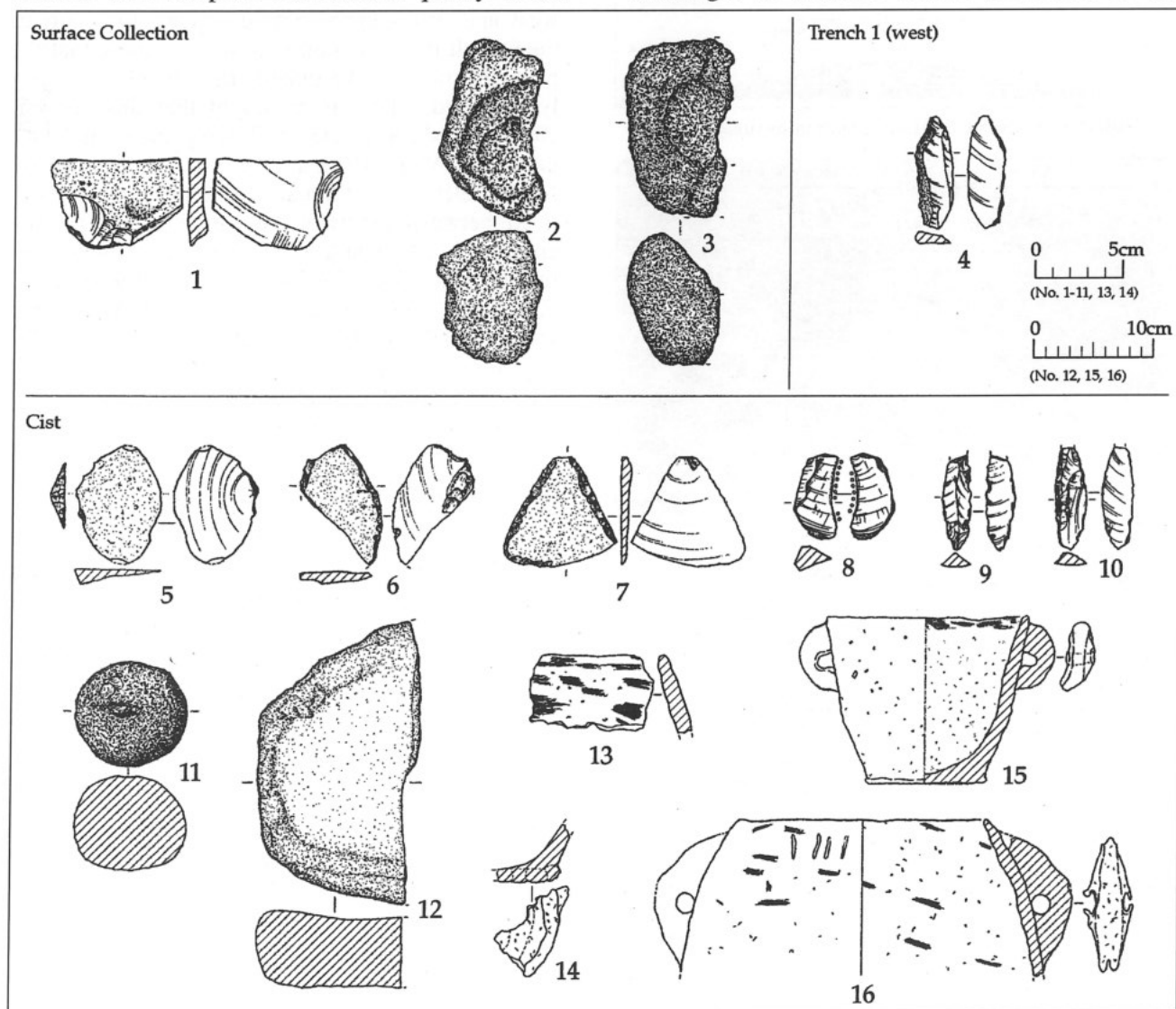
The finds from this cist enclosure, though much poorer in both quality and quantity, were similar in general contents to those from Wādī Burma South cist enclosures. They included some dozens of flint artifacts, a few fragments of groundstone artifacts, a few bags of coarse ware sherds, and a handful of animal bone fragments. They occurred from both the cist and the mound (including the forecourt), with the former being the main contextual source especially for groundstone artifacts and pottery

sherds.

The flint artifacts included tabular scrapers (Fig. 6: 1, 5-7) and arched or backed sickle blades (Fig. 6: 4, 8-10) as two major components. The latter component is diagnostic of the arid periphery of southern Levant in the EBA, its early phases in particular (Rosen 1997: 60, Fig. 3.19). In addition, two hammer stones made of globular flint nodule were included (Fig. 6: 11). The groundstone artifacts, a hallmark of Wādi Burma South cist enclosures, were less frequent in this cist enclosure, comprising two basalt vessels from the surface layer (Fig. 6: 2, 3) and two large fragments of limestone querns from a fill layer of the cist (Fig. 6: 12). Maceheads, another hallmark of Wādi Burma South cist enclosures, were not attested here. It appears that the absence of maceheads and the scarcity of basalt and limestone vessels are correlated with the poor construction quality of the

structure itself.

The vast majority of ceramic finds were of grit-tempered, coil-made, thick-walled, poorly fired, dark colored, coarse ware. Nonetheless, finer ware sherds with buff tint and fairly well-fired walls were also present to a lesser extent, suggesting that coarse and fine wares coexisted in this pottery assemblage. A few pottery forms were identified, including holemouth jars with or without a pair of horizontally pierced lug handles just below the exterior rim (Fig. 6: 13, 16), a small open bowl with a pair of perpendicular loop handles immediately below the exterior rim (Fig. 6: 15). The base form was exclusively flat and characterized by a slight protuberance at its outer edge (Fig. 6: 14, 15), evidence for separate manufacturing of a base and body part. It appears that this technique is commonly shared among the EBI coarse ware assemblages in southern Jordan (Brückner *et al.*



6. Wādi Burma North CE101: the finds.

2002: figs. 21, 23-25). No special surface treatment was recognized, with the exception of negative, vertical stripes applied to a few rim sherds of a dark-colored wholemouth jar (Fig. 6: 16, Fig. 7). This unique example, most likely, derived from a similar technique referred to below in connection with WBn-CE1 and -CE2.

### Cist Enclosure 109

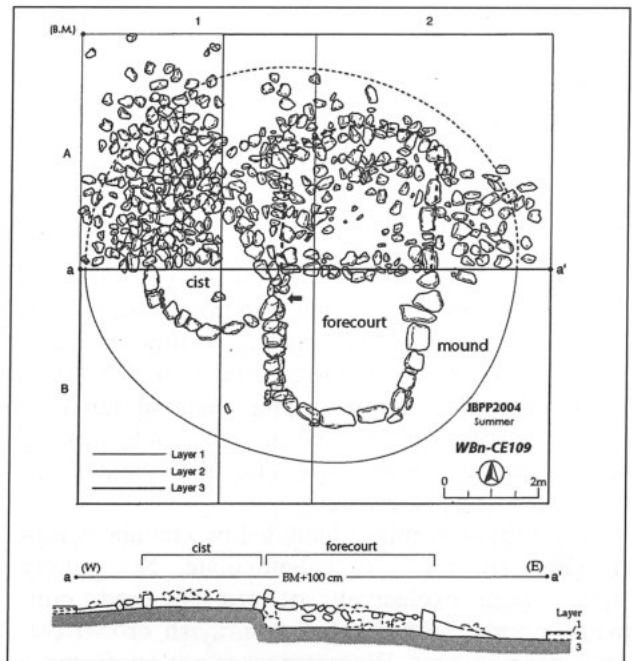
WBn-CE109 was located ca. 350m NE of WBn-CE101 mentioned above, roughly in the center of this site. In common with WBn-CE101, it occupied an edge of a natural rise overlooking a small wadi. In order to trace the construction order, the tripartite excavation system was applied to the excavation, with the center of the cist being the origin of the coordinate axes. First, the northwestern quarter was left intact to show the present state of the mound surface that was covered densely with limestone and flint cobbles. Next, the northeastern quarter was cleaned down to the original surface of the mound underneath the cobble cover. Our excavation was focused on the southern half, where the interior structure underneath the mound was exposed.

#### *The Structural Remain*

The excavation revealed that a round cist ca. 2.5m in outer diameter and a semi-rectangular forecourt ca. 7m wide and ca. 3.5m deep underlay the cobble-covered mound ca. 8-9m in diameter and ca. 0.2-0.5m in relative height (Figs. 8, 9). In comparison with CE101, the cist was less elaborate in construction and fringed merely with undressed fieldstones put horizontally in a single row and course. We may note, however, that, when viewed from the forecourt, the higher elevation of this cist probably made it more impressive than it was. As was the case with CE101, a narrow entrance was



7. Wādī Burma North CE101: sherds with white, negative stripes.



8. Wādī Burma North CE109: the plan and section/elevation.



9. Wādī Burma North CE109: the general view (from SE).

placed at its eastern periphery and crudely sealed with cobbles. A freestanding upright stone behind the entrance was not clearly attested, but it appears that a small limestone cobble put horizontally at the locus in concern substituted for it.

What most interested us was the construction technique of the forecourt, which was built cutting a gentle slope in a semi-circular shape. For this reason, while the western wall of this forecourt was constructed as a terrace wall up to three to four courses or ca. 0.5m high, the eastern wall was formed a normal, single-course high wall standing on the ground surface in those days. Nonetheless, the use of larger upright boulders at the eastern wall compensated for the difference in courses between the two. Of eclectic character was the south-

ern (and probably northern) wall, which constituted a lower protection wall merely at its western part. Unfortunately, an entrance to this forecourt was not clearly attested, probably because the excavation was limited to the southern half of this structure.

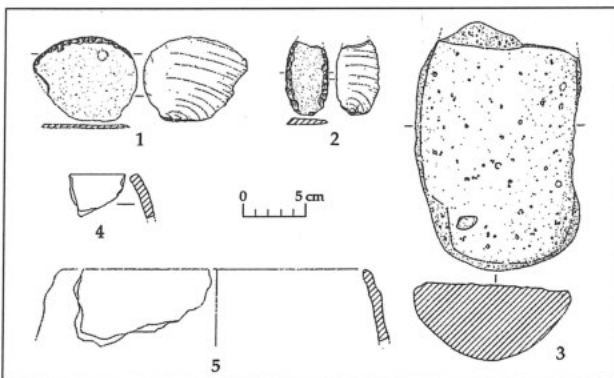
### The Finds

The finds from this cist enclosure were exiguous, consisting merely of a dozen chipped stone artifacts, a grinding slab made of porous basalt, (Fig. 10: 3), a heavily-burned natural limestone pebble, a few dozen coarse ware sherds, and a small volume of animal bone fragments and charcoal remains. The main contextual source of these finds was the mound and forecourt. The cist also yielded artifacts, but to a lesser extent.

The flint assemblage included two tabular scrapers (Fig. 10: 1-2) and a denticulate. The pottery sherds were exclusively of grit-tempered, coil-made, poorly fired, reddish to grayish brown colored, coarse wares. With respect to pottery forms, a holemouth jar with a simple rim (Fig. 10: 4, 5) and a flat base with matt impression were attested. The sherds were often found just in front of the cist, and, at the same time, in sooty condition, an indication that funerary ritual including some burning or cooking ceremony had been held there. Nevertheless, the occurrence of a few flint artifacts, two animal bones, and a burned natural pebble within the cist suggests a more extensive scene for the ritual.

### Cist Enclosure 113

WBn-CE113, lying ca. 400m NNE of CE109, also occupied an edge of a gentle slope overlooking a small wadi stream. In order to double-check the excavation results at the other two cist enclosures, it was cleaned down to the original mound surface and then, in common with CE101, intensively examined with a 1m wide E-W oriented trench across the mound.



10. Wādī Burma North CE109: the finds.

### The Structural Remain

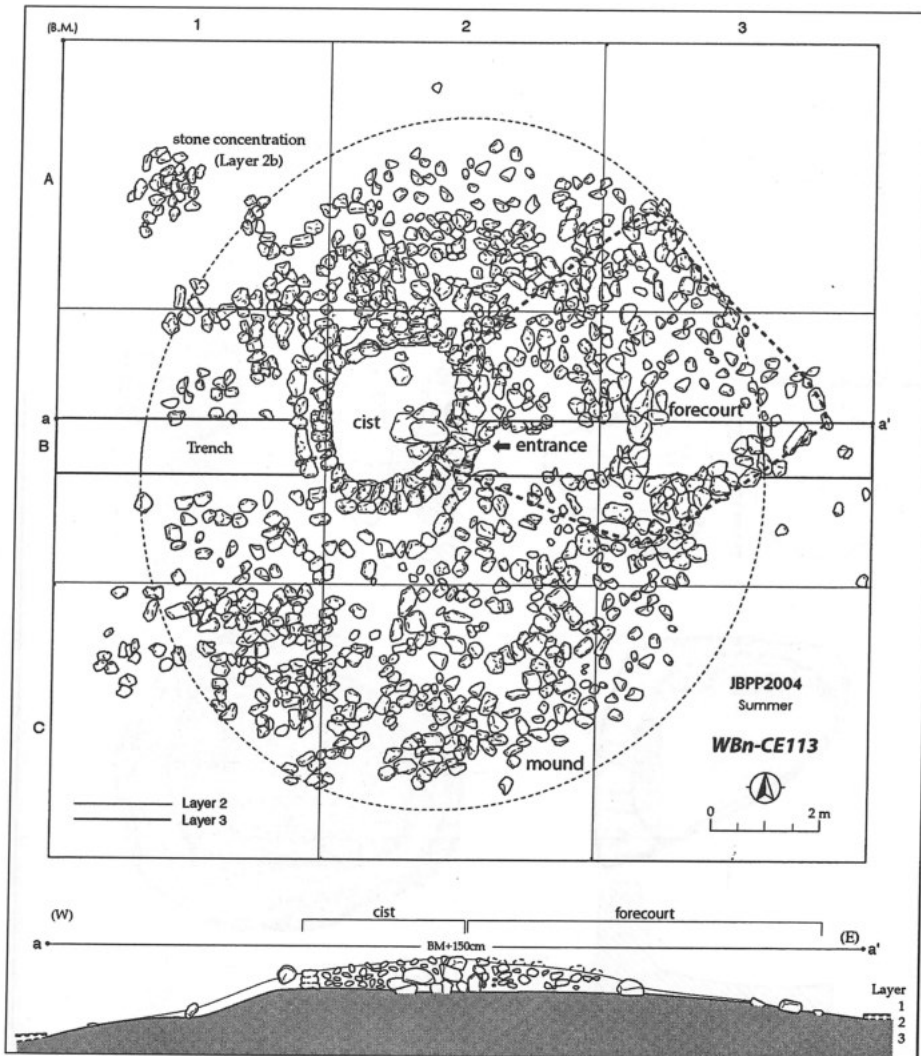
The excavation revealed, here again, a round cist ca. 3-3.5m in outer diameter and a rhomboidal, 45-degree turned forecourt ca. 4-5m each side underneath the cobble-covered mound ca. 12-13m in diameter and ca. 1m in height (Figs. 11, 12). This cist enclosure had much in common with CE101, including the basic composition, the general orientation, the 45-degree turning of the forecourt, the existence of a paved (or rather stepped) entrance to the cist, the existence of an upright stone behind the cist entrance, and the sealing of this entrance probably after some funerary ritual. It is apparent that this cist enclosure was constructed following the standards of Wādī Burma cist enclosures.

### The Finds

In common with the other two cist enclosures mentioned above, chipped and groundstone artifacts and coarse ware sherds predominated in the finds (Fig. 13). Their main contextual source was the cist.

The chipped stone artifacts included tabular scrapers (Fig. 13: 5, 6) and backed or arched sickle blades (Fig. 13: 1, 7) as two major tool classes. The ground stone artifacts included two limestone vessels (Fig. 13: 10, 11), one of which was made of fine-textured chalky limestone and decorated with parallel incisions on the flat rim. Although such stone vessels were well attested at Wādī Burma South cist enclosures (Fujii 2004b), they were much less frequent at Wādī Burma North cist enclosures. Other ground stone artifacts included a few hammer stones made of spherical flint nodules (Fig. 13: 8), several querns and grinding slabs made of either porous basalt or coarse limestone (Fig. 13: 12, 13). Of particular interest was a heavy-duty digging tool with a shaft hole bi-directionally perforated at a slightly off-center position (Fig. 13: 9). Similar examples have been reported as copper ore mining hammers from Wādī Fidān 4 (Adams 1999: fig. 5. 25) (but also from the late Chalcolithic context of Tulaylāt al-Ghasūl [Blackham 1999: fig. 18: 18]).

Ceramic finds were dominated by grit-tempered, coil-made, dark-faced coarse ware sherds. Fine ware sherds were infrequent, but, in common with CE101, did occur to a lesser extent. Since these pottery sherds were found in a heavily fragmented condition (this is the norm of ceramic finds recovered from Wādī Burma cist enclosures), no specific pottery forms were reconstructed except for a high-necked jar (Fig. 13: 2, 3), an open bowl (Fig. 13: 14), and a flat base with a slight



11. Wādi Burma North CE113: the plan and section/elevation.



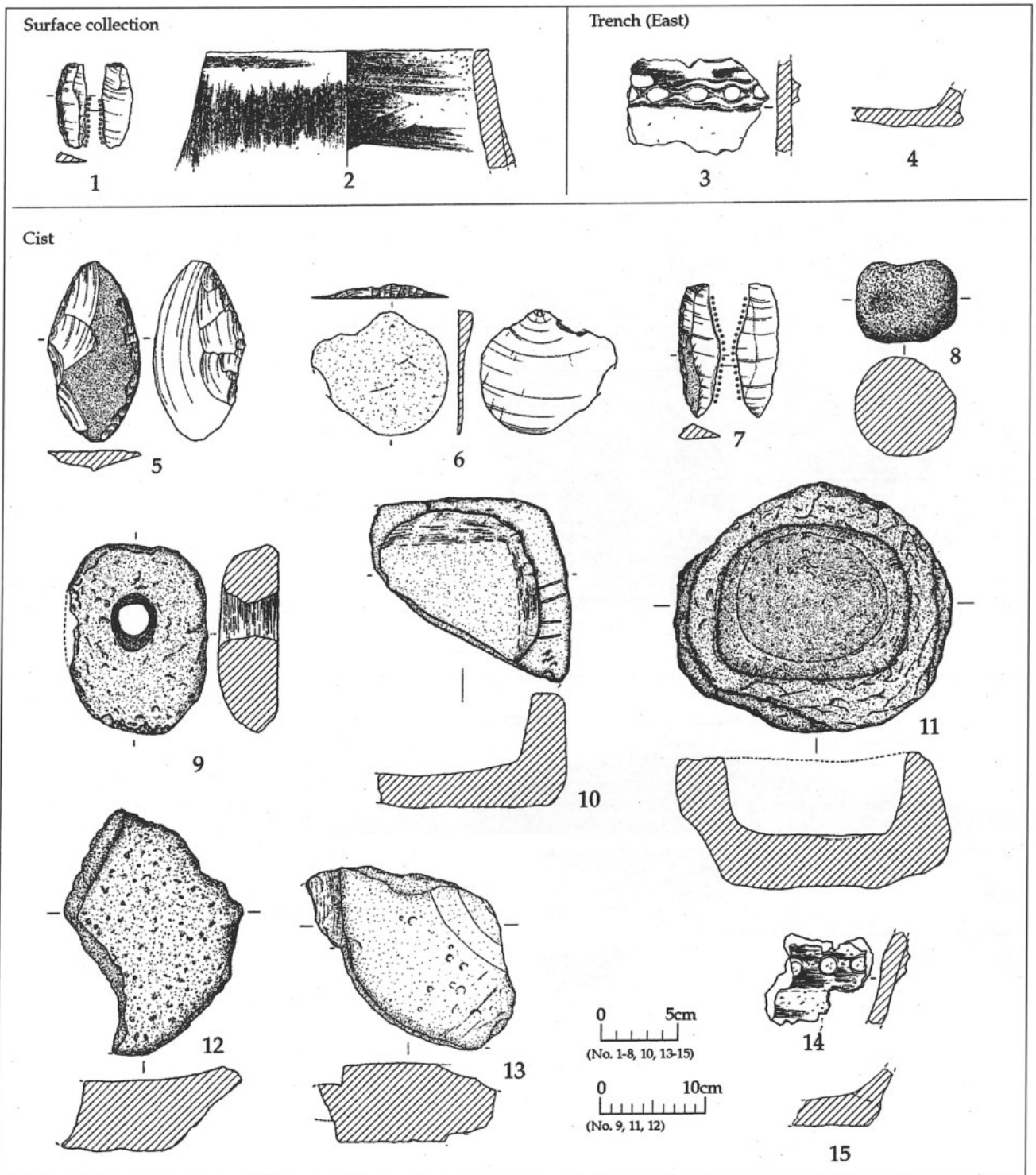
12. Wādi Burma North CE113: the general view of the cist (from N).

protuberance at its outer edge (Fig. 13: 4, 15). Decoration was rare, but two sherds with a finger-impressed horizontal band just below the exterior rim were found (Fig. 13: 3, 14). Similar examples have been well attested at some EBI sites in southern Jordan, including Wādi Fīdān 4 (Adams 1999: fig. 5.10), Wādi Faynān 100 (Wright *et al.* 1998:

fig. 8, no. 1-3) and Ḥujayrat al-Ghuzlān (Khalil and Eichmann 1999: fig. 9, no. 4; Kerner 2003: fig. 18), serving as evidence for the EBI date of this cist enclosure. In addition, the finds included some heavily burned pebbles and a few bags of animal bones and charcoal remains.

#### Cist Enclosure 111 and 116

These two cist enclosures were merely drawn after surface cleaning (Fig. 14). This informal operation suggested, however, that a round cist ca. 2-3m in diameter and a 45-degree turned square forecourt ca. 2-4m each side underlay a cobble-covered mound ca. 5-7m in diameter. Furthermore, CE111 yielded evidence for a narrow entrance flanked with a pair of upright boulders at the northeastern, slightly offset position of the forecourt. There is little doubt that these two examples were constructed following the standard of Wādi Burma cist enclosures. The surface collection included a half-fragment of limestone macehead from CE111 and



13. Wādi Burma North CE113: the finds.

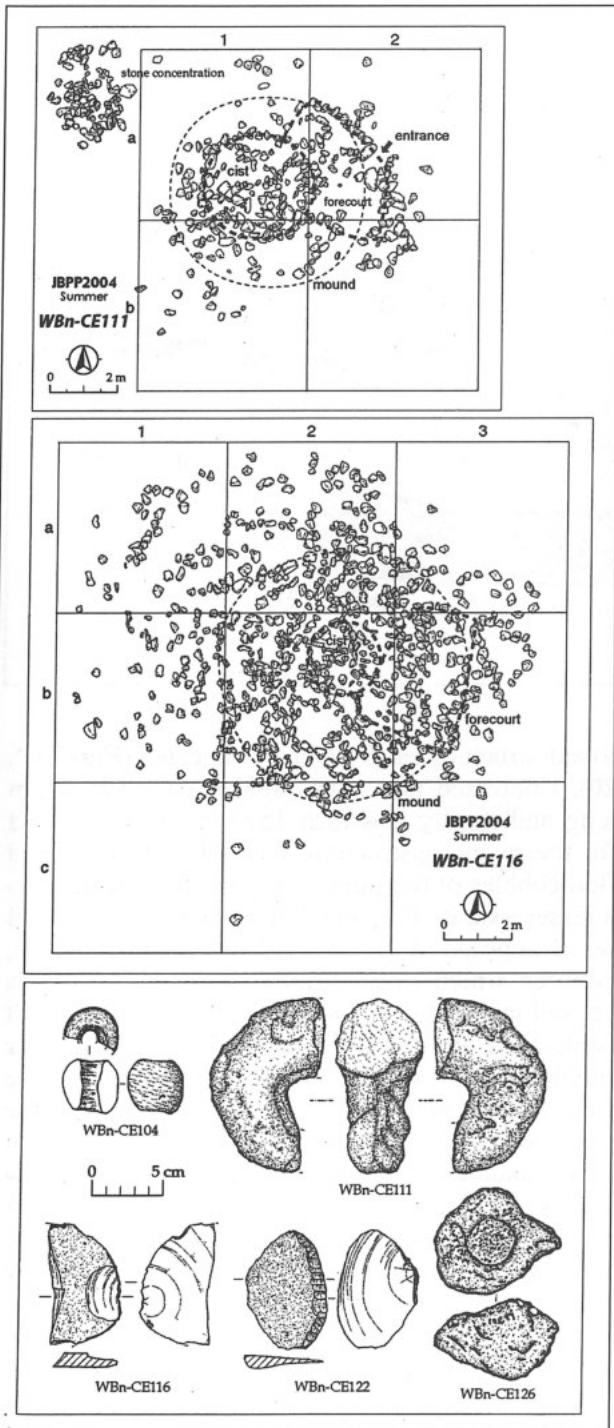
a tabular scraper blank from CE116 (Fig. 14).

**Reexamination of Wādi Burma South Cist Enclosure 1 and 2**

The investigation results of these cist enclosures required us to reexamine WBs-CE1 and -CE2 that had been excavated in the previous season (Fujii

2004b). As a result, both of these turned out to have been equipped with not only a narrow entrance to a cist but also a freestanding upright stone behind it (Figs. 15, 17). Thus, our previous description about these two cist enclosures should partly be revised; the semi-rectangular space within the cists (Fujii 2004b: figs. 5, 8) was not a real





14. Wādī Burma North CE111 and CE116: the plan and the finds.

feature but an accidental hollow that happened to be formed while the cist was covered with rubble mound. It is now obvious that the relatively large, round cist equipped with a narrow entrance and a freestanding upright stone was the norm of Wādī Burma cist enclosures. Incidentally, a large hearth was found at the northwestern part of the cist of WBs-CE1, suggesting that some burning ceremony

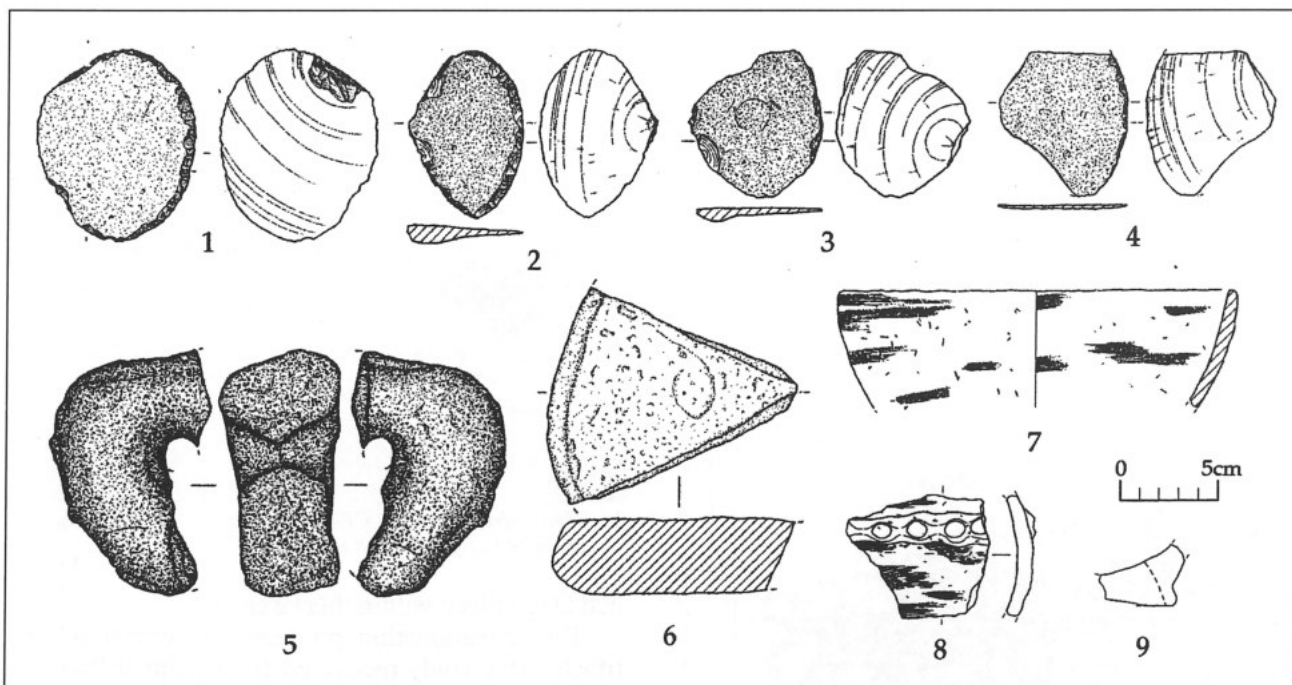


15. Wādī Burma South CE1: the general view of the re-examined cist (from SW).

had taken place within this large cist.

The reexamination produced a number of artifacts. The newly recovered finds from WBs-CE1 included some tabular scrapers (Fig. 16: 1-4), a half-fragment of basalt macehead (Fig. 16: 5), a small fragment of a quern or grinding slab (Fig. 16: 6), a handful of coarse ware sherds (Fig. 16: 7-9), a bag of animal bones including sooty samples, and a number of charcoal remains. Most noticeable of these was a sherd with a finger-impressed horizontal band below the exterior rim (Fig. 16: 8), which, in common with similar samples from CE113, suggests a date of EBI for Wādī Burma cist enclosures.

WBs-CE2 yielded a broader variety of flint artifacts, which included tabular scrapers (Fig. 18: 18-22), backed or arched sickle blades (Fig. 18: 4-6, 11-17), and a few hammer stones made of spherical flint nodule (Fig. 18: 23). Ceramic finds contained some dozens of coarse ware sherds (Fig. 18: 2, 10, 28-33). Noticeable was the occurrence of an open bowl with vertical strokes below a horizontally smoothed exterior rim (Fig. 18: 29), which is comparable with the 'coming pottery' at Wādī Fidān 4 (Adams and Genz 1995: fig. 3, no. 3). The finds also included a half fragment of a limestone macehead (Fig. 18: 3), several grinding slabs and pestles (Fig. 18: 1, 8-9, 24-25), two basalt vessels (Fig. 18: 26-27), and a snail pendant. In addition, a handful of animal bones and charcoal remains were recovered. Of particular interest was the occurrence of three bits of red ocher from the cist, which, along with the occurrence of a pair of quern and pestle that still retain evidence of reddish powder on their working surfaces (Fig. 18: 24, 25), highlights the fact that this red pigment was ground within the cist for some ritual use.



16. Wādī Burma South CE1: the finds from the reexamined cist.



17. Wādī Burma South CE2: the general view of reexamined cist (from SW).

### Two-Rowed Upright Stone Wall Structure 102

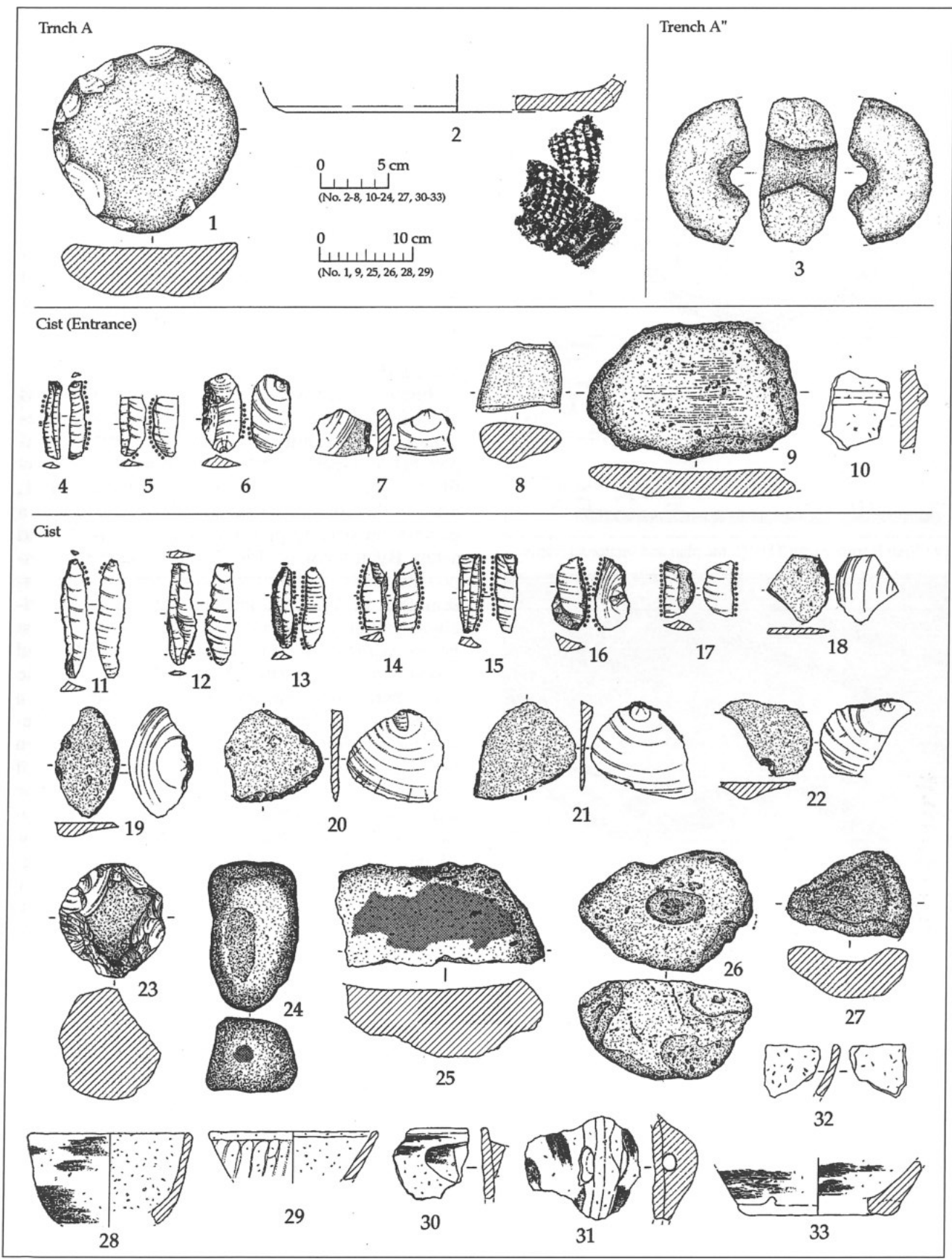
This unique structure, WBn-TU102 in our code system, was located ca. 150m SW of CE101. Unlike cist enclosures, it occupied a flat terrain roughly in the center of an extensive sandbank between the two major courses of Wādī Burma. Although it was beyond the original scope of our investigation, the partial exposure of two-rowed upright stone walls and the surface scatter of naviform cores and bi-directional blades induced us to examine this structure intensively. The excavation showed that it was built on the upper surface of Layer 3 and, then, reused on the upper surface of Layer 2b.

#### *The Structural Remain*

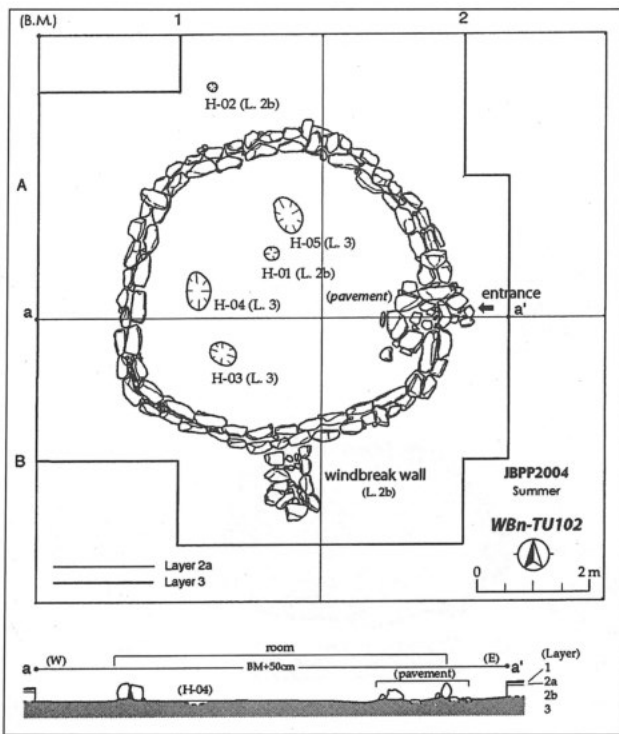
WBn-TU102 was a small, stone-built, roughly

round structure ca. 5.5-6m in diameter (Figs. 19, 20). Undressed limestone cobbles, ca. 30 to 50cm long and mostly less than 15cm thick, were used for the main construction material, but basalt and flint cobbles of the same size were also included to a lesser extent. The foundation course of the wall was composed of two-rows of upright flat cobbles, between which smaller rubble and silty sand was packed in. Neither foundation trenches nor support banks were attested along the wall; instead, smaller rubble was often found driven into the base of the foundation stones as stabilizers. The second course was still preserved at some loci, where a row of less standardized cobbles were put horizontally across the two-rowed upright foundation stones. A series of items of circumstantial evidence — the volume and number of fallen stones around the wall, the unified height of foundation stones, the frequent use of adjustment material for their height — strongly suggested that the wall originally some courses high or ca. 50-70cm in height. Nevertheless, no clear evidence for roofing was found. Neither was special floor treatment confirmed.

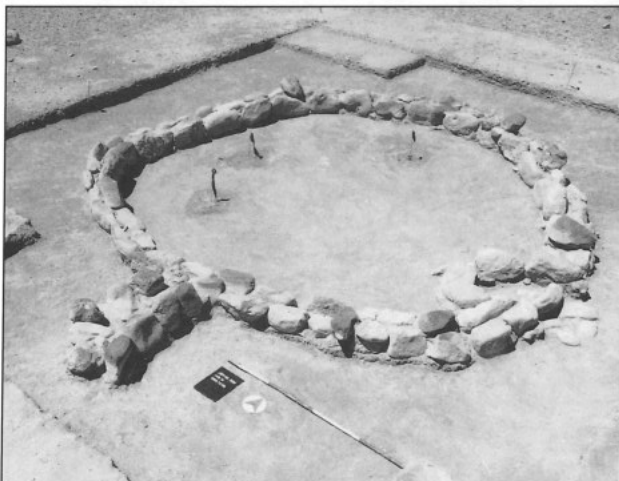
This structure was of single-room type and no partition walls were attested. Instead, three relatively large hearths (H3 to H5), ca. ca. 50-80cm in longer axes and ca. 10-15cm deep, were found on the rear floor. They yielded a large volume of charcoal remains together with ash and burned limestone rubble, but no artifacts were recovered with the exception of a small bone awl from H-03 (Fig. 21: 48). In addition, two smaller hearths (H-01 and



18. Wādi Burma South CE2: the finds from the reexamined cist.



19. Wādi Burma North TU102: the plan and section/elevation.



20. Wādi Burma North TU102: the general view (from SE).

-02) were found on the upper floor level, one inside the room and the other outside. Stratigraphically, both of these belonged to the same level as the short freestanding wall referred to below, suggesting a later reuse of this structure.

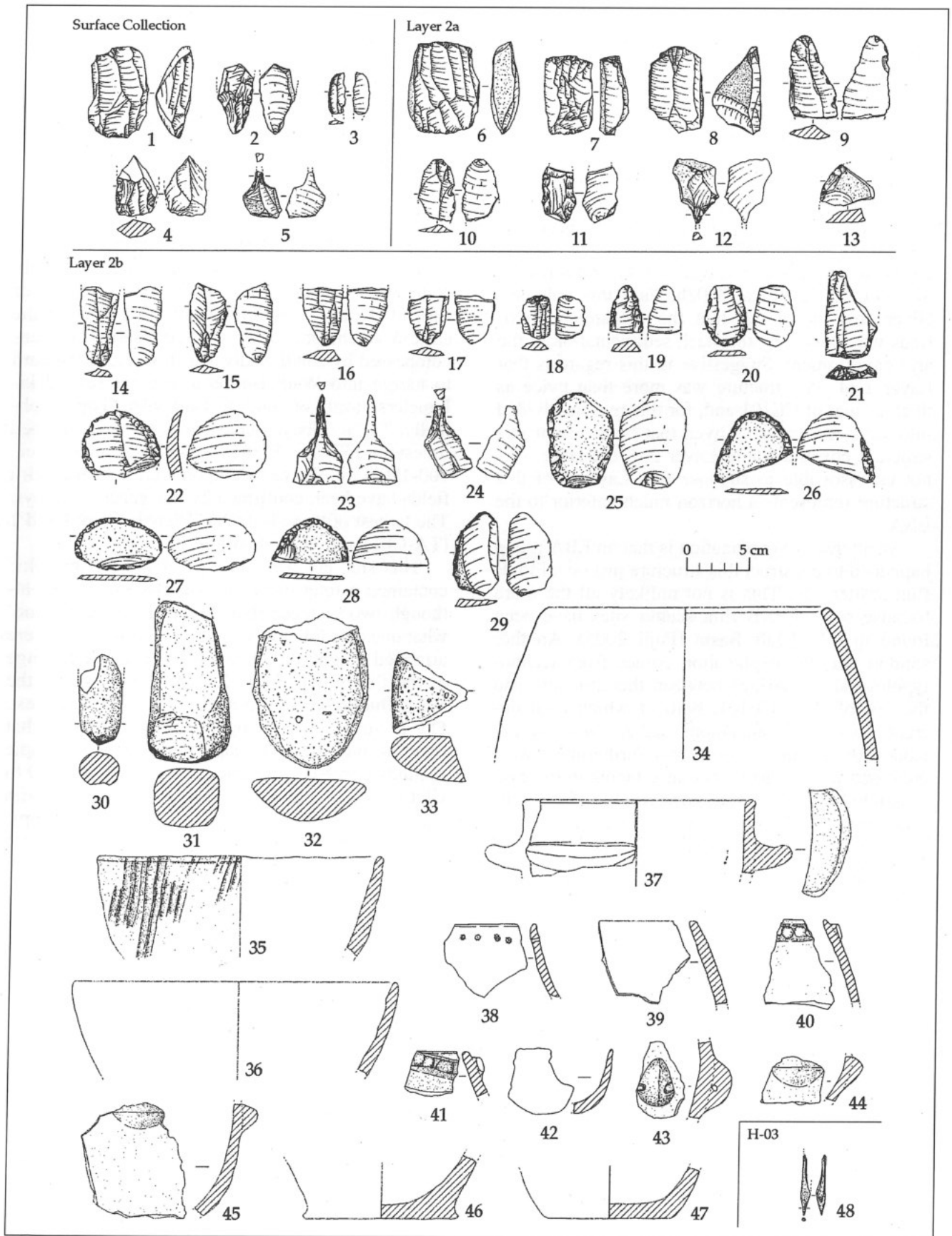
A narrow entrance ca. 0.5m wide was found at the eastern extremity of the room. It was paved both inside and outside with smaller limestone slabs, with a low stone threshold in between. Interestingly, the inner pavement was fringed with a semi-circle of lower upright stones, a probable device for protecting the indoor space against flooding and harmful insects. A concentration of fallen stones was found outside the entrance, suggesting

that, in common with many prehistoric structures in the arid zone of southern Levant (Fujii 2004c), it was originally flanked with a pair of protruding windbreak walls. Other small features included a short, freestanding wall ca. 1.5m long that protruded from the southern wall. A closer examination showed, however, that it was added when this structure was reused on the upper surface of Layer 2b. The function of this freestanding wall is still unknown, but in light of its arrangement in the lee side of the northerly or northwesterly predominant wind in this region and its slight curvature toward the lee side, the use as a windbreak wall for some task and/or storage seems most likely.

### The Finds

Interestingly, this structure yielded both PPNB and EBA artifacts, with the latter being more predominant in quantity (Fig. 21). The PPNB components consisted merely of chipped stone artifacts, which included naviform cores (Fig. 21: 1, 6-8), bi-directionally detached blades often with a punctiform striking platform (Fig. 21: 14-19), and a few Byblos points (Fig. 21: 2). The EBA components falls within the norm of the flint assemblage of Wādi Burma cist enclosures and included tabular scrapers (Fig. 21: 25-29), robust borers with a long tip (Fig. 21: 5, 23-24), and coarse ware sherds (Fig. 21: 34-47). The ceramic finds, here again, included holemouth jars with a finger-impressed horizontal band immediately below the exterior rim (Fig. 21: 40, 41) and an open bowl with vertical stripes (Fig. 21: 35), both of which are among chronological hallmarks of the EBI pottery assemblage in southern Jordan. Another noticeable component was a sherd with a row of punctuations just below the exterior rim (Fig. 21: 38). Similar examples have been reported from some EBI sites in southern Jordan, including Bāb adh-Dhrā' (Schaub and Rast 1989: fig. 13, no. 1, 2000: fig. 4.2), Wādi Fidān 4 (Adams and Genz 1995: fig. 5, no. 1; Adams 1999: fig. 4.10, no. 5; fig. 5.11, no. 2), and Wādi Faynān 100 (Wright *et al.* 1998: fig. 8, no. 4). Tall Iktānū (Prag 2000: fig. 5.3) and WBs-CE2 also yielded parallel examples (Fig. 18: 29). Other finds included a few dozen miscellaneous retouched tools (Fig. 21: 3-4, 9-13, 20-22) and several grinding tools (Fig. 21: 30-33), but their chronological attribution still remains uncertain.

What puzzled us was the coexistence of these two distinct assemblages. Strangely enough, both PPNB and EBA components occurred alongside through layers without any clear shift in ratio. A plausible interpretation for this phenomenon is that



21. Wādi Burma North TU102: the finds.

this structure was constructed by a PPNB group as an outpost from a parent settlement probably to the west and, then, after a few millennia blank, reused (with some modifications) as a temporary encampment related to either the construction of cist enclosures or some other purposes. This interpretation fits in well with the general trend that the PPNB-LN desert fringe of southern Levant witnessed the florescence of two-rowed upright slab wall structures, as evidenced in Sinai (Tchernov and Bar-Yosef 1982), Negev (Goring-Morris 1993), al-Azraq (Garrard *et al.* 1994), and Jafr (Fujii 2000, 2001, 2002a, 2002b; Fujii this volume). Given this, it follows that the contamination of finds was caused by the slack sedimentation in the arid environment. Suggestive in this regard is that Layer 2 of this structure was more than twice as thick as that of CE101 and, for this reason, divided into Layer 2a and 2b. Given that Layer 2b of this structure corresponds to Layer 3 of the latter, it is not unreasonable to suppose that Layer 3 of this structure represents a horizon much anterior to the EBA.

An alternative explanation is that an EBA group happened to construct this structure just on a PPNB flint scatter site. This is not unlikely all the more because some PPNB flint scatter sites have been found in the al-Jafr Basin (Fujii 2005). Another support for this explanation comes from technological similarities between this structure and the cist of WBn-CE101, both of which used upright stones for foundations and horizontally put stones for the upper courses and, furthermore, were equipped with a narrow entrance facing to the east. It should be kept in mind, however, that these traits might be natural consequences of the limitation of raw material and the consistency in the direction of

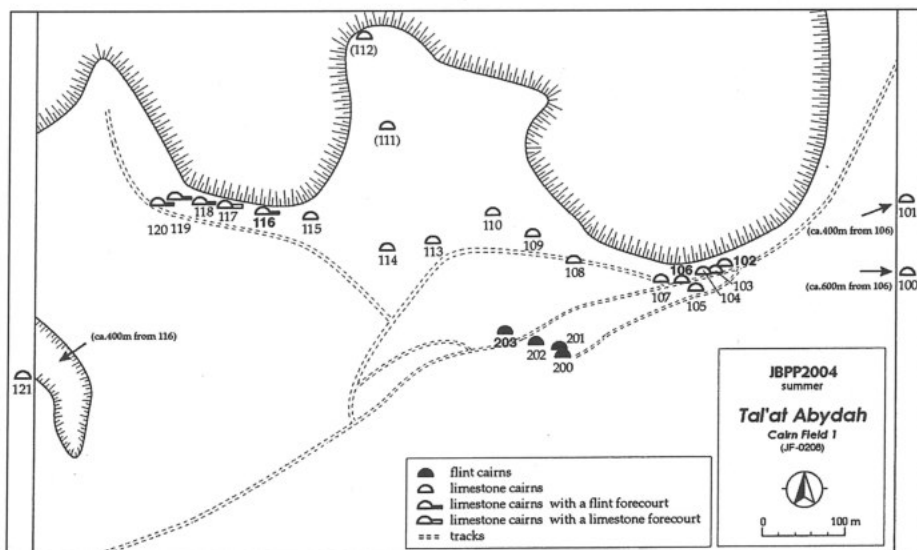
the predominant wind in this region.

However, both of these explanations are still lacking in solid evidence and thus the final conclusion must await further study including radiometric dating now in progress. All we can say at the moment is that a small PPNB outpost, with or without a structure, did exist in this place and an EBA group occupied the same locus after a few millennia blank.

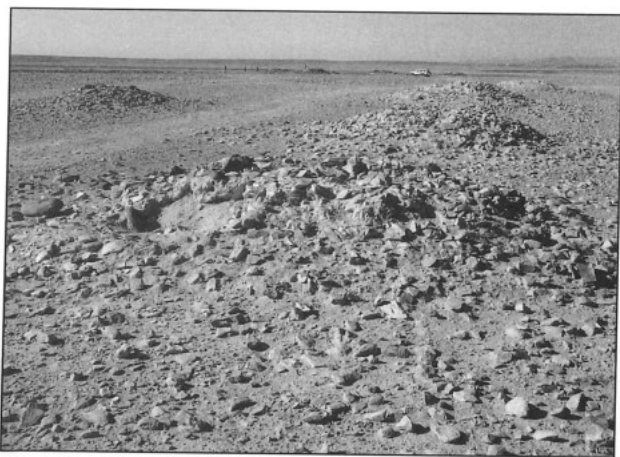
### TAL'AT 'UBAYDA CAIRN FIELD 1

Tal'at 'Ubayda is the general name for a hilly country that extends a few kilometers southeast of Jurf ad-Darāwish. Hydrologically, it is among the eastern catchment areas of Wādī Burma and encompassed by small wadis that flow northwestward to merge into Wādī Burma at a point several kilometers north of Jurf ad-Darāwish. Topographically, Tal'at 'Ubayda consists of some flat-topped limestone hills ca. 1,000-1,100m in altitude or ca. 100-150m in relative height, on which several cairn fields have been confirmed by our general surveys. The largest of these is Tal'at 'Ubayda Cairn Field 1 (TA-CF1), our present concern.

This site, covering an area of more than 20ha, contained a total of twenty-six cist enclosures, although two of these (No. 111 and 112) are somewhat questionable in their identification. They were arranged roughly in a line along the northern fringe of the flat hilltop (Figs. 22, 23), commanding the Wādī Burma catchment area to the north and west. Our pre-excavation mapping survey suggested that they fall into the following three groups: 1) simple mounds covered with limestone cobbles (CE100 to CE115), 2) simple, limestone-covered mounds with a paved forecourt (CE116 to CE121), and 3) simple mounds covered with flint cobbles (CE200 to



22. Tal'at 'Ubayda: the site map.



23. Tal'at 'Ubayda: the general view (from E).

CE203). Of the first group, two well-preserved examples (CE102 and CE106) were chosen for a subject of excavation. Of the second, only CE116 was excavated, but the subsequent four cist enclosures (CE117 to CE120) were drawn in order to elucidate the correlation between mounds and paved forecourts. Since the third group was damaged due to illicit diggings, two of the four examples (CE200 and CE203) were merely drawn, after removing disturbed stones and soil.

#### Cist Enclosure 102

Aside from two isolated examples to the east (CE101 and CE102), this cist enclosure occupied the eastern extremity of the site. Undressed, relatively angular limestone cobbles and boulders up to ca. 1m long were used for the major construction material, but a large volume of limestone rubble and silty sand was also included especially in the mound layers. This structure looked at first like a simple, large cairn covered densely with limestone cobbles. In order to clarify the internal structure, the southern half of the mound was excavated down to the original ground surface. The northern half, on the other hand, was merely surface-cleaned to reveal the original mound surface underneath the cobble cover.

#### The Structural Remain

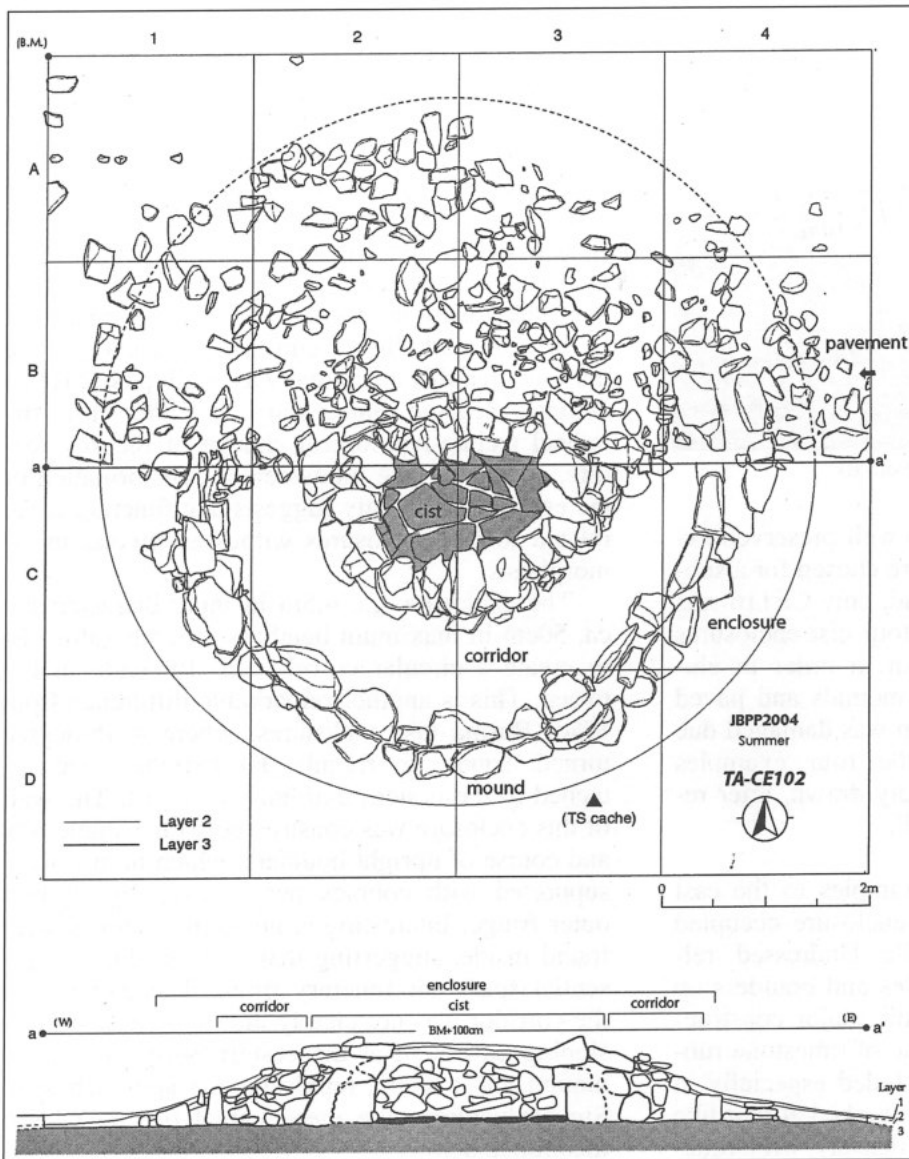
The excavation showed that an oblong cist and a round enclosure encompassing it were covered with the rubble mound ca. 6m in diameter and ca. 1m in relative height (Figs. 24, 25). The cist, ca. 3m by ca. 2m in area and ca. 0.8m or three to four courses high, occupied the central part of the mound, but its longer axis was slightly turned away from the E-W direction, being oriented to NE-SW. The wall of this cist was semi-corbelled (Fig. 26), a critical difference from Wādī Burma cist enclosures (This seems to be the main reason why

Tal'at 'Ubayda cist enclosures are, in general, higher than Wādī Burma cist enclosures). Also of interest was the limestone slab pavement at the cist floor, on which, as referred to below, some artifacts and a few bags of disarticulated human skeletal remains were found. The inside space of the cist was filled out with rubble and silty sand and no clear evidence for capstones was confirmed. Neither attested was an entrance to the cist, but this might be a natural consequence of the introduction of the semi-corbelling technique. Alternatively, we may say that this technique was applied because an entrance became unnecessary. In either case, the radical techno-typological change of the key feature, along with the fundamental transformation of the enclosure, strongly suggests that funerary ritual related to cist enclosures witnessed pivotal metamorphosis.

The enclosure, ca. 4.5m in inner diameter and ca. 50cm in maximum height, surrounded this cist to create a circular corridor ca. 1m wide in between. This is another remarkable difference from Wādī Burma cist enclosures, where a 45-degree turned, square to rhomboidal forecourt was attached to the eastern extremity of a cist. The wall of this enclosure was constructed with a single row and course of upright boulders, which in turn were supported with cobbles put horizontally at their outer fringe. Interestingly, no support stones were found inside, suggesting that the corridor was essential space for funerary ritual. The entrance to the corridor was not clearly attested, but a slightly sloping pavement at the eastern periphery of the mound, most likely, represents the approach to it. Similar features were attested at CE106 and CE116 mentioned below.

#### The Finds

In comparison with Wādī Burma cist enclosures, Tal'at 'Ubayda cist enclosures were both exiguous and monotonous in finds. CE102 was no exception to this, where chipped stone artifacts accounted for the vast majority of the finds and neither pottery sherds nor stone vessels were included. The *in situ* finds are further limited in quantity, consisting only of two tabular scrapers (Fig. 27: 7-8), a Jafr blade, a sidescraper made on a discarded Jafr blade (Fig. 27: 9), and a shell bead (Fig. 27: 11). All of these artifacts were recovered from the lower fill layers of the cist and, therefore, can be regarded as funerary offerings for a few human skeletal remains that were also found on the cist floor. The finds from less reliable contexts included some dozens of flint artifacts, which were dominated by tabular scrapers and their relevant



24. Tal'at 'Ubayda CE102: the plan and section/elevation.

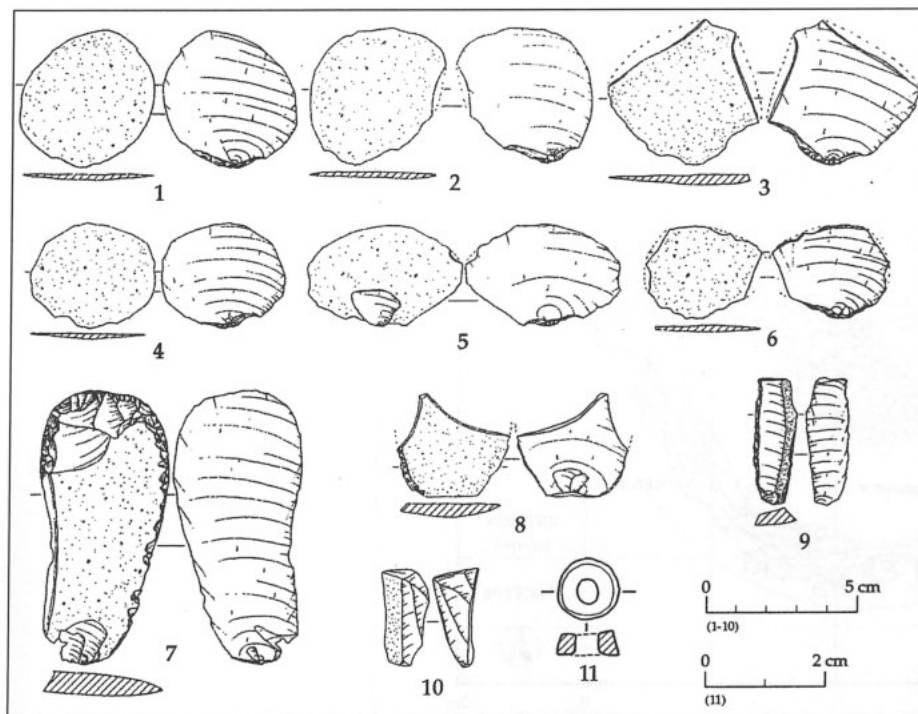


25. Tal'at 'Ubayda CE102: the general view (from S).



26. Tal'at 'Ubayda CE102: the close-up view of the semi-corbelled cist (from N).





27. Tal'at 'Ubayda CE102: the finds.

tool blanks. Interestingly, six tabular scraper blanks were found together at square D3, outside the enclosure wall (Fig. 27: 1-6). They might represent a small cache or a dedication to funerary ritual. The predominance of larger (or originally larger), very thin tabular scraper components with a prepared striking platform suggests a date of the EBA for this cist enclosure.

Of numerous burial cairns thus far excavated in the al-Jafr Basin, this cist enclosure was the first to yield a substantial volume of human skeletal remains in a reliable archaeological context. Since the anthropological examination is still in progress, no special comments can be made, except that the bone and teeth collection suggests evidence for the secondary interments of at least two adults including one male (according to the preliminary examination by Dr. Hiroko Hashimoto).

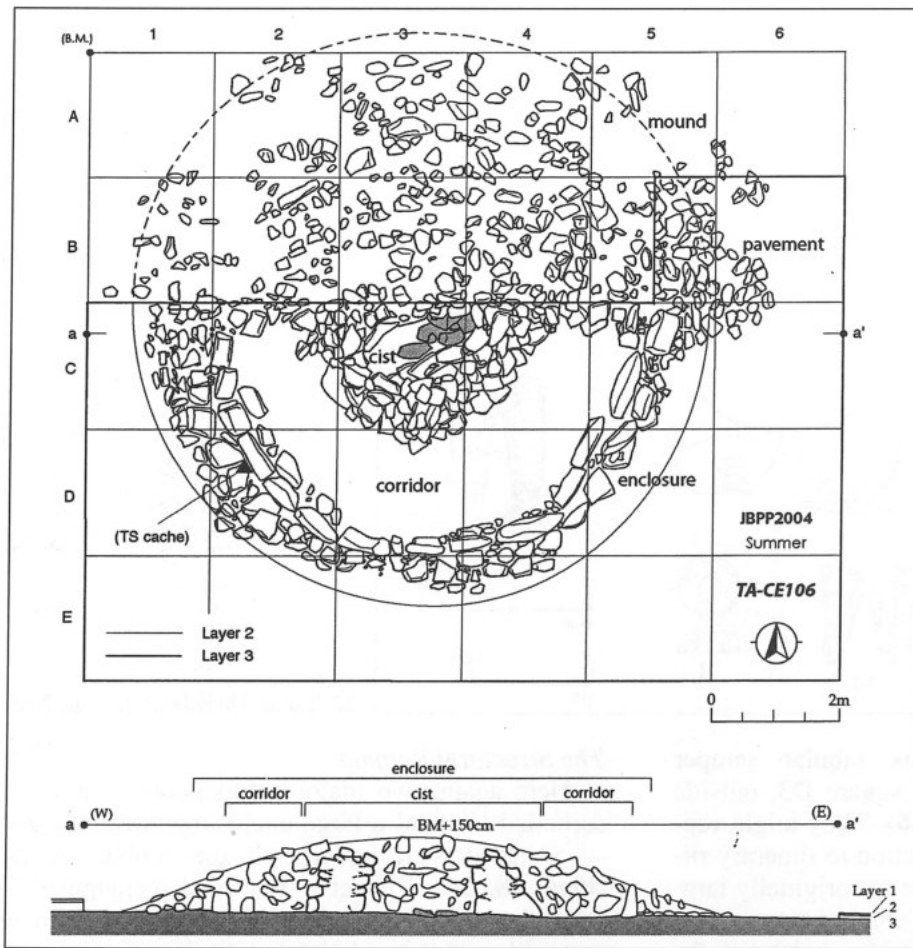
### Cist Enclosure 106

This cist enclosure, lying ca. 50m WSW of CE102 mentioned above, was among the largest structures in this site, measuring ca. 9-10m in diameter and ca. 1.5m in relative height. Undressed limestone cobbles and boulders up to ca. 1m long or more were used for the main construction material, but, in common with CE102, the mound included a huge volume of rubble and silty sand as filling material. In order to double-check the excavation result of CE102, it was examined by the same method. The excavation showed that this cist enclosure had much in common with CE102.

### The Structural Remain

Here again, two major components — a semi-corbelled cist and a large enclosure surrounding it — were attested underneath the rubble mound (Figs. 28, 29). The cist was semi-rectangular in general plan, measuring ca. 3.5m by ca. 2.5m in area and ca. 1m in relative height. In common with CE102, its major axis made a slight turn from the E-W direction, being oriented to the NE-SW. The semi-corbelled wall, much more elaborate in construction quality than that of CE102, consisted of four to five courses of limestone cobbles. The inner surface of the cist was arranged flat to create an interment space (Fig. 30), whereas the outer surface was left rugged. The irregularity of the outer wall was further emphasized due to many stones that were added in a disorderly fashion as weights to support the semi-corbelling. The cist floor pavement was ca. 5cm thick and limited to the north-eastern quarter, around which a few bags of disarticulated human skeletal remains were recovered. Together with rubble and silt, a limestone slab was found from the fill layers of the cist. It was large enough to partly roof the cist, but no similar stones occurred alongside. It might be that the roofing was tried out, but soon ended in failure.

The enclosure was larger in size than that of CE102, measuring ca. 6m in inner diameter and ca. 1m in maximum height. The wall was constructed in a similar way to that of CE102, but the use of larger boulders necessitated heavier support along its outer fringe. The circular corridor between the



28. Tal'at 'Ubayda CE106: the plan and section/elevation.



29. Tal'at 'Ubayda CE106: the general view (from SW).

cist and enclosure was ca. 1.5-2m wide, roughly twice the width of that of CE102. A small pavement, probably the only approach to the corridor, was found at the eastern periphery of this enclosure, but the entrance itself was not clearly attested.

*The Finds*

This cist enclosure yielded a larger number of



30. Tal'at 'Ubayda CE102: the close-up view of the cist wall (from NE).

artifacts than CE102. The *in situ* finds from the cist floor comprised some bags of disarticulated human skeletal remains, seven unprocessed bits of hematite (Fig. 31), and a few undiagnostic flakes and blades. A preliminary examination of the human bones and teeth (by Dr. Hiroko Hashimoto) concluded that the cist contained the secondary interments of at least four individuals including three adults and one infant. Also of interest was the oc-



31. Tal'at 'Ubayda CE102: hematite bits.

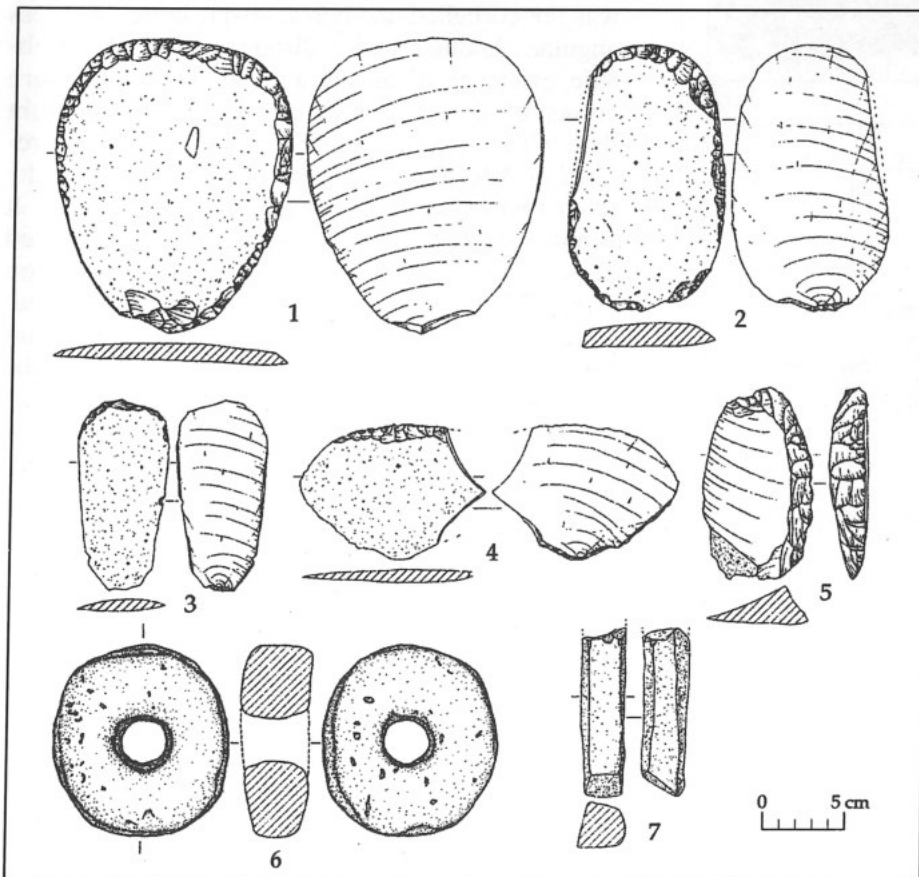
currence of hematite bits from the cist floor and fill layers probably as funerary offerings (Incidentally, five more hematite bits were found from fill layers). The cist also yielded a polished, prismatic rod made of black stone, the use of which still remains unclear (Fig. 32: 7). In addition, a side-scraper was found *in situ* on a wall stone of the cist (Fig. 32: 5). Other *in situ* finds included a small cache of three tabular scrapers that occurred at square D2, on a support stone of the enclosure wall (Fig. 32: 1-3). It is uncertain whether they derived

from funerary offerings or simply represent left behinds, but their large size and elongated morphology probably suggest a date of the EBA for this cist enclosure (Abe 2004; Abe and Fujii 2004).

Apart from these *in situ* finds, a number of artifacts were found from less reliable contexts. They included a few hundreds of flint artifacts, an undatable coarse ware sherd, a limestone rubbing stone, and a large limestone macehead (Fig. 32: 6). The flint artifacts consisted largely of tabular scraper (Fig. 32: 4) and Jafr blade components. The former components occurred sporadically throughout the excavation sector, whereas the latter were concentrated on square C1 and its surroundings. Also noteworthy is that the former comprised tool blanks and finished products alone but the latter included cores and debitage classes as well. Both contrasts suggest that a small atelier of Jafr blades existed underneath this cist enclosure, around square C1 in particular.

### Cist Enclosure 116

As briefly referred to at the beginning, six cist enclosures at the western extremity of this extensive cairn field were characterized by the attachment of a large, unwallled forecourt paved with



32. Tal'at 'Ubayda CE102: the finds.

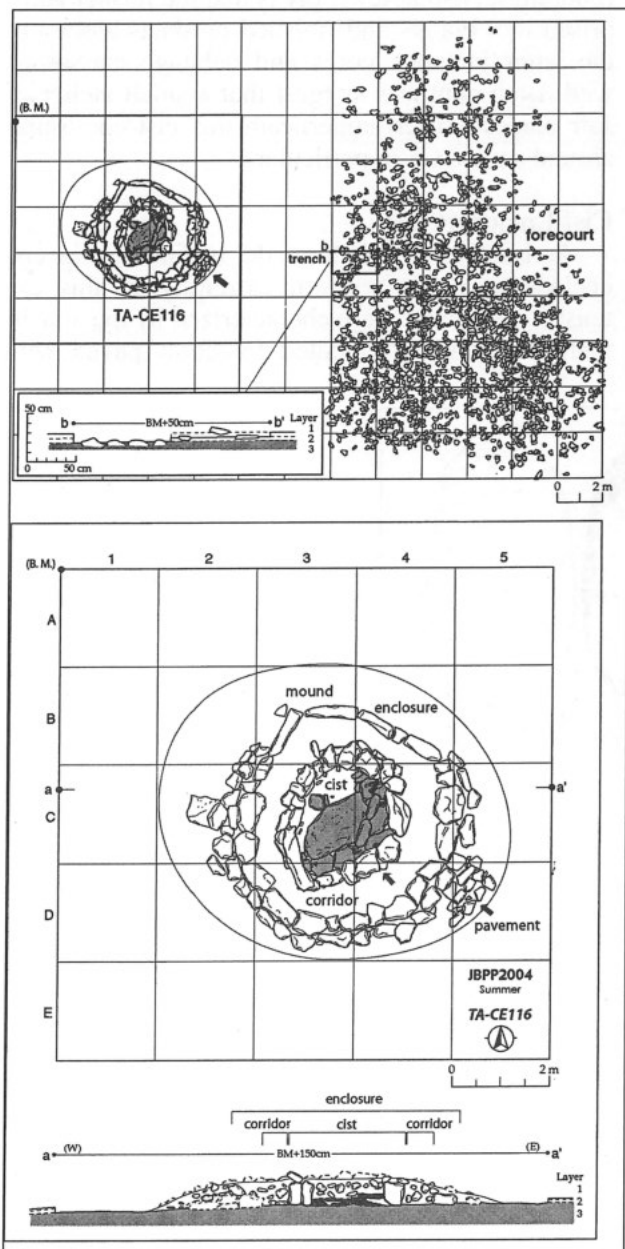
flint and/or limestone slabs. Among these was CE-116, which was relatively well preserved and, for this reason, chosen for a subject of full excavation. The forecourt, lying at a distance of ca. 5m to the east of this cist enclosure, was briefly examined with a small trench that was opened at its western edge.

### The Structural Remain

Here again, a cist and enclosure, with a circular corridor in between, were found underlying the cobble mound ca. 7m in diameter and ca. 1m in height (Figs. 33, 34). A series of minor traits — the general orientation of the cist, the cist floor pave-



34. Tal'at 'Ubayda CE116: the general view (from S).

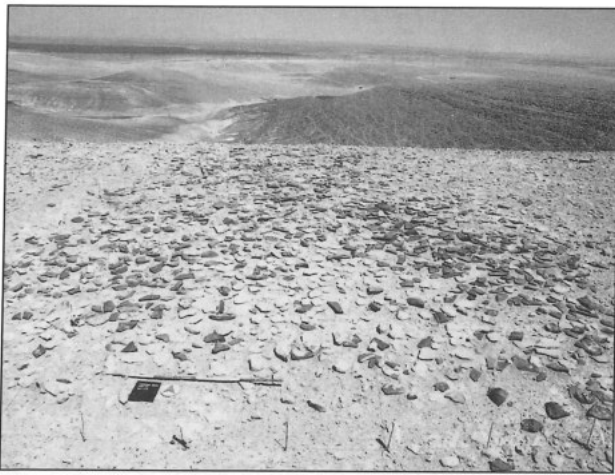


33. Tal'at 'Ubayda CE116: the plan and section/elevation.

ment with limestone slabs, the construction method of the enclosure, and the existence of a gently sloping paved approach at the southeastern periphery of the corridor — also fit well with the norm of Tal'at 'Ubayda cist enclosures.

What differentiated this cist enclosure from the other two excavated examples was the structure of the cist itself. While the cists of CE102 and CE106 were semi-corbelled and, in consequence, relatively larger in height, smaller in size, and more or less angular in general plan, the cist of CE116 was not corbelled and hence lower, larger, and less angular. Another major difference was the probable existence of an entrance at the southeastern corner of the cist. Both of these traits highlight that, with respect to the key feature, CE116 was related to Wādī Burma cist enclosures rather than the other two excavated cist enclosures at this site. It should be kept in mind, however, that, as noted above, this cist enclosure has much in common with CE102 and CE106. Taking together, it is reasonable to conclude that CE116 is of eclectic nature between Wādī Burma cist enclosures, on the one hand, and Tal'at 'Ubayda CE102 and CE106, on the other, and, therefore, can be dated to somewhere between the two. It seems that the absence of a freestanding upright stone behind the entrance is another manifestation of the transitional nature of this cist enclosure.

Of relevance is the addition of an unwallled, paved forecourt to the east of this cist enclosure (Figs. 33, 35). The limited sounding at its western extremity showed that this forecourt shares the stratigraphical attribution with its parent structure. We may therefore conclude that both of these features constituted a structural complex. This forecourt (so called in relation to the entrance to the parent cist enclosure) was roughly rectangular in general plan, covering a large area ca. 16m in the



35. Tal'at 'Ubayda CE116: the general view of the paved forecourt (from S).

N-S longer axis and ca. 12m in the E-W shorter axis. Flint and limestone slabs ca. 20-30cm long were used for the pavement material, with the former being much more predominant. No conspicuous rule for their arrangement was recognized, but it is interesting to note that the southern half, nearer to the corridor entrance, was more densely paved. We may also note that flint artifacts were found largely at its southwestern quarter and the narrow strip between the two, another suggestion that both of these components were functionally correlated with each other. What is important is that the attachment of a forecourt to the east of the key feature is common to Wādī Burma cist enclosures. This provides another line of evidence for the genealogical correlation between this cist enclosure and Wādī Burma cist enclosures.

*The Finds*

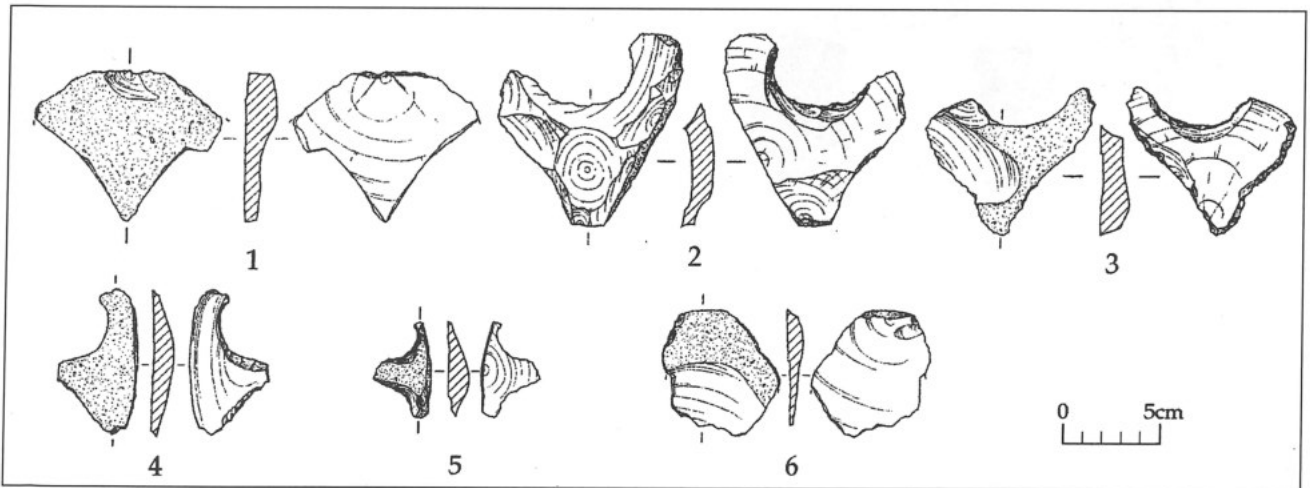
The *in situ* finds from this cist enclosure consisted merely of a tabular scraper (Fig. 37: 6) and



36. Tal'at 'Ubayda CE116: the human skeletal remains piled at the NE corner of the cist (from SW).

some bags of disarticulated human skeletal remains including a large number of teeth fragments. The vast majority of the human bones and teeth were found in a pile in the northeastern corner of the cist (Fig. 36), but some of them also occurred under the cist pavement. This probably means that some of the bones were at first interred directly on the ground surface and, then, collected together for reburial when an additional interment took place and, at the same time, the cist floor was paved. The skeletal evidence suggests that the interment was secondary in nature and contained at least two male adults and one female adult.

The finds from less reliable contexts included a few dozen flint artifacts, primarily tabular scraper components. Noteworthy was the frequency of robust flake tools with a large notch at their working edge (Fig. 37: 1-5). It appears that these unique tools bear some typological affinities with T-shaped tools recovered from Wualian sites (Field 1960: figs. 47, 48). Nonetheless, their contextual



37. Tal'at 'Ubayda CE116: the finds.

ambiguity might cast doubt on the chronological correlation with TA-CE116.

### Cist Enclosure 117 to 120

In order to double-check the functional correlation between a cist enclosure and a paved forecourt, four adjacent cist enclosures were briefly surface-examined and drawn (Figs. 38, 39). As a result, it turned out that they were always accompanied with a large, unwallled, paved forecourt to the east. It is therefore evident that these four (or six when CE116 and CE121 are also included) cist enclosures constituted a distinct group in this large cairn field. There is little doubt that, as evidenced at CE116, these six cist enclosures represent transitional forms between the forecourt type cist enclosures at Wādī Burma North and South, on the one hand, and the corridor type semi-corbelled cist enclosures at the eastern part of this site, on the other. Nonetheless, it appears that, in light of a few major differences including the techno-typological transformation of a forecourt, some missing links still intervene between Wādī Burma cist enclosures and these eclectic examples.

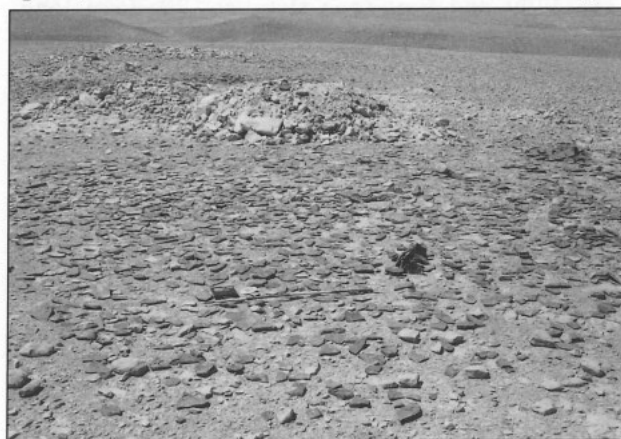
### Cist Enclosure 200s

CE200s were located roughly in the middle of the site, ca. 100m south of the major developing axis of CE100s. What characterized them was the exclusive use of flint cobble and boulders for the construction material, which causes their dark yet grave appearance. This happened probably because flint layers were exposed at this area. The limited

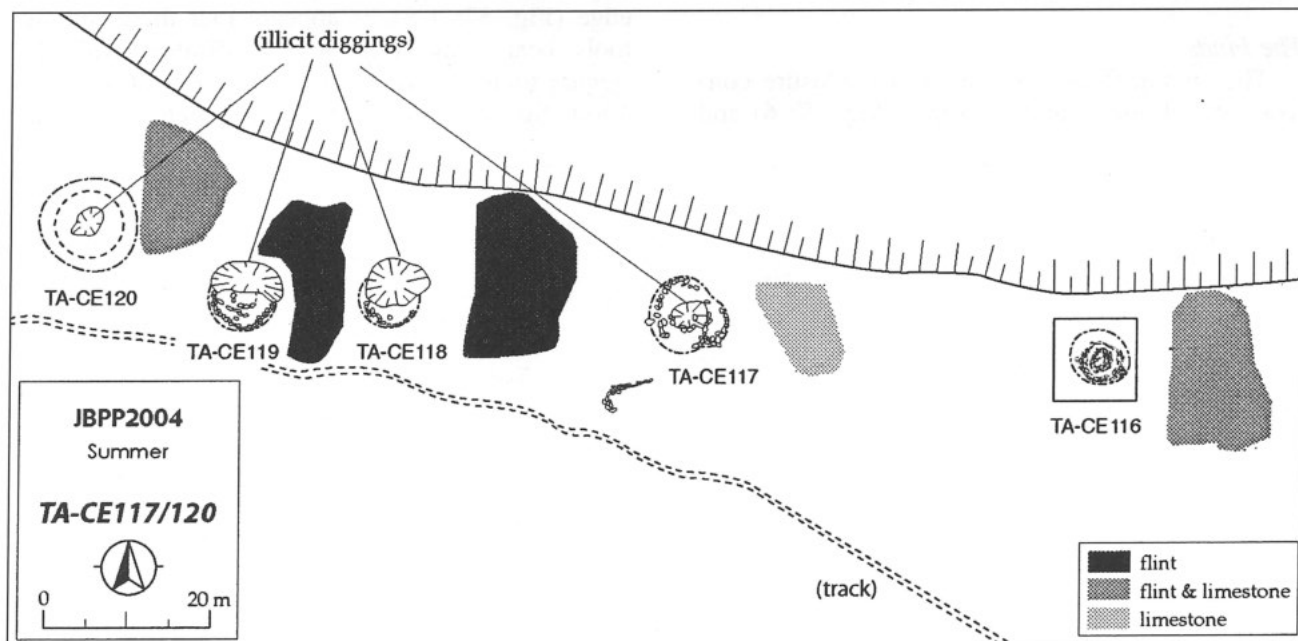
examination at CE200 and CE203 showed that both of these structures were constructed at the same level as CE100s, namely on the upper surface of Layer 3.

### CE200

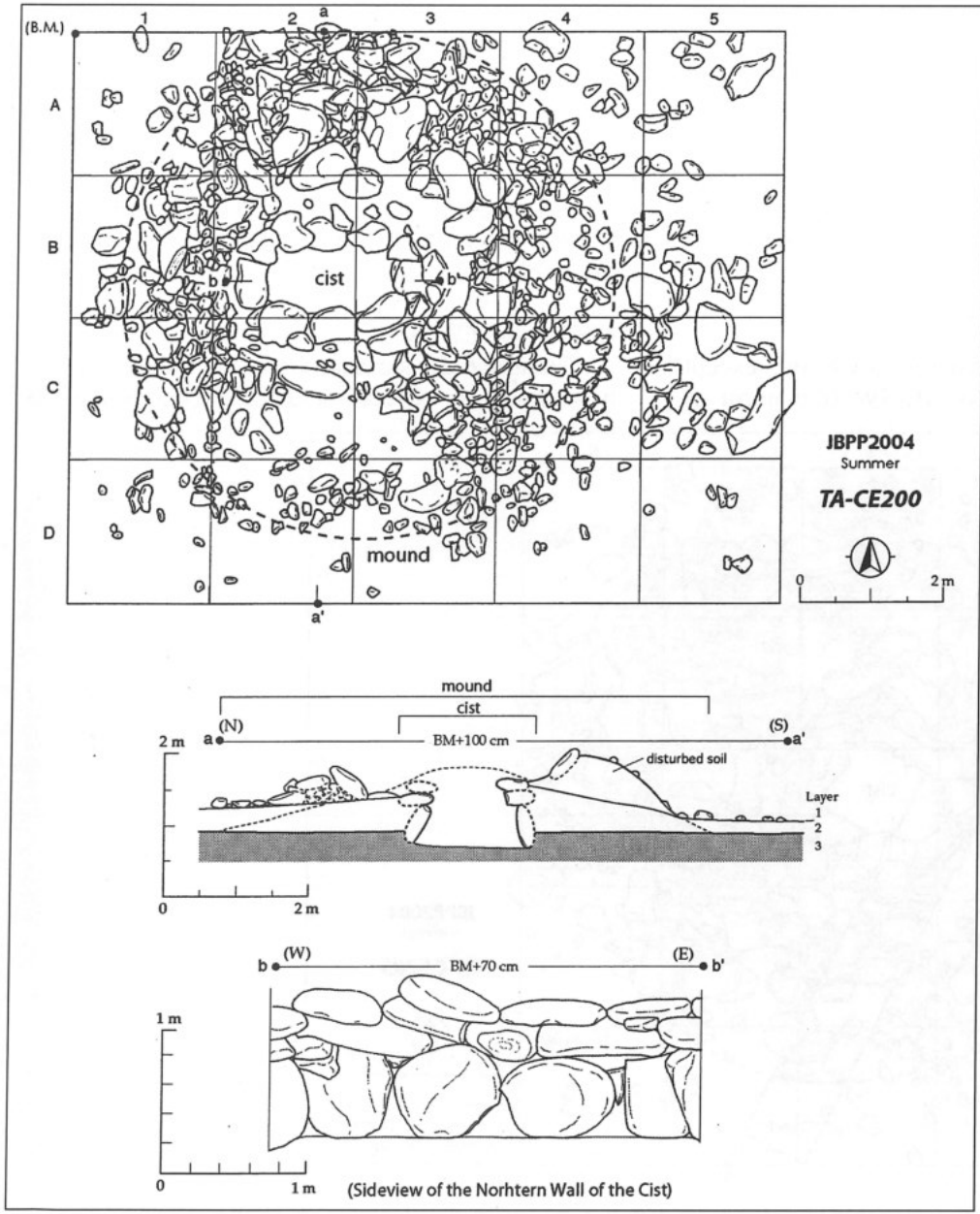
CE200, the easternmost example of this distinct group was relatively small, measuring ca. 7m in diameter and ca. 1m in height (Figs. 40, 41). The mound looked at first to be heavily damaged due to illicit digging, but the removal of disturbed rubble and soil revealed, unexpectedly, a well-preserved cist ca. 2m (E-W) by 1m (N-S) and ca. 1m in height. It was roughly rectangular, E-W oriented, and, most importantly, semi-corbelled (Fig. 42). A closer examination showed that, in order to save labor and, at the same time, create a large interment space, the foundation stones of the cist were put



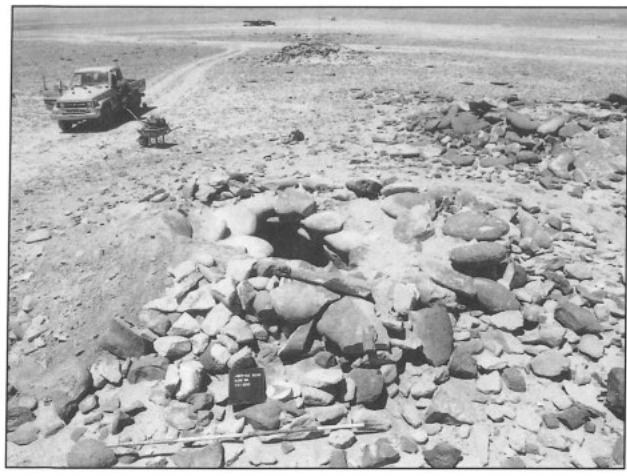
39. Tal'at 'Ubayda CE118-120: the general view (from E).



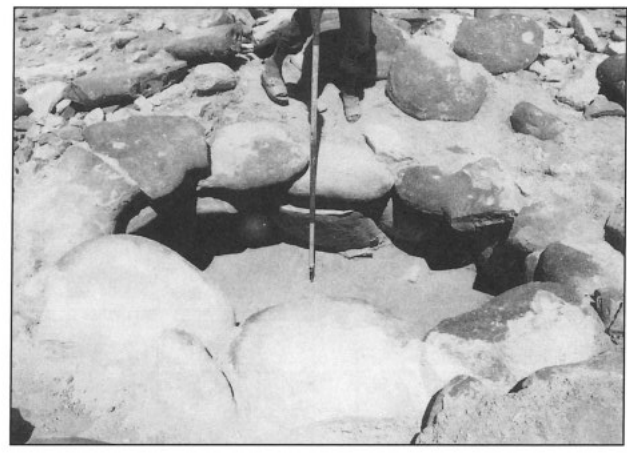
38. Tal'at 'Ubayda CE116-120: the general plan.



40. Tal'at 'Ubayda CE200: the plan and section/elevation.



41. Tal'at 'Ubayda CE200: the general view (from E).



42. Tal'at 'Ubayda CE200: the close-up view of the semi-corbelled cist (from S).

upright (or, more precisely, slightly inclining inward) on a shallow pit that was dug at the cist base. Several boulders, probably capstones for the cist, were scattered on and around the mound. What was unexpected to us was that no clear evidence for an enclosure, the second major component of CE100s, was confirmed. A handful of human skeletal remains and a tabular scraper were recovered from the disturbed soil.

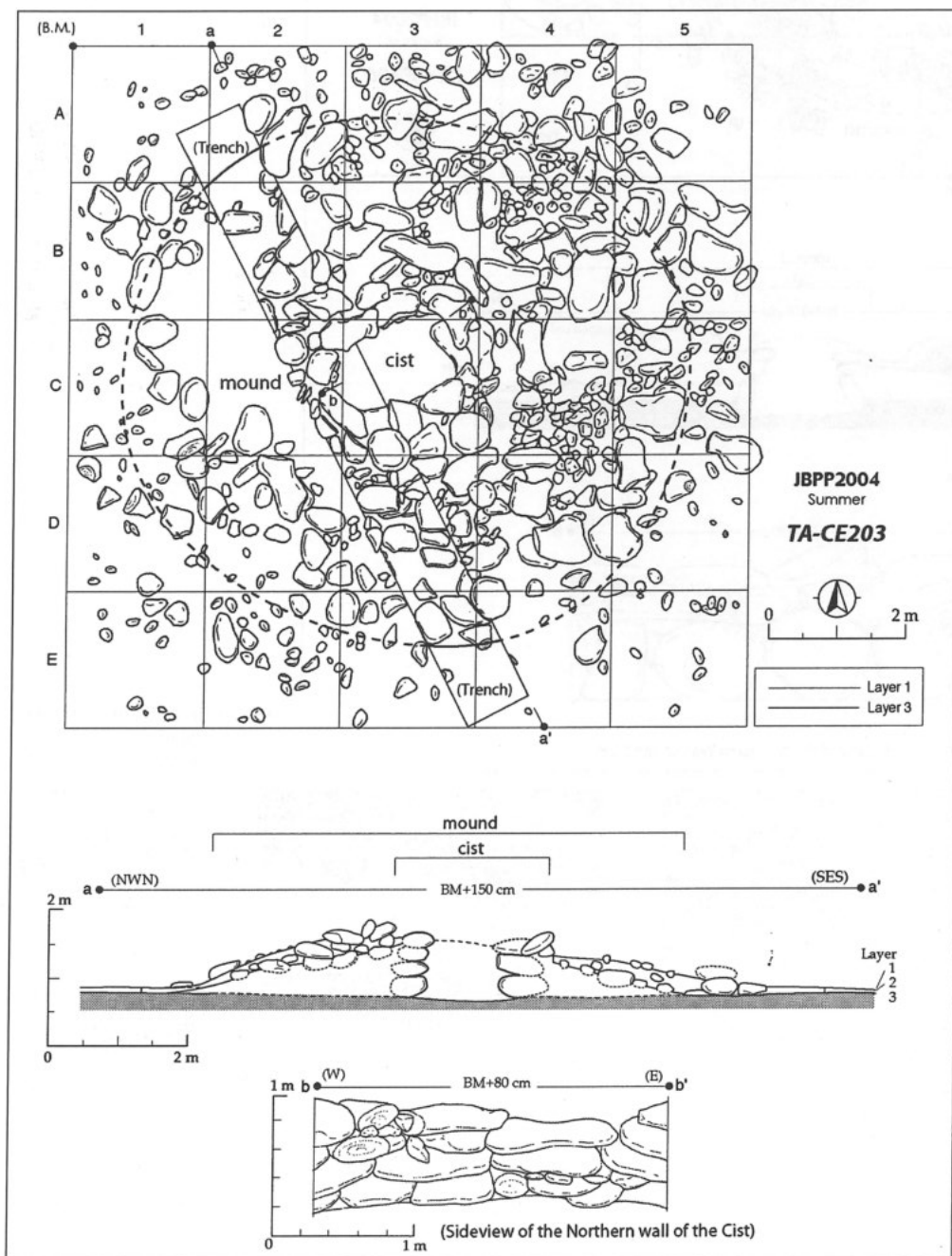
**CE203**

This cist enclosure resembled CE200, except that the cist was oriented NE-SW (the norm of

Tal'at 'Ubayda cist enclosures) and that it was semi-corbelled with boulders piled up horizontally on the ground surface up to four to five courses high (Figs. 43, 44). Here again, no clear evidence for an enclosure was attested, despite the intensive examination by means of a long trench across the mound. The finds were limited to a handful of heavily fragmented human skeletal remains and two undiagnostic flint blades.

**CE201 and CE202**

Though only surface-observed, the remaining two structures (CE201 and CE202) appeared to



43. Tal'at 'Ubayda CE203: the plan and section/elevation.





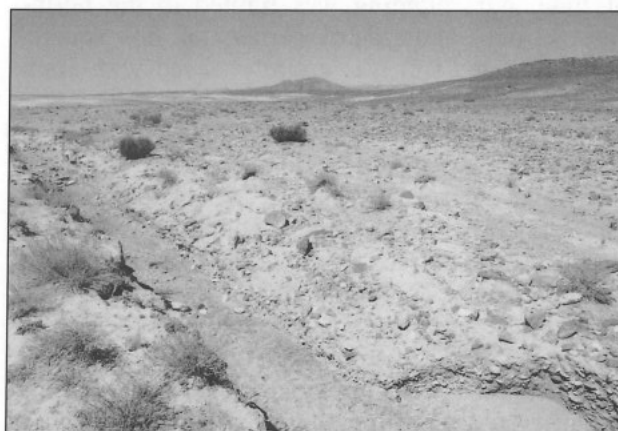
44. Tal'at 'Ubayda CE203: the close-up view of the semi-corbelled cist (from SE).

share basic traits with these two sounded examples, including the lack of clear evidence for an enclosure (In this sense, it may be more correct to call them cist tombs rather than cist enclosures). In light of the probable absence of an enclosure and their offset location from the major developing axe of CE100s, it appears that CE200s constituted a distinct group probably later in date than CE100s. Nonetheless, the final conclusion must await further investigation.

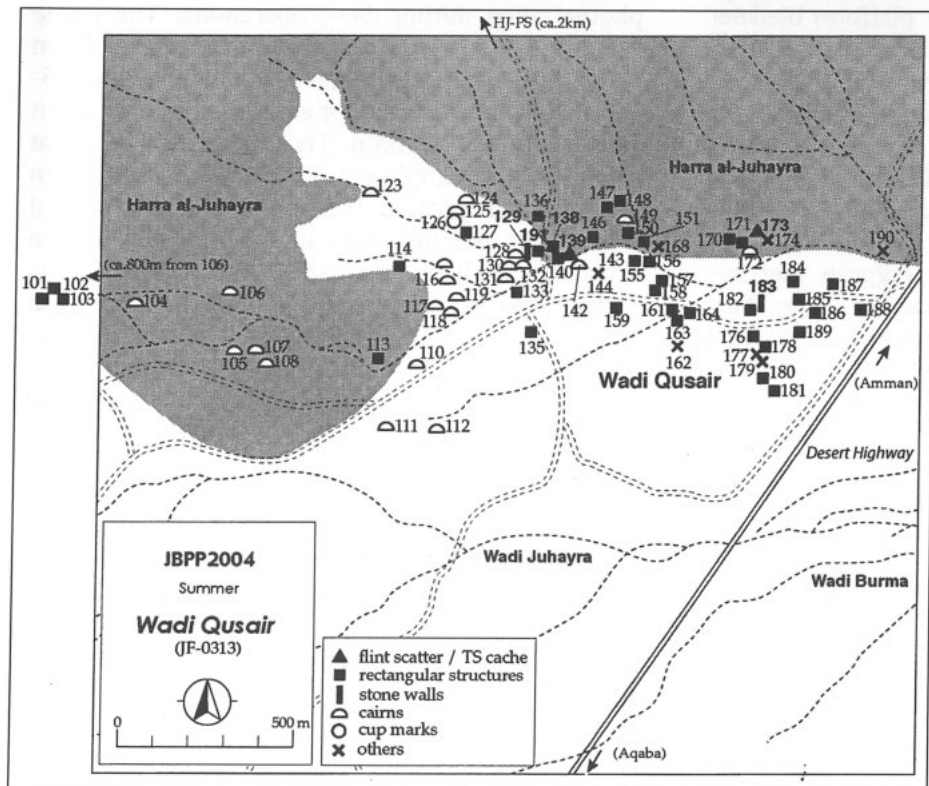
### WĀDĪ AL-QUṢAYR

Wādī al-Quṣayr is among small tributaries that run eastward to merge into Wādī Burma (Fig. 2). It

rises in the western skirts of Jabal Juḥayra, an isolated volcanic hill ca. 7km northwest of al-Ḥusayniyya, and joins Wādī Burma just between Wādī Burma North and South (Fujii 2004a). The site of Wādī al-Quṣayr extends along its course for ca. 3km, covering an area of ca. 150ha (Figs. 45, 46). Despite its proximity to Wādī Burma North and South, no cist enclosures were confirmed in this site; instead, it turned out to be a composite site containing a few flints scatters, some forty rectangular structures, two freestanding stone walls, and a few dozen simple cairns. Although these archaeological occurrences were beyond the original scope of our investigation, some of them were briefly sounded in order to supplement basic in-



46. Wādī al-Quṣayr: the general view (from NW).



45. Wādī al-Quṣayr: the site map.

formation on the general occupational history of the Wādī Burma drainage basin.

### Flint Scatter 139

This flint scatter site (WQ-FS139) was located roughly in the center of the site, at the northern bank of the main stream of Wādī al-Quṣayr (Figs. 47, 49). It was relatively large in site size, covering an area of ca. 1,000 square meters. The occurrence of lunates, a hallmark of the Natufian flint industry, induced us to briefly sound it. A small, 5m by 5m square was set up roughly in the center of the flint scatter range, immediately beside an illicit excavation pit that exposed a section of ashly deposits more than 30cm thick. Due to the limitation of time, our sounding was limited to the north-eastern and southeastern corners of this square. The excavated soil was entirely sieved with 3mm mesh nets.

The limited sounding showed that a large pit (Pit 1), more than 5m in diameter, was dug from the upper surface of Layer 2, which in turn was partly disturbed by the recent illicit excavation pit dug from the surface layer (Layer 1a). Thousands of flint artifacts and faunal remains were recovered from Pit 1 and its circumference. We deal with them as a single assemblage, firstly because they were homogeneous through layers, and secondly because a close examination is still in progress.

The flint assemblage was exclusively of micro-lithic nature and included single platform bladelet cores (Fig. 48: 16-18), bladelets (Fig. 48: 8-12) lunates (Fig. 48: 1-7), endscrapers (Fig. 48: 13), notches (Fig. 48: 14), and drills (Fig. 48: 15). Of importance is the predominance of minute, abrupt/bipolar retouched lunates, a hallmark of the Late Natufian flint assemblage (Henry 1989: 110-111, 1995: 323-326). This, coupled with the total absence of sickle blades, strongly suggests that this site served as a Late Natufian hunting camp. This functional identification is consistent with the rich occurrence of faunal remains, which contained gazelles as a major component but also included larger ungulates to a lesser extent (pres. comm. from Dr. Hitomi Hongo, who saw relevant photos) (Fig. 50). Nonetheless, the occurrence of a few basalt pestles (Fig. 48: 19) implies that the activities at this site were not necessarily limited to hunting alone. This is likely all the more because this site is large enough in site size (ca. 1,000 square meters) to fall within the category of smaller base camp (Bar-Yosef 1991: 401).

The identification of a Late Natufian site along Wādī al-Quṣayr is highly important, not only because it supplements the paucity of basic in-

formation on the Natufian cultural entity in the southern Jordanian plateau, but also because it provides comparative material with Tabaqa/WHS895, an Early Natufian base camp located along the upper stream of Wādī al-Ḥasā (Byrd and Rollefson 1984; Byrd and Colledge 1990; Sellars 1998: 87). The probable existence of a Palaeo-lake around Jurf ad-Darāwish is highly suggestive in this regard (Neerly 2004).

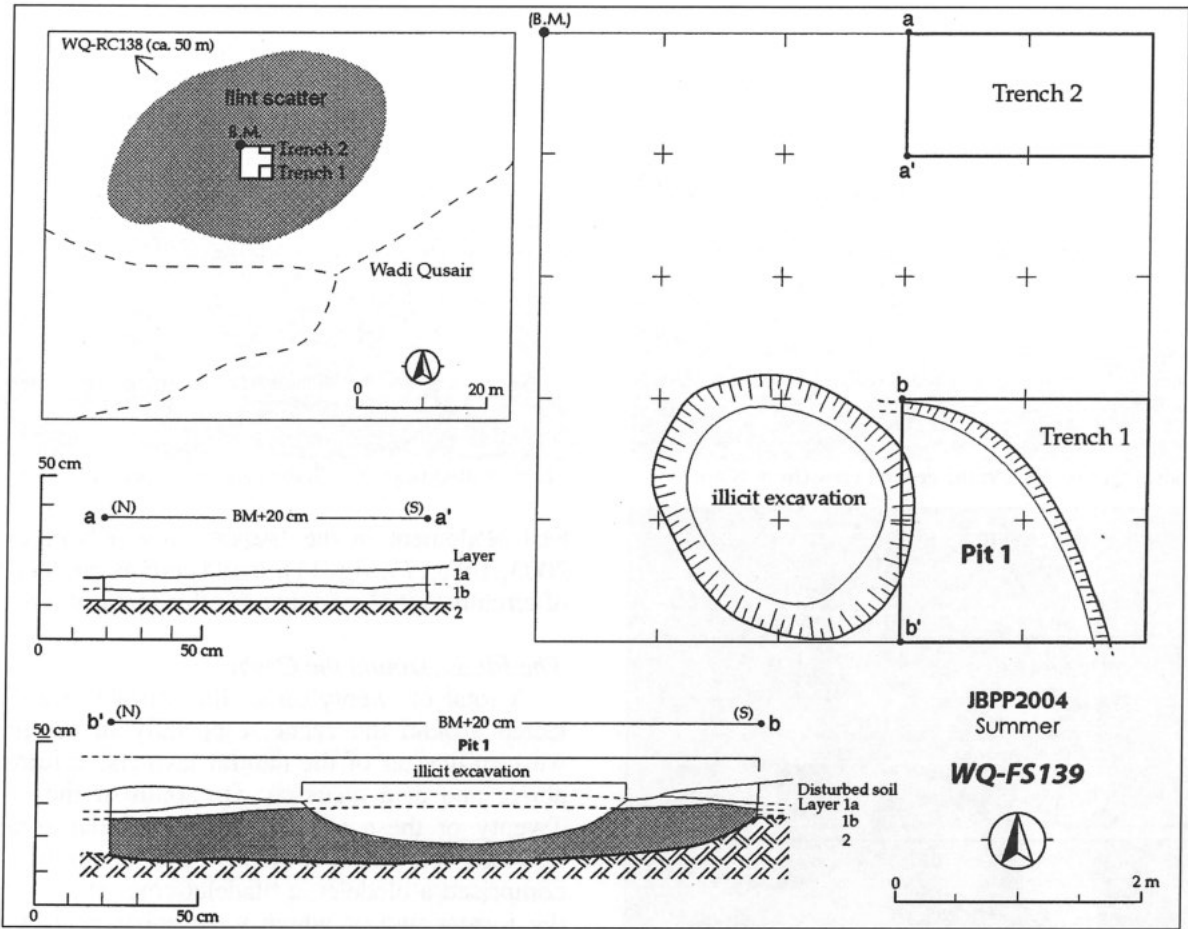
### Tabular Scraper Cache 173

The pre-excavation mapping survey confirmed by chance a small cache of tabular scrapers (WQ-TC173) on the southern slope of Ḥarrat al-Juḥayra, an extensive basalt hill that forms the northern watershed of the Wādī al-Quṣayr drainage system (Fig. 51). What we noticed first was a concentration of five tabular scrapers on the present ground surface. We photographed them and, then, picked them up giving each sample a serial number. However, when we sounded the locus to make sure of it, we found another two pieces still underlying. Then we repeated the same procedure as the first group, but this cycle was not completed even when the collection amounted to nine in total. Thus we stopped the operation and resumed it on the next day. As a result, six flint artifacts, primarily tabular scrapers, were found anew.

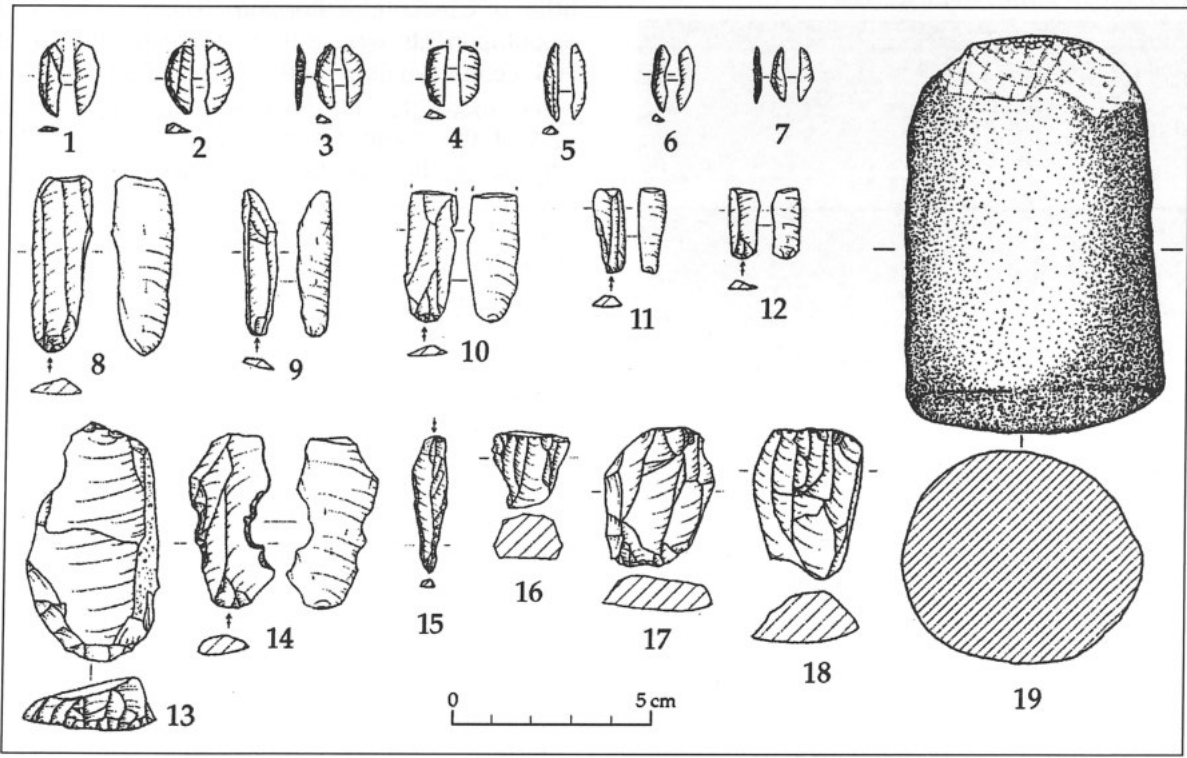
Figure 52 shows the original state of the cache that was reconstructed referring to the notes and photos taken during these operations. The cache was limited in extent, covering an area of ca. 40cm by ca. 20cm and reaching a depth merely of ca. 5-7cm. No clear evidence for a pit or stone alignment was confirmed around it. Thus, it seems likely that the cache was simply put on the ground surface in those days (If pressed, we would say that a natural lava rise beside the cache might have served as a protection wall or landmark). What interested us instead was that every sample, with the exception of No. 4, occurred with a turned-up ventral surface. The reason for this unique phenomenon is still unknown, but a likely explanation is that they had originally been kept in order in a single bag.

#### *The Contents of the Cache*

The cache, 15 pieces in total, consisted of ten tabular scrapers (Fig. 53: 1-3, 5-6, 9-12, 15), four tabular scraper blanks (Fig. 53: 4, 7-8, 14), and a single robust blade fragment (Fig. 53: 13). The overwhelming predominance of tabular scraper components (93.3 percent in total) allows us to call this assemblage a tabular scraper cache. All samples were homogeneous in raw material, using grayish, mat, fine-textured, Eocene flint probably



47. Wādi al-Qūṣayr FS139: the plan and section of Pit 1.



48. Wādi al-Qūṣayr FS139: the finds.



49. Wādī al-Quṣayr FS139: the general view (from NW).

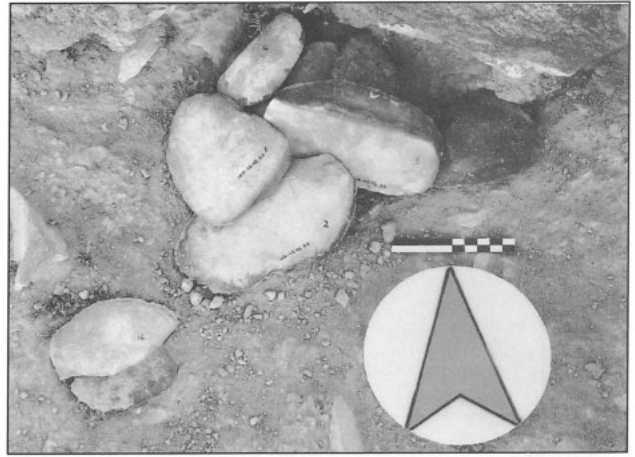


50. Wādī al-Quṣayr FS139: faunal remains.



51. Wādī al-Quṣayr FS139: the distant view (from S).

mined at hilly countries to the east. They included a few large, oblong samples (Fig. 53: 1-3), which probably fall techno-typologically within the time range of the EBA (Abe 2004; Abe and Fujii 2004). Another support for this dating comes from the two smaller caches confirmed at Tal'at 'Ubayda, which also included parallel examples (Fujii this volume). A similar cache found at Ḥujayrat al-Ghuzlān, an



52. Wādī al-Quṣayr FS173: the tabular scraper cache (from S).

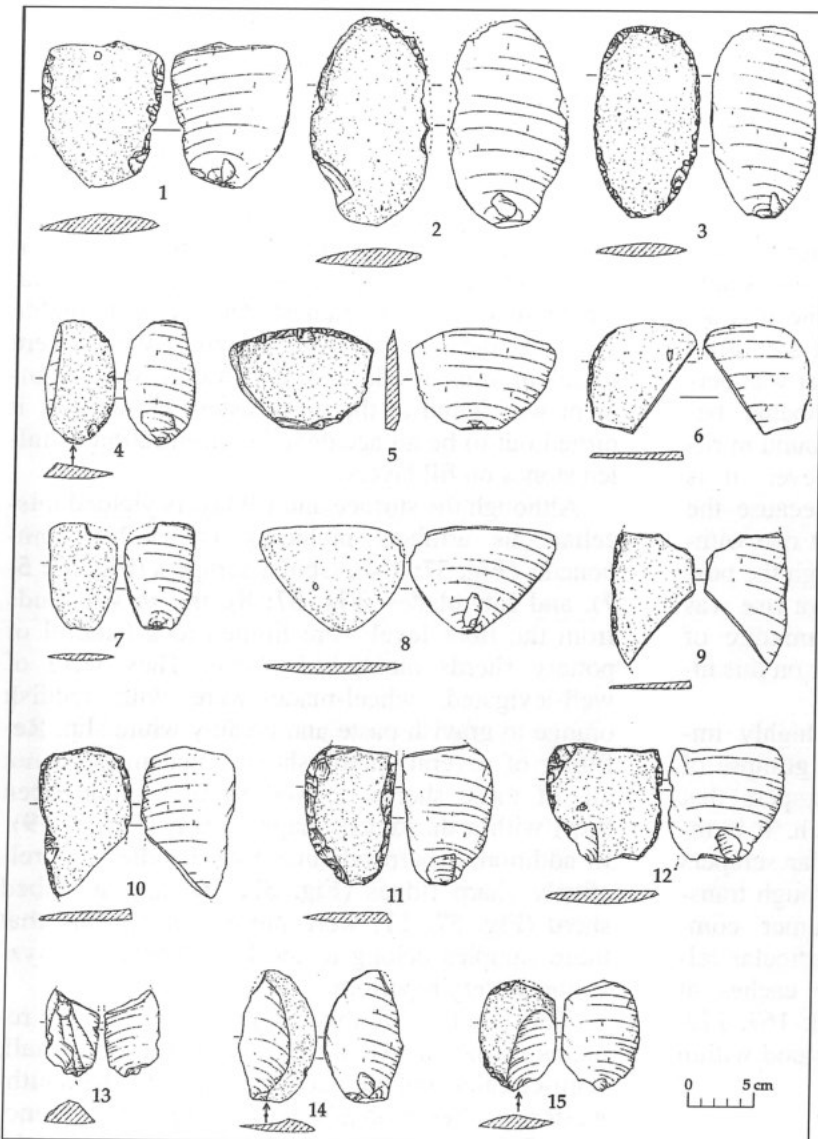
EBA settlement in the 'Aqaba area (Khalil *et al.* 2003: 167, 173, fig. 11), may serve as another line of circumstantial evidence for this tentative dating.

#### *The Finds Around the Cache*

A total of twenty-three flint artifacts were collected around the cache, especially in the north-western quarter of the natural lava rise referred to above and at a locus ca. 5m south of the cache. Twenty of these (=90.9%) were tabular scrapers and their relevant tool blanks (The remaining three comprised a bladelet, a bladelet core, and a chisel, the former two of which were apparently of Epipalaeolithic date and the last probably of the Neolithic or Chalcolithic horizon). These tabular scraper components were similar in both raw material and techno-typology to the cache components, possibly suggesting that they originally constituted a part of the cache. Given this, it follows that the original cache amounted to thirty-five pieces, a quantity consistent roughly with our tentative assessment that one EBA flint knapper in the al-Jafr Basin brought back a few dozens products (Fujii 2003: 219).

#### *Archaeological Implications*

What archeological implications does this tabular scraper cache have? Before entering a brief discussion, it is useful to note that no clear evidence for tabular scraper production has so far been confirmed in the Wādī al-Quṣayr area. We may therefore reasonably disregard the possibility that this cache represents a depot related to a production site. Likewise, it is most unlikely that this cache was a hoard or cache in a strict sense of the word such as the finds at Nahal Mishmar (or The Cave of Treasure) (Bar-Adon 1980), not only because flint implements were, in general, much less valuable in nature, but also because neither coeval settlements nor



53. Wādī al-Quṣayr FS173: the components of the tabular scraper cache.

shrines have been attested in this area.

Thus the following three interpretations can be suggested. The first and most plausible interpretation is that the cache represents things left behind probably on someone's way back from a production site to the east toward a market or mother settlement to the west (and, possibly, to the south). Suggestive in this regard is the identification of many tabular scraper mining and production stations at Tal'at 'Ubayda and beyond (Quintero *et al.* 2001; Fujii 2003: 210-220; Abe 2004; Abe and Fujii 2004), which point to the destination of EBA flint knappers. Of further significance is the surrounding topography; the only way to descend directly from Tal'at 'Ubayda is a gentle slope that protrudes toward the eastern bank of Wādī Burma (Fig. 54). It is at the opposite bank that Wādī al-Quṣayr merges into Wādī Burma, a suggestion that the Wādī al-Quṣayr drainage basin was among ma-



54. Wādī al-Quṣayr: Tal'at 'Ubayda (rear) and the only slope descending to Wādī Burma (front).

nor lanes for EBA flint artisans in this area. It is not improbable that a few dozens flint artifacts, probably contained in a single bag, happened to be left

behind. The absence of any device to conceal them also argues for this interpretation.

The second explanation, though similar in social background to the first one, is that the cache represents a temporary yet intentional storage that was not withdrawn for some reason. The natural basalt rise besides the cache might have served as a good landmark for this depot. Nevertheless, this explanation seems less convincing, because, as noted above, no device to conceal the cache was attested. An alternative possibility is that the cache represents a dedication to some ritual that was performed at this place. This is not improbable, because tabular scrapers have often been found in ritual contexts (Rosen 1997: 74). However, it is questionable in this case, especially because the cache was found beside a natural basalt rise without any clear evidence for ritual. Although the possibility still remains that the natural lava rise was likened to some ritual facilities, the mixture of heavily used tabular scrapers casts doubt on this interpretation.

Whatever the case, this cache is highly important in that it has provided the first glimpse of the distribution system of tabular scrapers that were mass-produced in the al-Jafr Basin. It is intriguing to hypothesize that these tabular scrapers happened to be left behind halfway through transportation toward entrepôts or consumer communities to the west and south. Of particular relevance is the occurrence of similar caches at Ḥujayrat al-Ghuzlān (Khalil *et al.* 2003: 167, 173, fig. 11), which can also best be understood within this framework.

### Rectangular Structure 138

This structure (WQ-RC138) was located immediately to the west of the Late Natufian site mentioned above. It looked at first like a large cist enclosure that had a mound to the northeast and a square, 45-degree turned forecourt to the southwest (This is the reason why we decided to excavate this structure). Closer examination revealed, however, that the mound-like feature was merely a natural rise and the supposed forecourt was an independent, square structure that happened to be built resting partly on this natural rise. Thus the following description will focus on the latter feature.

The limited excavation showed that this structure, ca. 12-13m each side, was built on the upper surface of Layer 3 of the site stratigraphy. Reflecting the site location between Ḥarra and wadi beds, basalt and limestone cobbles and boulders up to 70-80cm long were used for the construction

material (Figs. 55, 56). The walls were a single row wide and preserved merely to a height of a single course, but the volume of fallen stones around them suggested that they were originally a few courses high. The layout was very simple; neither partition walls nor small features were found inside. The only thing that broke the monotony was a small, semi-circular protrusion at the southwestern corner. The internal space of this small feature ca. 2m in diameter was packed densely with rubble and soil, under which several pottery sherds were found *in situ*. In addition, an obscure wall alignment was found at the northeastern corner, but it turned out to be an accidental concentration of fallen stones on fill layers.

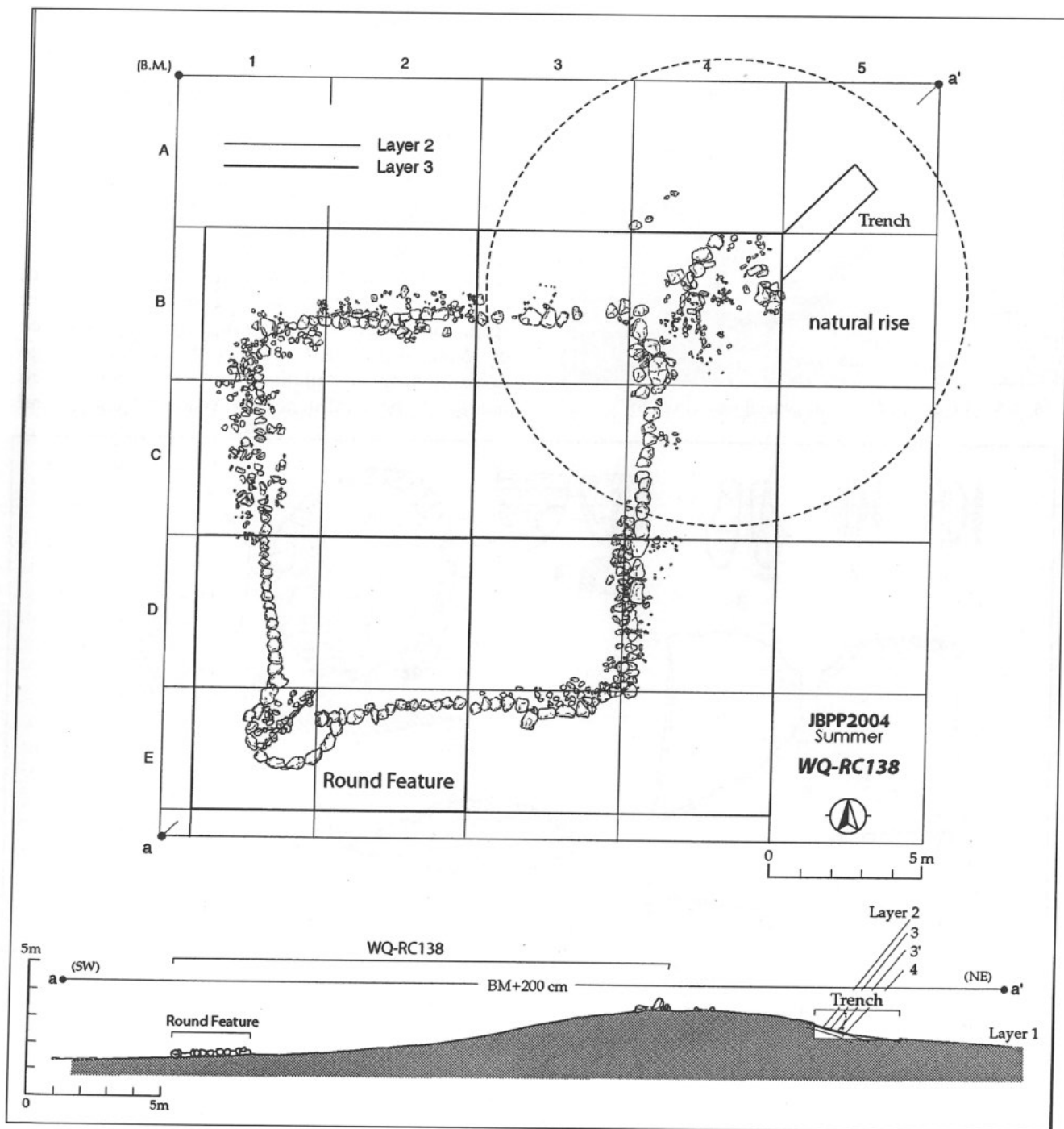
Although the surface and fill layers yielded miscellaneous artifacts including microlithic components (Fig. 57: 1-4), tabular scrapers (Fig. 57: 5-7), and Jafr blades (Fig. 57: 8), the *in situ* finds from the floor level were limited to a handful of pottery sherds mentioned above. They were of well-levigated, wheel-made ware with reddish orange to grayish paste and creamy white slip. Re-fitting of several sherds showed that most, if not all, of these sherds derived from a single open bowl with a thickened, diagonal rim (Fig. 57: 9). In addition, a perpendicular loop handle with relatively sharp ridges (Fig. 57: 10) and a ribbed sherd (Fig. 57: 11) were present. It appears that these samples belong to the Late Roman to Byzantine pottery repertoire.

The function of this unique structure still remains unknown. All we can say is that the small, semi-circular, cobble-packed feature at the southwestern corner probably holds a key to the function. The extreme scarcity of artifacts and the unique general orientation of the structure may also provide a clue to this question. With respect to the date, the *in situ* finds provide a *terminus a quo*.

### Rectangular Structure 191

This stone-built structure (WQ-RC191) was located on a flat terrain ca. 50m west of WQ-RC138 mentioned above, with a small erosion gully just in between. Unlike WQ-RC138, it formed a small complex that consisted of three rectangular structures from Unit 1 to Unit 3 (Figs. 58, 59). Due to the proximity to Ḥarrat al-Juḥayra, basalt cobbles, mostly ca. 20-30cm long, were used for the main construction material. Since this complex was heavily disturbed, our excavation was limited to the four key loci shown in the figure.

Unit 1 and 2 had much in common with each other. Furthermore, both of these units shared the central wall, constituting a twin structure that was

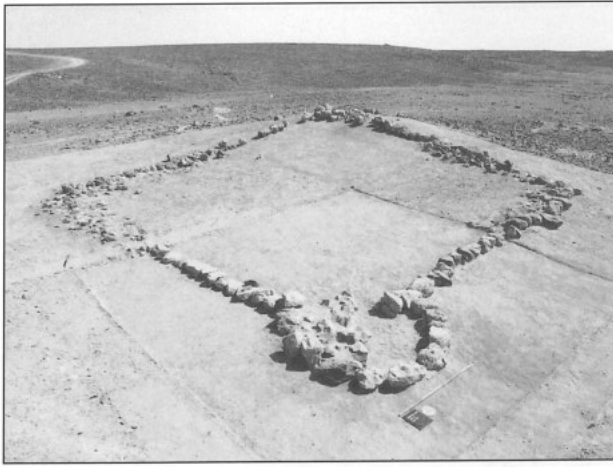


55. Wādī al-Quṣayr RC138: the plan and section/elevation.

connected side by side. Both of these also resembled WQ-RC138 in many respects including the general orientation, the construction technique, the scarcity of artifacts, and, most importantly, the incorporation of a small stone concentration at the southwestern corner. Unit 3, though similar to these two units in terms of general plan and orientation, was much smaller in size and packed entirely with limestone and basalt rubble. Another

critical difference was the absence of a stone concentration at the southwestern corner, although this rubble-packed unit in itself might have served as it.

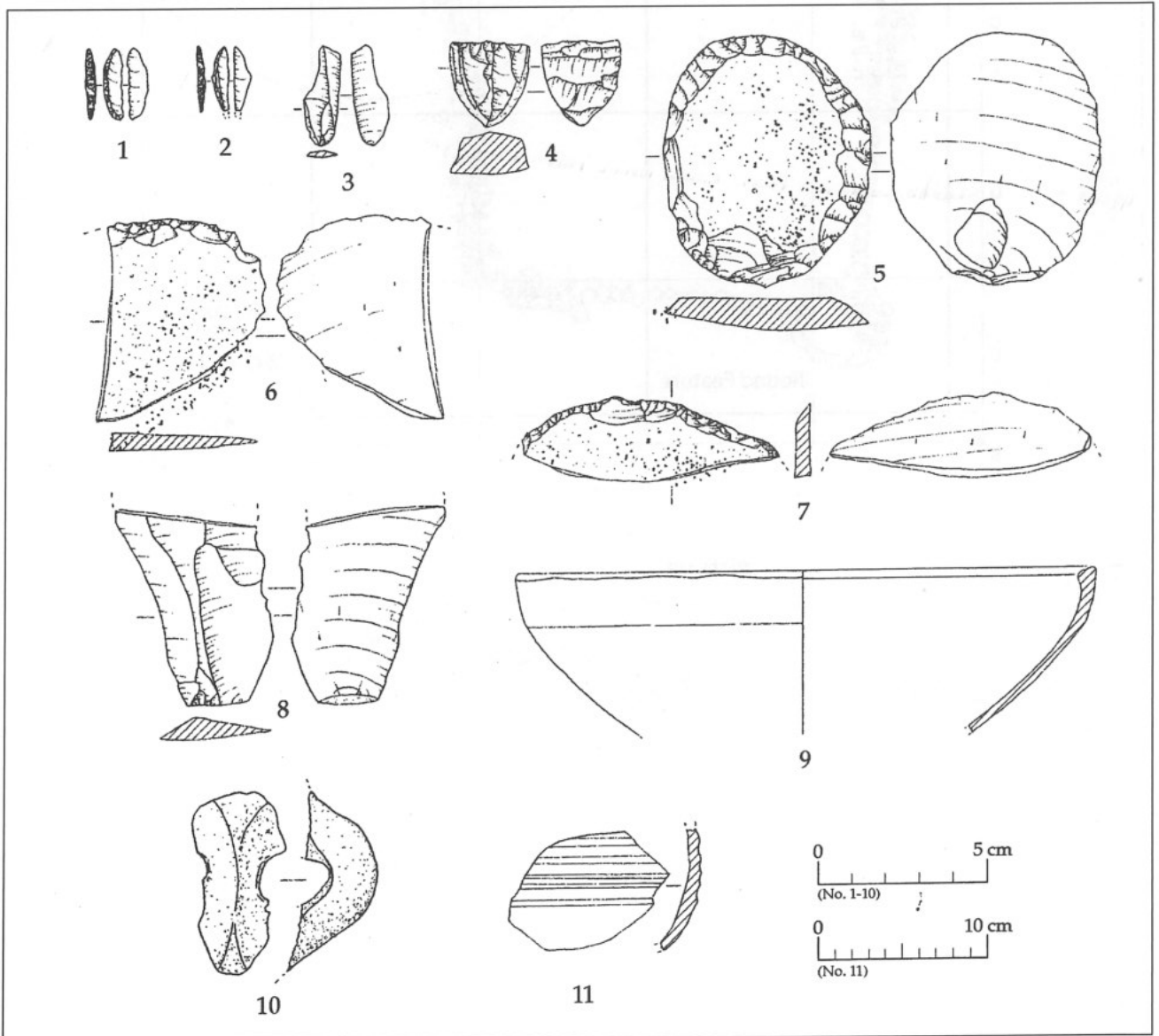
The only clue to the dating of this complex is a handful of pottery sherds that were found *in situ* at two loci beside the eastern wall of Unit 2. They were exclusively of well-levigated, slightly ribbed, fine ware and included a few samples decorated with a single wavy line that suggests a date of the



56. Wādi al-Quṣayr RC138: the general view (from SW).

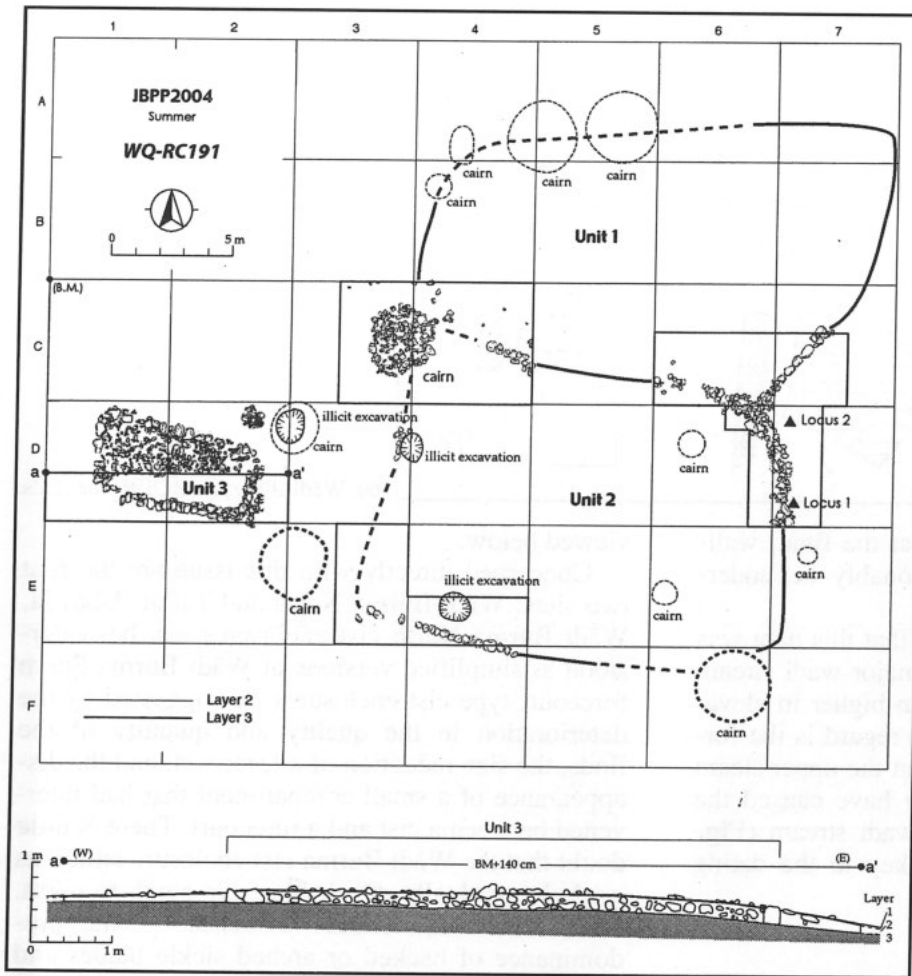
Late Byzantine to Umayyad period (**Fig. 60: 6**) (Hendrix *et al.* 1996: 239; Sauer 1982: 332, 1986: 308). In this light, we may tentatively conclude that this complex was roughly contemporary with WQ-RC138 ca. 50m to the east.

More difficult is the functional identification. All we can say is that this structural complex has much in common with WQ-RC139 and, therefore, probably of the same date and function. We may note here that some forty similar structures are dotted along the main steam of Wādi al-Quṣayr and, as a whole, constitute a large structural complex (**Fig. 45**). Suggestive in this respect is the existence of Wādi Burma Kite-site 1 (WB-KS1), a large drive-hunting installation that was constructed nearly at the confluence of Wādi al-Quṣayr and

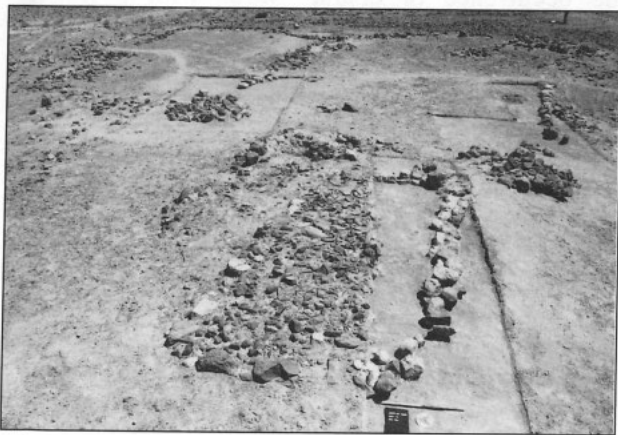


57. Wādi al-Quṣayr RC138: the finds.





58. Wādī al-Quṣayr RC191: the plan and section/elevation.



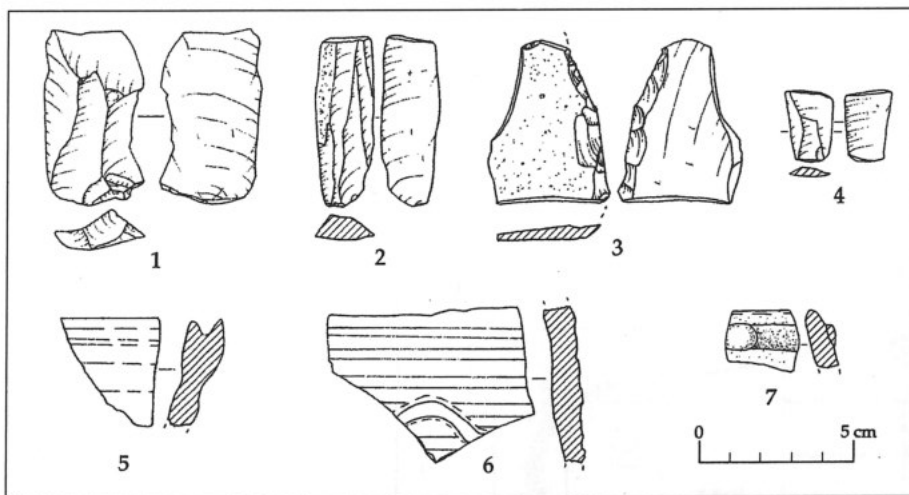
59. Wādī al-Quṣayr RC191: the general view (from W).

Wādī Burma (Fig. 1; Fujii 2004a). In light of the close topographical tie and the rough synchronism between the two, it is not irrational to assume that both of these were functionally correlated with each other. It is our present hypothesis that Wādī al-Quṣayr rectangular structures served as temporary camps for the large-scale drive hunting at WB-KS1. It is suggestive in this respect that the Wādī al-Quṣayr drainage basin is protected from

the northwesterly predominant wind in this area and, for this reason, it is often encamped by modern Bedouins from winter to early summer, probably the high season of drive hunting in those days. Nonetheless, evidence is far from adequate and further investigation is needed to test this working hypothesis.

### Stone Wall 183

This elongated structure (WQ-SW183), measuring ca. 28m in total length and ca. 1.5-3m in width, was located on a southern, lower terrace of Wādī al-Quṣayr (Fig. 45). It was briefly examined, focusing on the northern extremity and middle part. As a result, this stone wall turned out to be a small barrage that consisted of two-rowed upright stone walls protected with rubble filling and a rear additional wall (Figs. 61-63) (In this light, we should revise our functional identification of WBs-KS2 that was excavated in the previous season (Fujii 2004a). It is more reasonable to conclude that it was not a drive hunting installation but an installation to converge runoff water into an extensive sandbank slightly higher in elevation. The



60. Wādī al-Quṣayr RC191: the finds.

absence of any trapping device at the final, wall-converging point can now reasonably be understood within this framework).

What puzzled us instead was that this dam was ca. 50m apart from the nearest major wadi stream and, at the same time, ca. 2-2.5m higher in elevation than that. Suggestive in this regard is the formation of a small *qā'* (dry lake) at the upper stream side of this barrage, which may have caused the gradual northward shift of the wadi stream (Fig. 62). Unfortunately, no reliable key to the dating was found.

### Stone Wall 129

This intermittent wall alignment, ca. 100m in total length, was found on a small sandbank ca. 700m upstream of WQ-SW183 mentioned above (Figs. 61, 64). A limited sounding roughly at the middle of the wall alignment showed that it was less elaborate in construction quality and composed merely of a single row and course of upright limestone boulders. It is noticeable, however, that larger pebbles were often driven into the base of these upright stones as stabilizers. What was unexpected to us was that the northern half of this wall alignment was slightly curved upstream rather than downstream. This may cast doubt on the functional identification as a barrage, but it is not unlikely that this dam (or at least its northern segment) served as facilities to sprinkle runoff water over the surrounding terraces. Here again, no *in situ* finds were recovered.

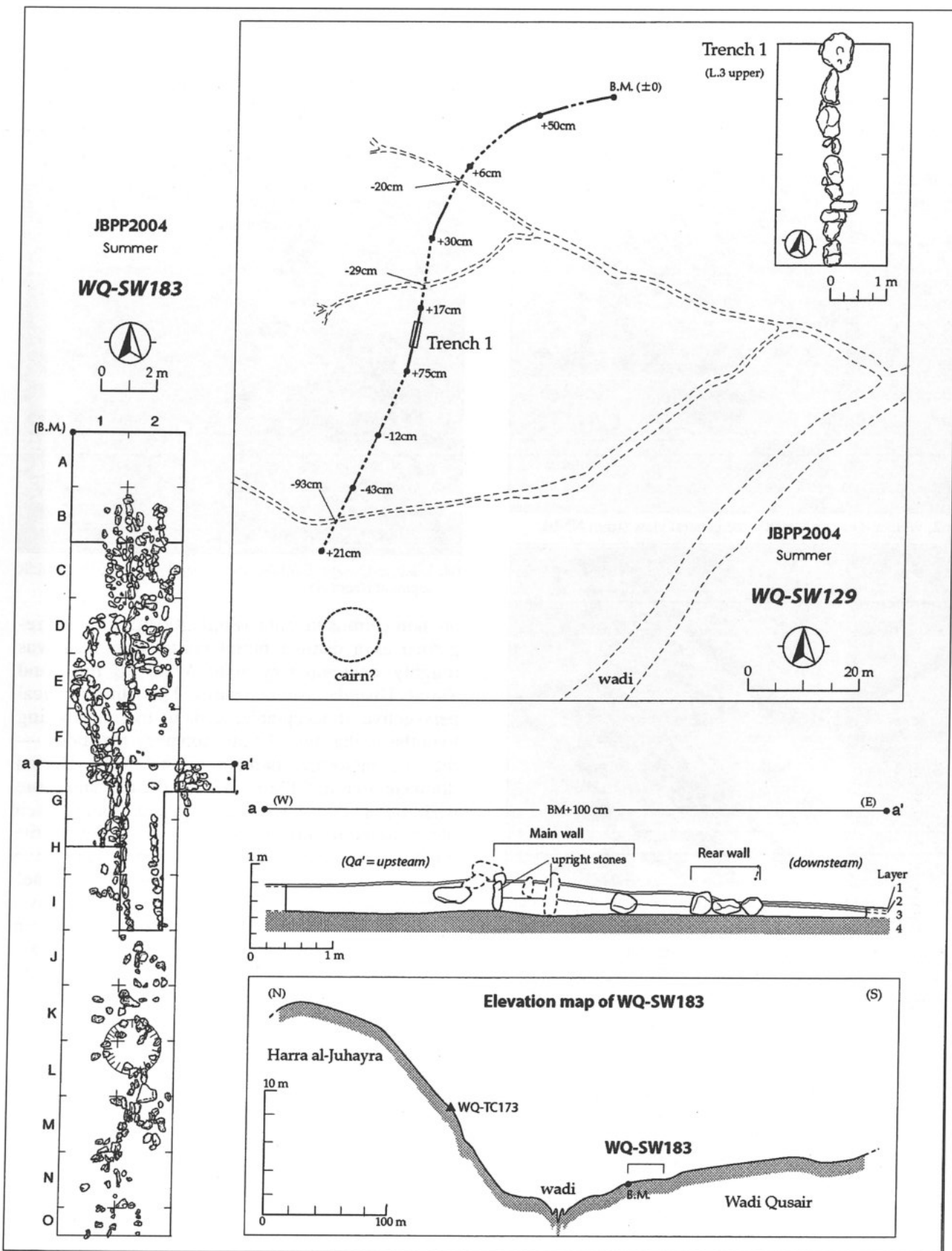
### SUMMARY AND DISCUSSION

As referred to at the beginning, the goal of our investigations at these three sites was to establish the chronology of various burial cairn entities thus far known in the al-Jafr Basin. From this point of view, the excavation results will be briefly re-

viewed below.

Concerned directly with this issue are the first two sites: Wādī Burma North and Tal'at 'Ubayda. Wādī Burma North cist enclosures can be understood as simplified versions of Wādī Burma South forecourt type cist enclosures, as suggested by the deterioration in the quality and quantity of the finds, the size reduction of a forecourt, and the disappearance of a small compartment that had intervened between a cist and a forecourt. There is little doubt that the Wādī Burma cist enclosure entity, as a whole, gradually developed from south to north. Both lithic and ceramic evidence — the dominance of backed or arched sickle blades and the occurrence of coarse wares with a finger-impressed band immediately below the exterior, in particular — clearly shows that, unlike the earlier suggestion (Fujii 2004b), this burial cairn entity can be dated to the EBIA.

What follows the Wādī Burma North forecourt type cist enclosures is the Tal'at 'Ubayda corridor type non-corbelled cist enclosures that are concentrated on the western extremity of the site. Major similarities between the two included the incorporation of a non-corbelled, round to oblong cist with a narrow entrance and a square to rectangular forecourt to the east of the parent structure. It is most likely that the site of Tal'at 'Ubayda Cairn Field 1 began with these transitional forms and then developed eastward to semi-corbelled, corridor type cist enclosures without a paved forecourt (The chronological attribution of CE200s is still uncertain, but they seem to postdate CE100s). In this light, we may conclude that the cist enclosure entity in the Wādī Burma drainage system developed from Wādī Burma South, through Wādī Burma North, to Tal'at 'Ubayda, although it should be kept in mind that a few missing links, most likely, still intervene between the latter two. Un-



61. Wādi al-Quṣayr SW129 and 183: the plan and section/elevation.



62. Wādī al-Quṣayr SW183: the general view (from NNE).



63. Wādī al-Quṣayr SW183: the close-up view of the middle segment (from NNW).

fortunately, no direct key to the dating of Tal'at 'Ubayda cist enclosures is available, but the chronological perspective suggested above allows us to tentatively date them to a subsequent phase of Wādī Burma North cist enclosures, namely, EBIB or EBII.

The question is the chronological relation between pseudo-wall cairn enclosures at QATW and the Wādī Burma burial cairn entity. Given the chronological sequence suggested above and a series of calibrated radiometric data (1-sigma SD) from QATW (Structure 01: BC 2,902-2,765; Structure 07: BC 3,362-3,102; Structure 51: BC 3,018-2,887, BC 3,102-2,893), QATW pseudo-wall cairn enclosures, as opposed to the previous view based



64. Wādī al-Quṣayr SW129: the general view of the middle segment (from N).

on non-calibrated data (Fujii 2004a), can be regarded as a distinct burial cairn entity that was roughly contemporary with Wādī Burma and Tal'at 'Ubayda cist enclosures. This chronological perspective, if acceptable, leads us to an intriguing hypothesis that two distinct funerary traditions — the cist enclosure tradition in the Wādī Burma drainage area and the pseudo-wall cairn enclosure tradition in the al-Jafr Basin — confronted each other around the upper streams of Wādī Burma, the boundary area between the two. Highly suggestive in this regard is the intra-site chronology of Wādī Burma and Tal'at 'Ubayda, which clearly shows that both sites began with the southern or western frontier confronting the Jafr Basin and, then, gradually retreated either northward or eastward toward the lower stream of Wādī Burma. It appears that the cist enclosures at both sites were constructed as a symbolic declaration of territory.

The confrontation of these two distinct sorts of mortuary ethos finds its expression in the remarkable contrast of finds. The cist enclosure entity at Wādī Burma is marked by the frequency of coarse ware sherds, backed or arched sickle blades, and various grinding tools, while the pseudo-wall cairn enclosure entity in the al-Jafr Basin essentially lacks these components and, instead, converges merely on tabular scrapers and Jafr blades. We may also note that the former funerary entity some-

times yields evidence for human skeletal remains, whereas the latter is lacking it completely. These contrasts, most likely, mirror the difference in subsistence strategy between the two. In light of the predominance of agricultural utensils and the occurrence of interred human skeletal remains, there is a good possibility that the Wādī Burma burial cairn entity was based on a semi-sedentary, agro-pastoral society. It is reasonable to assume that the sudden appearance of this mortuary entity correlated closely with the abrupt florescence of the EBI settlements in southern Jordan, although the parent settlement of the Wādī Burma burial cairn entity has not yet been identified. In contrast, a line of evidence — the essential lack of agricultural components, the absence of interred bodies, and the mass-production of sheep-rearing implements (i.e. tabular scrapers) — strongly suggests that the Jafr burial cairn entity was related to a pastoral nomadic society with higher mobility. The difference in water supply and general vegetation between the two areas may also argue for this interpretation. It should be kept in mind, however, that the later phase of the Wādī Burma burial cairn entity witnessed a radical shift in subsistence, as suggested by the disappearance of agro-sedentary components at Tal'at 'Ubayda corridor type cist enclosures.

With respect to Wādī al-Quṣayr, the tabular scraper cache (WQ-TC173) is partly concerned with our present issue. This cache has provided the first glimpse of the tabular scraper distribution system that links flint-mining and production stations to the east (the al-Jafr Basin in this case) and their entrepôts and/or consumer communities to the west and south. The question is which was concerned with the formation of this cache, the Wādī Burma mortuary entity or the Jafr entity. Unfortunately, no clear answer can be made to this question, because both of these yielded similar products. All we can say is that the location of this cache seems to be in favor of the correlation with the former entity.

#### CONCLUDING REMARKS

The third excavation season of the JBPP/2 has enriched basic information on the EBA burial cairn entity in the al-Jafr Basin to a large extent. As a result, the northwestern hilly country of this basin turned out to have been a frontier where two distinct funerary traditions - the Wādī Burma cist enclosure entity to the north and the Jafr pseudo-wall cairn enclosure entity to the south - confronted each other. Also of importance is the identification of the tabular scraper cache at Wādī al-Quṣayr, which has provided us with a specific insight into

the distribution system of tabular scrapers that were mass-produced in this basin. It will not be very long before the dynamics of the EBA pastoral nomadism in this basin comes into sight.

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