QĀ' ABŪ ṬULAYḤA WEST, 2001
AN INTERIM REPORT OF THE FIFTH SEASON

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Introduction

The fifth excavation season at Qā' Abū Ṭulayḥa West (QATW) (قاع أبو طليحه) — a Late Neolithic (LN) and Early Bronze Age (EBA) site in the northwestern part of the al-Jafr basin (الجفر), southern Jordan — was conducted from August 13 through September 29 in 2001, with the kind cooperation of the Department of Antiquities of Jordan.

The main goal of this season was to obtain further evidence for the pseudo-settlement hypothesis (Fujii 2001: 33-37; 2002a) — a likely explanation of the formation process of this unique desert site. For that purpose, a total of twelve LN burial cairns and a large EBA structure were excavated in the Southwestern Complex (SW Complex). As a result, it has become clearer that the hypothesis has a reliable base. Another objective — a chronological reassessment of the Jafr blade assemblage — was also attained with the excavation of Structure 1001, and it was attested that the assemblage, which has often referred to within the Upper Palaeolithic context, is in fact dated to the EBA. The purpose here is to present a brief summary of this season focusing on these two issues mentioned above.

The Excavations of Layer 4 Burial Cairns

The SW Complex includes no less than twenty burial cairns that were constructed on the upper surface of Layer 4 dated to the LN. They are lined N-S, roughly at a regular interval (**Fig. 1**). On the basis of their techno-typology, construction material, and general orientation, they can be divided into four groups, BC-100s to BC-400s, roughly in order from north to south. Three of the first group, BC-102 to BC-104, have already been excavated during the last season (Fujii 2001: 30-33); the BC-200s and southward were our main concern in this season.

BC-200s

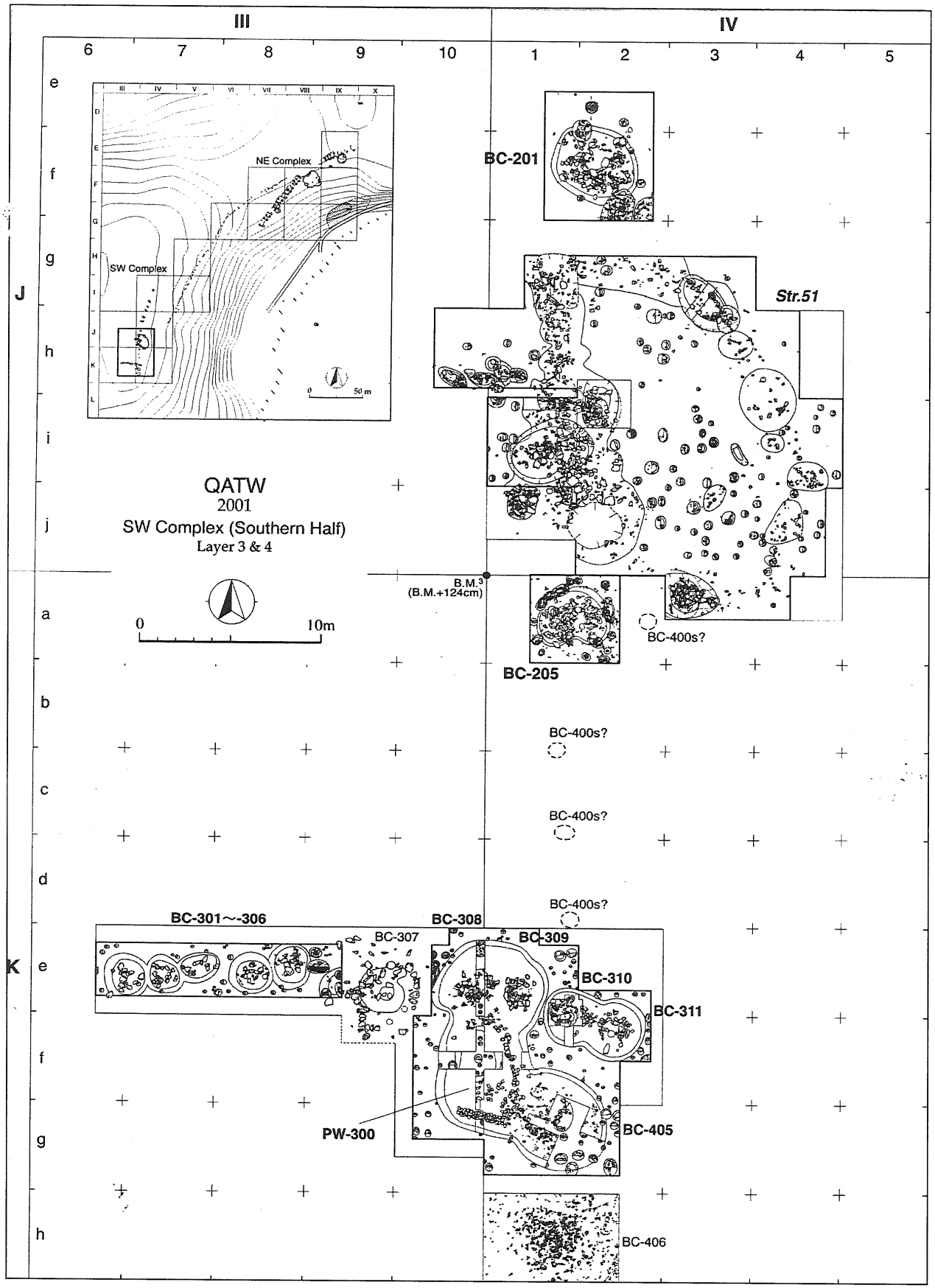
The BC-200s are defined by a series of techno-typological differences from the BC-100s: 1) the use of limestone cobbles and boulders, instead of limestone and flint slabs; 2) an incorporation of the two major components comprising a burial cairn entity (i.e., a burial cairn and its annexed pseudo-walls); 3) a shift in mound plan resulted from the second modification (i.e., a transformation from a smaller, twin-type mound to a larger, oblong mound). Thus, overall, the BC-200s present a more or less disorderly appearance in comparison with the rather neat profile of the BC-100s. Besides, as will be referred to, another difference can be found in the general orientation, which indicates a shift from the NW-SE direction in the BC-100s to the WSW-ENE in the BC-200s.

To date, two examples, BC-201 and BC-205, have been identified as belonging to this group, of which the former was excavated down to the original mound surface and the latter examined further down to an under-mound feature. In addition, a few more examples appear to lie between the two, but they have not yet been given individual numbers due to the preliminary state of examination.

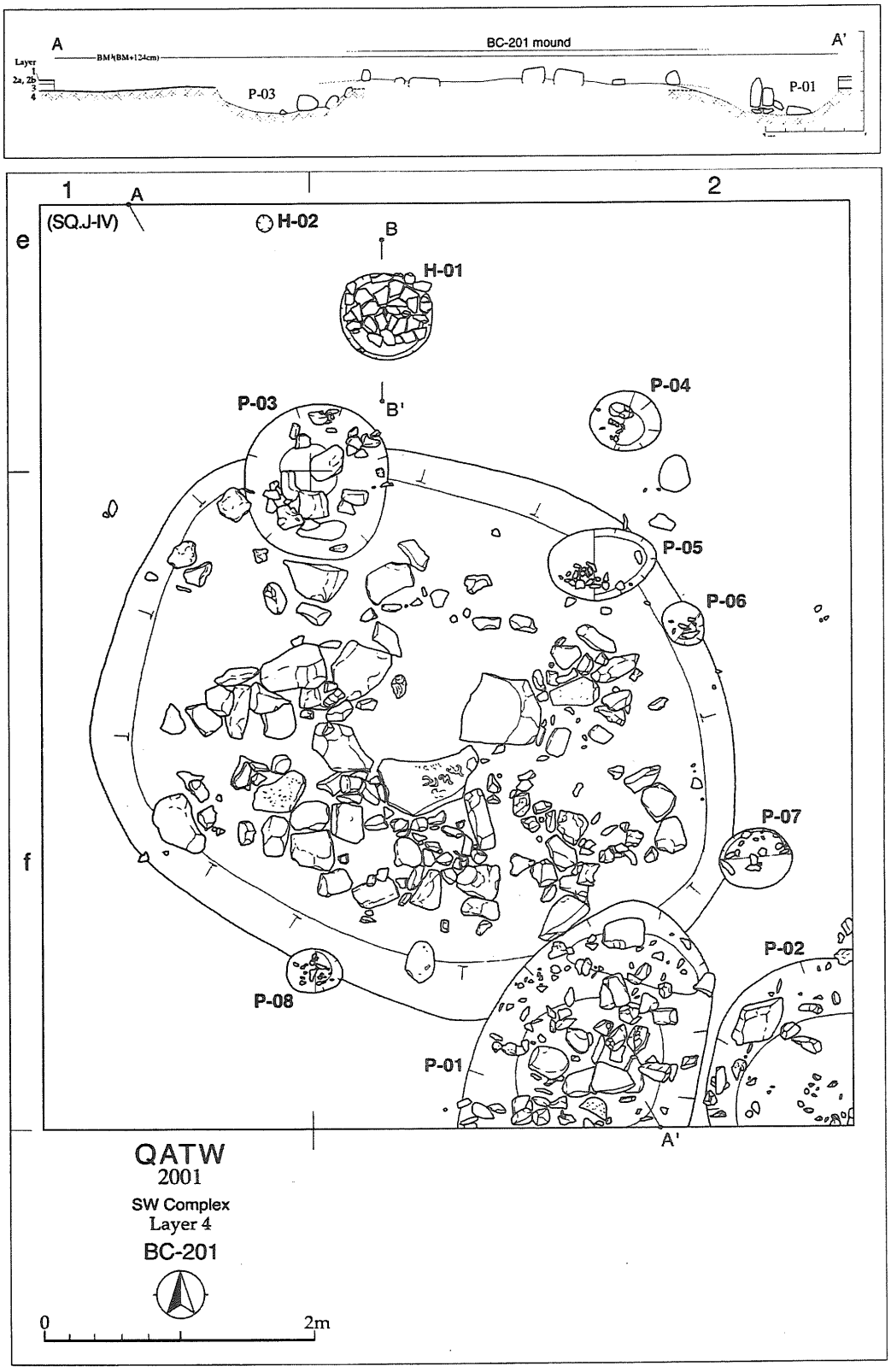
BC-201: Located ca. 10m south of BC-106, BC-201 has a slightly oblong mound ca. 5m (NW-SE) by 4m (NE-SW) in two major axes and ca. 15cm in height (**Fig. 2**). A large number of limestone and sometimes flint cobbles, placed either in a horizontal or in an upright position, form concentric circles ca. 1.5–3m in diameter. Limestone and flint slabs — construction material long preferred among Layer 4 structures — are no longer used here.

The two major components of a burial cairn entity are still barely traceable. The small concentric stone circle in the center probably represents the main body of this burial cairn, and a few lines of limestone cobbles to the west correspond to a pseudo-wall annexed to the former. Given this, it follows that the main axis of this burial cairn entity is oriented WSW-ENE, which accords well with the gradual orientation shift among the Layer 4 structures (Fujii 2001: 30-32). Although this burial cairn was not examined further down, the excavation of the southern counterpart (BC-205) suggests that the concentric stone circle were constructed on a shallow pit dug in the center of the mound.

A total of eight pits were found within the context of this burial cairn, six at the circumference of the mound and the rest at the periphery (of particular interest is the location of the former, the archae-



1. The southern half of the SW Complex (Layers 3 and 4).



2. BC-201: plan and section/ elevation.

ological implications of which will be referred to below; we only need to mention here that the mound edge was intentionally cut by these pits). Typologically, they are divided into the following two: 1) larger and deeper pits containing upright limestone cobbles either in the center or on the wall (P-01 to -03); 2) smaller and shallower ones including many abraded flint pebbles and/or thermal-flaked flint flakes (P-04 to 08). Interestingly, the latter often contained a single or a few upright flint pebbles in the center — probably a reduced version of the former and, at the same time, a forerunner of

later examples encompassing the BC-300s.

In addition, a small and shallow hearth, H-01, was found at the northern periphery of the mound. Unlike several hearths so far found at Layer 4 structures, it was tightly paved with small limestone slabs. The fill layer, including ash and charcoal remains, was very thin and packed with red-brownish silty sand of Layer 4, suggesting that this hearth was used for a short term, possibly only once. The existence of this elaborate but ephemeral hearth, coupled with a series of unique pits, implies that some funerary ritual was held in connection with this burial cairn.

BC-205: This burial cairn is located ca. 20m south of BC-201 with the western walls of Structure 51 just in between. It is slightly smaller in mound size than BC-201, measuring ca. 4m (E-W) and 3m (N-S) in two major axes (**Figs. 3, 4**). The mound is roughly oblong in general plan, but a slight concavity at the southern flank causes a broad bean-like contour.

An examination of the internal structure has clarified that the mound was associated with a shallow pit where a large volume of limestone cobbles were filled out. The tight arrangement of the cobbles makes it difficult to trace the precise picture, but it appears that they form concentric circles in the eastern half and two straight lines in the western one. The former probably represents the main body of this burial cairn entity, and the latter corresponds to a short pseudo-wall attached to the former. It is therefore likely that the main axis of this burial cairn entity is oriented WSW-ENE, as was also the case with BC-201. It is also interesting to note, in passing, that the pseudo-wall was constructed along a side of the pit, not in the center. This may have been a device to keep the construction material in an upright position — a tradition long inherited among Layer 4 structures at QATW.

Of special interest are a total of eighteen pits encompassing the mound. As was the case of the pits around BC-201, a dichotomy in size and contents can also be recognized in these pits. Specifically, they consist of the following two types that make a good contrast: 1) larger, oblong pits containing one or a few upright limestone cobble(s) mostly in the center but sometimes on the pit wall nearer to the mound; 2) round and smaller pits containing a large number of abraded flint pebbles and/or thermal-flaked flint flakes (it must be noted, however, that the former is far smaller in size than the counterparts at BC-201). The dichotomy in arrangement is also in common with BC-201; the former type pits are always located on the circumference of the mound and cut the edges, whereas the latter are usually located at the periphery and do not disturb the mound flanks. Although the reason for this dichotomy is still unknown, it is apparent that these pits represent some funerary ritual held by early pastoral nomads who repeatedly visited this place for symbolic burial.

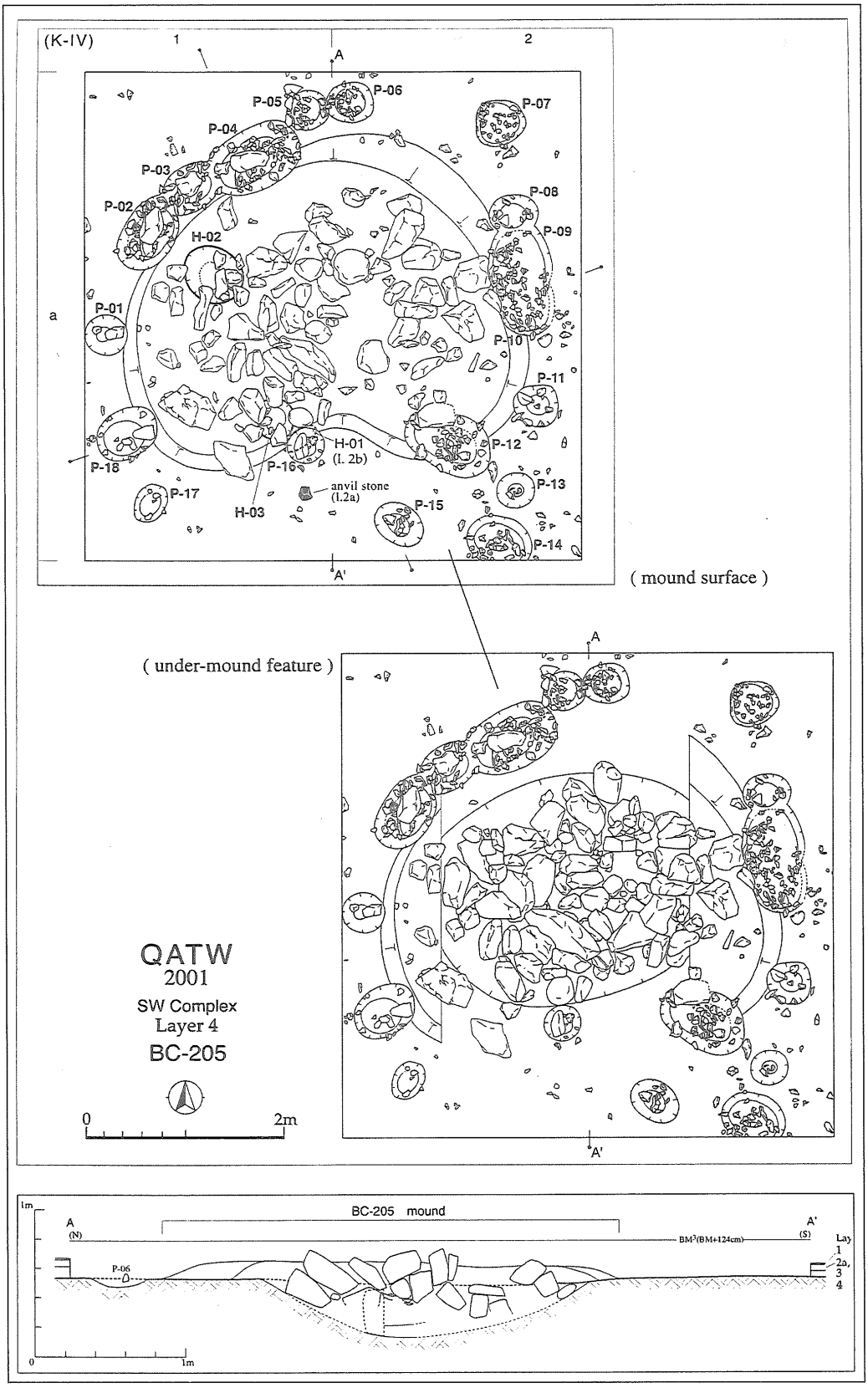
In addition to these pits, two small hearths, H-02 and H–03, were found on the mound. However, their archaeological contexts are somewhat equivocal, since the upper part of the mound has long been exposed and was therefore susceptible to later re-use.

BC-300s

BC-300s, defined as smaller and simpler burial cairns associated with a hollow, on-mound stone circle, are located ca. 20m south of BC-205 and lined E-W at a tight interval. To date, a total of 11 examples have been identified, although a few of them, as referred to below, are somewhat different in character thus possibly susceptible to a subdivision. To the south of these burial cairns, a long pseudo-wall, PW-300, extends with the main axis being oriented N-S. It appears that this single pseudo-wall was shared among the BC-300s.

BC-300s can be divided into the following three groups: the west wing (BC-301-307), the central part (BC-308 and -309), and the east wing (BC-310 and -311), of which the first was located in the western excavation sector and the latter two in the eastern sector (**Fig. 1**). Two of the eleven examples, BC-306 and BC-307, were heavily disturbed by an illicit excavation, thus they were merely surface-cleaned and drawn at that state. The other nine examples were excavated down to the original mound surface, and five of them, BC-301, -302, -305, -308, and -310, were further examined down to the mound base. The large mound of PW-300 was also scanned using two crossed trenches.

West Wing (BC-301 to BC-307): The west wing of the BC-300s consists of seven small burial cairns, BC-301 to BC-307 (**Fig. 5**). Their mounds are roughly round to oblong in general plan, measuring ca. 2-2.5m in diameter and ca. 15-20cm in relative height. The tight arrangement of these burial cairns often causes a connection with two adjacent mounds, resulting in the formation of three clusters. As noted above, these burial cairns are characterized by a small, hollow stone circle constructed on the mound surface. No under-mound features were found so far as three examined examples (BC-301, -302, and -305) were concerned. However, the mounds themselves comprised at least two



3. BC-205: plan and section/ elevation.

to three sub-layers, suggesting a relatively elaborate workmanship.

Here again, a cluster of small pits was found encompassing the mounds. However, unlike the BC-200s, no clear-cut dichotomy in morphology, size, and contents was recognized among them. They were all roughly round in general plan and small in size, usually ca. 10-20cm in diameter and often

4. BC-205: the under-mound feature (from S).

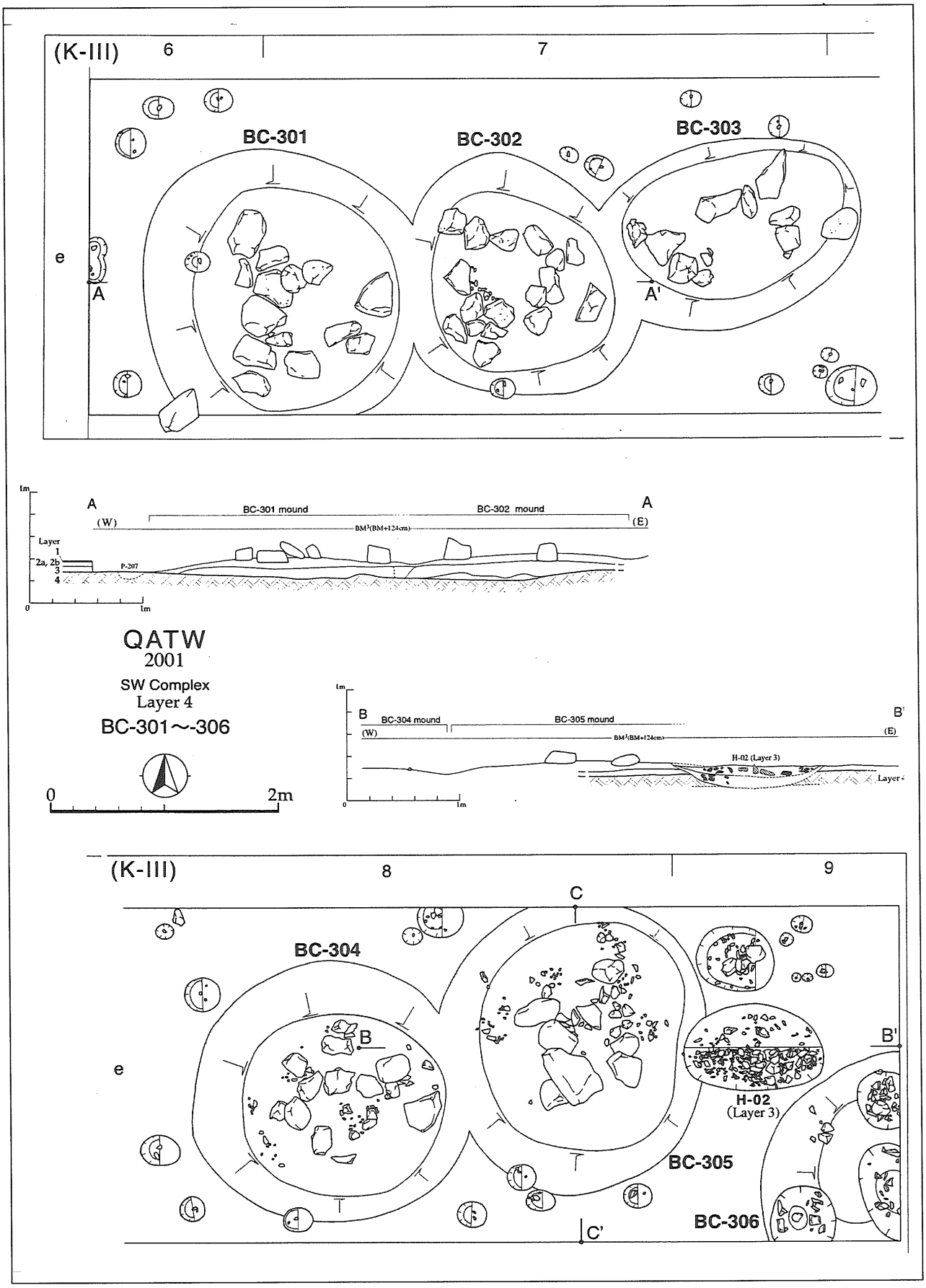
less than 5cm in depth. Also homogenous were the contents, which were simplified into only one or a few abraded flint pebble(s) that often stood upright in the center of a pit (**Fig. 6**) (it must be noted, however, that there are some exceptions to this: three pits on the mound of BC-306, for instance, were relatively larger in size and contained a larger number of abraded flint pebbles — a suggestion of a different character).

Central Part (BC-308 and BC-309): BC-308 and BC-309 form another cluster that is united with PW-300 (**Figs. 7, 8**). As suggested by their location, both examples bear an intermediate character between the west wing burial cairns and the east wing burial cairns. Specifically, their on-mound features, when compared with those of the west wing burial cairns, contain a larger volume of limestone cobbles, thus probably forming a double concentric circle — a similarity to the east wing burial cairns. In contrast, the absence of under-mound features, which was confirmed in the N-S trench running through the center of BC-308, is in common with the west wing burial cairns.

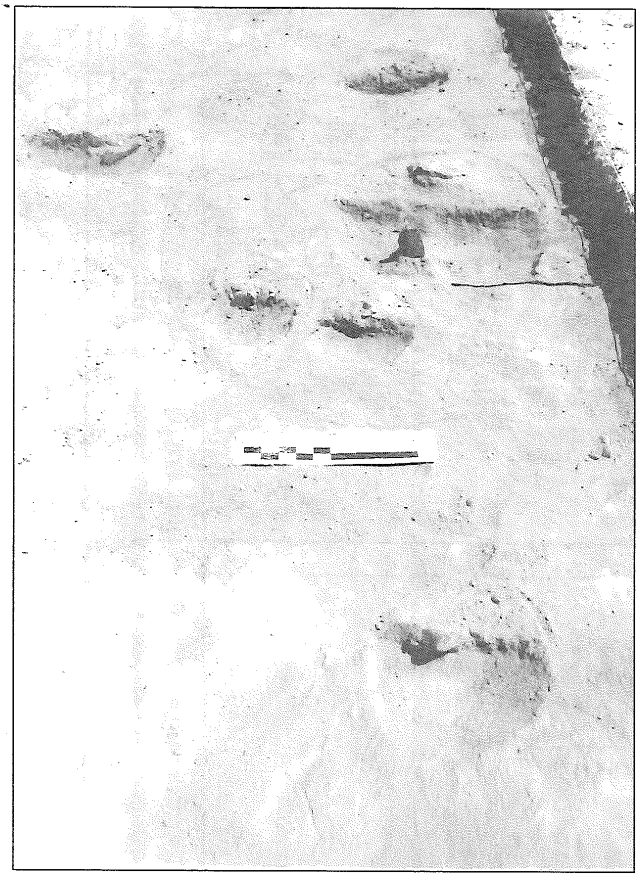
Interestingly, some small pits, which, as was the case of similar examples around the west wing burial cairns, often include only one or a few abraded flint pebble(s) standing upright in the center, were found at various levels under the mound. Of particular relevance is the micro-stratigraphy of the trench, which illustrates that at least four sub-layers were concerned with the formation of the mound. This may suggest that some brief ritual was held at each stage of the mound formation (however, this does not necessarily mean that the construction extended over a long period, since all the sub-layers are very thin and similar to each other both in color and texture).

East Wing (BC-310 and BC-311): The east wing burial cairns are characterized by the existence of a unique under-mound feature, which consists of a short pseudo-wall and a shallow pit dug beside it (**Fig. 9**). The former is ca. 2m in total length, being bent at a right angle at the southwestern corner. The banking of this pseudo-wall is constructed with the silty sand of the Layer 4, on which flint and limestone pebbles were driven roughly in two-rows — a tradition long inherited among the Layer 4 structures at QATW. The orientation of this pseudo-wall is NW-SE, when the longer wall is viewed as a remnant of a facade. This orientation, coupled with the basic techno-typology of the under-mound feature, possibly represents a reversion to the original form of the Layer 4 structures (Fujii 2000: fig. 17).

The same holds true of the shallow pit. It disturbed the left corner of the facade (i.e., the longer wall), which in turn was subsequently reconstructed on the pit — again a deep-rooted tradition among the QATW Layer 4 structures but threatened to oblivion after the BC-100s. A number of flint and limestone cobbles and slabs, some of which stood upright, were found in this pit. Besides, a small hearth, H-10, was found in the southwestern corner at an intermediate level between the



5. BC-300s: plan and section/elevation of the west wing burial cairns.



6. BC-303: mourning pits (from W).

on-mound feature and the under-mound feature. A large limestone slab was set in the center of this pit, but nothing was found underneath.

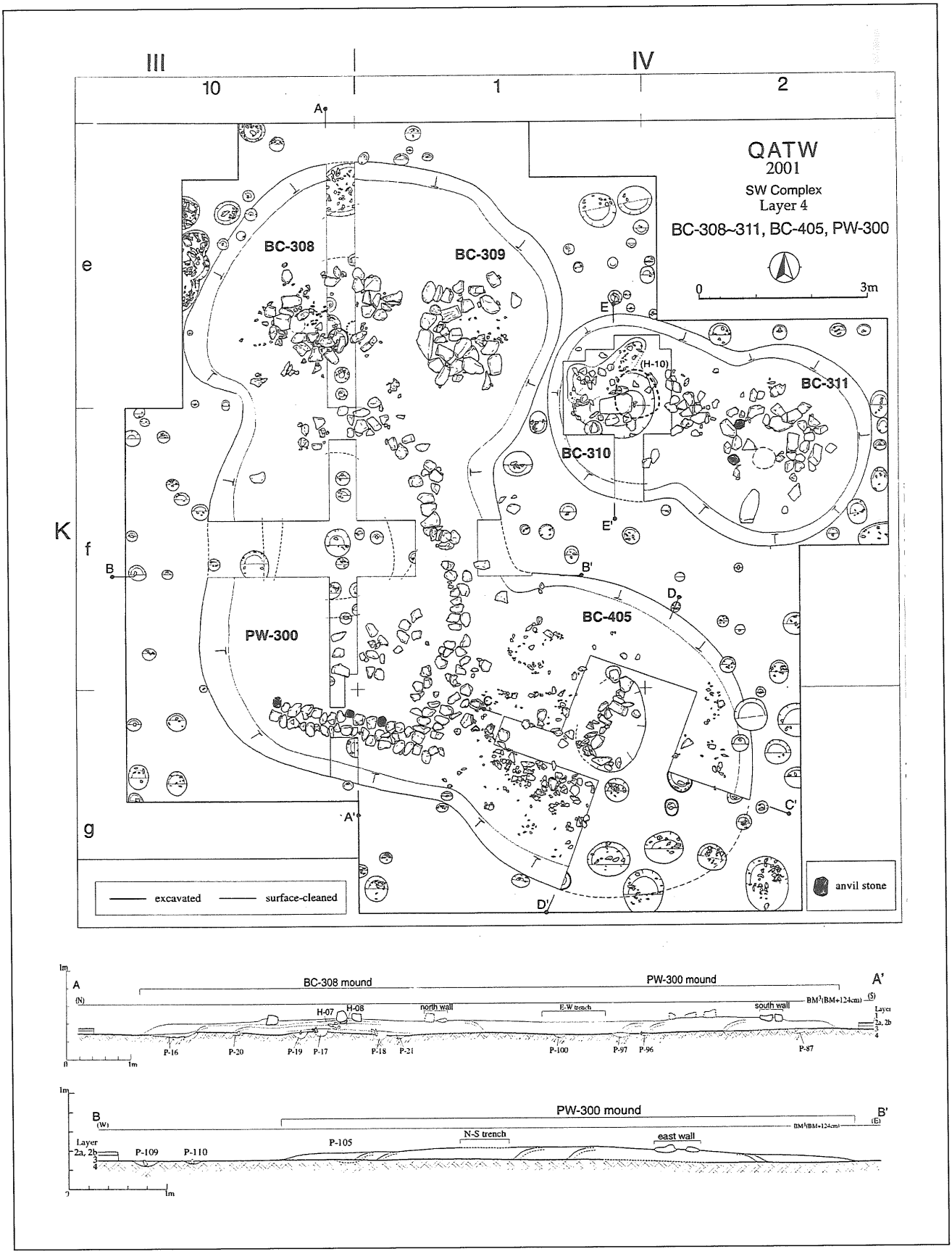
Incidentally, three limestone anvils were found *in situ* from the on-mound features of BC-310 and BC-311, one from the former and two from the latter. This puzzled us, because the excavations in the NE Complex had already attested that they belonged to Layer 3 and were used as indispensable equipment for the tabular scraper production (Fujii 1999: fig. 9). Thus it happened that the Layer 3 artifacts were found *in situ* at Layer 4 structures. A probable explanation for this dilemma would be that the Layer 3 population, especially those related to Structure 51, modified the on-mound features using their own material including discarded anvils. This is all the more likely because the upper part of the mounds, as it is still now, had been exposed above the then ground surface when the Layer 3 population visited this place.

PW-300: PW-300 extends southward from BC-308, probably the parent body of this symbolic wall. It is ca. 10m in total length and consists of the following four parts: 1) a 2m long, heavily disturbed wall to the north; 2) a 6m long, slightly outcurved wall to the east; 3) a 3m long, well-preserved, straight wall to the south; and 4) a short, isolated wall in the southeastern corner. In comparison with the original in the NE Complex (e.g. Fujii 2001: fig. 3), it is apparent that the first wall represents a facade associated with a burial cairn, BC-308 in this case, and the subsequent two walls correspond to a side and rear wall respectively. Equally, the last component can securely be regarded as a bent wall of small cells that are usually equipped in the rear left corner when viewed from a facade.

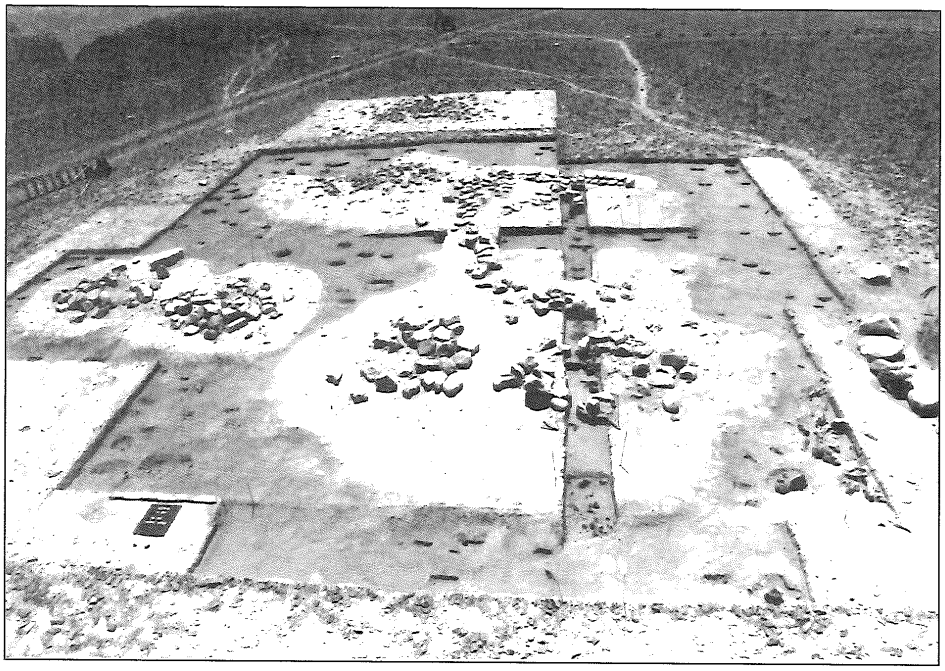
As suggested above, it appears that this long pseudo-wall was shared among the BC-300s, especially those without any under-mound pseudo-wall. It is therefore possible that the BC-300s, as a whole, were the first to deviate from the deep-rooted principle that one burial cairn must be associated with one pseudo-wall (or pseudo-house). It is therefore evident that the BC-300s and PW-300 are assigned to an ending phase of the Layer 4 long structural sequence. Also suggestive in this regard is the general orientation of this pseudo-wall, which is roughly oriented N-S, thus fitting well into the gradual orientation shift from the pseudo-houses in the NE Complex (NW-SE), through the BC-100s (WNW-ESE or E-W), to the BC-200s (WSW-ENE). The same holds true of the technology. Although the two-rowed arrangement of the construction material is in common with the other Layer 4 structures, the use of limestone cobbles, instead of slabs, and their horizontal rather than upright position clearly indicate a technological degeneration at an ending stage of the long sequence.

The final point to note is three limestone anvils that were found again *in situ* among the construction material of the southern wall (**Fig. 10**). As suggested above in connection with the east wing burial cairns, it appears that the intervention of a Layer 3 population, probably that of Structure 51, was concerned with their occurrence. Highly suggestive in this regard are the elaboration and better preservation state of the wall in question, which contrast well with the other three walls. This, coupled with the total absence of anvils in the latter, probably argues for the above interpretation.

Mourning Pits: More than one hundred small pits, probably pits for mourning, were found around the BC-300s, a few dozens in the western sector and about one hundred in the eastern one (**Fig. 11**). Interestingly, they were different in character between the two sectors. The examples in the western sector were characterized by the uniformity both in morphology and contents, whereas those in the eastern sector still retained the dichotomy that was



7. BC-300s (the central part) and PW-300: plan and section/elevation.



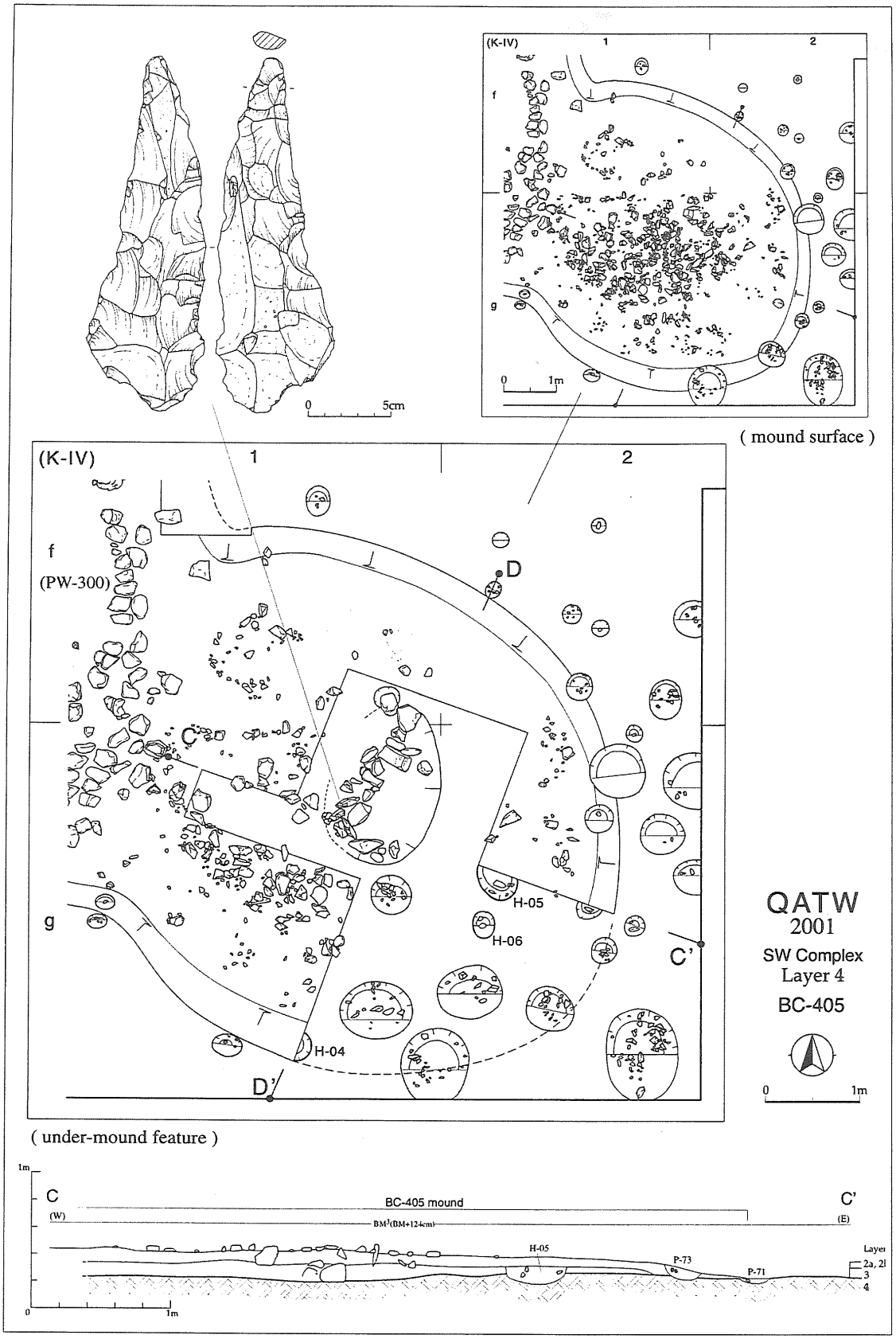
8. BC-300s (the central part) and PW-300 (from N).

9. BC-310: the under-mound feature (from SW).

recognized at the BC-200 (it must be stressed, however, that the larger pits, as well as smaller ones, no longer contained upright limestone cobbles and, instead, include merely small flint and/or limestone pebbles). The continuity of the dichotomy, the relative complexity of the on-mound features, the existence of the under-mound features (BC-310), and the nearer location to PW-300, all these suggest that the central part burial cairns and the east wing burial cairns were constructed earlier than those in the west wing — a key to the intra-complex chronology of the BC-300s.

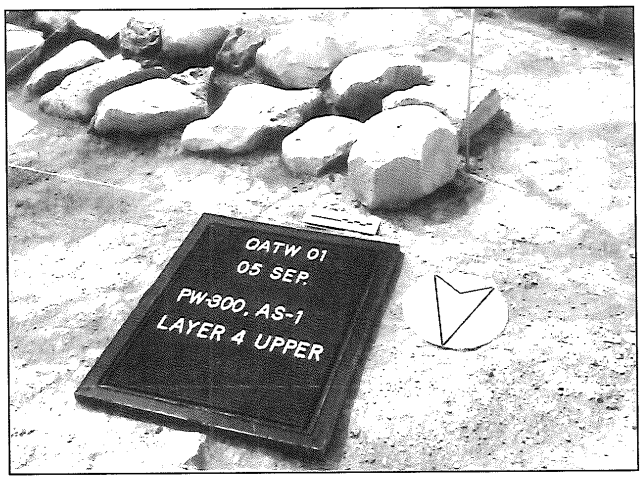
BC-400s

The BC-400s have two characteristics: the absence of any conspicuous on-mound features but the presence of under-mound features. Thus, the single key to the identification before excavation is a somewhat denser scatter of abraded flint pebbles on a slight convexity. To date, two examples have been identified in connection with the excavation of PW-300. Of the two, BC-405 adjacent to PW-300 was examined partly down to the under-mound feature, and BC-406, located ca. 5m south of the former, was merely surface-cleaned and drawn at

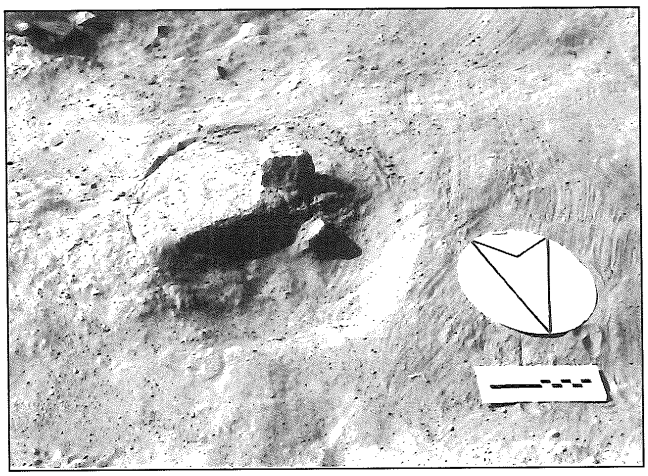


12. BC-405: plan and section/elevation.

stood merely in some courses (**Fig. 13**). An exception to this is the western wall, where a series of limestone boulders were put upright on a shallow pit and supported by a solid banking — another



10. PW-300: a limestone anvil (from NW).



11. BC-300s: a mourning pit.

that state in preparation for the next season. In addition to these two, several candidates have been located, four between BC-205 and BC-310 and a few east of BC-405 (**Fig. 1**). However, they have not yet been given a structure number due to the preliminary state of examination.

BC-405: This burial cairn has a large, oblong mound, ca. 6 by 5m in two major axes, of which the western edge is joined with the eastern flank of the mound of PW-300 (**Fig. 12**). As the definition says, no conspicuous on-mound features were present; only a dense scatter of abraded flint pebbles and limestone flakes was recognized on a slight convexity. Under the mound, however, was found a short, two-rowed upright slab pseudo-wall and a shallow pit dug beside — a commonality to BC-310. Besides, more than twenty mourning pits were unearthed within the context of this burial cairn. Interestingly, they were relatively large in size and included a larger number of abraded flint pebbles — another similarity to BC-310 (and BC-311). It appears that this burial cairn, as was the case with BC-310, exhibits a partial reversion to the original form of the Layer 4 structures.

The Finds from the Layer 4 Burial Cairns

As repeatedly noted in the previous reports (Fujii 2000: 163; 2001: 32-34), the extreme scarcity of the finds and the net absence of human skeletal remains are characteristic of the Layer 4 (and Layer 3) burial cairns at QATW. A series of Layer 4 burial cairns excavated during this season are no exception to this. The finds consist largely of flint artifacts, including a few dozen tabular scraper components and undiagnostic flakes found in a secondary context. Also found were a fragment of a small saddle quern and a dozen animal bone fragments, all of which, again, occurred in somewhat equivocal contexts. Besides, a total of seven limestone anvils were recovered from the on-mound feature of BC-205, BC-310, BC-311 and PW-300, although, as noted above, they apparently represent later disturbance by a Layer 3 population.

The single artifact worth noting is a pick that was found *in situ* on the pseudo-wall of BC-405 (**Fig. 12**). It was presumably left there in commemoration of the construction of the pseudo-wall. It is interesting to note that a similar example occurred elsewhere in the same context (Fujii 2001: fig. 15). It may also be interesting to suggest that parallel examples have also been found at Kilwa, a PPNB site in northernmost Saudi Arabia (Rhotert 1938: 112, no. 1), and Hamifgash III, a Tuwailan site in an-Naqab (Goring-Morris *et al.* 1994: fig. 5, no. 8).

The Excavation of Structure 51 (Layer 3)

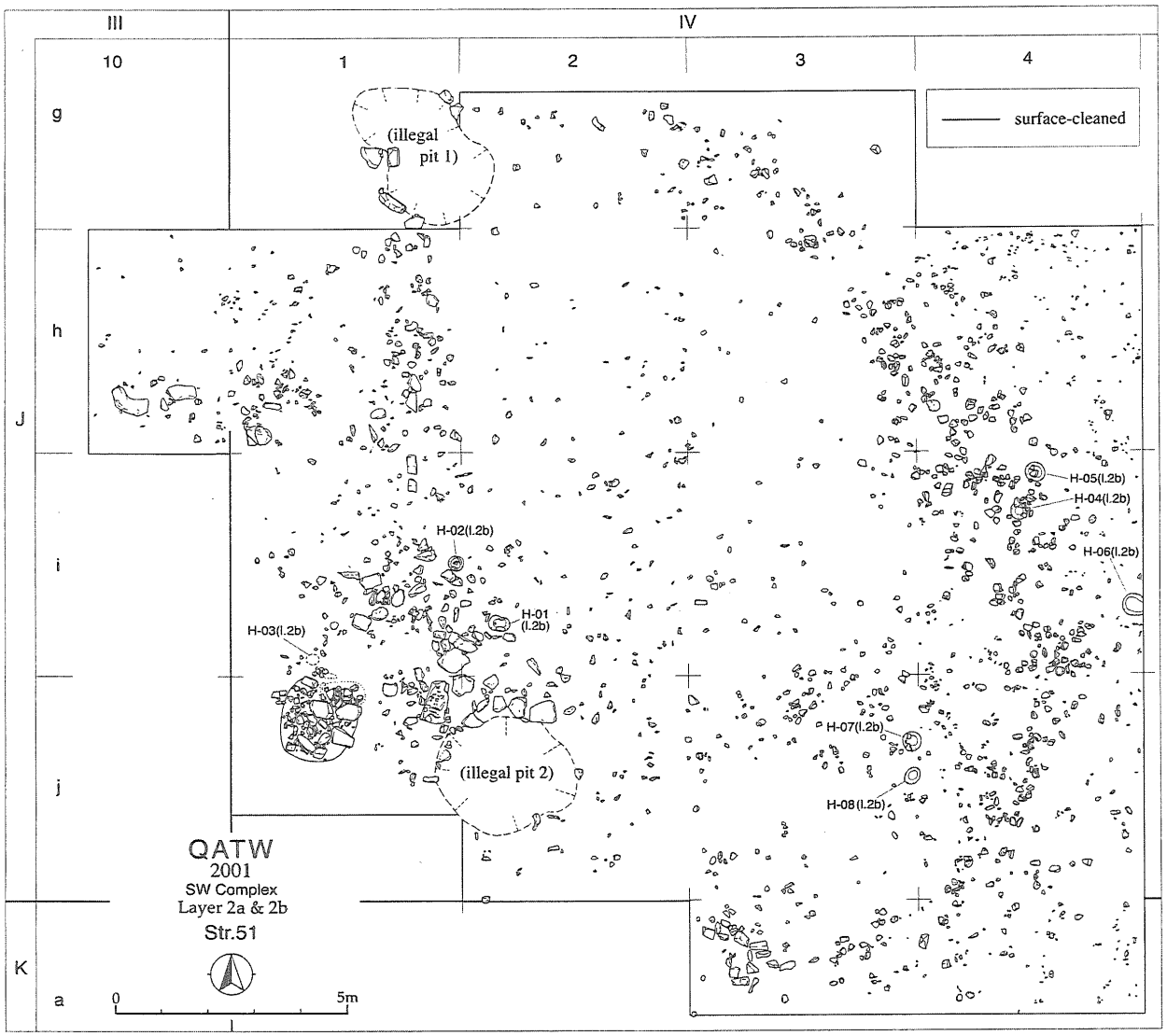
Structure 51 is located between BC-201 and BC-205 with the western wall overlapping with the N-S axis of the Layer 4 burial cairns in the SW Complex. Of the more than twenty structures that comprise the Complex, it is a single example that belongs to Layer 3. Typologically, it is a large, ground-type structure with an oblong plan and measures ca. 20m in the NW-SE major axis and ca. 12m in the SW-NE short one (**Figs. 13, 14, 15**). The most salient feature of this structure is the repeated interruption of the wall by a series of pit-type burial cairns, the archaeological implications of which will be discussed below.

The construction method of the wall was very simple; limestone and flint cobbles were merely put in a single row on the then ground surface. It appears that the original wall height was very low, since the volume and number of fallen stones around the wall (**Fig. 13**), along with the experimental reconstruction of Structure 07 in the NE Complex (Fujii 2000: fig. 5), indicate that the wall

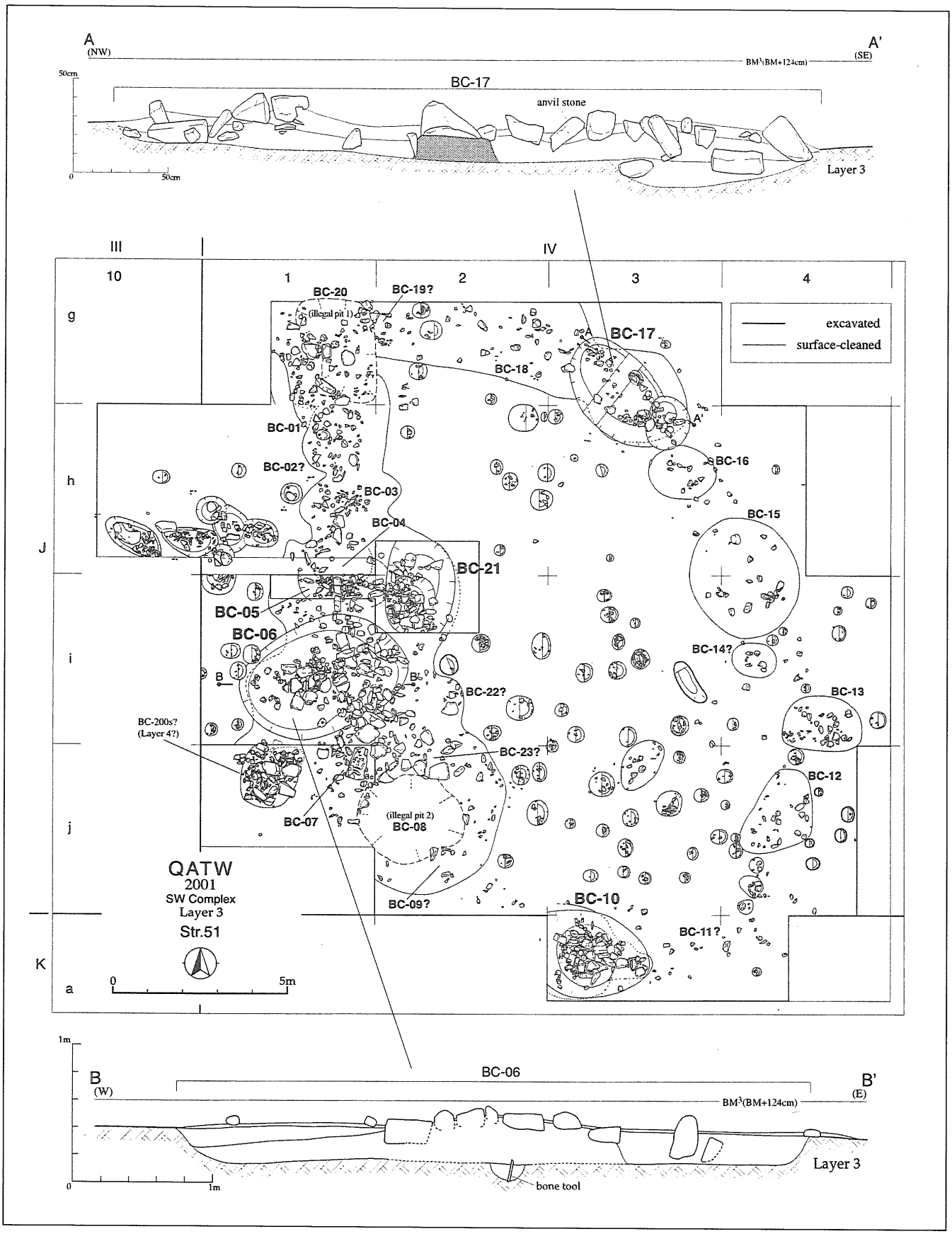
similarity to the other Layer 3 structures (Fujii 1998: 128-129; 1999: 70-72; 2000: 149-153).

A key to deciphering this unique structure is the number and location of burial cairns that often interrupt the wall. Based on the two, this large structure can be divided into about twenty units, each of which comprise a small pit-type burial cairn and a curvilinear pseudo-wall ca. 2-5m long. The point of discussion is whether these units were constructed all at once or added one by one at some time interval, and, if the latter is the case, where the first unit was constructed and to which direction the subsequent units were developed. Suggestive in this regard are the followings: 1) as noted above, upright boulders are concentrated on the western walls; 2) burial cairns are arranged at relatively longer intervals in the southern quarter, and at shorter intervals in the northeastern and northern corners; 3) the Layer 4 pseudo-settlement, probably the proto-type of the Layer 3 one, was developed from right to left when viewed facing a facade (Fujii 2001: 33-34). These facts, when taken together, suggest that this large, composite structure was gradually developed counterclockwise, probably with the starting point at one of the western units.

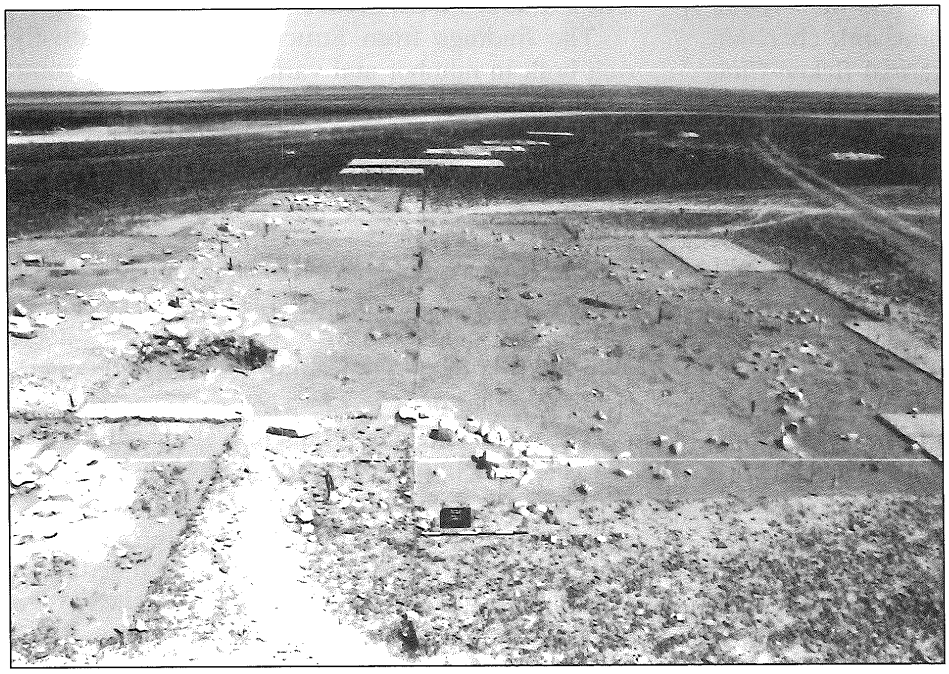
Another support for this reconstruction comes from the intra-pit features of BC-10, where the western wall was once disturbed by the burial pit but was soon reconstructed on its base, whereas the eastern wall was built on the lower fill layer of this pit and, at the same time, partly resting against the western wall (**Fig. 16**). Both phenomena illustrate the west to east (i.e., counterclockwise) development of the walls related this burial cairn. Also indicative is the fact that a dozen stone hoes (see **Fig. 18**) occurred exclusively around an illicit excavation pit that disturbed BC-20. This



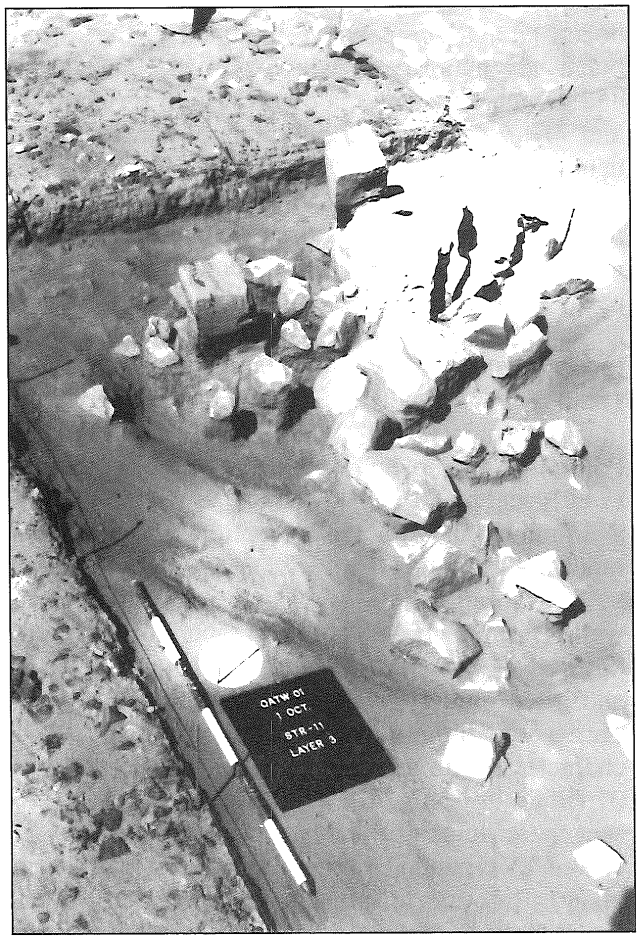
13. Structure 51: plan of Layer 2a and 2b.



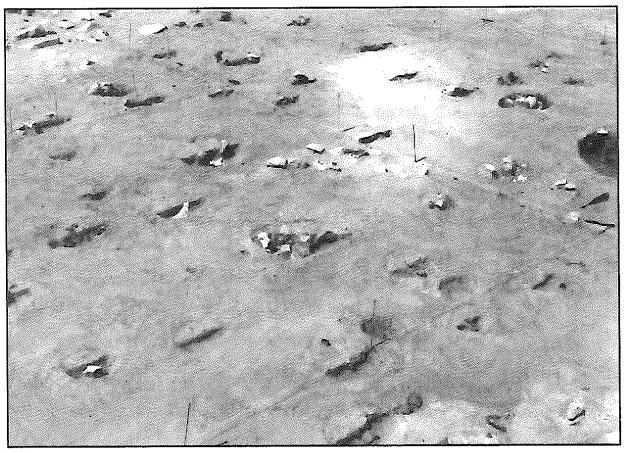
14. Structure 51: plan and section/elevation of Layer 3.



15. Structure 51 (from S).



16. Structure 51: BC-10 (from SE).



17. Structure 51: mourning pits (from SE).

might suggest that the counterclockwise development of this composite structure, despite the effort of narrowing intervals in the later half, finally came to an end at this corner and, therefore, these digging tools were discarded. It is also possible that they were left in commemoration of the completion of the circular development.

Whatever the case, it is now evident that Structure 51, as is the case of the other Layer 3 structures (Fujii 2001: 35-37; 2002a: 194), represents a pseudo-house — the final picture of the circular development of a burial cairn associated with a short, curvilinear pseudo-wall. Thus, the cluster of such pseudo-houses (i.e., the Layer 3 structural complex at QATW) must be viewed as a pseudo-settlement without practical habitation.

Hearths and Mourning Pits: Aside from several hearths dug from Layer 2b, a total of nine hearths were found within the original context of Structure 51. Most of them were round or slightly oblong in general plan and small in size, measuring ca. 30-

50cm in diameter or long axis and less than 15cm in depth. They contained ash, burnt soil, charcoal remains, abraded flint pebbles, thermal-flaked flint flakes, limestone flakes, or their various combinations depending on the case. However, no clear evidence for food processing were retrieved. It is therefore more likely that these hearths, as was the case of similar examples at the BC-200s, were concerned with some funerary ritual rather than a domestic use.

In addition to these hearths, a total of 82 mourning pits were found on the floor (**Fig. 17**). They are generally smaller and shallower than the hearths, and usually include only one or a few abraded flint pebble(s) often standing upright in the center, although some contained a few upright limestone cobbles. The occurrence of these unique pits clearly indicates the continuation of the mourning ritual held by the Layer 4 population. However, the following question arises here: why were mourning pits found merely at Structure 51, probably the youngest among the Layer 3 structures, and why did they rarely occur at the other Layer 3 structures? Central to this issue is the reason why the mourning pit ritual once became popular among the Layer 4 population, and why, after a few millennia of silence, it was suddenly restored at Structure 51.

A key to this enigma is the location of Structure 51. Of the four Layer 3 structures, Structure 51 is the only example to lie in the SW Complex where the mourning pit ritual flourished among the Layer 4 population (no clear evidence for the ritual has been found at the Layer 4 structures in the NE Complex). This leads us to a hypothesis that the population related to the Structure 51, while interfering with on-mound features such as the southern wall of PW-300, took an interest in and imitated the ancient ritual whose traces were still present around them. This hypothesis, if accepted, may explain why mourning pits of Structure 51 are rather concentrated on the southern floor — a zone closer to the BC-300s where the mourning pit ritual was most prevalent. It may also elucidate why larger pits containing upright limestone cobbles are limited on the western periphery — a locality nearer to the BC-200s where similar examples were found.

It is, however, most questionable whether the population fully understood the original significance of the mourning pit ritual. Highly suggestive in this regard is the fact that the mourning pits of Structure 51 are rarely located at mound flanks, to say nothing of their bases. This means that the Layer 3 population imitated merely what they could see — another support for the imitation hypothesis.

The Finds from Structure 51 (Layer 3)

The findings from Structure 51 are relatively rich both in number and variety, comprising some hundreds of flint artifacts, several anvils and hammer stones, a few dozen pottery sherds, and some miscellaneous artifacts described below.

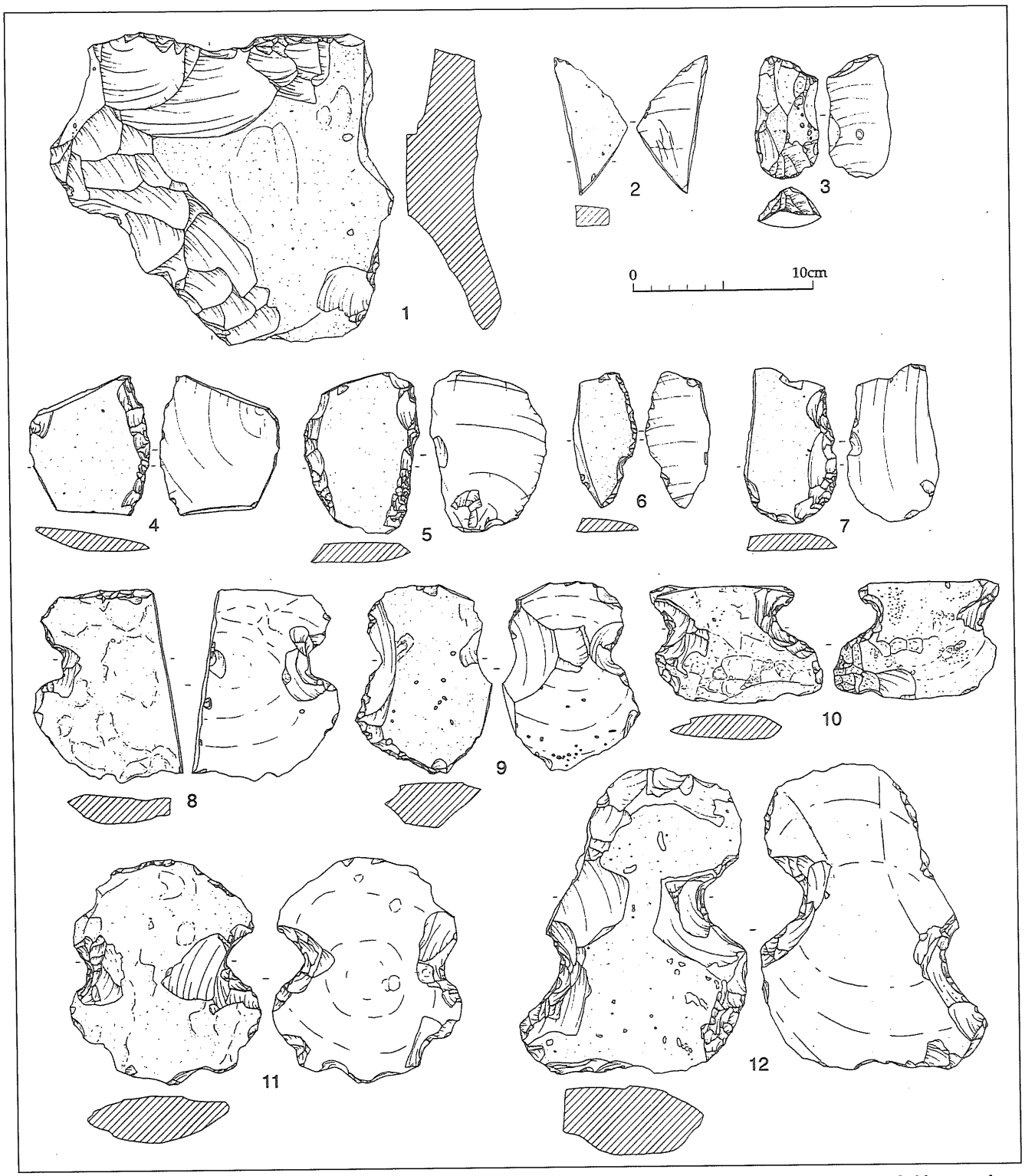
Flint Assemblage

The flint assemblage recovered from Structure 51 comprises four components: tabular scrapers, Jafr blades, undiagnostic flakes, and stone hoes, with the first being the leading element and the latter three minor ones.

The tabular scraper production at Structure 51 is characterized by a marked decline both in quality and quantity. First, the quantitative decline is represented in the fact that the tabular scraper components, even if cores and debitage are included, total up to merely some hundreds — a contrast with Structure 01 and -07, where some thousands of samples were recovered. Of further significance is the infrequency of finished products. Only a few dozen tabular scrapers are included in the assemblage, the majority of which is made up of cores and debitage — again, a contrast with Structure 01 and -07, where several hundreds of finished products were found.

The qualitative decline, on the other hand, is represented by typological simplification, although it may partly mirror the infrequency of the finished products themselves. The assemblage still includes an endscraper (**Fig. 18:3**), denticulates, and retouched flakes as well as tabular scrapers (Fig. 18:4-7); however, TSTE (Tabular Scraper Trimming Element) and QATP (Qa' Abu Tulayha Points) — diagnostic implements of the assemblages of Structure 01 and -07 (Fujii 2000: 155-159) — are fading out with the exception of several unmodified examples (**Fig. 18:2**).

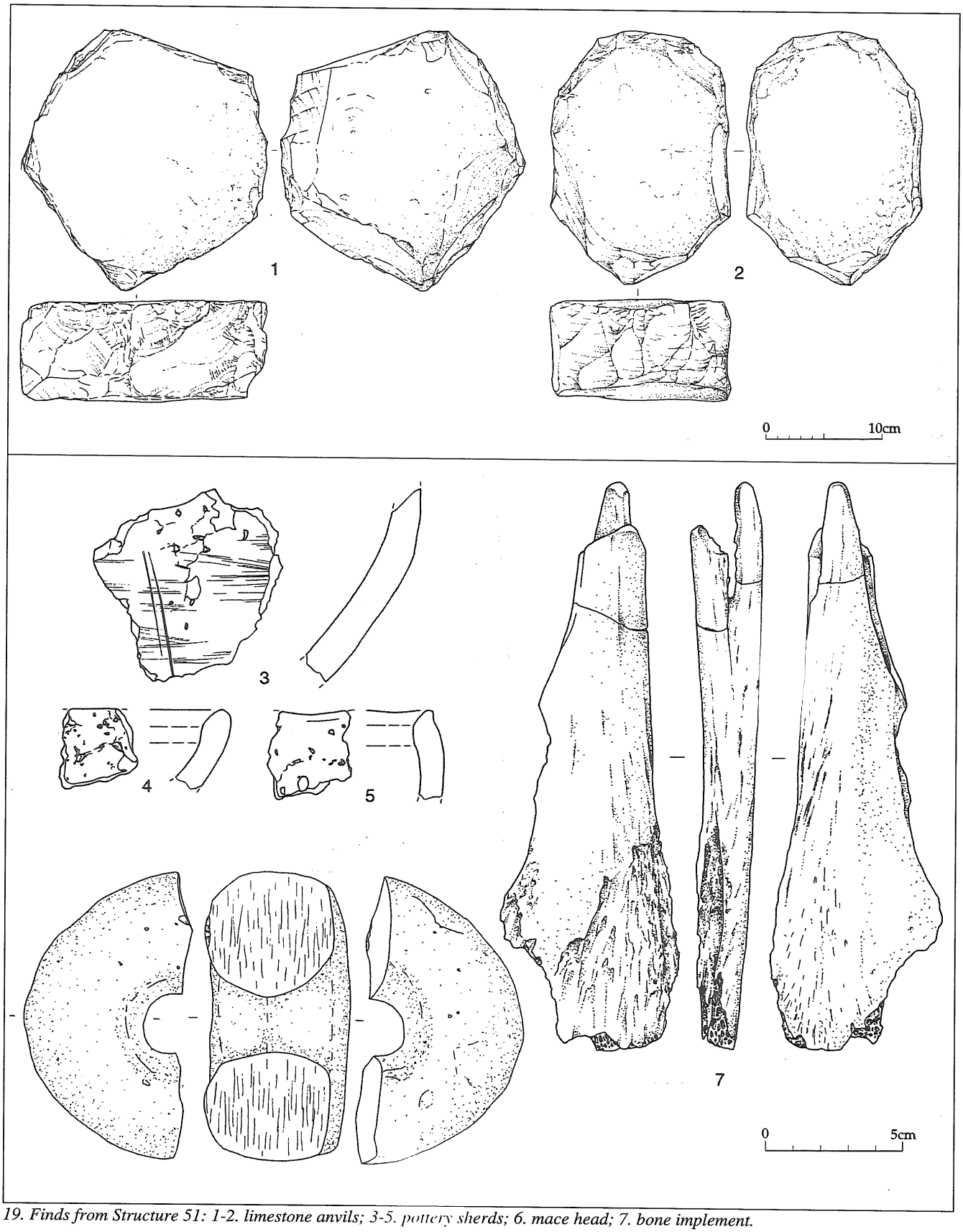
Deterioration can be found in technology as well. Tool blanks for tabular scrapers that were recovered at Structure 51 are usually small in size and often crudely snapped at one or two edge(s). Larger and longitudinally trimmed blanks, which characterize the assemblage of Structure 01 and -07 (Fujii 1998: fig. 10; 2000: fig.9), are nearly absent there (this is probably the reason for the scarcity of TSTE and QATP in the Structure 51 assemblage). Relevant to this techno-typological shift in tool blanks is the core reduction strategy. Cores from Structure 51 usually have smaller flaking scars (**Fig. 18:1**), whereas those from Structure 01 and -07 often exhibit invasive and/or wider flaking scars that produced longer and/or larger blanks (Fujii 1998: fig. 10:2-5; 2000: fig. 8:1). All these



18. Finds from Structure 51: 1. tabular scraper core; 2. TSTE; 3. carinated endscraper; 4-7. tabular scrapers; 8-10. stone hoes (flint); 11-12. stone hoes (limestone).

are responsible for the qualitative decline of the flint assemblage of Structure 51.

Incidentally, the flint assemblage of Structure 51 includes Jafr blades and stone hoes as minor components. No special comments are needed about the former, since it has already been referred to elsewhere (Fujii 2000: 159-160). Thus, the main concern is stone hoes — bi-laterally notched, heavy-duty tools probably used for digging a pit on *ḥammāda* surface (**Fig. 18:8-12**). A total of 17 samples were recovered around BC-20, although, unfortunately, no *in situ* finds were included due to the heavy disturbance by an illicit excavation. According to the preliminary examination by Masashi



19. Finds from Structure 51: 1-2. limestone anvils; 3-5. pottery sherds; 6. mace head; 7. bone implement.

Abe, a member of the staff, they are divided into two types: smaller ones made of flint (11 pieces) and larger ones made of limestone (6 pieces). Interestingly, the latter often bears heavier edge damage, probably suggesting the use for harder work. Of another interest is the exclusive use of thermal-

flaked blanks, which is probably due to their morphology suited for the production of stone hoes. Also intriguing is the total number of stone hoes (17 pieces), which possibly indicates that a small population consisting of ca. 20 persons was concerned with the construction of BC-20 — a suggestion of a single extended family of pastoral nomads (Avner 1990: 132).

To summarize, the flint (and partly limestone) assemblage of Structure 51 is marked by the drastic techno-typological decline of tabular scraper production and the appearance of a new component — stone hoes. Given the general consensus that the tabular scraper production ended with the EB III (Rosen 1997: 75), the former phenomenon suggests that the assemblage (and Structure 51 related to it) is dated to the final phase of EB III. This, in turn, would be a reliable base for the chronology of the stone hoes.

A few comments should be made about another archaeological implication of the poor state of lithic production at Structure 51. This phenomenon is highly significant in that it attests that the Layer 3 structures functioned primarily as symbolic cemeteries, not as tabular scraper workshops as suggested in the previous report (Fujii 1998: 137-138). When considering the formation process of this composite structure, it is more likely that the lithic production was conducted on the occasion of constructing a burial cairn. Or conversely, the lithic production might have come first and the construction next. The rich occurrence of tabular scrapers and the absence of structural remains at Qā' Abū Ṭulayḥa *East* may support this view (Fujii 1998: 126-127). Whatever the case, it is now apparent that the tabular scraper production and the Layer 3 structures, though often coexisting, were not the same in essence. The marked decline of lithic production at Structure 51 indicates that the essential function of the Layer 3 structures was related to funerary ritual, and not lithic production.

Anvils and Hammerstones

A few limestone anvils and several flint or basalt hammerstones were found at Structure 51 (**Fig. 19:2**). The general description of these heavy-duty tools has been made elsewhere (Fujii 1998: 133-134; 1999: 79-80; 2000a: 160). We need only note here that the occurrence of these implements as well as edge-trimmed tabular scrapers indicates that the blank-trimming technique, though much less frequently and elaborately, was still in use.

Pottery Sherds

A total of 49 pottery sherds were found, mostly from the surface and fill layers but five *in situ* finds from BC-06. A preliminary examination suggests that they comprise the following four classes: 1) dark red to reddish-brown, 1-5mm flint-tempered, slightly wet–smoothed, and relatively well fired coarse wares; 2a) grayish brown to dark brown, 1-5mm limestone-tempered, but sometimes flint-included, slightly wet-smoothed, relatively thick-walled, and worse-fired coarse wares; 2b) similar to the second, but less densely limestone-tempered coarse wares (**Fig. 19:3-5**); 3) light reddish to reddish-brown, minute particle-tempered, wheel-made, and well-fired, fine wares with 2-3mm thick, often carinated walls.

The last class is small in number and apparently represents a later contamination, probably from the Roman/Byzantine or possibly from the Nabataean context. Thus, the remaining three are our main concern here. Among them, the third class (class 2b) includes five *in situ* finds from BC-06, thus being most informative. It is, however, difficult to utilize them for chronological markers due to their fragmentary state and the scarcity of comparative material from steppe and desert sites. My tentative view is that the reddish color, heavy grit-tempering, hand-made manufacturing, and simple vessel shapes are all in a line with the general traits of EBA pottery assemblages in the southern Levant (Hendrix *et al.* 1996).

Others

A large fragment of a macehead (or a loom-weight), made of limestone, was found on the mound surface of BC-03 (**Fig. 19:6**). It is relatively large in size, measuring ca. 10cm in diameter and ca. 5cm in thickness, and has a central hole, ca. 2cm in diameter, bored from both directions. The two sections are artificially smoothed, hinting at the possibility that the breakage was not accidental.

In addition, a long bone, possibly a part of an ilium of a medium-sized animal (Hitomi Hongo: pers. communication), was recovered from BC-06 where five pottery sherds mentioned above were found *in situ* (**Fig. 19:7**). It was found stuck into a small mourning pit (**Figs. 14, 20**), suggesting that it was substituted for an upright flint pebble, an essential element of a mourning pit. The distal end, which were driven into the pit base, is forked and elaborately smoothed, hinting at its use as a handle or a shaft for a flint implement. Also suggestive is the proximal surfaces, which are also partly ground and presents a very flat profile. Besides, several animal bone fragments were found, but they are still under examination.

The Excavation of Structure 1001 (Layer 3)

Structure 1001 was already identified during the

second excavation season in 1998, and the surface collection was also carried out during the same season (Fujii 1999: 83-86). The excavation was planned for the next season, but it was unfortunately abandoned due to the heavy damage caused by recent limestone quarrying (Fujii 1999: 149). However, during the last week of this season, a final effort was made to remove a pile of limestone rubble covering the structure. Fortunately, it turned out to be still partly intact, and a rescue excavation was conducted for a couple of days.

Structure 1001

Structure 1001 is located ca. 200m south of the NE Complex and ca. 250m west of the SW Complex (Fujii 2000: fig. 1). Topographically, it lies below a gentle hill on which these Complexes extend, thus facing a small playa, Qā' Abū Ṭulayḥa, ca. 3km to the east. It must also be noted that it stands on a flint outcrop, a material source for the lithic production at QATW.

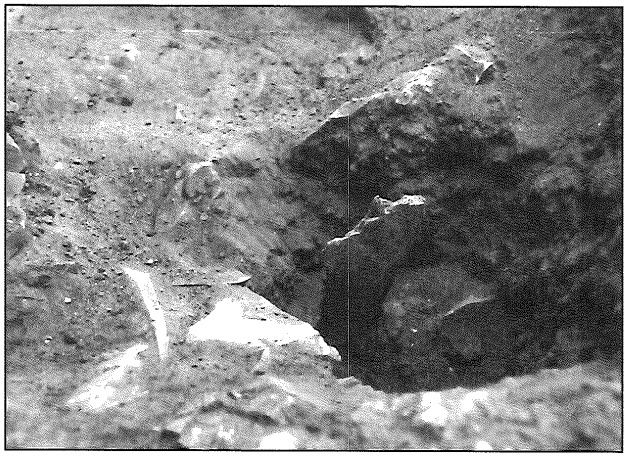
This structure was constructed on the upper surface of Layer 3, thus indicating that it was roughly contemporary with the other round structures located on the hilltop. However, it is far smaller in size than the latter and measures ca. 4.5m in the NW-SE major axis and ca. 3m in the NE-SW minor axis (**Figs. 21, 22**). Nevertheless, it bears a wide range of techno-typological similarities to them. First, it is a ground-type, stone built structure with an oblong general plan. Second, the wall was made of a single row of limestone and flint cobbles, some of which were put in an upright position, especially on a burial cairn pit. The third and most essential similarity consists in the combination of a pit-type burial cairn and a short, curvilinear wall extending from the former. The examination of BC-01 and BC-02 has revealed that a shallow pit once cut a part of an original wall, which in turn was soon reconstructed on the pit in question — a deep-rooted tradition inherited from Layer 4 structures to Layer 3 structures at QATW (Fujii 1999: 72-73; 2000: 153-154). It is, however, noteworthy that a series of burial cairns along the southern wall were constructed as ground-type features. It is therefore likely that this structure was associated with two types of burial cairns that are technologically different from each other — a similarity to Structure 07 (Fujii 2000: fig. 7).

Whatever the case, it is apparent that Structure 1001, though far smaller in scale than the contemporary parallels on the hilltop, also represents a pseudo-house. The existence of upright stones in BC-01 and BC-02 (in contrast to their absence at the southern burial cairns), the gradual decrease in cairn size ordering from BC-01 toward BC-07, and the tight arrangement of burial cairns in the southern quarter, all these hint at the counterclockwise development of this composite structure as suggested by Structure 51. Unfortunately, the damage in the southwestern corner and the existence of rubble still piled up at the northern end make it difficult to trace precisely how many burial cairn entities were concerned with the formation of this pseudo-house.

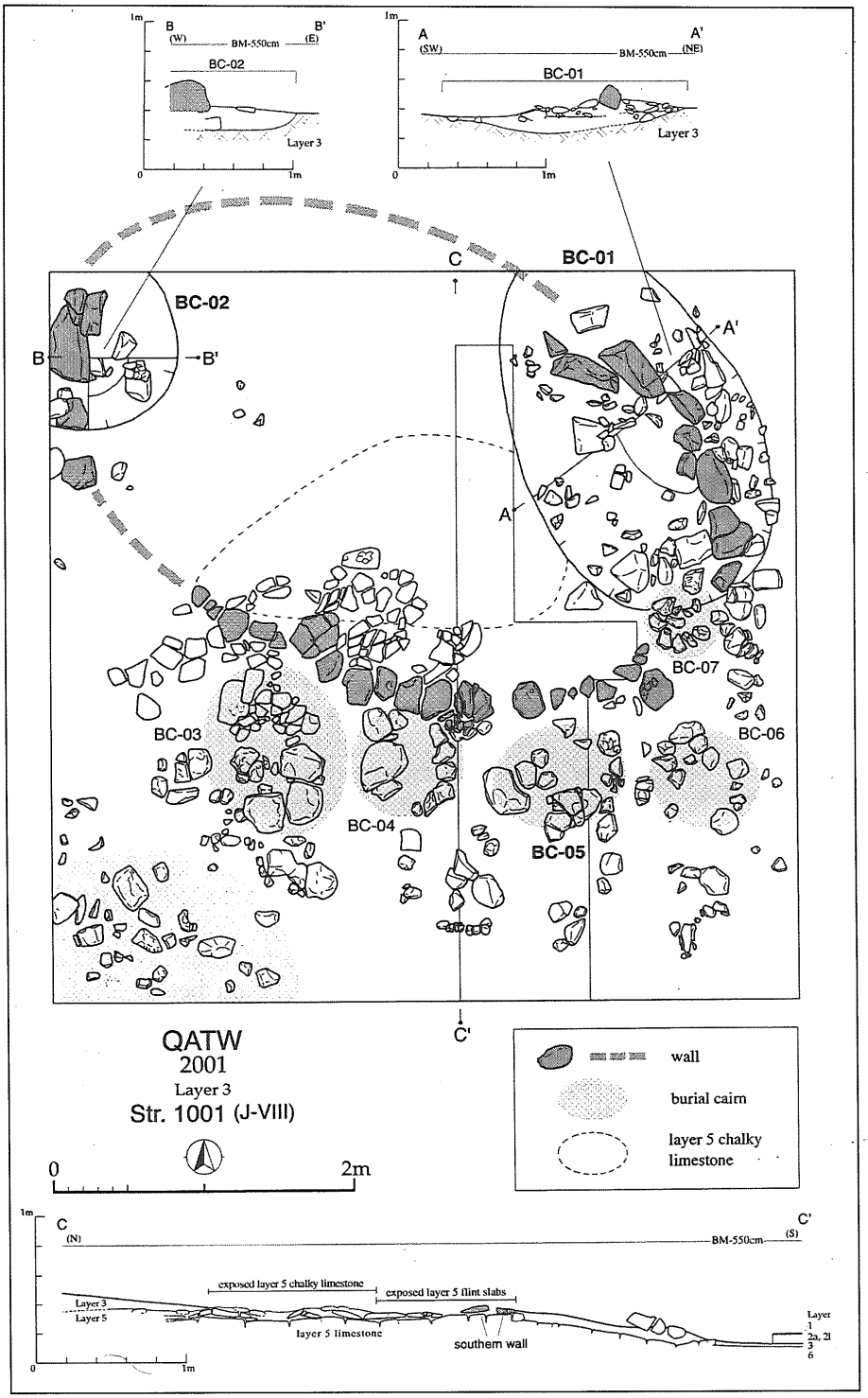
The Finds

The finds from Structure 1001 are small in number, consisting merely of a dozen Jafr blades components and several tabular scraper components. The general techno-typology of these finds has already been described in connection with the surface collection in 1998 (Fujii 1999: 83-86). Central to the discussion is the chronology of the Jafr blade assemblage.

The Jafr blade assemblage has often been referred to in the Upper Palaeolithic context (Huckriede and Wiesemann 1968), but the stratigraphy of Structure 1001 has clearly attested that it dated to the EBA. A possible question would be concerned with the contextual relation between the structure and the finds. Of particular importance in this regard is the existence of two *in situ* finds (**Fig. 23:1, 2**), which were found tightly incorporated into the pseudo-wall of BC-01. This, coupled with the frequency of similar components in the fill and surface layers (**Fig. 23:3-7**) and the net absence of heterogeneous components other than several tabular scrapers belonging to the same period, demonstrates the close ties between the structure and the Jafr blade components. In addition, upward contamination from Layer 4 is most unlikely, because the layer is nearly absent around this structure, and, even if exists, it is extremely poor in artifacts as



20. Structure 51 (BC-06): bone implement stuck in a mourning pit.



21. Structure 1001: plan and section/ elevation.

suggested by the hilltop Layer 4 complex. Also negligible is a contamination from Layer 5 and the lower layers, since the former represents a flint and limestone layer, thus apparently belonging to a pre-human age. It is also important to note that neither heavy abrasion nor patination can be recognized on the surfaces of the two *in situ* finds. This probably rules out the possibility that they had been long left on the slope and got incorporated into the pseudo-wall by chance.

Another line of evidence for the dating of the Jafr blade assemblage derives from: 1) the coexistence of Jafr blades and tabular scrapers — a widely attested phenomenon among Layer 3 hilltop structures as well as Structure 1001; 2) the existence of a reused core on which a Jafr blade flaking scar cut a tabular scraper scar (Fujii 2000: figs. 8–7) — a *terminus a quo* for the Jafr blade assem-

blage; 3) the subsequent conversion of this core for the construction material of a Layer 3 structure — a *terminus ad quem* for the same (Fujii 2000: 159-160); 4) the general similarities in patination between the Jafr blade components and the tabular scraper components at QATW; 5) the sharing of raw material between the two. All these reinforce our revised chronology.

Incidentally, the associated occurrence of Jafr blades and tabular scrapers has repeatedly been confirmed at flint knapping stations that were located during our 2001-2002 winter season survey (Fujii 2002b). Hence, it seems to be a phenomenon common to many sites in the Jafr basin, not peculiar to QATW. Also suggestive is techno-typological similarities between Jafr blade cores and Canaanean blade cores (Shimelmitz *et al.* 2000). As previously noted (Fujii 1999: 84), the Jafr blade industry could be viewed as a desert-version of the Canaanean blade industry. In any event, a line of evidence from QATW clearly attests that the former industry can be dated to the EBA, not to the Upper Palaeolithic horizon.

A Brief Overview of Intra-Site, Intra-Complex Chronology

In order to summarize the five seasons of excavation, a brief overview of the intra-site and intra-complex chronology of QATW will be given below on the basis of the available evidence.

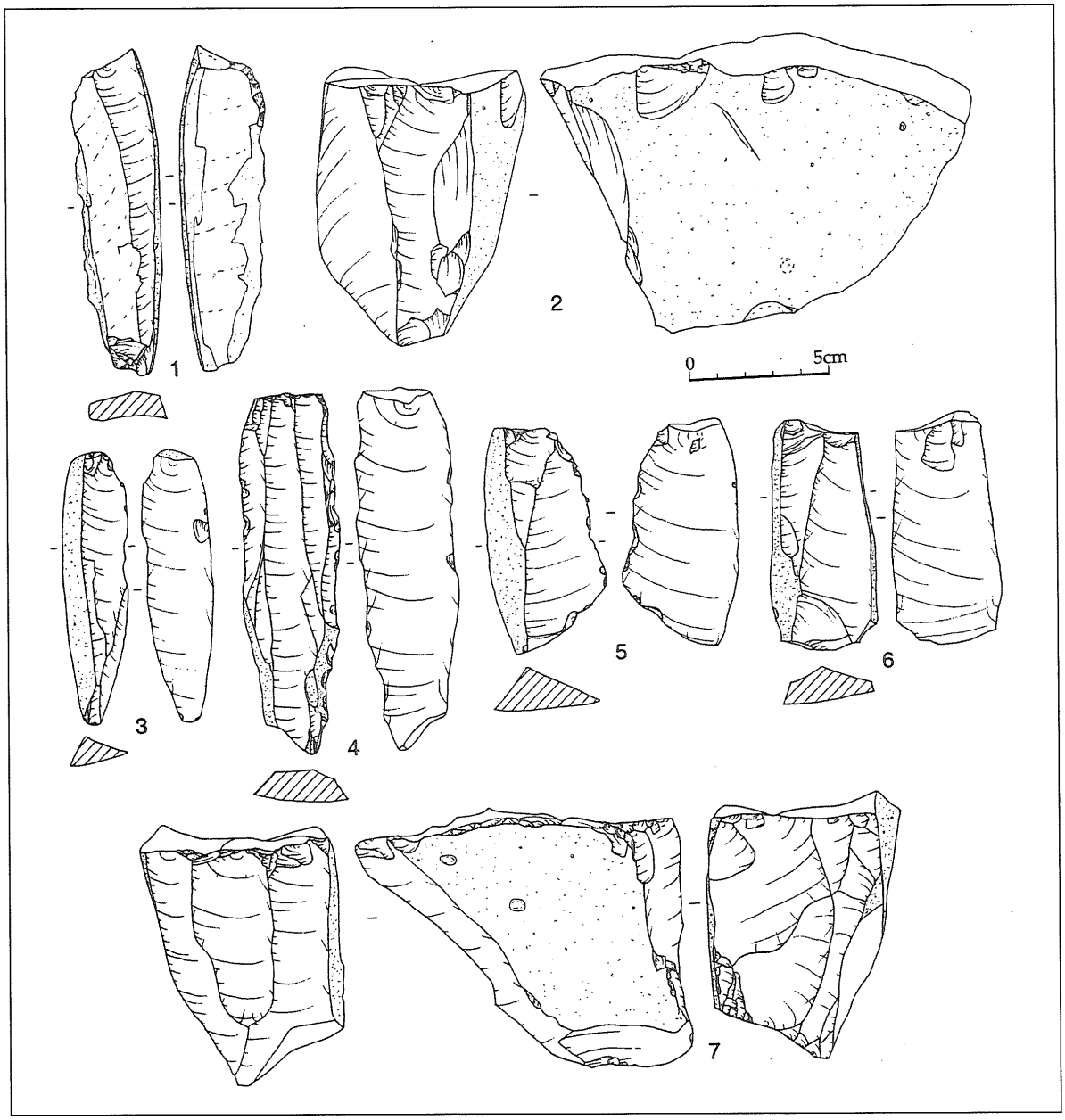
Layer 4 Structures

As previously suggested (Fujii 2001: 33-34), it is apparent that the linear development of the Layer 4 structural complex began with the Northern Continuum of the NE Complex, where the original form of a rectangular pseudo-house associated with a pit-type burial cairn can be found. Subsequently, the gradual addition of a similar structural unit led to the formation of three long continua. However, a wide range of techno-typological changes took place during their formation, including the partial invasion of a burial cairn into a pseudo-house, the relaxation of the connection of two adjacent units, and the unification of foundation mounds that originally followed the precise contour of a pseudo-house. These shifts finally culminated in Unit E' in the Southern Continuum, which in turn caused the appearance of isolated burial cairns, the BC-100s in the SW Complex, that are characterized by a twin-type mound and a remnant of two-rowed upright slab walls.

Next, too much approach between the two major components of a burial cairn entity resulted in their incorporation on a shallow pit — the appearance of the BC-200s. Finally, further simplification and a partial reversion to the original form, along with the flourishing of the mourning pit ritual, led to the establishment of the BC-300s and the BC-400s. The gradual orientation shift noted above would also corroborate this tentative reconstruction. One may therefore conclude that the Layer 4 structural complex developed following the horizontal stratigraphy from NE to SW.

However, a few questions must be addressed about the chronological relation between the BC-300s and the BC-400s. A key to this issue is a series of burial cairns that intervene between the BC-200s and the BC-300s. As noted above, they are

22. Structure 1001 (from S).



23. Finds from Structure 1001: 1. Jafr blades (in situ); 2. Jafr blade core (in situ); 3-6. Jafr blades; 7. Jafr blade core.

more similar to the BC-400s than to the BC-300s, thus indicating the possibility that the BC-200s were followed by the BC-400s including these candidates. Suggestive in this regard is the fact that the BC-400s (including these candidates) are lined on the southern extension of the BC-200s (**Fig. 1**). It is therefore more likely that the BC-400s were earlier in horizontal stratigraphy than the BC-300s.

However, a new question arises about the existence of BC-310: why does this burial cairn intervene in the N-S line in question. Suggestive in this connection is the existence of similar under-mound features both at BC-310 and at BC-405. Also of interest is the location of BC-310, which, if it can be regarded as one of the BC-400s, fits well with the regular arrangement from BC-205 down to BC-406. Accordingly, it seems more reasonable to assume that BC-310 (and probably BC-311 also) was constructed as one of the BC-400s. The on-mound feature of this burial cairn is certainly similar to that of the BC-300s rather than that of the BC-400s, but this might be a reflection of a later modification by a Layer 3 population (as evidenced by the occurrence of limestone anvils on the mound).

In summary, my tentative view is that the BC-200s were followed by the BC-400s (including the northern candidates), which in turn were followed by the BC-300s. The dichotomy both in typology

and in contents of the mourning pits, which were recognized in the eastern sector and not in the western one, may also support this view. An alternative option to be considered is that the development of the burial cairns branched off at BC-310 into the two directions. Excavation during the next season will hopefully provide a reliable clue to this issue.

Layer 3 Structures

The sequential development of the Layer 3 structural complex is easier to trace, since only four examples, three in the NE Complex and one in the SW, are included in this complex (the discussion here is limited to the hilltop structures, and therefore Structure 1001 is not included).

If one follows the horizontal stratigraphy suggested by the Layer 4 structures, the conclusion would be apparent: Structure 03 was the earliest among the three structures in the NE Complex, and Structure 01 and -07 followed it in this order, with Structure 51 in the SW Complex coming last. Importantly, this chronological order is roughly consistent with the techno-typological transition of tabular scrapers. A preliminary examination of thousands of samples (Hayasaka 2000) has suggested that the tabular scraper production at QATW was shifted from the earlier form based largely on whole blanks (Structure 01), through an intermediate one depending exclusively on trimmed blanks (Structure 01 and -07), finally to the overall decline at Structure 51.

However, here again, a few questions must be addressed about Structure 07. This structure is quite different both in typology and in size from the other three, thus possibly casting doubt on the linear model suggested above. Also problematic is the C-14 data, which provided an older date for Structure 07 than for Structure 01 (Fujii 2001: 22). With these in mind, further studies are needed before reaching a conclusion. In addition, the intra-site chronology of Structure 1001 must also be addressed. Although a line of evidence has clearly attested the dating to the Layer 3 (i.e., EBA) horizon, it is still open to question which phase of the structural sequence on the hilltop area it corresponds to.

Concluding Remarks

The fifth excavation season at Qā' Abū Ṭulayḥa West has provided critical evidence for the pseudo-settlement hypothesis (Fujii 2001: 33-37; 2002a). The formation process, intra-site chronology, and function of this unique desert site are now reasonably understood within the framework of this hypothesis. This may serve as a reliable base for the desert archaeology in the southern Levant. The establishment of a relative chronology of various burial cairns, the finding of the mourning pit ritual, and the chronological reassessment of the Jafr blade assemblage would also contribute to future studies. The next season is due from August to September 2002, focusing on the subsequent techno-typological transition of the Layer 4 burial cairns and the flint-mining activities of the Layer 3 population.

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