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THE UPPER TIGRIS ARCHAEOLOGICAL RESEARCH PROJECT
A Preliminary Report from the 2002 Field Season

Bradley J. Parker and Lynn Swartz Dodd
with contributions from Andrew Creekmore, Elizabeth Healey,
Richard Paine, Eleanor Moseman, and Marie Marley[1]

Introduction

During the summer of 2002 members of the Upper Tigris Archaeological Research Project (UTARP) undertook a third season of archaeological excavations at the site of Kenan Tepe in the Ilısu Dam area of southeastern Turkey. Since several previous reports have focused on the presentation and synthesis of material gathered in our first two seasons of research at Kenan Tepe (Parker *et al.* 2003a; 2003b; 2002a; 2002b), this report will focus on discoveries made during the 2002 field season with some reference to research conducted on material from earlier seasons that was not included in our previous reports.

Kenan Tepe is located on the north bank of the Tigris River about 15 km west of the Tigris-Batman confluence in Diyarbakır Province, southeastern Turkey (figure 1). The site is situated on a natural terrace. Virgin soil, which was reached in several trenches in the eastern portion of Kenan Tepe's lower town, is 23.7 m above the current level of the Tigris River. The top of the main mound is 56.3 m above the river and rises 32.6 m above the ground surface at the far eastern end of Kenan Tepe's lower town (in Area F [figure 2]). Since some portion of Kenan Tepe's lower town has been eroded by the Tigris River, it is impossible to determine the total size of the site. However, visible mounding extends for 225 m from southeast to northwest and 350 m from southwest to northeast. The existing mounded area of the site is approximately 6 ha. in total size. Our main datum,

[1] The Upper Tigris Archaeological Research Project (UTARP) would like to give special thanks to the Kültür Bakanlığı Anıtlar ve Müzeler Genel Müdürlüğü for granting the project permission to conduct research during the summer of 2002. We are especially indebted to Necdet İnal for his assistance to us in Turkey. Our government representative was Musa Tombul. The 2002 field season was funded by generous grants from the National Endowment for the Humanities, the University of Utah, the Curtiss T. and Mary G. Brennan Foundation, the University of Southern California and the National Science Foundation. Our team was made up of Marco Baldi, Ilya Berelov, Chiara Cavallo, Kara Cottle, Andrew Creekmore, Lynn Swartz Dodd, Marie Marley, Drew McGaraghan, Cathryn Meegan, Chris Moon, Dawnell Moon, Richard Paine, Bradley Parker, Jacob Paplowicz, Greer Rabiega, Jonathan Schnereger, Rob Sinnot, Kathryn Smith, Michaelle Stikitch and Andrew Ugan. Turkish participants included Elif Çiftci, Tuba Gencler, Nergiz Nazlar, Sibel Torpil and Bariş Üzel. Our driver was Ihsan Sevim. The majority of this report was composed by Bradley Parker and Lynn Swartz Dodd. The sections pertaining to Area F are the work of Andrew Creekmore. Richard Paine contributed the osteology section. Eleanor Moseman and Marie Marley studied our small finds and wrote the small finds descriptions. Katie Smith was a great help in putting together the ceramic figures and the small finds figure that appear in this article.

which is located at the top of Kenan Tepe's main mound, is 37 49 50.11634 N by 40 48 47.59917 E and is 603.724 m above the World Geodetic Datum.

UTARP's 2002 field season took place between June 20th and August 20th. During this time, UTARP participants conducted 19 operations in 5 areas of the site. Specialists continued to analyze the animal bones, human remains, archaeobotanical remains, stone artifacts and ceramics recovered in this and in previous seasons.[2] UTARP team members also continued to add to our web-based database, which now includes nearly all of the data from three seasons of excavation at the site.[3]

Archaeological research over the past three seasons identified discontinuous occupation episodes during five broad time periods. The earliest remains unearthed at Kenan Tepe thus far belong to the Ubaid culture and are carbon dated to ca. 4650 BCE. Ubaid period occupation thus far is restricted to the eastern and southern slopes of the high mound. Remains dating to the Late Chalcolithic period have been discovered in abundance in the easternmost area of Kenan Tepe's lower town and in several soundings near the high mound (Parker *et al.* 2003a). Carbon-14 analysis from Late Chalcolithic contexts has yielded dates in the Early LC 4 period (between ca. 3600 and 3500 BCE) and the LC 5 period (ca. 3100 BCE [Rothman 2001; Schwartz 2001]). Four more carbon dates from fortification/retaining walls on the high mound show that occupation continued through the Late Chalcolithic to Early Bronze Age transition (ca. 3000 BCE). An analysis of the ceramics from various areas at Kenan Tepe combined with two carbon dates confirms that occupation at the site probably continued at least through the first half of the Early Bronze Age. Middle Bronze Age remains have been recovered on the eastern, western and northern slopes of the high mound. Carbon-14 analysis places these remains around 1800 BCE (Parker *et al.* 2003a; Parker and Dodd 2003). Thus far no *in situ* Late Bronze Age remains have been discovered at Kenan Tepe. During the Early Iron Age, Kenan Tepe was home to a small settlement dated by the presence of Early Iron Age corrugated ware to between ca. 1050 and 900 BCE.[4]

Areas Excavated during the 2002 Field Season

During the 2002 field season, excavation was carried out in the following areas and trenches (figure 2). Excavations in the Ottoman period cemetery in Area A focused on previously identified burials in trench A4. The step trench, which is located on the steep northern slopes of Kenan Tepe's main mound, was expanded into a 3 by 45 m trench consisting of four excavation units (A2, A8, A9 and A10). On the upper western

[2] The animal bones are being analyzed by Dr. Chiara Cavallo; the human remains are being analyzed by Dr. Richard Paine; the archaeobotanical remains are being analyzed by Cathryn Meegan; the stone artifacts are being analyzed by Dr. Elizabeth Healey; the ceramics are being analyzed by Dr. Bradley Parker and Dr. Lynn Swartz Dodd.

[3] For additional information about UTARP visit our website at www.utarp.org. For detailed information about the site and past excavation seasons consult Parker et al. 2003a; 2003b; 2002a; and 2002b.

[4] Note that the dating of this corpus of ceramics has been tightened thanks to the discovery of Middle Assyrian tablets at Giricano (Schachner 2003:158), and based on the stratigraphic and ceramic analysis at Lidar Höyük by Uwe Müller (Müller 2003:139).

slope of the high mound work in Area B continued in a 5 by 10 m portion of trench B4 and in four trenches in Area C (C1, C2, C3 and C4). A new sounding (C5) was also opened in Area C about 30 m west of our existing trenches. In Area D, on the steep eastern slopes of the main mound, we continued excavation in trenches D4 and D5 and opened two new units: D6, a 5 by 10 m unit to the south of D4, and D7, a 5 by 5 m unit north of D4. In Area F, work continued in trenches F1 and F7, and five exploratory units (F13, F14, F15, F16 and F17) of various sizes were begun west of our existing Area F trenches.

The Ubaid Period

Ubaid-related material has been identified in three areas of the site. Ubaid ceramics were first discovered in a sounding in Area E on the southeastern slopes of the high mound during the 2000 field season (Parker *et al.* 2002b). In 2001, UTARP team members discovered the remains of an Ubaid period structure in trench D5 on the eastern slopes of the high mound. In 2002, Ubaid period remains were encountered at the bottom of our step trench in A9 (figure 2). These preliminary results suggest that Kenan Tepe's Ubaid period settlement extended over a small area of less than 1 ha. on the eastern side of the high mound. However, it is possible that settlement from this early period stretches farther under the high mound, in which case this figure could increase to between 1 and 2 ha. It should also be noted that Ubaid ceramics were also discovered in a small exploratory trench at the southwestern edge of Area F (in trench F6 [figure 2]). Whether or not these remains betray the existence of Ubaid period settlement in Kenan Tepe's lower town must remain a question for future field seasons. These findings are consistent both with Algaze's original assumptions based on his 1988, 1989 and 1990 surveys of the Tigris basin (Algaze 1989; Algaze *et al.* 1991) and with other surveys slightly farther afield in northern Iraq (Wilkinson and Tucker 1995 for example) and north Syria (Meijer 1986 for example) where Ubaid sites are usually not more that 2-3 ha.

During the 2002 field season, research on the Ubaid period concentrated on the domestic structure identified in the previous season in trench D5 (figures 2 and 3 [Parker and Dodd 2004]). This building, which is partially contained within the south baulk of the trench, consists of several mudbrick walls demarcating two rooms and separating them from a well preserved outside work surface (figure 3).[5] At least one of the rooms had plastered earthen floors. If parallels with other excavated Ubaid houses are any clue, we can assume that this was a relatively large multi-room structure perhaps mirroring domestic structures unearthed at Yarim Tepe III (Merpert and Munchaev 1993) or Tell Madhhur (Roaf 1989).

The interior of this structure was relatively free of remains. However, a large and well preserved outside surface that abuts the north wall of the house contained numerous artifacts and other domestic debris, including a small fireplace, *in situ*. Two carbon

[5] Note that ceramic analysis has shown that the oven or kiln installation visible in the lower left corner of figure 3 belongs to the Late Chalcolithic period. This feature was partially dug into the earlier Ubaid period remains.

samples taken from this surface and one taken from the fireplace on the surface were selected and sent to Beta Analytic for carbon dating. The two samples taken from the surface outside the Ubaid house yielded 2-sigma calibrated dates of 4800-4660/4640-4620 BCE (D.5.5142.7) and 4700-4480 BCE (D.5.5142.8). The sample taken from the fireplace on the surface yielded 2-sigma calibrated dates of 4800-4665/4645-4615 BCE (D.5.5080.5576 [table 1]). These dates fall relatively neatly in the middle of the fifth millennium, giving a maximum range for the end of the use life of this structure between 4800 and 4480 BCE. However, we may be able to be more precise about the dating of Kenan Tepe's Ubaid house if we consider that the overlap between the date ranges given by the three samples stretches over only 80 years: from 4700 to 4620 BCE.

The lack of any doorways connecting the clean inside rooms to the littered outdoor surface, combined with the fact that this surface slopes downward as one moves north and northeast from the structure, supports the conclusion that this is not the remains of an enclosed courtyard but is rather an outdoor work area. This surface was covered by thousands of compacted plant pseudomorphs (figure 4). Examination of the structure and morphology of these pseudomorphs suggests that they are remains of barley or wheat chaff (Naomi Miller pers. comm.). In part of the trench this organic mass covered the pseudomorphic remains of a very finely made grass mat (figure 5). Our assumption is that these chaff pseudomorphs once formed a pile against a wall of the structure and that the grass mat was there to catch either the chaff or the winnowed grain. Ethnographic parallels can be drawn in villages throughout modern Turkey where chaff is often stored (either for fodder or mudbrick construction) against the side or back wall of houses. The same surface also yielded numerous examples of painted fine and unpainted coarse Ubaid pottery (figures 6 and 7), obsidian and chert lithics, a bone bead, a stone pendant in the shape of a fish, two bone awls (see below and figure 18G and H), several possible spindle whorls or beads (see below and figure 18D and F), three possible fish net weights and a fragment of a ground obsidian bowl.

Bradley Parker and Lynn Swartz Dodd subsequently analyzed the ceramics from all primary and secondary contexts associated with the Ubaid structure in trench D5 and recorded all of the Ubaid contexts unearthed in other trenches. This research revealed that Ubaid ceramics from Kenan Tepe are composed of four fabric types, which we have classified as rough, coarse, medium and fine wares. Kenan Tepe's Ubaid rough ware is characterized by a black core with large chaff and some calcareous grit temper. Ubaid coarse ware has fine grit and medium to large chaff temper. The fabric is usually brown. Medium ware has fine grit and medium to large chaff temper and is chaff impressed. Thicker sherds may have a black core. Ubaid fine ware has fine calcareous grit and medium chaff temper. Its fabric is low to medium fired.

The rough, coarse and medium wares are not decorated. Two types of decoration have been recorded on the Ubaid fine ware: the first is slipped and then painted, the second has no slip. Ubaid fine ware slips are always off-white, while decorative motifs from this corpus are usually composed of purple, dark red or brown paint. Designs are composed of large, easily applied motifs characteristic of a late northern Ubaid or Ubaid 4. The most common motifs are wide painted bands (figure 6B, C, D, E, F, G, I and K),

scalloped designs (figure 6B and I) and large reverse or negative designs (figure 6M, N, O and P).

The Ubaid ceramic corpus uncovered thus far at Kenan Tepe finds parallels with part of the assemblage from Hammam et-Turkman level IVa (Akkermans 1988) in the southwest, Değirmentepe in the north (Esin and Harmankaya 1987; 1988) and other more distant Ubaid sites. Closer parallels are to be found, not surprisingly, at the few Ubaid sites within the Tigris basin itself. A direct comparison of painted ovaloid beakers (probably with flaring rims) from Kenan Tepe with those from Yenice Yanı in the summer of 2002 revealed that many sherds from these two sites were virtually indistinguishable.[6] Ceramics such as those illustrated in figure 6M, N, O and P match Bernbeck, Costello and Ünal's (2004) figure 5a and 5e in motif, color and fabric, while both assemblages contain flaring and straight-sided bowls (figure 6C and D, figure 7E, G, I, J and M) and ovaloid beakers with flaring lips (figure 6B, E and H, figure 7C, H and L). Another local parallel perhaps can be drawn between some of the Kenan Tepe examples and the few Ubaid sherds published by Karg from Gre Dimse (compare for example figure 7M with Karg 1999: figure 8.1). Finally, Türbe Höyük, a late Ubaid site originally identified by Algaze (Algaze 1989:253), has recently been resurveyed in the valley of the Bohtan River (Velibeyoğlu *et al.* 2002: figures 13 and 15).

Obsidian and chert chipped stone artifactual remains were recovered in abundance in and around this Ubaid structure. Elizabeth Healey undertook a preliminary study of this material during the summer of 2002. This analysis suggests that flint was obtained from local sources, perhaps from local Tigris River gravels. No definitely glossed blades have been found in Ubaid levels so far, although a scraper, a piercer, a denticulate blade, a possible blank, and pieces with informal retouch have been identified. Local Ubaid tool makers predominantly used green obsidian, which may be from Bingol or Nemrut Dağı. In Ubaid contexts, obsidian accounts for almost 30% of the chipped stone assemblage, whereas it constitutes only 11% of the later assemblages studied thus far. The condition of the recovered obsidian remains suggests that the Ubaid chipped stone tool makers used every scrap of obsidian available to them. Those who crafted the obsidian tools apparently were inclined not to waste any material, and they worked most pieces down to small nubs. Further, the general character of the lithic assemblage suggests that non-specialists were producing the tools. However, it should also be noted that, in addition to the poorer-quality obsidian and flint remains, a well crafted fragment of a ground obsidian bowl was also found in the Ubaid occupation levels at Kenan Tepe.

The Late Chalcolithic Period

In our previous reports (Parker *et al.* 2003a; 2003b), we made several points about Kenan Tepe's Late Chalcolithic settlement. First, the fact that we reached Late Chalcolithic remains in two trenches and one sounding in Area F (F1, F4 and F10) and in

[6] We offer our thanks to Reinhard Bernbeck, Susan Pollock and Sarah Costello for discussing this material with us during their 2002 field season at Yenice Yanı.

two soundings in Areas G and H (G4 and H1 [figure 2]) confirms that there was a significant expansion of the settlement between the Ubaid period and the Late Chalcolithic period. These data suggest that Kenan Tepe is likely to have grown to between 3 and 5 ha. by the Late Chalcolithic 4 (see below and Rothman 2001 and Schwartz 2001 for chronology). Second, an analysis of the ceramics from Area F undertaken during the 2002 field season supports our previous statement that Kenan Tepe's Late Chalcolithic ceramic corpus is devoid of southern "Uruk" style types (Parker *et al.* 2003a). Third, research during the 2000 and 2001 field seasons failed to unearth any architecture in Area F that could be interpreted as domestic. For this reason we suggested that during the Late Chalcolithic, Area F may have been used as a production area (Parker *et al.* 2002a; 2002b). However, during the 2002 field season UTARP team members did unearth Late Chalcolithic architecture in trench F1 (see below). Although our exposure is still very limited, this discovery could change our previous interpretations of the nature of settlement in this area.

Although it would be premature to argue that Kenan Tepe's full sequence of occupation has been illuminated after only three seasons of excavation, it should at least be noted that there is a significant stratigraphic break between our Ubaid 4 remains carbon dated to ca. 4800-4600 BCE (see above) and the Late Chalcolithic 4 and 5 remains (dating to ca. 3600-3000 BCE) discussed in this section. Two explanations are possible. First, there may in fact be an abandonment between the Ubaid 4 and the Late Chalcolithic 4. However, it is also possible that earlier Late Chalcolithic remains are still to be discovered closer to the main mound in Areas G and H (figure 2).

For study purposes, we organized the remains in Area F into seven major stratigraphic phases, levels 1 through 7. Remains carbon dated to between the early LC 4 (between ca. 3600 and 3400 BCE) and the LC 5 (ca. 3400-3000 BCE [Rothman 2001; Schwartz 2001]) have been unearthed in two trenches in the eastern portion of Kenan Tepe's lower town (Area F, see figure 2). The earliest context, garbage dumped in an oven just above sterile clay in trench F4, yielded 2-sigma calibrated carbon dates of 3360-3030 BCE (KT4157); 3630-3570/3540-3360 BCE (KT4229); and 3660-3620/3600-3520 BCE (KT4253). The upper levels of the same context yielded a 2-sigma calibrated date of 3350-2910 BCE (KT4061).[7] This context also produced a variety of Late Chalcolithic ceramic forms which are illustrated in our previous report (Parker *et al.* 2003a: figure 12).

The Late Chalcolithic ceramic corpus at Kenan Tepe includes three general fabrics, one predominantly chaff-tempered, one a largely grit-tempered "simple" ware, and one a mixed chaff- and grit-tempered ware. The forms include everted and bent-neck jars, tapered-rim jars, simple-rim open cooking bowls, incurved-rim bowls, a variety of open bowls with hammerhead and similar rims, cooking jars, carinated casseroles (rarely), beaded-rim carinated cups, and conical cups with string cut bases. Occasional burnishing is noted except on simple wares. These forms find parallels in the Amuq F assemblage and at sites like Kurban Höyük, Hacınebi Tepe, Hassek Höyük and

[7] These dates are published in Parker et al. 2003a: table 2.

Arslantepe (Braidwood and Braidwood 1960; Algaze 1990; Pearce 2000; Pollock and Coursey 1995; Hoh 1984; Frangipane 2000).

During the 2001 field season we discovered what we believed to be a mudbrick platform in trench F1 that we assigned to our Area F level 4 (Parker *et al.* 2003a; 2003b). During the 2002 field season we definitively determined that these remains were not a platform but bricks from several collapsed walls. These walls fell onto a surface (L1055/1060) previously designated level 5 but now shifted up to level 4 because of its association with the collapsed walls. Although the dating of this level is still tentative, we assign it to the latter half of the Late Chalcolithic period. Our reinterpretation of level 4 determined that one large wall (L1033) and parts of one or more smaller walls (L1035) fell onto an earthen surface with an inset oven (L1054). The bulk of this collapse (L1033) was a single-row, multi-course wall consisting of bricks 0.20-0.40 m by 0.10 m. The surface of this wall and the other bits of collapsed bricks on the floor had been baked, suggesting that the structure burned before collapsing. The beaten earth surface (L1055/1060) on which this collapse fell was covered in a thin layer of ash surrounding the oven (L1054). The round 1.60-m-diameter brick oven contained a rectangular clay stand 0.64 m long, 0.30 m wide, and 0.10 m high (KT1246).

With the surface beneath the collapse shifted to level 4, level 5 contains domestic architecture excavated in 2002 in trench F1. This material includes two phases of earthen surfaces, cobblestone surfaces, and mudbrick walls. The earlier phase, here called phase B, included an earthen surface (L1098) with a Late Chalcolithic cooking pot (L1103 KT5) buried within/beneath the surface. This presumably indoor surface was associated with two fragmentary, and likely outdoor, cobblestone surfaces. These include L1100 in the northeastern corner of the trench, and L1101 along the southern baulk. Two thin walls set off the area of the earthen surface, and separated it from the cobblestones. These include a north-south wall (L1096), 1.75 m long by 40 cm wide, extending from the north baulk, and an east-west wall (L1069), 0.94 m long by 0.36 m wide, extending from the east baulk. In the later phase, here called A, a third and a fourth wall (L1080, L1076) were added, the earthen surface was relaid (L1089) and new layers of cobblestones (L1086, L1057/1097) were added above the earlier surfaces. Wall L1080 was 2.70 m long by 0.50 m wide, and ran west-east from the west baulk (L1080). The other wall, L1076, 1.06 m long by 0.20 m wide, ran south-north from the south baulk and articulated with east-west wall L1069. Together, the two new walls further isolated earthen surface L1089 from the cobblestone surfaces on the edges of the trench.

Late Chalcolithic to Early Bronze Age Transition

In an effort to clarify the chronology of occupation at Kenan Tepe, UTARP team members began a step trench on the steep northern slopes of the main mound during the 2000 field season (figure 2). At that time, UTARP team members exposed a series of walls running roughly east-west through the first step of this trench (trench A2, Parker *et al.* 2002a). These walls were abutted on the south by a series of cobblestone surfaces. Contrary to our original hypothesis (Parker *et al.* 2002a; 2002b), it is now clear that these

remains date to the early second millennium BCE. Work continued in the step trench in 2001. During the 2002 field season we greatly expanded this operation, increasing its dimensions to a 3 by 45 m trench divided into four excavation units (A2, A8, A9 and A10 [figure 8]). Originally we assumed that we would be able to obtain the complete sequence of the main mound in the step trench. However, we now believe that the main mound of Kenan Tepe must lie on a small natural hill and that over the course of Kenan Tepe's history, structures on the main mound were terraced into the natural hill. This conclusion is supported by the fact that, in spite of their difference in elevation, all of the excavation units in the step trench produced remains from the Late Chalcolithic to Early Bronze Age transition during the 2002 field season.

LC 5/EB 1 remains discovered in the step trench include two large fortification or retaining walls, the first of which was unearthed in trench A2 (foundation elevation of 597 m ASL), and the second of which was discovered in A8 (foundation elevation of 590 m ASL). A small section of an identically constructed wall also was discovered nearly 100 m to the west of the step trench in our sounding in Area C (trench C5, see figure 2). Judging from its elevation and positioning, the wall in Area C is likely a continuation of the wall discovered in trench A8. Although our Area C sounding did not reach the foundation of the wall, both walls in the step trench were excavated beyond their foundations. This research revealed that both walls are constructed on stone foundations that are over 1.5 m wide (figures 9 and 10). The three wall portions unearthed thus far (in A2, A8 and C5 [figure 2]) have several interesting characteristics in common. First, they are built of at least four different types of mudbrick, each having a slightly different color. The color variation was probably visible in antiquity since no trace of plastering or other exterior wall sealing was noted on the wall faces during excavation. Although we were not able to discern patterns in the placement of these bricks within the architecture, their varying color, which was probably much more pronounced in antiquity, could reflect aesthetic preference. Alternatively, this variation may be the result of the use of multiple clay sources. If these walls were constructed with coerced labor and materials, one could speculate that this variation might reflect tribute payments made by subordinate settlements that utilized different clay sources. In either case, the fact that each wall portion contains at least four virtually identically colored types of bricks not only shows that these walls belong to the same architectural feature or features, but also suggests that all three excavated wall sections were built during the same construction episode.

A second interesting feature common to all three of these walls is the incorporation of layers of river reeds in the construction. Between every ten or twelve courses of bricks excavators recovered the impressions and pseudomorphic remains of thick reed layers (figure 11). Our assumption is that reed layers were used as damp courses and to add stability to the construction. Finally, two of the walls show evidence of having been used as retaining walls. In trench A2, mudbricks continued south of the stone foundation, suggesting that this wall may have supported a mudbrick platform. East of the wall in trench C5 we discovered a deep deposit of fill that was almost exclusively made of greenish kaolin-like clay granules and was nearly devoid of cultural material. This evidence suggests that the surface on the uphill side of the wall was leveled by depositing large amounts of sterile clay.

Carbon-14 analysis shows that these walls were constructed during the Late Chalcolithic to Early Bronze Age transition. Carbon samples taken from within the stone foundations of the walls in trenches A2 and A8 yielded similar 2-sigma calibrated dates of 3350-3010 (A.2.2139.2) and 3100-2900 (A.8.33.6). A further date was taken from one of the reed layers in the wall in trench A8. This sample, from the matrix of the wall, yielded a 2-sigma calibrated date of 3080-3060/3040-2890 (A.8.30.3). Another sample taken from occupational debris directly above the wall in trench A2 yielded a 2-sigma calibrated date of 2880-2580 (A.2.2131.15). A fifth sample from occupational debris in trench A9 yielded a 2-sigma calibrated date of 3100-2900 (A.9.37.2 [see table 2]). This date range is similar to that derived from two of the samples in trench A8. Overall, these data suggest that both the walls and the layers on which they were constructed date to around 3000 BCE. They further show that the A2 wall later was covered over by an occupation layer dating to the second quarter of the third millennium BCE.

Early Bronze Age

During the 2002 field season much of our effort was focused on the exploration of the Early Bronze Age remains in Kenan Tepe's lower town. In an attempt to trace Early Bronze Age architecture discovered in previous seasons, UTARP team members opened a series of small shallow trenches (F13, F14, F15, F16 and F17 [figures 2 and 12]) to the west of our existing Area F trenches. These trenches did not contain extensive architecture we had hoped might be found in this open area of the lower town, but they did yield new data about the final phases of Early Bronze Age occupation in the lower town. We have yet to encounter any architecture that can be shown to be domestic in this area. Instead, fragments of the cobble surfaces were identified in F14 and F15 and some ephemeral remains of walls were encountered in F13 and F16. The cobble surfaces appear at generally the same elevation as, and are similar in composition to, those discovered in previous seasons in F4, F1, F7 and F2. In trenches F2 and F8 these cobble surfaces were associated with *tanoor* style ovens. The F15 surfaces were notably more compacted than those in F1, F2 and F14, suggesting that the F15 area was more heavily trampled, perhaps functioning as a passageway rather than a work area. Assuming that these remains are in fact contemporary, the latest level of Early Bronze Age occupation in Kenan Tepe's lower town consists of cobblestone surfaces, beaten earth surfaces, three ovens, three stone installations, a stone wall foundation and fragments of other poorly preserved stone structures or installations. Our current interpretation is that all of these surfaces belong to a single phase of occupation and thus may be part of a complex of outdoor activity areas and pathways ranging across an area 35 m by 35 m.

The dating of this area is based on the analysis of the ceramics. We recovered numerous pedestalled bowls, alternatively called "chalice ware" (Speiser 1932:5-10) or "fruit stands," on these surfaces and in the fill around them. The Kenan Tepe examples are chaff and grit-tempered, with prominent vertical burnishing marks on the base as well as the bowl in many examples. These vessels are *not* extremely tall with long necks but are fairly evenly proportioned, standing around 0.20 m high. These forms proliferate in

the Ninevite V period (3100-2500 BCE [Ay 2001:723; Rova 1988]), although the pedestalled bowls from Kenan Tepe do not occur in Ninevite 5 fabics nor are they exact parallels in their form. Two unusually large bases recovered in 2002 may belong to pedestalled jars, similar examples of which are dated to the first part of the Early Bronze Age at other sites in southeastern Turkey such as Zeytinlibahçe Höyük (Frangipane *et al.* 2002:63). Other, apparently local Early Bronze Age ceramic types include small, grit-tempered, handmade ring-base bowls, which also often are vertically burnished and have a slight indentation below an otherwise simple, slightly incurved rim. These types apparently find local parallels at Aşağı Salat (Şenyurt 2002), although more direct comparison to this material will have to wait for further publication of the ceramics from that site.

Middle Bronze Age

Excavations at Kenan Tepe between 2000 and 2002 have confirmed that the Middle Bronze Age in the Upper Tigris River region is dominated, not by the Khabur ware assemblage common in other parts of northern Mesopotamia, but by a ceramic assemblage that has come to be known as "red-brown wash ware." This name was coined by Algaze during the processing of the original survey material from the Upper Tigris and Batman River valleys (Algaze 1989; Algaze *et al.* 1991). Since elements of this assemblage were identified after the publication of the initial survey reports, Algaze did not refer to this assemblage in the survey publications. He did, however, subsequently apply this title to material from intensive surveys at Ziyaret Tepe (Matney 1998; 1999). Although a few red-brown wash ware sherds appear to have been found in a context with Khabur ware at Üçtepe (Sevin 1993), it was not until excavations began at Kenan Tepe (Parker *et al.* 2002a; 2002b), Ziyaret Tepe (Matney *et al.* 2002; 2003) and Giricano (Schachner 2002) that a significant quantity of well stratified red-brown wash ware became available for study. Since then, elements of this assemblage have been identified on survey in the Bohtan River valley, suggesting that the geographic range of this assemblage extends well beyond the Upper Tigris and Batman River valleys (Velibeyoğlu *et al.* 2002).

The Middle Bronze Age ceramic corpus from the Upper Tigris River region has become known as red-brown wash ware because a large percentage of the sherds from various categories of vessels belonging to this group have a dark red surface treatment (at Kenan Tepe up to 50% of the ceramics belonging to this assemblage exhibit this red-brown surface treatment). In spite of the nomenclature, the surface treatment that gives its name to this assemblage is neither a wash (a fluid suspension of clay applied to a vessel after firing to form a thin exterior coating [Rice 1987: 149-150]), nor a slip (a fluid suspension of clay applied to a vessel before firing to form a thin exterior coating [Rice 1987: 149-150]), but is instead a thinly applied paint (an applied pigment [Parker and Dodd 2003]). Other surface treatments from this corpus include a browner version of the surface treatment discussed above; a thinly applied paint that fires either red or brown and is applied atop a light-colored slip, which we call red and brown 'brush strokes' (figure

13G and figure 14K); and painted bands, also in red and brown (figure 13C, D, E, F and J and figure 14J). The most common shapes from Kenan Tepe belonging to this corpus include carinated bowls, jars and bowls with ribbed shoulders, medium-sized neckless jars, flaring lip jars, and hole mouthed jars (Parker and Dodd 2003: figure 12 and 13).

Ceramics with the distinctive red-brown wash ware surface treatment occur at Kenan Tepe not only in the context of a larger ceramic assemblage, but within well preserved architectural units and in association with faunal, botanical, carbon, pyrotechnic and other remains. Although our analysis has shown that the red-brown wash ware corpus is influenced by ceramic traditions of greater Mesopotamia, there is no question that this assemblage is regionally distinct. Since a preliminary assessment of this material has recently appeared (Parker and Dodd 2003), we will only summarize our findings here and will place special emphasis on the Middle Bronze Age remains recovered during the 2002 field season.

Red-brown wash ware has been recovered in various trenches on Kenan Tepe's main mound, but so far these ceramics have not been unearthed anywhere in Kenan Tepe's lower town. Judging by the location of excavated Middle Bronze Age material we estimate that the total settled area at Kenan Tepe was approximately 1.1 ha. One of the goals of the 2002 field season was to continue the excavation of Middle Bronze Age levels discovered in Areas D and C during previous field seasons (figure 2 [Parker *et al.* 2003a]).

In trench C1, a series of substantial stone wall foundations was uncovered along the eastern baulk. Red-brown wash ware that appears alongside pottery similar to Khabur ware was found lying on and above fragmentary earthen surfaces associated with these stone foundations. These buildings were built on top of the remains of a collapsed mudbrick structure. A carbon sample excavated from this context was submitted for analysis (C.1.1093.7). It yielded a 2-sigma calibrated date of 2120-2100/2040-1880 BCE (table 3). This suggests that this structure was in use at the end of the third millennium or beginning of the second millennium. The analysis of these contexts is still in its early stages and further study will be required to determine which of these date ranges is better supported by other categories of data.

Another substantial Middle Bronze Age building was uncovered and partially excavated in trench C2 during the 2000 and 2001 field seasons (Parker *et al.* 2003a; Parker and Dodd 2003).[8] The excavation of the exposed portions of this building was completed during the 2002 field season. UTARP team members removed the stone foundations of several walls and associated surfaces representing various rebuilding episodes of this multi-room structure. The northern walls of this building were constructed above an earlier mudbrick platform cut by two pits of identical size that displayed evidence of intense burning. Excavations in this area uncovered pottery that may predate the red-brown wash ware, and which is similar to the pottery discovered in the lowest levels of trench C1 associated with the carbon date discussed above. Thus

[8] For radiocarbon dates of this structure see Parker et al. 2003a: table 1 and figure 7. For an in depth analysis of the early second millennium remains at Kenan Tepe see Parker and Dodd 2003.

excavations in both of these units may yield data about the final phases of the third millennium and the initial years of the second millennium and could clarify the earliest phases of the red-brown wash ware assemblage.

Excavation in trench C4, a 10 by 10 m unit directly east of trench C1, continued for a second season. Two structures were uncovered in this trench, the first belonging to the Early Iron Age (discussed below) and the second dating to the Middle Bronze Age. Only the northeast portion of the earlier building was excavated. This consisted of walls with stone foundations that may connect to a similar structure discovered in trench C1 in the 2000 field season. The head of an anthropomorphic figurine (C4.4094.27) with elongated horizontal "coffee bean" shaped eyes was found inside the building (figure 18E and see below).

Excavation of the early second millennium street and large structure discovered in trench D4 (Parker *et al.* 2003a; Parker and Dodd 2003) in previous seasons continued during the 2002 field season. In order to expose more of the second millennium remains in this area we opened two new trenches: D6, just south of D4; and D7, just north of D4 (figure 2). Excavations in trench D4 continued to yield large amounts of ceramics belonging to the red-brown wash ware corpus (figures 13 and 14). Excavations in trench D7 confirmed that the street discovered in trench D4 turns approximately 90 degrees to the west, crossing the trench from the southeast to the northwest. As was the case in trench D4, the street consisted of at least four coherent layers of ceramics and other debris all belonging to the red-brown wash ware corpus.[9]

Perhaps our most interesting discovery of the 2002 field season came from trench D6, where excavations uncovered a large pyrotechnic facility (figure 15) built into and on cobbled surfaces that extend north- and southward for at least 25 m. The five-chambered mudbrick structure measures approximately 1.5 m by 1.25 m, and is preserved to a height of nearly a meter in places. A vitreous slag covered much of the inside of this feature. Analysis of samples shows that this material can be characterized definitely as fuel ash

[9] Reconstruction of vessels from these layers has not been carried out yet at Kenan Tepe. The identification of the characteristic shapes is based on the profiles of numerous sherds found in the levels attributed to the Middle Bronze Age. Given this, a note about possible residual mixing of sherds from different periods should be made. We cannot entirely rule out the possibility that stray sherds from earlier or later dates in certain excavation units may have been mixed into Middle Bronze Age layers. Occasionally we do find the stray Early Bronze Age sherd mixed in with the Middle Bronze Age material, or we find layers in which Early Iron Age material intrudes into an occupation layer that, when originally deposited, only contained Middle Bronze Age material. However, at Kenan Tepe the morphology of the site and the history of its occupation means that residual sherds are less a problem here than may be the case at other sites (including, for example, Lidar Höyük during the Iron Age, and Tell Jigan). We base this conclusion on the homogenous and coherent character of the pottery recovered in Middle Bronze Age levels, regardless of what is below or above the layer in question. At Kenan Tepe, occupation was discontinuous; there was a hiatus of more than 500 years following the Early Bronze Age occupation in most areas of the site, and there was a hiatus of several hundred years following the Middle Bronze Age occupation at Kenan Tepe (i.e. no Late Bronze Age occupation has been found at Kenan Tepe to date). There are excavation units in which Middle Bronze Age occupation debris is found with little other debris atop it, such as D6. In these excavation units, we presume that the pottery assemblage is relatively uncontaminated by later remains. In other excavation units, such as D4, Middle Bronze Age loci lie atop other Middle Bronze Age loci. While the study of Middle Bronze Age assemblage is not based on reconstructed vessels, numerous joins are commonly found and we have retrieved multiple examples of all the vessel types that we publish. Therefore, while residual sherds are a possibility worth mentioning, the fact remains that the assemblage is the same across the site wherever we find it and regardless of what is excavated above or below it.

slag that resulted from the walls of the feature melting. Further work will be needed to determine the nature of the pyrotechnic activity being carried out in this feature. It is founded on surfaces formed by compacted pebbles and pottery, and in places there are groups of large river cobbles (possibly used as hammers) and basalt ground stone in the form of door pivots and grinding stones. In this same general area, in a variety of loci, several modeled clay items were located, such as a barrel-shaped bead, and an equid figurine (D.6.1.36; see figure 18A and see below).

Early Iron Age

Excavation begun in previous seasons in trenches B4, C3 and C4 continued to uncover remains from the Early Iron Age. Architecture from this period is either mudbrick (trench C4) or mudbrick on stone foundations (as in trenches B4, C1, C2 and C3). Early Iron Age corrugated ware and indigenous painted ware have been found in these buildings (Parker 1997; 2001). The size and character of these structures vary. A three-sided mudbrick structure in trench C4 extends 7 m, while the stone foundation wall in trench C3 is longer than 10 m. All other Early Iron Age structures excavated in previous seasons (in C1, C2, C3) were composed of thin stone wall foundations enclosing rooms less than 4 m wide. Excavation in trench B4 included the removal of an Early Iron Age oven associated with a surface and the poorly coordinated remains of a collapsed stone structure (excavated initially in 2001). The Early Iron Age *tanoor* style oven was built above an ash layer apparently related to the destruction of a building. The continuation of a surface discovered in trench B1 during the 2000 field season was found in trench B4. Thus trenches B1 and B4 taken together may be characterized as the remains of an Early Iron Age structure (with stone-founded walls and compacted earthen surfaces).[10]

Osteological Remains

During the 2002 field season UTARP team members continued work in the late-period cemetery located at the top of Kenan Tepe's main mound (figure 2). Research during the 2001 field season concentrated on determining the size of the cemetery and the density of the burials there (Parker *et al.* 2002b). To determine the extent of Kenan Tepe's cemetery, UTARP team members laid out a series of 2 by 10 m trenches (trenches A3 through A7) radiating out from trench A1 (figure 2). These trenches were excavated to the level of the shallowest burials discovered in trench A1 in previous field seasons (approximately 40 cm below ground surface). Using this method, UTARP team members discovered a total of 23 burials in an area measuring approximately 80 square meters. The locations of individual burials were mapped as soon as burial pits or human remains were

[10] For an analysis of the Iron Age in the Upper Tigris River Valley see Parker 2003.

discovered. Research conducted during the 2002 field season focused on the excavation and analysis of burials identified in 2001.

Dating of the cemetery is problematic since it is quite possible that it was in periodic use over a long period of time and thus individual burials may be from different periods. We recently ran two carbon dates from the cemetery. The first sample (A.1.1015.1117) gave 2-sigma calibrated dates ranging between 1660 and 1950 CE. The second (A.1.1015.1118) yielded 2-sigma calibrated dates ranging between 1530 and 1950 (table 4). However, the intercept data may help in narrowing this range. The first sample (A.1.1015.1117) intercepts the calibration curve at 1680 CE and the second (A.1.1015.1118) intercepts the calibration curve at 1660. Furthermore, if we consider the 1-sigma calibration (68% probability) the date range of the second sample (A.1.1015.1118) narrows to 1640-1670 CE. Grave goods discovered during the 2002 field season support the hypothesis that this cemetery belongs to the Ottoman period.

Three interesting characteristics of Kenan Tepe's cemetery were noted during the 2002 season. First, a high proportion of the inhumations in the cemetery are children. Second, all the child burials contained jewelry. Third, children appear to be buried in shallower pits than the adult burials discovered thus far. Eight burials were excavated during the 2002 field season, including five children, one infant and two adults. Noteworthy grave goods discovered in the child burials include two bead necklaces (A.4.4024.1-2 and A.4.4036.5 [figure 16]), two bracelets (A.4.4026.6 and A.4.4029.7 [figure 17]), several beads (A.4.4026.7, A.4.4036.3 and A.4.4036.4) and one bronze earring (A.4.4029.6). All of the remains from these burials were studied and cataloged in the UTARP laboratory in Bismil. Since Kenan Tepe is located on a corridor of interaction between Mesopotamia and Europe, these remains offer an excellent opportunity to test models of the development of epidemic disease patterns. Full results of this on-going research, including the criteria on which sex and age estimates have been based, will be published in subsequent reports.

Area A, Trench 4

Locus 4024 was a burial of a small child. The child was buried in extended position, head to the west. The burial included a necklace of stone or glass beads (KT2 [figure 16]). The best age estimate is 1-3 years.

Locus 4025 was the burial of an infant. The infant was partially extended, or very loosely flexed, on its right side. The burial was oriented west to east, with the head at the west, though the cranium was not recovered. Loss of the cranium probably resulted from later burial activity at the same location (this will be tested by continued excavation). The burial contained no grave goods. The best estimate is that this was a newborn or infant, most likely less than 6 months old at death.

Locus 4026 was an extended burial of a small child and included one glass bracelet (KT6 [figure 17]). This child was oriented west to east with the head to the west. The bracelet was made of a composite of iridescent glass and a paste. It was recovered near the individual's left wrist. The best age estimate is between 1.5 and 3.5 years.

Locus 4027 was an extended burial of a child. It was oriented from west to east, with the head to the west, facing south. The burial contained one grave good, a bronze

earring in expected anatomical position. The best age estimate, based on dental development, is 8-12 years.

Locus 4029 was another child burial. Like the other child burials in this area it was extended, and oriented west to east with the head facing south. The grave contained three composite glass bracelets of the same type as found in locus 4026. The best age estimate for this individual is 2-4 years.

Locus 4034 was an extended burial of an adult male. It was oriented west to east with the head to the west, facing south. The individual's hands were folded over the thorax, covering the lower ribs. This was one of the few inhumations where the burial pit, visible as a soft, ovoid section of soil around the lower legs and feet, was observable. The pit was rounded at its base, with the feet sitting higher than the head (603.42 m vs. 603.27 m ASL). There were no grave goods present.

Locus 4036 was a casually extended burial of a small child, estimated to be 3-5 years of age at death. It was oriented west to east with the head to the west, facing east. The arms were placed at the sides. They were nearly straight, with the left hand falling partially across the pelvis. The burial contained two grave goods, a beaded necklace (KT3, KT5 [figure 16]) and a string of beads, similar to those of the earring. The earring was held together by remnants of thread.

Area A, Trench 6

Locus 6010 contained an individual buried in a stone-lined pit. The grave consisted of large (30 cm and larger) flat stones, turned upward and lining the edges of the burial pit, and a series of larger (one nearly 50 cm across) flat capstones. No grave goods were present. The burial was oriented southwest to northeast with the head to the southeast. It was fully extended. Both femora were absent, though the lower legs were present and in anatomical position. This suggests the burial may have been cut by later burial activity. The best estimate is that this individual was a male, aged 20-40 years at death.

Seals, Figurines and Small Bone and Clay Objects (Figure 18)

The following section describes a group of nine objects found during the 2002 excavation season that are of particular stratigraphic, interpretive or artistic interest. Future reports will deal at greater length with these and the many other objects found during excavations at Kenan Tepe.

D.5.5094.47 (Figure 18F). This object is a conical ceramic spindle whorl. It was uncovered in the collapse layer (L5094) above the surface filled with chaff pseudomorphs located outside the Ubaid house (discussed above). The object is notched on its domed side and is flat on the other side. It is pierced through by a cylindrical hole. The length of the object is 32 mm. It has a radius of 12 mm to the center hole, and is 16 mm high. It weighs 16 grams. The surface appears to have been burned slightly, and the color ranges from 10YR 5/4 (yellowish brown) to 10YR 4/1 (dark gray).

D.5.5098.14 (Figure 18D). This object is a small conical ceramic spindle whorl or disk-shaped bead found in the excavation of surface L5098 that was packed with chaff pseudomorphs outside the Ubaid house in trench D5. The object is pierced by a hole. It has a slightly conical base. There is some abrasion wear evident around the hole on the top side where a small amount of clay was pushed outward when the hole was created. This might indicate that the object was suspended on a string next to other objects, such as beads on a necklace, which could have worn the protruding material away. The clay is 2.5Y 6/2 (light brownish gray). The object measures 2.06 cm in length, 2.01 cm in width, and 0.95 cm in height, and it weighs 3 g.

D.5.5103.36 and D.5.5103.45 (Figure 18G and H). These two objects are worked bone tools fashioned into the shape of an awl. They were found adjacent to each other in locus L5103 amid a collapse or fill layer associated with the mass of chaff pseudomorphs outside the Ubaid house. The two tools are made from a medium-sized mammal (probably sheep or goat) metapodials split in half lengthwise. The proximal ends have been cut off and sharpened into a point. The distal ends served as handles. The point of D.5.5103.36 is slightly chipped, and the midshaft was broken during excavation. It weighs 9 g and is 13.5 cm long; its width at midshaft is 1.0 cm; and its height at midshaft is 0.9 cm. D.5.5103.45 is better preserved and sharper than D.5.5103.36 and would have been serviceable for punching holes or incising soft materials. The distal end was broken during excavation. It weighs 6 g and is 10.1 cm long; the width at midshaft is 1.0 cm; and the height is 0.5 cm.

D.4.4046.4275 (Figure 18A). This painted ceramic figurine of an animal was found with pottery from the red-brown wash ware corpus in a sub-topsoil locus during the removal of a baulk between trenches D3 and D4. On this basis and on stylistic grounds, the figurine may tentatively be attributed to the Middle Bronze Age, and thus is among a group of animal figurines found scattered in loci from that time period across the site. The figurine may represent a ram, bull, or dog. It is a quadruped, with two intact limbs that taper at the end with no articulation of feet or hooves; the figurine's proper right foreleg is broken off and the proper right hind leg is partly broken off. There is a red-brown stripe painted from nose to tail and down each leg. This stripe is the same color as the red-brown wash used on red-brown wash ware ceramics. The tip of the flattened snout is slightly chipped but there is intact paint on the front of the snout. The tail and both ears or horns are intact. The horns/ears arch forward from the crown of the head. Exterior color: Gley 1 8/10Y (light greenish gray). Paint color: 5Y 4/3 (olive). This object measures 62 mm in length and 23 mm in width. It stands 38 mm high and weighs 17 grams.

A.9.6.23 (Figure 18B). This is a clay figurine depicting the head of a bull, horse, or similar animal. This object was found in the middle of an ashy layer and is friable. The locus in which it was uncovered (L6) also contained pottery tentatively attributed to the end of the Late Chalcolithic or beginning of the Early Bronze Age. The figurine weighs 6 g and is 3.0 cm long; its maximum width is 1.45 cm, and it is 1.03 cm high. The animal has arched horns or ears on top of its head, set in opposing directions, and one curves upward. The front of the face is thickened near the base of the neck to indicate powerful jaw muscles. There is an indication of hair or a mane applied to the crown of the head. The nose is squared off at the end, with indentations indicating nostrils. The figurine is

broken at the back of the head and neck where it originally attached to the body of the animal.

D.6.1.36 (Figure 18C). This is a figurine that was found in a fill locus (D.6.1) to the west of the pyrotechnic feature in trench D6. This object is a ceramic animal figurine, possibly an equid, such as a horse or donkey. The form may favor an interpretation that it is a horse because of the long snout and the high ridge representing a mane along the top of the head and down the back and rump. The end of the snout, both ears, both hind legs, the base of the tail, and the left foreleg were broken in antiquity, while the right foreleg has a recent break. Two small indentations are located where eyes are expected and may have served as receptacles for inlaid material. The figurine has numerous scratches and chaff marks on the surface. The exterior color is 10YR 3/1 (very dark gray), while the interior is 10YR 4/2 (dark grayish brown). The clay is coarse chaff and grit tempered. It weighs 30 grams and is 6.1 cm long, 2.1 cm wide, and 4.1 cm high. This object was discovered in association with ceramics belonging to the red-brown wash ware corpus and thus probably dates to ca. 1800 BCE.

C.1.1070.4 (Figure 18I). This is a low-fired ceramic cylinder seal inscribed with an abstract, stylized intaglio design. The object was found during cleaning of the north section of trench C1, and thus its context is insecure. Stylistic and iconographic analysis will be required in order to attribute it to a particular period, although we believe it to date to the early second millennium BCE. The seal measures 1.9 cm by 2.65 cm, and weighs 11.5 grams. Its fabric is fine grit tempered, and its clay color ranges from 10YR 6/2 (light brownish gray) on the exterior to Gley 1 3/N (very dark gray) in a small modern break. The cylinder seal is probably hand fashioned because its circumference is uneven and its center hole is slightly off-axis. There is a protrusion of clay at one end of the hole, which may have been created when a tool was pushed through the moist clay and then retracted. The body of the seal is slightly concave. Although the motifs depicted on the seal are rendered in an abstract, stylized manner, they appear to include a simplified tree with human figure, a trellis and ladder motif, and stacked inverted arches. The impression of the seal may be read as follows. The left half of the sealing is filled with the motif of a tree, with a human figure standing beside it. This tree is formed by a central vertical line with 11 parallel diagonal lines to the right and 10 parallel diagonal lines to the left. The uppermost six lines, which form the upper section of the tree, are shorter so that the tree appears flattened at its top. At the bottom right of the tree motif are three shallow drill holes that form a triangle, with two of the holes above the third hole. These lines represent either the feet and legs of a human figure seated to the right of the tree, or a podium on which the figure stands. The figure is cursorily sketched with incised lines that indicate that its left arm is hanging at its side and that its right arm reaches toward the tree. There is an additional slightly curved line at the waist which extends past the front line of the body and may represent something held in the left hand, such as a lustration bucket, or a sword, belt, or phallus. To the right of the human figure is a series of four incised vertical lines that are connected in a trellis-like pattern by short, parallel, horizontal lines extending to the right. A gap separates the third set of hatches from the ladder motif to its right. This ladder has 8 "rungs" (parallel hatches) framed by a pair of slightly skewed vertical lines. This ladder serves as a terminus for the second half of the

design. To the left of the ladder lies a long wavy vertical line. To the left of the tree motif, and to the right of the wavy line, there are a series of four to five stacked arching lines. The right edges of the arches slant toward the adjacent tree motif.

C.4.4094.27 (Figure 18E). This object is an anthropomorphic figurine head that was excavated from a small building with poorly preserved surfaces (L4094) in trench C4, in which pottery of the Middle Bronze Age red-brown wash ware corpus was also found. Only the head, broken at the neck, is extant. The spade-shaped head is plaque-like, since the reverse is not modeled at all with features. Instead, the reverse side is flattened, as if it were destined to lie on or be set against a surface or wall. Smoke or fire darkening is visible on the central portions of the reverse. The asymmetrical eyes are formed by a flattened clay coil, which has been pressed into the indentation that outlines the eye socket on each side of the nose. The asymmetrical eyes are shaped somewhat like fat, irregular coffee beans set horizontally on the face. The rounded beak-shaped nose extends from the eyebrow to the break at the neck. The forehead was decorated with two applied disks; one has been chipped off entirely revealing a hole drilled or poked into the forehead, possibly to attach the disks. No mouth is present. The figurine head is 6.0 cm long, 6.25 cm wide, and 2.6 cm high, and it weighs 57 g. The head is made of fired, chaff-tempered clay and its core is not fully oxidized. The paste is 7.5YR 6/6 (reddish yellow) and the exterior is 10YR 5/3 (brown).

Summary

During the 2002 field season, excavation at Kenan Tepe yielded evidence of use at various times from the mid-fifth millennium BCE through the Ottoman period. Architectural remains dating to the Ubaid, Late Chalcolithic, Late Chalcolithic/Early Bronze Age transition, Early Bronze Age, Middle Bronze Age, and Early Iron Age were identified. Based on the results of this field research, we offer the preliminary conclusion that Kenan Tepe was a small village (approximately 1 ha.) during the Ubaid period. During the Late Chalcolithic period and Early Bronze Age, settlement at Kenan Tepe expanded to several hectares, and the lower mound was occupied extensively. By the end of the Late Chalcolithic or the beginning of the Early Bronze Age, Kenan Tepe's upper mound appears to have been fully or partly encircled by one or two large, stone-founded mudbrick walls. The Middle Bronze Age remains are found on three sides of the high mound and include the best-preserved architectural remains at the site, including a small street, a series of well-built, superimposed structures with stone foundations, and a production area where a high-temperature pyrotechnic installation was uncovered. Aside from the much later burials located at the top of the site, the latest settlement at Kenan Tepe so far identified is from the Early Iron Age. Subsequently, the site was abandoned, perhaps in response to the entry of the Assyrians into the area. Future research at Kenan Tepe will build on the results of the 2002 excavation season, and will be directed to refining the sequence of occupation at the site, and to applying the data thus far recovered to questions about the interaction of Kenan Tepe's occupants in household, local, and regional relationships.

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Table 1: Radiocarbon Data from the Ubaid House in Trench D5.

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age
Beta - 180241	5880 +/- 40 BP	-26.1 o/oo	5860 +/- 40 BP
SAMPLE : KENAN TEPE D5 5080 5576			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 4800 to 4665 (Cal BP 6750 to 6615) AND Cal BC 4645 to 4615 (Cal BP 6595 to 6565)			
Beta - 176372	5870 +/- 40 BP	-25.4 o/oo	5860 +/- 40 BP
SAMPLE : D.5.5142.7			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 4800 to 4660 (Cal BP 6750 to 6610) AND Cal BC 4640 to 4620 (Cal BP 6590 to 6570)			
Beta - 176373	5750 +/- 40 BP	-25.4 o/oo	5740 +/- 40 BP
SAMPLE : D.5.5142.8			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 4700 to 4480 (Cal BP 6650 to 6430)			

Table 2: Radiocarbon Data from Trenches A2, A8 and A9.

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age
Beta - 176371	4520 +/- 40 BP	-27.9 o/oo	4470 +/- 40 BP
SAMPLE : A.2.2139.2			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 3350 to 3010 (Cal BP 5300 to 4960)			
Beta - 176370	4150 +/- 40 BP	-25.6 o/oo	4140 +/- 40 BP
SAMPLE : A.2.2131.15			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 2880 to 2580 (Cal BP 4830 to 4530)			
Beta - 176375	4400 +/- 40 BP	-25.8 o/oo	4390 +/- 40 BP
SAMPLE : A.8.33.6			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 3100 to 2900 (Cal BP 5050 to 4860)			
Beta - 176376	4350 +/- 40 BP	-25.2 o/oo	4350 +/- 40 BP
SAMPLE : A.8.30.3			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 3080 to 3060 (Cal BP 5030 to 5010) AND Cal BC 3040 to 2890 (Cal BP 4990 to 4840)			
Beta - 176374	4400 +/- 40 BP	-26.4 o/oo	4380 +/- 40 BP
SAMPLE : A.9.37.2			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 3100 to 2900 (Cal BP 5050 to 4850)			

Table 3: Radiocarbon Data from Trench C1.

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age
Beta - 176377	3620 +/- 40 BP	-25.5 o/oo	3610 +/- 40 BP
SAMPLE : C.1.1093.7			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 2120 to 2100 (Cal BP 4060 to 4050) AND Cal BC 2040 to 1880 (Cal BP 3990 to 3830)			

Table 4: Radiocarbon Data from Trench A1.

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age
Beta - 148063	140 +/- 40 BP	-18.9 o/oo	240 +/- 40 BP
SAMPLE : AREA A TRENCH 1 L1015 KT 1118			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (bone collagen): collagen extraction: with alkali			
2 SIGMA CALIBRATION : Cal AD 1530 to 1560 (Cal BP 420 to 390) AND Cal AD 1630 to 1680 (Cal BP 320 to 270) Cal AD 1740 to 1800 (Cal BP 200 to 150) AND Cal AD 1930 to 1950 (Cal BP 20 to 0)			
Beta - 148062	40 +/- 40 BP	-18.6 o/oo	140 +/- 40 BP
SAMPLE : AREA A TRENCH 1 L1015 KT1117			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (bone collagen): collagen extraction: with alkali			
2 SIGMA CALIBRATION : Cal AD 1660 to 1950 (Cal BP 290 to 0)			

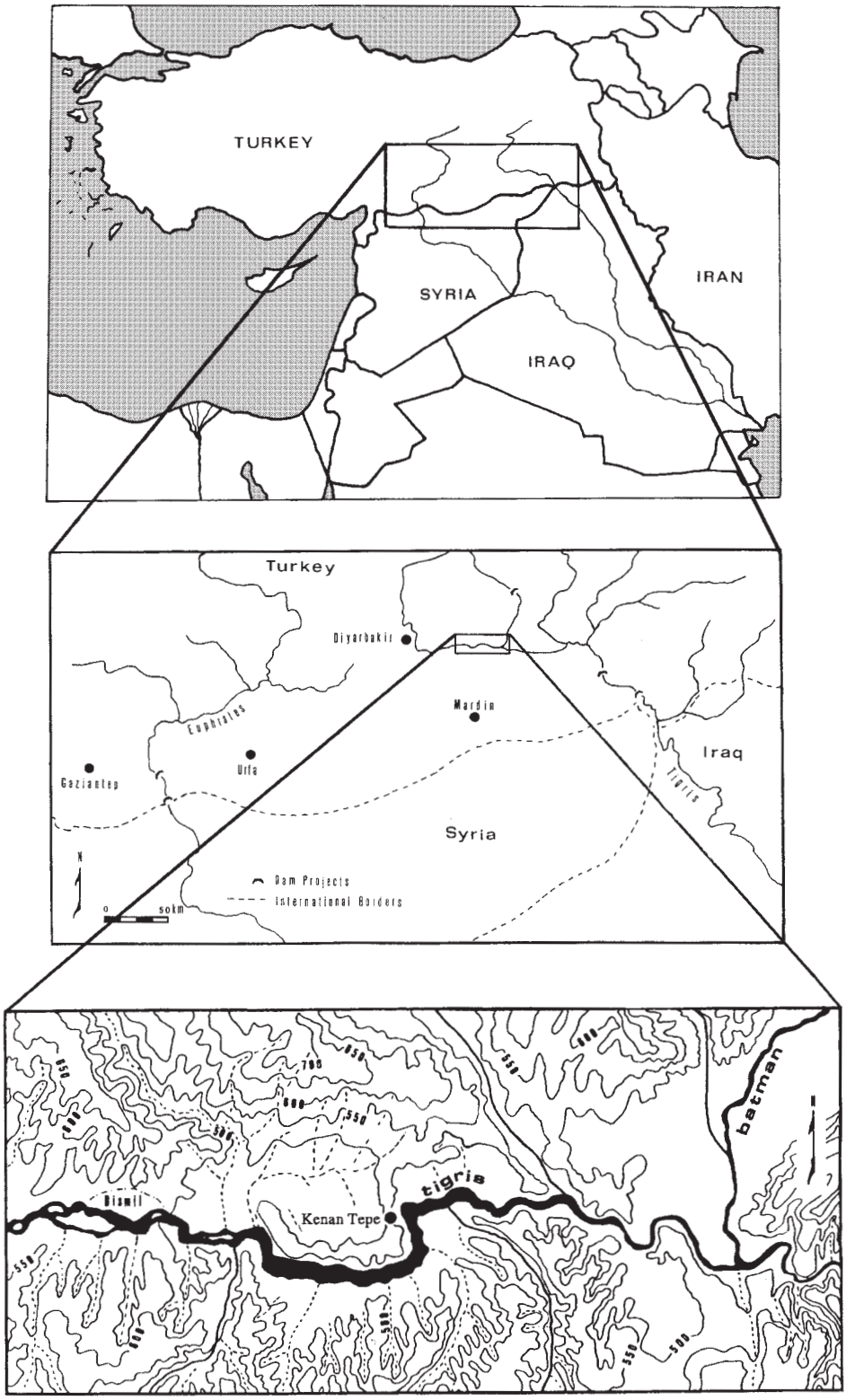

Figure 1. Map with an enlargement of southeastern Turkey showing the location of Kenan Tepe.

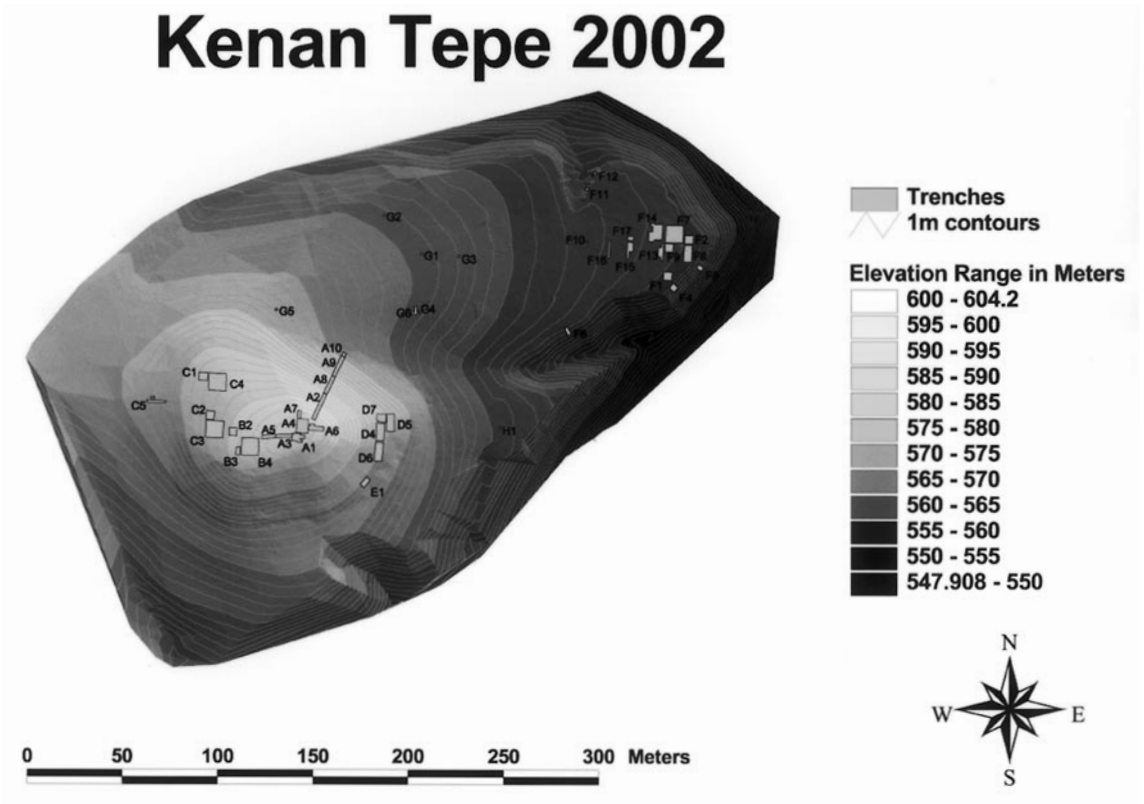

Figure 2. Topographic map of Kenan Tepe showing the location of trenches excavated between 2000 and 2002.

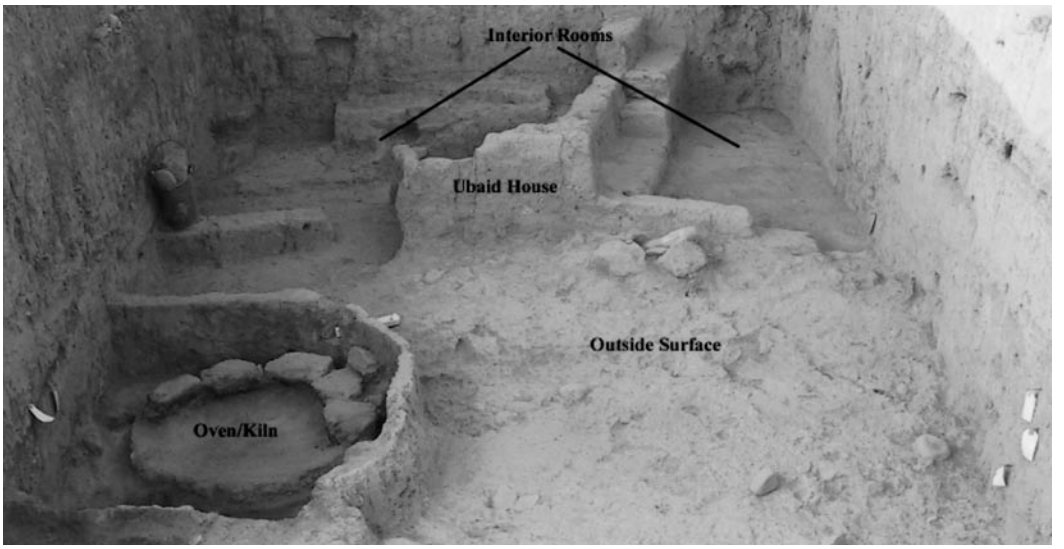

Figure 3. View of Ubaid structure in trench D5.

Figure 4.
Pseudomorphic impressions of barley (?)
chaff from trench D5.

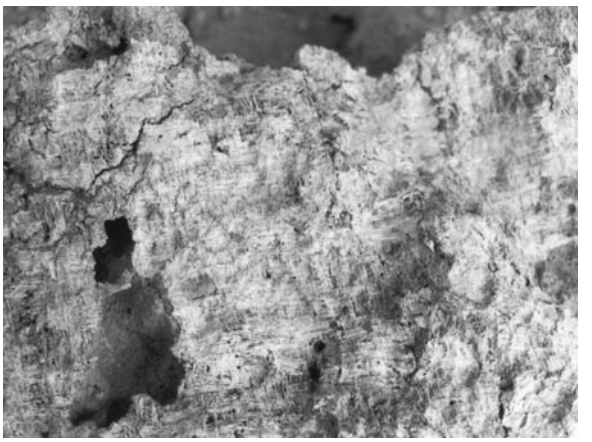

Figure 5.
Pseudomorphic impressions of grass mat
in trench D5.

Figure 6 descriptions

A. D5 L5085 KT43 #1: Light reddish brown exterior surface (2.5YR 6/4). Dark yellowish brown core (10YR 4/6). Light reddish brown interior surface (5YR 6/3). Very fine grit temper.

B. D5 L5100 KT53 #1: Pale yellow exterior surface (2.5Y 8/2). Light gray core (2.5Y 7/2). Pale yellow interior surface (2.5Y 8/2). Brown paint on exterior surface (7.5R 5/2). Very fine grit temper.

C. D5 L5146 KT6 #4: Very pale brown exterior surface (10YR 7/4). Reddish yellow core (5YR 6/6). Very pale brown interior surface (10YR 7/4). Cream wash on exterior surface. Weak red paint on rim and exterior surface (10R 4/2). Visible striation lines on surfaces. Very fine grit temper.

D. D5 L5093 KT8 #1: Very pale brown exterior surface (10 YR 8/3). Reddish yellow core (5YR 7/6). Very pale brown interior surface (10YR 7/3). White background paint on exterior surface (10YR 7/3) with brown designs (7.5YR 4/3). Fine white grit temper.

E. D5 L5100 KT48 #1: Light reddish brown exterior surface (5YR 6/4). Yellowish red core (5YR 5/6). Yellowish red interior surface (5YR 5/6). Burnished interior and exterior surfaces. Reddish brown paint on the rim, the neck, and probably on the body (5YR 4/4). Chaff temper.

F. D5 L5079 KT5554 #6: Very pale brown exterior surface (10YR 8/3). Very pale brown core (10YR 7/4). Very pale brown exterior surface (10YR 8/3). Dark gray paint on exterior surface (7.5 YR 4/1). Fine grit temper. CMD unknown.

G. D5 L5094 KT41 #1: Very pale brown exterior surface (10YR 7/3). light brown core (7.5YR 6/4). Pink interior surface (7.5YR 7/4). Very light cream wash on exterior surface. Dark reddish gray paint on exterior surface (7.5R 3/1). Fine chaff temper. CMD unknown.

H. D5 L5079 KT5554 #2: Very pale brown exterior surface (10YR 7/3). Pink core (5YR 7/4). Very pale brown interior surface (10YR 7/3). Dark reddish gray paint on exterior surface (7.5R 4/1). Five impressed bands across the shoulder to the base of the neck. Medium chaff temper with very fine white grit inclusions. CMD uncertain.

I. D5 L5132 KT1 #4: Very pale brown exterior surface (10YR 8/4). Very pale brown core (10YR 7/3). Pale yellow interior surface (2.5Y 7/4). Burnished on interior and exterior surfaces. Pale wash on exterior surface. Dark brown paint on exterior surface (7.5YR 3/4). Very fine grit and chaff temper. CMD unknown.

J. D5 L5094 KT21 #1: Very pale brown exterior surface (10YR 7/4). Gray fabric (7.5YR 5/1) with an abrupt transition to a pink core (7.5YR 7/4). Weak red paint on exterior surface (10R 5/4). Fine chaff temper. CMD unknown.

K. D5 L5094 KT 41 #3: Very pale brown exterior surface (10YR 7/4). Very pale brown core (10YR 7/4). Very pale brown interior surface (10YR 7/3). Cream wash on exterior surface. Dusky red paint on exterior surface (7.5R 3/2). Very fine chaff temper with very tiny visible pebbles. CMD unknown.

L. D5 L5109 KT1 #2: Light red exterior surface (2.5YR 6/6) grading to a reddish yellow core (5YR 6/6). Light red interior surface (2.5YR 6/6). Burnished interior and exterior surfaces. Wash on the exterior surface. Reddish brown paint on the exterior surface (5YR 4/4). Fine grit and chaff temper. CMD unknown.

M. D5 L5079 KT5554 #4: Very pale brown exterior surface (10YR 7/4). Very pale brown core (10YR 7/4). Very pale brown interior surface (10YR 7/4). Dusky red paint on exterior surface (7.5R 3/2). Fine white grit temper with a few small air pockets. CMD unknown.

N. D5 L5094 KT1 #2: Very pale brown exterior surface (10YR 8/3). Very pale brown core (10YR 7/4). Pink interior surface (7.5YR 8/3). Dusky red paint on exterior surface (10R 3/2). Fine white grit temper. CMD unknown.

O. D5 L5079 KT5554 #5: Very pale brown exterior surface (10YR 7/4). Very pale brown core (10YR 7/4). Very pale brown interior surface (10YR 7/4). Dusky red paint on exterior surface (7.5R 3/2). Fine small white grit temper. CMD unknown.

P. D5 L5079 KT5554 #3: Very pale brown exterior surface (10YR 7/4). Very pale brown core (10YR 7/4). Very pale brown interior surface (10YR 7/4). Dusky red paint on exterior surface (7.5R 3/2). Fine white grit temper. Small air pockets visible on surfaces. CMD unknown.

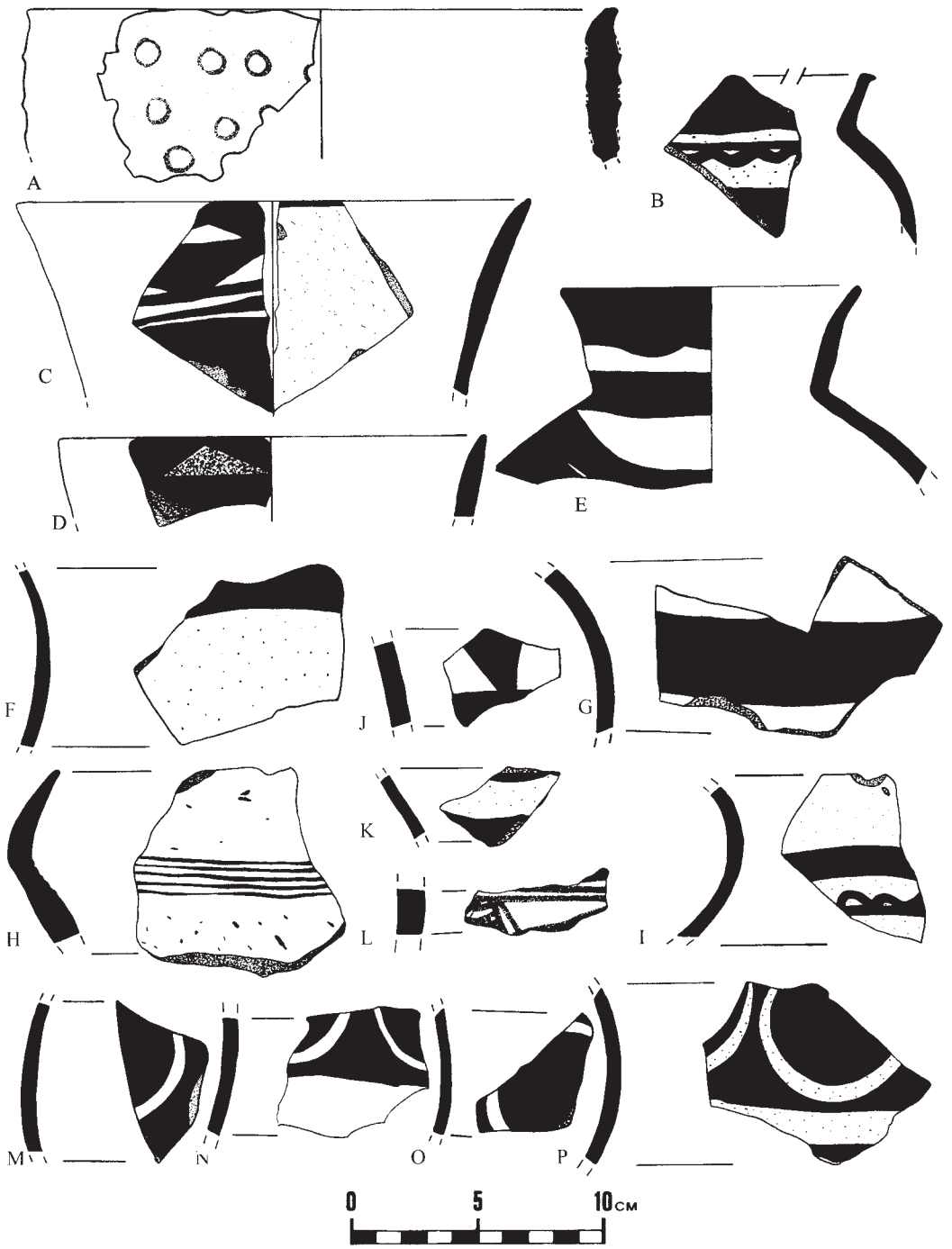

Figure 6. Ubaid period ceramics from trench D5.

Figure 7 descriptions

A. D5 L5094 KT1 #4 and 5: Very pale brown exterior surface and core (10YR 8/3). Pink interior surface (5YR 7/4). Fine grit temper.

B. D5 L5094 KT41 #2: Light red exterior surface (2.5YR 6/6). Light red fabric (2.5YR 6/8) grading to a gray core (2.5Y 5/1). Light reddish brown interior surface (2.5YR 7/4). Fine chaff temper.

C. D5 L5109 KT1 #1: Dusky red exterior surface (10R 3/2) grading to a very pale brown core (10YR 7/4). Pale yellow interior surface (2.5YR 8/3). Dark brown paint on exterior surface. Cream wash on interior surface. Fine grit temper.

D. D5 L5100 KT50 #1: Pink (5YR 7/3) near lip grading to pinkish gray exterior surface (7.5 YR 6/2). Brown fabric (7.5YR 4/3) with an abrupt transition to a very dark grayish brown core (10YR 3/2). Pale brown interior (10YR 6/3.) Burnished interior and exterior surfaces. Exterior surface blackened by fire. Fine grit temper.

E. D5 L5146 KT6 #2: Light reddish brown exterior surface (2.5YR 7/4). Light brown fabric (7.5YR 6/3) grading to a red core (2.5YR 5/6). Light red interior surface (2.5YR 6/6). Fine chaff temper.

F. D5 L5117 KT7 #1: Light red exterior surface (2.5YR 6/6) grading to a reddish yellow core (5YR 6/6). Light brown interior surface (7.5YR 6/4). Weak red paint on the neck (10R 4/2). Weak red paint also visible on body (10R 4/2). Very fine grit temper.

G. D5 L5146 KT6 #3: Pink exterior surface (5YR 7/4). Pinkish gray fabric (5YR 7/2) grading to a pink core (5YR 7/4). Pink interior surface (5YR 7/4). Medium chaff temper with a few grit inclusions.

H. D5 L5132 KT1 #2: Light brown exterior surface (7.5YR 6/4) grading to a red core (10R 5/6). Light reddish brown interior surface (2.5YR 6/4). Burnished interior and exterior surfaces. Fine grit temper.

I. D5 L5146 KT6 #6: Dark gray exterior surface (5YR 4/1). Pink interior surface (7.5YR 7/4). Wash on interior surface. Dark gray paint (5YR 4/1) and fugitive pink paint (7.5YR 7/4). Fine grit temper. CMD unknown.

J. D5 L5146 KT6 #5: Pink exterior surface (7.5YR 7/4). Pink interior surface (5YR 7/4). Striations visible on interior and exterior surfaces. Fine white grit temper.

K. D5 L5100 KT53 #3: Very dark gray exterior surface (10YR 3/1) grading to a brown core (7.5YR 4/3). Brown interior surface (10YR 4/3). Burned on exterior surface. Very large white grit temper.

L. D5 L5132 KT1 #5: Red exterior surface (2.5YR 4/8). Yellowish red core (5YR 5/8). Red interior surface (2.5YR 5/8). Interior slip. Burnished interior and exterior surfaces. Medium size rounded grit and chaff temper. CMD unknown.

M. D5 L5100 KT49 #1: Light red exterior surface (2.5YR 6/6). Gray fabric (5YR 5/1) with an abrupt transition to a reddish yellow core (5YR 6/6). Light red interior surface (2.5YR 6/6). Medium chaff temper.

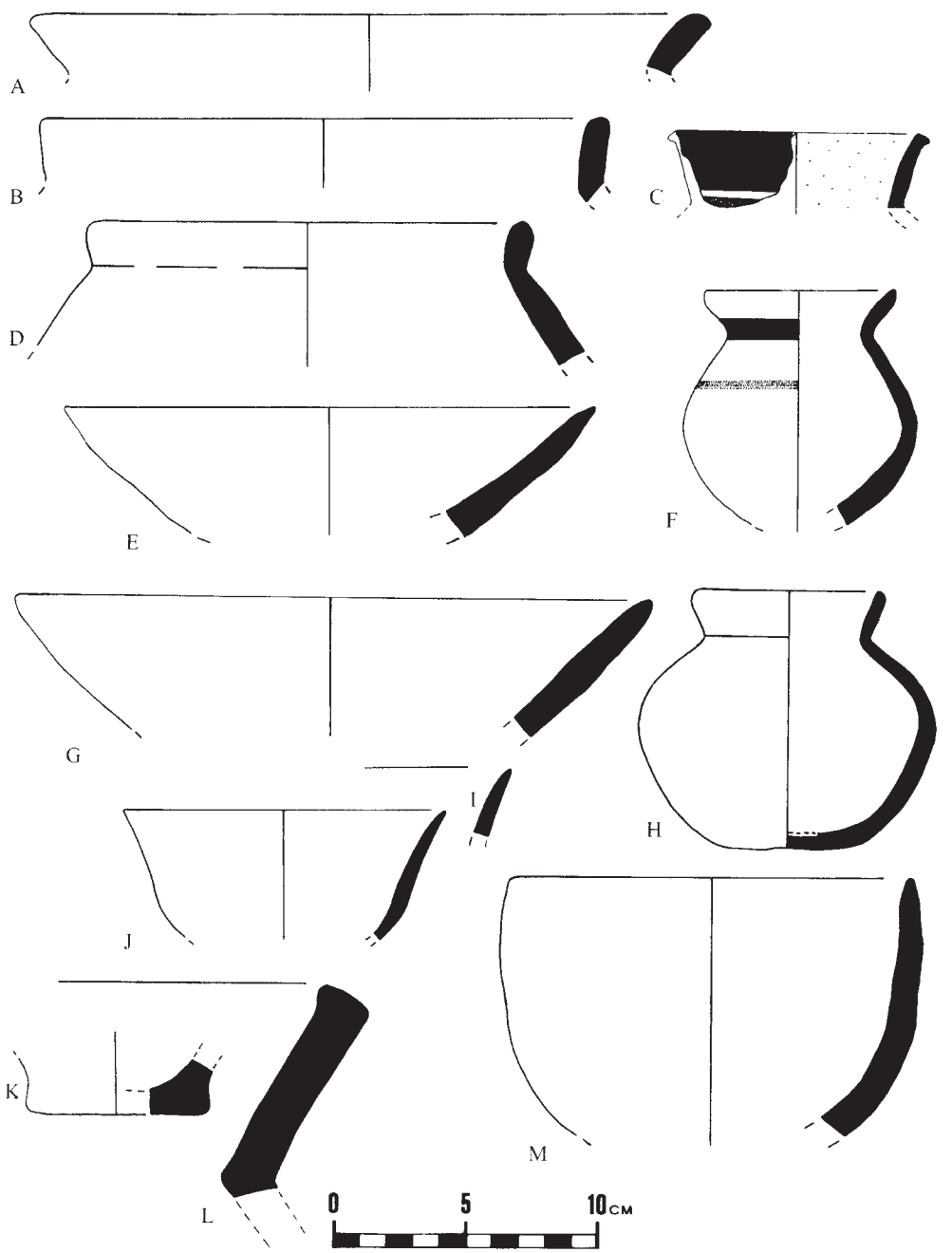

Figure 7. Ubaid period ceramics from trench D5.

Figure 9. View of LC5/EB 1 wall foundations in trench A2.

Figure 8. View of the step trench (trenches A2, A8, A9 and A10).

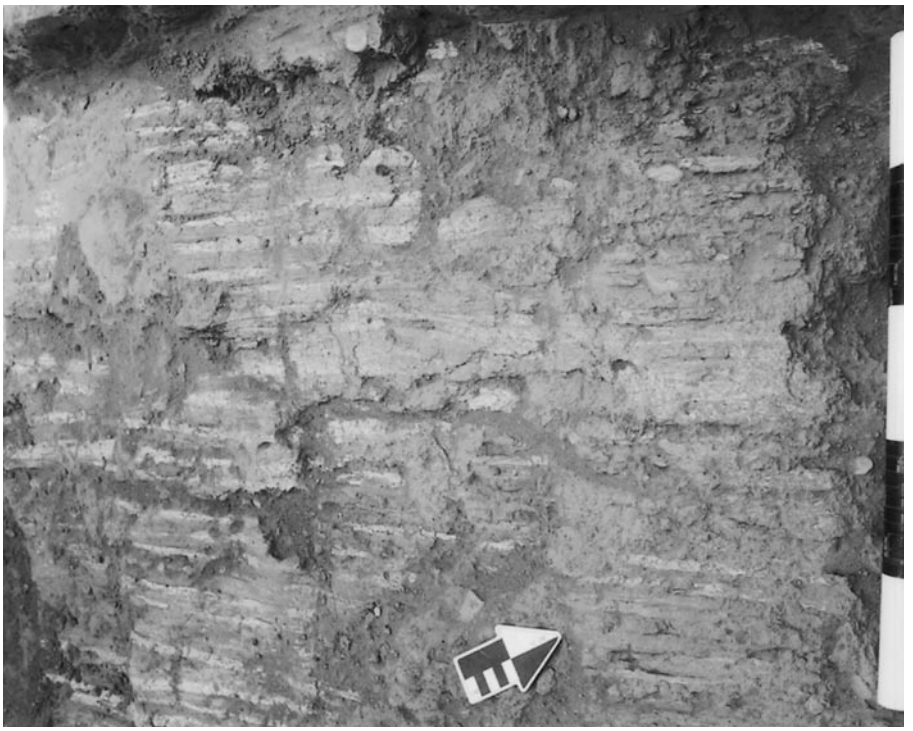

Figure 11. Pseudomorphic impressions of reeds in trench A8.

Figure 10. View of LC5/EB 1 wall foundations in trench A8.

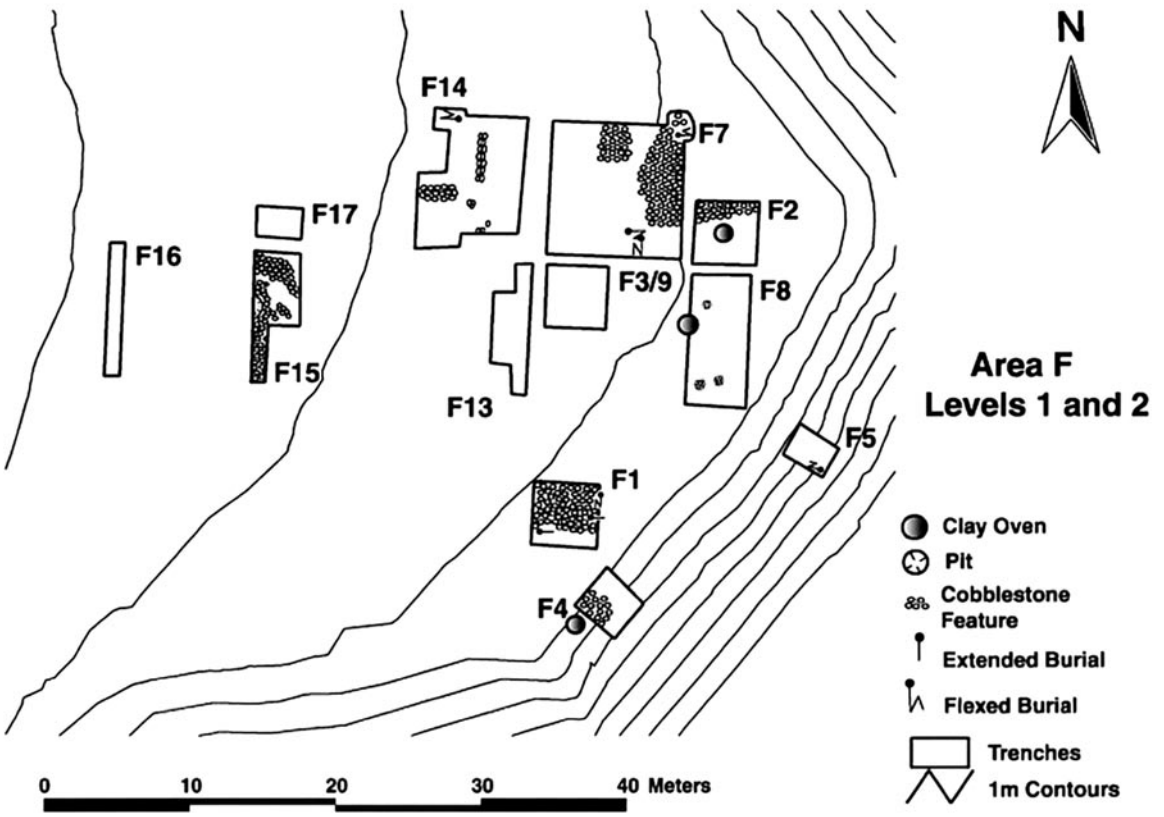

Figure 12. Map of Area F.

Figure 13 Descriptions

A. D4 L4030 KT4205 #3: Red exterior surface (2.5YR 5/8). Dark gray core (5YR 4/1). Red interior surface (2.5YR 5/8). Fine chaff temper. CMD unknown.

B. D4 L4030 KT4205 #6: Reddish yellow exterior surface (7.5R 7/6). Dark gray fabric (7.5YR 4/1) grading to a reddish yellow core (7.5YR 7/6). Gray interior (7.5YR 5/1). Medium chaff temper.

C. D4 L4070 KT4 #2: Red paint on the neck, rim and exterior surface (10R 5/8). Light red core (2.5YR 6/6). Light red interior surface (2.5YR 6/8). Fine grit temper.

D. D4 L4064 KT6 #4: Pink exterior surface (5YR 7/4). Light red core (2.5YR 6/6). Pink interior surface (5YR 7/4). Light red paint on rim and exterior surface (10R 6/6). CMD Unknown.

E. D4 L4032 KT4161 #2: Very pale brown exterior surface (10YR 7/3). Light yellowish brown fabric (10YR 6/4) grading to a reddish yellow core (7.5YR 6/6). Pink interior (7.5YR 7/4). Yellowish red paint on rim and exterior surface (5YR 5/6). Fine grit temper.

F. D4 L4064 KT6 #3: Light red exterior surface (2.5YR 7/6). Pinkish gray core (7.5YR 7/2). Pink interior surface (7.5YR 7/4). Paint on exterior surface.

G. D4 L4032 KT 4186 #4: Reddish yellow exterior surface (5YR 6/6). Yellowish red fabric (5YR 5/6) grading to a dark gray core (5YR 4/1). Light reddish brown interior surface (5YR 6/4). Red paint on the rim and exterior surface (2.5YR 4/6). Medium grit temper.

H. D4 L4032 KT4186 #11: Red exterior surface (10R 5/8). Light red fabric (2.5YR 6/8) grading to a light red core (2.5YR 7/6). Red interior surface (10R 4/8). Red wash on interior and exterior surfaces (10R 4/8).

I. D4 L4030 KT4205 #1: Red exterior surface (2.5YR 5/8). Dark gray fabric (10YR 4/1) grading to a yellow core (10YR 7/6). Light red interior surface (2.5YR 6/8). Fine grit temper. CMD unknown.

J. D4 L4020 KT4099 #1: Pale yellow exterior surface (2.5Y 8/3). Light reddish brown core (5YR 6/4). Cream slip on exterior surface (7.5YR 8/3) with red paint (10R 5/6). CMD unknown.

K. D4 L4072 KT1 #1: Reddish yellow exterior surface (5YR 6/8). Yellowish brown core (10YR 5/6). Yellow interior surface (10YR 7/6). Red paint on exterior surface (2.5YR 5/6). CMD unknown.

L. D4 L4065 KT2 #1: Light reddish brown exterior surface (5YR 6/3). Brown fabric (7.5YR 5/4) grading to a reddish yellow core (7.5YR 6/8). Reddish yellow interior surface (5YR 6/6). Burnished interior and exterior surfaces. Dark brown paint on exterior surface (10YR 3/3). Grit and chaff temper. CMD unknown.

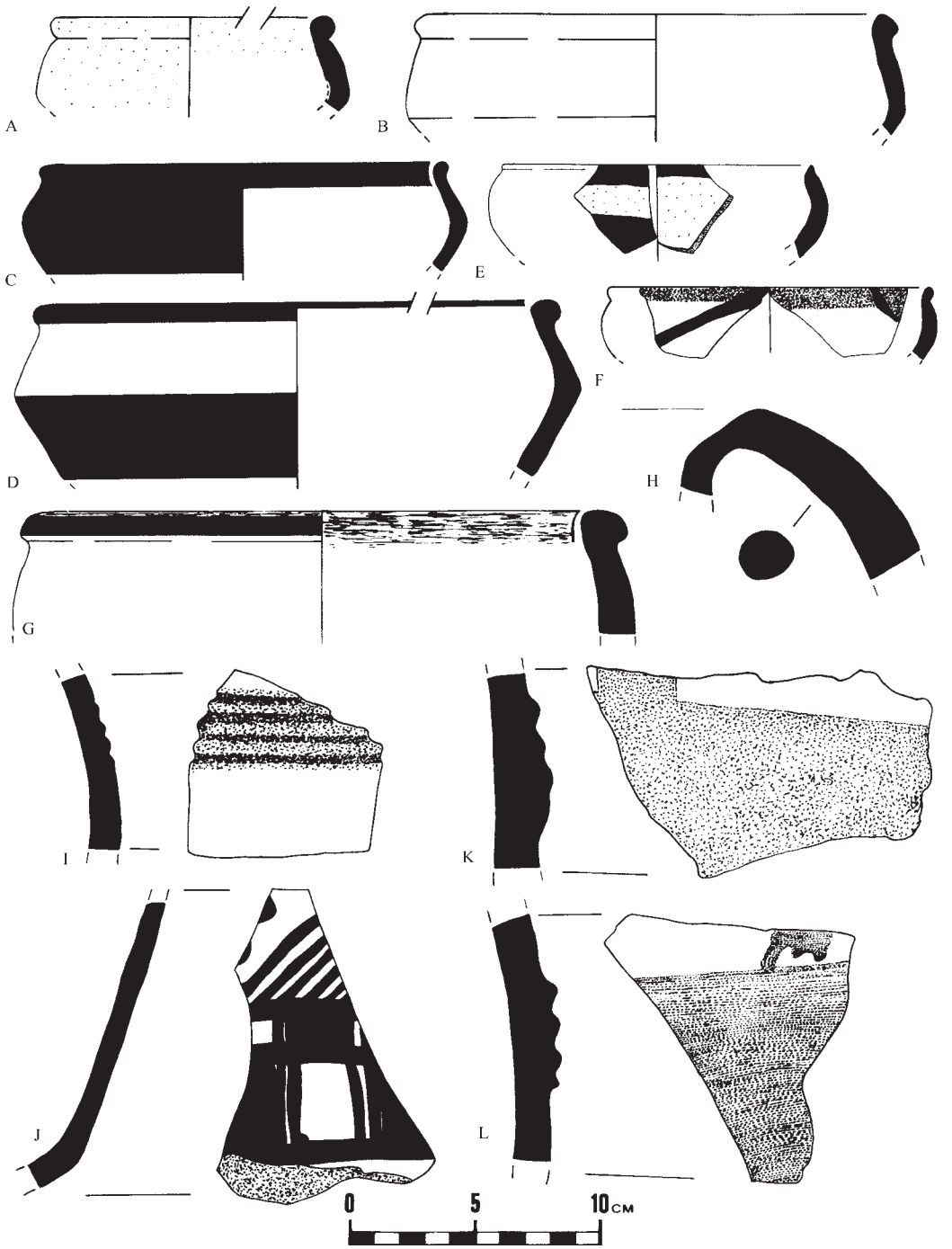

Figure 13. Red Brown Wash Ware ceramics from trench D4.

Figure 14 Descriptions

A. D4 L4032 KT4171 #3: Light gray exterior surface (5YR 7/1). Reddish yellow fabric (7.5YR 6/6) with an abrupt transition to a reddish yellow core (5YR 6/6). Light reddish brown interior surface (5YR 6/3). Very fine chaff temper. CMD 38.

B. D4 L4032 KT4212 #1: Pink exterior surface (5YR 7/4). Light red fabric (2.5YR 6/6). Yellowish red core (5YR 5/6). Yellowish red interior surface (5YR 5/6). Red painted stripe on lip, cream paint on body. Fine grit temper.

C. D4 L4032 KT4171 #5: Red exterior surface (2.5YR 5/6). Light reddish brown core (5YR 6/4). Reddish yellow interior surface (7.5YR 8/4). Wash on interior and exterior surfaces. Fine chaff temper.

D. D4 L4030 KT 4205 #5: Very pale brown exterior surface (10Y 8/4). Reddish yellow core (5YR 6/6). Reddish yellow interior surface (5YR 6/6). Traces of brown paint on the lip. Very fine grit temper.

E. D4 L4032 KT4186 #9: Red exterior surface (10R 5/8). Reddish gray fabric (2.5YR 5/1) with an abrupt transition to a very dark grayish brown core (10YR 3/2). Dark red interior surface (10R 3/6). Course grit and chaff temper.

F. D4 L4042 KT4249 #2: Light reddish brown exterior surface (5YR 6/3). Very dark gray fabric (7.5YR 3/1) grading to a light brown core (7.5YR 6/4). Pink interior surface (5YR 7/3). Burnished interior and exterior surfaces. Fine grit temper.

G. D4 L4032 KT4161 #6: Very pale brown exterior surface (10YR 7/3). Very dark grayish brown fabric (10YR 3/2) grading to a yellow core (10YR 7/6). Light brown interior surface (7.5YR 6/4).

H. D4 L4032 KT4212 #2: Light reddish brown exterior surface (2.5YR 6/4). Dark reddish brown core (2.5YR 3/4). Dusty red interior surface (2.5YR 3/2). Coarse grit temper.

I. D4 L4032 KT 4186 #7: Reddish yellow exterior surface (5YR 6/6). Pink core (5YR 7/4). Pink interior surface (5YR 7/3). Red wash on rim and exterior surface. Red paint on exterior surface. Fine chaff temper.

J. D4 L4020 KT4099 #2: Yellow exterior surface (5Y 8/3). Light reddish brown interior surface (2.5YR 7/4). Red painted stripes on exterior surface (10R 4/6). Fine grit temper.

K. D4 L4032 KT4161 #4: Very pale brown exterior surface (10YR 8/2). Grayish brown fabric (2.5Y 5/2) grading to a reddish yellow core (7.5YR 7/6). Pink interior surface (7.5YR 7/4). Burnished interior and exterior surface. Dark brown wash on exterior surface (7.5YR 3/2). Fine to medium chaff temper. CMD unknown.

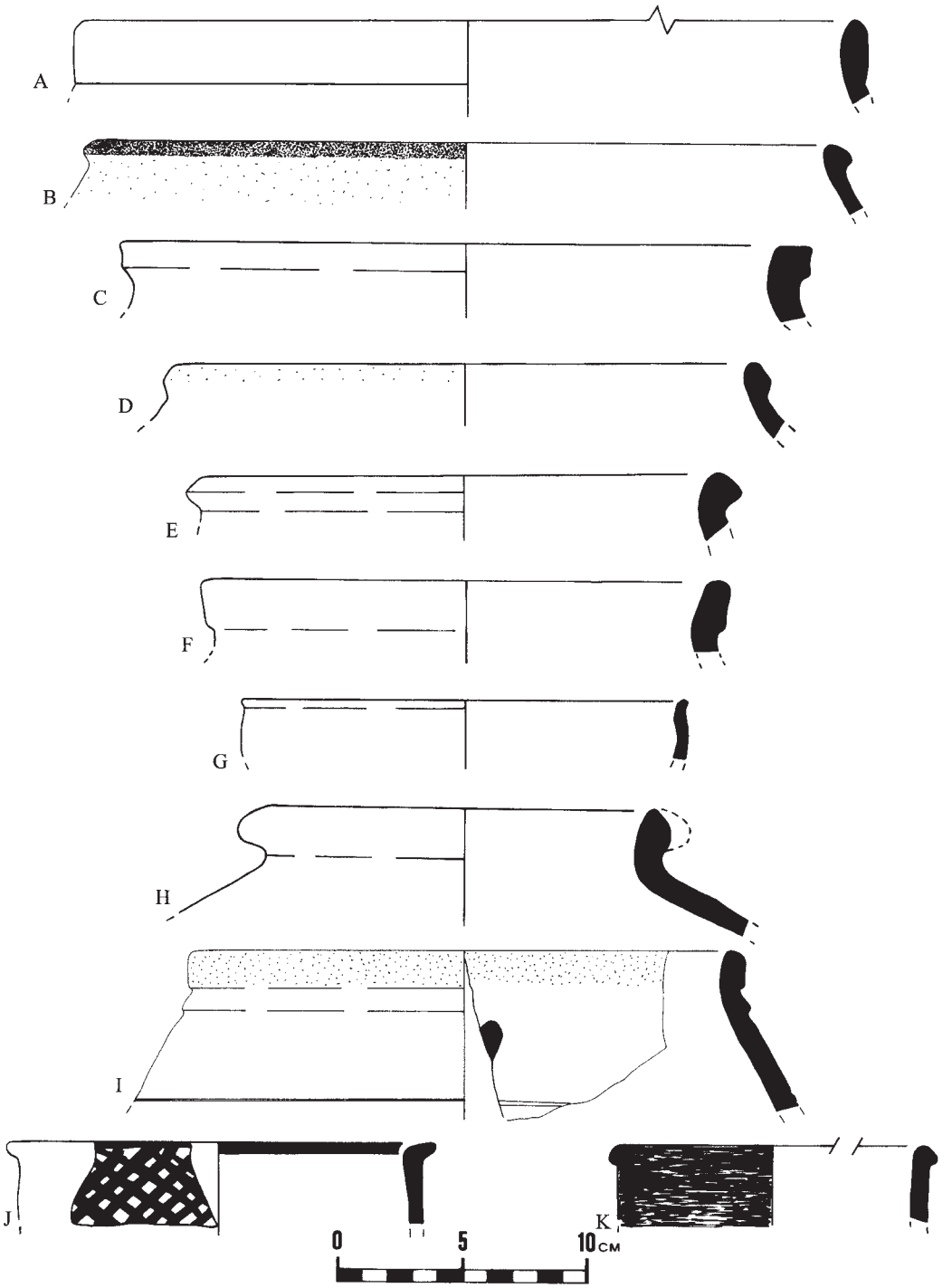

Figure 14. Red Brown Wash Ware ceramics from trench D4.

Figure 15. View of pyrotechnic facility in trench D6.

Figure 16. Necklaces from Ottoman burials in trench A4.

Figure 17. Bracelet from burial in trench A4.

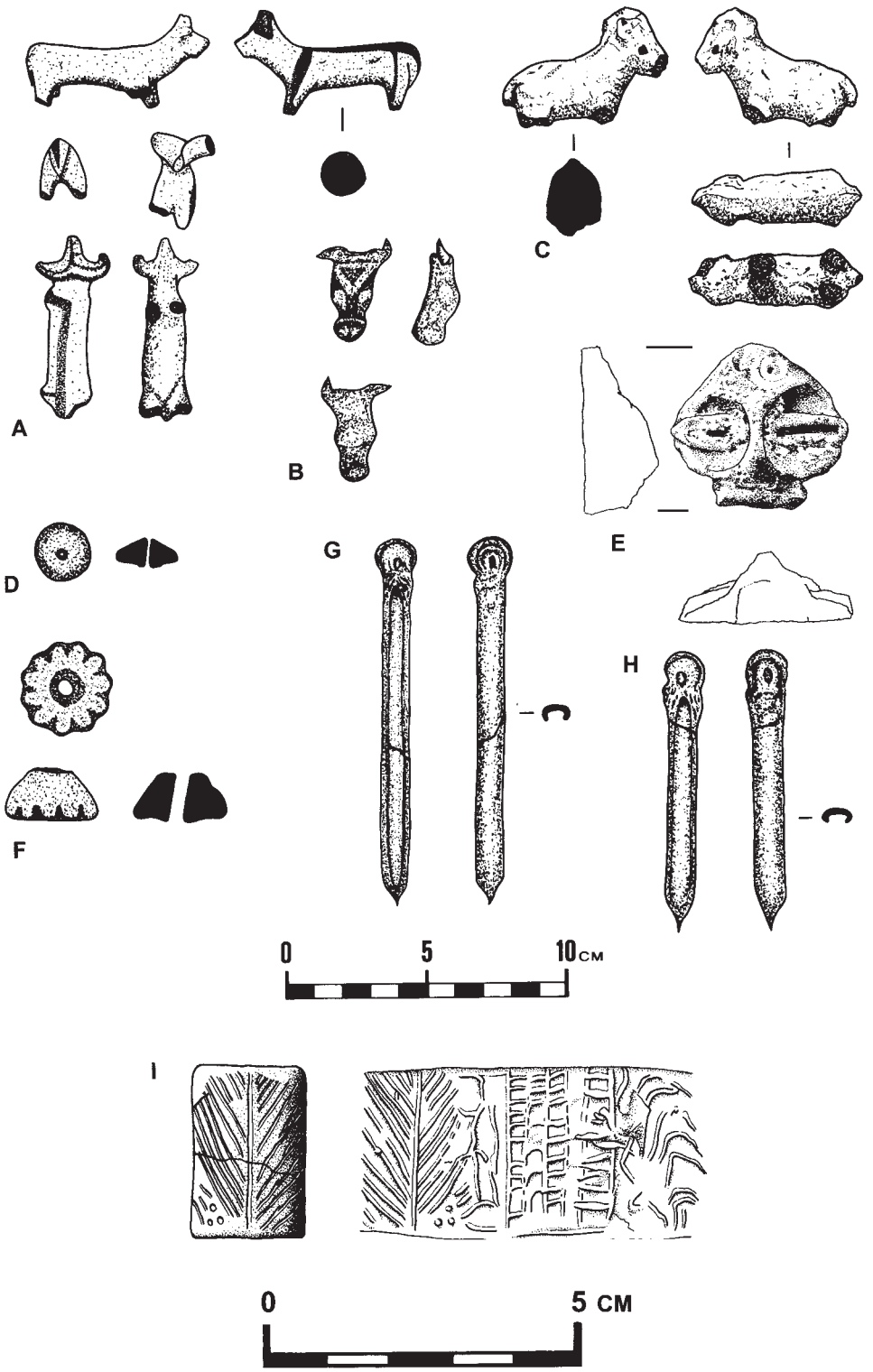

Figure 18. Small finds from various areas.