The Iron Age Pottery from Khirbat en-Nahas, Jordan: A Preliminary Study

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The 2002 excavations at the Iron Age copper metal production center of Khirbat en-Nahas have sparked lively scholarly debate concerning the dating of the Iron Age in southern Jordan as well as the processes that led to the rise of the biblical/historical kingdom of Edom. Until now, the important ceramic data from these excavations have been lacking in this debate. Here, the first detailed preliminary analysis of the Iron Age ceramic assemblage from this industrial site is presented. This new ceramic study provides an important data set, along with previously published high-precision radiocarbon dates and other artifacts for considering the emergence of Iron Age local social complexity during the 10th through 9th century B.C.E.—and perhaps as early as the 11th century B.C.E.

INTRODUCTION

The region of biblical Edom and its Iron Age (IA; ca. 1200–500 B.C.E.) archaeology are important for understanding a wide range of issues concerning the history and social evolution of this part of the southern Levant. From an anthropological perspective, Edom provides a relatively unexplored region in the southern Levant for examining the processes that led to the rise of local complex polities in the Mediterranean littoral of the Middle East during the late second and first millennia B.C.E. following the general collapse of Late Bronze Age civilizations such as the Hittites, Mycenaeans, Egyptians, and others. In terms of historical archaeology, Edom was one of ancient Israel's most important contemporaries, and thus it is a rich source of comparative data for understanding the history of social interaction during the Iron Age and some aspects of the historicity of the Hebrew Bible. Consequently, the Iron Age archaeology of Edom is of great interest to biblical scholars, ancient historians, anthropological archaeologists, and the general public.

Until 2002, large-scale Iron Age archaeological excavations in Transjordan Edom[1] focused primarily on sites located on the high plateau, a semiarid and Mediterranean environment, that were understood to be connected with Busayra (Bienkowski 2002), the assumed capital of Edom during the biblical period. Because little pre–eighth-century B.C.E. Iron Age pottery was identified at excavated highland sites such as Umm al-Biyara (Bennett 1966), Busayra (Bienkowski 2002), Tawilan (Bennett and Bienkowski 1995), and Ghrareh (Hart 1989), it was assumed that the Iron Age in all of Edom was relatively late. A similar conclusion was made based on archaeological surveys and small-scale excavations where limited evidence for 12th- through 9th-century B.C.E. occupation was found in Transjordan Edom, such as surface surveys (MacDonald 1988; 1992; MacDonald et al. 2004; Miller 1991) and V. Fritz's (1994; 1996) probes at the Edom lowland sites of Barqa el-Hetiye and Khirbet

[1] We use the term "Transjordan Edom" to distinguish this region from later phases in the Iron Age when Edom expanded across the Wadi Arabah.

en-Nahas. I. Finkelstein (1992a; 1992b) proposed in the early 1990s that the sites excavated in Edom were considerably older than the seventh century B.C.E., based upon a comparison of the published examples of collared-rim pithoi found at most of the Iron Age excavations from the highland plateau sites of Edom and many in Cisjordan. However, P. Bienkowski (1992) strongly argued that these forms were late—an interpretation later supported by stratified examples of similar pithoi found in Iron IIC sites in Transjordan by L. Herr (2001). A late date (ca. seventh century B.C.E.) for Iron Age Edom was further supported by excavations in Israel's Negev, where ceramic assemblages containing a portion of known ceramic types found in Transjordan Edom were unearthed, e.g., *Ḥorvat Qitmit*,[2] *Tel ʿIra*, Tel Aroer (Biran and Cohen 1981), Ḥorvat ʿUza (Beit-Arieh and Cresson 1985), ʿEn Hasevah (Cohen 1995), Tel Malhata (Kochavi 1993), *Tel Masos*, *Tel Arad*, and Beer-Sheba (Singer-Avitz 1999). However, more recent reanalysis of Iron Age foreign ceramic traditions in the Negev at Beer-Sheba and Tel Arad by L. Singer-Avitz (1999; 2002; 2007) have pushed the earliest presence of "Edomite" ceramics in the Negev earlier, to the end of the eighth century B.C.E.

With the 2002 large-scale University of California, San Diego (UCSD)-Department of Antiquities of Jordan (DOAJ) expedition to the Edom lowland site of Khirbat en-Nahas, located in the Faynan copper ore district of southern Jordan, the first large-scale stratigraphic excavations of a lowland site located on the eastern side of the Wadi Arabah in Edom were carried out in conjunction with a significant radiocarbon dating study of the excavated deposits. The 37 high-precision radiocarbon dates processed from the 2002 season at Khirbat en-Nahas (Levy et al. 2004; Levy et al. 2005; Levy, Najjar, and Higham 2007; Higham et al. 2005), in corroboration with the 9 dates obtained by the German Mining Museum team from slag mounds and a building at the site, further demonstrated that the beginning of occupation and Iron Age copper production began here as early as the late 12th century B.C.E., with the main activities having taken place in the 10th and 9th centuries B.C.E. However, one of the outstanding lacunae from the Khirbat en-Nahas excavation publications has been a detailed stratigraphic study of the ceramic assemblage. Its absence has led to debates concerning the stratigraphy at the site and the use of radiocarbon dates and Bayesian statistical modeling for dating the site (cf. Finkelstein 2005; Levy et al. 2005; Levy, Higham, and Najjar 2006; van der Steen and Bienkowski 2006a; 2006b; Levy, Najjar, and Higham 2007). Most recently, a ca. 6-m-deep sounding was made from the surface to virgin soil at one of the industrial slag mounds at the site that was dated with a sequence of 22 high-precision radiocarbon dates. The results demonstrate two phases of intensive industrial-scale metal production dating to the 10th and 9th centuries B.C.E. (Levy et al. 2008). The following is a detailed preliminary analysis of the Iron Age pottery assemblage and stratigraphy from the 2002 UCSD-DOAJ excavations at Khirbat en-Nahas.[3] The radiocarbon dates from the 2002 Khirbat en-Nahas excavations and the most recent radiocarbon dates noted above, coupled now with the ceramic data presented here, demonstrate that the most significant Iron Age metal production activities took place in the Faynan district during the 10th through 9th century B.C.E. (Levy, Najjar, and Higham 2007; Levy et al. 2008) and that the typological and stylistic roots of the Iron Age "Edomite" ceramic traditions identified at the highland sites such as Busayra, Umm al-Biyara, Tawilan, and other locales have their roots in the lowland of Transjordan Edom.

As we show in this study, one of the most important observations concerning the Iron Age ceramic assemblage from Khirbat en-Nahas concerns the longevity of many Iron Age pottery vessel types found at highland sites and dated from the late eighth through the sixth century B.C.E. Based on the Khirbat en-Nahas study presented here, it is now possible to trace the development of locally manufactured Iron Age pottery in Edom from as early as the 10th century B.C.E. through the 6th century B.C.E. As shown here with the 2002 Khirbat en-Nahas ceramic assemblage, many of the same Iron Age highland pottery forms are found in securely dated strata (with high-precision radiocarbon dates) to the 9th and 10th centuries B.C.E.

[2] Site names in italics refer to both the site and its primary reference in this article; see the list of abbreviations at the end of the article.

[3] The authors are grateful to Dr. Russell Adams for his help in the initial identifications of the 2002 Khirbat en-Nahas ceramic assemblage. The present study is a complete reworking of the initial field study of this assemblage carried out by Adams, Smith, and Levy. For the study presented here, new pottery plates have been prepared based on typology rather than stratigraphy (as presented in the initial field study), new pottery descriptions have been made of the assemblage, more extensive comparative material is marshaled, and an entire new text is presented.

THE SITE—HISTORY OF INVESTIGATIONS

Khirbat en-Nahas (KEN) was first discovered at the beginning of the 20th century by the Czech Orientalist Alois Musil (1907), subsequently visited by the German scholar F. Frank (Frank 1934), and first systematically surveyed by Nelson Glueck in the 1930s (Glueck 1935). Based on the examination of surface pottery, Glueck (1940) suggested that the site was intensively used for copper production during the 10th century B.C.E.—so much so that he referred to the Faynan region and other locales in the Wadi Arabah Valley as "King Solomon's mines" (Glueck 1940: 50–87). Glueck placed KEN, the nearby metal production site of Khirbat al-Jariyeh, and other Iron Age sites he encountered in the Faynan district squarely within what he perceived as the historical 10th-century B.C.E. relations between ancient Israel and Edom as described in the Hebrew Bible (Glueck 1940). However, he did not appreciate the importance of ninth-century B.C.E. metal production at Khirbat en-Nahas or the Faynan district as the most important Iron Age center of copper production. In the early 1990s, B. MacDonald (1992) made a short survey of the site and suggested that it was occupied entirely during the Iron Age. Also in the early 1990s, the German Mining Museum (Deutsches Bergbau-Museum [DBM]) under A. Hauptmann carried out the first long-term archaeometallurgical investigations in the Faynan district, and a number of slag mounds at the site were sampled for palaeobotanical remains and radiocarbon samples (Engel 1993; Engel and Frey 1996; Hauptmann 2007). At that time, one rectilinear building on the eastern side of the site was excavated by V. Fritz (Fritz 1996). As part of the Jabal Hamrat Fidan (JHF) Project's deep-time study of metallurgy and social evolution, in 2002 the first large-scale excavations were carried out at Khirbat en-Nahas by a joint UCSD-DOAJ team. Subsequently, in 2006 the team carried out a second major excavation season at the site under the Edom Lowlands Regional Archaeology Project (ELRAP). In the study presented here, while only the ceramics from the 2002 season are reported on, where appropriate some remarks are made concerning new stratigraphic insights from the 2006 excavations as noted above.

OVERVIEW OF THE 2002 EXCAVATIONS

The 2002 excavations at Khirbat en-Nahas represent the first extensive archaeological investigation of the site that lasted for over two months (September–December; fig. 1). The remote location of KEN in the Saharo-Arabian desert zone of Jordan made it extremely difficult for earlier researchers to spend long periods of time investigating the site. However, the establishment of the UCSD-DOAJ base camp on the outskirts of the Bedouin village of Qurayqira has made it possible to stage long-term archaeological expeditions in the area. The 2002 fieldwork included systematic pedestrian surveys along the two major seasonal drainages near the site—the Wadi al-Guwayb and Wadi al-Jariyeh—which highlighted the Iron Age settlement pattern associated with the site (Levy et al. 2003); it also included a detailed topographic and archaeological survey of Khirbat en-Nahas and stratigraphic archaeological excavations at this extensive copper production site (Levy et al. 2004). As KEN is over 10 ha in size, the excavation strategy for the first excavation season focused on sampling three areas that reflected the range of building and activity areas at the site (fig. 2). These include (a) the four-chamber gate of the large (ca. 73 × 73 m) fortress located in the northern portion of the site labeled Area A, (b) one of the numerous buildings visible on the site surface (Area S), and (c) one of the more than 30 industrial slag mounds at the site (Area M). As the Area M excavations in 2002 penetrated only about 1.5 m into the slag mound, the results from that probe will be discussed at a later time, in relation to the more recent 2006 excavations at KEN where virgin soil was reached through ca. 6 m of slag deposits (Levy et al. 2008). It should be highlighted that the UCSD-DOAJ expeditions carried out under the Jabal Hamrat Fidan and Edom Lowlands Regional Archaeology projects have worked hard to develop a seamless onsite digital archaeological recording system, one that ensures that the spatial locations of all artifacts recovered in the excavations and surveys are recorded according to their *x*, *y*, and *z* coordinates with the highest degree of accuracy. To do this, they used digital survey instruments with data collectors that download all spatial information into a general geographic information system (GIS). This methodology has been described for both the 2002 and 2006 excavation seasons (Levy et al. 2001; Levy and Smith 2007). By recording each radiocarbon sample, artifact, or cluster of artifacts (such as the ceramics reported on here from a given locus) with digital surveying tools, the inaccuracies inherent with using traditional "dumpy levels" and hand-drawn daily excavation record maps are eliminated. Thus, all the ceramics, radiocarbon samples, and other data retrieved from KEN were recorded according to

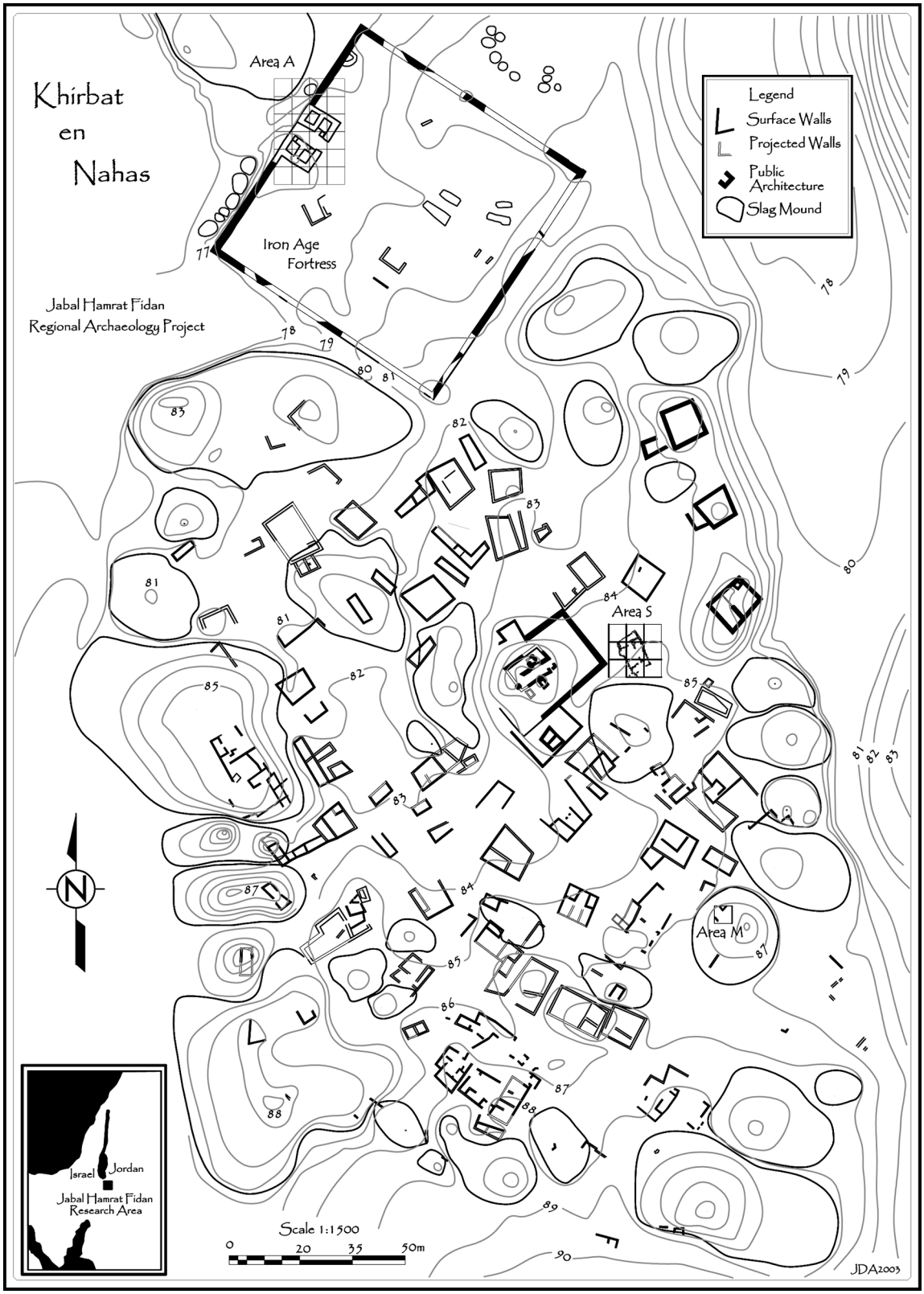


Fig. 1. Map of Khirbat en-Nahas. Source: Levy et al. 2004.

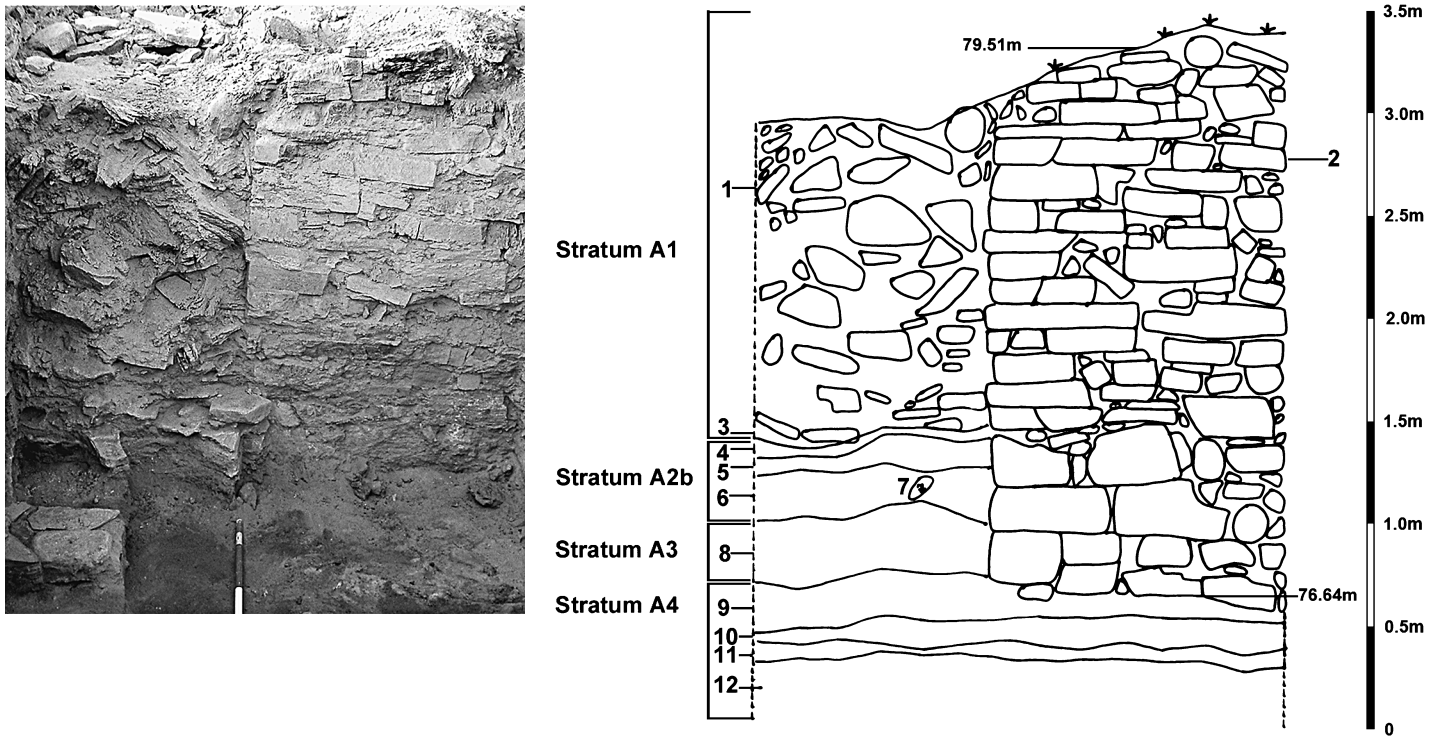
Fig. 2. Aerial view of the Wadi al-Guwayb and Khirbat en-Nahas (visible in the center of photo with black slag deposits), Faynan district, Jordan. Source: UCSD Levantine Archaeology Laboratory.

this rigorous method. To help contextualize the ceramic analysis presented in this study, a brief summary of the different 2002 excavation areas is given here.

Area A—The Gatehouse

Glueck's (1935) original survey report suggested that the huge mound of rock rubble visible on the western side of the large square enclosure that Glueck identified as a fortress was in fact the gatehouse. The decision was made to excavate the perimeter of this rubble mound to delineate the dimensions of the gatehouse and sample its two northernmost chambers (fig. 3). The 2002 excavations showed this to be characteristic of South Levantine Iron Age II four-chamber gatehouses, with measurements of 16.8 m (façade), 10.6 m (width/depth), and a 3.63-m passageway (see Levy et al. 2004; 2005: 139; for comparisons, see Herzog 1992). As a second major excavation campaign was carried out at KEN in 2006, it is important to note here some minor changes observed in the gatehouse stratigraphy, now that a much larger exposure has been made.

During the 2006 excavation season, the main roadway separating the two sets of guard chambers was exposed, making it possible to view the outside of the doorways leading into the guard chambers (fig. 4). This large excavation revealed two clear building phases in the gatehouse: Stratum A3b, the original 10th-century B.C.E. construction of the gatehouse and fortification wall, and Stratum A3a, a major 9th-century B.C.E. restructuring of the gatehouse that included narrowing all the doorways leading into the various guard chambers, building balustrades in the gateway entrance to block the passage of wheeled vehicles and large animals, and closing the other end of the roadway that passes directly into the fortress with a well-built wall first exposed during the 2002 season. The reorganization of the architecture in Stratum A3a represents a "decommissioning" of the gatehouse from its former military function into a possible large residence or public building of some kind. In light of the new excavations, it is now clear



1 - L. 43,55 -Debris: Stones and Sediment
2 - Wall 46
3 - L. 63 - Reddish Clay Deposit/Debris
4 - L. 70- Ash Layer
5 - L. 70/74 - Yellow Brown Sediment
6 - L. 74 Ash with Metallurgical Waste
7 - Tap Slag
8 - L. 94 - Reddish Brown Sediment and Gravel
9 - L. 96 - Ash and Crushed Slag
10 - Compact Red Sediment
11 - Crushed Slag with Orange Sediment
12 - Sterile Soil and Bedrock

Fig. 3. Photo of Area A excavation, and section drawing of northeast guard room and gatehouse, Khirbat en-Nahas, 2002 excavations. View from the southwest. Source: T. E. Levy.

Fig. 4. Overview (northwest) of the 2006 Area A excavations, Khirbat en-Nahas. Note the two building phases revealed in the gatehouse: (a) the 10th-century B.C.E. original large block architecture of the gatehouse, and (b) the ninth-century B.C.E. reorganization of the structure into a building with courtyard. The ninth-century B.C.E. closing wall across the roadway is a clear indication of the "decommissioning" of the gatehouse. Source: T. E. Levy.

that inside the guard rooms, our original division of slag layers into Strata A2a and A2b was artificial and that they in fact represent one massive phase of metal production and debris now referred to simply as Stratum A2b—a phase that reflects a decision to change the use of the A3a residence/public building into a copper production facility. The 2002 ascription of Stratum A2a to a later, more ephemeral phase of metal production that took place only on the exterior of the gatehouse still holds.

These minor changes in the gatehouse stratigraphy have little effect on statistical modeling of the radiocarbon dating. Of the 15 radiocarbon dates modeled and published earlier (Levy et al. 2004; Levy et al. 2005; Higham et al. 2005), none are later than the ninth century B.C.E. Thus, even without Bayesian analysis, which helps researchers attain subcentury dating, all the radiocarbon dates fall before the eighth century B.C.E. As far as the Bayesian modeling and the minor stratigraphic changes outlined here, only 1 sample out of 15 comes from a context (Locus 58; GrA-25320) that must now be moved from Stratum A4a to Stratum A3 in light of the 2006 excavations. Following the 2006 excavations, when the interior of the passageway in the gatehouse was exposed for the first time (fig. 4), it was apparent that the context of Locus 58 was above the Stratum A4 crushed slag horizon that predates the construction of the fortress gatehouse, but below the major Stratum A2b metallurgical activities in the guard rooms.

When the suite of 15 Area A dates obtained during the 2002 excavations is run again with the Oxford Bayesian model placing GrA-25320 in Stratum A3, little change occurs in the model (see the original model in Higham et al. 2005). The boundary transition between Stratum A4a, which is a thin layer of metallurgical activity predating the original construction of the fortress gatehouse in Stratum A3, is during the mid-10th through mid-9th century B.C.E. (95.4 percent probability). These data are illustrated

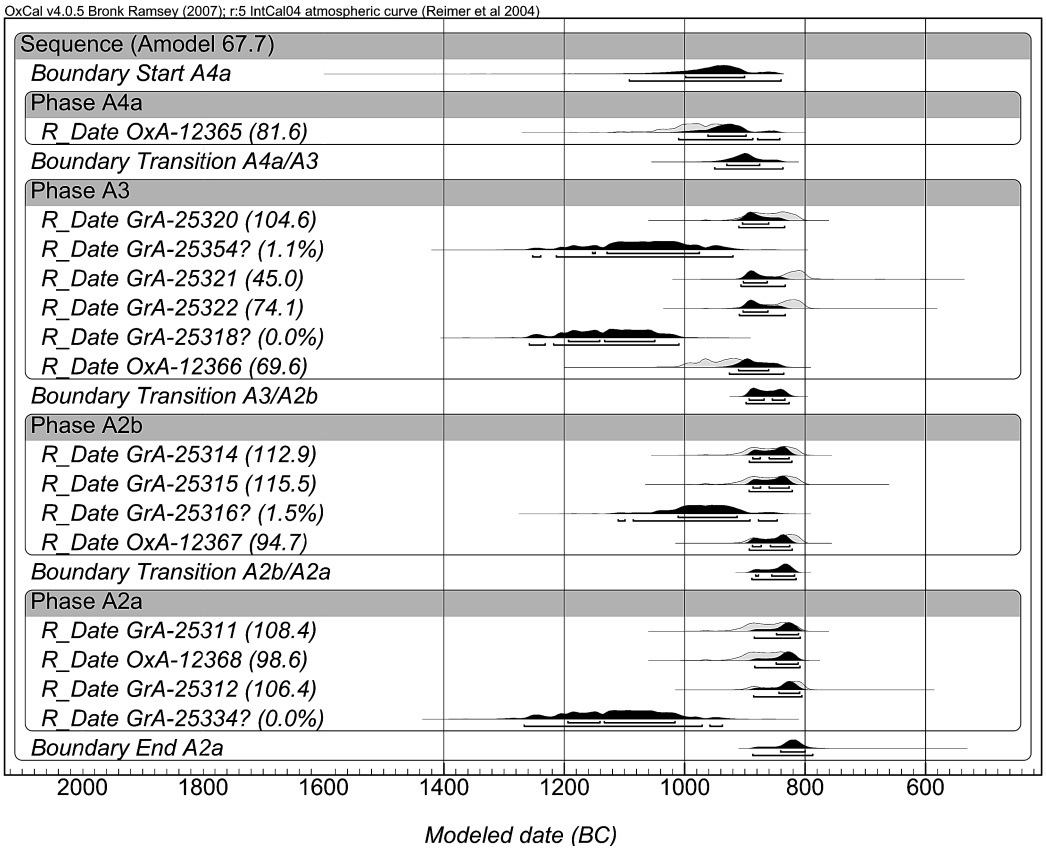


Fig. 5. Bayesian model of 2002 radiocarbon dates from the gatehouse at Khirbat en-Nahas.

in figure 5.[4] While these data do not contribute directly to subcentury historical issues during this part of the Iron Age, they demonstrate conclusively that the fortress was not built during the eighth or seventh century, as some scholars have suggested (Finkelstein 2005). In light of the discussion above, the basic stratigraphy and dating for the gatehouse can be delineated as follows (see also profile in fig. 5):

A1a–b: Post-abandonment collapse of gate structure (dating uncertain)

A2a: Ephemeral metallurgical installations superimposed during the ninth century B.C.E. over the earlier intensive metallurgical activities of A2b and found only outside the gatehouse

A2b: Gatehouse and perimeter used for intensive metallurgical industry and waste disposal (ca. ninth century B.C.E.)

A3a: Restructuring of gatehouse for possible residence use—architectural additions to original plan (ca. ninth century B.C.E.)

A3b: Four-chamber gate structure built and used (ca. mid-10th century to mid-9th century B.C.E.)

A4a: Crushed slag layers and occupation prior to four-chamber gate

A4b: Virgin soil

In summary, during Stratum A4a and perhaps earlier, metallurgical activity and occupation occurred at the site. Crushed slag layers from this occupation were used as a foundation on which the gatehouse was initially built during the 10th century B.C.E. (Stratum A3b) as confirmed in the 2006 excavations (fig. 4). Following the initial building phase, the gatehouse was modified and redesigned in the ninth century B.C.E. (Stratum A3a—based on evidence

[4] We are grateful to Thomas Higham, Associate Director of the Oxford Radiocarbon Accelerator Laboratory, for producing this model.

discovered during the 2006 season). Following the decommissioning of the gatehouse and fortress in the ninth century B.C.E., the gatehouse (no longer part of a defensive system) and the fortress area were utilized for intensive metallurgical activities (Stratum A2b). The last stratum of Iron Age occupation inside the gatehouse occurred in Stratum A2b (mid-ninth century B.C.E.), after which it was sealed by massive collapse and/or intentional filling in of the gatehouse superstructure. The Stratum A1 collapse of the gatehouse superstructure consists of massive stone blocks that accumulated shortly after the Stratum A2a ninth-century B.C.E. occupation. This precludes the possibility that squatters from the eighth century B.C.E. or later centuries utilized the gatehouse area, as it was sealed by the stone collapse. Thus, the latest Iron Age occupation around the gatehouse occurred in Stratum A2a, which shows limited metallurgical activity as evidenced by very small, shallow installations radiocarbon dated to the end of the ninth century B.C.E.

Area S—Metallurgical Processing Building

Surface investigations at KEN by Glueck (1935), MacDonald (1992), the German Mining Museum (Hauptmann et al. 1992), and our team all observed that well-preserved surface architecture was widespread at the site. While Fritz (1996) sampled one of these buildings, he did not manage to produce a well-documented stratigraphic sequence. In 2002, the UCSD-DOAJ team decided to excavate a building to the west of Fritz's excavation in order to establish a general stratigraphic sequence for this part of the site as well as to clarify some of the functions carried out in this part of the site during the Iron Age occupation. Accordingly, the Area S excavation was situated ca. 15 m northwest of Fritz's work (fig. 1). The well-preserved surface architecture in Area S indicated the presence of a square-shaped building below the exposed rubble. From the 2006 excavations in Areas T, R, and M located near Area S, the stratigraphy first published for Area S (Levy et al. 2005) was shown to conform to the same general site-formation processes, negating any need to reexamine the radiocarbon dates and Bayesian models for Area S. The following stratigraphic sequence characterizes Area S (see fig. 6, stratigraphic profile):

Stratum S1: Collapse of structure and possible reuse as a corral or pen

Stratum S2a: Minor additions to Stratum 2b architecture and fill over original 2b surfaces

Stratum S2b: Main architectural and occupation phase of building

Stratum S3: Crushed slag foundation prior to Stratum S2b building

Stratum S4: Cooking and other installations associated with basal occupation layer

In summary, during Stratum S4 the earliest occupation of this area was used for domestic purposes. Very few diagnostic ceramics and other artifacts were recovered from this layer. At some point, crushed slag from an earlier metallurgical production stratum (Stratum S3) at the site was leveled and used as a foundation prior to construction of the Stratum S2b building. The stratigraphic sequence in Area S shows conclusively that the building (Stratum 2b) was established on top of the crushed slag foundation. Based on radiocarbon, the building dates to the mid-ninth century B.C.E., like the nearby one excavated by Fritz (1996; for radiocarbon dates from these excavations, see Hauptmann 2007: 89). Following the last Iron Age use of this building in Stratum 2a (mid to late ninth century B.C.E.), the walls collapsed in Stratum S1. Like the Area A gatehouse, the Area S building and its immediate surrounds were not occupied after the late ninth century B.C.E. The five radiocarbon dates from this last stratum (S1) all fall within the mid to late ninth century B.C.E., precluding the possibility that this building was occupied or visited during the eighth century B.C.E. or later.

As mentioned above, the use of the Bayesian statistical modeling method to more tightly date the stratigraphy of the site has been challenged by van der Steen and Bienkowski (2006a; 2006b). The critique has primarily focused on the earliest strata in both Areas A and S, beneath their respective buildings (e.g., the gatehouse in Area A, Stratum A4a, and the metallurgical building in Area S, Stratum S4). Rebuttals have been made to explain clearly and succinctly the exact methodology used in Bayesian modeling for KEN and its importance for properly dating stratigraphic layers (Levy et al. 2005; Levy, Higham, and Najjar 2006; Levy, Najjar, and Higham 2007). The Bayesian modeling was constructed using only the stratigraphic sequencing of the site discussed above and did not factor in other data such as epigraphic finds (scarabs), early Iron Age arrowheads, and other data. It is unfortunate that these discussions have detracted from the focus on the *uncontested* primary occupation layers of the site dated,

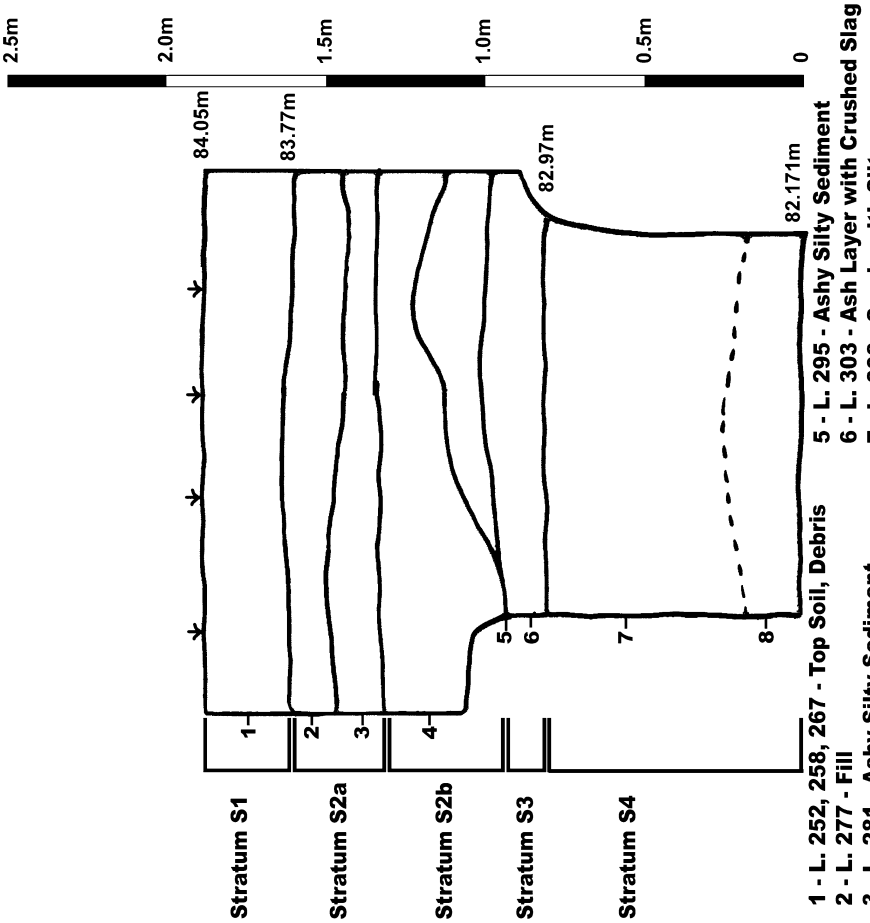


Fig. 6. Photo of Area S excavation, and section drawing, Building S, Room, southern section of probe. View from the south. Source: T. E. Levy.

until now, using *only* high-precision radiocarbon dates to the 10th–9th century B.C.E., from which significant samples of diagnostic ceramics (reported on here) and other artifacts have been collected.

As shown in the discussion of the stratigraphy of both the Area A gatehouse and metallurgical building in Area S in previous studies (Levy et al. 2004; 2005; Higham et al. 2005) and here, the main occupation strata in these two areas are securely dated to the 9th and 10th centuries B.C.E. In some cases, radiocarbon dates and scarabs extend the occupation back to the 11th century B.C.E. It is possible that these scarabs were heirlooms from the previous century that made their way into the Area S building; however, this is not the case for the botanical remains used for radiocarbon dating. These UCSD-DOAJ stratigraphic excavations and radiocarbon dates confirm the dating framework initially suggested by the German Mining Museum soundings (Hauptmann 2000) of different slag mounds at Khirbat en-Nahas as well as a building located near the Area S excavation (fig. 1) (Hauptmann 2000; 2007). The complete absence of radiocarbon dates from the eighth through sixth century B.C.E., whether one uses Bayesian calibration or not, indicates that the occupation strata at Khirbat en-Nahas represent a relatively short occupation span at the site and that the site experienced its copper production "boom" during the 10th and 9th centuries B.C.E. The implications from these data suggest that the precise radiocarbon-based absolute dates for the pottery found in these stratigraphic levels represent a snapshot of the 10th- and 9th-century B.C.E. ceramic corpus in lowland Edom.

THE ORGANIZATION OF THE POTTERY ANALYSIS

Field Collection and Dirty (Field) Lab Processing

Unlike typical tell or village sites which are often found with rich assemblages of complete pottery vessels on well-defined floors and other surfaces, the ceramic assemblage at Khirbat en-Nahas is associated with a highly specialized industrial site and consequently has relatively few complete vessels. The 2002 excavations yielded approximately 300 kg of pottery, with ca. 1,513 indicative sherds (e.g., rims, painted sherds, handles, bases, miscellaneous) weighing 60 kg. All pottery was weighed and registered for a preliminary quantitative analysis at the end of the season. The diagnostic sherds representing all wheel-made vessels from Areas A and S that could be clearly classified into a specific generic vessel class (e.g., Bowl, Krater, Jar, Jug/Juglet, Cooking Pot, and Lamp) totaled 487. Hand-made vessels with rims that could be identified as bowls or jars totaled 87. Figures 7–10 summarize the projected minimum number of individual (MNI) vessel distribution based on diagnostic pottery sherds by stratum. In this study, we use the MNI as an important index for measuring the percentage of ceramic types through time. Similar approaches are more common in late prehistoric ceramic studies (cf. Commenge et al. 2006; Levy and Menahem 1987).

It is important to briefly describe the digitally based collection method used at Khirbat en-Nahas (Levy and Smith 2007), as this ensured the collection of secure stratified ceramic samples. By avoiding the use of dumpy levels and nondigital recording techniques, we ensured that pottery sherds and other artifacts were collected with the tightest stratigraphic control. While technology will not tighten stratigraphy, and only good (experienced) excavation can isolate archaeological deposits, sediment layers, and other features, the ultimate goal of archaeological recording in the field is to be able to "reconstruct" the site back in the laboratory. By using digital archaeological methods, it is possible to do this with a higher degree of precision. The provenance of each day's basket of collected pottery was recorded in three dimensions using this method. Ceramics were collected from the field in plastic buckets and labeled with appropriate locus, basket, square, and "EDM number" (short for "electronic distance measure" recorded with a Leica Total Station). Special pottery or near-complete vessels found in situ had exact coordinates recorded using the Total Station and were given their own specific EDM and basket numbers for integration with the project's general ArcGIS database. In GIS terms, these are referred to as "point data." Similarly, on a daily basis, all sherds found in a given locus were collected together and recorded by mapping the outline of the basket area excavated in that locus as well as the depth, as is the norm for locus-basket-based excavations in the southern Levant (see Dever and Lance 1978). However, rather than use inaccurate dumpy levels at KEN, these data were recorded with digital surveying instruments and TDS Recon data collectors loaded with software suitable for our GIS system. For GIS, these are referred to as "polygon data." The pottery

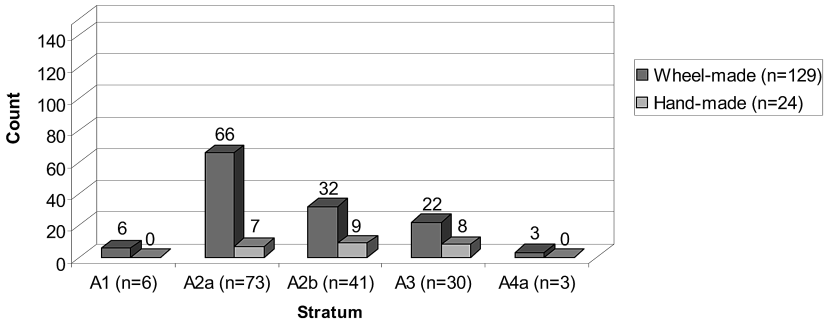


Fig. 7. Area A: Distribution of wheel-made vs. hand-made vessels by stratum.

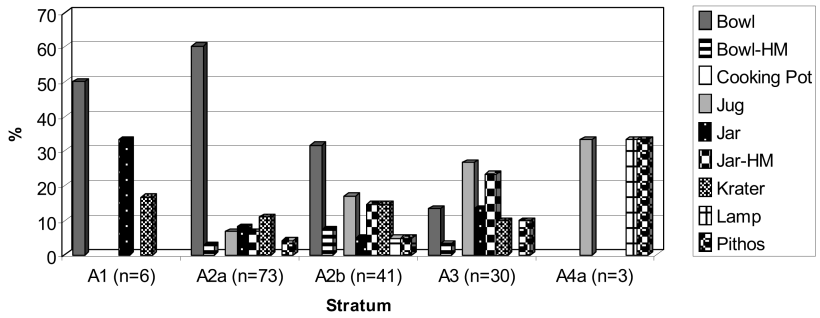


Fig. 8. Area A: Distribution of vessel families by stratum.

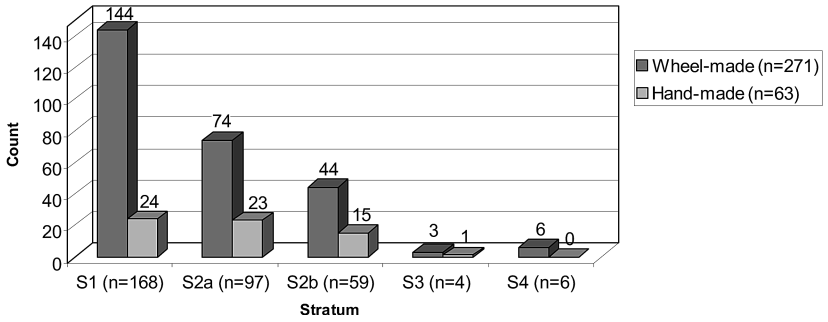


Fig. 9. Area S: Distribution of wheel-made vs. hand-made vessels by stratum.

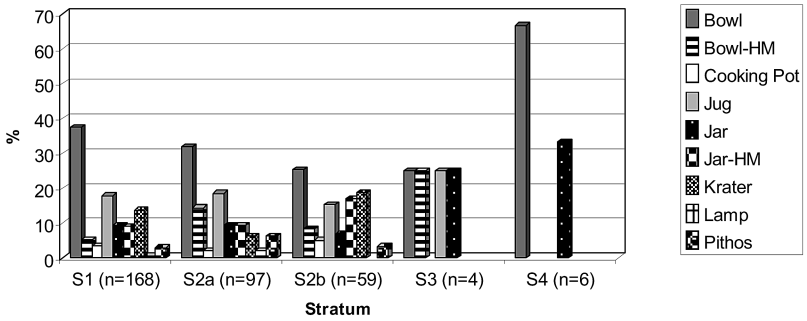


Fig. 10. Area S: Distribution of vessel families by stratum.

was later washed and special pottery digitally photographed separately before being incorporated into the general sorting and registration process. Reconstructable vessels collected from the field were marked, and all sherds with possibly similar fabrics were separated from other diagnostic vessels and body sherds that underwent general processing. These vessels were immediately sent to the conservationist to be reconstructed. The other ceramics in buckets were brought to the Dirty (Field) Digital Processing Lab, where they were checked against the master database to ensure the tags were the same. Then, the buckets were set out for the next day of washing. The pottery was then washed by students and set out to dry. The preliminary sorting consisted of separating diagnostic from nondiagnostic vessel sherds and then counting, weighing, and entering the data in a laptop computer. Diagnostic vessels consisted of rim sherds, painted or decorated handles, distinct bases, and miscellaneous vessel sherds that appeared to be rare in the ceramic assemblage.

Computer Registration

A ceramic database created in Microsoft Access was constructed during the 2002 season to register every diagnostic vessel sherd with its specific form, color, and fabric details. The database used drop-down menus to collect specific information on rim form, surface treatment, fabric color, sorting, roundedness, and inclusions. Extra drop-down menus were added for noting when a specific type of handle or base was attached to the vessel. After the diagnostic sherd was analyzed and assigned its registration number from the database, it was labeled with its appropriate information and placed in a labeled acid-free zip-lock bag.

Drawing

A number of diagnostic vessel sherds from all areas were drawn during the 2002 excavation season and during the following 2003 field season when other sites in Faynan district were investigated by the UCSD-DOAJ team. Since drawing was conducted in the field laboratory as excavations were taking place, the choice of vessel sherds to be drawn was not strictly systematic but was primarily determined by such factors as frequency in the assemblage, similarities to known vessel types of other Iron Age sites in Edom, distinctive features, and good preservation of the vessel sherds. Therefore, the figures presented here, while not representing a statistical breakdown of types found within the ceramic assemblage, present an overall picture of the full range of vessel types found in the 2002 assemblage.[5]

Quantitative Analysis

The ceramic typology and analyses discussed below are based on all diagnostic vessels retrieved from the 2002 excavation season that could be properly assigned to a vessel family (see figs. 7–10). The total number of identifiable rim sherds was 487 (Area A = 153; Area S = 334), which does not include decorated body sherds or miscellaneous ceramic objects (e.g., tokens, lids).[6] One of the problems with the ceramic analysis presented here is that it is based on the examination of diagnostic sherds and not complete vessels. However, unlike many of the "classic" Iron Age sites in Cisjordan, sites in Transjordan Edom have generally been poor in complete vessels for final ceramic studies (cf. Oakeshott 1978; Hart 1989), and the assemblage from Khirbat en-Nahas is similar in this respect.

For the purpose of this study, due to the small sample size and the fact that the subtle stratigraphic divisions in Area A were only made during the 2006 excavation season, this preliminary analysis uses the following stratum breakdown: A1, A2a, A2b, A3, and A4. Area A, A2a (n = 73) and Stratum A2b (n = 41), which represent the large volume of mid to late ninth-century B.C.E. metallurgical waste and occupation, contained the highest quantity of recovered ceramics (fig. 7). Stratum A3b, the occupational layer associated with the initial building phase of the gatehouse, had a slightly smaller vessel count (n = 30), which reflects the poor preservation of this layer possibly due to removals during the later restructuring of the gatehouse when it was decommissioned in Stratum A3a. The scarcity of ceramics in Stratum A1 (n = 6), which represents the massive fortification wall collapse and debris that seals the earlier strata, shows that little contamination occurred between the final stratum and earlier ones. Stratum

[5] The authors are grateful to Dr. Caroline Hebron, London, UK, for producing the excellent pottery drawings used here.

[6] It is important to note that in the near future, when the 2002 data are combined with the 2006 assemblage along with a more fully integrated stratigraphy for all the excavation areas across the site, a more comprehensive and accurate statistical study will be performed. (This will initially appear in the Ph.D. dissertation that Neil G. Smith is currently writing at the University of California, San Diego.)

A4a contained very little pottery beneath the earliest building phase. Of these strata, only Strata A2a through A3 have a large enough sample to make any significant observations of their general nature (cf. fig. 8). Bowls are the most frequent type in Stratum A2a (60 percent) but drop to only a slight occurrence of 31 percent in Stratum A2b and then become a minority in Stratum A3 (13 percent). Stratum A2a has been identified only outside the gatehouse, reflecting a period of construction of small installations associated with metallurgical activity; the extreme difference in dominance of bowls outside the gatehouse may reflect a new functional change from earlier strata found inside the gatehouse. Jugs tend to increase in earlier strata, along with hand-made jars. Kraters remain fairly constant through the sequence, with a slight peak during Stratum A2b. Jars and pithoi tend to fluctuate but become a more dominant percentage in Stratum A3, perhaps indicating that storage was more important in the gatehouse during this period.[7]

Area S has approximately twice the amount of ceramics recovered from Area A (figs. 9–10). The higher quantity is due to many factors, including larger excavation areas, varying depositional processes, and different activity functions. Stratum S1 in Area S had the largest quantity of wheel-made ceramics—nearly twice the amount of Stratum S2a. The quantity of both wheel-made and hand-made pottery decreases proportionally from Stratum S2a to S2b. Stratum S3, the relatively thin crushed slag layer, contained very little pottery, with only a few indicative examples (n = 4). Similarly, only a few more diagnostic vessels (n = 6) were recovered from Stratum S4. From this sample, only Strata S1, S2a, and S2b have a large enough sample to make any significant observations (cf. fig. 10). Bowls remain the dominant vessel family through all strata, although they decrease proportionally from later to earlier strata. Jugs remain fairly constant throughout all strata and represent 15 to 18 percent of the assemblage. Jars, pithoi, and hand-made jars continue to be constant until Stratum S2b, when the percentages of hand-made jars double. The percentage of kraters fluctuates over time but increases significantly in Stratum S2b. Although occurring only in small numbers in each stratum, cooking pots represent 3 to 5 percent of the assemblage compared with their complete absence in Area A. Lamps also occur in small numbers in the Area S strata.

THE PRELIMINARY TYPOLOGY BY STRATIGRAPHIC LEVEL

The 2002 ceramic assemblage from KEN was reexamined in 2006–2007 at the UCSD Levantine Archaeology Laboratory where the collections are housed. This research was done so as to integrate the 2002 ceramic assemblage into a larger typology developed from the study of the more recent 2006 field season and the 2004 field season at Rujm Hamrat Ifdan—a small Iron Age "watchtower" site first identified by Nelson Glueck (1940) and sampled in 2004 by the UCSD-DOAJ team (Site 77a; Levy et al. 2001). The typology presented here uses the numbering system developed from these later seasons because a more comprehensive study of the combined 2002 and 2006 assemblages is forthcoming. In this preliminary study, only the vessel types found in the 2002 assemblage are discussed (which is why there are gaps in the numbering sequence presented below). The ceramic descriptions below provide a brief explanation of each vessel type. The focus here is on general types; greater detail concerning subtypes and their frequencies according to the different strata in both areas at KEN will be addressed in the final publication. Parallels are presented for the vessel types from excavated assemblages in Transjordan Edom, such as Tawilan, Busayra, Ghrareh, Umm al-Biyara, Tell el-Kheleifeh, and, where possible, sites from the Negev, northern Transjordan, and southern Israel.[8] Comparison of the KEN assemblage, which is primarily made up of broken rim sherds, with those of other sites is difficult because the KEN assemblage is so fragmentary; however, attempts were made here where possible. Furthermore, parallels had to be made primarily based on morphological form, since KEN's indigenous assemblage is primarily made up of local fabrics, colors, and decoration styles that differ significantly from other regions. These distinctions highlight the regional differences of KEN's ceramics compared with other areas but also show that, in general, vessel forms popular in Cisjordan and other regions dating primarily to the

[7] As mentioned above, these observations are preliminarily based on a small sample from each stratum; the combination of ceramics in 2006 from Area A's strata will bring greater clarity to this discussion.

[8] For certain unique vessel types, northern Israel and Phoenicia are included in the discussion of parallels.

10th and 9th centuries B.C.E. had contemporary parallels at KEN.

The sherd profiles (figs. 11–18, 23; see also tables 1–9) are arranged according to the stratigraphic sequence and vessel type from earliest strata to later (see the stratigraphy discussion above on the respective strata). The sherds on each figure are organized by vessel family and type (on certain figures this general pattern was altered slightly to accommodate the larger-diameter vessels). This approach was chosen in order to compare and contrast temporal distinctions between the specific vessel types, which until now could not be done because of the lack of clearly defined stratigraphic phases at other Iron Age "Edomite" sites in Jordan. The ceramic study presented here is divided according to two areas excavated in the 2002 season, Area A and Area S, which had significantly different functions. Imports (fig. 23), cooking pots (fig. 18), and hand-made wares (figs. 14, 18) have been given their own figures and are also presented according to their respective stratigraphic sequence.

CERAMIC DESCRIPTIONS

Bowls

BL3: *Triangular-section rim bowls* (*figs. 12:1–2; 13:1–5; 14:1–3; 15:5–6; 16:1–4; 17:1)*

Description: These are small- to large-sized open bowls with a characteristic rim treatment involving folding and flattening of the rim, often creating a triangular section. The formation of the rim varies from one vessel to the next, with most having a triangular section while others tend toward a more simple, flattened profile.[9] The rim stance is generally upright or sloping out. Bowls with intact base sherds show a disk or ring base and are commonly painted with black concentric circles (e.g., fig. 13:2). White slip on the interior and exterior is common, while burnishing occurs only on a few examples (fig. 14:3). Painting is a key defining characteristic of these bowls and consists primarily of black or red horizontal concentric painted bands along the interior of the vessel as well as vertical painted strokes along the rim. Several examples have horizontal bands along the rim with painted vertical strokes. Applied decoration on the exterior in the form of a bar handle is also common.

Parallels: This is a common form found throughout the KEN assemblage and other "Edomite" sites, such as *Busayra* (fig. 9.17), *Tawilan* (pls. 6.4–6.7), *Tell el-Kheleifeh* (pls. 33:6–15; 34; 35:1–6), *Ghrareh* (pls. 3:7–13; 4; 5), and *Umm al-Biyara* (pl. 56:14–17). Parallels in the Negev and Judah are found at *Tell Beit Mirsim III* Stratum A (pls. 22, 23), *Tel Arad* Strata X–VII (pls. 10:B 24; 24:3, 10, 12; see p. 132 for listing), *Beer-Sheba II* Strata VI–II (fig. 26:12–16), *Beer-Sheba I* (pls. 53:2, 5; 54:1, 2; 56:9; 55:5–7; 59:58–71), *Ḥorvat Qitmit* (figs. 4.1:50, 56; 4.2:4–7), *Lachish* Strata V–IV (Zimhoni 1997: figs. 3.11; 3.13:4, 11, 13,14; 3.16:1–4; 3.17:4; Tufnell 1953: pls. 80:70–75, 86; 101), *Gezer III* Stratum VA (pl. 25:7; Type 50c, p.168), possibly *Kadesh Barnea* Stratum 3c (pl. 11.27:16), and are similar in rim form to *Tel Batash* Strata IV–III (pls. 80:7; 22:15). This vessel type is found at many sites in multiple strata spanning the entire Iron Age II in both Transjordan and Cisjordan from the ninth to sixth century B.C.E. However, the white slip with black concentric lines on the interior of the vessel and stripes along the rim is a decorative style that distinguishes this vessel's appearance from Cisjordan and is characteristic of the region of Edom.

BL12: *Thin, round-walled fine-ware bowls with tapered rim (fig. 12:3)*

Description: These razor-thin, small rounded bowls are fine-ware vessels with a tapered rim. These bowls sometimes have bichrome painting, red slip with continuous burnishing on the interior and exterior, or white slip on both the interior and exterior.

Parallels: From *Busayra* (fig. 9.25:1, 11, 13), parallels are similar with the Type J2 vessels but should not be considered as belonging to this type, especially among the highly painted razor-thin cups and bowls that generally have a tapered rim slightly turned out at the very tip of the rim (see *Busayra* fig. 9.25:4, 6, 7, 9, 10, 12). Other parallels are *Ḥorvat Qitmit* (fig. 4.1:26; 4.9:9), *Tel ʿIra* Stratum VII (fig. 6.89:3), *Tell Beit Mirsim III* Stratum A (pl. 24:6–8), *Samaria I* Period III (fig. 4:9), ʿUmayri Phase IP3 (*MPP I:* fig. 19.9:1), *Hesban* Stratum 16 (fig. 3.11:22),

[9] There are many sub-types that make up the general category presented here as BL3. Earlier, both Oakeshott (1978) and Bienkowski (2002) classified sub-types within this group. Due to the brevity of this article, the breakdown of differing rim forms, bowl shapes, and sizes into their respective sub-types, which is needed to gain tight typological control of this popular bowl, has been reserved for the analysis of the complete 2002 and 2006 ceramic assemblage from KEN (to appear in the dissertation cited in n. 6 above).

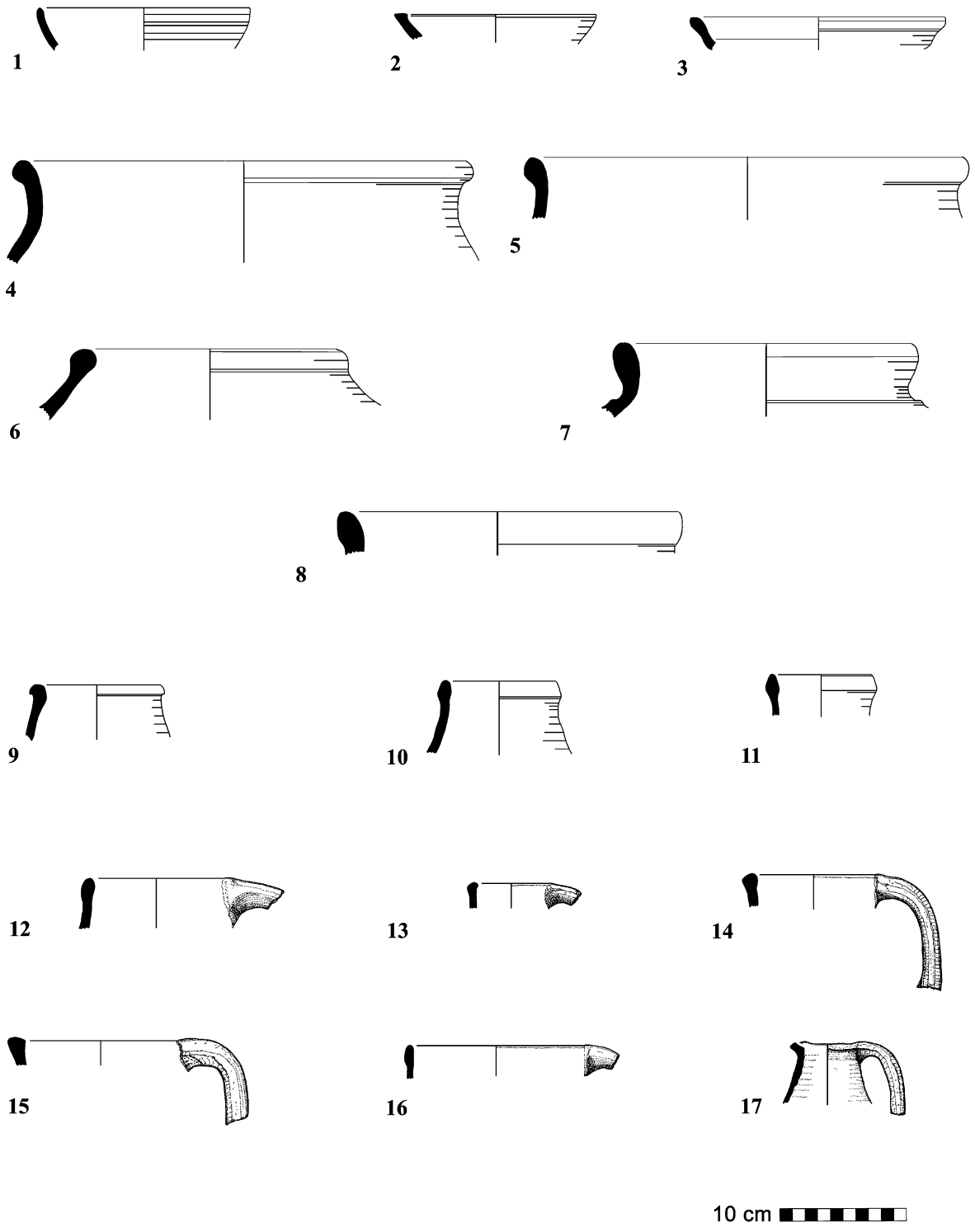


Fig. 11. Area A: Stratum A3. See table 1 for descriptions.

Table 1. Area A: Stratum A3 Sherd Descriptions (Fig. 11)

No.	*Reg.*	*Locus*	*Str.*	*Type*	*Exterior*	*Interior*	*Core*	*Ware*	*Surface Treatment*
1	180	41	A3	BL16	light brown	light brown	light reddish-brown	Medium-Fine ware	Red Slip and Horizontal Burnish Interior/Exterior
2	341	36	A3	BL31	weak red	weak red	pinkish-gray	Fine ware	
3	345	40	A3	BL36	pale red	pinkish-gray	light gray	Medium-Fine ware	Slip Exterior
4	884	97	A3	KR6	white	light brown	pinkish-gray	Medium-Coarse ware	Slip Exterior
5	885	97	A3	KR6	gray	pinkish-gray	very pale brown	Medium-Coarse ware	Ridged
6	269	53	A3	PT10	white	white	white	Coure ware	
7	266	41	A3	PT5	very pale brown	pale red	light reddish-brown	Coarse ware	
8	706	89	A3	PT8	white	white	light gray	Medium-Coarse ware	Slip Interior/Exterior
9	263	40	A3	JG/JR	light red	pale red	light red	Medium-Coarse ware	Pinkish-White
10	770	94	A3	JG6	light reddish-brown	light reddish-brown	light red	Medium-Fine ware	
11	769	94	A3	JG6	gray	gray	pinkish-gray	Medium-Coarse ware	
12	883	97	A3	JG6	pink	pink	light reddish-brown	Medium-Coarse ware	
13	265	41	A3	JG9	white		white	Coarse ware	
14	352	58	A3	JG9	very pale brown	very pale brown	pink	Coarse ware	
15	762	89	A3	JG9	very pale brown	pale red	light reddish-brown	Medium-Fine ware	
16	344	40	A3	JG9	light gray	light gray	gray	Medium-Fine ware	
17	771	89	A3	JT23	light gray	light gray	light gray	Medium-Fine ware	

and *Dibon* (fig. 2:14?). This bowl has parallels in multiple subsequent strata spanning the entire Iron Age II from the ninth to sixth century B.C.E.

BL13: *Carinated bowls with rounded rim sloping up to a tapered lip (figs. 15:7; 17:2–4)*

Description: The two primary characteristics of these bowls are the straight-rim to mid-body carination and a tapered or rounded rim created from a thinning of the thicker interior body of the vessel. Some bowls with thickened interior are very pronounced (fig. 17:2, 4), while others have a more typical straight rim (fig. 15:7). Slip and burnish are fairly common.

Parallels: In comparison with Busayra, these vessels appear to fit within the same class as the Type C vessels designated by Oakeshott (1978); however, the tapered rim and thicker interior are more common at KEN. The closest example of the thickened interior to taper appears at *Busayra* (figs. 9.13:3*, 15). This vessel type is more rare at other Edomite sites, where only a few examples are represented at each site. The KEN BL13 belongs to the more common straight-rimmed bowl found at *Tawilan* (fig. 6.3:13), *Tell el-Kheleifeh* (pl. 37:8,10), and *Ghrareh* (pl. 6:19–20). A few parallels are found at *Dibon*, but they all differ in primarily having a more flat, squared rim and a more shallow body (figs. 2:18–24; 18:11). The Ammonite Citadel/Administrative Complex in Field A at ʿUmayri has parallels represented from the ninth to eighth century B.C.E., with a few examples resembling the KEN assemblage (*MPP I*: fig. 19.9:6–9; *MPP II*: fig. 3.14:12–16; *MPP IV*: Area A Phase 8 fig. 3.23:16–17; *MPP V*: fig. 5.20:6). At

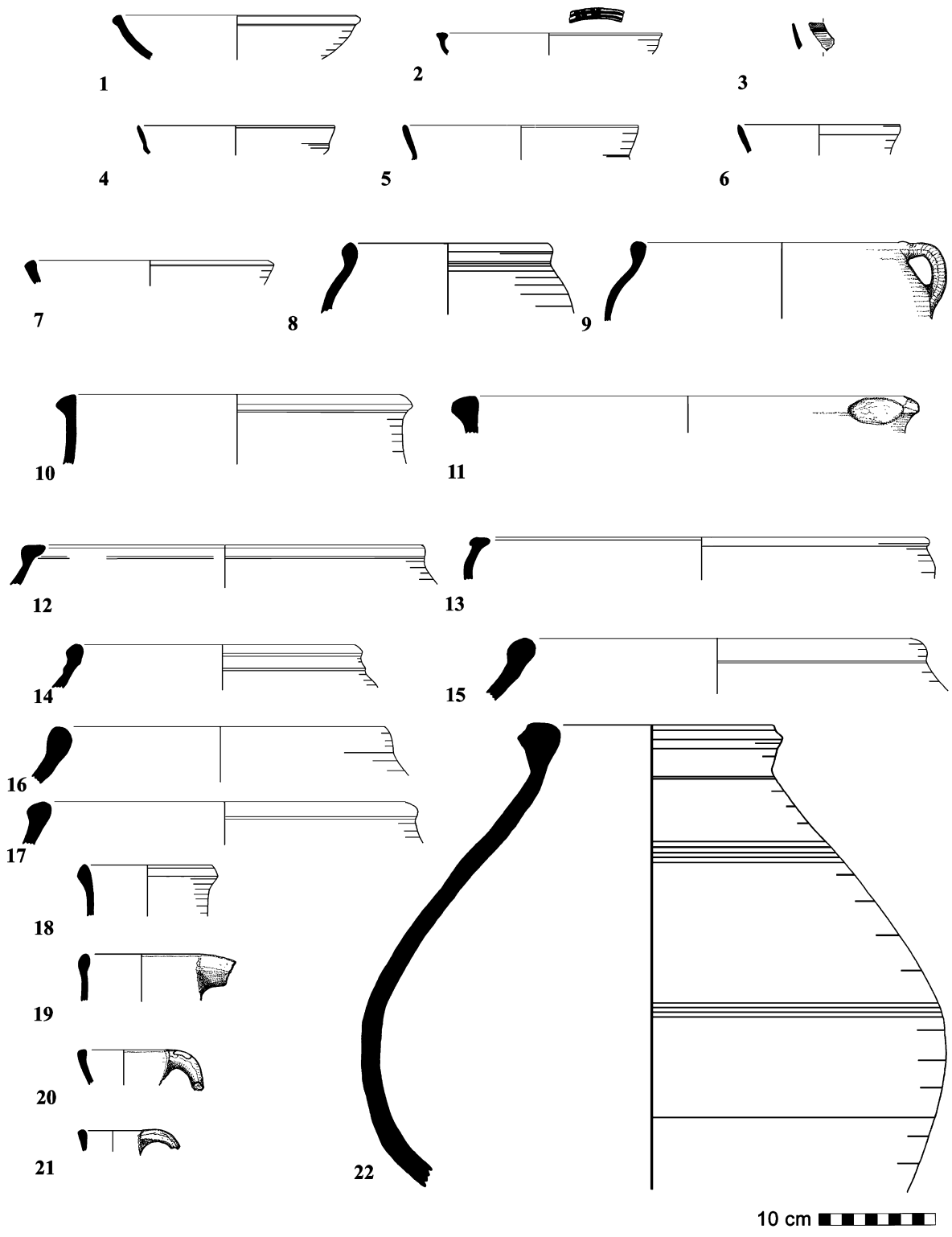


Fig. 12. Area A: Stratum A2b. See table 2 for descriptions.

Table 2. Area A: Stratum A2b Sherd Descriptions (Fig. 12)

No.	*Reg.*	*Locus*	*Str.*	*Type*	*Exterior*	*Interior*	*Core*	*Ware*	*Surface Treatment*
1	333	37	A2b	BL3	pink	pink	light reddish-brown	Coarse ware	
2	634	77	A2b	BL3	pinkish-white	pinkish-white	light red	Medium-Fine ware	Black Painted Design, Slip Interior/Exterior
3	563	74	A2b	BL12	pink	pink	gray	Fine ware	Pale Red, Black Painted design
4	558	76	A2b	BL22	very pale brown	white	pale red	Fine ware	Slip Interior/Exterior
5	553	77	A2b	BL22	light reddish-brown	light reddish-brown	light reddish-brown	Fine ware	Burnish Interior/Exterior
6	561	76	A2b	BL22	pale red	pale red	light reddish-brown	Fine ware	
7	636	77	A2b	BL31	light reddish-brown	light reddish-brown	light reddish-brown	Medium-Fine ware	
8	354	56	A2b	KR3	light gray	pinkish-gray	light gray	Medium-Coarse ware	
9	564	76	A2b	KR3	light reddish-brown	light reddish-brown	light gray		
10	631	77	A2b	KR5	white	white	pinkish-gray	Medium-Fine ware	Slip Interior/Exterior
11	349	37	A2b	KR6	light red	light red	reddish-brown	Medium-Coarse ware	Slip Exterior
12	928	92	A2b	KR11b	white	white	pinkish-gray	Medium-Fine ware	Slip Interior/Exterior
13	732	92	A2b	KR11b2	white	light gray	pinkish-gray	Medium-Fine ware	Slip Exterior and Burnish Interior
14	331	37	A2b	JR15	white	pale red	light reddish-brown	Medium-Coarse ware	Slip Exterior
15	704	74	A2b	PT10	light gray	pinkish-gray	light gray	Medium-Fine ware	Slip Exterior
16	773	92	A2b	PT10	white	pink	light reddish-brown	Medium-Coarse ware	Slip Interior/Exterior
17	456	70	A2b	PT10	white	pale red	light gray	Medium-Coarse ware	Slip Exterior
18	332	37	A2b	JG4	white	white	light red	Medium-Coarse ware	Slip Exterior
19	731	92	A2b	JG6	light gray	light gray	reddish-brown	Medium-Coarse ware	
20	355	56	A2b	JT26	light brown		pinkish-gray	Medium-Fine ware	White Painted Design, Slip
21	766	74	A2b	JT26	white	pink	pinkish-gray	Medium-Fine ware	Slip Exterior
22	765	74	A2b	PT10	pinkish-gray	pinkish-white	light red	Medium-Coarse ware	

Tell Beit Mirsim III Stratum A (pls. 24–25), a large quantity are present, as found at Busayra and KEN. Examples shown in *Tell Beit Mirsim III* (pls. 24:10, 20, 22–23) are the most common type found at KEN. *Beer-Sheba I* Stratum II (pl. 59:55–57) has a few close parallels with a small disk base. However, at *Tel Arad* Strata XI–IX (figs. 8:3; 28:4; 34:2), the vessel typically has a small-diameter disk base. The ring-base style appears to be unique to Busayra. Unfortunately, the lack of examples with intact bases from the KEN 2002 assemblage prevents any further comparison. See *Gezer III* Stratum VIA (pl. 20:5). The bar-handle design is very common at *Lachish* Strata V–IV (Type B-14 figs. 25.17:2, 3, 5–7; 25.19:14; 25.38:4; 25.50:16; 25.51:2) but also is dominant in Strata III–II (figs. 26.3:8, 9; 26.18:3–5;

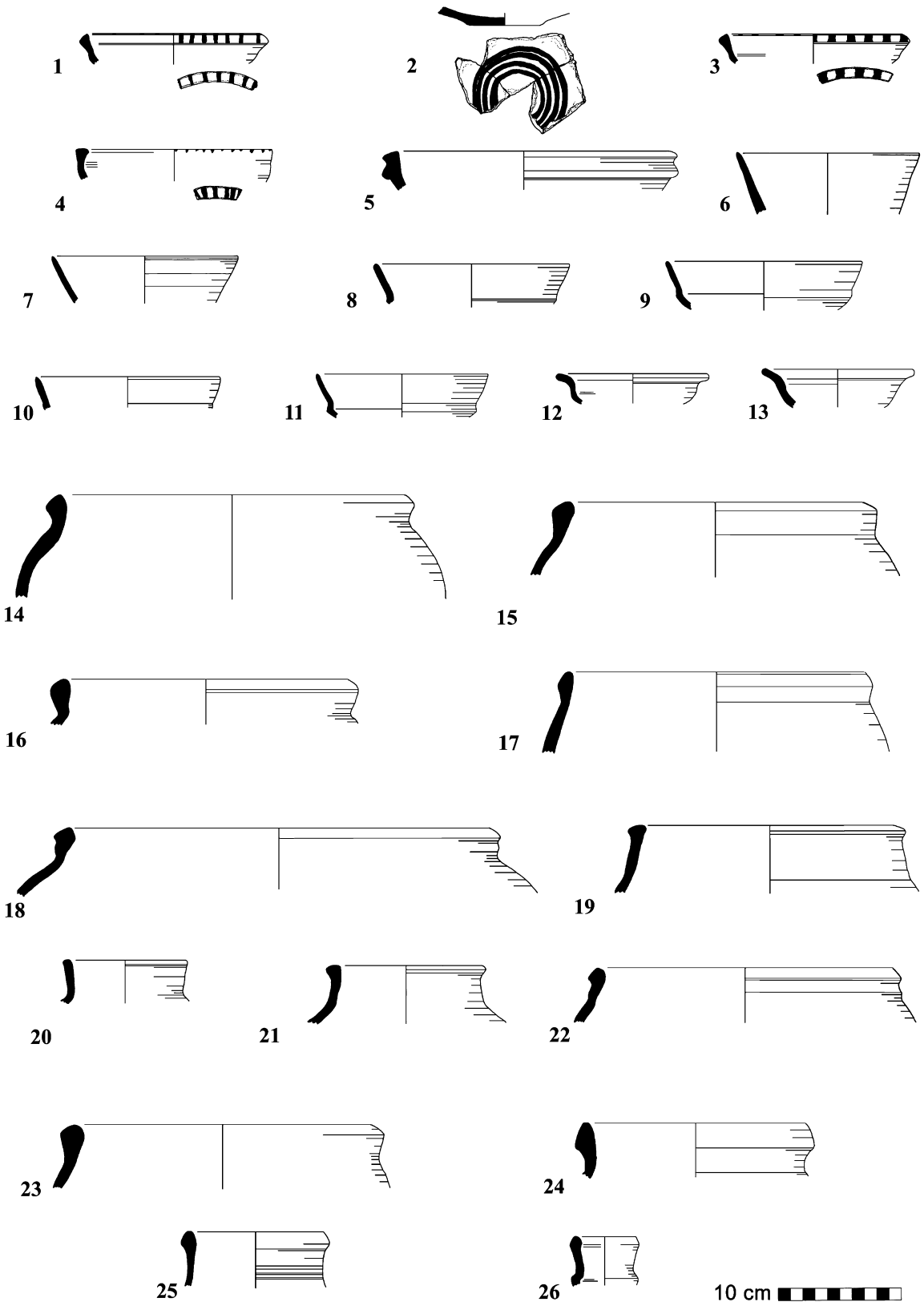


Fig. 13. Area A: Stratum A2a. See table 3 for descriptions.

Table 3. Area A: Stratum A2a Sherd Descriptions (Fig. 13)

No.	*Reg.*	*Locus*	*Str.*	*Type*	*Exterior*	*Interior*	*Core*	*Ware*	*Surface Treatment*
1	490	62	A2a	BL3	white	white	light red	Medium-Coarse ware	Applied band on rim Slip Exterior
2	1077	62	A2a	BL3				Fine ware	Black Concentric painted bands Slip Interior/Exterior
3	606	62	A2a	BL3	pink	pink	light red	Coarse ware	Black
4	612	62	A2a	BL3	white	white	light red	Medium-Fine ware	Black Painted Design on rim
5	337	21	A2a	BL3	white	white	reddish-brown	Medium-Fine ware	
6	114	21	A2a	BL17	white	white	pink	Medium-Fine ware	Slip
7	154	21	A2a	BL17	pale red	white	white	Coarse ware	Slip
8	329	21	A2a	BL22	pale red	pale red	light red	Medium-Fine ware	
9	460	21	A2a	BL22	pale red	pale red	light red	Medium-Fine ware	
10	450	61	A2a	BL22	pale red	pale red	reddish gray	Medium-Fine ware	Burnish Interior
11	325	21	A2a	BL22	white	white	pale red	Fine ware	Slip Interior/Exterior
12	258	25	A2a	BL30	pinkish-white	pinkish-white	weak red	Medium-Coarse ware	
13	615	62	A2a	BL30	pink	pink	pink	Medium-Fine ware	Slip Interior/Exterior
14	590	62	A2a	KR3	white	weak red	pinkish-gray	Medium-Fine ware	Slip Exterior
15	598	62	A2a	KR3	pinkish-white	pink	light reddish-brown	Medium-Coarse ware	
16	488	62	A2a	KR3	light reddish-brown	light reddish-brown	light reddish-brown	Medium-Coarse ware	
17	464	62	A2a	KR3	light gray	pale red	gray		Slip Exterior
18	596	62	A2a	KR3b	white	white	pinkish-gray	Medium-Fine ware	
19	6	13	A2a	KR4	very pale brown	light reddish-brown	very pale brown		Very pale Brown
20	257	25	A2a	JR7	white	white	white	Medium-Fine ware	
21	351	34	A2a	JR7	white	white	white	Fine ware	
22	445	21	A2a	JR15	pinkish-white	light reddish-brown	light reddish-brown	Medium-Fine ware	Slip Interior/Exterior
23	599	62	A2a	PT10	pinkish-white	pale red	reddish-brown	Medium-Coarse ware	Slip Exterior
24	446	28	A2a	PT4	white	light reddish-brown	light reddish-brown	Fine ware	Painted Design on rim,Slip Interior/Exterior
25	467	62	A2a	JG4	white	white	light red	Medium-Fine ware	Slip Interior/Exterior
26	482	62	A2a	JT17	white	pinkish-gray	pinkish-gray	Medium-Fine ware	Slip Interior/Exterior

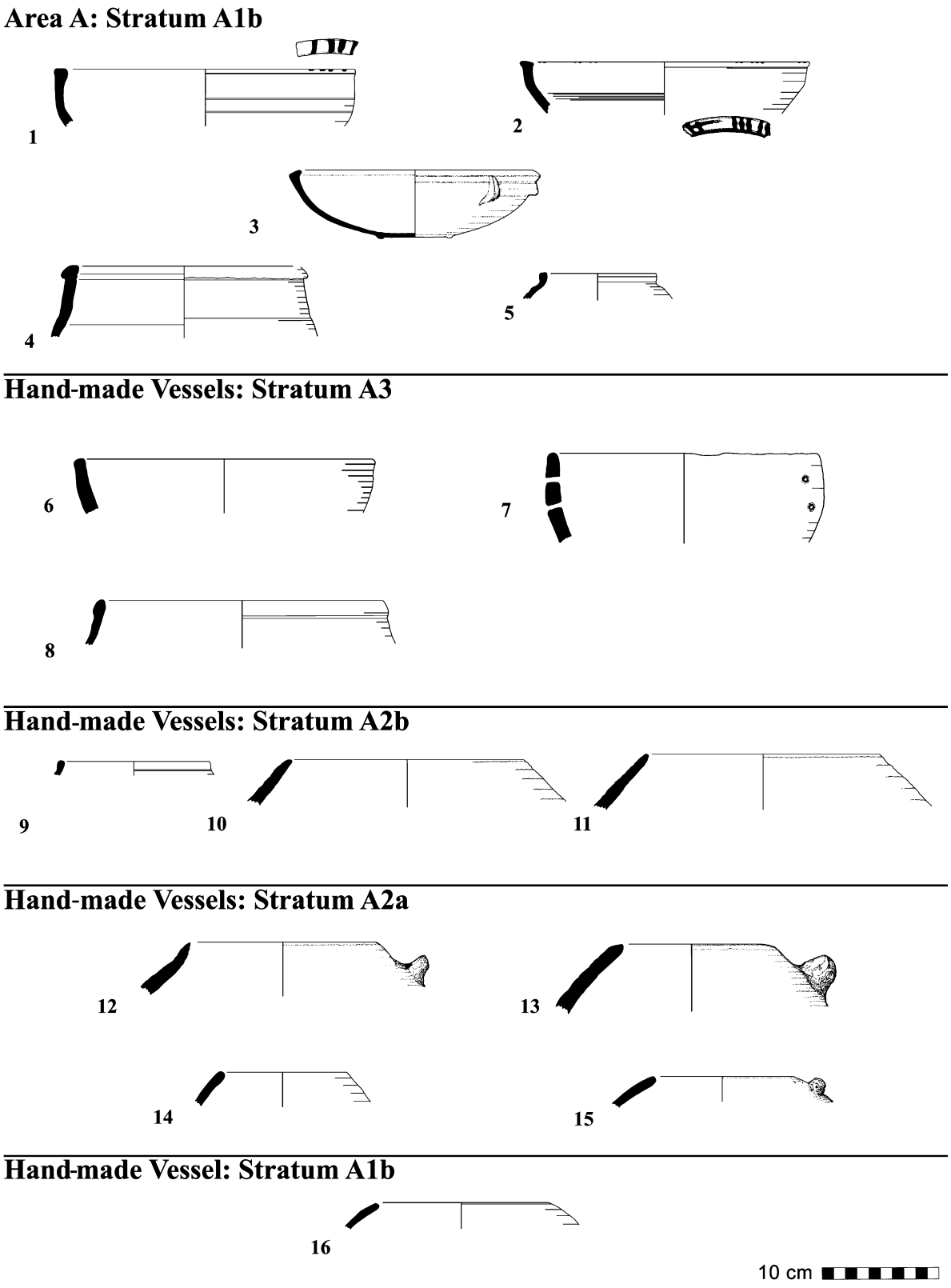


Fig. 14. Area A: Stratum A1b and hand-made vessels from all strata. See table 4 for descriptions.

Table 4. Area A: Sherd Descriptions from Stratum A1b & Hand-made Vessels from All Srata (Fig. 14)

No.	*Reg.*	*Locus*	*Str.*	*Type*	*Exterior*	*Interior*	*Core*	*Ware*	*Surface Treatment*
1	447	55	A1b	BL3	white	white	light reddish-brown	Coarse ware	Black Applied band on rim
2	174	44	A1b	BL3	pale red	reddish gray	pale red		White, Black Concentric painted bands,
3	1060	79	A1b	BL3					Red Slip and Burnish Interior/Exterior
4	1	18	A1b	KR4	white	light reddish-brown	pale red	Medium-Fine ware	Slip Exterior
5	448	55	A1b	JR16	white	pink	light reddish-brown	Medium-Coarse ware	
6	181	41	A3	BL-HM	pink	pinkish-gray	light red		
7	185	41	A3	BL-HM	pinkish-gray	pinkish-white	light gray	Coarse ware	Pinkish-White, Black Applied band horizontal
8	886	97	A3	JR-HM	pink	pink	light reddish-brown	Medium-Coarse ware	
9	551	74	A2b	JR-HM	dark gray	dark gray	gray	Medium-Fine ware	
10	334	37	A2b	JR-HM	light gray	pinkish-gray	light gray	Medium-Coarse ware	Slip Exterior
11	565	76	A2b	JR-HM	light reddish-brown	pinkish-gray	pale red	Coarse ware	
12	1327	21	A2a	JR-HM					Grooved on Shoulder
13	556	28	A2a	JR-HM	pinkish-gray	pale red	light gray	Fine ware	Painted Design on rim and interior,Slip
14	162	31	A2a	JR-HM	pale red	pale red	gray	Fine ware	Painted Design
15	605	62	A2a	JR-HM	dark gray	light gray	light red	Medium-Fine ware	
16	449	58	A1b	JR-HM	pink	pale red	weak red	Medium-Coarse ware	Slip Exterior

26.29:5) where, as at Busayra, ring bases appear. At *Tel Batash* Strata IV–II, a similar form is red-slipped and hand-burnished and is most dominant in Stratum IV (see pls. 5:16; 7:8; 8:12; 9:1; 13:4, 7; 24:3; 29:15; 41:16–17, 23; 82:5–7; 84:2; 90:3–4; 91:5). Finally, the recent publication at *Kadesh Barnea* Stratum 3a–b also has this vessel (pl. 11.30:3). According to the many stratified parallels, this vessel type is relatively long-lasting through the entire Iron Age II period in both Cisjordan and Transjordan.

Medium-Size Rounded Bowls with Plain Rims: BL14, BL15, BL16

BL14: *Round-wall bowl with plain rim (fig. 15:8)*

Description: These are simple, rounded-wall bowls with rounded or tapered rims. The fabric of these vessels is coarse, not well sorted or rounded. In a few examples, a white slip is applied on the interior and exterior.

Parallels: N/A; generic type lacking published parallels from Edomite sites.

BL15: *Round-sided bowl with groove below rim exterior (fig. 15:9)*

Description: This is a round-sided bowl with a simple, rounded or tapered rim generally sloping out and a single exterior groove below the rim exterior. This bowl is a fine to medium fine ware commonly made using a white fabric or having a white slip. Only diagnostic rim sherds have been found, preventing a description of the overall vessel's form and base. BL15 belongs in the group of rounded bowls at KEN (e.g., BL14 and BL16); however, the large sample of these bowls with a grooved exterior suggests that it belongs to its own type.

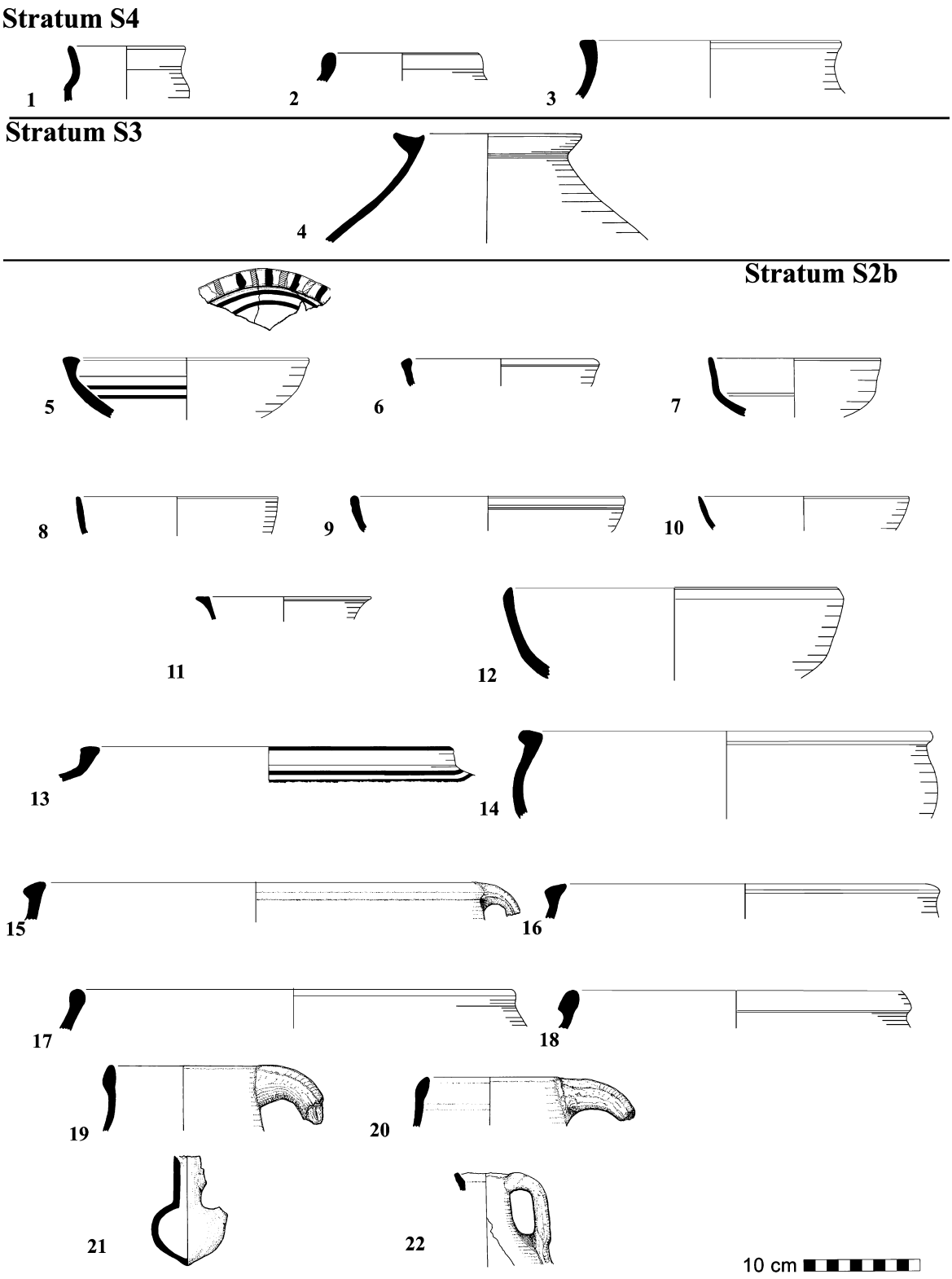


Fig. 15. Area S: Strata S4, S3, and S2b. See table 5 for descriptions.

Table 5. Area S: Sherd Descriptions from Strata S4, S3, and S2b (Fig. 15)

No.	*Reg.*	*Locus*	*Str.*	*Type*	*Exterior*	*Interior*	*Core*	*Ware*	*Surface Treatment*
1	965	352	S4	BL21	white	pink	pink	Medium-Fine ware	Slip Exterior
2	969	350	S4	JR1	white	white	white	Medium-Fine ware	
3	961	351	S4	JR17	white	white	white	Medium-Fine ware	
4	682	326	S3	JR6	white	pink	pinkish-gray	Medium-Coarse ware	
5	914	336	S2b	BL3	light red	light red	light reddish-brown	Fine ware	Black, Red Concentric painted bands and rim, Burnish Exterior
6	945	338	S2b	BL3	white	white	white	Medium-Fine ware	Slip Interior/Exterior
7	910	336	S2b	BL13b	pinkish-white	pink	light reddish-brown	Medium-Fine ware	Slip Exterior
8	956	339	S2b	BL14	white	white	light gray	Medium-Fine ware	Slip Interior/Exterior
9	381	311	S2b	BL15	reddish-yellow	white	white	Medium-Fine ware	
10	987	336	S2b	BL17	white	white	gray	Fine ware	Slip Interior/Exterior
11	568	74	S2b	BL33	weak red	weak red	light brown	Fine ware	Slip and Burnish Interior/Exterior
12	792	336	S2b	BL37	white	white	light red	Medium-Fine ware	Slip Interior/Exterior
13	782	336	S2b	KR1	white	pinkish-gray	pinkish-gray	Medium-Fine ware	Slip Exterior, Painted Design
14	990	336	S2b	KR8	white	white	white	Medium-Fine ware	Slip Interior/Exterior
15	908	336	S2b	KR11a	white	white	light reddish-brown	Medium-Fine ware	Slip Interior/Exterior
16	932	103	S2b	KR11b	white	pink	light reddish-brown	Medium-Fine ware	Slip Exterior
17	942	337	S2b	JR1	light red	light reddish-brown	pink	Coarse ware	
18	786	336	S2b	PT5	white	pink	light gray	Medium-Coarse ware	Slip Exterior
19	992	336	S2b	JG6	light reddish-brown	light reddish-brown	light red	Medium-Coarse ware	
20	843	336	S2b	JG9	white	pink	light gray	Medium-Fine ware	Slip Exterior
21	880	336	S2b	JT19	light reddish-brown	pinkish-gray	pinkish-gray	Medium-Fine ware	
22	826	332	S2b	JT23	pink	light reddish-brown	light reddish-brown	Medium-Fine ware	

Parallels: No Iron Age sites in Edom, with the exception of KEN, have any clear published examples of single grooved bowls. See Fritz (1996: Abb. 3:4). Parallels of rounded bowls with a single groove below the rim are uncommon in Cisjordan, but see *Gezer III* Stratum VIA (BL45, pl. 20:1–2), *Lachish* Stratum IVB (fig. 25.28:5), and perhaps the closest parallels at *Kadesh Barnea* Stratum 3c (pl. 11.27:4, 5). The few parallels mentioned here occur in strata variously dated to the 10th–8th century B.C.E.

BL16: *Fine-ware round-walled bowls with round rim (fig. 11:1)*

Description: These round-walled bowls are distinct from BL14 in having finer ware and horizontal burnishing. Only two examples were found in the 2002 season.

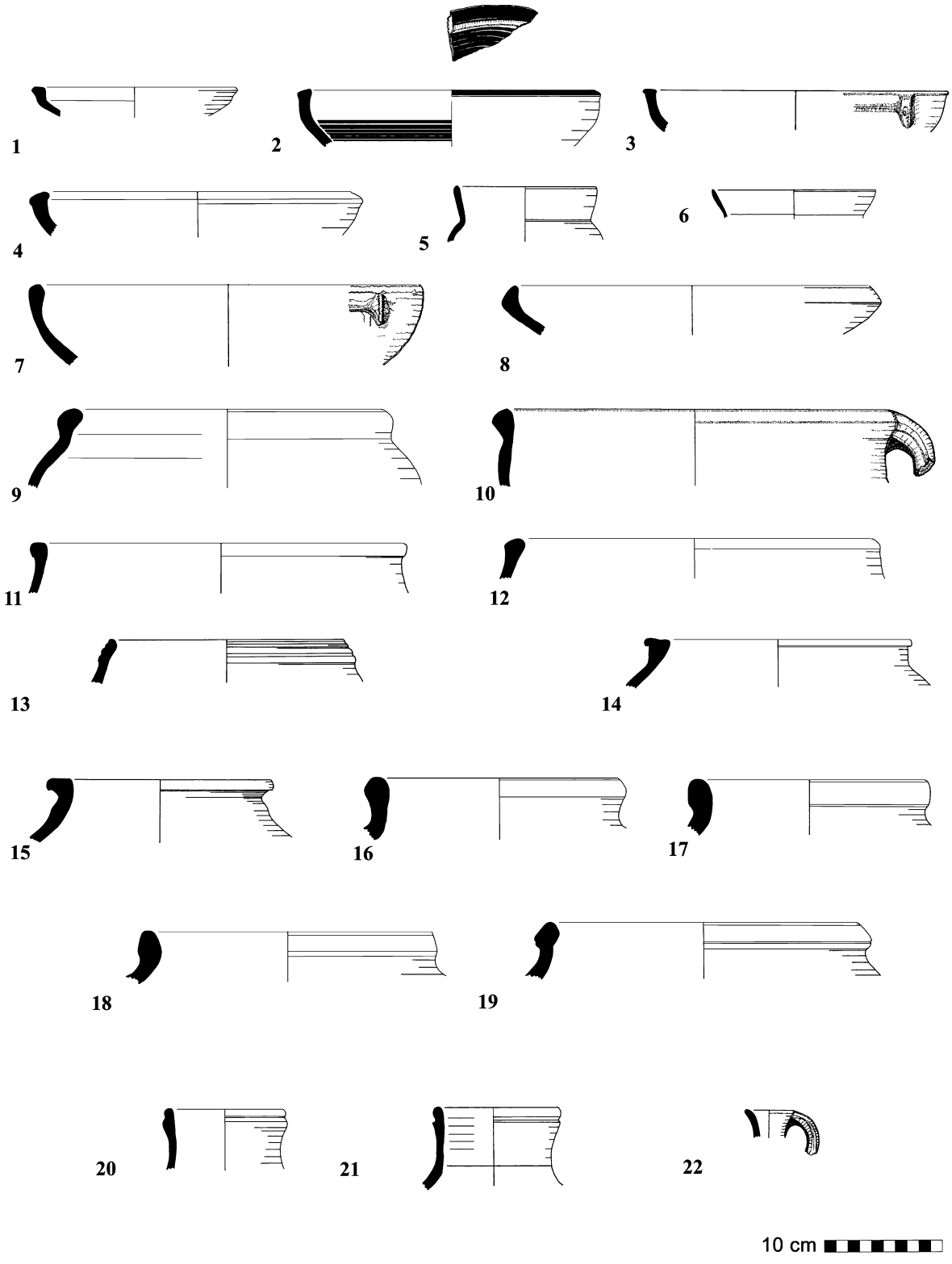


Fig. 16. Area S: Stratum S2a. See table 6 for descriptions.

Table 6. Area S: Stratum S2a Sherd Descriptions (Fig. 16)

No.	*Reg.*	*Locus*	*Str.*	*Type*	*Exterior*	*Interior*	*Core*	*Ware*	*Surface Treatment*
1	829	334	S2a	BL3	white	pale red	light red	Medium-Fine ware	Black Slip Exterior, Painted Design on rim
2	804	331	S2a	BL3	pinkish-white	pink	light reddish-brown	Medium-Fine ware	Black, Red Concentric painted bands and rim, Slip Exterior
3	611	322	S2a	BL3	light red	light red	pinkish-gray	Medium-Fine ware	
4	290	307	S2a	BL3?	white	white	very pale brown	Medium-Fine ware	Slip Interior/Exterior
5	899	340	S2a	BL21	pinkish-gray	pinkish-gray	pinkish-gray	Medium-Fine ware	
6	808	331	S2a	BL22	pale red	pale red	pinkish-gray	Fine ware	Burnish Interior/Exterior
7	799	331	S2a	BL32	pink	pink	pinkish-gray	Medium-Coarse ware	
8	718	322	S2a	BL35	white	white	pinkish-gray	Medium-Fine ware	Slip Interior/Exterior
9	653	322	S2a	KR13	pinkish-gray	pale red	light gray	Medium-Coarse ware	
10	423	301	S2a	KR3	pinkish-gray	weak red	pinkish-gray	Coarse ware	
11	734	328	S2a	KR6	white	white	light reddish-brown	Medium-Fine ware	Slip Interior/Exterior
12	859	327	S2a	KR19	white	white	pinkish-gray	Medium-Coarse ware	Slip Interior/Exterior
13	788	331	S2a	JR4	white	white	light reddish-brown	Medium-Coarse ware	Slip Interior/Exterior
14	834	331	S2a	JR6	white	white	white	Medium-Coarse ware	Grooved
15	213	301	S2a	JR6	light red	pink	light red	Medium-Fine ware	Slip Exterior
16	1228	322	S2a	PT5					
17	359	301	S2a	PT5	white	light reddish-brown	dark gray	Coarse ware	Slip Exterior
18	821	333	S2a	PT8	white	pinkish-gray	pinkish-gray	Medium-Coarse ware	Slip Exterior
19	801	331	S2a	PT9	white	pink	very pale brown	Medium-Coarse ware	Slip Exterior
20	356	301	S2a	JG3b	very pale brown	very pale brown	very pale brown	Medium-Fine ware	
21	701	327	S2a	JG3b	white	white	pale yellow	Medium-Fine ware	
22	410	307	S2a	JT26	white	pale red	light red	Fine ware	Slip Exterior

Parallels: N/A; generic type lacking published parallels from Edomite sites.

BL17: *Flaring bowl with tapered rim, medium-fine ware (figs. 13:6–7; 15:10)*

Description: This is a straight-sided flaring bowl with a sharp tapered rim. These bowls are generally medium-fine ware and have a white slip on the interior and exterior. Some examples have a carination leading to the base.

Parallels: Due to the lack of complete profiles containing the lower body and base, associating these vessels with specific parallels is problematic. There are no clear parallels in Edom for these vessels, but similarities are seen in the straight-sided cups found at *Busayra* (fig. 9.30:1–15). In Cisjordan, parallels with a very low carination just before a ring or disk base are found at *Ḥorvat Qitmit* (fig. 4.6:8–10), *Beer-Sheba I* Stratum II (pl. 59:42, 45), *Tel ʿIra* Strata VIII–VI (fig. 6.60:8), *Lachish* Strata III–II

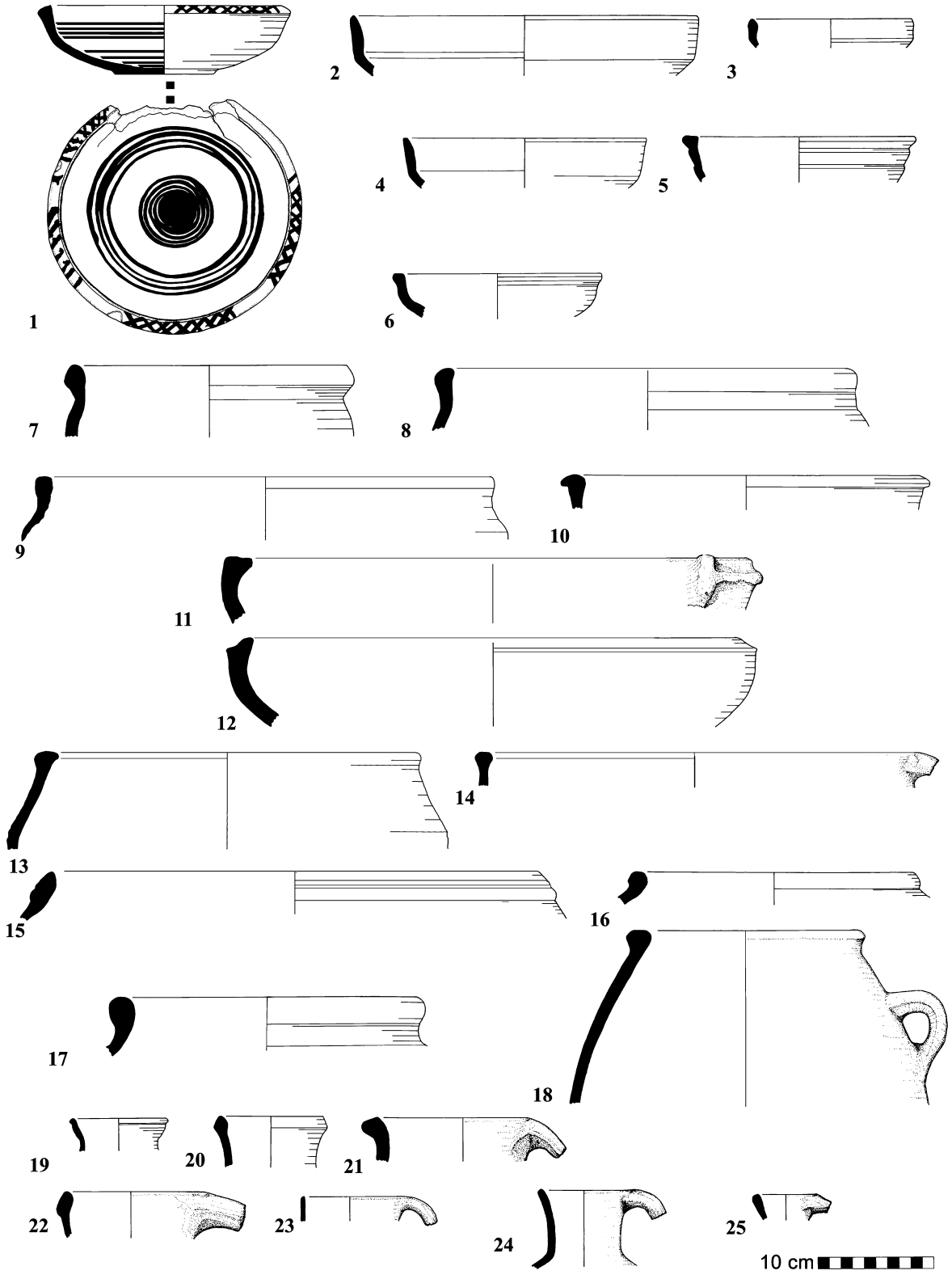


Fig. 17. Area S: Stratum S1. See table 7 for descriptions.

Table 7. Area S: Stratum S1 Sherd Descriptions (Fig. 17)

No.	*Reg.*	*Locus*	*Str.*	*Type*	*Exterior*	*Interior*	*Core*	*Ware*	*Surface Treatment*
1	879	275	S1	BL3	white	white	pale red	Medium-Fine ware	Black Concentric painted bands, Slip Interior/Exterior
2	220	263	S1	BL13b	pinkish-gray	light reddish-brown	light reddish-brown	Medium-Fine ware	Slip Exterior, Burnish Interior
3	227	263	S1	BL13b	pinkish-white	light reddish-brown	weak red	Medium-Fine ware	
4	740	312	S1	BL13b	white	white	pinkish-gray	Medium-Fine ware	Slip Interior/Exterior, Burnish Interior
5	101	274	S1	BL34	white	white	pink	Fine ware	Slip Interior/Exterior
6	196	263	S1	BL36	light red	light red	light red	Fine ware	White Slip Interior/Exterior
7	52	263	S1	KR3	light red	pinkish-gray	light red	Coarse ware	White Slip Exterior
8	123	268	S1	KR19	white	white	gray	Coarse ware	White Slip
9	742	312	S1	KR19	light red	white	light red	Medium-Coarse ware	Slip Interior/Exterior
10	226	263	S1	KR8	white	white	white	Medium-Fine ware	
11	190	263	S1	KR10	reddish-yellow	pink	light gray	Coarse ware	
12	208	263	S1	KR10	gray	gray	gray	Coarse ware	
13	746	312	S1	KR11a	pinkish-white	pale red	light reddish-brown	Medium-Fine ware	Slip Interior/Exterior
14	7	7	S1	KR12a	pinkish-white	pinkish-white	light reddish-brown		
15	198	263	S1	JR4	gray	gray	gray	Coarse ware	
16	234	263	S1	JR14	pale red	pinkish-gray	light gray	Medium-Coarse ware	White Slip Exterior
17	137	270	S1	PT5	light red	pale red	gray	Coarse ware	White Slip
18	789	317	S1	PT10					
19	231	263	S1	JG16	white	white	pink	Medium-Fine ware	White Slip Interior/Exterior
20	74	263	S1	JG4	light gray	light gray	pinkish-gray	Medium-Coarse ware	
21	85	268	S1	JG9	white		light red	Coarse ware	Slip
22	186	263	S1	JG9	pink		gray	Coarse ware	
23	191	263	S1	JG14	very pale brown	very pale brown	pink	Fine ware	Slip Interior/Exterior
24	569	312	S1	JG15	pink	pink	light red	Medium-Fine ware	
25	58	266	S1	JT26	white	white	light red	Medium-Fine ware	Slip Interior/Exterior

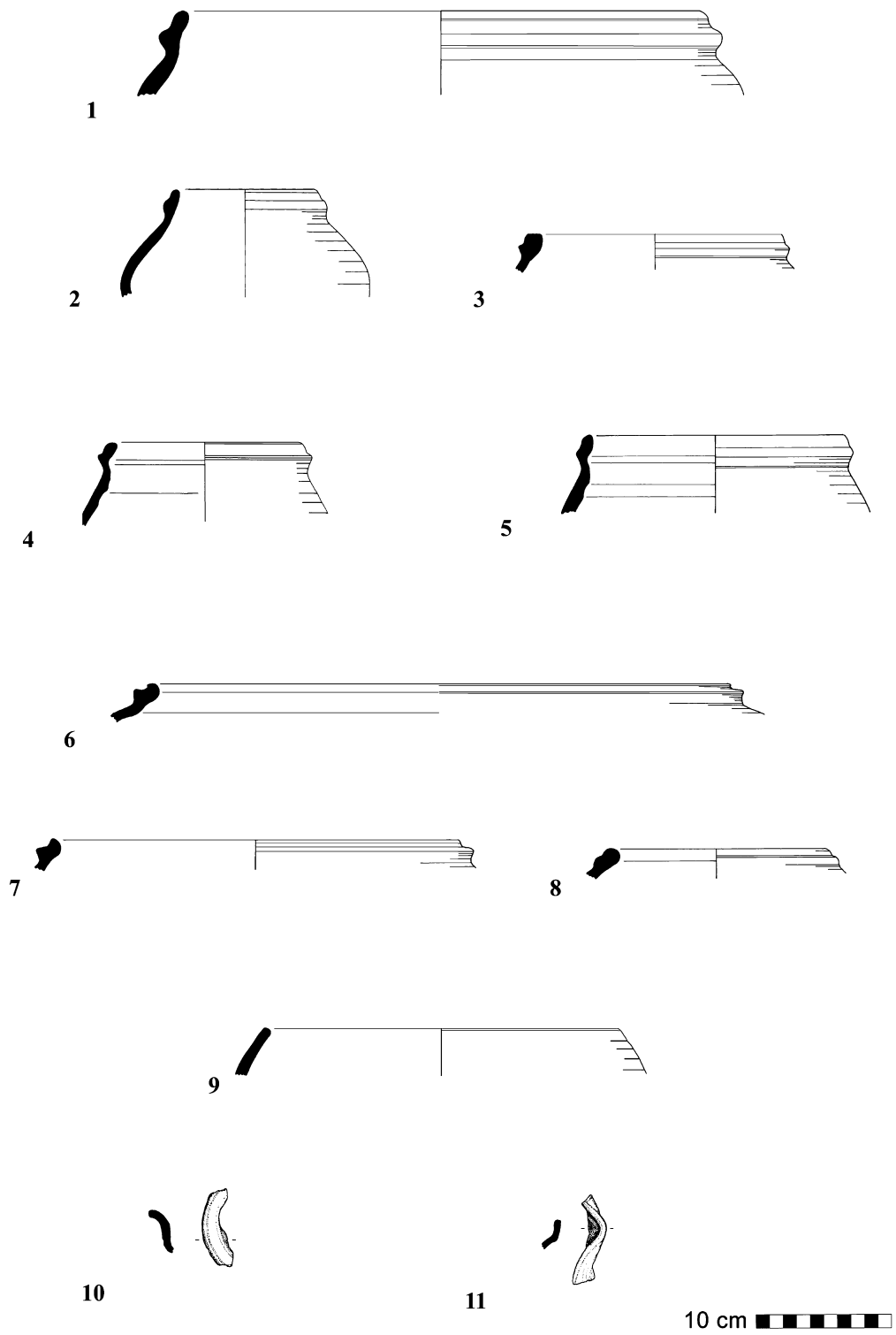


Fig. 18. Area S: Cooking pots, hand-made vessels, and lamps. See table 8 for descriptions.

Table 8. Area S: Sherd Descriptions from Cooking Pots, Hand-made Vessels, and Lamps (Fig. 18)

No.	*Reg.*	*Locus*	*Str.*	*Type*	*Exterior*	*Interior*	*Core*	*Ware*	*Surface Treatment*
1	784	336	S2b	CP	white	light reddish-brown	pinkish-gray	Medium-Coarse ware	Slip Exterior
2	988	336	S2b	CP	pink	pink	light reddish-brown	Medium-Coarse ware	Hand made
3	358	301	S2a	CP	white	light reddish-brown	dark gray	Coarse ware	Slip Exterior
4	676	322	S2a	CP	white	pinkish-gray	reddish-brown	Medium-Fine ware	Slip Interior/Exterior
5	48	268	S1	CP	pale red	pale red	pinkish-gray	Medium-Coarse ware	Slip Interior/Exterior
6	197	263	S1	CP	light gray	light gray	gray	Coarse ware	
7	70	275	S1	CP	pinkish-gray	pinkish-gray	pinkish-gray	Coarse ware	
8	232	263	S1	CP	white	very pale brown	dark reddish gray	Coarse ware	
9	964	347	S4	JR-HM	white	white	white	Medium-Fine ware	Slip Interior/Exterior
10	632	77	S2b	LP	pinkish-gray	pink	light reddish-brown	Medium-Fine ware	
11	560	76	S2b	LP	white	white	light red	Fine ware	Slip Interior/Exterior

(fig. 26.3:2–5; 26.20:3, 4; 26.33:7), *Tel Arad* Stratum X (figs. 29:15; 32:4; 37:2), *Samaria II* Period VI (fig. 10:11), and *Tell Beit Mirsim III* Stratum A (pl. 24:20, 26). However, other examples, possibly dating to the end of the ninth century B.C.E. and later, are found with the wall continuing to a flat base, such as at *Lachish* Strata IV–III (fig. 25.50:4, 5, 9, 19), *Tel Arad* Strata X–VIII (figs. 30:5–6; 37:3–5), *Samaria I* Period III (fig. 4:8), *Tell Beit Mirsim* Stratum A (pl. 25:1–13), and Beer-Sheba Stratum II (Singer-Avitz 1999: fig. 2:2). The lack of complete profiles at KEN makes assigning this vessel to either the earlier type or later type in the Iron Age II difficult.

BL21: *Wide-necked bowl with globular body and plain rim (figs. 15:1; 16:5)*

Description: This is a deep globular bowl with a carinated, short flaring neck and a rounded or tapered rim. Surface treatment includes white slip on the interior and exterior; painting is rare but occurs as black concentric lines around the neck and rim of vessel.

Parallels: This globular bowl is common at "Edomite" sites such as *Busayra* (figs. 9.28:9–13; 9.29:1–9), *Tawilan* (fig. 6.10:1–8), *Tell el-Kheleifeh* (pl. 28:1–6), *Ghrareh* (pl. 10:10–16), and *Umm al-Biyara* (pl. 56:10). It is also found at other Transjordanian sites such as ʿUmayri Phase IP3 (*MPP I*: fig. 19.8:14–21) and Hesban (Lugenbeal and Sauer 1972: no. 273). These vessels have been identified in small numbers at Judaean sites such as Beer-Sheba Strata III–II (Singer-Avitz 1999: fig. 9:5–8), *Tel Arad* Stratum VIII (fig. 35:3), *Ḥorvat Qitmit* (figs. 4.9:17; 4.11:7; 4.12:5), *Tel ʿIra* Stratum VI (figs. 6.67:10; 6.80:5; 6.87:8; 6.89:14; 6.106:6), and *Tel Masos* Iron Age II strata (pl. 164:8). This vessel is considered Edomite in origin, and its range is limited to Transjordan Edom and the Negev at the late Iron Age sites (Singer-Avitz 1999; 2007). The carination at KEN is much softer, perhaps reflecting an earlier form of the later, more pronounced carination type found on the highlands of Edom. Painting is also not as common and, when present, is monochrome black rather than the bichrome elaborate painting found at Busayra. Carinated cups/mugs, perhaps a derivative form of this bowl (which is very common at all these sites), are absent from the KEN assemblage (e.g., *Busayra* fig. 9.27:1–18).

BL22: *Shallow, sharply carinated bowl with straight, flaring out, tapered, or rounded rim (figs. 12:4–6; 13:8–11; 16:6)*

Description: Sharply carinated medium-fine ware bowl with low carination and straight-sided, flaring out tapered rim. The carination creates a step between the flaring vessel walls and sharply closing shallow

base. This carination style differs from "Assyrian-imitation-style bowls," which are finer, and below the carination the vessel body bends outward significantly farther, with either a rounded or sometimes bent treatment. Only one example from Area S was found, and it is the only example that was red slipped with a continuous burnish (fig. 16:6); it is also thinner and finer than those found at Area A. Two examples from Area A were found with horizontal burnishing without red slip (figs. 12:5; 13:10); however, the majority (12 out of 15) have either a white slip (e.g. figs. 12:4; 13:11) or no decoration at all (e.g., figs. 12:6; 13:8–9).

Parallels: Carinated bowls sharing similarities to BL22 are found in Cisjordan at *Beer-Sheba II* Stratum VI (fig. 26:2–3), *Hazor III–IV* Strata X–IX (pls. 208:30; 210:5), *Ain Shems II* Stratum IIb (pl. 31:21), *Gezer III* Stratum VIA (pl. 22:8), *Lachish* Strata V–IV (figs. 25.26:1; 25.28:2), and *Tel Batash* Strata IV–III (pls. 10:9; 22:1; 28:2; 87:10).

The late Assyrian-style carinated bowls are very different from BL22; specific examples are referenced here to emphasize this difference—see Nimrud (Lines 1954: pl. 37:7–8), Fort Shalmaneser (Oates 1959: pl. 37:59), Tell Sheikh Hassan (Schneider 1999: Abb. 1: Ab: 1–3; Abb. 2: Ac: 1–4), and Nineveh (Lumsden 1999: fig. 8:58). This carination style is found in Transjordan at *Busayra* (fig. 9.26:12–19), *Tawilan* (fig. 6.8:18–22), *Tell el-Kheleifeh* (pls. 26:7–18; 27:1–6), *Ghrareh* (pl. 9:1–5), and ʿUmayri Phase 2 (*MPP I*: fig. 19.16:7; *MPP V*: fig. 5.21:1). Parallels are found throughout Cisjordan at sites such as *Gezer III* Strata VIA–VB (pls. 22:7; 27:19–21), *Samaria II* Period VI–VII (fig. 10:8–10), *Hazor II* Strata VI–Va (pls. 67:5; 80:25–26), Beer-Sheba Strata III–II (Singer-Avitz 1999: fig. 9:10–12), *Tel Arad* Stratum VII (fig. 10:B15), *Ḥorvat Qitmit* (figs. 4.1:38, 40–41; 4.12:3; 4.6:1; 4.9:13), *Tel ʿIra* Stratum VI (fig. 6.63:5), *Tel Batash* Strata III–II (pls. 14:6; 26:20–22; 57:16; 86:14; 96:4), and *Lachish* Strata IV–III (fig. 25.49:3). For more comprehensive, parallel studies of this vessel, see Singer-Avitz (2007) and Schneider (1999: 351–54).

Recently, Naʾaman and Thareani-Sussely (2006) have argued that this vessel type originated locally in Transjordan, based on the evidence that every petrographic study conducted on these vessels has shown them to be locally produced and common to Transjordan. Singer-Avitz (2007: 185, 191) acknowledges that this type is locally produced, but its presence throughout Cisjordan and its clear development from Assyrian styles during the eighth and seventh centuries B.C.E. suggest that it may be a product of a "cross-cultural encounter" with Assyria, not simple coincidence. BL22 at KEN and its parallels from other sites are not found after the end of the eighth century B.C.E. in the southern Levant, suggesting that its popularity as a vessel form was superseded by new forms (cf. Mazar and Panitz-Cohen 2001:43). It is perhaps the indirect influence of the Assyrian ceramic styles that led to the demise of this local southern Levant carinated ceramic style, as potters favored the more "Assyrian-style" carination in their construction of this shallow serving bowl type during the eighth to sixth century B.C.E.

Shallow, Rounded Bowls: BL30, BL31, BL36

BL30: *Small, rounded bowl or chalice with everted rim (fig. 13:12–13).*

Description: This is a shallow, everted-rim bowl with rounded carination. The angle of the everted rim ranges from horizontal to a 45-degree diagonal. None of the examples are sufficiently complete to determine the base. The low frequency of this form may represent the beginning of this lowland Iron Age vessel type that evolved to the Type B bowls identified by Oakeshott (Oakeshott 1978; Bienkowski 2002) that are dominant in the later periods in the highlands. Another possibility is that these may be incomplete chalices without the preservation of their stands, which are common in the Iron Age IIA (e.g., *Tel Batash*: fig. 2), but more rare later.

Parallels: The flanged-rim bowl with rounded walls is well represented at sites in Edom, such as *Busayra* (fig. 9.10:1–15—where the carinated versions are more abundant), *Ghrareh* (pl. 2:3, 8–14), *Tell el-Kheleifeh* (pl. 35:8), *Tawilan* (fig. 6.3:1, 2, 5, 10), KEN from Fritz (1996: Abb. 3:3), and Feifa (Lapp 1994: fig. 13–2:1). Parallels in Cisjordan and Transjordan are dated late: *Tell Beit Mirsim III* Stratum B (pl. 21:8), *Lachish* Stratum III (figs. 26.3:14; 26.36:1; 26.37:10), *Samaria II* Period VII (fig. 11:9, 10), *Tel Arad* Stratum VII (fig. 43:7–8), *Kadesh Barnea* Stratum 3a–b (pl. 11.30:7), and *Dibon* (fig. 2:40, 42).

BL31: *Shallow, rounded bowl with flattened rim (figs. 11:2; 12:7)*

Description: A shallow bowl with flattened rim. May be related to BL3. Only one example was found in the 2002 season, in Stratum A3.

Parallels: There are no clear parallels outside of KEN unless compared to examples from BL3 above.

BL36: *Rounded, shallow bowls with slightly everted rims (figs. 11:3; 17:6)*

Description: Rounded, shallow bowls with a slightly everted rim, possibly chalices (compare with BL30).

Parallels: This carinated bowl is found at *Tel Arad* Strata X–VIII (figs. 10; 25:1, 2; 32:5–7), *Samaria II* Period IV (fig. 7:1), *Lachish* (pl. 79:48), and *Gezer III* Stratum VIB (pls. 13:10; 14:18; 15:7). Parallels date primarily to the middle to end of the ninth century B.C.E.

BL32: *Large hemispherical bowl with thickened interior rim (fig. 16:7)*

Description: This is a large hemispherical bowl with a thickened rim on the interior. Only one example was found at KEN. A bar handle is attached.

Parallels: N/A; generic large bowl. See KR10, this catalog.

BL33: *Fine-ware flaring bowl with everted, tapered rim (fig. 15:11)*

Description: This is a flaring, straight-sided bowl with an everted rim. The poor preservation of this bowl makes typology difficult; it could possibly be the upper portion of a jug. Notice the everted rim is constructed differently from BL30. This example has a red slip and burnish on the interior and exterior.

Parallels: Assuming this vessel does not belong to BL30, then it is fairly rare and the only clear parallel is from *Busayra* (fig. 9.36:3).

BL34: *Straight-sided bowl with three stepped ledges (fig. 17:5)*

Description: These are bowls with multiple stepped ridges running down the exterior of the vessel with a folded, triangular-section rim. Only two were found in the 2002 KEN assemblage—both in Area S. Both have a similar fine-ware pink core and a white slip on the interior and exterior.

Parallels: There are no clear parallels to this vessel from Edom, but the decoration technique of stepped ledges on a folded-rim vessel is found at *Busayra* (figs. 9.15:5, 10–11; 9.18:9). In Cisjordan, it is more commonly found at *Tel Batash* Strata IV–III (pls. 6:6; 82:11), *Lachish* Strata V-IV (BL-5; pls. 5.15:8; 25.16:6; 25.22:11; 25.24:5; 25.31:12; 25.40:3, 4; 25.41:5; 25.43:14), and *Tel Arad* Stratum XII (fig. 2:3). All the parallels are found in strata dated to the Iron Age IIA.

BL35: *Thickened interior rim bowl (fig. 16:8)*

Description: This large bowl has sloping-out sides and an inverted rim.

Parallels: This bowl type is found at *Tel Arad* Strata X–VIII (figs. 25:3–4; 35:1), ʿUmayri *MPP V* Area H Phase 4 (fig. 5.13:7), and *MPP I* Phase IP3 (fig. 19.8:23–25, see p. 305). This vessel appears in the Iron Age IIA (*Tel Arad*) and much later at ʿUmayri.

BL37: *Deep bowls with exterior beveled rim (fig. 15:12)*

Description: This is a deep bowl with the exterior lip of the rim beveled.

Parallels: N/A; found only at KEN.

Kraters

KR3: *Upright, triangular-section rim (figs. 12:8–9; 13:14–18; 16:10; 17:7)*

Description: These kraters, with diameters over 25 cm, have upright, thickened, triangular-section rims with no neck between the rim and the body of the vessel. The fabric is often white or there is a white slip applied on the exterior. Several examples have handles attached from the rim to shoulder (figs. 12:9; 16:10). These kraters range in size from small, thin-walled vessels (e.g., fig. 12:8–9) to thicker, larger-diameter types (e.g., figs. 13:15–16; 16:10).

Parallels: This vessel is unique to KEN. The German Mining Museum team also found samples in their probe at KEN (Fritz 1996: Abb. 3:7–8).

KR4: *Upright, slightly thickened and flattened rim and exterior ledge with neck to carination (figs. 13:19; 14:4)*

Description: This type has folded rims creating a thickened exterior with ledge. Generally there is a short neck attached to the shoulder. These resemble conical jars due to the average rim size of 20 cm.

Parallels: These vessel forms are similar to those found at *Beer-Sheba II* Stratum VI (fig. 27:5, 6), *Lachish* Strata V–IV (B-25: fig. 25.17:26–27), *Hazor* Strata VI–VII (*Hazor II*: pl. 68:7; *Hazor III–IV*: pl. 247:25), *Samaria II* Period IV (fig. 6:15), and *Gezer III* Stratum VA (pl. 28:8). These vessels generally date between the ninth and eighth century B.C.E.

KR5: *Everted rim (fig. 12:10)*

Description: This is similar to KR4 but with a more pronounced ledge. The example presented here has a white slip on the interior and exterior.

Parallels: N/A; found only at KEN.

KR6: *Thickened exterior rim with long, upright, curving neck to shoulder (figs. 11:4–5; 12:11; 16:11)*

Description: This thickened and rounded exterior rim is attached upright to a short neck leading to the shoulder of the krater. The lack of any examples with more than the beginning of the shoulder makes it difficult to determine the overall profile of the vessel and opens the possibility that they may be very large pithoi. All the diameters measured are over 25 cm. A white slip is often applied on the interior and exterior of the vessel.

Parallels: N/A; this krater type is found only at KEN.

KR8: *Exterior rounded ridge on upright rim, sometimes slightly thickened on interior (figs. 15:14; 17:10)*

Description: This large, open krater (ca. 28–35 cm diameter) has a rim folded outward, creating an exterior ledge. The stance is generally upright, but some examples slope in. White slip or fabric color is common on the interior and exterior.

Parallels: This krater type is found at *Lachish* Strata V–IV (figs. 25.20:6; 25.21:22), *Gezer III* Stratum VIIA (pl. 11:5), *Samaria I* Period I (fig. 1:11), *Tell Qasile* Strata IX–VIII (figs. 53:6; 54:14), *Kadesh Barnea* Stratum 4 (pl. 11.1:16–17), and *Tel Masos* Area H (pls. 143:8; 147:3). Tappy (1992: 90–91) notes that these kraters have ancestral forms in the Late Bronze and continue through Iron I, ending in Iron II. This vessel type is found in early strata dating to the 10th–9th century B.C.E.

KR10: *Very large bowls with thickened interior rim (fig. 17:11–12)*

Description: These large, deep bowls have diameters above 30 cm with thickened interior rims. Also compare to smaller type BL35. This sample was classified as a krater because of its large size.

Parallels: See BL35.

KR11: *Thickened exterior rim creating rounded exterior ledge and slightly interior ledge (figs. 12:12–13; 15:15–16; 17:13)*

Description: This type has a thickened exterior rim with an interior folded ledge. This form is also popular in white. With the exception of a few examples of this krater (e.g., fig. 12:13), which has rounded sides, the majority have more inverted sides (e.g., figs. 12:12; 15:15–16; 17:13), leading to a soft carination at mid-body. However, no two examples are exactly alike.

Parallels: Kraters with different decoration and fabric but similar in rim treatment and carination are found at *Tel Batash* Stratum IV (Type KR14b; pls. 3:2, 8, 11; 4:2), *Lachish* Strata V–IV (B-21; figs. 25.3:5; 25.30:6; 25.41:9?), *Gezer III* Stratum VIA but with exterior undercut (pl. 21:6–9), *Hazor II* Stratum VI (pl. 68:4, 11), *Tel ʿIra* Strata VII–VI (figs. 6.68:14; 6.84:11), and Beer-Sheba Strata III–II (Herzog and Singer-Avitz 2004: fig. 1:4).

KR12: *Upright, rounded rims, fairly flat on lip handles attached to rim (fig. 17:14)*

Description: These large, open kraters have simple rounded or flattened rims with handles attached to the rim.

Parallels: N/A; found only at KEN.

KR13: *Folded thickened interior rim (fig. 16:9)*

Description: This krater has a folded rim that is sloping in, creating a more thickened interior. The rim is attached directly to the shoulder of the krater with a bend. The form is possibly similar to KR3 and resembles later folded rims found on the plateau.

Parallels: N/A; found only at KEN.

KR19: *Upright, thickened, rounded rims with short neck before shoulder (figs. 16:12; 17:8–9)*

Description: These kraters have an upright, thickened rim with a short, upright neck before the shoulder, creating a more closed type of krater. Rim treatment varies on each vessel but primarily is not much thicker than the wall of the vessel.

Parallels: Similar types are found in surveys conducted in the region (MacDonald 1988: fig. 11:14; MacDonald et al. 2004: p. 170:1; p. 259:1).

Pithoi

PT4: *Sloping-out, triangular, thickened exterior rim with short neck (fig. 13:24)*

Description: This pithos has an upright, triangular, thickened rim and short neck before the shoulder. Only one example was found during the 2002 excavations. This pithos is a possible variant of PT5 (see below).

Parallels: N/A; found only at KEN.

PT5: *Rounded, thickened, exterior rim, sometimes with a collar on the neck (figs. 11:7; 15:18; 16:16–17; 17:17)*

Description: This large pithos has a folded, bulbous rim that creates a thickened exterior, which is upright with a short neck. In several examples, a

collar is found very high on the shoulder where the neck bends to attach to the shoulder. This vessel type is commonly classified as a collared-rim pithos (see Herr 2001).

Parallels: Parallels to this pithos type are found throughout Cisjordan and Transjordan. There is an enormous amount of literature discussing this vessel for Cisjordan (see Faust 2006) and, in more recent scholarship, its appearance in Transjordan (Bienkowski 1992; Herr 2001; Finkelstein 1992a; 1992b). In Cisjordan, the collared-rim pithos was primarily limited to the Iron I and was very rare in the early Iron IIA. However, in Transjordan, it has a much greater longevity, spanning the whole Iron II. Herr (2001) has presented the most extensive study of its presence in Transjordan, where it continues into the late Iron IIC. Based on a study of the pithoi in stratigraphic sequence at ʿUmayri, developmental changes can be identified in subsequent periods. This pithos type found at KEN is most similar to the early Iron II assemblages and vessels found in unstratified contexts presented by Herr (2001: figs. 14.5:1; 14.6:1–2, 5, 7–8). Similar forms are also found at *Busayra* (fig. 9.42:8, 12), *Ghrareh* (pl. 26:18), Barqa el-Hetiye (Fritz 1994: Abb. 11:8–9), *Hesban* Stratum 16 (fig. 3.10:2), ʿUmayri Phase IP2 (*MPP I*: fig. 19.12:11), Field A Phase 5 (*MPP IV*: fig. 3.32:1, 2), *Tel Masos* Stratum I–III (pls. 138:14; 140:12), and *Samaria I* Period III (fig. 4:20). These parallels suggest a dating of ninth to eighth century B.C.E. for this specific developmental stage found at KEN.

PT8: *Thickened and flattened upper rim (figs. 11:8; 16:18)*

Description: This is a large pithos with a folded rim that creates a thickened exterior, but the way the rim is pressed and flattened into the body makes it less pronounced than in PT5. This pithos is a variant of PT5 but is distinguished primarily by its unique rim treatment popular in Transjordan.

Parallels: The pithos found at *Busayra* (fig. 9.43:4) resembles fig. 11:8 but without the upper groove. Other possible parallels are found at *Hesban* Strata 19–18 (figs. 3.4:1; 3.7:9) and *Kadesh Barnea* Stratum 4b (pl. 11.20:16).

PT9: *Folded-over rim with groove slightly inverted (fig. 16:19)*

Description: The folded and inverted rim with groove distinguishes this single example from the pithoi mentioned above.

Parallels: N/A; found only at KEN.

PT10: *Upright, thickened, rounded or triangular rims attached directly to the neck (figs. 11:6; 12:15–17, 22; 13:23; 17:18)*

Description: This hole-mouth pithos has a folded, thickened, exterior rim directly attached to the body of the vessel. Diameters are ca. 20–24 cm. Similar rim profiles are present with diameters over 25 cm; the lack of complete profiles makes classification of these vessels as pithoi or kraters difficult.

Parallels: This pithos is common to Cisjordan and Transjordan: *Dibon* (fig. 1:43, 44), *Ḥorvat Qitmit* (fig. 4.14:45), *Tel ʿIra* Stratum VII (fig. 6.75:2), *Tel Batash* Strata III–II (pl. 63:6), and *Samaria II* Period IV (fig. 7:6). This pithos may possibly be related to sharper-edged forms at Beer-Sheba Stratum II (Singer-Avitz 1999: fig. 3:19), Stratum V (Herzog and Singer-Avitz 2004: fig. 5:1), and *Tell Beit Mirsim III* Stratum A (pl. 13:9).

Jars

Hole-mouth, Open-Mouth Jars (Possibly Kraters): JR1, JR4, JR7, JR14, JR15

JR1: *Slightly thickened exterior, rounded rim, with no neck and thin walls (fig. 15:2, 17)*

Description: This hole-mouth jar has a slightly thickened exterior, rounded rim, and thin walls.

Parallels: Similar to PT10 but much smaller; see parallels above.

JR4: *Long fold of upper rim; sometimes grooved on folded rim (figs. 16:13; 17:15)*

Description: This thinner-walled jar has a folded-over rim flattened into the wall and then grooved.

Parallels: The Edomite examples from the plateau are thicker and more upright; see *Busayra* (fig. 9.42:1–5), *Tawilan* (figs. 6.22:1; 6.24:3; 6.25:1), ʿUmayri Phase IP3 (*MPP I:* fig. 19.7:6), *Dibon* (fig. 1:29–32), and *Tel Arad* Stratum XI (fig. 4:2).

JR7: *Thickened exterior rim with neck before shoulder (fig. 13:20–21)*

Description: These are jars with short, upright necks and various sub-types of rim treatment. Rim diameter ranges from 10 to 12 cm—these could possibly be jugs. Figure 13:21 has an upright, thickened exterior rim, while fig. 13:20 is less pronounced.

Parallels: N/A; found only at KEN. Compare fig. 13:20 to *Busayra* (fig. 9.50:8–12) for generic jar types found in Edom.

JR 14: *Hole-mouth storage jar with rolled-over rim (fig. 17:16)*

Description: This large storage jar has a rolled-over rim that is hole-mouth, lacking a neck. Compare with PT10.

Parallels: N/A; found only at KEN.

JR15: *Upright, thickened exterior rims with ridge halfway down on neck (figs. 12:14; 13:22)*

Description: These are storage jars with a ridge on the neck and upright, thickened exterior rims.

Parallels: Parallels are rare, but see *Gezer III* Stratum VIB (Type 2A pls. 12:4, 5; 14:10). A similar profile but smaller diameter is found at *Busayra* (figs. 9.50:6–7; 9.60:16).

Closed Storage Jars: JR6, JR17

JR6: *Long, everted rim with slight depression in the middle of lip (figs. 15:4; 16:14–15)*

Description: This large jar has a characteristic long, everted rim that is then slightly depressed after the fold

Parallels: See *Busayra* (fig. 9.52:1), *Tawilan* (fig. 6.32:3), *Kadesh Barnea* Stratum 4b (pl. 11.8:5), and Barqa el-Hetiye (Fritz 1994: Abb. 10:7).

JR17: *Upright, thickened exterior flattened rims with upright neck leading to shoulder (fig. 15:3)*

Description: These jars have thickened and flattened rims with an upright neck curving out to the shoulder.

Parallels: Tawilan (fig. 6.30:6) but not fitting in description of pottery form.

JR16: *Small jar with upright rim (fig. 14:5)*

Description: This is a very small, delicate jar, possibly a pyxis, with an upright, thickened exterior rim.

Parallels: N/A; found only at KEN.

Jugs and Juglets

JG3: *Jug with ridge below rim (fig. 16:20–21)*

Description: These medium-size jugs have upright, ridged rims, ca. 7–10 cm diameter. Many examples are also spouted. The sharpness and size of the ridge vary. Fabric is generally a lighter color, ranging from white to pink to very pale brown. Some examples have white slip on the exterior.

Parallels: This is a popular jug type in Edom found at *Busayra* (figs. 9.54:8–11; 9.55:1, 3, 5–6), *Tawilan* (fig. 6.26:1–4), *Tell el-Kheleifeh* (pls. 20:1–5; 21:1–8), and *Ghrareh* (pls. 18:1–2; 19:1–7). In Cisjordan, it is found at *Ḥorvat Qitmit* (figs. 4.3:22; 4.5:29; 4.14:2, 8; 4.16:15), *Tel ʿIra* Stratum VII (figs. 6.74:20; 6.87:15; 6.88:16), *Tel Masos* Stratum II and Late Iron Age II (pls. 135:9; 166:10); and see *Tel Arad* Strata IX–VIII (trefoil mouth: figs. 32:14; 35:9; spouted: fig. 38:3), Strata XII–XI (figs. 3:4; 4:4), *Beer-Sheba II* Stratum IX (fig. 19:6), *Beer-Sheba I* Stratum II (pl. 68:18), *Lachish* Stratum III (fig. 26.31:9), *Tell Beit Mirsim III* (pl. 14:6), *Gezer III* Strata VIB–A (pls. 12:16, 18; 15:3; 19:6; see discussion of type on pp. 146–47), and *Hazor II* Stratum VIII (pl. 58:14). This rim design is popular throughout the Iron Age, but more precision is needed to clarify significant chronological differences and change over this long period.

Jugs with Thickened Exterior Rims and Handle Attached at Rim: JG4, JG6, JG9

JG4: *Jug with triangular, thickened rim (figs. 12:18; 13:25; 17:20?)*

Description: These jugs have rims that have been folded over, creating a triangular, thickened exterior rim. Some examples are spouted.

Parallels: These jugs are found at *Busayra* (fig. 9.58:1, 2), *Tawilan* (fig. 6.28:6), *Tell el-Kheleifeh* (pl. 21:10), *Ghrareh* (pl. 19:16), Feifa (Lapp 1994: fig. 12–2:10, 11), *Tel ʿIra* Strata VIII–VI (figs. 6.73:3; 6.71:6; 6.84:15; 6.103:4–5), *Tel Masos* Strata II–I (pl. 137:11; 139:6; 152:6), *Tel Arad* Strata XII–XI (figs. 3:2; 6:9–10; 9:1), *Lachish* Stratum III (fig. 26.27:5), *Beer-Sheba II* Stratum VI (fig. 28:9), *Beer-Sheba I* Strata V–IV (pls. 53:16; 55:17), and *Kadesh Barnea* Stratum 4b (pl. 11.23:5). This vessel type is found primarily in Iron Age IIA strata, but is also found at all the sites on the plateau.

JG6: *Jug with thickened, bent-up exterior rim (figs. 11:10–12; 12:19; 15:19)*

Description: These bent-up, slightly thickened exterior rims of medium-size jugs are possible variants of JG4.

Parallels: This jug shares similar rim treatment to *Tel ʿIra* Strata VII–VI (fig. 6.68:16) and *Tel Arad* Stratum XII (fig. 1:6).

JG9: *Jugs with handle attached to rim with thickened exterior (figs. 11:13–16; 15:20; 17:21–22)*

Description: Various jugs have strap handles preserved and thickened exterior rims, but generally

only the area where the handle attaches to the rim is preserved, making specific identification difficult (compare with JG4 and JG6).

Parallels: N/A; not complete generic vessel type, making comparison outside KEN difficult.

JG14: *Small jug with upright, thin, flat or rounded rim (fig. 17:23)*

Description: These are various small jugs with upright, simple, flattened or rounded rims.

Parallels: N/A; not a complete generic vessel type, making comparison outside KEN difficult.

JG15: *Small jug with thin, rounded rim sloping out (fig. 17:24)*

Description: These are small jugs with simple, rounded rims sloping out.

Parallels: Jug-size types are found at *Busayra* (fig. 9.59:3), but also much earlier at *Tel Arad* Stratum XII (fig. 3:10) and may be related to an earlier form found in the Iron I *Samaria I* Period I (fig. 1:8). This vessel type appears to be early 10th–9th century B.C.E., but the parallels are limited.

JG16: *Narrow-necked jug with everted carinated rim (fig. 17:19)*

Description: The rim is everted and carinated at the lip, with narrow neck, 3 cm in diameter. Only one example is present in the assemblage; the jug has a white slip on the interior and exterior.

Parallels: N/A; found only at KEN.

JT17: *Juglet with ridge on neck (fig. 13:26)*

Description: This juglet has an upright, thickened exterior rim and lower ridge on the neck at the attachment of the handle.

Parallels: This juglet was only preserved to below the attachment of the handle, making comparison with complete vessels difficult. Juglets that parallel the upper portion are found at *Tel ʿIra* Stratum VII (fig. 6.74:17), *Tel Masos* Stratum I (pls. 139:10; 144:12; 148:4; 161:8), *Tel Arad* Strata XI (fig. 4:8), *Tel Batash* Stratum III (pl. 88:12?), *Lachish* Stratum IV (fig. 25.20:21), *Kadesh Barnea* Stratum 4b (pl. 11.15:12), and *Tell Beit Mirsim III* Stratum A (pl. 16:7). This juglet, with its characteristic rim and ridge on the neck, possibly a single handle attached, appears from the 10th to the mid-8th century B.C.E.

JT19: *Juglet with dimple base and handle attached at mid-neck (fig. 15:21)*

Description: This juglet has a long, straight, narrow neck and dimple base. The loop handle is attached from the mid-neck to the shoulder. This is the only near-complete example found, but it lacks the black burnish typical of this juglet type (black-burnished sherds belonging to juglets were found at KEN and may belong to the same group).

Parallels: See similar juglet form, but black burnished, at *Beer-Sheba II* Stratum VI (fig. 30:6, 7), Lachish Tomb 521 Iron Age IIA (Tufnell 1953: pl. 88:328), *Tel Arad* Stratum XII (fig. 3:5), *Kadesh Barnea* Stratum 4 (pl. 11.2:16), and many other sites (see Amiran 1969: 256). It is generally dated to the 10th–9th century B.C.E.

JT22: *Cypriot Black-on-Red (Cypro-Phoenician) juglet (fig. 23:19–21)*

Description: These fragments of Black-on-Red juglets have very thin, well-fired clay with burnish and black-on-red painting (see discussion below on imports).

Parallels: These imports are found at many sites in Cisjordan and elsewhere, dating to the 10th–9th century B.C.E.

JT23: *Trefoil juglet (figs. 11:17; 15:22)*

Description: This is a trefoil juglet with a long neck and oblong body; not globular.[10]

Parallels: The trefoil rim has many parallels from northern sites and possibly originated from Phoenicia (Tappy 1992: 196–97). Similar examples were found at *Samaria I* Period III (fig. 5:5), *Hazor II* Strata VIII, VA (pls. 58:25; 88:2), and *Hazor III–IV* Stratum IXb (pl. 176:1, 3). For globular jugs with a short neck, see *Tell el-Kheleifeh* (pl. 31:9) and *Tel Masos* Stratum I (pl. 160:12). Parallels suggest this is a 10th- to 9th-century B.C.E. vessel type.

JT26: *Juglet with sloping-out rim (figs. 12:20–21; 16:22; 17:25)*

Description: This is a juglet with a rim sloping out from the neck. White slip is common.

Parallels: Somewhat similar juglet forms are found at *Tel ʿIra* Stratum VII (fig. 6.83:16), *Tell Beit Mirsim III* Stratum A (pl. 18:12, 23–29), and *Tell Beit Mirsim II* Stratum B (pl. 51:12) and Stratum A (pl. 68:33–44).

[10] The top view of these trefoil rim juglets was not drawn in 2002. This will be corrected in the final publication of this material.

Cooking Pots

Varia *(fig. 18:1–8)*

Description: This type comprises cooking pots with characteristic ridged rims for Iron Age II. The cooking pots found at KEN are isolated in Area S and are fairly rare, making up only a small percentage of the overall 2002 ceramic assemblage (ca. 4 percent).

Parallels: The ridged-rim cooking pot is found at all Edomite sites in large quantities, but types with identical rim treatment to those found at KEN are rare. The parallels below are presented specific to cooking pots found in the assemblage. A detailed typological division of the cooking pots that includes both the 2002 and 2006 assemblages will be presented elsewhere (see n. 6 above). There is a difference between those with upright stances (fig. 18:1–5) and those with more hole-mouth forms (fig. 18:6–8). Thus, the individual cooking pot samples are presented here according to their figure numbers rather than a typological naming system (e.g., vessel types CP1, CP2, CP3).

Fig. 18:1: *Busayra* (fig. 9.39:5), *Tel Arad* Stratum XI (fig. 8:6), *Beer-Sheba II* Strata VII–VI (figs. 22:8–9; 28:3, 5), Stratum V (pl. 54:11), *Tel Batash* Strata V–IVB (pl. 79:13), and *Samaria I* Period II (fig. 3:26). Typical of the Iron IIA throughout Cisjordan.

Fig. 18:2: *Lachish* Stratum IV (fig. 25.35:11), *Tell Beit Mirsim III* Stratum A (pl. 19:3), and *Ghrareh* (pl. 21:1).

Fig. 18:3: Compare with *Tel Batash* Stratum III (pls. 15:20; 25:12), *Lachish* Stratum IV (fig. 25.37:18), *Samaria II* Period IV (fig. 6:39), and *Tel ʿIra* Strata VIII–VI (figs. 6.60:2; 6.83:11).

Fig. 18:4–5: *Busayra* (fig. 9.39:9); *Lachish* Stratum IV (fig. 25.22:3), *Hazor III–IV* Strata IX–X (pls. 209:3; 210:12). See also *Tel Batash* (fig. 8:3).

Fig. 18:6–7: *Tawilan* (figs. 6.34:1; 6.35:6), *Tell el-Kheleifeh* (pls. 16:3–6; 17:1; 18:6), *Hazor III–IV* Strata IX–X (pl. 210:16), *Tel Masos* Stratum I (pl. 139:5), *Ḥorvat Qitmit* (figs. 4.6:22–23; 4.9:33), and *Tel ʿIra* Strata VII–VI (fig. 6.54:3).

Fig. 18:8: *Tel Batash* Stratum IV (pl. 11:3), *Lachish* Stratum IV (figs. 25.29:13; 25.35:13?), and *Tel ʿIra* Strata VIII–VII (figs. 6.66:7; 6.102:13).

DECORATION AND SURFACE TREATMENT (FIGS. 19–22)

Types of surface treatment at KEN are fairly consistent throughout the site. For the preliminary statistical study presented here, surface treatment has been grouped into four classes: slip, burnish, painted, and applied decoration. Although burnish is often associated with a red slip, this distinction is not made in the graphs. Where multiple types of surface treatment occur on the same vessel, a count was tallied for each type; thus the totals for each stratum are larger than the actual MNI. In strata with low counts of indicative vessel sherd types, the data for surface treatment are not statistically relevant, but they have been presented in the graphs to show that surface treatment did occur in these strata. Unlike Area A which shows great variation in the number of vessels per stratum, Area S has a much more consistent count of vessels per stratum, making comparison between the strata more significant. The reader must take note that the conclusions drawn from the graphs are based on a single season of excavation where low

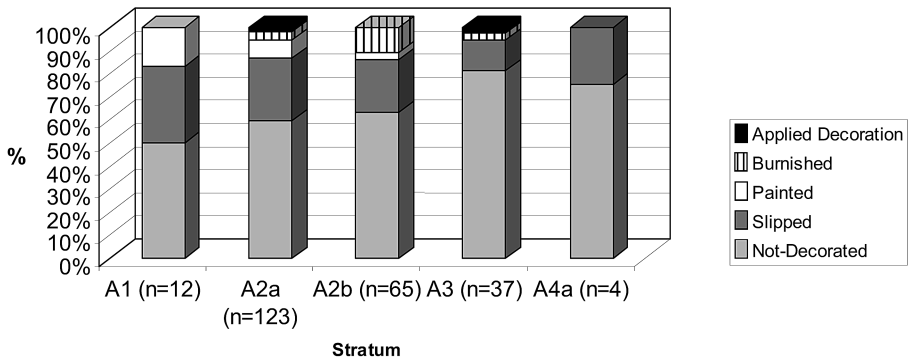


Fig. 19. Area A: Distribution of types of surface treatment by stratum (percent).

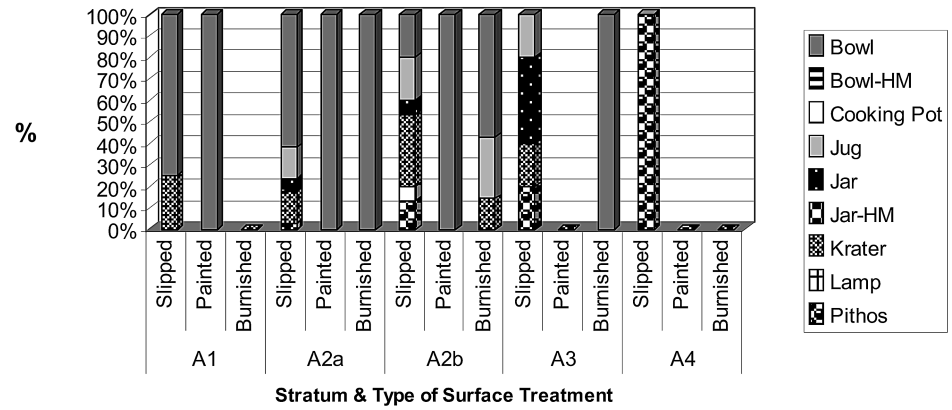


Fig. 20. Area A: Distribution of vessel classes' surface treatment by stratum (percent).

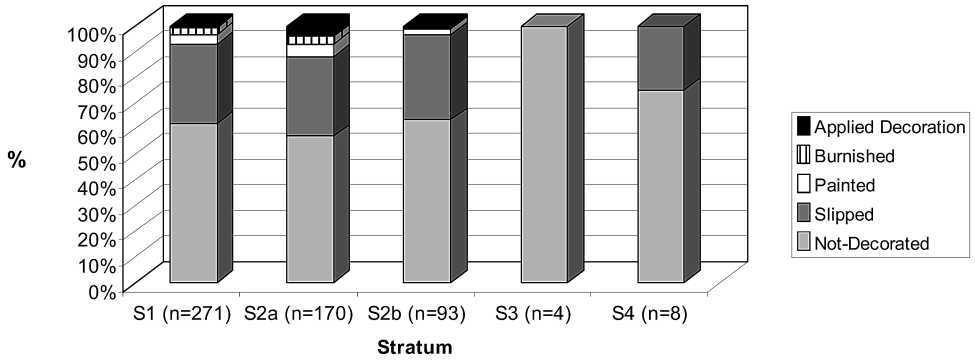


Fig. 21. Area S: Distribution of types of surface treatment by stratum (percent).

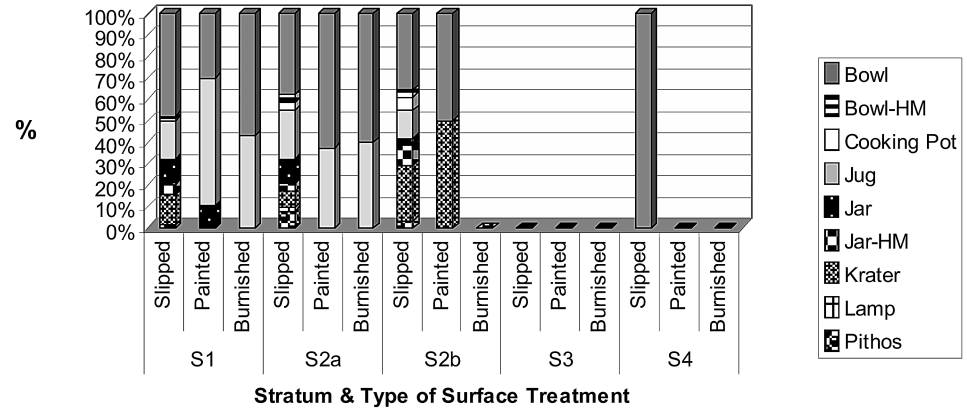


Fig. 22. Area S: Distribution of vessel classes' surface treatment by stratum (percent).

counts of vessels were collected, which in certain circumstances may skew the results.

Slip

Bowls, kraters, and jugs are the most common vessel classes with slips. Although slip is found primarily on wheel-made pottery, there are a few examples of hand-made ware sherds in Area S with slip (< 10 percent; fig. 22). Slip is primarily white but is sometimes cream. The slip was applied in different examples on the interior, exterior, and rim. Sometimes the slip can only be identified on the rim. In very few examples there are other slip colors found, such as brown, black, and red. Red slip is rare in the assemblage. When it is found, it is accompanied by different types of burnishing and limited to specific vessel types. The common application of white slip differs from similar vessel forms that had red slip with hand burnish found at many sites in Cisjordan, contemporaneously dated to KEN's strata (e.g., at *Tell Beit Mirsim III* or *Tel Batash*). Generally, kraters are produced with a white fabric or had a slip applied. The white slip is also commonly applied prior to the painting of black concentric circles on both bowls and jars. Although the statistical counts of vessels with slip are small, the graphs show that slip remained fairly constant in Area S and Area A (figs. 19–22). In Area A, bowls are the dominant slipped vessel in Stratum A2a but quickly decline by A2b and A3, when they become a minority, which may reflect the decline of bowls from 60 percent of the assemblage to 10 percent in general from A2a to A3 (see fig. 20). Slip on jugs remains fairly consistent, while kraters are dominant in Stratum A2b. In Stratum A3, jars drastically increase as the preferred slipped vessel, even though their general count increases only to 10 percent of the assemblage. Bowls remain the primary slipped vessel in all strata in Area S, followed by jugs and kraters (figs. 21–22).

Burnishing

Burnishing is rare at KEN (figs. 20, 22). The majority of examples are primarily on body sherds (not included in this preliminary study); thus the count of vessel families with burnish is low. There are many different types of burnish, including irregular hand burnish, continuous burnish, and horizontal or possibly wheel burnish. The burnishing color has a range of different hues of red and dark reddish brown. Painting rarely occurs with burnishing, and if it does, it is restricted to bowls. In Stratum A2b, burnishing represents 10 percent of the total vessels with surface treatment. It is primarily found on bowls but also on jugs and kraters (see fig. 20). The few burnished vessels in Area S include bowls, with jugs a minority (fig. 22).

Painting

Painting of local wheel-made pottery consists primarily of black painted strokes either applied in concentric lines or in a cross-hatch pattern. Red and white paint does occur occasionally on some vessels, especially on the triangular-section rim bowls (BL3). White slip was often applied first, but not necessarily; it is quite common to see bowls with the black concentric circles painted directly onto the red fabric. The small representation of painted vessels in Area A is restricted to bowls (fig. 20). In contrast, in Area S, painting is also found on jugs and kraters, but as the representation of painting is no more than 1 percent in each stratum, we cannot draw further conclusions on what vessels were preferred for painting.

Applied Decoration

The most common decoration technique employed at KEN was grooving on the exterior of vessels. Heavy storage jars and kraters as well as smaller vessels have this treatment. Often a slip was added after the vessels were grooved. Another common applied decoration among hand-made wares was the attachment of small knobs running horizontally around the vessel. Applied decoration was uncommon (< 1 percent) at KEN among the vessels that could be classified into family groups.

HAND-MADE VESSELS

The presence of hand-made vessels in the Iron Age II assemblage at Khirbat en-Nahas is important from a temporal and cultural perspective (figs. 7–10; 14:6–16; 18:9). At KEN, the hand-made vessels were differentiated into the two primary categories of bowls and hole-mouth jars. All hand-made vessels are crudely made, with a rough texture and poorly sorted clay that appears to be of local origin. The inclusions can be wadi sand, basalt, grog, shale, mica, slag, and cavities indicating organic material. The appearance of slag as an inclusion in many of

the vessels may be one of the best indicators of production in or around the vicinity of KEN.[11] Knob and ledge handles are common decorative elements, and in a few examples white slip and/or grooving was identified. Parallels from the hand-made wares at KEN can be found in sites south of Busayra (without parallels for this vessel type) in Edom for both bowls and jars. For hand-made bowls (HMB), see *Tawilan* (6.36:1–9), *Tell el-Kheleife*h (pls. 14–15), *Ghrareh* (pls. 24:1–15; 28:7–10); for hand-made jars (HMJ), see *Tawilan* (6.36:10–11) and *Tell el-Kheleifeh* (pl. 12:1). See also Barqa el-Hatiye (Fritz 1994: Abb. 13:1–9). For published parallels in the Negev, see Meshel (2002), Cohen and Cohen-Amin (2004), and a detailed typology by Cohen and Bernick-Greenberg (2007).

The relationship of KEN's hand-made wares to so-called Negebite pottery is still under investigation. Recent petrographic and INAA studies on "Negebite" ware at other sites have emphasized local production of ceramics as well as an origin in Edom (Slatkine 1972–1973; Gunneweg et al. 1991; Haiman and Goren 1992; Rothenberg 1988). However, the distribution of these hand-made ceramics at many sites in the Negev and Transjordan does not indicate production by a single ethnic group nor its value as a marker of ethnic identity (cf. Tebes 2006: 105). The function of these hand-made vessels is still not clear; however, Meshel's (2002: 291) suggestion that they are associated with cooking may explain the relative dearth of cooking pots found at KEN, especially in Area A, and thus may reflect domestic production (e.g., figs. 7–8). However, it seems more appropriate to use the term "hand-made" vessels as opposed to "Negebite" pottery, as these vessels may have no direct relationship with sites in the Negev region but may be a local manifestation of the south Levantine desert zone.

IMPORTS

A minimum number of three Cypriot Black-on-Red ware juglets and 32 Qurayyah painted ware sherds were found (fig. 23; table 9) in the 2002 assemblage.[12] The small fine-ware Cypriot juglet sherds are easily identifiable by their well-sorted clay, thin walls, and well-burnished red exterior with black decoration in the form of concentric circles. Herzog and Singer-Avitz (2004: 215–16) note the appearance of Cypriot imports into Judah in the late Iron Age IIA. Although predominant in the northern sites of Israel, they are also found at *Tell Beit Mirsim II* Stratum B (Albright 1932: fig. 51:9), *Lachish* Stratum IV (fig. 25.5:16), *Kadesh Barnea* Stratum 4b (pl. 11.11:11), Beer-Sheba Strata VII–IV (*Beer-Sheba II*: figs. 24:7; 30:8–9; Herzog and Singer-Avitz 2004: 218), and other sites (see Schreiber 2003 for the most up-to-date discussion and parallels). Herzog and Singer-Avitz (2004) identify these Cypriot juglets as significant markers of the late Iron Age IIA, and their context at KEN with the wheel-made vessels supports this dating.

A total of 32 Qurayyah painted ware sherds were found in both Areas A and S. Although mostly painted body sherds were found, a few jar and bowl sherds were identified with known Qurayyah painted ware vessel types. At KEN, the Qurayyah ware can be broken down into two main groups: (1) fine ware with a cream slip and bichrome painted exterior surface that was burnished, and (2) a medium-fine ware that was much coarser, having only bichrome painted designs on the exterior. Qurayyah ware core fabrics are unlike any other wheel-made vessels in the KEN assemblage, as they have a pink to light red color matrix with red, brown, and black shale inclusions; sometimes the matrix includes quartz and mica. When compared with similar vessels with bichrome paint and fabrics, these can be tentatively dated to the 13th–12th century B.C.E.; however, the precise chronology of this ware and its variants is still not clearly defined (Bawden 1983: 40–49).[13] Qurayyah ware ceramics are found in the largest quantities at the sites of Qurayyah and Tayma in Saudi Arabia, and from surface collection throughout the northwestern corner of the Arabian Peninsula or Hijaz region (Bawden 1983: 38). Qurayyah ware has been found in Edom at

[11] A study of the specific clay sources of the hand-made wares at KEN is forthcoming.

[12] Whether these vessels were produced locally or imported is currently being investigated (in Neil Smith's forthcoming dissertation; see n. 6 above).

[13] A date of eighth to seventh century B.C.E. for Qurayyah ware has been suggested according to one fragment found at Tawilan (Rothenberg and Glass 1983: 84; Bienkowski 2002; van der Steen and Bienkowski 2006b: 15). Unfortunately, this sherd was never published to determine whether it was truly Qurayyah ware, and its original context at Tawilan cannot be confirmed. The high frequency of Qurayyah ware at many sites dating much earlier would suggest that assigning an eighth–seventh B.C.E. date based on one sherd from an unknown context and lack of modern investigation is premature.

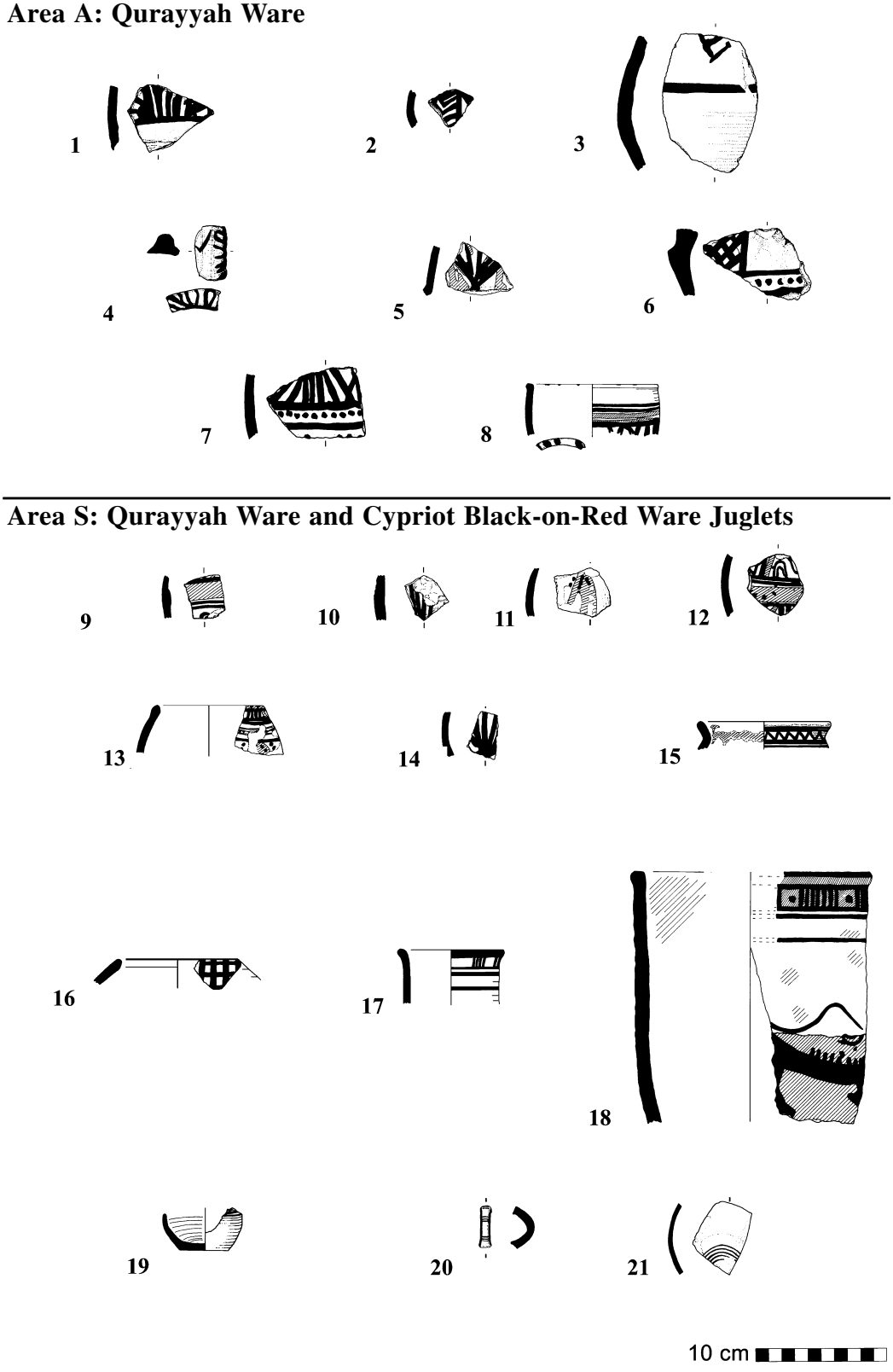


Fig. 23. Areas A and S: Imports. See table 9 for descriptions.

Table 9. Area A & S: Sherd Descriptions for Imports (Fig. 23)

No.	*Reg.*	*Locus*	*Str.*	*Type*	*Exterior*	*Interior*	*Core*	*Ware*	*Surface Treatment*
1	264	40	A3	Qurayyah	pinkish-white	pinkish-gray	light red	Coarse ware	Dark Gray
2	557	76	A2b	Qurayyah	pink	pinkish-gray	white	Fine ware	Black Chevron Painted Design
3	586	62	A2a	Qurayyah	very pale brown	pinkish-white	reddish-brown	Fine ware	Black Painted Design, Slip Exterior
4	575	62	A2a	Qurayyah	very pale brown		light reddish-brown	Medium-Fine ware	Black Painted Design
5	324	21	A2a	Qurayyah	white	light gray	reddish-brown	Fine ware	pale Red, Dark Gray,
6	336	21	A2a	Qurayyah	white	pink	reddish-yellow	Medium-Fine ware	Black Burnish Interior, Slip Interior/Exterior
7	574	62	A2a	Qurayyah	very pale brown	light brown	light reddish-brown	Fine ware	Black Slip Interior/Exterior, Painted Design
8	578	79	A2a	Qurayyah	white	pale red	pinkish-gray	Fine ware	Black, pale Red Painted Design, Slip Exterior
9	890	338	S2b	Qurayyah	white	pink	pink	Fine ware	Black, Red Painted Design, Slip Exterior
10	891	338	S2b	Qurayyah	pale yellow	pink	pink	Fine ware	Black Painted Design, Slip Exterior
11	583	325	S2b	Qurayyah	pink	pink	pink	Fine ware	Black, Weak Red Painted Design, Slip Exterior
12	576	318	S2b	Qurayyah	white	pink	pink	Fine ware	Black, Weak Red Painted Design, Painted Exterior
13	842	339	S2b	Qurayyah	pink	pink	gray	Fine ware	Black, Red, Pinkish-White Painted Design
14	802	331	S2a	Qurayyah	pale red	pinkish-white	light reddish-brown	Medium-Fine ware	Black Painted Design
15	301	301	S2a	Qurayyah	pink	pink	pink	Fine ware	Gray, Dark Gray, Red Painted Design
16	803	331	S2a	Qurayyah	pale red	pale red	light red	Medium-Fine ware	Black Painted Design
17	901	340	S2a	Qurayyah	light gray	light red	white	Fine ware	Black Slip Exterior, Painted Design
18	608	317	S1	Qurayyah	pale red	pale red	pinkish-white	Medium-Fine ware	Black Painted Design
19	571	264	S1	JT22	light red	pale red	light red	Fine ware	Black Applied band horizontal Burnish Exterior, Painted Design
20	573	263	S1	JT22	pale red		light red	Fine ware	Black Burnish Exterior, Painted Design
21	280	263	S1	JT22	light reddish-brown	light reddish-brown	light red	Fine ware	Pink/Black Concentric painted bands, Slip and Burnish Exterior

Barqa el-Hatiye (Fritz 1994: Abb. 12:1–12), *Ghrareh* (pl. 25:4), Tell el-Kheleifeh (Bawden 1983: 39), and Tawilan (Rothenberg and Glass 1983: 84). In Cisjordan it has been identified at Timna (Rothenberg 1988), Jedur (Ben-Arieh 1981), Tel Masos (Fritz and Kempinski 1983; Rothenberg and Glass 1983: 81), Yotvata (Meshel 1990: 20–23), Tell el-Farʿah (S.) (Rothenberg and Glass 1983: 82), *Kadesh Barnea* (pls. 11.6–11.7), and Lachish (Rothenberg and Glass 1983: 81). As is the case for both KEN and Barqa el-Hatiye, hand-made wares and Qurayyah ware are found together at other early Iron II Negev sites mentioned above (see Cohen and Bernick-Greenberg 2007; Meshel 1990; Rothenberg and Glass 1983).

As noted above, Qurayyah painted ware has also been found at Timna—another copper metallurgical region in the southern Levant. Rothenberg and Glass (1983) published a sample of Qurayyah ware pottery and decorative motifs from Timna that have the most direct parallels with those from Khirbat en-Nahas. KEN's Qurayyah ware bowl (fig. 23:8) is similar to the bowls published by Rothenberg and Glass

(1983: fig. 3:1–4). One KEN example (fig. 23:18) appears to be a goblet similar to one published from Timna (Rothenberg and Glass 1983: fig. 4:3). Another (KEN: fig. 23:17) may be a jug similar to the one from Timna (Rothenberg and Glass 1983: fig. 5:3). Shared decorative motifs with Timna are found in only a few examples, such as the relief near the rim on one sample (KEN: fig. 23:18; cf. Rothenberg and Glass 1983: figs. 5:3, 6:6). Other KEN examples include the oblique lines bound in a frieze (KEN: fig. 23:17; cf. Rothenberg and Glass 1983: fig. 9:9), and also the vertical lines (KEN: fig. 23:13; cf. Rothenberg and Glass 1983: fig. 9:4–6) and the zigzag within a frieze (KEN: fig. 23:15; cf. Rothenberg and Glass 1983: figs. 4:4, 6; 6:8; 9:G:2). A repetition of two horizontal lines below the frieze (KEN: fig. 23:15, 17–18) is also common (see Rothenberg and Glass 1983: figs. 9:B:1; 9:C:1; 10:E:1; 10:G:2). Other motifs in common are dot decoration around the vessel (KEN: fig. 23: 6, 7, 12–13; cf. Rothenberg and Glass 1983: fig. 11:K:1), cross-hatching (KEN: fig. 23:6; cf. Rothenberg and Glass 1983: figs. 5:3; 6:7), and the wavy line (KEN: fig. 23:18; cf. Rothenberg and Glass 1983: figs. 3:1; 4:4). However, the most common decoration motif found at KEN (fig. 23:1, 2, 5, 7–9, 12, 14)—the radiating straight, curved, and bent lines always bounded on one side by a horizontal line—is not present. Although not a clear comparison, the bird motif's tails resemble this design (see Rothenberg and Glass 1983: fig. 7:3–5).

DISCUSSION

The preliminary study of the ceramic assemblage from Khirbat en-Nahas presented here is the first analysis of a well-stratified Iron Age ceramic assemblage from the lowland region of Edom in southern Jordan. While we are presenting the pottery types according to strata in the illustrations here, the detailed discussion concerning vessel type changes that occurred through time at Khirbat en-Nahas is not presented. That will be done in the final study where a larger and more statistically valid sample can be conducted that includes both the 2002 and 2006 assemblages. That said, figures 7–10 and 19–22 present a preliminary analysis of the 2002 ceramic assemblage based on stratigraphy in Areas A and S at KEN. Previous discussions of Iron Age pottery from Edom have been dominated by sites from the highland plateau region of Edom or sites in the Negev outside the traditional core area of Edom. Specifically, the ceramic assemblages published on the eastern side of the Wadi Arabah have been collected mostly from surveys or poorly recorded excavations from sites such as Tell el-Kheleifeh (Pratico 1993). For example, Oakeshott's (1978) classic study of the Iron Age pottery of Edom was based on selected ceramic types and not the entire assemblages from Busayra, Tawilan, Umm al-Biyara, and other sites. In addition, Oakeshott did not include information regarding the stratigraphic context of the Iron Age pottery assemblages from highland Edom. To move beyond the problems inherent with the earlier Iron Age ceramic assemblages from Transjordan Edom, the 2002 KEN assemblage was collected using high-precision digital archaeology recording methods coupled with the application of high-precision radiocarbon dating using the accelerator mass spectrometry (AMS) method (figs. 1–6). As noted above, the application of Bayesian modeling presented here and elsewhere for Areas A and S at KEN was previously published (see references above). All samples were "short-life" in that they were either from seeds or the outer growth rings (near the bark) of charcoal wood (mostly tamarisk). In addition to this suite of dates, the German Mining Museum (GMM) has published 11 radiocarbon dates from KEN, and the UCSD team an additional 2 dates from the Area M slag mound, bringing the total number of dates from KEN to 52. There are no calibrated dates later than the ninth century B.C.E. from the UCSD-DOAJ and GMM excavations. Thus, even without Bayesian modeling, the Iron Age ceramic assemblage described here is securely dated to the 10th and 9th centuries B.C.E., making it unfeasible to link the Area A and Area S KEN assemblages to the late eighth and seventh centuries B.C.E. This does not rule out the possibility that other areas at the site were occupied during the later centuries in the Iron Age. However, the earlier date is secure for the gatehouse in Area A, the vicinity of the German Mining Museum excavations, and the UCSD-DOAJ excavations in Area S. By controlling the chronological and spatial context of the ceramic assemblage with the high-precision methods noted here (Levy and Smith 2007; Levy et al. 2004; 2005; Higham et al. 2005), it is possible to assert that the strata at KEN are secure, relatively short-lived occupations between the 10th and the end of the 9th century B.C.E. Thus, the 2002 ceramic assemblage collected at KEN represents a snapshot view of the early Iron Age II in lowland Edom. The following remarks

summarize the chronological implications of the assemblage as well as some cultural implications.

(1) The Khirbat en-Nahas Iron Age ceramic assemblage overwhelmingly shows its strongest parallels with the assemblages found in surveys and excavations on the plateau of Edom at sites such as Busayra, Tawilan, Umm al-Biyara, and Ghrareh (e.g., vessel types BL3, BL21, BL30, KR19, PT5, JG3, and JG4). In addition, the painting styles and decoration found at KEN are most similar to those found at the highland sites of Edom (see above). Thus, the general 10th- to 9th-century Iron Age ceramic assemblage from KEN is a local regional ceramic tradition specific to Edom and is not a development from Cisjordan. The ceramic industry at KEN reflects a strong local Iron Age tradition that begins in the lowlands of Edom and continues into the eighth and seventh centuries B.C.E. at the highland sites noted above. Assuming that local ceramic production traditions reflect in some way the communities where they are situated (van der Leeuw 1977), any attempt to model the relationship of the late second and first millennium B.C.E. historic ethnic group to the control of 10th- and 9th-century B.C.E. metal production at this important site must factor in the dominance of the local Iron Age potting tradition for the people who worked at Khirbat en-Nahas during these centuries.

(2) The KEN ceramic assemblage found in the stratigraphic levels discussed above show parallels to sites dated to the 10th through early 8th century B.C.E. in both Cisjordan and Transjordan. Many of the forms discussed in the typology are related to similar vessels from strata strictly confined to this time period (e.g., KEN vessel types: BL15, BL22, BL34, BL36, KR4, KR8, PT5, JG4, JG15, JT17, JT19, JT22, JT23, and JT26). Furthermore, many dominant ceramic types with short ceramic horizons dated to the late eighth to the sixth century B.C.E. are completely absent from the ceramic assemblage at KEN (cf. *Busayra*, *Tawilan*, *Tell el-Kheleifeh*). The short-life ceramic types identified from extensive stratigraphic excavations at many sites in Cisjordan and Transjordan corroborate the absolute radiocarbon dating at KEN. Further, the latter vessel types also support the general view that many of the highland plateau sites of Edom and "Edomite" Negev sites are later than KEN. Thus, the radiocarbon-dated stratified sequence at KEN helps to identify the developmental trend of the ceramic seriation for the whole of Edom. Specifically, the Iron Age pottery assemblage begins in the lowlands of Edom near the rich copper ore resource zone of Faynan and develops through time up to the Iron Age IIC sites that are so characteristic of the highlands of Edom and the eastern Negev Desert (see Singer-Avitz 1999).

(3) The KEN assemblage contains a number of early Iron Age II vessel types that are unique to the lowlands of Edom. Some of these vessels are common at KEN but rare outside the region (e.g., KEN vessel types: BL31, BL33, BL37, KR3, KR5, KR6, KR12, KR13, PT4, JR7, JR14, and JG16). The absence of these vessel types at other sites in Cisjordan and the plateau of Edom may reflect chronological differences, regional differences, or both.

(4) The comparative study described here shows that there are some popular vessel types that span multiple subphases of the late Iron Age I and Iron Age II, as attested at stratified sites in Cisjordan, Moab, and Ammon—and now Transjordan Edom (e.g., KEN vessel types: BL3, BL12, BL13, BL21, BL35, KR11, PT10, JR4, and JG3). As these vessel types appear from the 10th to 7th century B.C.E., they represent vessels of long use-life. Ceramic studies that report percentages of these vessel types in each stratum indicate that each example differs in the extent of its ceramic horizon and dominant period (e.g., *Tel Batash*, *Lachish*, *Tel Arad*). These vessels are generally the most popular and thus are found dispersed in many different regions and subperiods of the Iron Age. As parallels of these specific types are shared between KEN and the Edom Plateau sites, which were previously assumed to be only Iron Age IIC, these vessels should now be classified as spanning the entire Iron Age II period. However, further examination of these vessels is needed to determine whether there are more minute morphological or decorative changes that occurred over time. Caution must now be used in dating survey sites that possess these vessels, since they could represent many different periods of occupation during the Iron Age II. The entire assemblage of Iron Age pottery collected from surveys in Edom needs to be reassessed in light of the stratified sequence from KEN.[14]

[14] This is an important conclusion that supports Herr's impressions of the Iron Age pottery from the Tafila-Busayra Archaeological Survey (TBAS). During his reading of the TBAS pottery, Herr noticed how homogeneous the Iron Age II highland pottery was, as if it were all one corpus, but the sites could not all have been from just one time period. He already suspected the possibility of a long life for the basic Iron Age ceramic forms from the region of Edom (L. Herr, personal communication).

(5) The percentage of hand-made wares to wheel-made wares is significantly higher in the KEN lowland assemblage than in collections from the plateau of Edom (figs. 7, 9). When considering the distribution of hand-made wares in both the highlands and lowlands of Edom, there is a significantly higher percentage of these wares (50 percent compared with less than 2 percent) produced in the earlier periods at KEN than at other lowland Faynan sites (cf. Barqa el-Hetiye: Fritz 1994; and Rujm Hamra Ifdan: to be published by N. Smith, M. Najjar, and T. E. Levy).

(6) The presence of Qurayyah painted ware (sometimes referred to as Midianite ware) at KEN, most often attributed to the 13th–9th centuries B.C.E. (Rothenberg and Glass 1983), coincides with the dating of the local Iron Age ceramic assemblage discussed above, the high-precision radiocarbon dates, as well as the 1200–1000 B.C.E. New Kingdom–Third Intermediate period Egyptian scarabs found in Area S, providing a terminus post quem for the early Iron Age occupation at the site (Levy et al. 2004).

In summary, the 2002 Iron Age ceramic assemblage from Khirbat en-Nahas highlights the importance of the lowlands of Edom in the development of Iron Age societies in this part of the southern Levant. Earlier assumptions concerning the very short length of the Iron Age (Iron Age IIC) based on excavations at sites in the highlands of Edom and the Negev have influenced both the historical and anthropological reconstructions of social change in this area. Now that a detailed view of the ceramic data from the stratified excavations of KEN has been presented in relation to the sequence of radiocarbon dates, the reliance on seventh-century Assyrian core civilization dominance to explain the rise of complex societies in Iron Age Edom must be reexamined. Longer-term local processes of social evolution rooted in a much longer Iron Age history of the region that extends back at least to the late 11th century B.C.E. needs to be addressed. Many problems remain to be solved; for example, most of the architecture excavated in 2002 was shown to date to the second half of the ninth century B.C.E. (with the exception of the founding construction of the gatehouse from the 10th century B.C.E.). Although not reported on here, the 2006 excavations revealed some 3 m of industrial slag deposits in Area M, all radiocarbon-dated to the 10th century B.C.E. In the center of the site, excavations revealed extensive architectural features below a public building dated by ceramic evidence to the ninth century B.C.E. Thus, the combined ceramic data from the 2006 excavations and the 2002 analysis presented here will help further develop the internal seriation of the pottery assemblage from Transjordan Edom from as early as the 10th century B.C.E.

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ABBREVIATIONS

Ain Shems II = Grant, E.
1931–1932 *Ain Shems Excavations (Palestine) 1928–1929–1930–1931*, Part 2. Biblical and Kindred Studies 4. Haverford: Haverford College.

Beer-Sheba I = Aharoni,Y., ed.
1973 *Beer-Sheba I: Excavations at Tel Beer-Sheba—1969–1971 Seasons.* Publications of the Institute of Archaeology 2. Tel Aviv: Institute of Archaeology, Tel Aviv University.

Beer-Sheba II = Herzog, Z., ed.
1984 *Beer-Sheba II: The Early Iron Age Settlements.* Publications of the Institute of Archaeology 7. Tel Aviv: Institute of Archaeology, Tel Aviv University.

Beth Shemesh IV = Grant, E., and Wright, G. E.
1938 *Ain Shems Excavations (Palestine)*, Part 4 *(Pottery).* Biblical and Kindred Studies 7. Haverford: Haverford College.

Busayra = Bienkowski, P.
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Dibon = Tushingham, A. D.
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Gezer III = Gitin, S.
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Ghrareh = Hart. S.
1989 The Archaeology of the Land of Edom. Ph.D. dissertation, Macquarie University.

Hazor II = Yadin, Y.; Aharoni, Y.; Amiran, R.; Dothan, T.; Dothan, M.; Dunayevsky, I.; and Perrot, J.
1960 *Hazor II: An Account of the Second Season of Excavations, 1956*. Jerusalem: Magnes.

Hazor III–IV = Yadin, Y.; Aharoni, Y.; Amiran, R.; Dothan, T.; Dunayevsky, I.; and Perrot, J.
1961 *Hazor III–IV: An Account of the Third and Fourth Seasons of Excavations, 1957–1958.* Plates vol. Jerusalem: Magnes.

Hesban = Ray, P. J., Jr.
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