Borsippa. Preliminary Report on the First Season of Archaeological Investigation in 2023

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key words

Borsippa, Birs Nimrud, Tempel Ezida, Neo-Babylonian, Late-Babylonian, Seleucid perioa, Parthian period.

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ABSTRACT

In 2023, excavations were resumed at the archaeological site of Borsippa, located in the Babil Governate, central Iraq, near the modern city of Hillah. The primary focus was to survey and map the Birs Nimrud monument and its surrounding urban landscape to create a GIS-based, detailed cartographic representation, integrating all data from prior excavations and expeditions. A secondary key focus involved the resumption of the archaeological investigation of the Ezida Temple. Contrary to previous assumptions, which attributed the Ezida Temple currently visible to Nebuchadnezzar II, recent reassessments of the location of the foundation cylinder of Antiochos I, Soter, combined with analyses of stratified findings, now suggest that this temple represents not only a Seleucid foundation but that its ground plan is based on a Late Achaemenid period design.

Two trenches, designated Trench C and Trench D, were established for detailed excavation, Trench C, located near the monumental gate of the Nabû Temple, confirmed the level of the Seleucid foundation and revealed discrepancies in the dimensions of the gate's façade layout, alongside evidence of extensive reuse of materials, Trench D, positioned along the northeastern outer façade, began exploring an earlier iteration of the Ezida Temple, which likely dates to the Neo-Babylonian period, These findings underscore once more the cultural continuity of Babylonian sacred architecture at one site and emphasize the enduring significance of the cult of Nabû throughout the 1st millennium BC.

Introduction Conclusion:

Borsippa is located in central Iraq, at (32°23') north latitude and (44°20') east longitude, approximately (100km) southwest of Baghdad and (17km) southwest of Hillah, the capital of the modern Babil Governorate. After a lengthy hiatus, archaeological investigations resumed in November (2023)

by the Austrian Archaeological Expedition to Iraq (AAEI). This report presents the results from the first season of fieldwork in (2023).

The previous long-term excavation project, which ran from (1980) to (2003), primarily focused on the ruin Birs Nimrud. A key objective was to reconstruct the original form the ziggurat of Borsippa, with particular emphases on determining the heights of its stepped terraces. The project also included excavations at the adjacent Ezida Temple and other areas within the ancient city, as well as comprehensive surveys both within the city walls and in the hinterland of Borsippa (Heinsch-Kuntner: forth).

Recent analysis of these earlier research activities has raised critical questions regarding the dating of the site´s most prominent monuments necessitating further investigations.

Survey and aerial documentation:

Mapping of the Birs Nimrud monument, encompassing both the ziggurat Euriminanki (var.) and adjacent Ezida (var.) Temple (fig.1), were accomplished through aerial documentation and ground measurement. Aerial survey was conducted using a Yuneec (H520hexacopter)[1], with multiple flights under various conditions to capture the distinct color features of the structures, particularly the red burnt mud brick walls of the Ezida Temple and the bright yellowish brick debris of the so-called 'Oberbau' of the ziggurat (fig.2). This aerial imaging enabled the generation of a high-resolution, true-colored (3Dmodels) based on up to (30) ground control points.

Preliminary georeferencing was performed by overlaying the drone imagery onto satellite imagery from Pleiades and ESRI. This resulting model served as an initial reference plan, which was then refined through detailed on-site measurements of the monument using a Trimble (C5) Total Station. In the next step. local aerial-drone surveying, particularly of the city area, will be further refined with RTK (Real-Time Kinematic) corrections.

Additionally, features from earlier expeditions (Rassam 1878-1882; Koldewey 1901-1902; Trenkwalder 1980-2003) were integrated into a single UTM coordinate system

(UTM Zone 38N; EPSG: 32638) based on (WGS84), with an accuracy of less than (30cm), making it compatible with any GIS software (fig.3). A comprehensive survey of the archaeological site of Borsippa was conducted, aiming to supplement previous survey data.

Excavations:

The second key focus of the 2023´s campaign was the resumption of archaeological investigation within specific areas of the Ezida Temple complex, following the evaluation of the previous results of the Austrian Archaeological Expedition to Iraq (AAEI) under the leadership of Helga Trenkwalder (1980-2003). This assessment revealed that the monumental Ezida Temple consists of two main buildings: one situated at an altitude of (+33,00m) above, and the other below, a 2-meter-high platform made of mud bricks, measuring (33x33x11cm), and filled with sterile clay (Allinger-Csollich 1998: 143-146; Allinger-Csollich, Heinsch and Kuntner 2010:32). These two buildings are referred to as the "Ezida Temple on the Platform" and the "Ezida Temple below the Platform".

Analysis of the finds from the temple on the platform indicate that its construction date differs from previous assumptions. The temple currently visible, known primarily through Koldewey´s plans (1911: Taf. XV-XVI), can no longer be attributed to Nebuchadnezzar II (605-562 BC), as was traditionally thought (Heinrich 1982:291). Instead, is represents the new foundation by the Seleucid king Antiochos I Soter (281-261 BC) (Kuntner and Heinsch 2013).

To enhance understanding of the Ezida Temple architectural history and to locate the Neo-Babylonian temple, two areas, designated as Trench C and Trench D, were selected for initial investigations, A (10x10m) local grid system was established across the site to guide excavation efforts (fig.4).

Trench C:

Trench C, measuring (10x10m), was positioned across squares (E3-E4), corresponding to the northwestern part of the monumental gate to the Nabû Temple, main shrine within the Ezida Temple (fig.5). This location is on the opposite side of the same gate where Hormuzd Rassam reportedly discovered the barrel cylinder of Antiochos I So-

ter (Reade 1986:109-110). This barrel cylinder remains the only find from the Ezida Temple recovered from an indisputably original context. Thus, any attempt to date the Ezida Temple on the Platform must carefully consider its precise stratigraphic location (Kuntner and Heinsch 2013:241).

The possibility of uncovering a second barrel cylinder was a contributing factor in selecting this trench location. However, the primary reason was the strong potential to identify the interface between Rassam's and Koldewey's excavations. This could not only facilitate the reassignment or refinement of the foundation document to the building stratigraphy of the Ezida Temple on the Platform, but also help verify the correlation between the construction state of the gate complex and the other architectural features of the Nabû Temple, as documented by Koldewey (1911: pl. XV). These features include the pedestal and pavement in the cella (A1.1.1) and the brick-built well in the adjoining adyton (A1.1.1.1).

Trench C was excavated to an average depth of (120cm), reaching an absolute depth of (+34,25m) in the northeastern section (fig.6). Notably, within the gate opening, the original layers were preserved up to the current surface. The interface of (su.00123) from previous excavations. likely conducted by Rassam, was identified at approximately (+35,05), extending at the same level into the courtyard. In this area, later excavation spoil, labeled (su.00223), and presumably from Koldewey's work, formed a layer (30to40cm) thick. However, this layer thinned towards the northwest due to significant soil erosion caused by a deep gully cutting through the courtyard along its northwestern side, originating from the Temple B area. This gully continues northeast, cutting through the Ezida Temple façade and terminating outside the temple.

Since Rassam did not find the pedestal in the cella of the Nabû Temple, whose upper edge lies at an absolute altitude of (+35,23m)[(2)], it can be inferred that this level, allowing for fluctuations of up to (30cm), roughly represents the average depth he reached during his excavations of the Ezida Temple layout. The fact that Koldewey did not map the northeastern part of the

gate suggests that this mud brick wall was intentionally and completely demolished by Rassam, at least to this depth, during his search for a potential foundation document[3]. However, it seems more plausible to assume that Rassam extended the demolition further down, possibly reaching the level of the reed mat layer SL II, approximately at (+34,45m) (Kuntner & Heinsch 2013:241-243), but likely not deeper[4].

In fact, this level represents a significant construction interface, more likely associated with a foundation document than with the minor repairs made to the wall blocks between SL II and SL V during period Ezida II (Kuntner and Heinsch 2013:243). Additionally, this evidence clearly indicates that Koldewey concentrated his efforts on excavating the interior of the Nabû Temple particularly the cella and the pedestal – while limiting his investigation on the northwestern part of the gate façade.

Koldewey's trench along the northwestern gate tower was partially retraced during (2023) excavations. Despite severe erosion, which made the mud brick walls difficult to distinguish, elevation comparisons and historical photographs (Koldewey 1911:52, fig.90) enable a reliable identification of the recently re-uncovered wall remains and the reed mat layers. The upper edge of the façade base, adorned with triple-recessed niches, was identified at (+34,34m), corresponding to the gate tower's foundation interface at (+33,81m).

This interface surpasses the level marked by SL II. However, it should be noted that this reed mat was not identified at all in the recent excavation of the northwestern part of the gate remains. The same appears to be true also for the historic photograph. This suggests that the walls from the Ezida III period have been leveled deeper for the foundation of the new monumental gate of the Nabû Temple, A similar situation was documented on the southwest wall of room EF (Kuntner 2007:154, Abb. 53).

Conclusive clarification was ultimately obtained during the re-investigation of the gateway in Trench C in (2023). Near the west corner of the trench, the lower three courses of the double-stepped doorjamb of Nabû Temple entrance were se-

curely retraced, corresponding with the expected location based on measurements of the Ezida Temple. These courses, set at (+34,43m), align with the expected level of the reed mat SL II. However, instead of resting on the older leveled wall remnants of the older wall, they were placed directly on a fill, labeled (su.00623), without additional precautions, The fill consists of three deposits up to an excavation depth of (+34,10m), slightly varying in their reddish color intensity and inclusions. The upper deposit is more homogenous and has a brighter red color, while the two lower deposits are more greyish and mixed with small fragments of asphalt and brick. Larger brick fragments, coated with remnants of asphalt mortar, were also found throughout the fill.

To the northwest, along the first gate projection, the Seleucid foundation was built directly atop the Late Achaemenid remains. The facades of these structures are, however, differently aligned, with an increasing offset of up to (20cm) towards the northeast, After (65cm), the wall remains from Ezida III become gradually covered as the new construction gains depth in a stepped manner, ultimately overbuilding and enveloping the Late Achaemenid remains.

While the stepped construction might indicate the presence of a staircase leading from the courtyard to the Nabû Temple, the current evidence is insufficient to support this interpretation conclusively. The excavation was unable to identify the construction interface marked by the fill (su.00623) between the Ezida III and Ezida II periods within the horizontal stratigraphy. This was due to the complex obliteration of the deposits in front of the gate entrance by two later pits, (su.003a23) and (su.003b23), which reused the spoil as fill, and the impact of heavy rainfall, which transformed these deposits into a single, indistinguishable mud layer prior to final documentation.

Only a few remnants from the Ezida III period were preserved in the southern corner of Trench C. These remnants include a mudbrick floor associated with a dark brown deposit (su.00723) in the northeast profile, which likely represents the heavily eroded original floor, However, the limited extent and lack of structural context preclude further

analysis at this time. These remnants lie directly beneath the earliest cultural deposits associated with the use of the Seleucid foundation of the Nabû Temple. Above the foundation fill (su.00623), remnants of three horizontal mud brick floors are clearly discernible, alternating with and partially intermingling with trodden floors. This cultural horizon, labeled (su.00523), although with a less developed floor sequence, is also visible in the northeast profile from the same height of (+34,44m) down to the excavated depth.

The most significant stratigraphic unit in Trench C is pit (su.003b23), which extends through the cultural layer (su.00523) and into deposits attributed to the Ezida III period, In the south corner pit (su.003a23) disrupts the stratigraphic relationship, Mudbrick coverings were placed on the first and second fills of the younger pit. The horizontal extent of these pits as well as the function remains unclear, though they likely relate to a larger renovation effort associated with the front area of the gate during the Ezida II period. This inference is supported by the significant presence of debris in the lower fill, including mud bricks, bricks, and numerous asphalt fragments.

Additionally, the corresponding height between this mudbrick debris and the notably regular leveling of the niched façade of the northwestern gate tower, as documented by Koldewey, suggests a possible connection. This is further supported by the recent excavation, which uncovered a brick stamped with the name of Nebuchadnezzar II. This brick, likely a remnant of a pavement, was found on the leveled mudbrick wall that had not been previously excavated.

Related to this alleged renovation of the Nabû Temple are the cultural layers classified as (su.00423), which accumulated during the Ezida II period to an altitude of (+35,10m) with a slight inclination towards the gate. These layers generally exhibit a high degree of homogeneity, forming a dense sequence of very fine, clayey layers, each only a few millimeters thick, and are characterized by a reddish coloration. This coloration is also distinctive of the related layers in the door section of room EF behind the Nabû Temple (Kuntner 2007:126-155).

TRENCH D:

Trench D measures (10x30m) and is located in squares (J7-J8-J9) (fig.7). This area of the Ezida Temple is marked by extensive erosion of the mudbrick walls along the northeastern façade and adjacent rooms of the temple on the platform. This situation allows us to investigate the remains of the older Ezida Temple below the Platform without risking damage to the later temple structures above. Previous investigations by the AAEI, particularly of nearby structures such as the so-called "Weißer Tempel" located beneath the "Reinigungshaus", revealed that these older structures were carefully cleared, including the removal of brick pavements, and thoroughly cleaned before being backfilled during the connection with the construction of the platform (Heinsch-Kuntner 2018).

Consequently, the main research objective in Trench D was to confirm the northeastern façade of the Ezida Temple below the Platform near its presumed eastern corner. This would contribute to understanding the layout of this building, linking it to previously discovered sections of the the northern (Koldewey 1911:51, Abb. 88; Jakob-Rost 1989: 67, Abb. 3-4) and southern corners (Heinsch-Kuntner 2018), Moreover, this work will serve as a basis for a large-scale excavation of the area in front of the Ezida Temple below the Platform, where a Neo- to Middle Babylonian settlement sequence is expected based on the results of the deep sounding conducted by Allinger-Csollich near the White Temple in (1994) (Heinsch-Kuntner 2018).

In squares (J7) and (J8), excavation did not identify the interface of the debris layer of the Ezida Temple on the Platform, labeled as (su.00823), despite reaching altitudes of (+28,16m) and (+28,37m) respectively. This clearly reveals the extent of erosion that has significantly affected the monument in this area. Despite their mixed context, this deposit yielded most of the ceramic finds, contributing valuable insights into dating the Ezida Temple on the Platform. In square (J9), a smaller section measuring (2x4m) was excavated, aligned with the presumed temple façade. From an altitude of (+27,55m), this excavation uncovered remnants of two mudbrick structures, with the

southwestern wall precisely matching expectations. However, due to the very limited extent of the excavation, only preliminary conclusions can be drawn regarding the significance of these remains (fig.8).

The southwestern wall consists of mudbricks measuring (33²x11cm), a format typical of Neo-Babylonian architecture (Castel 1991:178-179), with (2cm) thick head and up to (8cm) thick bed joints. A total of three layers of bricks, reaching a combined height of (50cm), were uncovered, Based on its position –both directly beneath the reconstructed northeastern façade of the Ezida Temple on the Platform and aligned with the northeastern façade of the Ezida Temple below the Platform – it is reasonable to identify this wall as a continuation of the perimeter of the older Ezida Temple below the Platform. This supports the hypothesis that the dimensions of the temple on and below the platform are congruent. This find highlight strong cultural continuity in Babylonian sacred architecture and, alongside the discovery of the nail-shaped pedestal in the cella of the Nabû Temple, emphasizes the enduring significance of the cult of Nabû throughout the 1st millennium BC in the Ezida Temple in Borsippa.

Remnants of a second mudbrick structure were identified between (50 and 90cm) northeast of the latter wall, This structure, which is presumed to have abutted the temple façade at a sharp angle, is primarily constructed from rectangular mudbricks measuring (33x16cm) – an atypical format for 1st millennium BC architecture, Moreover, this construction is not solid but consists of a framework of bricks possibly arranged in a staggered pattern, filled with sterile mud. The temple platform was constructed using a similar building technique but using square mudbricks. In the northwest profile, the mudbrick framework seems to postdate the mudbrick wall to the southwest. The associated layer (su.00923), a compact and heterogenous mud deposit, was found atop partially burnt debris of the mud brick wall, with the upper mudbrick framework extending across (su.00923). This suggests a later adaptation of this structure, also covering the erosion debris of the mudbrick wall to the southwest,

Currently, it is unclear whether this later construction relates to the temple platform.

Temple Ezida on the Platform	Ezida I	Late Seleucid/ Parthian
	Ezida II	Antiochos Soter I
	Ezida III	Late Achaemenid
Platform		
Temple Ezida below the Platform	Ezida IV	Neo-Babylonian

(Tab.1.) Periodization of the building history of the Ezida Temple.

Findings;

Excavations in Trenches C and D yielded exclusively clay artifacts. Since the material mainly originated from temple strata, the recovered vessel types range from large fragments, likely parts of large storage vessels, to very small pottery sherds. Despite efforts to reconstruct as many ceramic fragments as possible, fully preserved or reconstructible profiles were rare, A total of (189) ceramic fragments were recovered from the stratigraphic layers. Of these, (44) were classified as diagnostic, consisting of rim, base, or wall fragments with distinctive decorations (see Plates 1-4).

The excavated area around the Ezida Temple was also intensively reused in later periods, resulting in occasional mixing with layers from Parthian, Sasanian, and early Islamic phases. The pottery fragments recovered from both the surface and the stratigraphic layers largely correspond in form and production technique to those identified in previous excavations at the Ezida Temple complex, including the ziggurat and the temple Ezida itself (Heinsch-Kuntner 2018). Notably, there is a consistent overrepresentation of ceramics on the surface, while significantly fewer ceramics were found within the temple layers. The pottery can be clearly assigned to specific periods, although it is also likely that some vessels remained in use for longer periods. This highlights the importance of smaller vessels, as they belong to a coherent assemblage and, along with better-preserved pieces, contribute to a typology of contemporaneous pottery. Aside from a few coarse ware vessels, which include both small and large items, all finds belong to wheel-made pottery, most of which is well-refined.

In terms of broad chronological classification, the assemblage can

be largely placed within the Achaemenid to Seleucid periods, with some few pieces dating to the Parthian period based on vessel forms and material composition, Some forms, however, have precursors dating back to the Neo- and Late Babylonian periods, as can be observed in comparisons with finds from other sites. The Achaemenid material is characterized by a high percentage of pottery with a distinct reddish hue, coarse inclusions visible to the naked eye, and rougher surfaces, In contrast, the Seleucid pottery from Borsippa ranges from light to dark beige, with only a faint touch of greenish-beige appearing occasionally, but not as prominent as in the Parthian period. Although it shows similarities to Hellenistic-Seleucid pottery from Mesopotamia, its typology, as Warburton (1989:25) has pointed out, remains grounded in the Persian-Achaemenid traditions of western Iran and Mesopotamia.

The following discussion of Trenches C and D is based on the stratigraphic context of the excavations, Where possible, recent literature was consulted. The comparisons aim to identify parallels in pottery forms, though they are not intended to be exhaustive.

Open Vessels:

Bowls with slanted rims (pl.1:1-3) represent a simple yet significant form within the assemblage from Borsippa. These vessels are carefully crafted, featuring intentionally rough surfaces and predominantly unfinished string cuts. These simple shapes are often timeless and can only be dated based on their archaeological context or the specific characteristics of the clay and ware (cf. Wartburton 1989: 25; Cellerino 2004:105), Comparable examples can be found in several sites: Uruk (Strommenger 1967:Plate 3,1,3-4; Plate 7,10-11), Abu Qubur (Wartburton 1989: pl.6:1-3: Achaemenid), Ur (Woolley 1962: Plate 39,20; 40,26: Neo- and Late Babylonian), Larsa (Lecomte 1983: Planche IV: fig.10-11: Seleucid-Parthian; Lecomte 1987:pl.1: 3-4: Seleucid-Parthian; Lecomte 1989: pl.7,5: Hellenistic 1; Lecomte 1993: fig.5,8), Babylon (Cellerino 2004: fig.7: 19-27), and Failaka (Hannestad 1983: pl.44: 436-441; pl.45: 442-450: Seleucid), Additionally, similar forms were found in Susa (Boucharlat-Labrousse

1979: fig.29,9; Miroschedji 1987: fig.22,8; Boucharlat 1993,45), Sippar (Haernick 1980: pl.18,1: Achaemenid), Seleucia (Debevoise 1934: fig.205) and Nippur (Gibson et al. 1978: fig.33: Seleucid).

Thin-walled or fine bowls exhibit an s-shaped curved profile. The clay is of very fine quality, and the pieces are well-fired, though they are not classified as "eggware" Wartburton (1989:27) and de Miroschedji (1987: 17-18) refer to this ware as "pseudo-egg-shell" Parallels to these vessels can be found at sites such as Abu Qubur (Wartburton 1989, Plate 8), Ur (Woolley 1962: Plate 38:7; Plate 39,13). Uruk (Hoh 1979a: Plate 49:6), and Failaka (Hannestad 1983:474 and 478). These finds are generally dated to the Achaemenid and Seleucid periods. The example illustrated (Plate 1:4) has a particularly flat wall and is, to date, known only as a single find of this excavation section (cf. also Hannestad 1983:57). However, this bowl form also appears with a noticeably steeper profile, as seen in Babylon (Cellerino 2004: Nos. 84-86), Ur (Woolley 1962: Plate 39,4), Lecomte (1989: Plate 10,1), and Failaka (Hannestad 1983: Plate 48: 480; 482-483). The latter are attributed by excavators to Hellenistic layers.

The fragment (pl.1:10can) be classified as eggshell ware. The clay is very finely levigated and well-fired, with the primary distinction being its form. The rim is rounded and almost blunt, and the fragment features a recessed wall with a slight inflection. A similar example has been found in the Achaemenid layers at Nippur (McCown and Haines 1967: 37, pl.103,17) and Uruk (Fleming 1989: fig.3,D), However, according to Boucharlat (1993, 48, Tab.3), a later date cannot be excluded based on comparisons from Susa. Cellerino (2004: 102-103; fig.5,7-11) recently describes eggshell ware as a type of luxury ceramic that is also typical for Babylon. This classification is supported by the present example, particularly given the considerable technical skill required for its production and the thinness of these vessels. The diameter of the bowl from Borsippa is significantly smaller compared to those found at Shu-Anna in Babylon, suggesting that this small bowl likely served a specific function.

The bowls with triangular or

rounded rims (p1:5 and 7) are characterized by their outwardly folded, triangular-shaped edges. Both examples discussed here have a diameter of circa (20cm) and belong to the middle-large forms. This type of pottery is widespread and can be found in various periods and locations, particularly in Neo-Babylonian and late-Babylonian contexts Uruk (Strommenger 1967, pl.5, 5–6; Eichmann 1987, pl.35: 276), Babylon (Cellerino 2004: fig.10 and fig.11: 69-81), Nippur (Gibson 1975: fig.41: 020127; fig.51: 030077; Gibson et al. 1978: fig.79: 1; McCown et al. 1978: pl.53: 3), Sippar (Haernick 1980: pl.10: 15, 17; pl.12: 5, 9), Kish (Matsumoto 1991: fig.28: 9), Tell al-Laham (Safar 1949: pl.III: 10), Habl as-Sahr (Druc 1989: fig.8: 17-24), in the Diyala-region (McAdams 1965: fig.13: 9c), Susa (Miroschedji 1987: fig.10: 3-8, fig.21: 4) and Ur (Woolley 1962: pl.40 and pl.41).

These bowls are also frequently found in Achaemenid layers (Wartburton 1989: pl.7: 1-6), A similar type is also present during the so-called "Aramaic" Old Building Period (Hrouda 1962: p.80, pl.58: 70), Interestingly, these bowls continue to be in use in later Hellenistic contexts, as seen in the Hellenistic settlement of Nimrud (Oates and Oates 1958: 144, pl. XXIV: 1.2).

Large Bowls with Thickened Rims (pl.1:9,11-12) have rims where the greatest diameter is at the opening. The thickness of the rim varies, and just below the rim, the transition to the outwardly flaring wall is emphasized by a distinct ridge. Similar examples can be found in the Achaemenid layers at Abu Qubur (Wartburton 1989: p. 27, pl.7: 7-9), The large bowl excavated from Trench C (pl.4:15) stands out from others due to the formation of several ridges, A similar vessel was found in Susa (Ghirshman 1954: G.S. 1219g. G.S 1224), A comparable example comes from the E.babbar at Larsa, which Lecomte (1989: pl.5,11) attributes to the Hellenistic horizon (4th century BC), As a more distinctive variant, they already appear in Assyrian and Neo-Babylonian contexts (cf. Uruk: Strommenger 1967: Tafel 6, 1,2; Ur: Woolley 1962: pl.41.43; Nimrud: Oates 1959: 140, pl. XXXV 25 called Assyrian type).

Closed forms:

The jug forms discussed here are bulbous vessels with narrow mouths. The neck and shoulder are similarly shaped to the rim, Vessel pl.2:2 appears from the Neo-Babylonian/Late Babylonian period through the Achaemenid period (Strommenger 1967: pl.20:610; Woolley 1962: pl.52:172;Sippar: Haernick 1980: pl.13:9; Abu Qubur: Wartburton 1989: 28, pl.10:1-7; Larsa: Lecomte 1987: pl.36:9.

The jug shapes discussed here are bulbous vessels with a narrow mouth. The neck and shoulder are shaped similarly to the rim. The vessel shape shown here (pl.2:2) is one of the shapes with a long tradition. It has been used since the early Iron Age in Neo-Babylonian/Late Babylonian contexts up to the Achaemenid period and is documented both in southern Mesopotamia (Strommenger 1967: pl.20:6-10; Woolley 1962: pl.52:172; Sippar: Haernick 1980: pl.13:9; Abu Qubur: Wartburton 1989:28, pl.10:1-7; Larsa: Lecomte 1987: pl.36: 9) and northern Mesopotamia (Tell Sheikh Hamad: Bernbeck 2005, Abb. 158-159; Tell Beydar: Galán 2007: Abb. 3 and 4; Tell Halaf: Katzy 2012: Abb. 172, 9 und Abb. 173,10)

Notably, this vessel fragment is not chaff-tempered but instead contains mineral inclusions. This type of temper is considered a distinctive feature of such vessels in Northern Mesopotamia, particularly from the 4th century AD onward (cf. Katzy 2015: 115, bottle forms 07: 07A, 07B, and 07C).

Vessels pl.2,4-5 additionally feature a handle, attached just below the rim and presumably extending to the shoulde, Comparative examples from Larsa (Lecomte 1987: pl.7 and pl.8) suggest that Vessel 21, with its handle, belongs to the Hellenistic period (Lecomte 1987: pl.5:7 and 8).

Certain vessels, due to their narrow, tall, funnel-shaped necks, can be classified as bottles (pl.2:1 and 3), The lip of the vessels recovered from Trench D is rounded, though in some cases, it is sharply flared outward, Comparable examples are found in Uruk (Strommenger 1967: pl.21), Ur (Woolley 1962: pl.55:199), Tell ed-Der (Haernick 1980: pl.14:3), and Babylon (Strommenger 1964: fig.10-1 in a

Neo-Babylonian/Achaemenid context; fig.11-1 to 3 are attributed to the Seleucid-Parthian period), A fragment from the lower excavated area of Trench D also exhibits the characteristic reddish-beige ceramic fabric typical of the Achaemenid period (Plate 4:12).

The medium closed vessels (pl.3: 1-6) are characterized by a squat form with a short, pronounced neck and rim articulation, which gives the upper part of the vessel a clear structure. These vessels are frequently attested in the excavated areas of Trench C and Trench D. Parallels to vessel pl.3:3 can be found in Larsa (Lecomte 1983: Planche X: 16) or Susa (Labrousse/Boucharlat 1974, pl.48:5).

Vessel on pl.3:1 is a larger specimen, with comparisons found in Tell ed-Der (Haernick 1980: pl.13, 3; Achaemenid), Nippur (McCown and Haines 1967: pl.105-108; Achaemenid), Nippur (Gibson 1975: fig.51; Seleucid), and Ur (Woolley 1962: Plate47, 118). In contrast, vessel on pl.3:4 is simple in design, with parallels found in Uruk (Hoh 1979: Taf. 47,3, Finkbeiner 1993: 14, Abb. 9, 459), Nippur (Mc Cown-Haines 1967: pl.104, 5), and Susa (Labrousse-Boucharlat 1972: fig.48,7.), Vessel on pl.3,6 is distinguished by a heavily profiled rim, with comparable examples from Babylon (Cellerino 2004: pl. X, Nos. 133-134), Larsa (Lecomte 1989: pl.5,9) and Susa (Boucharlat-Labrousse 1979: 179, fig.33,5).

The vessels presented here do not have distinct necks but transition directly into outwardly thickened lips, The shoulders are sometimes adorned with ridges, These vessels had a long period of use and can be dated from the Neo-Babylonian to the Seleucid period.

Special Forms:

Object on pl.2:9 represents a vessel classified as a special form, primarily due to the incomplete nature of the object and the lack of clear functional or production-related features. However, the very flat rim suggests that it may have served as a lid, Similar tall lid forms have been found, for instance, in Uruk (Finkbeiner 1991:578: No.97), In contrast, the lid forms from Larsa (Lecomte 1989: pl.3,9) and Uruk (Finkbeiner 1991: No.54) are less steeply angled.

A lamp was also discovered with-

in the ceramic repertoire of Borsippa (pl. 2: 10). The lamp is plain, with a straight spout and a small opening, made form a single peace by hand. Notable, most specimen from Babylonia are made from two parts: the body on the wheel and the tube by hand. Only minimal traces of glaze are visible on the surface, Due to the lamp's simple form, few parallels can be suggested (Cellerino 2004: Nr. 203). The proposed dating of the lamp to the Achaemenid period is supported by the glaze, which closely resembles glazed pottery of this period from Borsippa and Babylon.

Decorations and applications:

Several vessel fragments with different decorative elements were found in trench C and trench D. In addition to the usual grooved decorations with either narrow or wide spacing, such as (pl.3:8,10 and 11), there are also comb-line patterns on two fragments that most likely belong together (pl.1: 3; pl.2:8) and various patterns with fingernail impressions (pl.3:9 and 13). One piece of pottery shows a very well-preserved glazed surface (pl.2:7). Its greenish-blue color can be assigned to the Achaemenid period, in line with the rest of the excavated repertoire from the temple complex of Ezida (Heinsch-Kuntner 2018: fig.71). No stamp has been found so far, Fragment on (pl.3:12) still shows an impression of one, but without being able to reconstruct it.

Base Forms:

Rounded bases, such as pl.4:1, are characterized by the vessel's bottom continuing the curve of the walls without interruption, This rounded base naturally provided no stability and likely required supports to ensure balance, Given the narrow walls, this vessel likely belonged to a closed form.

Flattened bases were found in the assemblage only in limited numbers. They typically belong to both open and closed types. The diameter ranges between (4 and 5cm) for smaller vessels, while larger vessels can have diameters up to (40cm), The example, (pl.4:2), exhibits an angular transition to the lower part of the wall, while rounded transitions also occur. These vessels are accompanied by signs of surface detachment from the potter's wheel, indicating an untreated surface.

Vessels with a button base (pl.4:3-

4) resemble rounded bases but terminate in a small pointed or rounded protrusion. In general, the button is solid, and the interior base shows a spiral narrowing, referred to as a "well". Like rounded bases, vessels with a button base often lack the stability of typical containers due to their morphological characteristics(5).

Ring bases (pl.4:5,6 and 7) are among the most frequently represented forms. However, they are rarely fully preserved, a trend also seen in other assemblages, such as in Babylon (Cellerino 2004, p.116), The ring is variably pronounced and raised, with edges that are more or less rounded or flattened.

Disc bases (pl.4:8-9) appear in all vessel categories, particularly in open forms, and are by far the most commonly used base type, The disc base is flat and slightly concave, with a more or less thickened outer edge. It often shows irregularities caused by detachment from the surface of the potter's wheel, typically by using a string. The diameter of these bases varies widely.

Conclusion:

The (2023) archaeological fieldwork at Borsippa yielded important insights into both the site's architectural history and ceramic assemblages, Through a combination of aerial documentation, precise georeferencing, and trench excavations, expedition was able to enhance our understanding of the Ezida Temple. The excavations in Trench C highlighted the stratigraphic complexity and ongoing reworking of structures through different periods, while Trench D uncovered remnants of the Neo-Babylonian temple below the Late Achaemenid platform. Notably, the ceramic finds, although fragmented, were significant in reconstructing the site's occupation phases, showing a mixture of Achaemenid and Seleucid vessel types. These results emphasize the cultural continuity and adaptations in sacred architecture across different historical eras in Borsippa, particularly in relation to the long-standing cult of Nabû.

Acknowledgement

We are grateful to all in the State Board of Antiquities and Heritage for their support. Our special thanks go to Dr. Laith Majeed Hussein and

Mr. Ali Obeid Shalgam, for their support and Mrs. Luma Juda for the organisation.

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Plate 1

No.	Inv. Number	Description	Locus
1	Bsp23-013	Medium-fine clay, turning grooves inside and outside, organic chopped wood with mica, light incrustation Diameter: 20,5cm O: 10YR 86/ (yellow) I, C(6): 10YR 84/ (very pale brown)	D (J8) Layer 1 (015-cm)
2	Bsp23-037	Fine clay, mineral and organic inclusions Coil construction, turned, turning grooves Lightly encrusted on the outside Diameter: 19,5cm O and C: 10 YR 54/ (yellowish brown) I: 7,5YR 54/ (brown)	D (J7) Layer 1 (1550-cm)
3	Bsp2-044	Fine clay, mineral and organic inclusions encrusted on the outside bead structure, turning grooves, comb line pattern and handle attachment, top edge is slightly chipped, Coil construction Diameter: 19cm O: 10YR 66/ (brownish yellow) I and C: 10YR 54/ (yellowish brown)	D (J7) Layer 1 (1550-cm)
4	Bsp23-022	Fine clay, organic inclusions, and mica, Turned grooves inside and outside, grooved decoration on the outside, Diameter: 20 cm O, I, C: 2,5Y 76/ (yellow)	D (J7) Layer 1 (1530-cm)
5	Bsp23-036	Medium-fine clay, organic inclusions Light incrustation on the outside Diameter: 22cm O: 10YR 64/ (light yellowish brown) I: 7,5YR 66/ (reddish yellow) partly 5YR 44/ (reddish brown) C: 10YR 64/ (light yellowish brown)	D (J7) Layer 1 (1550-cm)
6	Bsp23-004	Wall fragment with decoration grooves at the outside, medium-fine, sandy and mica inclusions very poorly preserved glaze residues inside and outside (flaked), rough outside, slightly smoothed inside, slight turning grooves inside diameter: -- O, C: 10YR 78/ (yellow) I: 10YR 76/ (yellow)	Locus 1 Layer 1 (030-cm)
7	Bsp23-001	Fine to middle fine clay, organic tempering (chaff), hard, dense, mica inclusions, black inside (discolored, bitumen) Diameter: 20,5cm O: 2.5Y 64/ (light yellowish brown) I: 2,5Y 74/ (pale brown) C: 10YR 74/ (very pale brown)	Trench D (J9) Locus 1 Layer 1 (030-cm)

8	Bsp23-041	Fine clay, organic inclusions, hard fired, grooved decoration Diameter: 22cm O: 2,5Y 64/ (light yellowish brown) I: 10YR 64/ (light yellowish brown) C: 7.5YR 44/ (brown)	D (J7) Layer 1 (1550-cm)
9	Bsp23-018a	Fine clay, turning grooves inside and out, salt efflorescence outside, chippings inclusions Diameter: 26cm O: 7,5YR 66/ (reddish yellow) I: 5YR 56/ (yellowish red) C: 5YR 56/ (yellowish red)	D (J8) Layer 1 (015-cm)
10	Bsp23-016	Very fine clay, no inclusions visible, very hard and dense, surface very well smoothed inside and out Diameter: 8.5cm O, I, C: 7,5YR 86/ (yellow)	Trench C Layer 3
11	Bsp23-043	Medium-fine to coarse clay, organic inclusions, porous Diameter: 10cm O: 10YR 54/ (yellowish brown) I: 10YR 66/ (brownish yellow) C: 5YR 68/ (reddish yellow)	D (J7) Layer 1 (1550-cm)
12	Bsp23-015	coarse organic shredded material, turing grooves inside Diameter: 28cm O, I: 7,5YR 66/ (reddish yellow) C: 7,5YR 84/ (pink)	Trench C Layer 3

Plate 2

No.	Inv. Number	Description	Locus
1	Bsp23-012	Wall fragment of a neck with groove/bulge, middle fine clay, slightly rough, salt crust, organic inclusions Diameter: -- O: 7,5YR 76/ (reddish yellow) I, C: 5YR 76/ (yellowish red)	Locus 3 Layer 2 (3080-cm)
2	Bsp23-009	Coarse clay, organic inclusions, slight sintering, turning grooves visible on the outside and inside, outside surface: structure broken off or fingerprint Diameter: 16cm O, I: 10YR 66/ (brownish yellow) C: 2,5Y 52/ (weak red)	Locus 3 Layer 1 (030-cm)

3	Bsp23-029	fine clay, sand with little chaff, mica, white and black inclusions Surface smoothed on the outside Smoothed on the inside and turning grooves Diameter: 14cm O: 7,5YR 76/ (reddish yellow) I: 7,5YR 66/ (reddish yellow) C: 5YR 76/ (reddish yellow)	D (J7) Layer 1 (1530-cm)
4	Bsp23-021	Middle fine clay, organic and anorganic inlusions, turning grooves, Diameter: 13,5cm O, I, C: 10YR 64/ (light yellowish brown)	
5	Bsp23-020	Fine clay, sand and chaff inclusions Surface outside and inside with turning grooves, inside rough, pearl-technical structure Diameter: -- O: 10YR 84/ (very pale brown) I: 7,5YR 66/ (reddish yellow) C: 7,5YR 46/ (strong brown)	D (J7) Layer 1 (1530-cm)
6	Bsp23-026	Handle, fine clay, sand and mineral inclusions (black), surface very well smoothed, partly with round rod O: 10YR 66/ (brownish yellow) I: 10YR 86/ (yellow) C: 7,5YR 64/ (light brown)	D (J7) Layer 1 (1530-cm)
7	Bsp23-035	Handle, fine clay, mineral inclusions, traces of painting, hard fired O: 7,5YR 66/ (reddish yellow) I: 7,5YR 66/ (reddish yellow) C: 10YR 84/ (very pale brown)	D (J7) Layer 1 (1550-cm)
8	Bsp23-039	Wall fragment with handle, comb-stroke pattern Fine clay, organic inclusions Bulb structure and turning grooves, hard and densely fired O: 7,5YR 56/ (strong brown) I: 7,5YR 44/ (brown) C: 7,5YR 76/ (reddish yellow)	D (J7) Layer 1 (1550-cm)
9	Bsp23-034	fine clay, mineral inclusions, mica bulb structure, hard, dense, slightly rough, diameter: 12.5cm O, I: 5YR 76/ (reddish yellow) C: 5YR 56/ (yellowish red)	D (J7) Layer 1 (1550-cm)
10	Bsp23-014	Lamp hand-formed, numerous fingerprints, thickened inside below the rim, wick hole pierced from outside to inside, smeared inside, mineral coating, mica O: 10YR84/ (very pale brown) I: 7,5YR 54/ (brown) C: -- Glaze remains:	D (J8) Layer 1 (015-cm)

Plate 3

No.	Inv. Number	Description	Locus
1	Bsp23-017	medium-fine clay, mineral inclusions, sintered surface on the outside, smoothed inside, turning grooves on the outside Diameter: 15,5cm O: 5YR 74/ (pink) I: 5YR 74/ (pink) C : 5YR 84/ (pink)	D (J8) Layer 1 (015-cm)
2	Bsp23-032	fine clay, mineral inclusions (mica) thickened lip towards the outside, with slight grooves, slightly rough, hard, dense diameter: 13.5cm O: 10YR 74/ (very pale brown) I: 10YR 74/ (very pale brown) C: 5YR 76/ (reddish yellow)	D (J7) Layer 1 (1530-cm)
3	Bsp23-025	fine clay, thickened lip, mineral inclusions and mica, rough surface, hard, with groove, Diameter: 12.5cm O: 10YR 64/ (light yellowish brown) I: 10YR 66/ (brownish yellow) C: 10YR 64/ (light yellowish brown)	D (J7) Layer 1 (1530-cm)
4	Bsp23-038	Fine to medium-fine clay, mineral inclusions, bitumen inside, encrusted outside, irregularly shaped, slight turning grooves visible inside, fragment with grooves on the upper edge Diameter: 16cm O: 10YR 64/ (light yellowish brown) I: 7,5YR 64/ (light brown) C: 10YR 64/ (light yellowish brown)	D (J7) Layer 1 (1550-cm)
5	Bsp23-027	fine clay, mineral inclusions, slight turning grooves inside, surface sintered outside, Ausbruch von einer Lochung (?) Diameter: 13cm O: 10YR 74/ (very pale brown) I: ,5YR 74/ (light reddish brown) C: 7,5YR 64/ (light brown)	D (J7) Layer 1 (1530-cm)
6	Bsp23-030	Fine clay, sandy with lime inclusions (up to 2mm) Surface rough on the outside, encrusted on the inside and turning grooves Diameter: 15cm O: 5YR 43/ (reddish brown) I: 2,5YR 44/ (reddish brown) C: 7,5YR 54/ (reddish yellow)	D (J7) Layer 1 (1530-cm)

7	Bsp23-007	Wall fragment, fine clay, sandy with black inclusions, little mica Surface smoothed on the outside, smooth on the inside and blue glaze O: 7,5YR 78/ (reddish yellow) I: 10YR 86/ (yellow) C: 10YR 66/ (brownish yellow) Glasur 7,5G 66/	Locus 3 Layer 1 (030-cm)
8	Bsp23-006?	Wall fragment of a bottle neck, surface slightly smoothed, inside well smoothed, fine clay, sandy and chaff inclusions, black inclusions and mica O, I, C: 10YR 64/ (light yellowish brown)	Locus 3 Layer 1 (030-cm)
9	Bsp23-005	Wall fragment with rolling wheel decoration, fingerprints inside, fine clay, with mica inclusions, hard and densely fired O: 7.5YR 76/ (reddish yellow) I: 10YR 76/ (yellow) C: 7.5YR 66/ (reddish yellow)	Locus 3 Layer 1 (030-cm)
10	Bsp23-040	Wall fragment with grooves Fine to medium-fine clay, organic inclusions Hard O: 10YR 54/ (yellowish brown) I: 7,5YR 76/ (reddish yellow) C: 7,5YR 78/ (reddish yellow)	D (J7) Layer 1 (1550-cm)
11	Bsp23-018b	Wall fragment with grooves Fine clay, sand, lots of chippings, little mica Outside surface very rough, partially rubbed and scratched, inside with turning grooves and smoothed O, I, C: 10YR 54/ (yellowish brown)	D (J8) Layer 1 (015-cm)
12	Bsp23-002	Wall fragment, fine, with black inclusions, little mica, chaff, dense, very hard fired Surfaces left rough inside and outside, outside cracked in places, many fingerprints and dents, possibly fingerprint or stamp on the outside O: 10YR 66/ (brownish yellow) I: 10YR 64/ (light yellowish brown) C: 10YR 74/ (very pale brown)	Trench D (j9) Locus 1 Layer 1 (030-cm)
13	Bsp23-011	Wall fragment with impressions, fine inclusions (organic), hard, dense, fingerprints inside O: 2,5YR 64/ (light reddish brown) I: 2,5YR 64/ (light reddish brown) C: 7.5YR 84/ (pink)	Locus 5 Layer 2 (030-cm)

Plate 4

No.	Inv. Number	Description	Locus
1	Bsp23-010	Coarse clay with sand, some mica, partly with chopped material Very irregular lump of clay with a heavily chipped surface, i.e. the shape is heavily interpolated. It is probably a base, very low center of gravity. The underside is broken off, there seems to have been an additional lower part (base ring?). Diameter: 4cm O: 7,5YR 56/ (strong brown) I: 10YR 86/ (yellow) C: 7,5YR 56/ (strong brown)	Locus 3 Layer 1 (030-cm)
2	Bsp23-042	Fine clay, organic inclusions, rough surface, hard fired Diameter: 6cm O: 10YR 64/ (light yellowish brown) I: 10YR 54/ (yellowish brown) C: 7.5YR 66/ (reddish yellow)	D (J7) Layer 1 (1550-cm)
3	Bsp23-008	Fine clay, sandy, little mica and chaff, surface slightly smoothed on the outside, turning grooves, turned when wet, or pressed onto the base, slightly smoothed on the inside, turning grooves, turning spiral visible on the bottom, notched pattern on the outside Diameter: approx. 4cm O: 2,5YR 64/ (light reddish brown) I: 10YR 66/ (brownish yellow) C: 10YR 66/ (brownish yellow)	Locus 3 Layer 1 (030-cm)
4	Bsp23-024	Fine clay, mineral inclusions, bitumen (?) inside, hard, dense, slightly rough, salt deposits outside Diameter: 3cm O: 2,5YR 84/ (pink) I: asphalt - black C: 2,5YR 84/ (pink)	D (J7) Layer 1 (1530-cm)
5	Bsp23-031	Fine, mineral clay, mica Base with base ring, base ring heavily worn, slightly rough surface, outside strong/deep grooves, pressed into model, also deep grooves Diameter: 8cm O: 10YR 76/ (yellow) I: 10YR 74/ (very pale brown) C: 10YR 64/ (light yellowish brown)	D (J7) Layer 1 (1530-cm)
6	Bsp23-023	Base with base ring, turning grooves inside, mineral inclusions, fine with mica Diameter: 4.5cm O: 10YR 66/ (brownish yellow) I: 10YR 76/ (yellow) C: 7,5YR 86/ (reddish yellow)	D (J7) Layer 1 (1530-cm)

7	Bsp23-003	Offset base, construction over beads, then turned on the disc, smoothed Hard, dense, rough, core two-coloured, mica Diameter: 9cm O: 10YR 76/ (yellow) I: 7,5YR 66/ (reddish yellow) C: 7,5YR 66/ (reddish yellow)	Trench D (j9) Locus 1 Layer 1 (030-cm)
8	Bsp23-019	Standing base, set off, fine clay, organic inclusions, hard fired, uneven, roughly worked Diameter: 5,5cm O: 7,5YR 64/ (light brown) I: 5YR 74/ (pink) C: 5YR 84/ (pink)	D (J8) Layer 1 (015-cm)
9	Bsp23-033	Flat base, swirls visible at the bottom of the base, base is very irregularly shaped Fine clay, mineral, partly organic inclusions Diameter: 5cm O: 10YR 84/ (very pale brown) I: 10YR 64/ (light yellowish brown) C: 7,5YR 76/ (reddish yellow)	D (J7) Layer 1 (1530-cm)

end notes:

1- The Yuneec (520) was equipped with the Yuneec E90 camera, achieving an average ground resolution of approximately (2cm) per pixel.

2- A relative error of less than (5cm) has been calculated based on the measurement of the reed mat layers in the rear wall of the cella, which were also used by Andrae when documenting the pedestal.

3- The same approach was also adopted by Rassam in relation to the southwest gate (Kuntner 2007: 104-105).

4- The height measurement based on counting the reed mat layers was initially introduced by W. Andrae apparently to expedite the establishment of reference height points during excavation. Subsequently, the expedition of the Deutsche Orient-Gesellschaft measured only the most important height references using a leveling instrument, Unfortunately, this approach resulted in significant miscorrelations between construction phases, particularly between the northwestern façade of the Ezida Temple on the Platform and the northeastern façade of the Ezida Temple below the Platform (Kuntner 2007: 51-64). The AAEI later adopted the reed mat measurement system (Allinger-Csollich 1991; 1998), especially after recognizing a change in building techniques during the construction of the Ezida Temple, which coincided with specific reed mat layers SL II and SL V. The absence of discontinuities in these reed mats and the fact that the building technique remains consistent within the same masonry blocks indicate three distinct

construction phases at the Ezida Temple, As a result, the building on the platform was completely renewed twice, with the mudbrick walls being carefully leveled to predetermined heights during each reconstruction (Kuntner and Heinsch 2013: 241-243).

5- Cf. Labrousse/Boucharlat 1974, fig. 47:10 from Niveau 3, Céramique commune.

6- O = Outside, I: Inside, C: core

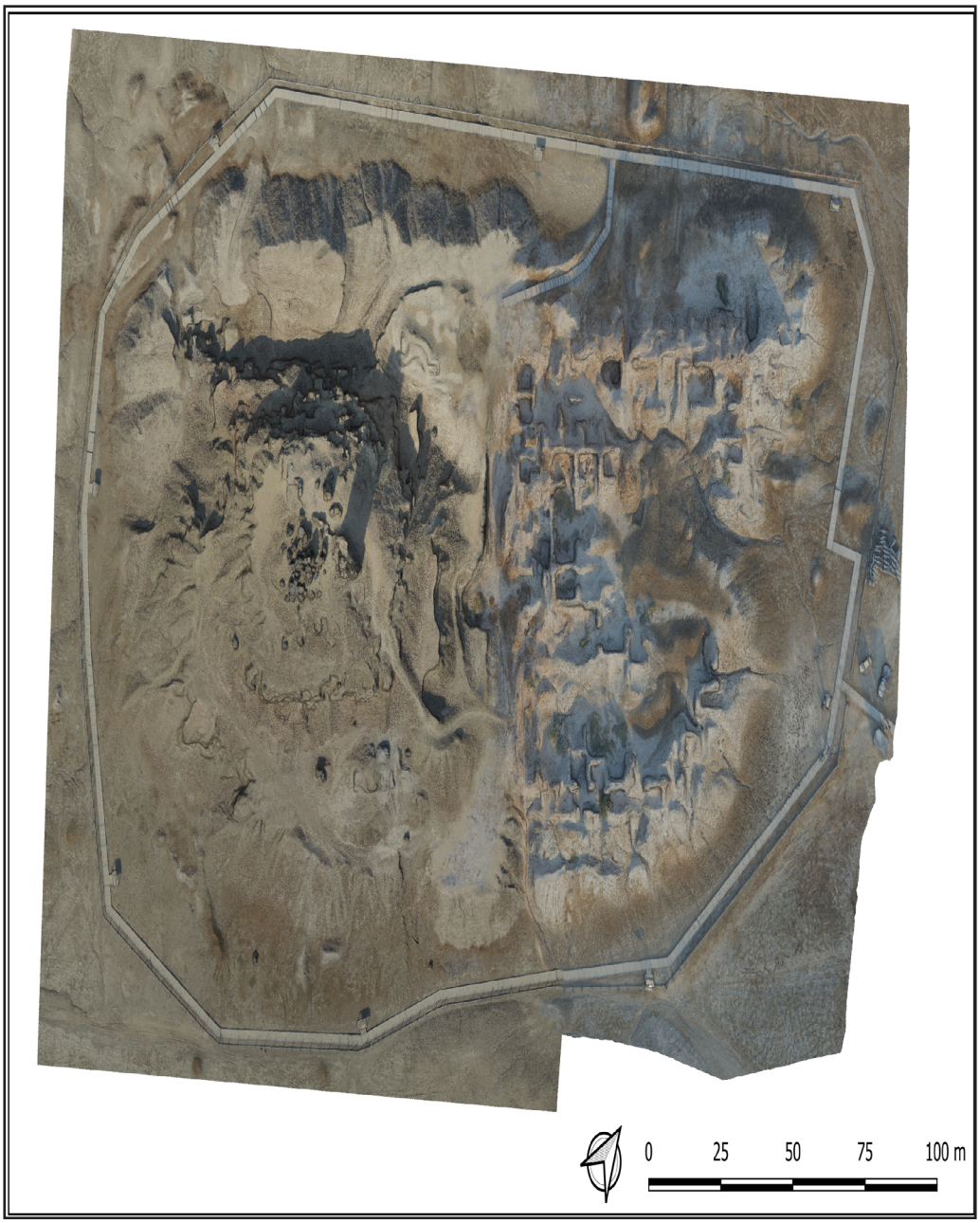

Fig.1 Aerial orthophoto of the Birs Nimrud ruin

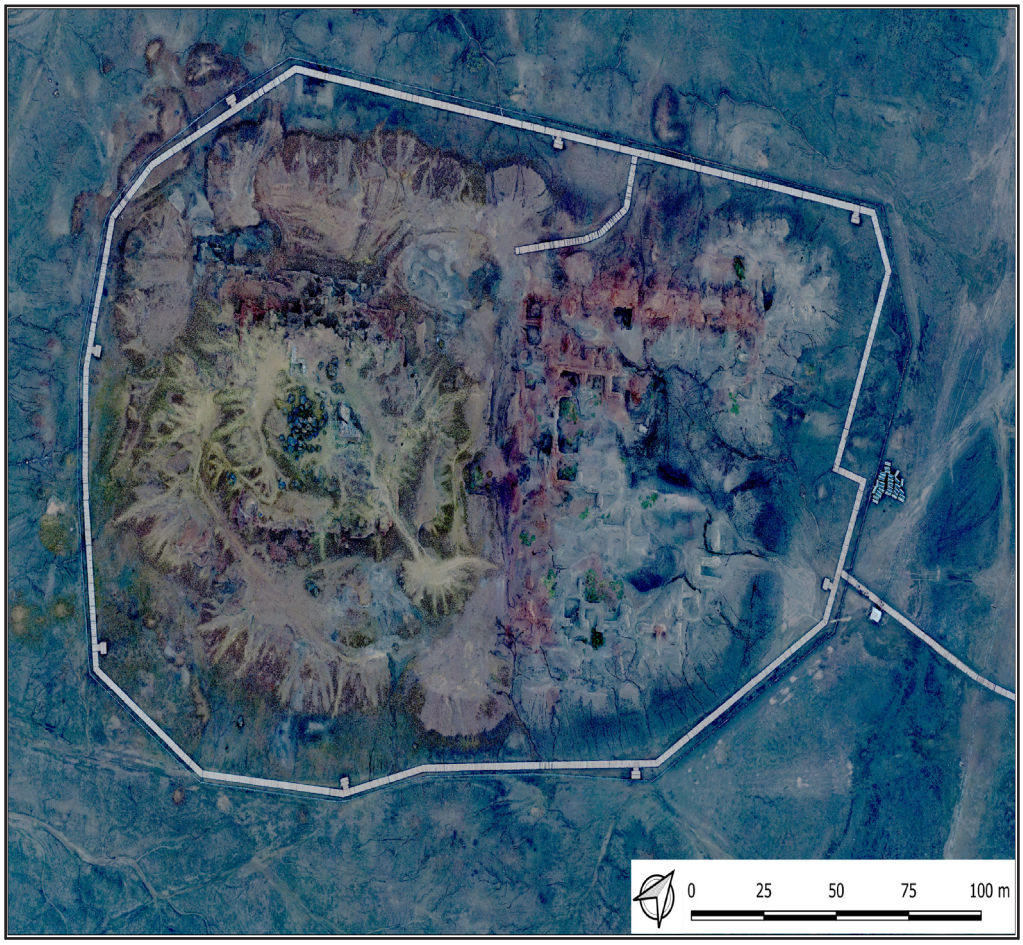

Fig.2 Aerial orthophoto highlighting the red burnt mudbrick structures of the Ezida Temple and the yellowish brick debris of the so-called "Oberbau" of the ziggurat

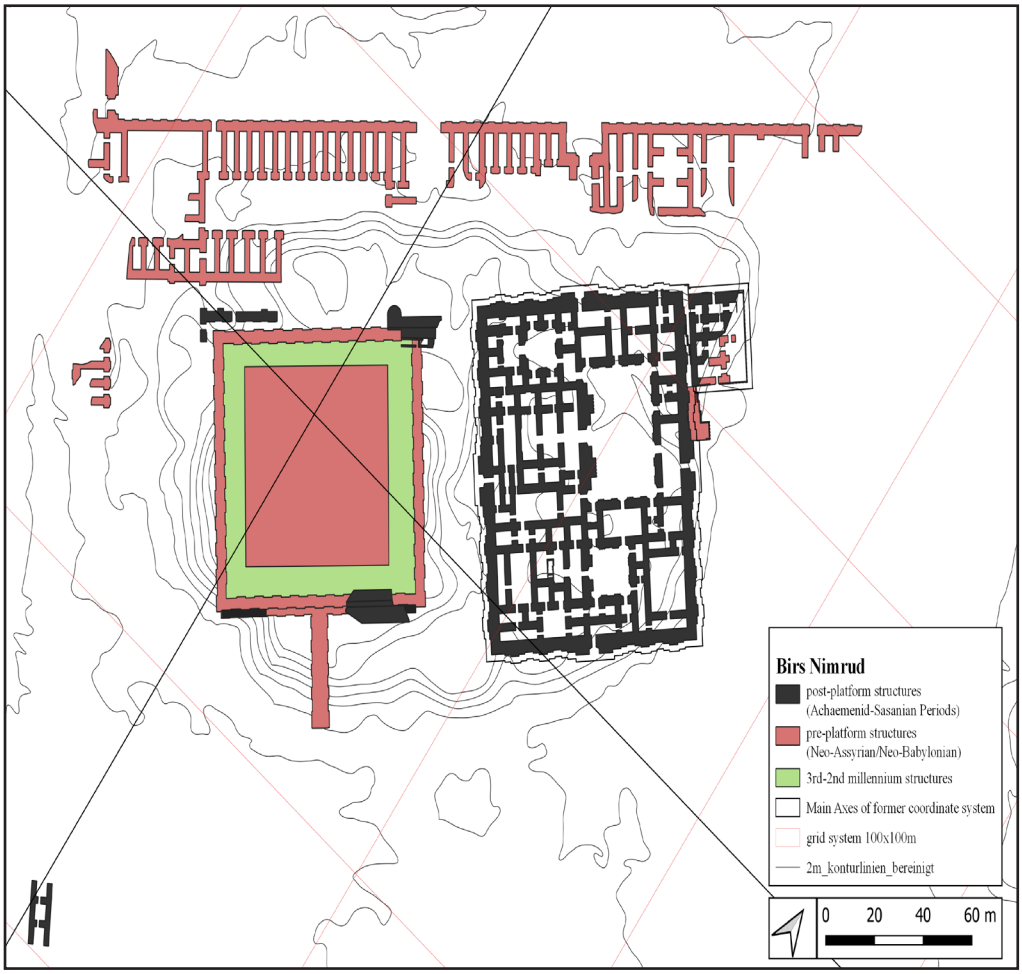

Fig.3 Multi-period plan of excavated structures at Birs Nimrud

Fig.4 Temple Ezida. Local 10 x 10 m grid system showing the location of Trenches C and D

Fig.5 Aerial orthophoto of Trench C; final situation (2023)

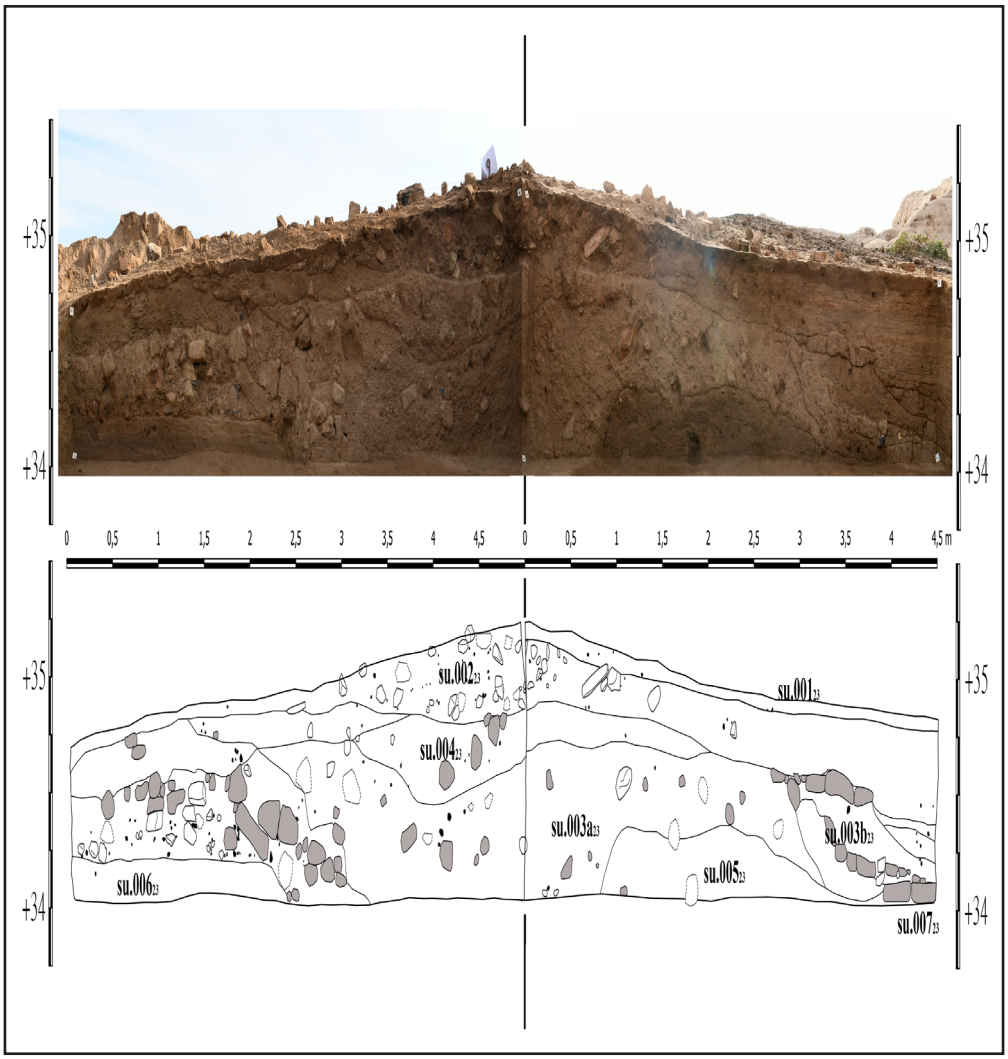

Fig.6 Profile of northeastern and southeastern sections in Trench C

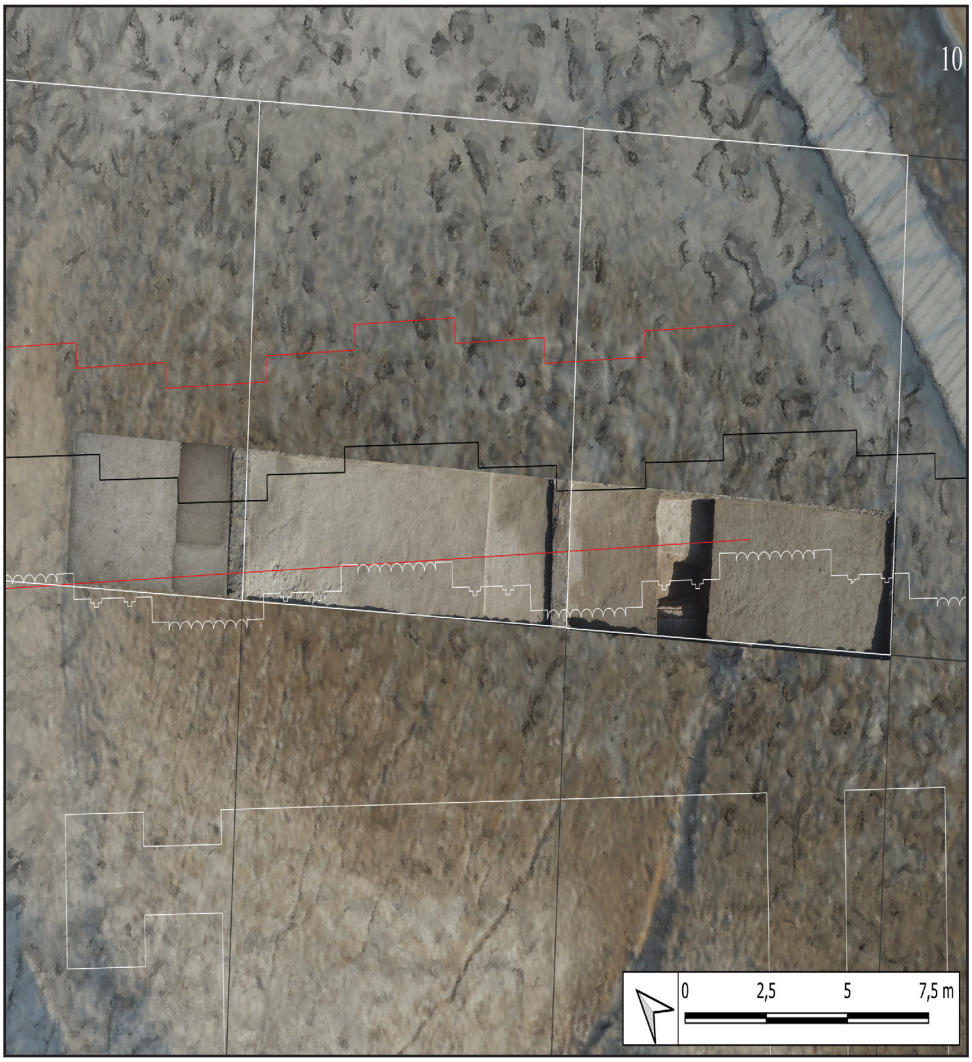

Fig.7 Aerial orthophoto of Trench D; final situation (2023)

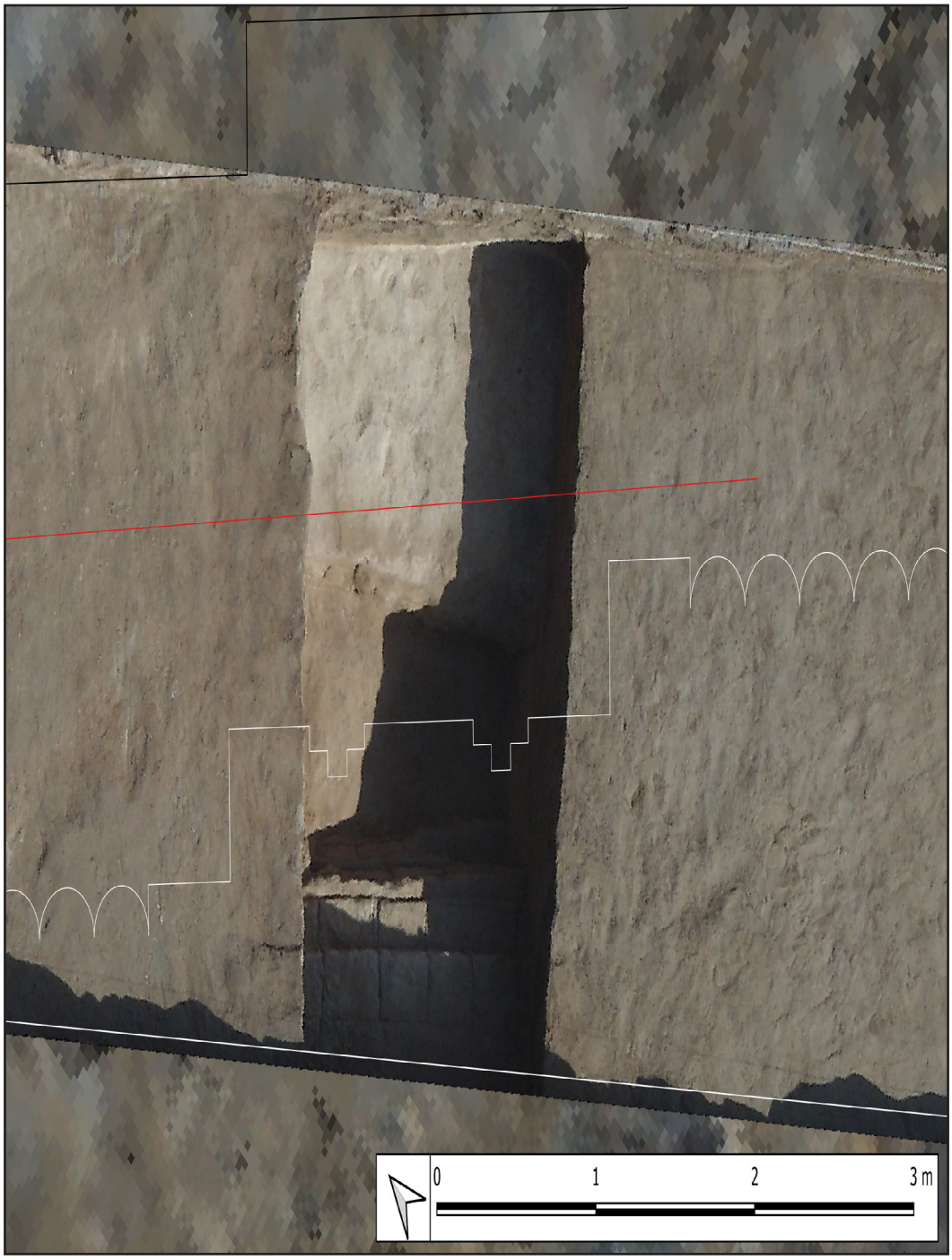

Fig.8 Detail of excavated structure in Trench D-J9

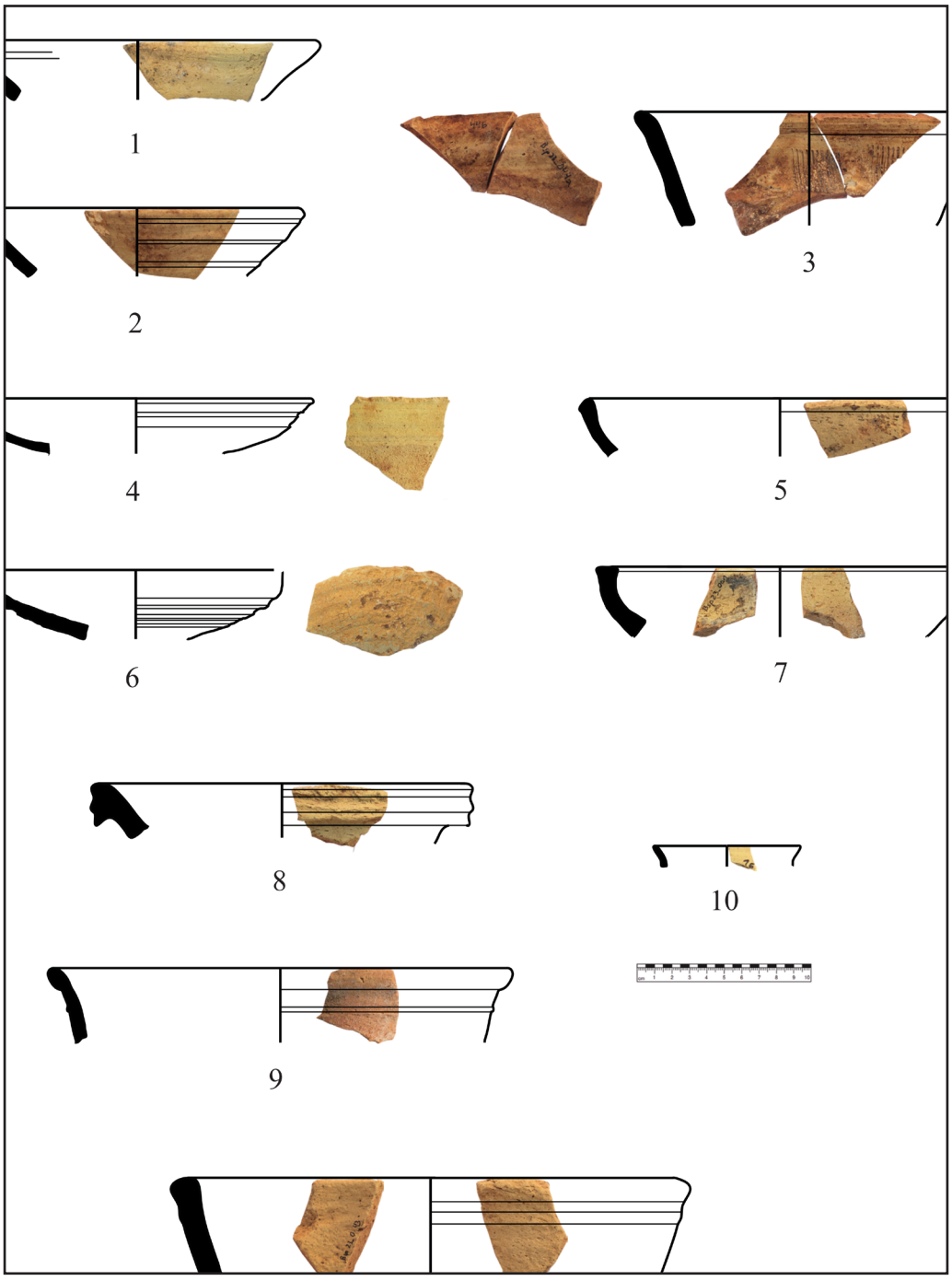

plate 1

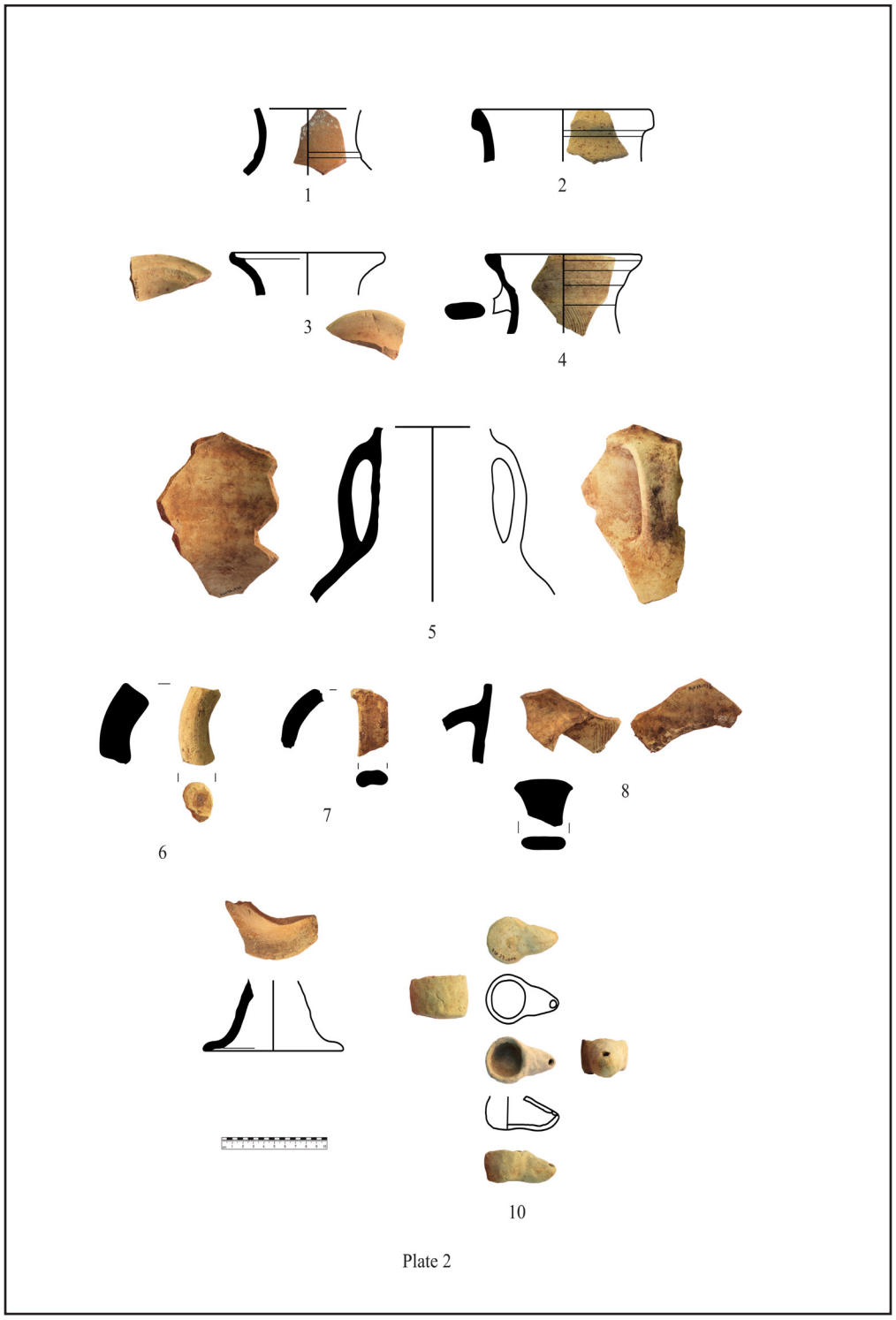

plate 2

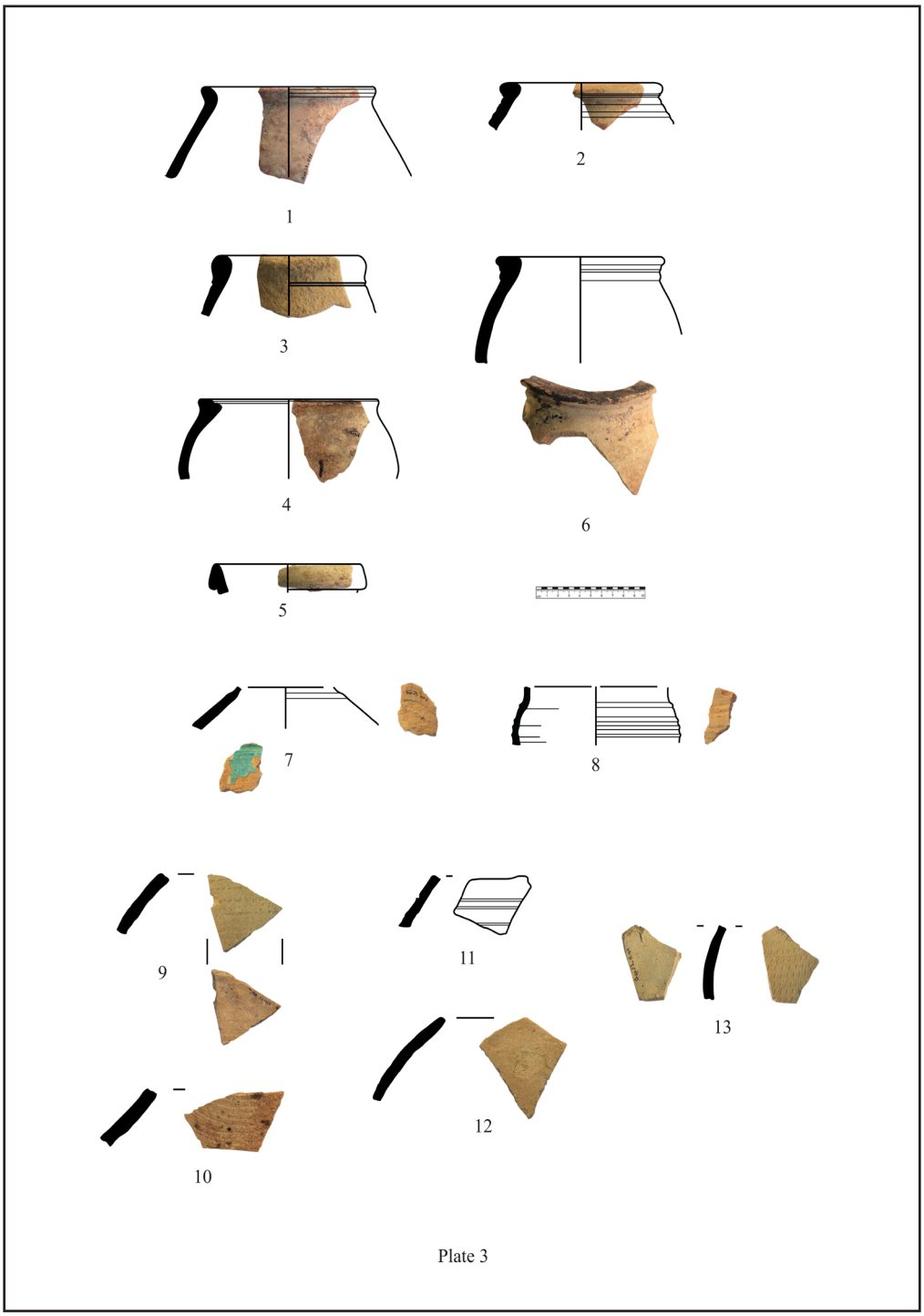

plate 3

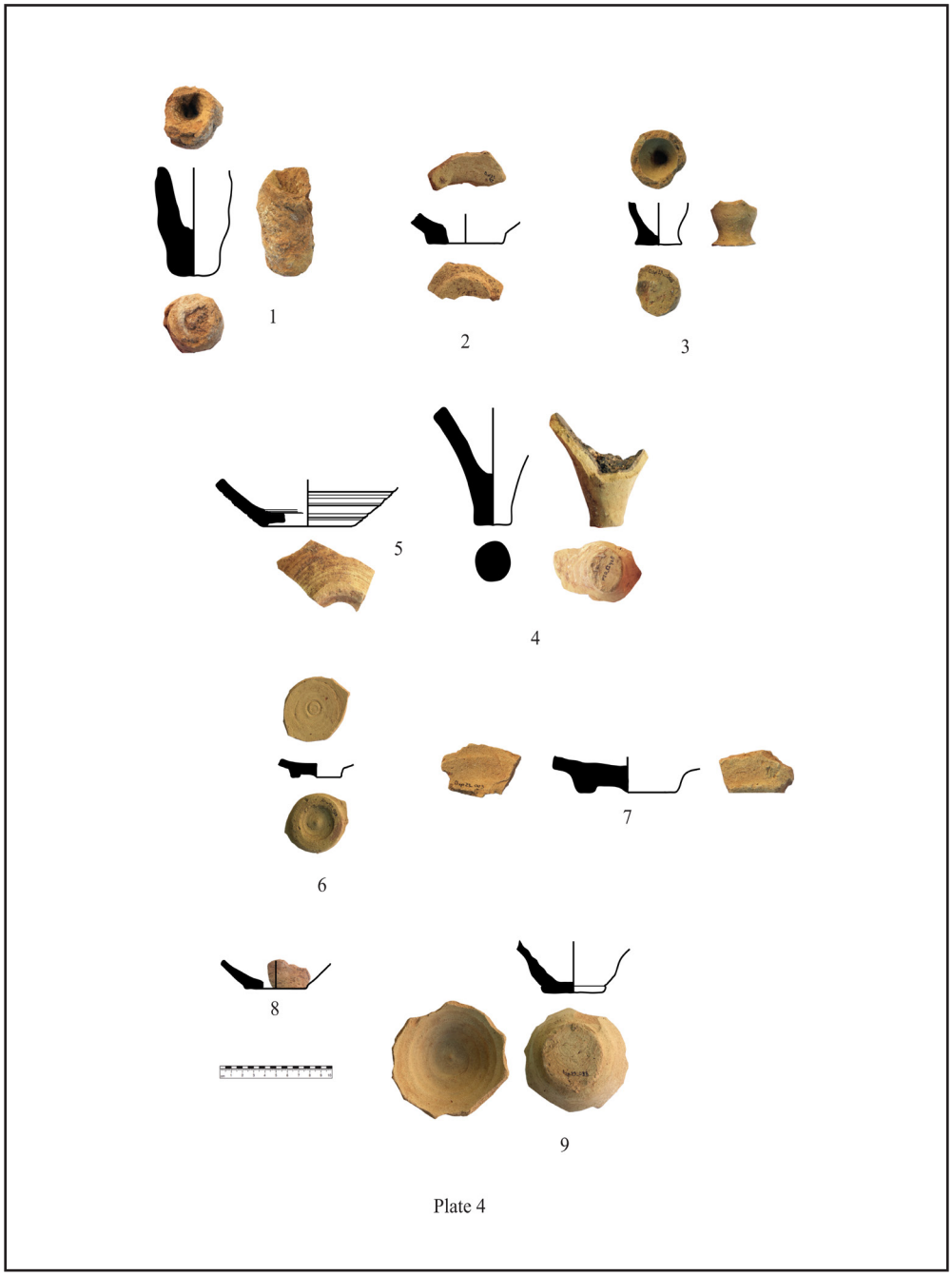

plate 4