# SUREZHA EXCAVATIONS

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Excavations by ISAC at Tell Surezha on the Erbil Plain in Iraqi Kurdistan investigate the prehistoric roots of the earliest towns, and later cities, in northern Mesopotamia during the Chalcolithic period from roughly 5500 to 3500 BCE. We are grateful to General Director of Antiquities Mr. Kayfi Ali and Director of Antiquities for the Erbil Governate Dr. Nader Babakr for permission to excavate at Surezha and for the many ways in which they have facilitated our work.

Surezha is an ideal site for exploring the chronology, economy, and developmental sequence of the Erbil Plain in this period because the high mound is largely prehistoric, with only limited later occupation from the Middle Assyrian period and Iron Age. Located at the southwestern edge of the modern village of Gund-i Surezha, the ancient site of Surezha has three parts: (1) the prehistoric high mound, (2) the terrace, and (3) the Hellenistic- through Islamic-period lower town. The conical-shaped high mound and terrace measure approximately 188 m from northwest to southeast and 150 m from southwest to northeast, with an area of approximately 2.8 ha (fig. 1). The high mound rises to a height of 16 m above the terrace. The terrace surrounding the base of the high mound is about 2 m high and slopes down gradually over a distance of approximately 70 m to the lower town, which extends out from the terrace in all directions. Altogether, the archaeological deposits in these three areas total approximately 20 ha.

The 2024 field season took place from September 1 to September 30, 2024, and was codirected by Gil Stein and Michael Fisher along with an international staff of fifteen archaeologists and laboratory specialists. Our government representatives were Mr. Rozhgar Rashid and Dr. Nader Babakr. Site excavations were carried out by twenty-one workers from the Erbil Department of Antiquities, the village of Gund-i Surezha, and other nearby villages. The excavations focused on five trenches: operation 15 in Area A on the northwestern slope of the high mound and operations 11, 12, 13, and 14 in Area B on the southern slope and base of the high mound (fig. 2).

Figure 1. Surezha high mound: overhead view showing excavation areas.

## AREA A: OPERATION 15

Operation 15 is a 10 × 10 m trench in Area A. The trench was laid out to overlap with the adjacent operation 1

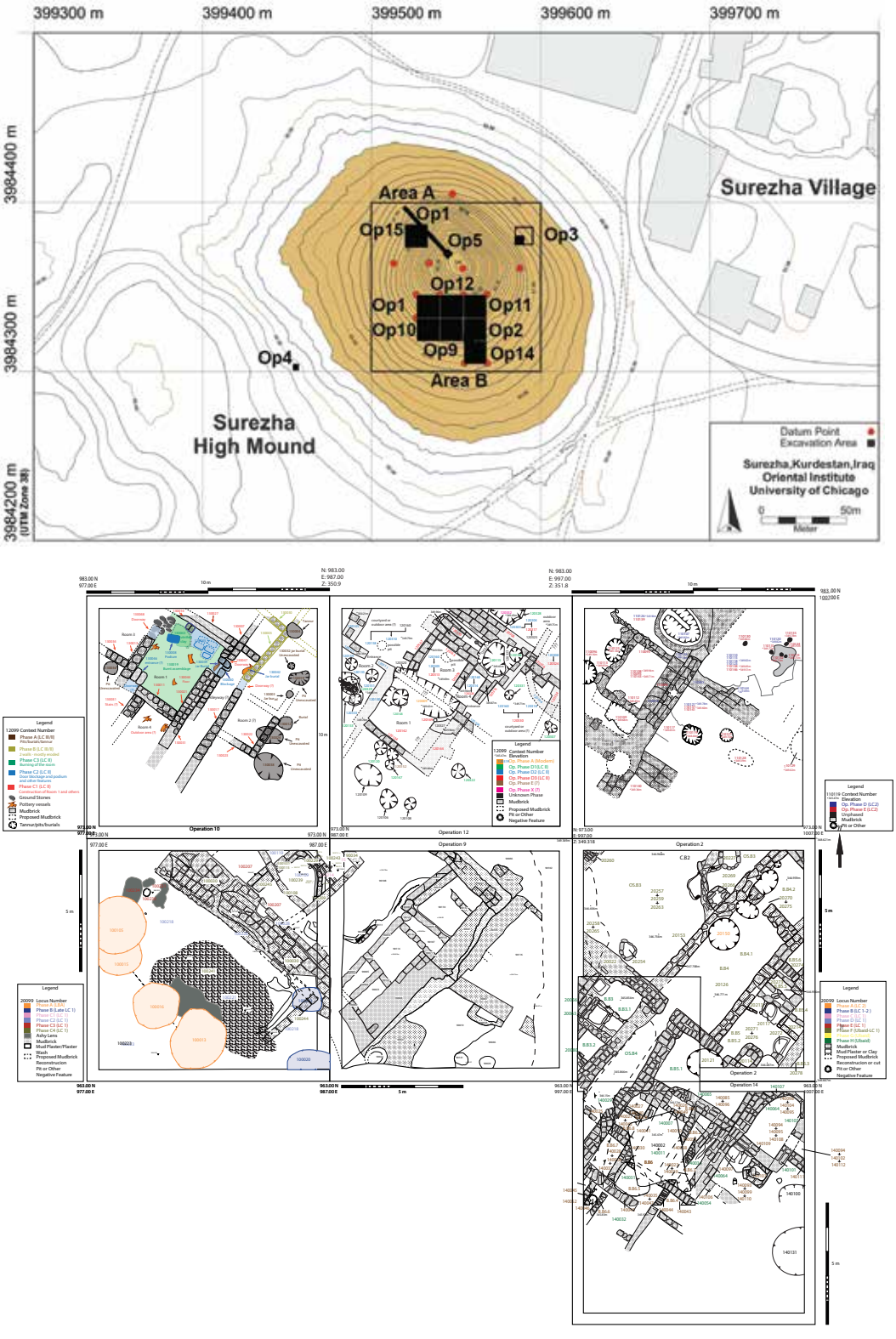


Figure 2. Top: Topographic map of the Surezha high mound. Bottom: Area B composite top plan.

step trench in the area with Late Chalcolithic (LC) 2 deposits (ca. 4200–3800 BCE) to ensure a reliable stratigraphic connection between the two trenches. Beneath the overlying deposits of the LC 3 period (ca. 3800–3700 BCE) and cut through by a later pit dating to the Middle Assyrian period, excavations revealed a complex of LC 2 architecture with at least eight mudbrick rooms whose layout suggests a nondomestic function (fig. 3).

Figure 3. Area A operation 15 at the end of the 2024 excavations.

These rooms were linked stratigraphically to a well-preserved LC 2 room with complete storage vessels and a stamp-seal impression that had been initially excavated in the operation 1 step trench in 2013. The southern portion of the LC 2 architecture had been cut through by a large Middle Assyrian pit, locus 16 (fig. 3). In 2024, our excavations focused on excavating the large, 5 × 5 m area of LC 3 and later deposits that overlay the LC 2 architecture in the southeastern corner of operation 15. The majority of the deposits excavated were wash layers and a deep, erosional gully that show this area of the mound was abandoned for at least part of the LC 3 period. Beneath these erosion deposits, two small wall stubs and a surface with a basin belonged to an intact deposit that dates to the beginning of the LC 3 occupation on the site. That occupation had two significant features: a later LC 3 large jar burial (locus 119/150) of a subadult, 8–12 years old at death (fig. 4), and the lower portion of an earlier kiln (locus 120) with green vitrified walls indicating very high firing temperatures. The kiln had been cut through by the later Middle Assyrian pit (locus 16; see fig. 3). The LC 3 burial and kiln both cut into the underlying LC 2 architecture. Beneath this earliest LC 3 deposit, excavations in the eastern part of operation 15 exposed a northwest-to-southeast-oriented cross wall that defined two additional rooms in the LC 2 building. The lower portions of early LC 3 walls 126, 127, 129, 130, and 139 still remain to be excavated in the southeastern corner of operation 15. We plan to remove these remaining LC 3 walls to complete the exposure of the underlying LC 2 building complex across operation 15.

Figure 4. Operation 15: large LC 3 jar burial of subadult (8–12 years old).

# AREA B: OPERATIONS 11, 12, 13, AND 14

In 2024, we expanded the exposures in Area B on the southern slope of the Surezha high mound in the three 10 × 10 m trenches constituting operations 11, 12, and 14, while extending our excavations by opening a new 10 × 10 m trench, operation 13, to the west of operation 12 (see fig. 2).

## *Operation 11*

The 2024 excavations in operation 11 focused on the northern portion of the trench, where the architecture and stratigraphy were better preserved than in the eroded area along the south balk (figs. 5–6).

Several contemporaneous architectural features and spaces were excavated in this area: (1) courtyard or large room 8 north of wall 83 in the northeastern part of operation 11; (2) kiln 4, built adjacent to the north balk section; (3) loci 121, 137, and 141 south of wall 83 in the southeastern quadrant of the trench; and (4) the northwestern quadrant of the trench, defined by mudbrick walls 74/98 and 114/142, which extended into the west balk of the trench. A smaller room, defined by

Figure 5. Operation 11: orthophoto.

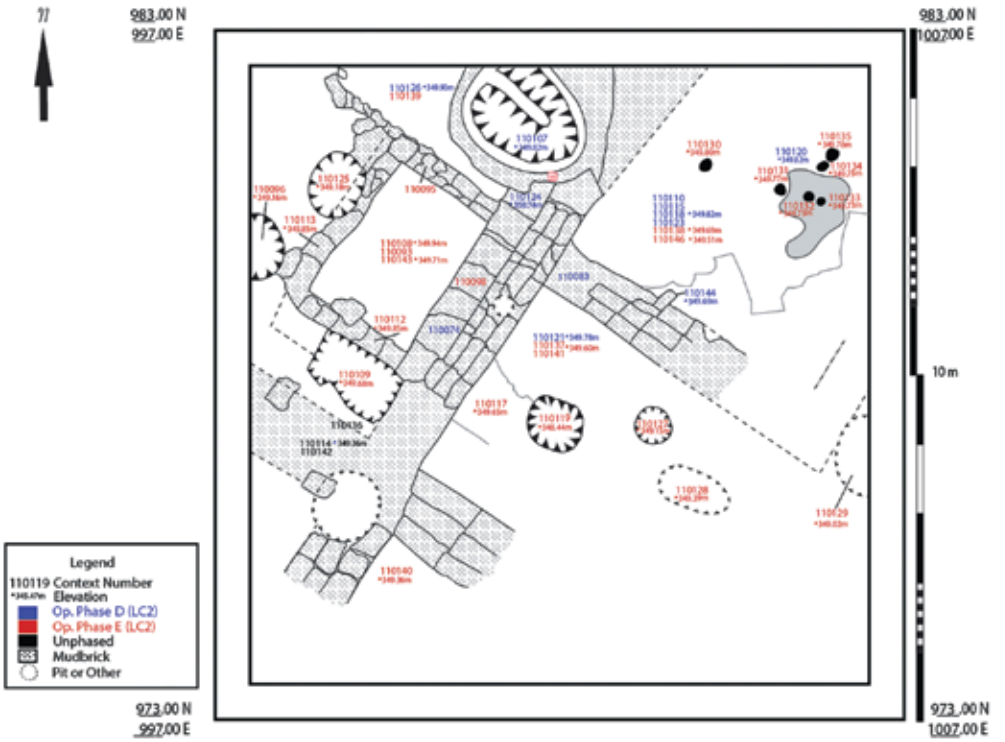


Figure 6. Operation 11: top plan.

walls 95, 112, and 113 was built to the south of kiln 4 next to wall 74/98. Associated ceramics, such as chaff-tempered "wide flowerpot bowls" and internally beveled-rim bowls, date the building complex to the LC 2 period (ca. 4200–3800 BCE). The floor of the kiln seems to have been built first as an aboveground installation, followed by the walls, rooms, and courtyards. A series of pits were later cut into this building complex. Pit 119 was a trash pit more than 1.19 m deep, with large amounts of domestic refuse—LC 2 ceramics, animal bones, and chipped stone—and was sealed by an adult burial with stamp seal SR14623 (figs. 7–8). The pit's contents were 100 percent sieved, and carbon-14 and flotation samples were collected. Pit 96 yielded eight chaff-tempered, wide flowerpot bowls. This vessel type is a good diagnostic for the LC 2 period and matches the dating of ceramics from this level in other parts of operation 11.

Figure 7. Operation 11, pit 119: early LC 2 ceramics.


Figure 8. Operation 11, pit 119: stamp seal.

## *Operation 12*

Area B operation 12 is a 10 × 10 m trench located immediately to the west of operation 11. Although the two adjacent excavated areas were contemporaneously occupied during the LC 2 period, they seem to have differed markedly in function. In contrast with the largely open courtyard area around the operation 11 kiln, the excavated area in operation 12 comprised a series of four mudbrick rooms that seem to have been domestic houses (fig. 9). After the houses were abandoned and filled in with erosional wash, the northwestern part of operation 12 was used as a cemetery, with pits for at least fifteen child burials discovered in 2023 and 2024—often in ceramic pots—along with one adult burial (fig. 10).

Although most of the burial pits were dug after the houses were abandoned, room 2, in the northwestern part of operation 12, had at least two child

Figure 9. Operation 12 at the end of the 2024 excavations.

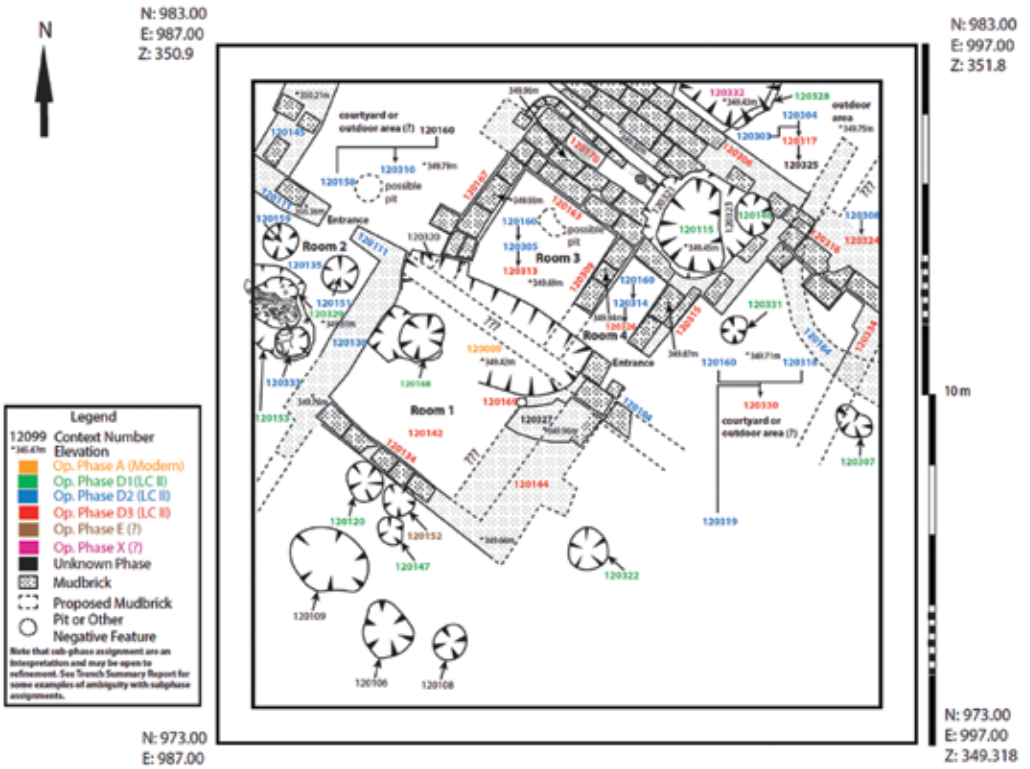


Figure 10. Operation 12: final top plan with phasing.

burials (pits 151 and 159) that had been excavated into the floor just inside the doorway and sealed while the room was still being used for habitation. The 2023 and 2024 exposures in operations 11 and 12 give good evidence that the southern slope of the Surezha high mound was occupied in several ways during the LC 2 period. At different stages, and in different parts of operations 11 and 12, there were houses, a burial area for children, and an industrial area for ceramic production.

The earliest LC 2 occupation level reached in 2024 was a pebble pavement with an ash and trash layer lying on top. This layer yielded a well-made obsidian blade, one gabled red-stone stamp seal (SR14703) decorated with drilled concentric circles (fig. 11), and a clay sealing (SR14655) showing the impression of a large stamp seal with the motif of a stag with antlers (fig. 12). The Surezha seal impression is comparable to an LC 2 gabled stamp seal with a stag motif from Tell Zeidan in Syria (https://www.asor.org/resources/photo-collection/pid000543).

## *Operation 13*

Operation 13 is a 10 × 10 m unit in Area B, in the southwestern quadrant of the Surezha high mound immediately to the west of operation 12 (see figs. 1–2). It was opened as a new excavation in the 2024 field season. Because this part of the mound slopes down steeply to the southwest, the LC 3 and wash layers had eroded away, including the underlying LC 2 architecture in the southwestern corner of the trench, where the elevation is lowest. Fortunately, most of the early LC 2 building level in the northern part of the trench survived intact and was immediately accessible beneath the present-day ground surface (fig. 13).

Excavations exposed three superimposed LC 2 phases—the latest phase, A; B; and the earliest phase, C, which was the best preserved and consisted of subphases C1, C2, and C3.

Figure 11. Operation 12, locus 321: LC 2 gabled red-stone stamp seal SR14703 with drilled decoration.

Figure 12. Operation 12, locus 321: LC 2 clay seal impression SR14655 with the motif of a stag with antlers (obverse and reverse).

Phase C was a coherent building level consisting of several rooms separated by an alleyway bounded by walls 17 and 21, which may have delineated two separate room complexes. The most striking discovery was burned room 1. The room, with interior dimensions of 2.3 m (northwest to southeast) × 3.5 m (northeast to southwest) was unusual in its architecture, room contents, and having been burned in a controlled, intense fire that incinerated only the room's interior, with no signs of fire in the adjacent rooms or alleyway. Room 1 originally had three doorways—two in the northwestern and northeastern corners, and one in the southwestern corner. The interior had two unusual, special-purpose features made of plastered mudbrick along the room's northern wall between the two doorways (fig. 14).

The first unusual feature was the 0.8 m tall, plastered mudbrick podium (locus 8; figs. 14–15) in front of the northwestern corner of room 1. The top of the podium was flat and had a raised edge so that it could hold vessels or other offerings. To the east of the podium was the second unusual installation—a low, rectangular mudbrick platform (locus 45) with plastered basins on top and attached to the northern wall

of room 1. In the open space (locus 41) next to the podium in the northwestern corner of room 1 was a large, complete, basalt ring-base bowl measuring 40 cm in diameter (SR17765) alongside a stacked deposit of twelve large grinding stones for cereal processing (figs. 16–17). The close association of these objects with podium 8 and mudbrick platform-with-basins 45 is consistent with the use of room 1 for ritual purposes and communal feasting.

Figure 13. Operation 13: ash-filled and burned room 1 at the end of the 2024 field season.

After a long period of use, room 1 was carefully cleaned and then set on fire, causing the roof of wooden beams, reed mats, and mudbricks to collapse in the intense heat, thereby covering the floor, podium, platform with basins, grindstones, and basalt bowl SR17765 with ash and burned mudbricks from the roof, which filled the room with a rubble deposit more than 1 m deep. The fire was carefully limited to room 1; there is no trace of fire in any of the adjacent rooms, the alley, or the surrounding courtyards. Taken together, this evidence clearly suggests that room 1 was used for ritual purposes and, at a certain point, was burned in a special "closing ceremony" to recognize symbolically that its original function had ended. The practice of closing ceremonies for ritual spaces had been widely used since Neolithic times and is known from several other Neolithic and Chalcolithic sites, such as Hamoukar in Syria and Çatalhuyuk in Anatolia.

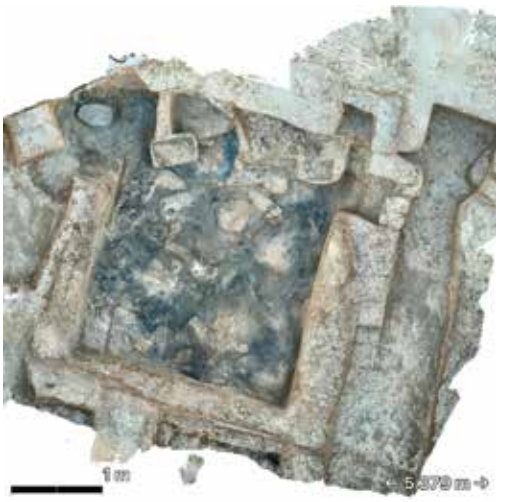


Figure 14. Operation 13, room 1: features and collapsed roof beams.

Figure 15. Podium 8 (left) and mudbrick platform-with-basins 45 (right).

Figure 16. Operation 13: large basalt bowl SR17765 found next to podium 8.

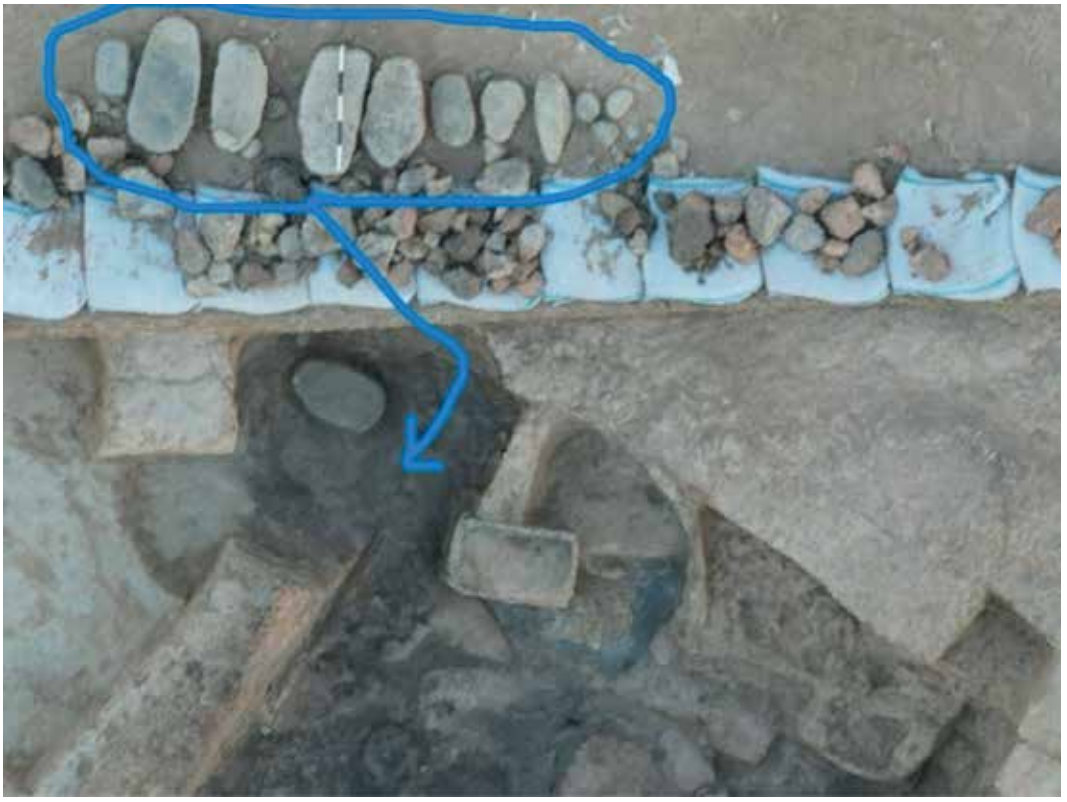

Figure 17. Twelve grindstones found next to the podium.

## *Operation 14*

In 2024, excavations continued work in operation 14, immediately to the south of operation 2, to expose more of the Ubaid-period occupation in Area B at the southern base of the high mound. In this part of Area B, intact Ubaid levels are easily accessible less than 1 m beneath the present-day ground surface. We expanded our exposure of Ubaid architecture from 10 × 5 m to 10 × 10 m (fig. 18).

Figure 18. Operation 14: exposed Ubaid architecture at the end of the 2024 field season.

The 100 $m^2$ exposure in operation 14, combined with the 25 $m^2$ previously exposed in the southwestern part of operation 2, shows that this area was densely occupied during the Ubaid period. The surviving Ubaid architecture lay immediately below LC 1 domestic architecture in the northern portion of the northern two-thirds of the trench, with a great degree of continuity in the orientation and location of houses and walls between the two periods. The southern third of operation 14 sloped down from north to south and had been significantly eroded in the past, cutting through the Ubaid architecture to the south of the two houses. More recently, the eroded area was filled in by three modern processes: sheet wash, excavation of an Iraqi army trash pit, and modern infilling by means of a bulldozer to level the ground surface (fig. 19).

The original Ubaid mudbrick architecture preserved in operation 14 shows evidence for one house to the west of a northwest-to-southeast-oriented narrow street or alley and two contiguous houses on the eastern side of the passageway. House 6 consisted of small rooms built around a courtyard. The rooms often contained small, mudbrick storage bins. The excavations continued in 2024 reached the floors of the courtyard and surrounding small rooms of Ubaid house 6 in the northwestern quadrant of the trench that had been originally exposed in 2022. Although the courtyard had been badly


Figure 19. Operation 14, east balk section: lidar scan showing sheet wash, modern Iraqi army pit (at right), and bulldozer infilling and leveling of the eroded mound slope in the southern third of the trench.

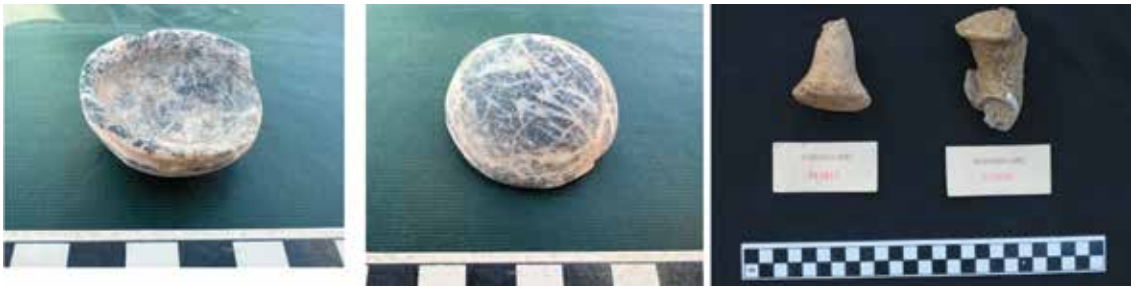

Figure 20. Operation 14 Ubaid objects. Left: two views of the ground and polished stone bowl; right: heads of two mullers.

cut through by a modern Iraqi army trash pit (loci 2 and 11), enough remained of the courtyard wall and small banks of surrounding rooms to suggest that this structure was probably a small Ubaid tripartite house. In the northeastern quadrant of operation 14, a second two-room house was discovered immediately to the east of tripartite house 6. The two houses shared contiguous exterior walls (see fig. 18). Both Ubaid houses seem to have been cleaned out and abandoned peacefully, leaving only small amounts of ceramics; a small, ground and polished stone bowl (SR13767); and the heads of two Ubaid mullers, one worn and chipped by use (SR13617), the other an overfired, partially melted and broken kiln waster that had been discarded unused (SR13600) (fig. 20).

## ANIMAL BONE REMAINS

Analysis of the Surezha animal bone remains is being conducted by project zooarchaeologist Max Price (Durham University, United Kingdom). Faunal remains from eight field seasons at Tell Surezha (2013–24) are helping us reconstruct animal herding practices in the Erbil Plain in the fifth to fourth millennia BCE. Faunal material was recovered from operations 11, 12, 13, 14, and 15 during the 2023 and 2024 seasons. Some 1,208 animal bone fragments were identified to the genus level. These data were added to the existing Surezha database of fauna from all field seasons to date (table 1).

Our faunal samples from each phase are still small and need to be expanded for greater reliability. However, the consistent rank-order pattern from the Ubaid through LC 3 periods shows that sheep (*Ovis*) and goats (*Capra*) occurred most frequently, with pigs (*Sus*) as the second most common animal and cattle (*Bos*) as the third most common taxon (fig. 21). The vast majority of the post-Halaf animal bones are those of domesticated animals. However, the presence of *Gazella* bones (especially in the faunal remains from the LC 1 period) shows that hunting continued as a subsistence practice to supplement the farming and herding economy.

## PLANT REMAINS

Analysis of the Surezha plant remains is being conducted by project archaeobotanist Lucas Proctor (Utah State University). Systematic, comprehensive sediment sampling and analysis of carbonized plant remains from Surezha are providing important insights into village economies and land use on the Erbil Plain in Iraqi Kurdistan during the Northern Ubaid and LC 1–3 periods. More than 500 flotation samples have been collected from the site, of which more than 111 have been analyzed (table 2).

Currently available data suggest that, in the overall assemblage, the proportion of cereal taxa—such as wheat and barley—more than doubled from about 25 percent in the LC 1 period to more than 50 percent

Table 1. Surezha faunal remains identified to the genus level.

| Identified taxa | Halaf | Halaf–Ubaid | Ubaid | Ubaid–LC 1 | LC 1 | LC 1–2 | LC 1 or 2 | LC 2 | LC 2–3 and post–LC 2 | LC 3 | Middle Assyrian | Islamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Ovis/Capra*, of which: | 10 | 20 | 52 | 30 | 487 | 308 | 1 | 136 | 89 | 94 | 64 | 2 |
| *Ovis* | (2) | | (4) | (3) | (69) | (29) | | (13) | | (9) | (5) | |
| *Capra* | | (1) | (2) | (2) | (22) | (43) | | (19) | (2) | (3) | | |
| *Ovis/Capra/Gazella* | | 2 | 7 | 4 | 50 | 6 | 1 | 8 | 7 | 9 | 2 | 1 |
| *Sus* | 1 | 7 | 36 | 35 | 351 | 42 | | 5 | 14 | 80 | 10 | 1 |
| *Bos* | 3 | 12 | 15 | 9 | 172 | 31 | | 9 | 16 | 23 | 7 | |
| *Canis* | | 2 | 2 | | 98 | 6 | | 1 | | 1 | | 1 |
| *Vulpes* | | | | | 1 | 1 | | 7 | | | | |
| *Equus* | | | | | 1 | | | | | | | |
| *Dama/Cervus* | | | | | 2 | | | | 1 | | | |
| *Capreolus* | | | | | 1 | | | | | | | |
| Mustelid (cf. *Mustela)* | | | | | 1 | | | | | | 1 | |
| *Gazella* | 1 | | 1 | | 31 | 3 | | 13 | 2 | 1 | 6 | |
| *Lepus* | 1 | | | | | | | 2 | | | | |
| Bivalve (Unionoida) | | 1 | | | 12 | 5 | | 6 | 2 | 6 | 1 | |
| *Potomon* sp. | | | | | 2 | | | | | | | |
| Bird | | | 5 | 2 | 7 | | | 43* | 1** | 1 | 3 | |
| Fish | | | | | 1*** | | | 3 | | | | |
| **Total** | **16** | **44** | **118** | **78** | **1,216** | **402** | **2** | **190** | **132** | **215** | **94** | **5** |

*Identified birds include *Buteo* sp. and Columbidae ND (species not determined).
**Eggshell.
***Identified fish include Cyprinidae ND (species not determined).

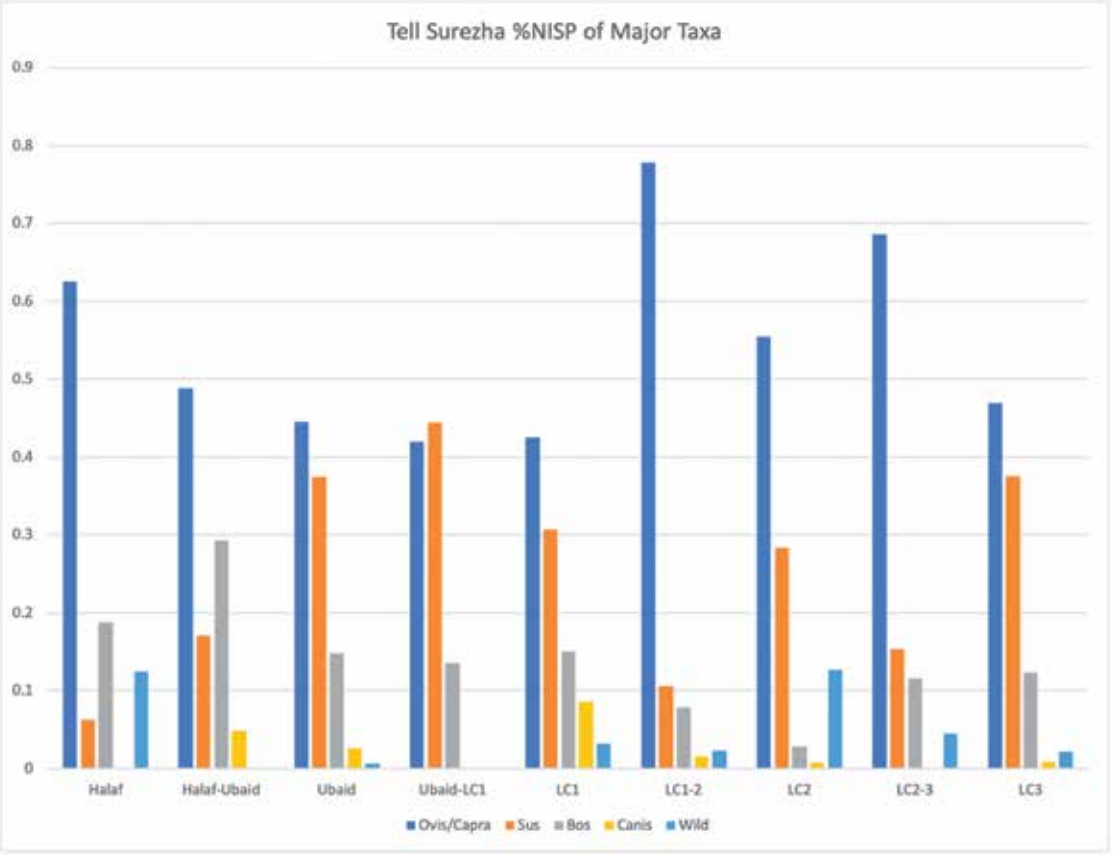


Figure 21. Relative percentages of main taxa (sheep/goats, pigs, cattle, dogs, wild species) over time.

Table 2. Summary of analyzed archaeobotanical data from Gird-i Surezha as of 2024: identified nonseed/crop-processing items such as dung fragments, wood, and gastropods (modern, noncarbonized material not included).

| Period | Number of samples | Total items |
|---|---|---|
| Ubaid | 11 | 992 |
| "Post-Ubaid" | 2 | 422 |
| Ubaid–LC 1 | 7 | 1,662 |
| LC 1 | 35 | 5,644 |
| LC 1–2 | 22 | 6,097 |
| LC 2 | 13 | 616 |
| LC 2–3 | 3 | 205 |
| LC 3 | 10 | 5,202 |
| Late Bronze Age | 6 | 1,686 |
| Uncertain | 2 | 501 |
| **Totals** | **111** | **23,027** |

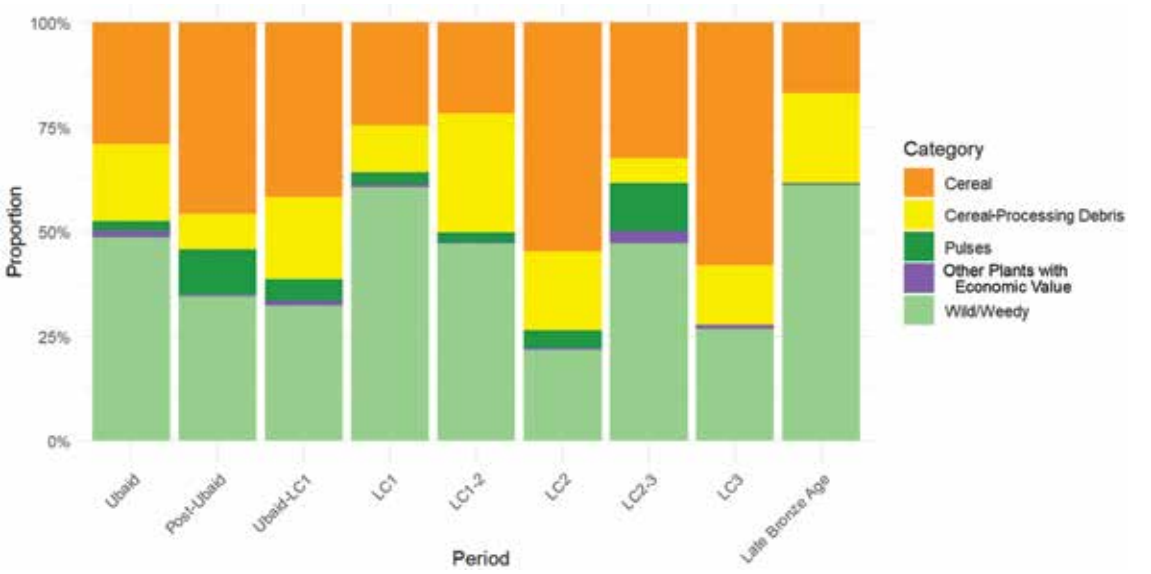


Figure 22. Proportion of major taxonomic categories in the Surezha carbonized-seed dataset, by period.

in the LC 3 period (fig. 22). If this trend is confirmed by further analyses, it may reflect agricultural intensification at Surezha in the LC 2 and LC 3 periods.

## CERAMIC ANALYSES

Analyses of the ceramics found during the 2024 Surezha field season were conducted by Ludivine Audebert (Sorbonne University). One of the main aims of the 2024 season was to refine the Chalcolithic ceramic sequence—in particular, to identify chronological transitions such as the shift from the Ubaid to LC 1 and from the LC 2 period to LC 3. Excavations recovered 11,777 ceramic sherds, including 1,977 diagnostic sherds (rims, handles, bases, etc.) from operations 11, 12, 13, 14, and 15 (table 3). To improve our understanding of the still ill-defined transitions from the Ubaid to LC 1 and from the LC 2 period to LC 3, we developed a set of fabric groups as an additional chronological proxy to complement the use of diagnostic ceramic vessel forms derived from the stratigraphic sequence (table 4).

Table 3. Counts and weights of ceramics collected in 2024, by operation.

| Operation | Total sherd count | Total sherd weight (kg) | Total diagnostic sherd count |
|---|---|---|---|
| Operation 11 | 3,016 | 99.30 | 432 |
| Operation 12 | 2,466 | 90.10 | 431 |
| Operation 13 | 1,430 | 69.00 | 359 |
| Operation 14 | 1,449 | 57.75 | 261 |
| Operation 15 | 3,416 | 148.35 | 494 |
| **General total** | **11,777** | **464.50** | **1,977** |

Table 4. Provisional fabric groups for Surezha Ubaid and LC 1–3 ceramics.

| Group name | Description | Period of most common occurrence |
|---|---|---|
| HCT | Heavy-chaff-tempered fabric with light-green buff or light-orange buff / yellowish-brown buff matrix; mineral temper not visible. The ware can be coarse or medium / medium to fine. | LC 2–LC 3 |
| MCT-FMT | Medium-chaff-tempered fabric showing evidence of white grains (believed to be calcite) and/or very thin shiny grains (interpreted as mica). This type is mostly represented by medium or coarse ware. | LC 1–LC 3 |
| FCT-FMT | Light-chaff-tempered fabric with a small quantity of mineral temper found as well. The mineral temper often takes the shape of very thin black grains (potentially sand) or very thin shiny grains (interpreted as mica). The ware can be medium, medium to fine, or fine. | Ubaid–LC 3 |
| MMT | Medium-mineral-tempered fabric showing heterogeneous inclusions, mostly gray and white, with a mix of round matte and shiny angular inclusions believed to be shell fragments. | LC 2–LC 3 |
| GW-MMT | "Gray ware" with uniform colored surface and often a darker core. This fabric shows medium-mineral temper with large, matte, gray and white grains unevenly spread out on the surface and especially visible in section. | LC 3 |

Notes: HCT = heavy-chaff-tempered; MCT = medium-chaff-tempered; FMT = fewer-mineral-tempered; FCT = fewer-chaff-tempered; MMT = medium-mineral-tempered; GW = gray ware.

The traditional opposition between Ubaid wares, which have been characterized as mostly mineral tempered, and LC 1–3 wares, which have been considered mostly chaff tempered, is challenged by the presence of a more complex mix of fabric groups in the Ubaid and LC ceramic assemblages. The pottery from LC 2 and LC 3 levels belongs mainly to the HCT (heavy-chaff-tempered) fabric group. Pottery from potential LC 1 contexts represents a different trend, as the HCT group is definitely not dominant. At the other end of the chronology, levels assigned to the LC 3 period show sherds belonging to the GW-MMT (gray ware—medium-mineral-tempered), MMT (medium-mineral-tempered), or FCT-FMT (fewer-chaff-tempered or fewer-mineral-tempered) groups. Some mineral-temper-based fabric recipes seem to become increasingly common during the LC 3 period and possibly at the end of LC 2.

One additional fabric group, characterized by buff-green ware and a white mineral temper with coarse grains of 3–4 mm, appears mostly in levels identified as LC 1 and early LC 2 in operations 12 and 13. No sherd with these characteristics was found in the Ubaid levels of operation 14. On these grounds, it can be assumed that this fabric was restricted to the LC 1 or early LC 2. These hypotheses are preliminary observations and will be tested through analyses of the proposed fabric groups using twenty-five petrographic thin sections from the 2024 ceramics.

## CHIPPED STONE

Building on preliminary work conducted in 2017 by Bastien Varoutsikos, in 2024 Joseph Harris (University of Chicago) began analyzing chipped-stone materials from Surezha by conducting a preliminary analysis of 112 blades and bladelets from operations 11, 12, 13, 14, and 15 (table 5).

Table 5. Surezha chipped stone analyzed in 2024.

| Operation | Sample size | Period |
|---|---|---|
| 11 | 12 | LC 2 |
| 12 | 12 | LC 2 |
| 13 | 19 | Early LC 2 |
| 14 | 10 | Terminal Ubaid |
| 15 | 56 | Early LC 3 |

This study found the Surezha assemblage to be characterized by intentionally snapped, bitumen-hafted, chert sickle blades with direct denticulation and silica micropolish from the exploitation of two-row barley and emmer wheat found in the archaeobotanical assemblage. The majority of blades/bladelets are simpler and variably modified and utilized. Most of the Surezha tool kit consists of locally produced, chert-flake tools manufactured from floodplain or riverbed cobbles and pebbles. This industry is informal, and core reduction techniques vary.

The fact that blade cores are rare suggests that many of these blades were imported to Surezha. Beginning in the LC 3 period, standardized, tan-colored, chert Canaanean blades appeared at the site (fig. 23). They were likely produced at chert sources in Iraqi Kurdistan using an advanced copper-tipped, crutch- or lever-pressure blade production technique. That Canaanean blades are found throughout the Fertile Crescent in the late fifth millennium BCE suggests the rapid spread of this technological style. These blades were used in ways that differed from those of non-Canaanean blades, but most were still intentionally snapped and bitumen hafted for sickle use. Drills, borers, and other tools are attested as well, but no projectile points have been identified to date.

Figure 23. Imported LC 3 Canaanean blades.

Figure 24. Obsidian tools imported from Nemrut Dağı (southeastern Türkiye).

A complex obsidian industry was also identified at Surezha. It is largely microlithic, characterized by bladelets and piercers. However, large blades are present too, along with unused flakes and chunks of various sizes. The obsidian, identified by Varoutsikos as deriving from the Nemrut Dağı source in southeastern Türkiye, was scarcer than chert and highly valued (fig. 24). Thirty-six percent of the analyzed blades and bladelets are obsidian, while only 5–10 percent of debitage is. This fact suggests that obsidian arrived at Surezha in many shapes and sizes, perhaps as large flakes with some receiving further reduction. It is unclear whether the bladelets and piercers, which form most of the obsidian assemblage, were imported or produced on-site; only one possible bladelet core fragment was identified in the 2024 assemblage. The presence of unused debitage suggests some on-site reduction of large, imported flakes.

## CONCLUSIONS

The 2024 excavations at Surezha have now exposed 400 $m^2$ of LC 2–period (4200–3900 BCE) deposits across the site. We reached these levels in both Areas A and B, in four of our five trenches. This work is giving us a better idea of the LC 2–period occupation of the mound, of the LC 2 to LC 3 transition, and of the Ubaid period at Surezha through our excavations in operation 14. At the same time, scientific analyses of animal bones, plant remains, ceramics, and chipped stone are providing important information on the chronology and development of herding and farming systems at Surezha, as well as more generally on the Erbil Plain. We plan to continue and expand these lines of research in the upcoming 2025 field season at Surezha.