EXCAVATIONS AT SUREZHA 2017

Erbil Plain, Kurdistan Region, Iraq

GIL J. STEIN

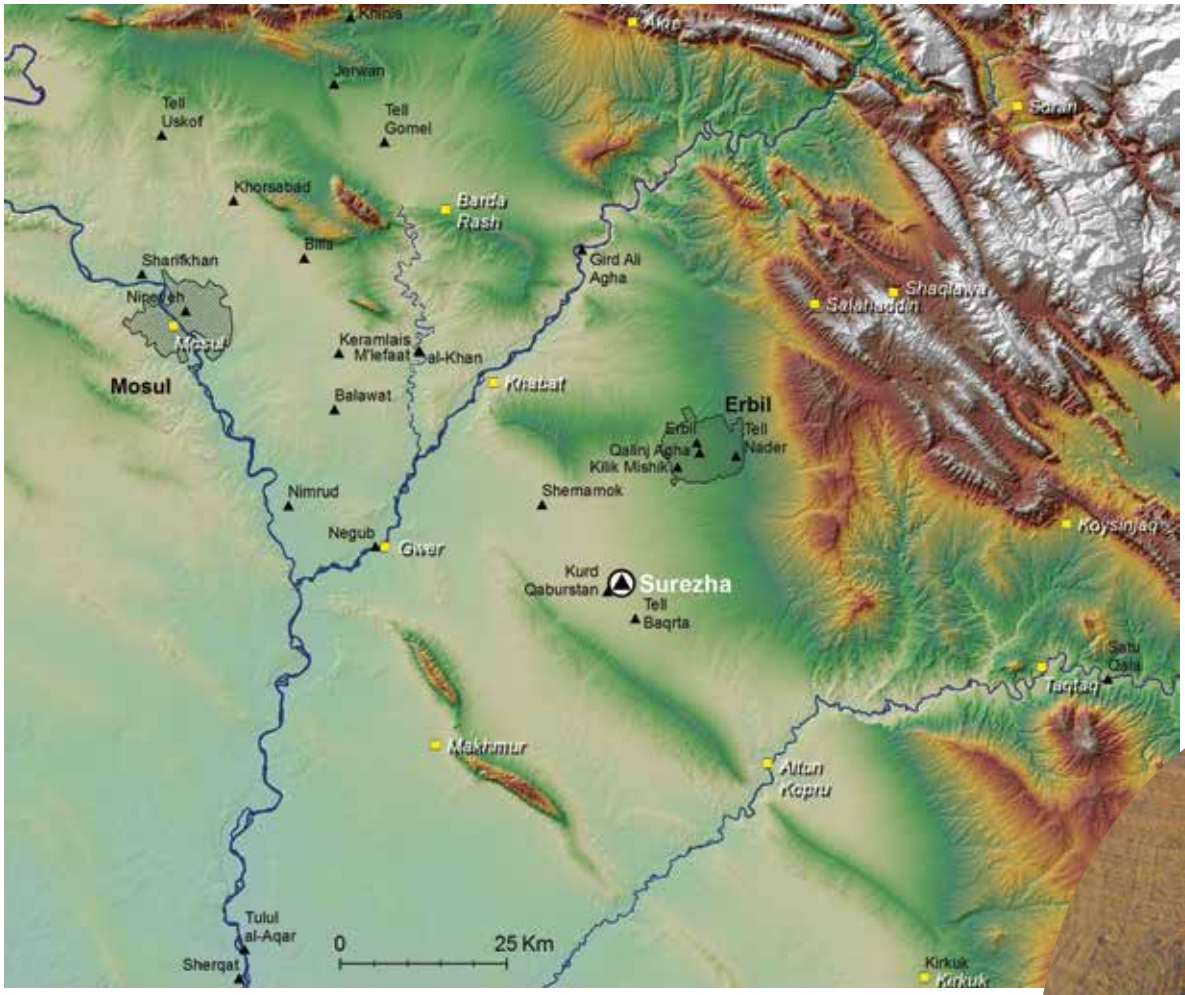
The Surezha excavations investigate the key phases in the origins of towns and later cities in Northern Mesopotamia during the sixth–fourth millennia BC Chalcolithic period. Surezha is an ideal site to define the Chalcolithic chronology and developmental sequence of the Erbil Plain in the Kurdistan region of northeast Iraq, because the high mound at the site is largely prehistoric, with only limited later occupation from the Middle Assyrian period and the Iron Age.

The Chalcolithic period, from 5500 to 3100 BC, is the time when the world's first urban civilization developed in Mesopotamia. The development of towns and cities is best known from the Ubaid and Uruk periods and their associated material cultural styles in southern Mesopotamia, at sites such as Eridu, Ur, and Uruk/Warka. We are only now beginning to understand the earliest stages in the development of urbanism in northern Mesopotamia and especially in Iraqi Kurdistan.

In the 2013 through 2017 field seasons, our plan has been to define the chronology and cultural developments in northern Mesopotamia, especially on the fertile and strategically located Erbil Plain during the Ubaid 3–4 (5300–5100? BC), Late Chalcolithic 1 or LC1(5100?–4500 BC), Late Chalcolithic 2 or LC2 (4500–3850 BC), and Middle Uruk (= LC3–4 periods ca. 3850–3400 BC) periods. The LC 1–5 sequence and terminology are used for northern or upper Mesopotamia in order to recognize the fact that cultural developments were not identical between the northern and southern parts of Mesopotamia. The 2017 field season marks a shift in strategy away from vertical excavations focused on defining site chronology toward an emphasis on broader horizontal excavations aimed at understanding economic and political organization in the LC1 period.

The 2017 field season took place from July 10 to August 21, 2017. The excavations were directed by Gil J. Stein, with Michael Fisher as associate director. Project staff consisted of John Alden (University of Michigan), Suay Erkesuz (University of Chicago), Taos Babour (Sorbonne University), Michael Fisher (associate director, University of Chicago), Sam Harris (University of Chicago), Monica Phillips (University of Chicago), Lucas Proctor (University of Connecticut), Bastien Varoutsikos (CNRS-Nanterre), Victoria Wilson (University of Chicago), and Ramin Yashmi (Tehran).

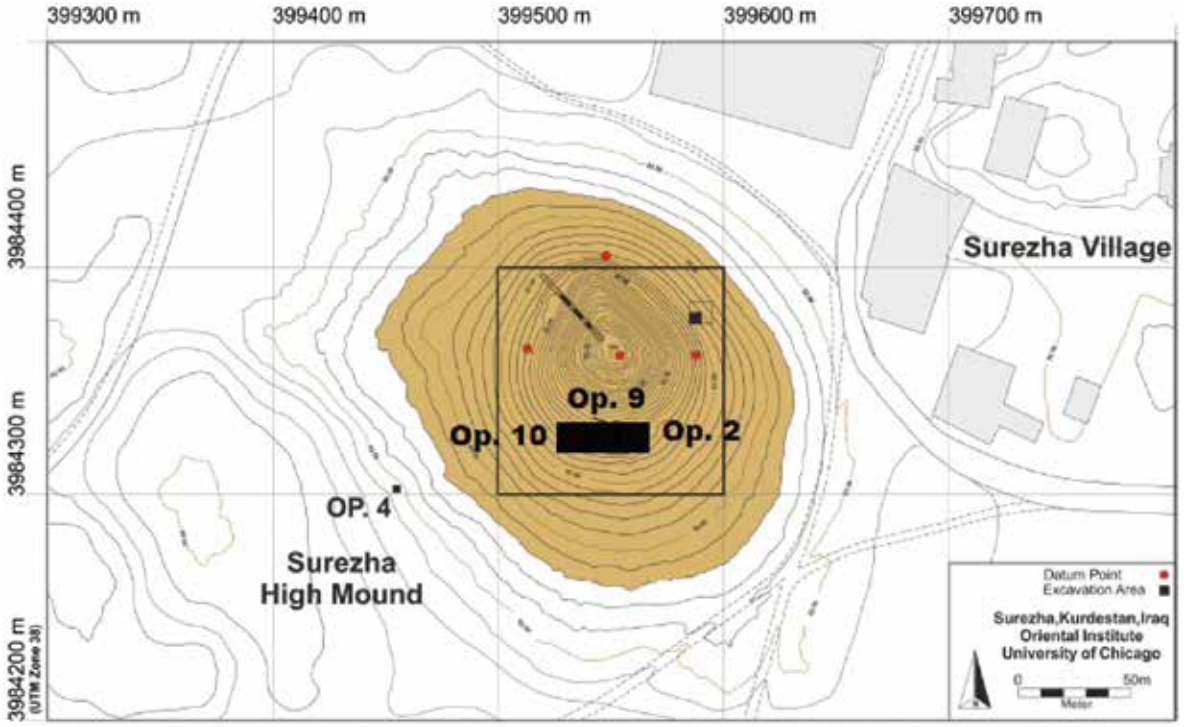
Field excavations were carried out by twenty workers from the Erbil Museum and from the village of Surezha. Our government representatives from the Kurdistan Regional Government (KRG) directorate of antiquities for the Erbil Governate were Rozhgar Rashid, and Nader Babakr, on-site and in the Erbil Museum. We express our deep appreciation to Mr. Mala Awat Abu Bakr Othman, director general of antiquities for the KRG, and to Mr. Nader Babakr, director of antiquities for the Erbil Governate. We thank Maghdid and Samira Maghdid, our host family in the village of Surezha. Financial support for the Surezha excavations came from the National Science Foundation (grant number 0917904), the Oriental Institute of the University of Chicago, and the generosity of private donors, notably Mr. Harvey Plotnick.

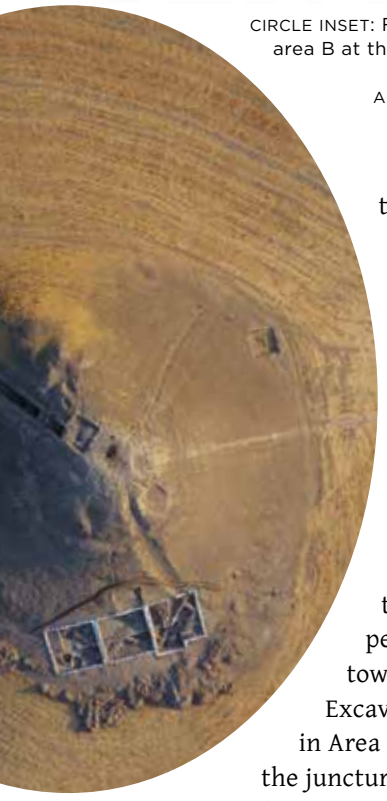


ABOVE: Figure 1. The Erbil Plain in the Kurdistan region, east of the Tigris River in Northeast Iraq, showing the location of Surezha (map courtesy of Jason Ur and the Harvard University Erbil Plain Archaeological Survey-EPAS).

SITE DESCRIPTION

Surezha is a mounded settlement of 22 ha, located next to the modern village of Surezha, approximately 20 km south of the modern city of Erbil in the Kurdistan region of northern Iraq (fig. 1). The site was first recorded by Jason Ur and Harvard University's Erbil Plain Archaeological Survey (EPAS) in 2012. The ancient site has three parts: a) the high mound; b) the terrace; and c) the lower town. The conical-shaped high mound measures approximately 188 m NW-SE and 150 m from SW to NE, with an area of approximately 2.8 ha. The high mound rises to a height of 16 m and is surrounded by a terrace on all sides. The terrace slopes gradually down to the lower town which extends out from the terrace in all directions. Our excavations have focused almost entirely on the high mound and terrace, where the prehistoric settlement of Surezha was located (fig. 2). Systematic surface collections across the site and excavation of step trench Op. 1 on





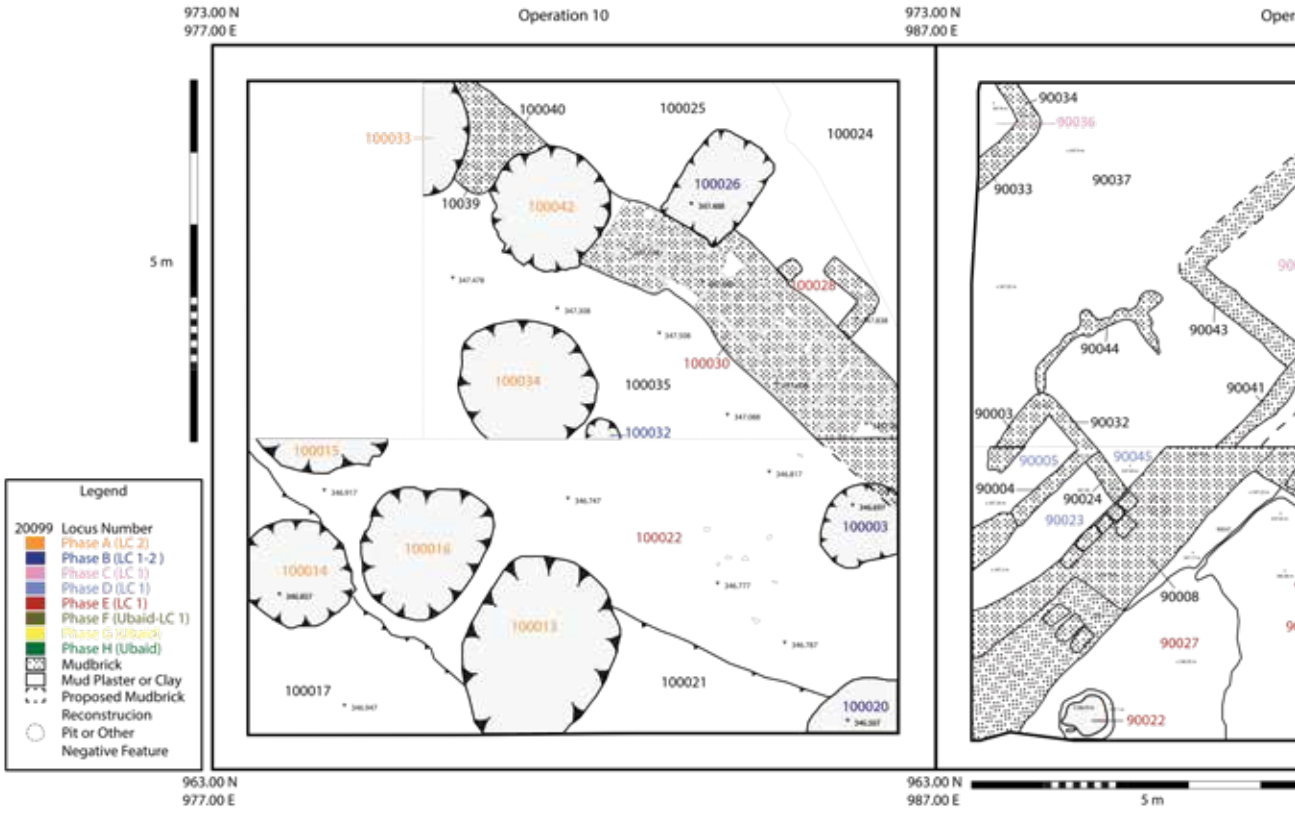
CIRCLE INSET: Figure 2. Drone photograph of Surezha high mound, showing operations 2, 9, and 210 in area B at the south end of the Surezha high mound (photo: Jason Ur and Harvard University-EPAS).

ABOVE: Figure 3. Topographic map of Surezha high mound, terrace, and lower town.

the high mound indicate that the Chalcolithic occupations of the Surezha high mound included the following sequence:

Late Chalcolithic (LC4)	ca. 3700–3400 BC (= Late Middle Uruk Period)
Late Chalcolithic (LC3)	ca. 3850–3700 BC
Late Chalcolithic (LC2)	ca. 4500–3850? BC (= Early Uruk period)
Late Chalcolithic (LC1)	ca. 5100–4500? BC
Ubaid	ca. 5500–5100? BC
Halaf	ca. 5800–5500 BC?

Our main goal in 2017 was to expose as broad an area as possible of the little known Late Chalcolithic 1 (LC1) period occupation of Surezha. This period immediately follows the Ubaid period when larger and more complex town-sized settlements with diverse populations first developed in the Near East. Excavations took place in three contiguous 10 × 10 m trenches oriented east–west in Area "B" at the south end of the Surezha high mound: Operations 2, 9, and 10. At the juncture between the base of the high mound and the surrounding sloping terrace, LC1 deposits are accessible immediately beneath the surface. This easy accessibility of fifth millennium BC deposits made the south base of the high mound an ideal place for broad horizontal exposures of the LC1 settlement and its Ubaid antecedents (fig. 3).



ABOVE: Figure 4. Surezha area B: composite top plan of LC1 architecture in operations 2, 9, and 10.

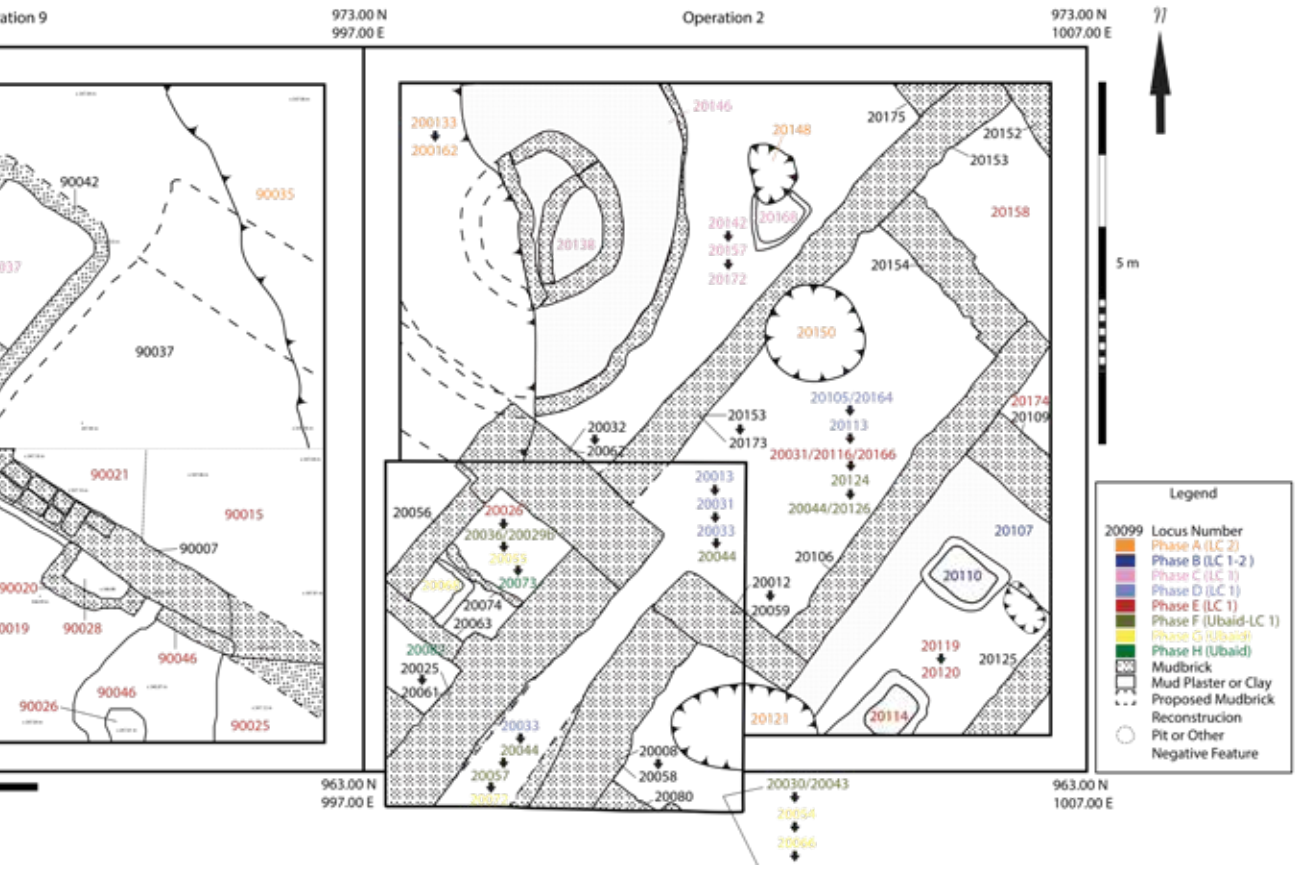
EXCAVATIONS

Excavations in the three trenches of area B exposed multiple phases of LC1 mudbrick architecture largely oriented NE–SW as the uppermost preserved stratigraphic phase immediately beneath the surface. Excavations in area B have now documented what we believe is the complete LC1 sequence at Surezha, starting with the Ubaid-to-LC1 transition and continuing through to a localized abandonment phase at the end of the LC1.

OPERATION 2

MICHAEL FISHER and RAMIN YASHMI

Operation 2 is a 10 × 10 m trench at the southern base of the high mound. Excavations begun here in 2013 recovered well-preserved remains of two (and possibly three) mudbrick houses oriented NE-SW, with a narrow alley between them and two large courtyards to the northeast (fig. 4). We were able to define a continuous sequence of occupation of houses and other architecture from the Ubaid through the end of the LC1 period. The "east house" and "west house" are both multiple room houses with ca. 90 cm thick exterior walls three to four courses wide, subdivided into interior rooms with smaller, thinner walls. The houses underwent at least one major rebuild, in which the exterior walls of the later construction phase were built on the same lines as the earlier walls.



Radiocarbon dates and ceramics associated with these houses show that they were continuously occupied for hundreds of years — in both the earlier Ubaid period and in the succeeding Late Chalcolithic 1 or LC1 period. Our evidence suggests that the transition from the Ubaid to the LC1 was gradual, with many stylistic continuities between the two periods. The floors of the east and west houses were generally clean; however, at least some prestige artifacts such as a fragmentary stone palette recovered in the earlier 2016 field season suggest that higher status individuals inhabited these structures. These houses continued in use in both the Ubaid and the early LC1 periods.

In the middle phase of the LC1 occupation of Op. 2 (phase D), the domestic architecture was filled in with trash and with deliberately laid mudbricks. These leveling activities provided the foundations for phase C — the late LC1 occupation, with a small mudbrick platform on which an enigmatic oval structure was constructed. A series of ash-filled pyrotechnic features surrounded the oval structure. The function of this feature or structure remains unclear.

In the final LC1 occupation phase B, this part of Op. 2 seems to have been an open area or outdoor surface with pits, pyrotechnic features, and a domed clay oven. At this point, the area seems to have been abandoned, as we can see from the accumulation of wash layers that were eventually cut through by an erosional gully. The deposits that accumulated in the gully contained largely late LC1 ceramics with a few examples of later LC2 pottery. We can interpret this as the end of the LC1 occupation and the erosion downslope of deposits from the earliest LC2 occupation at the south end of the site.

OPERATION 9

SAM HARRIS and SUAY ERKESUZ

Operation 9 is a 10 × 10 m trench excavated immediately to the west of Op. 2. The trench was excavated in two 5 × 10 m "steps," with the 10-m long axis oriented east-west. The upper step was located in the northern half of the trench and the lower step was downslope in the southern half. All cultural deposits exposed in Op. 9 during the 2017 season dated to the middle (phase F) and late phases (E3-1) of the LC1 period in area B. Based on the stratigraphy of the adjacent Op. 2, it is likely that deposits dating to the earliest LC1 and to the Ubaid period are present in the as-yet unexcavated strata at the base of Op. 9.

The mudbrick walls exposed in Op. 9 align well with those of adjacent trenches, and wall 7 appears to link across into the walls of the "west house" in Op. 2 to the east (fig. 4). Operation 9 architectural phases F (earliest) through E1 show great continuity in wall orientation and location. Wall 8 — a large mudbrick wall 5 courses wide — continued in use from its construction in phase F through phase E2. Wall 8 may have formed the western wall of the "west house" in adjacent Op. 2, most likely enclosing the open air courtyard of that house. In the later LC1 phase E2, the courtyard was subdivided by the construction of smaller 2-course wide mudbrick wall 7. At this point, a series of thin, 1-course wide mudbrick walls were built to the west of the long-standing wall 8, possibly forming small outdoor bins. This is the uppermost preserved architecture in Op. 9.

In phases E1 and D, the larger courtyard walls and small bins were filled up and covered over with mudbrick collapse.

In the final phases C and B, the area of Op. 9 was completely abandoned, and thick, silty wash layers sealed off the LC1 architecture. These deposits match the sediments found in adjacent Operations 2 to the east and 10 to the west in showing that the area of the three trenches in area B was abandoned for an undetermined interval between the end of the LC1 period and the beginning of the later LC2 period occupation at the south end of the Surezha high mound.

OPERATION 10

TAOS BABOUR, VICTORIA WILSON, and LUCAS PROCTOR

Operation 10 is a 10 × 10 m trench immediately to the west of Op. 9, and was the westernmost trench excavated in area B during the 2017 field season. It is located at the southwest edge of the high mound, so that the present day ground surface slopes down to both the west and south. As with adjacent Op. 9, Op. 10 was excavated in two east-west oriented steps measuring 5 × 10 m. The lower step at the south end of the trench was badly eroded with the result that the only preserved in situ features were the bases of later pits and installations cut down from later surfaces that are no longer preserved.

Excavations identified three main stratigraphic phases in Op. 10. The earliest occupation reached in 2017 is Phase C, which dates to the LC1 period. This is represented by locus 28–30, a large mudbrick wall 1.25 m wide, constructed of five rows of bricks and is preserved at a height of 0.9 m. Wall 28–30 extends for about 6 m from NW–SE and extends into the east baulk section of Op. 10 (fig. 4). This is the same orientation as the walls in Operations 2 and 9. The wall was constructed on top of a compact clay outdoor surfaces locus 22. This appears to be a large-scale enclosure wall surrounding an outdoor surface or courtyard. Potsherds incised with distinctive "herringbone" and "chevron" patterns, and deep comb incised sherds, allow us to date the wall and courtyard to the earliest phase of the LC1 period. The presence of several superimposed clay surfaces suggests that the wall and courtyard were in use for an extended period. At some point in the middle or late LC1 period, the wall and courtyard were abandoned and filled in with mudbrick collapse and wash.

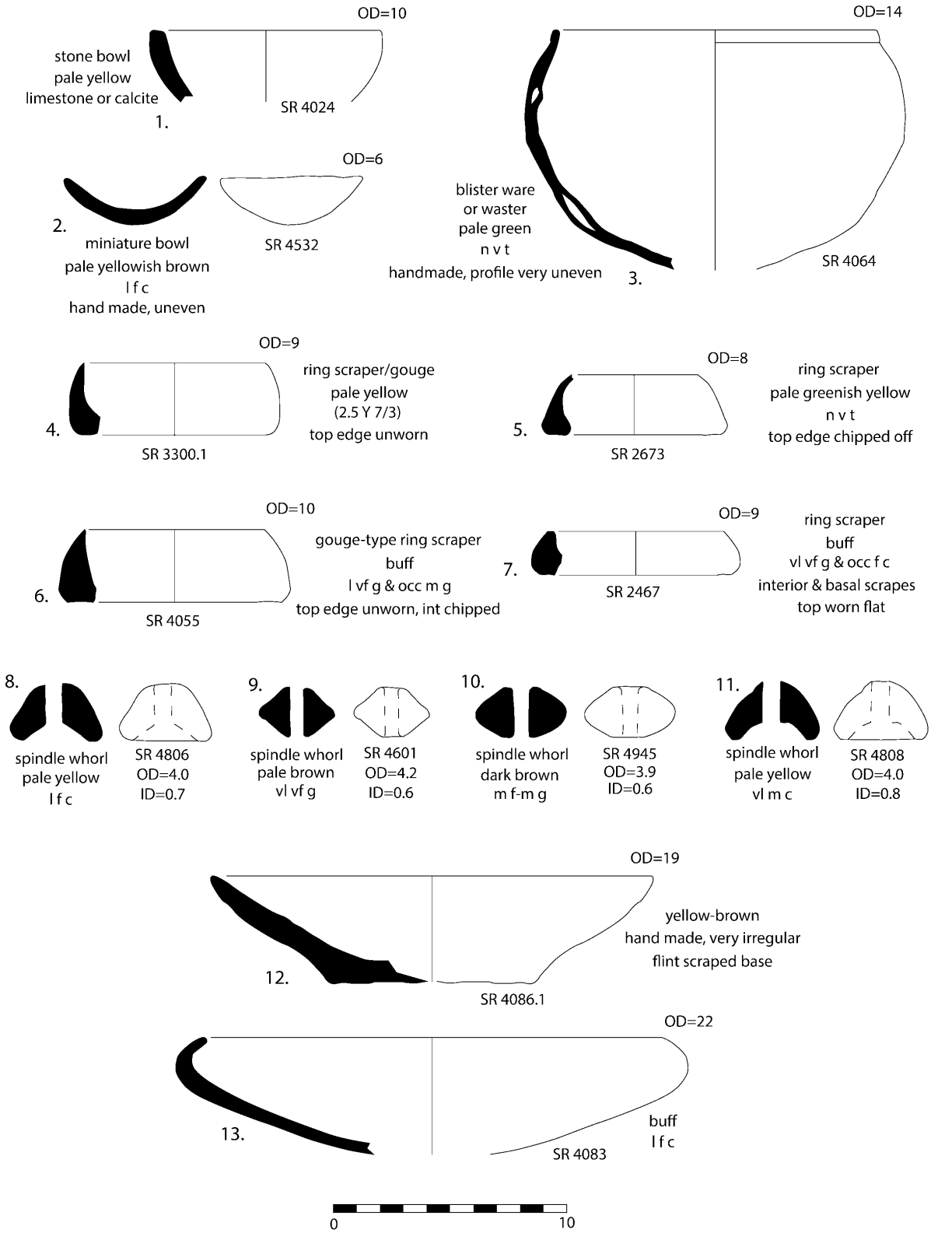
The next phase of occupation — phase B — is represented by a series of pits (loci 3, 20, and 45), a plastered basin (locus 26), and an infant jar burial (locus 32) dug down from a higher surface that is no longer preserved. These pits are difficult to date with precision, but apparently belong to the end of the LC1 or the early LC2 period. Plastered basin 26 is particularly noteworthy because it contained two ceramic types that are extremely rare on the Erbil Plain, but occur more frequently at Tepe Gawra and west of the Tigris River in northwest Iraq and the Syrian Jazira. The first of these was a jar whose painted motifs seem to be a local version of "sprig ware" (fig. 5), generally dated to the LC1–2 periods. The second type is a plain fine ware bowl of "blister ware" (named for the presence of air pockets inside the vessel walls, creating clear bulges or blisters on the surface) found in both plastered basin 26 and pit 3 (fig. 6, drawing 5); this too is a ceramic form datable to the late LC1–2 at sites such as Hamoukar in the Syrian Jazira. These pits and installations were overlain by the same wash layer that seals LC1 deposits in all three trenches of area B and apparently signals the abandonment of this part of the site.

ABOVE: Figure 5. Globular jar from Surezha Op. 10 with local Erbil plain version of "sprig ware" — an LC1–2 pottery style found in northern Mesopotamia at sites such as Tepe Gawra, Shelgiyya, and Hamoukar.

After a hiatus lasting about three millennia, the final occupation phase of Op. 10 consists of a series of seven large bell shaped pits 1.2 m in diameter (loci 13, 14, 15, 16, 33, 34, and 42) possibly used for grain storage. These pits can be dated by their ceramics to the Middle Assyrian period/Late Bronze Age, in the second half of the second millennium BC. Due to extensive erosion, only the bottoms of these pits were preserved.

ARCHAEOBOTANICAL ANALYSES
LUCAS PROCTOR

To understand agricultural production and consumption patterns at Surezha, Lucas Proctor (University of Connecticut) processed and analyzed the Surezha archaeobotanical samples. The processed samples were examined at the University of Connecticut Archaeobotany Laboratory. These examinations are ongoing. Processing and analysis of 41 samples recovered nearly 9,000 seeds. Cereal grains and chaff represented the vast majority of carbonized botanical remains in the examined samples. Two-row barley and emmer wheat both appear to have been heavily exploited at Tell Surezha. Barley was the more common of the two. This emphasis on heat and drought tolerant cereals is consistent with Tell Surezha's location on the hot, semiarid Erbil Plain. Legumes such as lentils are present as well, but are significantly less common than cereals. Flax seeds also common, probably as a source of fiber for textile (linen) production, and perhaps secondarily for oil. The Surezha data closely match the pattern of cereal remains recovered from other Ubaid/Chalcolithic sites in Northern Mesopotamia, especially Tell Zeidan and Kenan Tepe.



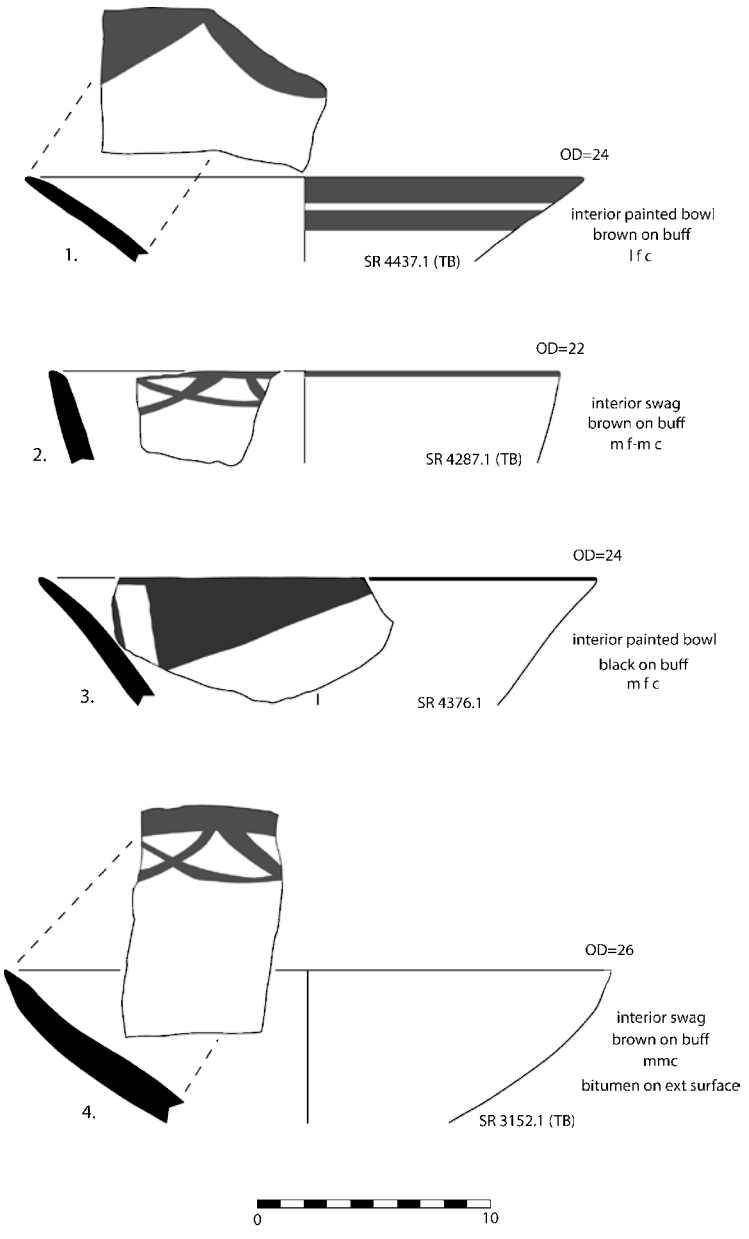
ABOVE: Figure 6. Ceramic objects from Surezha including "blister ware" pottery characteristic of LC1–2 (drawing 3), ceramic ring scrapers (4–7), and spindle whorls (8–11).

CERAMIC ANALYSIS

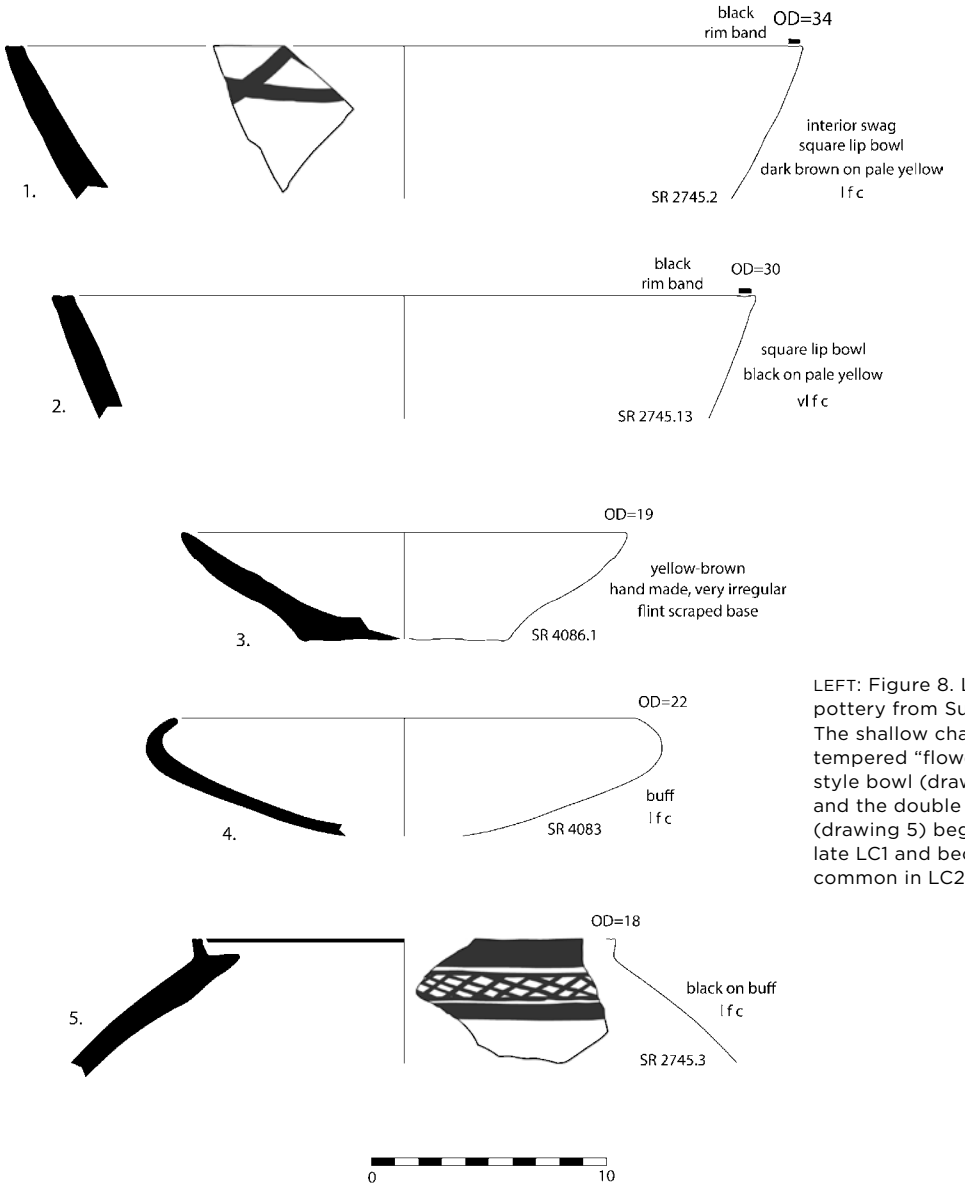
JOHN ALDEN

Analyses of the ceramics was conducted by John Alden (University of Michigan). During the 2017 field season, 1,861 diagnostic sherds from Chalcolithic contexts in operations 2, 9, and 10 were sorted and recorded. Key categories were rims, bases, painted body sherd, incised body sherds, and other miscellaneous diagnostics (handles, lugs, spouts, etc.). John drew 311 diagnostic ceramics with assistance from Taos Babour (Sorbonne). This analytical data set is essential for the development of the Surezha Chalcolithic ceramic chronology and typology, being conducted by Gil Stein. Ceramic analysis in the 2017 field season focused on defining the poorly known LC1 ceramic assemblage.

Incised decorations such as horizontal deep-comb incision, shallow-incised herringbone, and chevrons are proving to be especially useful stylistic elements to identify the earliest phases of the local LC1 ceramic assemblage on the Erbil Plain. However, it has become increasingly clear that the Ubaid tradition of brown-painted bands and geometric designs continued to be an important element of the design repertoire throughout the LC1 period on the Erbil Plain. The painted motifs — such as hanging "swags" on bowl rims — continue the Ubaid tradition. However in the LC1, these swags overlap each other and are often painted on the rim interior, rather than on the exterior (fig. 7, drawings 1, 2, and 4; fig. 8, drawing 1), as had the practice in the preceding Ubaid period.

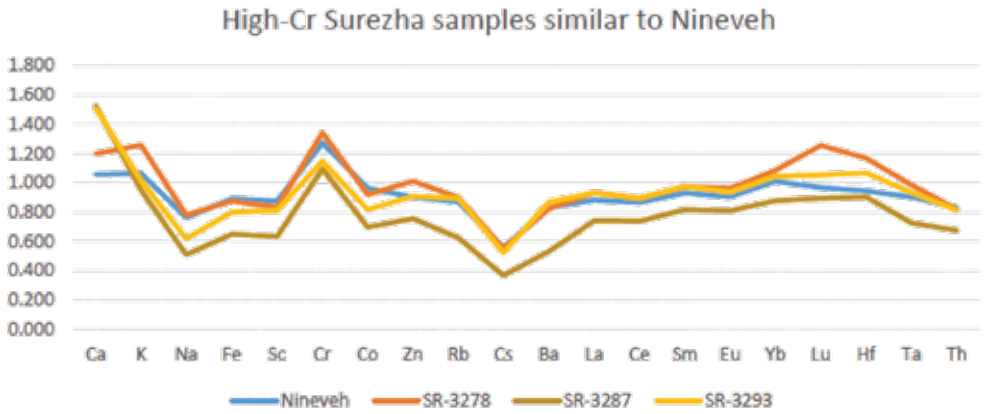


LEFT: Figure 7. Surezha LC1 bowls continuing the Ubaid painted pottery tradition with key differences — the painted "swags" are overlapping, and they are placed on the bowl interior instead of exterior (drawings 1, 2, and 4). LC1 painted wares are also chaff tempered rather than mineral tempered as in the Ubaid.



LEFT: Figure 8. Late LC1 pottery from Surezha. The shallow chaff tempered "flower pot" style bowl (drawing 3) and the double rim jar (drawing 5) begin in the late LC1 and become common in LC2.

Another key difference is that LC1 painted horizontal bands are very wide and crudely executed, while the Ubaid period bands are thinner and more carefully painted. Even in the later phases of the LC1, painted wares are often 50% of the diagnostics in many loci. This is significant, because it means that the local LC1 ceramic traditions east of the Tigris differ from the local LC1 tradition as seen at sites in North Syria such as Tell Zeidan and Mashnaqa. In North Syria, the frequency of painted decoration declines rapidly. It becomes very rare in the middle and later phases of the LC1 period, and is completely absent in the following LC2 period. When viewed in regional context, we can see that the LC1 was a period where there was great regional variation in the local expressions of the broader ceramic traditions of northern Mesopotamia.



ABOVE: Figure 9. Instrumental Neutron Activation Analysis (INAA) of the chemical composition of Surezha LC1 ceramics show that at least five or six vessels were imported from Nineveh. Source: Figure 6 in Leah Minc, 2017. "Assessing Compositional Variation in Ubaid and LC Ceramics from Surezha, Kurdistan: Results of Instrumental Neutron Activation Analysis." Corvallis, OR: Oregon State University Radiation Center.

GEOCHEMICAL ANALYSES OF SUREZHA CERAMICS
LEAH MINC

Leah Minc (Oregon State University) conducted a geochemical analysis of thirty-two selected ceramics from the Ubaid through LC3 occupation periods at Surezha, using Instrumental Neutron Activation Analysis (INAA) as a way to identify the distinctive geochemical profile of different component elements in the clays used to manufacture ceramics at Surezha. By identifying the unique "chemical fingerprint" of the local Surezha ceramic clays, it becomes possible to identify ceramics that were traded in from other regions based on the differences in clay composition. The analysis measured the amounts and relative percentages of twenty-seven different elements in the ceramic clays. Twenty-five of the thirty-two sampled sherds had highly similar elemental profiles, indicating that they derived from the same local clay deposits at Surezha. However, six of the thirty-two ceramic samples were statistical outliers, significantly different in chemical composition from the local Surezha clays. These outliers are ceramics that may have been manufactured elsewhere and arrived at Surezha as trade goods. Comparisons of the Surezha outliers with the clay compositional groups from the contemporaneous nearby sites of Tepe Gawra and Nineveh suggest that at least four of the Surezha ceramic samples were trade goods produced at Nineveh (fig. 9). At least one sample (SR 3293, dating to the LC3 period) had a chemical compositional profile with high chromium levels characteristic of Nineveh. Five of the outliers date to the LC2 and LC3 periods, possibly indicating an increase in regional trade after the LC1 period.

CHIPPED STONE LITHIC ANALYSIS
BASTIEN VAROUTSIKOS

Bastien Varoutsikos conducted the analysis of the excavated chipped stone artifacts (tools and industrial debris). In 2017 he examined 521 (out of an estimated 3000–4000 total) pieces from all major prehistoric periods at the site. Analysis of the lithic assemblage focused on several key types of information: a) the types of raw materials used to manufacture the tools; b) techniques of tool production (the "chaine operatoire") and the ways these changed over time; c) spatial and temporal patterning of the different main types of stone tools.

The three most common classes of raw material for chipped stone tools are chert from cobbles or pebbles on the Erbil Plain, quartzite (also probably collected locally), and small amounts of obsidian — black volcanic glass imported from the area around lake Van in what is now eastern Turkey. Examination of the "Chaines operatoire" or production sequences indicate that techniques of lithic tool manufacture became increasingly complex over time. As one might expect in an ancient rural agricultural community, sickle blades of various types are the most frequently occurring tool type. The proportion of sickle blades increases three-fold over the course of the Surezha occupational sequence from 5.56% at the earliest Halaf–Ubaid levels excavated up to 17.14% in the LC3 period of the early fourth millennium BC (table 1).

Table 1. Surezha Sickle Blades by Period

Period	*N Total*	*N Sickle*	*% Sickle*
Halaf-Ubaid	36	2	5,56
Ubaid	106	9	8,49
Ubaid-LC1	204	24	11,76
LC1	76	8	10,53
LC2	29	0	0,00
LC3	70	12	17,14
Total	521	55	10,56

The vast majority of the chipped stone tools and manufacturing debris indicate local tool production and use of flake tools at the site. Cortical flakes and flake cores indicate that the people of Surezha collected chert and quartzite cobbles or pebbles from nearby stream beds and used them to manufacture most of their own tools in what appears to be a system where each household produced its own tools (fig. 10, drawings 7–8, 11–14).

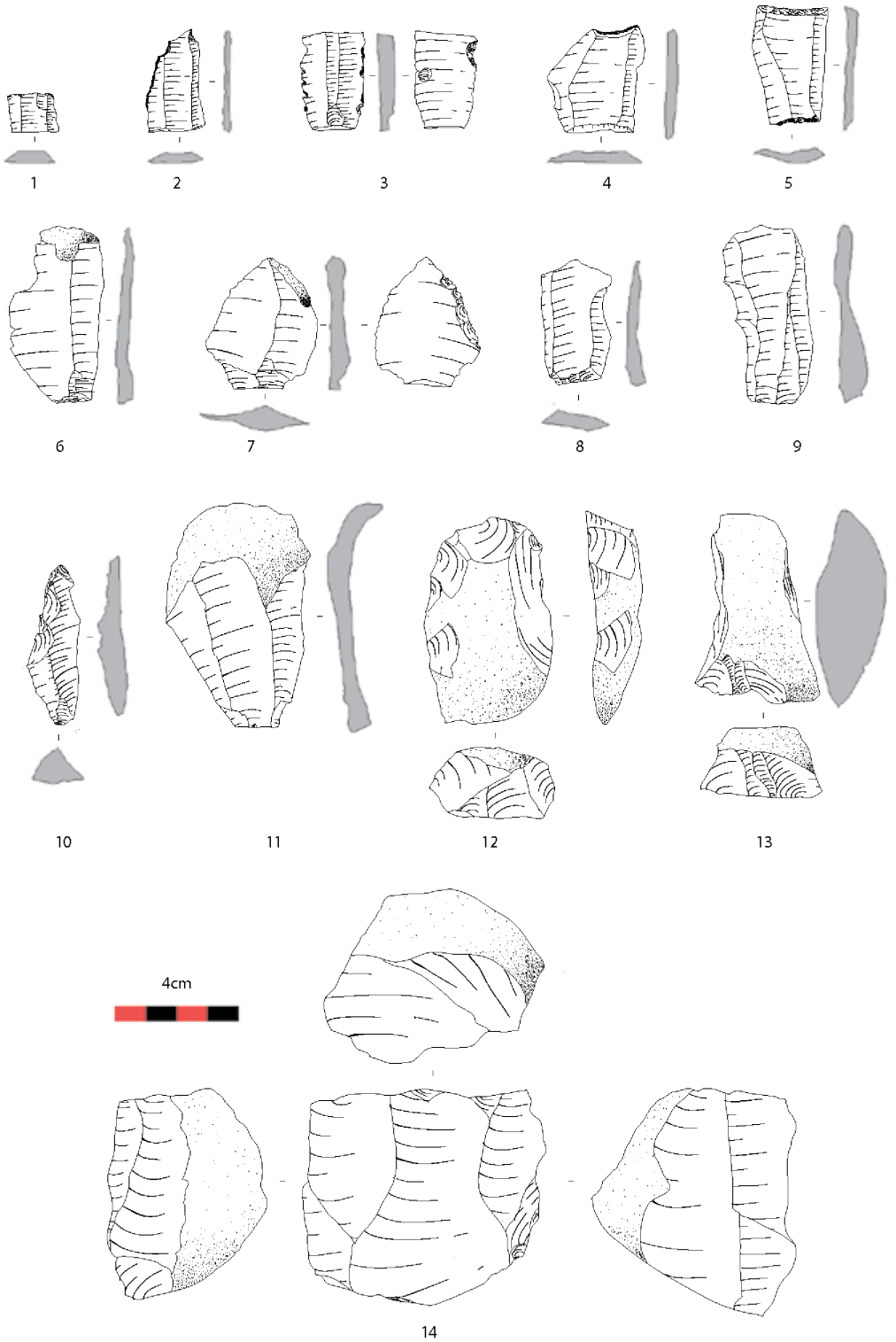
Two forms of chipped stone were not produced on-site, but were instead obtained through trade. Geochemical analyses by Lamya Khalidi and Bernard Gratuze from the French Centre Nationale de la Recherche Scientifique (CNRS) show that obsidian at Surezha was procured from the Nemrut Dag obsidian source in the Lake Van area of Eastern Anatolia (modern Turkey). The tools were then traded over hundreds of kilometers to reach communities such as Surezha on the Erbil Plain.

The second class of chipped stone that was procured through trade was sickle elements made from "Canaanean" chert blades (fig. 10, drawings 4–5). These wide, thick, and long prismatic blades require large, carefully prepared cores to make the tool, and great expertise in pressure flaking as a manufacturing technique. For that reason, Canaanean blade sickle elements were produced by expert craft specialists and traded from some other location to Surezha. Once on site, the blades were snapped into smaller pieces and hafted into bone or wood sickles, using locally available bitumen as the adhesive that glued the blades into the sickles. Perhaps the most interesting discovery about Canaanean blades is that they show a major shift in patterns of production and trade. In the Ubaid, LC1–2 periods, a rudimentary form of Canaanean blade was made locally at Surezha. However, in the LC3 period (ca. 3800 BC), a major shift took place in which the people of Surezha stopped making their own Canaanean sickle blades and instead started to import large amounts of these tools from an as-yet undetermined location.

MICRO-ARCHAEOLOGICAL SAMPLING OF HOUSE FLOORS

SAM HARRIS

In 2017 we initiated a program of micro-archaeological sampling. The garbage that archaeologists find on house floors was almost always deposited *after* the houses were abandoned. Usually, when archaeologists excavate houses, they find very few in situ artifacts, since the ancient inhabitants swept the floors periodically and kept their houses clean. However, the very smallest artifacts (<1cm) were often missed in cleaning, and were trampled into the earthen house floors, thereby preserving them as an



ABOVE: Figure 10. Chipped stone objects from Surezha: 1. Blade segment (SR 30572); 2–3. Retouched blade segments (SR 2080 and 0871); 4. Truncation on blade (SR 0903); 5. Double truncation on blade (SR 2740); 6. Cortical bladelet (SR 52725); 7. Retouched cortical flake (sidescraper) (SR 3218); 8. Retouched bladelet (endscraper) (SR 2968); 9. Blade (SR 5725); 10. Crested bladelet (SR 5725); 11. Overshot cortical bladelet (SR 2203); 12. Roundscraper on cortical flake (3192); 13. Adze on cortical flake (SR 2717); 14. Blade-like flake core (SR 2968).

in situ record of the kinds of activities that took place within the house. To understand what economic activities took place inside the houses, doctoral student Sam Harris laid out a 1-meter grid across the interior floors and collected micro-archaeological samples of the floor matrix in each sample square. The samples were then sifted through very fine mesh screens to recover beads, small figurines, and other artifacts so small that they were generally missed in everyday house cleaning. Eighteen micro-archaeology samples were collected in this way and analyzed at the University of Chicago. The initial findings are that micro-artifacts of ceramic and bone were common, but chipped stone micro-debris was rare, probably because flint tool manufacture and maintenance generally took place outside the houses, in the courtyards. In future seasons we plan to expand micro-archaeological sampling to include both indoor and outdoor surfaces as a way to map activities of daily life in Chalcolithic households at Surezha.

RADIOCARBON (C14) DATES AND CHRONOLOGY

In 2017, we continued our radiocarbon sampling program aimed at defining an absolute chronology for the Chalcolithic ceramic assemblages on the Erbil Plain.

Ten samples of seeds and charcoal were processed by Accelerator Mass Spectrometry (AMS dating) by Beta analytic Laboratory in Florida (table 2). One of these (SR4879) had modern contamination, however the remaining nine samples are consistent in showing surprisingly early dates for the LC1 period.

Table 2. Surezha 2017 Radiocarbon Samples

Sample no.	*SR no.*	*Op. no.*	*Locus no.*	*Lot*	*BC Cal. Min.*	*BC Cal. Max.*	*Deposit Class*	*Deposit Type*	*Period*
1	4546	2	119	38	5081	4935	Primary	Room/floor deposit	LC 1
2	4916	2	126	51	5209	5002	Tertiary	Ashy buildup	Ubaid–LC 1
3	5260	2	133	73	5002	4840	Tertiary	Gully Cut	LC 1–2
4	4999	2	138	69	5084	4961	Feature	Indeterminate	LC 1
5	5333	2	144	87	4992	4831	Tertiary	Mudbrick collapse	LC 1–2
6	5594	2	156	120	4943	4781	Tertiary	Mudbrick collapse	LC 1
7	5875	2	157	139	5209	4992	Feature	Floor/indoor surface	LC 1
8	4789	9	8	61	1990 AD	1994 AD	Feature	Mudbrick wall	LC 1
9	4880	9	17	76	5184	5057	Feature	Mudbrick pavement	LC 1
10	5179	9	18	92	4998	4836	Tertiary	Leveling fill	LC 1

ABOVE CENTER: Figure 11. Iranian style "Dalma Impressed Ware" ceramics found in the uppermost LC1 deposits at Surezha.

CULTURAL CONNECTIONS:

The Erbil Plain, like the broader Assyrian heartland east of the Tigris, has historically had close cultural connections with the neighboring regions of Anatolia, Iran, and southern Mesopotamia. Material culture items like the painted ceramics and baked clay "mullers" show that the Erbil Plain had close economic and cultural ties with southern Mesopotamia in the sixth–fifth millennium Ubaid period. The evidence for long distance trade in obsidian shows that the Erbil Plain had economic links with Anatolia and other regions to the north. The remaining big question concerned relations to the east — through the mountain passes into Iran. One of our most exciting discoveries in 2017 was the recovery of the first clear evidence for cultural (and possibly trade) ties between the Erbil Plain and Iran. At the end of the LC1 period at Surezha (ca. 4200 BC) we can now see evidence for the sudden appearance of a distinctive Iranian ceramic type — "Dalma Impressed Ware" — from the neighboring Urmia region in the Iranian Zagros (fig. 11). Taken together, the evidence shows that Surezha and other communities on the Erbil Plain were intensifying their economic and cultural connections in every direction during the fifth millennium BC, and this seems to have played a role in the emergence of the earliest urbanism and social stratification in the Assyrian heartland.

CONCLUSIONS

The 2017 field season at Surezha enabled us to recover important information to identify and date the local Chalcolithic cultures of the Erbil Plain in the Kurdistan region, east of the Tigris River in northeastern Iraq. In particular, we can now start to define, recognize, and give absolute dates to the ceramic assemblages of the Halaf, Ubaid, LC1, LC2, and LC3 periods on the Erbil Plain. These periods are important because they span the crucial time when social stratification, states, and urban societies first developed in Mesopotamia. We can also better understand the distinctive local LC1 ceramic tradition of the Erbil Plain. Finally, we can now see evidence for increasingly complex economic systems of agricultural production, herding, craft production, and trade in the communities of the Erbil Plain. These economic changes seem to have given rise to the beginnings of social stratification. With this baseline, we can start to understand the early development of towns and cities in this important, but so-far poorly known region of the Fertile Crescent.