

New York University

2023 Excavations at Trimithis (mod. Amheida)

Preliminary Report

Directed by David M. Ratzan

The 2023 excavation season was dedicated to final documentation, backfilling excavated rooms, surveying newly exposed topography in Area 11, and preparing small finds to be registered by the local MoTA inspectorate. The main goals of this season were: (1) to complete the investigation of a church (B7 in Area 2.3, **fig. 1**), which had been partially excavated in 2012–2013, and in particular of the underground funerary crypt lying below the sanctuary of the church; (2) to continue the excavation of a large and wealthy domestic context (B10 in Area 8.1, **fig. 2**), the investigation of which had begun in 2015; and (3) to extend our knowledge of the urban plan in Area 11 (**fig. 3a and b**).

The 2023 team consisted of David M. Ratzan (director, papyrologist, numismatist); Nicola Aravecchia (archaeological field director); Roberta Casagrande-Kim (assistant field director, archaeologist); Stefania Alfarano, Yasser Farouq, Kechu Huang, Ahmed Abdalla Said, and Harper Tooch (archaeologists); Leonardo Davighi (topographer); Peter Sheldrick (bioarchaeologist); Clementina Caputo and Vicente Barba Colmenero (ceramicists); Marina Nuovo (registrar), Daniela Villa (assistant registrar, archaeologist); Bruno Bazzani (database management and computer operations, photographer); Mahmoud Samir Hussein (conservator); Sa'ad Bakhit and Paola Vertuani (illustrators); Roger S. Bagnall (papyrologist); Pietro Gasparri and Giovanni Taburro (3D architectural scanning team); Ashraf Barakat (assistant to the

director); Gaber Murad (house manager). The inspectors of the Ministry of Tourism and Antiquities were El-Zahraa Kamal, Azzaz Nasr, and Abdallah Nasr Eldeen.

Summary

The main work of the 2023 season took place in three areas, Area 2.3 (Church B7), Area 8.1 (a large house B10), and Area 11 (an area of the settlement in the west of the Amheida archaeological site). In addition to the excavation and survey work, a team from C.P.T studio S.R.L. captured image data of the replica of the House of Serenos in order to construct various virtual models of the structure (see Scanning report, below). The excavation of church B7 revealed 13 burials, making a total of 17 recorded burials in the church complex between this season and the four burials excavated in 2012 and 2013. Accordingly, a considerable achievement of this season was the recording and preliminary analysis of the individuals buried in the church and its crypt (see Bioarchaeology report, below).

Area 2.3: Building 7 (church)

Stefania Alfarano, Roberta Casagrande-Kim

The excavations of Building 7, a 4th-century church, began in 2012 and continued in 2013. The focus of the initial investigation was the building's main level (Rooms 1, 5–13) and an underground vaulted room (Room 2). The primary objective of the 2023 season was to complete the excavation of the crypt (Rooms 2–4). During the course of excavation, this plan was extended to open a trench (TT4) to the immediate east of Room 3, in order to investigate some features and collapses adjacent to the church complex (**fig. 1**).

The underground crypts (Rooms 2–4) were accessible from Room 16, most likely the south pastophorion of the church (not included in fig. 1, as it is no longer extant). Room 16 was directly above Room 4, but only the threshold of the entrance into Room 1 is preserved, along with the very last course of its perimeter walls and portions of the compacted fill (DSU 113) that was laid between the floor (now lost) and the vault of Room 4. In the northwest corner of Room 16 and preserved in the vault of Room 4 was the rectangular opening of a trapdoor (F82), which gave access, possibly via a retractable ladder, into Room 4 below. Room 4 (measuring 3.7 m north-south and 3.1 m east-west) was the only point of access to the underground rooms to the north via a door in its northeast corner, which opened onto Room 3 (cut into wall F78). The absence of burials in Room 4, combined with the discovery of several complete and fragmentary ceramic vessels associated with the room's two floor levels (F85 and F107), suggests that this space may have been used for funerary preparations or ritual, in addition to or instead of storage.

Room 4's excavated stratigraphic layers shed light on the succession of events leading to its abandonment. First, the upper elevations (DSU 115) of the western perimeter wall of Room 16 (F1) collapsed onto the room's floor. The wall's northern end broke through the trapdoor and cascaded into Room 4 (DSU 126), reaching as far as the threshold of the door into Room 3 (**fig. 4**). The wall's weight and impact most probably caused the consequent collapse of Room 4's barrel vault (remaining attached portions: F104 and F105), whose complete outline (DSU 120 and DSU 121) was entirely preserved over a layer of clean sand, which must therefore have had already accumulated in the room before these collapse episodes. Finally, excavations below the earliest floor level (F107) revealed the top of the wall's foundations (the bottom was not investigated) and the layer of compacted clean sand (DSU 155) over which the entire structure was built.

From Room 4, the vaulted doorway piercing the north wall (F78), opened onto the central crypt (Room 3) below the apse, which no longer survives (Room 15, not indicated in fig. 1). Room 3 (measuring 3.10 m north-south by 3.56 m east-west) was filled with a sequence of wind-blown sand and debris layers (DSUs 110, 117). A large robber pit (F83) disturbed the room's stratigraphic sequence: the occupational level is now only partially extant and mixed with mudbrick debris (DSU 132), and the two floor levels (F84 and the earliest F94) were almost completely demolished. The cut also destroyed the middle part of the east perimeter wall (F59), revealing a portion of a wall decorated with painted plaster (DSU 172) which had most likely fallen from the floor above as a result of the collapse of the church's perimeter walls. A test trench (TT4, **figs. 1, 5**) was excavated east of Room 3 to investigate the relationship between this painted plaster wall, the other collapses visible on the surface, and Room 3. The trench was not fully excavated; however, our preliminary results indicate that the space immediately to the east of B7 was repurposed in the post-abandonment phase of the church, as suggested by the construction of a puzzling feature (F119), consisting of a mudbrick edge filled with debris and sand.

In the two floor levels of Room 3, seven graves were cut (designated T10–T16; **figs. 1, 6**). The robber pit partially destroyed the mudbrick coverings of these tombs, but did not disturb the pits' fills and human remains. All of the burial pits were simple rectangular-shaped cuts in one or both floor levels (thus pointing to the existence of two distinct burial phases) and in the foundation sand (DSU 155). The southern border of the burial cut for T10 is partially built with a six-course edge of mud bricks, with alternating rows of headers and stretchers (**fig. 6**). The burial pits for T10–T12 and T16 cut the west, north, and east foundation ledges of the perimeter walls (F1, F64 and F59). The cuts for T10 and T11 fully revealed the foundations ledge of the north

wall (F64): it consisted of eight alternating courses, with the final one lying on an unbound rowlock of mudbricks (137.20 m a.l.s.). The deceased were placed carefully in their graves on their backs and oriented with their heads to the west (facing east) and their hands typically together or clasped at the waist. No evidence of coffins or grave goods was found, but some of the skeletal had traces of textile, suggesting that the deceased were wrapped in shrouds.

Bioarcheological analysis of the remains confirmed that all of the burials in Room 3 under the apse were those of women and children: 2 adult women (T10, T16), 4 children (T11–T12, T14–T15), and 1 infant (T13).

In the north wall of Room 3 another vaulted doorway, along the same north-south axis and directly opposite that in the south wall, led to Room 2 (measuring 3.40 m north-south by 3.30 m east-west). During the 2013 excavation campaign, this room was excavated down to the floor level (F75), uncovering the superstructures of three burials (T6–T8). These were completely investigated and documented during the 2023 season. During the excavations, another burial pit to the east of T6, in the northeast corner of the room, was exposed and subsequently investigated (T9). This burial was not covered by a superstructure and the removal of the uppermost layer of the fill (DSU 124) revealed a small, oval-shaped coffin (FN 22) made of mud and organic material, most likely manure, and containing the remains of a child (**fig. 7**). A further peculiarity of this burial, at least with respect to the others discovered in B7, is the inclusion of a cylindrical bronze vessel at the level of the base of the coffin, toward the head. It may be that this beaker or miniature tankard (height: 5.9 cm; diameter at base: 3.2 cm) was placed on the coffin and then rolled to the bottom of the burial pit when the grave was filled. In contrast to Room 3, one burial in Room 2 (T6) contained an adult male. Otherwise, the typology of the graves in Room 2 is identical to that in Room 3: simple burial pits cut into the foundation

sand and partially into the ledges of the perimeter walls (F15, F1, and F64). Finally, just as in Rooms 3 and 4, two floor levels were also exposed in Room 2 (F75 and F108, F111). The two levels were separated by a layer of yellow sand (DSU 151); the earlier floor was also built on a layer of compact yellow sand DSU 161 (= DSU 162 in Room 4), which was likely laid down in order to level the slope of the hill on which the church was built (such leveling is also visible along the section of T11 in Room 3).

In addition to the excavation of the crypt, two burials were investigated in the main floor of the church (**fig. 1**). The first was T5 in Room 6, within the south annex of the church, the superstructure of which had been discovered and recorded during the 2013 season. Cleaning of floor levels (F22, F23, F27, and F116) in the east part of the central nave (Room 1) for additional documentation revealed an additional burial, T17. This was located between the platform leading to the apse (F19) and the foundation wall (F30) supporting the inner colonnaded space. The burial, set in a prominent position, faced the apse and was covered by a mudbrick superstructure. Excavation revealed that it contained a rectangular wooden coffin (FN 53). Inside were the remains of an elderly man 50–65 years old. The coffin was intact, but not well preserved; the individual was shrouded in multiple layers of what appears to be linen.

All of the human remains excavated in the 2023 season (T5–T17) were examined by Dr. Peter Sheldrick (see Bioarchaeology report, below).

Area 8.1: Building 10 (domestic complex)

Roberta Casagrande Kim

Between January 19 and 26 excavation resumed in a domestic complex known as Building 10 in Area 8.1, a densely settled quarter at the northern limits of late antique urban core. The focus of the investigation was Rooms 1 and 8, which had been partially excavated in 2015 (**fig. 2**).

Room 1 is the easternmost space in the building and has been provisionally identified as a pantry or storeroom. The occupational layer (DSU 23) above the latest floor (F33, see below) had been reached in 2015 and most of the complete vessels were removed at that time. During 2023 season, the collection of all fragmentary ceramic vessels that had been left *in situ* in DSU 23 was completed. Below this layer, a beaten earth floor (F33) was identified, which was preserved only in the room's southern half. The northern limits of the floor cover the top of a low east-west oriented wall (F34) that divided the room roughly in half. Immediately to the west of this wall, a two-step staircase leads down into the northern half of the room, whose original floor is no longer preserved but must have been approximately 80 cm below floor F33 to the south, to judge from the elevation of vessels that must have once rested upon it. Several complete vessels, including a complete amphora (FN 16) and three lamps (FN 47, FN 28 and FN 29, the latter two of the so-called "frog-type"), were recovered from the occupational layer (DSU 27) associated with this now pulverized and no longer extant floor. In the northern half of the room, between the level of floor FSU 33 and the occupational layer DSU 27, was a very thick layer of vault collapse (DSUs 24, 26, and 29) that completely covered the space.

The evidence above suggests that Room 1 had at least two phases. In the earlier one, Room 1 was articulated into two levels, higher to the south, and lower to the north. Following what must have been the collapse of the room's original vault, the room was renovated so as to

have a single, continuous floor level, with the lower, northern half raised to the level of the southern half of the room (which had been cleared of the debris) by using the vault collapse as rubble (to which sand was also added). Then, floor F33 was laid over the whole room, which appears to have continued to be used in its principal function as a pantry, as suggested by the complete vessels found in occupational layer DSU 23.

In Room 1's northern half the foundation layer (DSU 34) below DSU 27 was excavated and investigated. This layer is exclusively comprised of a thick, compacted stratum of sand, into which the foundations for the perimeter walls were cut (the last course of foundation mud bricks was reached for walls F13, F14, and F31 at 136.83 m a.s.l.).

The 2015 investigation of Room 8, located immediately the west of Room 1, was limited to the removal of the clean sand that filled what was most likely a modern pit, which had disturbed the upper levels of the room. During 2023 season, this layer of sand was removed, exposing a thick layer of vault collapse that covered the entire space of Room 8 (DSU 21 and 30). Underneath the collapse, an occupational layer (DSU 31) was revealed, including complete vessels and large clay trays, as well as a frog-type lamp (FN 51). The floor associated with this layer was not preserved, most probably pulverized by the impact of the collapsed vault. Once the occupational layer was removed, the room's foundation layer (DSU 32) was investigated: a thick, compacted stratum of sand similar to that encountered in Room1 (DSU 34). Finally, a test trench along the western half of the room was cut to reveal the last course of the foundations of walls F14 and F32 (136.74 m a.s.l.).

Area 11: Preliminary topographical survey

Leonardo Davighi

The main topographical goals of the 2023 season were: (1) to collect topographical data and generate graphic documentation of the ongoing excavation in Areas 2.3 (B7) and 8.1 (B10), including an in-depth study of the construction methods of the vaults in Rooms 2–4 of B7; and (2) to begin preliminary work recording the newly exposed region of Area 11 at the west end of the archaeological site, which had been revealed by the movement of sand dunes over the last eight years (during which time no field work was carried out at Amheida).

The survey in Area 11 was undertaken during the last five days of field work (**fig. 3b**). The newly exposed area, previously protected from modern interventions thanks to the large dune, extends over an area of approximately 9,000 square meters. The survey allows us to calculate that the dune has shifted in the last 16 years about 50 meters to the south, or an average of about 3 m per year. The tops of features that were visible at surface level in this area were cleaned in preparation for the survey. Given time constraints, this area was recorded with a combination of photogrammetry and plotting with a total station. This preliminary mapping revealed an east-west oriented street, 3 m wide and at least 105 m long, which intersects perpendicularly a wider road (width ca. 6 m) that was identified in 2013 (see 2013 field report and **fig. 3a**). The east-west street is bordered on both sides by a series of regular, modular buildings. The exposed urban layout suggests that at least this part of the settlement was the result of deliberate urban planning.

Bioarchaeology

Peter Sheldrick

Bioarchaeological recording and preliminary analysis was carried out on the human remains recovered at Amheida between January 7 and January 24, 2023. During the course of the 2023 season, 13 individuals were exhumed from the church B7 and analyzed. The total number of burials discovered in B7 over the course of the 2013 and 2023 seasons is 17 (hence the numbering below, starting with T5 and ending with T17). For information on the four burials excavated in 2013, see Aravecchia et al. 2015. The following is a brief summary of the results of the analyses of the human remains found in B7 (see **fig. 1** for the disposition of the burials). Generally, soft tissue was not preserved, with the notable exception of the individual in T17. Only occasionally can the cause of death be determined from the skeletal remains.

Ground level in the church complex

- *R1, T17*. A man about 50–65 years old and about 165 cm. tall. He most likely died of a severe sinus infection that eroded into the roof of his mouth. Along with his skeleton there were significant soft tissue and hair remains (**fig. 8**).
- *R6, T5*. A female approximately 25 years old, about 153 cm. tall

Crypt, Room 2 (below the north pastophorion)

- *T6*. A male approximately 40–50 years old, about 169 cm. tall.
- *T7*. A juvenile about 12–15 years old. Sex and stature are indeterminable in juveniles. However, the remains of the braided hairstyle suggest that this was a young woman.

- *T8*. A female approximately 35–45 years old, about 155 cm. tall. She had a dental abscess in her right upper 3rd molar (**fig. 9**). This caused a severe sinus infection that spread to her right eye (**fig. 10**). As there is no sign of healing, this was the probable cause of death.
- *T9*. A child about 5 years old (\pm 16 months). Sex and stature are indeterminable in juveniles.

Crypt, Room 3 (below the apse)

- *T10*. A female about 50–65 years old, who shows characteristics of a sedentary lifestyle and more refined diet.
- *T11*. A child about 6 years old (\pm 24 months).
- *T12*. A small child about 8 years old (\pm 24 months).
- *T13*. An infant about 6 months old (\pm 3 months).
- *T14*. A child about 5 years old (\pm 16 months). This child likely died from severe anemia or a condition made worse by the anemia, as suggested by a lesion called *cribra orbitalia*, a heaping of bone marrow tissue into the roof of the eye socket (**fig. 11**).
- *Tomb 15*. A small child about 18 months old (\pm 6 months).
- *Tomb 16*. A woman about 40–50 years old, about 160 cm. tall. She had the remains of her long hair braided and gathered into a bun, and perhaps the remains of a cloth hairband.

Aravecchia, N., Dupras, T. L., Dzierzbicka, D. and Williams, L. 2015. “The church at Amheida (ancient Trimithis) in the Dakhleh Oasis, Egypt: A bioarchaeological perspective on an Early Christian mortuary complex.” *Bioarchaeology of the Near East* 9: 21–43.

Ostraka

Roger S. Bagnall

The 2023 season produced some 15 ostraka, all in Greek. Two-thirds of them came from the excavation of the church (B7), from both the graves and the fill. The bulk of these were the typical labels or tags from wine jars already well known from previous years, particularly from material dumped before construction in Area 2. One exception was a delivery note for 70 *matia*, which by its close parallelism with *O.Trim. 2.503* can be deduced that the item delivered was date stones. These had various uses, including (ground) as food for animals. The remainder of the ostraka came from Building 10, where a large number of labels had been found in the 2015 excavation, mostly from a collapse of an area where wine jars were stored. This year's texts have some points of connection with those texts, including attestation of a practice of multiple phases of harvesting the grapes for wine-making.

3D modelling of the replica of the House of Serenos

David M. Ratzan

A full-scale replica of the House of Serenos (Area 2.1, B1) was built over the course of 2008 and 2009, and subsequently decorated by D. Schultz between 2009 and 2016, when it was officially opened to the public as an educational visitor center (see Warner 2022 and Schultz 2014 for accounts of the construction and painting of the replica, and McFadden 2019 for recent discussion of the wall paintings). With the generous support of Susanna McFadden and the University of Hong Kong, a scanning team from C.P.T. Studio, S. R. L. led by Pietro Gasparri, travelled to Amheida and scanned and took photogrammetry of the interior and exterior of the replica between January 14 and January 16. The result of this work will be a digital copy of the

replica for research and presentation purposes, capable of producing sophisticated sections and orthophotos, as well as 3D virtual models for display and manipulation online or for use with virtual reality applications, such as Microsoft HoloLens. The scanning and photographic process captures a very large amount of data which must be processed, integrated, and rendered over the course of several weeks. This processing of the data and the completion of the digital model is scheduled to be completed and delivered in April or May 2023.

McFadden, S. 2019. "The house of Serenos and wall painting in the Western Oases," in R. S. Bagnall and G. Tallet, eds., *The Great Oasis of Egypt, the Kharga and Dakhla oases in antiquity*. Cambridge: 281–96.

Schulz, D. 2015. "Colours in the oasis: the villa of Serenos," *Egyptian Archaeology* 46: 23–26.

Warner, N. 2022. "Learning from the past: The replica of the house of Serenos at Amheida," in P. Davoli, *The House of Serenos, Part II: Archaeological Report on a Late-Roman Urban House at Trimithis (Amheida VI)*. New York: 499–526.

Figures

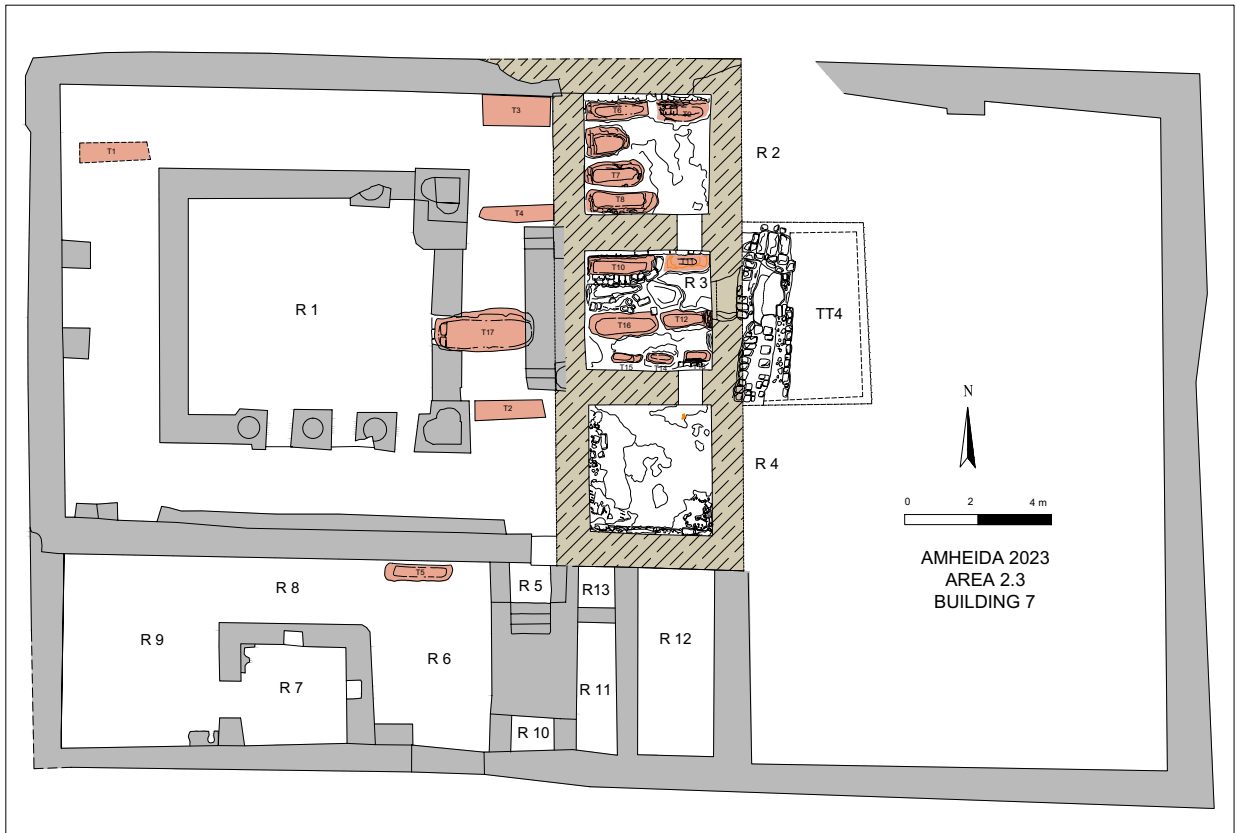


Fig. 1. Area 2.3, Building 7.

The crypts below ground (R2–R4) are shaded in beige; the burials (T5–T17) are shaded in salmon. The rooms above the crypts, i.e., north pastophorion (R14), apse (R15), and the south pastophorion (R16) did not survive and are not indicated.

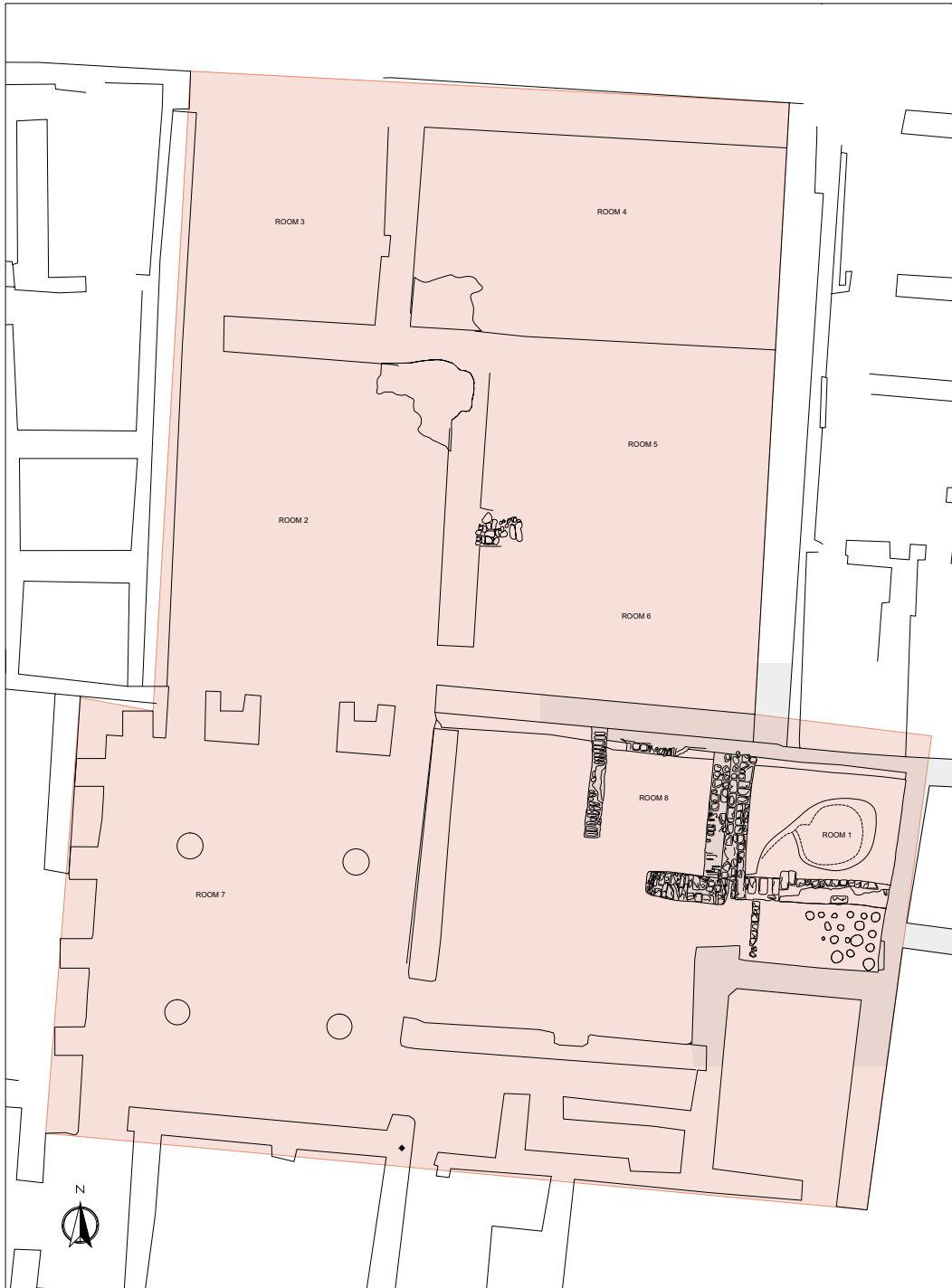


Fig. 2. Area 8.1, Building 10.

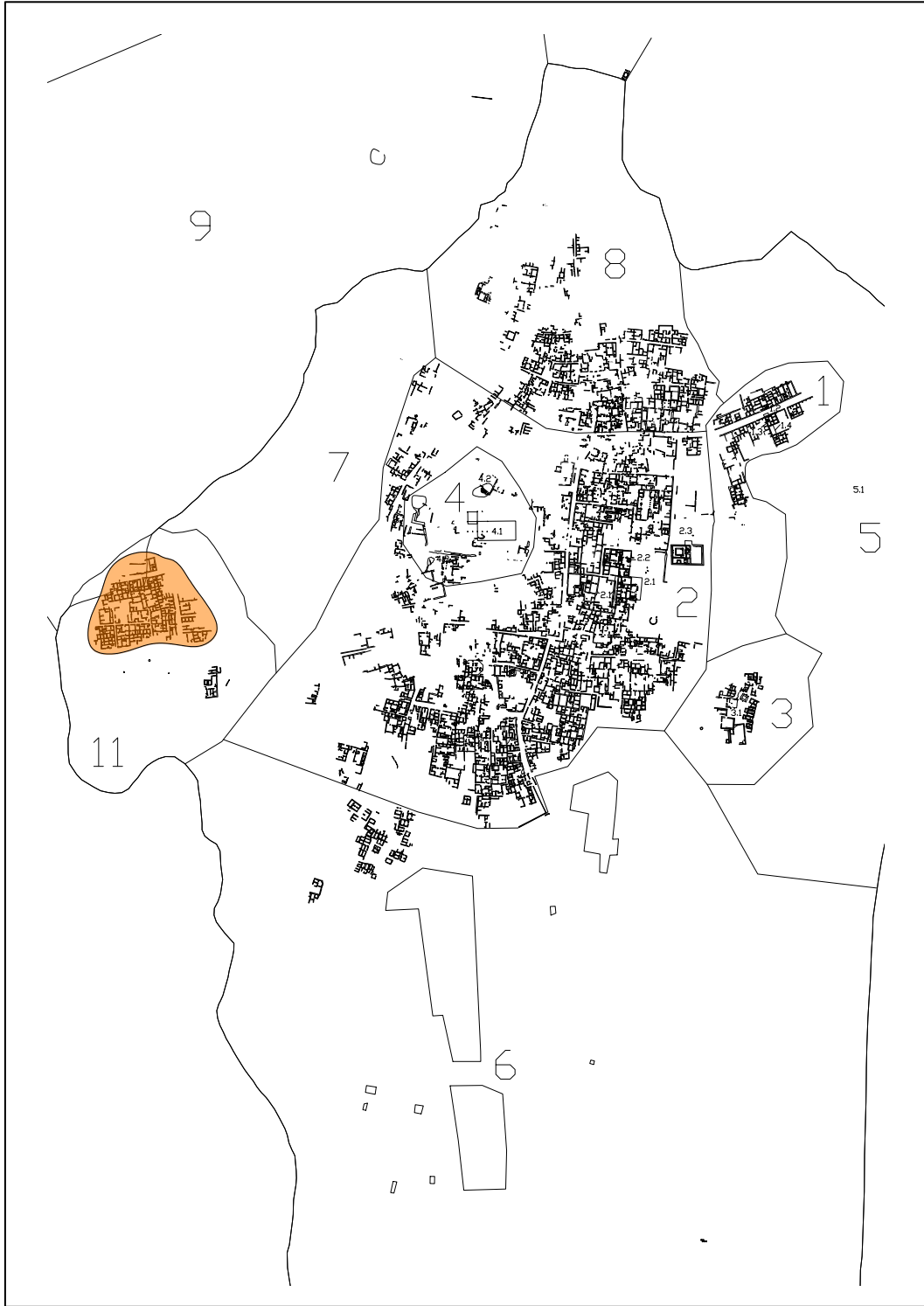


Fig. 3a. The areas of the Amheida archaeological site.
The area shaded in orange was mapped in 2013.



Fig. 3b. Area 11 in 2023.

The region shaded with diagonal lines is the limit of the newly exposed territory plotted with a total station. The region shaded in orange was recorded with photogrammetry. The orthogonal street grid is indicated in red.



Fig. 4. Area 2.3, B7. Room 4, DSU 126:

Mud brick collapse through the trapdoor leading into Room 4.



Fig. 5. Area 2.3, B7. Test Trench 4.



Fig. 6. Area 2.3, B7. Burials in Room 3.

T10 is the burial in the top, left corner, cf. fig. 1.

[Image redacted for publication]

Fig. 7. Area 2.3, B7. Coffin and remains in Room 2, T9.

[Image redacted for publication]

Fig. 8. Area 2.3, B7. Room 1, T17:

Left maxillary sinusitis eroding into the roof of the mouth.

[Image redacted for publication]

Fig. 9. Area 2.3, B7. Room 2, T8:

Abscessed tooth.

[Image redacted for publication]

Fig. 10. Area 2.3, B7. Room 2, T8:

Infection in right orbit as a result of the untreated tooth abscess.

[Image redacted for publication]

Fig. 11. Area 2.3, B7. Room 3, T14:

Cribra orbitalia, a sign of severe anemia.