

Kopaiic Cultures, Economies, and Landscapes (KOCECOLA) 2023 Fieldwork Report

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Background and Summary

The author, Prof. Michael Lane of the Department of Ancient Studies at UMBC, was approved in January 2022 by the American School of Classical Studies at Athens (ASCSA) to apply for a permit to excavate the prehistoric settlement of Aghia Marina Pyrgchos (AMP) in collaboration with the Ephorate of Antiquities of Viotia (EAV) beginning in June 2023 and continuing for eight weeks each summer through July 2026. He applied to the Central Archaeological Council (CAC) of the Hellenic Ministry of Culture and Sports (HMCS) by the deadline of November 15, 2022, for the relevant permit. Although deliberations on his application began in April 2023, and the commencement of fieldwork with a team of professionals and students was scheduled for June 5, 2023, the permit was not granted until June 22 of that year. Hence, the planned field operations were significantly curtailed, although in the first few days of the week of June 5, Prof. Lane had permission, through e-mail correspondence, to clear the summit of AMP of interfering vegetation, stake out the corners of excavation units, and collect finds from the surface.

Starting mid-morning on June 22, Prof. Lane's team began excavation of just three of the six units initially scheduled for 2023—Trenches 6, 9, and 11—to maximize the sampling of each of them, with the aim of providing significant finds to report to the ASCSA, CAC, and project's sponsors (Figure 1). Trench 6 was situated on the north side of the summit, where excavations in the prior phase, known by the acronym "MYNEKO" (dir. Dr. E. Kountouri, HMCS) had discovered a massive fill covering an Early Mycenaean infant cemetery on ruins of late Middle Helladic houses. Trench 9 was situated where MYNEKO had discovered the ruins of a Late Helladic (LH) III C building whose foundations were in the consolidated remains of a burned LH III B building. Trench 11, farther east on the summit, comprised a stone-lined cist grave of adult proportions that was hypothesized to be of Early Mycenaean date, presumably contemporary with the more deeply buried infant graves found on the north side of the summit.

Trench 6 was excavated to wall foundations filled with burnt building debris and artifacts, tentatively dated to the LH III B by comparison with prior MYNEKO discoveries. Trench 9 was excavated to a point thought to correspond to the shoring up of the ruins of the LH III B building for construction of the LH III C building. Also discovered was a distinct Early Geometric component overlying the LH III C, albeit comparatively ephemeral. In Trench 11, all the fills in the cist grave were removed, but the remaining slab stones and the surfaces into which it was cut have yet to be removed. In addition, detailed studies were made of the bastions on either side of the main gate of the circuit

wall, which are unique, and possible cobble pavements beside cist graves immured in the circuit wall, which may also be unique.

The fieldwork staff consisted, at different times in different combinations, of Prof. Lane, Dr. Kyle Jazwa (Maastricht University), Mr. Damian Koropecykj (independent), Ms. Rowan May (York Archaeological Trust), and Ms. Naomi Morales-Glenn (independent). Undergraduate research assistants who participated in field and laboratory operations, from between one and six weeks, completing the team, were Mr. Robert Barry (UMBC), Ms. Sofia Beroukli (National and Kapodistrian University of Athens, “NKUA”), Ms. Katie Bjerkaas (UMBC), Mr. Aidan Bodurtha (NKUA), Ms. Mare Chavez (UMBC), Mr. Michael Fischer (UMBC), Mr. George Ftergiotis (NKUA), Mr. Logan Jackson (UMBC), Ms. India Kelly (UMBC); Ms. Abigail Kennedy (University of York), Ms. Eleni Keogh (UMBC), Ms. Lauren Oster (University of York), Ms. Mriga Rao (UMBC), and Ms. Brenna Smith (Gallaudet University).

Recording the Walls and Main Gate

The summit was cleared of obstructing branches and foliage with motorized weed-cutters and hand saws, starting from the main gate and continuing to the eastern end of the massive fill, with the aim of encompassing the gate and all the planned and staked-out excavation units, T5 through T14, as well as the top of the southern segment of the fortification, previously identified “Wall F.” The ramp leading up to the gate was likewise cleared to the extent that its retaining wall (“H”) could be discerned (see Figure 1). Dr. Jazwa, whose research concentrates on Bronze Age architecture, led a crew of students in precisely measuring and drawing the gate, detailing the evidence of its exact method of construction. Furthermore, the area surrounding the cist graves in Wall F was cleared of obstructing vegetation. Dr. Jazwa observed two features of those that had been discovered and exposed: (1) that the façades of Wall F at points where it retained immured cist graves consisted of stones smaller than those of the otherwise more or less Cyclopean adjacent parts; and (2), more tentatively considered, that there is a pavement or a fill of irregular cobbles between two retaining walls, visible from above, one exterior and the other interior, at either end or both ends of said graves. It is conceivable that it is both a fill and a pavement, the fill perhaps sealing a short *dromos* or antechamber for the cists, which served both to monumentalize the spot and facilitate veneration.

Trench 6

Prof. Lane’s expectation had been that Trench 6 (T6) would initially reveal more of the massive post-LH II lake-sediment fill that covers the summit and, below it, MH III – LH II (“Early Mycenaean”) infant graves amid MH house ruins, such as were found during MYNEKO operations in Trench 1, just half a meter to the north of T6. Instead, after removal of a relatively thick layer of topsoil (contexts **6001–6002**) and subsoil (**6003**), together some 40 centimeters deep on average, the excavation encountered wall foundations and alignments of fallen upper courses (see Figure 2). Given the elevation of all these, they appear to sit immediately on the massive fill mentioned above, just as the LH IIIB building in MYNEKO Trench 2 (T2) did. They also appear to be within 20 centimeters of elevation of said finds in T2. The massive fill contained LH IIIB and IIIA mate-

rial, so it was assumed that these ruins also represent subsequent LH III B construction. So far, however, no specifically datable material has been identified from the burnt rubble and potsherds amid the wall foundations and fallen courses; one can only say that the material is consistent with LH III B inhabitation. However, the evidence of catastrophic fire is like that of the LH III B building discovered in T2 and adjacent T4 during MYNEKO excavations.

The provisional interpretation of the architecture revealed in T6 is that it represents the corner of a terrace within a wall built with inner and outer courses of stones ca. 20 to 30 centimeters across, with a few filler stones between (Figures 3 and 4). It runs from north to south (**Wall BT**) and then west to east (**Wall BW**) and is built on the massive fill. Adjoining the north–south extent and opposite the west–east extent, about 120 cm distant, is a single row of larger boulders of nearly uniform size, 50 to 60 centimeters long and about 40 wide, presumably the socle of a load-bearing wall (**Wall BV**). It too may turn a corner southward at its western end, continuing the line of the north–south segment of the terrace wall. Across a gap of about 20 centimeters from this socle alignment and running parallel to it, is a line of long and narrow smaller stones (context **6004**). The last of these, to the west, is joined to the west–east segment of the terrace wall with a construction made mainly of cobbles (**Wall BU**), though with a single larger stone at the point of abutment. The stones thus leave a gap of about 20 to 30 centimeters between themselves and the north–south segment of the terrace wall and hence a right angle with the gap that runs parallel to the socle. The excavators conjectured that this narrow passage turning a corner may have been a drainage channel. It would thus have shunted water toward the north extent of the terrace at its corner, where it is supposed a drain hole shall be found in 2024.

Amid the burnt building material and ceramic to the west of the terrace wall (context **6007**), therefore presumably fallen outward, was a hemispheric piece of ivory, about 1.5 cm in diameter, bearing saw marks on its flat surface. So far, no clear comparandum to it has been found. The presence of worked ivory, may be presumed to serve for inlaying in furniture, consistent with the discovery of an ivory rosette with a stud hole in the LH III B phase in T2 in the MYNEKO 2017 season, granted that the buildings represented in each trench are over 20 meters apart. Notwithstanding, the LH III C remains in MYNEKO's T2 and T4 were neither burnt nor contained any ivory artifacts.

Trench 9

The expectation had been that Trench 9 (T9) would reveal in plan more of the discoveries in MYNEKO T2 and T4, namely, LH III B and LH III C buildings and their respective destruction or abandonment. Below a topsoil (context **9001**) and subsoil (**9002**), together about 20 centimeters thick, was an interface (**9003**) with what was presumed to be the abandoned remains of the LH III C building (see Figure 5). It consisted of a brown silt loam, in which a few spilled boulders, presumably from walls, were buried. The upper course of what is probably the southern continuation of **Wall J**, which was first identified in T2, appeared in the north corner of the trench, sealed by 9003, a layer that filled the extent of the trench (see Figure 6). This quarter of 9003 also contained a somewhat grayer patch with diffuse edges, and in its center was a diffuse

grayish brown patch, described as “redder” on field forms. The former was presumed to correspond to an underlying plaster slump, while the latter may have corresponded to ant bioturbation. The interface proved to be about 10 centimeters thick on average and indeed covered a layer of lime plaster (context **9004**) in the trench’s north corner, which was presumed to have fallen outward to the south from **Walls L and N**, previously discovered in T2 to the north. At the base of this interface and at the top of 9004, as well as on top of context **9006**, which underlies both 9003 and 9004, were fragments of open forms that appear to have Early Geometric shapes and decorations, including reserve banding below the rim. This observation led to the important reconsideration of MYNEKO’s interpretation of Walls L and N and the plaster slumps between them, which had sealed some unusual monochrome “deep bowls,” as they were then described. Given that these two walls are not properly joined to perpendicular **Walls A and J**, it now seems possible that the former represent a light construction of the Early Geometric Period within the ruins of the abandoned LH III C building, which provided for drinking with kraters and skyphoi, if not also accompanying feasts.

Below 9004 was 9006 (see above), taken to be the transitional layers over the ruins of the LH III C building. It filled the whole of the trench in plan, though the upper courses of a wall perpendicular to Wall J appeared from beneath it, as well as some stones that run parallel to Wall J. The former was provisionally named Wall BR but later reinterpreted as a fallen wall course because of its oblique alignment, while the latter appears to be on the same alignment with LH III B Wall AB, identified in MYNEKO T2, although this identification requires further testing. Below 9006 were two features identified with the LH III C shoring up of the underlying LH III B ruins and rebuilding. One was a light gray patch with clear edges (context **9007**) to the north of the fallen wall course, the other a light gray lime plaster slump (**9008**) to the south of it. The former proved to be a fill, largely of lime plaster but also containing large fragments of mud brick and small eroded potsherds, in a sub-rectangular cut of clear edges, about 20 to 30 centimeters deep, designated context **9009**. It was closely aligned with the likely north–south continuation of Wall J (see Figure 7).

Thus, new excavations showed there to be an Early Geometric component, if only of ephemeral architecture, represented by Walls L and N and possibly even Wall J, and an LH III C component represented by Wall BR, the foundation of the latter perhaps requiring cutting and filling of uneven areas in the underlying LH III B ruins. The latter is comparable to the evidence from MYNEKO of Wall N being built on a fill of mud brick in a pit. It is presumed that, at the beginning of the next campaign, the southern half of the interior of the LH III B room discovered in T2 during MYNEKO shall be discovered below the level of cut 9010 and Wall BR, perhaps partly enclosed by a wall parallel to the latter.

Trench 11

One should note before a detailed description of the adult cist grave (Cist ε) near the center of Trench 11 (T11) that its exposed top is at a much lower level than extant architectural remains of presumed LH date on either side of it (Figure 8). Since it proved to be of early Mycenaean date (ca. MH III – LH IIA), as expected, this lower elevation is likely because the massive fill, which covers the contemporary infant cemetery discov-

ered in MYNEKO trenches T1 and T3, had been removed at some point after the LH III. This observation is important to understand when interpreting the stratigraphy of the grave.

The grave, Cist ε, was exposed on the present surface as the upper edges of slab stones lining it on the north, west, and east sides (see Figures 8 and 9). Both the south side slab and the capping stones were nowhere to be seen in the vicinity. Between the stones was a hollow, apparently partly filled in by erosion, and, immediately to the south, a low mound, presumably of sediment tossed up by looters. The topsoil (context **11001**) that covered the whole area of the T11 was only a couple of centimeters thick, including over the mound. The mound (**11002**) was next to excavate in reverse order of deposition. Given how shallow the topsoil over this spoil heap was, it seems likely that the grave was looted recently, perhaps within living memory. It contained some six hundred small potsherds and almost as many jumbled fragments of human bone. As far as could be told, no bones were represented exceeding those of one individual skeleton, and where elements were analyzable, they were phenotypically male. Also discovered were a bronze pin, perhaps for a shroud, a notched, gray chert arrowhead, and what may be a terracotta figurine's arm.

Context **11003** was defined as the upper part of the disturbed fill that the looters left in the grave, containing some human bones and potsherds, though not as many as in 11002, which overlaps it slightly on the grave's southern edge. Below 11003 was a similar, albeit less compact, fill designated **11004**. It is possible that some of the former represents material that washed back into the grave after looting and became more consolidated than the jumble immediately below it. Contexts 11003 and 11004 in turn sit in looter's cut **11005**, which appears to be represented in the northeastern corner of the cist by the truncated remains of gray limy surface (context **11006**), like plaster, presumably the looted grave's original floor.

It is worth noting at this point that the looter's cut appears to have started at the south edge of the cist, where the slab lining stone had already been removed. It was therefore conjectured that this slab, as well as the cover stones, had been robbed for building material, accounting for their being nowhere in sight. Indeed, it had been observed since 2016 that the base of the medieval watchtower in the summit's middle had been shored up with material resembling the massive fill. Hence, it seems quite likely that the slab and cover were scooped up together with the bottom of the fill in this locality for reinforcement of the tower, accounting for exposure of several adult cist graves on the south side of the summit and the overall lower elevation of this area. In any case, the traces of any separate robber's cut or inadvertent cave-in caused by removal of the stones seem to have been obliterated by the looter's cut. Nevertheless, in the interest of consistent stratigraphy, a context number, **11007**, was assigned to the hypothetical robber's cut (different from the looter's cut).

The bottom of looter's cut **11005** was discerned in the abrupt change from loose context **11004** to stonier, more compact **11008**. The latter was dark brown and mottled, about 10 to 15 percent of it consisting of medium to coarse gravel and small irregular cobbles. Some 1,000 pieces of human bone of various sizes, from very small to less fragmentary, turned up in this context, as did a few chips of cryptocrystalline

stone and corroded bits of bronze. It was presumed that this was a subfloor fill for 11006. Be this as it may, it quickly became clear that some of the human bone embedded in it belonged to a second individual, starting with identification of a duplicate sternum, and that the cist must therefore contain a second burial. Context 11008 gave way to a distinct heap of largely intact but entirely disarticulated human bones, including all the components of a skull and most of the appendicular skeleton, in a shallow pit in the eastern end of the grave. This human bone concentration was designated **11009**, the hollow **11010** (see Figures 8 and 10). Also in the pit were shards of a brown burnished-ware bowl and a gray burnished open shape with a perforated rim of a type that has been identified at Lefkandi as a possible censer (Phase V). The skeleton was tentatively identified as phenotypically male. Both these vessels are dated to the Early Mycenaean Period, in fact perhaps as early as later MH II.

Notwithstanding, the surrounding matrix of 11008 contained fragments of Early Helladic (EH) pottery, including EH II scored ware and burnished “sauceboats,” identified by Dr. Chris Hale of the Polish Academy of Sciences. Prof. Lane did not expect this, since there is yet no reason or evidence for believing that AMP was permanently inhabited in the EH Period, especially in the EH II. The evidence is unambiguous, however, and so the possibility of such a settlement must be contemplated. It may be that the burial belongs to such a settlement and was redeposited after the intrusion of Early Mycenaean Cist ε. It may also be that the grave is EH but belongs to another settlement (AMP being specifically a burial ground), or it may be that the burial and its fill were brought from an EH settlement and used in a foundation deposit for the Early Mycenaean grave. If the latter, then, to the best of Prof. Lane’s knowledge, it would be unique in Early Mycenaean Greece. Further excavation of the fills into which Cist ε were cut is required to choose among these hypotheses.

Tentative Conclusions

KOCECOLA’s discoveries in 2023 both corroborate and enlarge the findings of the MYNEKO excavation program at AMP from 2016 through 2018, which further corroborated the observations of the preceding AROURA geophysical program in the plain below. There is evidence of settlement and cemeteries dating to before the engineering of the integrating LH IIIA2/B1 Cyclopean works, the former dating back well into the MH, the latter to at least the Early Mycenaean period. It now seems possible that there was an EH phase at the site, as there is, for example, at Dhavlosi (Medeon) about 13 kilometers to the southwest. It should be noted, nonetheless, that neither the AROURA surface survey nor MYNEKO excavations discovered anything to conclude there was an EH settlement.

Presuming that the walls uncovered in T6 date to the LH IIIB, as every line of evidence suggests, then the summit complex in this phase is extensive, may have contained more workshops and storage rooms for furniture, pottery, and other durables, and may all have been consumed in the same LH IIIB2/C Early conflagration evident in MYNEKO trenches T2 and T4. It still seems that there was rebuilding after a short duration on the ruins of the LH IIIB building, albeit at a lesser scale, and this involved consolidating the ruins in various ways, including digging into loose parts of the collapsed building and packing it with building material or detritus or simply packing

news socles into it (e.g., Wall A). The LH III C rehabilitation seems to be short-lived, not exceeding the one generation or so of the III C Early phase. This building was abandoned and collapsed episodically.

It now appears that 250 or more years later, people began to visit the site, building light structures within the ruins of the LH III C building and storing drinking wares there. This observation opens the prospect of the ruins being regarded as ancestral or heroic by some local community in the Early Iron Age, though this remains conjecture. Nearby Kopai (modern Topolia/Kastro) is a candidate for such a community, although evidence of permanent Geometric Period settlement there is still scant. Orkhomenos is perhaps a better one, there being more compelling evidence of regular inhabitation in this era, as well as a Protogeometric–Geometric Period grave tumulus near Vranesi, about six kilometers to its south.

Nonetheless, there is no evidence yet of permanent re-inhabitation between the Late Helladic III C abandonment and the building of the medieval watchtower. The latter activity appears to have involved excavating a large quantity of the massive post-LH II lake-sediment fill from at least the southern and eastern parts of the summit and using it, possibly along with some construction stone, to reinforce the base of the tower, perhaps in the first instance because the soil was too shallow for a stable foundation or perhaps instead after a natural event had rendered the tower unstable.

Future Work and Status of Publication

The plan for the summer of 2024, if the full six weeks of excavation are permitted, is to continue excavation in T6, T9, and T11, and to begin excavation in T5, T8, T13, and T14 (originally scheduled for 2023). The aim in T6, given prior knowledge of the rate of progress during MYNEKO and KOCECOLA, is to reach the bottom of the post-LH II massive fill, where more Early Mycenaean intramural infant burials may be found, in T9 to reach the foundations of the LH III B building on and in the massive fill, and in T11 to remove the remaining slab stones of Cist ϵ and begin to excavate the deposits into which it was cut, reaching, with enough effort, the level of the base of the grave. Thus, in these trenches alone, by the end of the 2024 campaign, further evidence of each of the previously observed phases—MH II–III (settlement), MH III–LH III A (cemetery), LH III B–III A (destruction and fill), and LH III B–C Early (settlement)—will have come to light. Two of trenches to be opened in 2024, T5 and T8, are designed to extend the view of at least the LH III B construction in T6 and T9, respectively, while the other two, T13 and T14, are designed to explore hypothetical residential structures on the terraces below the summit to the west. In particular, T8 is intended to explore the relationship between the interior of the building represented in T2, T4, and T6 and the exterior featureless space, hypothetically a courtyard, suggested by MYNEKO 2018 magnetometry. The plan is to finish excavation of all these units in 2025, while beginning excavation of T7, T10, and T12, in the hope of adaptive sampling between these units (see Figure 1).

The comprehensive 20,000+-word publication of MYNEKO excavation and geophysics program at AMP was published in *Hesperia: The Journal of the American School of Classical Studies* 92(4), pages 587–643. One ancillary study on the US NSF-funded

side-by-side radiocarbon–luminescence–amino-acid racemization dating is in draft form, the principal, Prof. Lane, having sent it to co-authors for comments and contributions. Its target outlet is the *Journal of Archaeological Science: Notes*. Another, on the unusual, if not unique, LH I–II amphoriskos and hydriske from one of the infant graves, he will draft with Dr. Kalliope Sarri of the University of Copenhagen in early 2024, when she visits the newly outfitted storehouse in the village of Kokkino (see Appendix below). It will be a brief descriptive and comparative paper for the *Teiresias Journal Online*. A third, on the organic residue analyses from these and other vessels discovered during MYNEKO, has been suspended indefinitely, while the analyst, Mr. Vernon Stafford, continues to work on technological problems in his laboratory at the University of Tennessee. Prof. Lane is also awaiting comments from the MYNEKO director of record, Dr. Elena Kountouri, on drafts of a long joint theoretical article on hydraulic engineering in central Greece in the Bronze Age, which they intend to submit to the *Journal of Mediterranean Archaeology*. Finally, Prof. Lane’s abstract of a paper to deliver on his discoveries since 2010 has been accepted for the 20th International Aegean Conference, “*Hydor: Water Resources and Management in the Aegean Bronze Age*,” 12–16 June 2024. A revision of the present report, complete with plans, stratigraphic diagrams, and photographs, will appear on the dedicated website kocecola.umbc.edu.

Appendix: Completion of the Storehouse and Preliminary Finds Studies

Refurbishment of the storehouse in the village of Kokkino Orchomenou, Viotia, was completed between November 2022 and July 2023, and the chief antiquities warden (αρχιφύλακας των αρχαιοφυλάκων) has officially approved its conformity with law and regulation concerning the safekeeping of antiquities under the aegis of the Greek state. It also serves as the laboratory for post-excavation cleaning, sorting, and preliminary analyses of finds. Its windows and doors are now secured with painted iron bars, and it is outfitted with both a magnetic-seal and motion-detecting alarm that sounds both locally over a megaphone and silently in the Security Center of the Ministry of Culture and Sports in Athens. Proof of its correct function was given when, within a week of its installation, it was accidentally triggered, notifying the Security Center, which in turn notified the Orchomenos police station, which dispatched an officer to Kokkino immediately.

Prof. Lane has arranged to move the finds from the MYNEKO and prior AROURA program (see above) from the basement storerooms of the Archaeological Museum of Thebes to the storehouse–laboratory in Kokkino during his visit in late January 2024. It is at this point too that he and Dr. Sarri will draw up their paper on two vessels from the MYNEKO excavations (see above). During this visit, Prof. Lane will also begin systematically to photograph to studio standards the finds from 2024 onward. He may also find the opportunity further to discuss newly discovered EH pottery with Dr. Hale (see above).



Figures

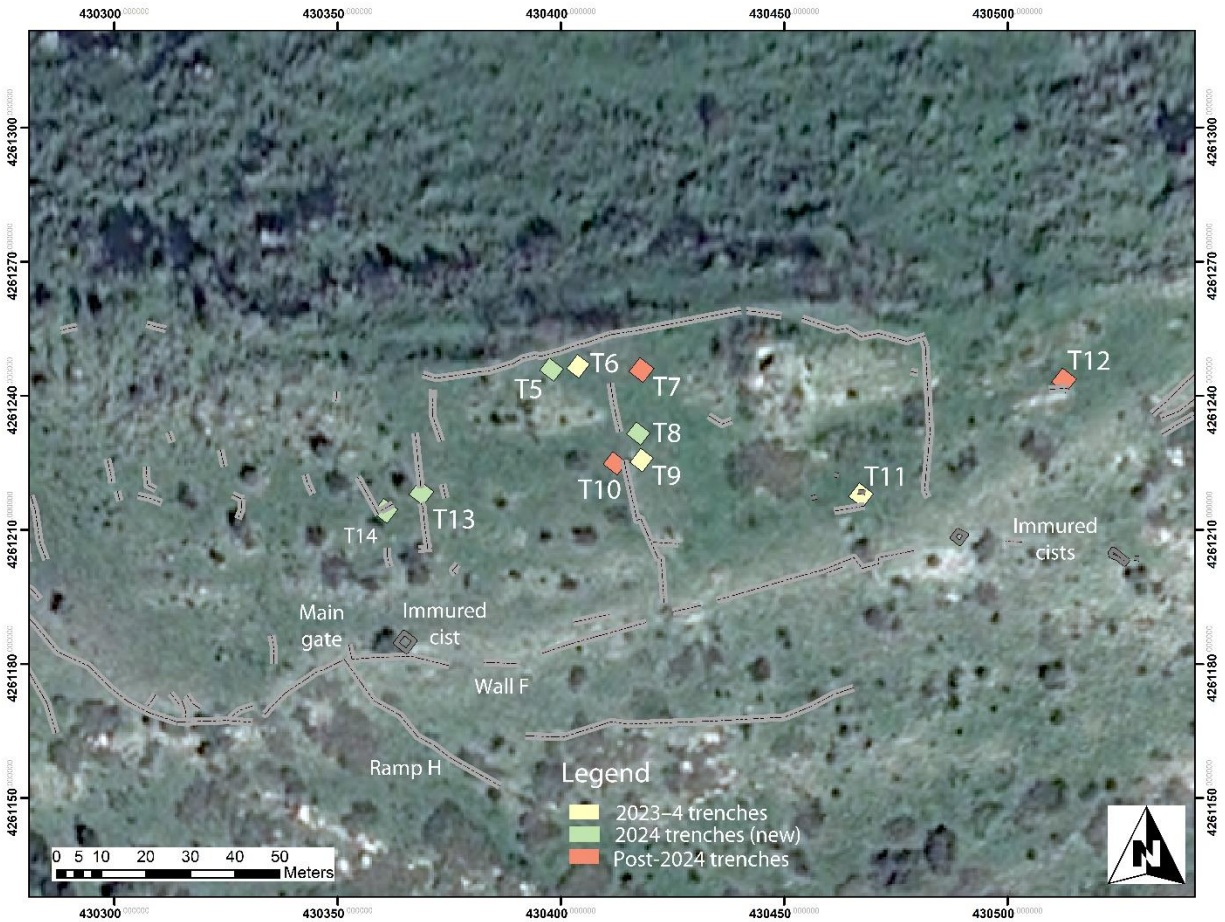


Fig. 1. 1:1,000-scale map of AMP showing major architectural features and current and future excavation units (GRS-87 coordinates).

AMP-T6 Final South Profile 2023

166.28 masl

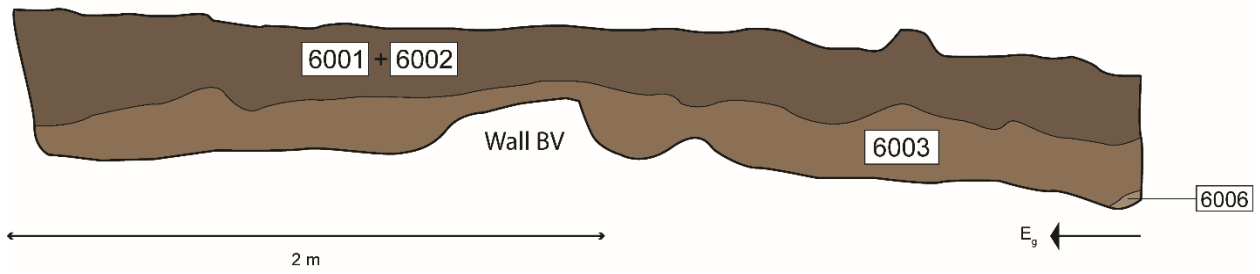


Fig. 2. Final grid-South profile (section) of Trench 6, July 2023.

AMP-T6 Final State Plan 2023

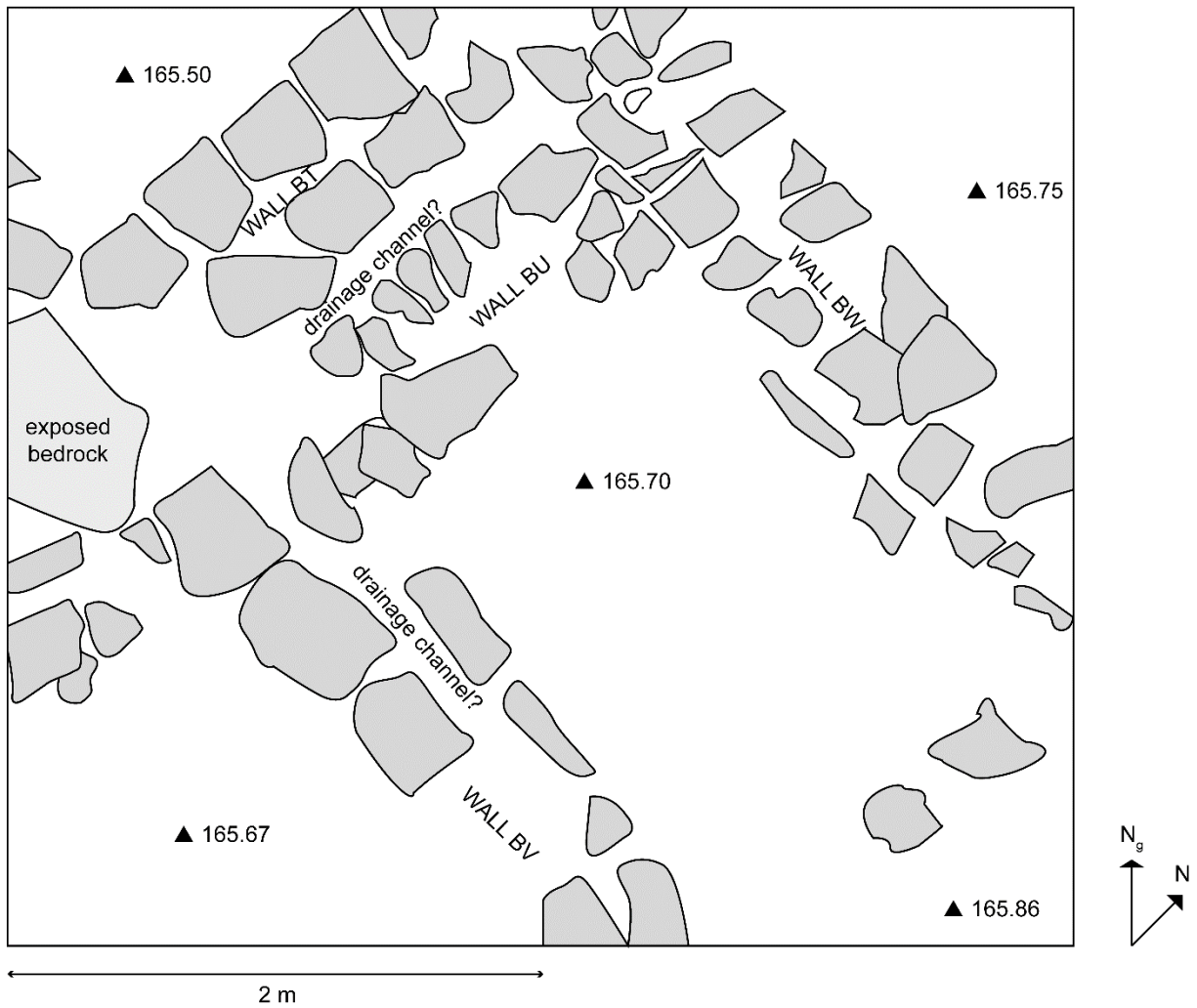


Fig. 3. Final state plan of Trench 6, July 2023 (cf. Figure 4).



Fig. 4. Oblique view of T6, looking West: Wall BV, upper left; Wall BT, upper right; Wall BW lower right; Wall BU parallel to and below BT in photograph. The terrace wall is formed by Wall BT and Wall BW. The hypothetical drainage channel runs along Wall BV and turns 90 degrees between Wall BT and BU (arrow pointing North, 1-meter range rod).

AMP-T9 Final North Profile 2023

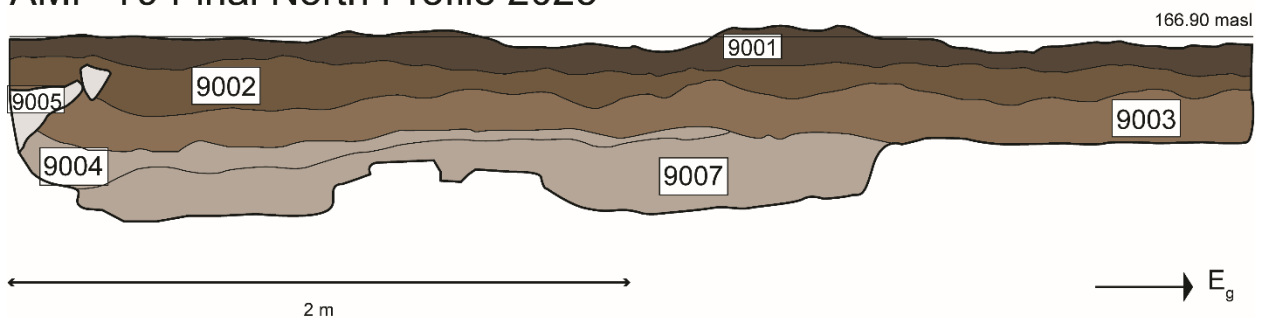


Fig. 5. Final grid-North profile (section) of Trench 9, July 2023.

AMP-T9 Final State Plan 2023

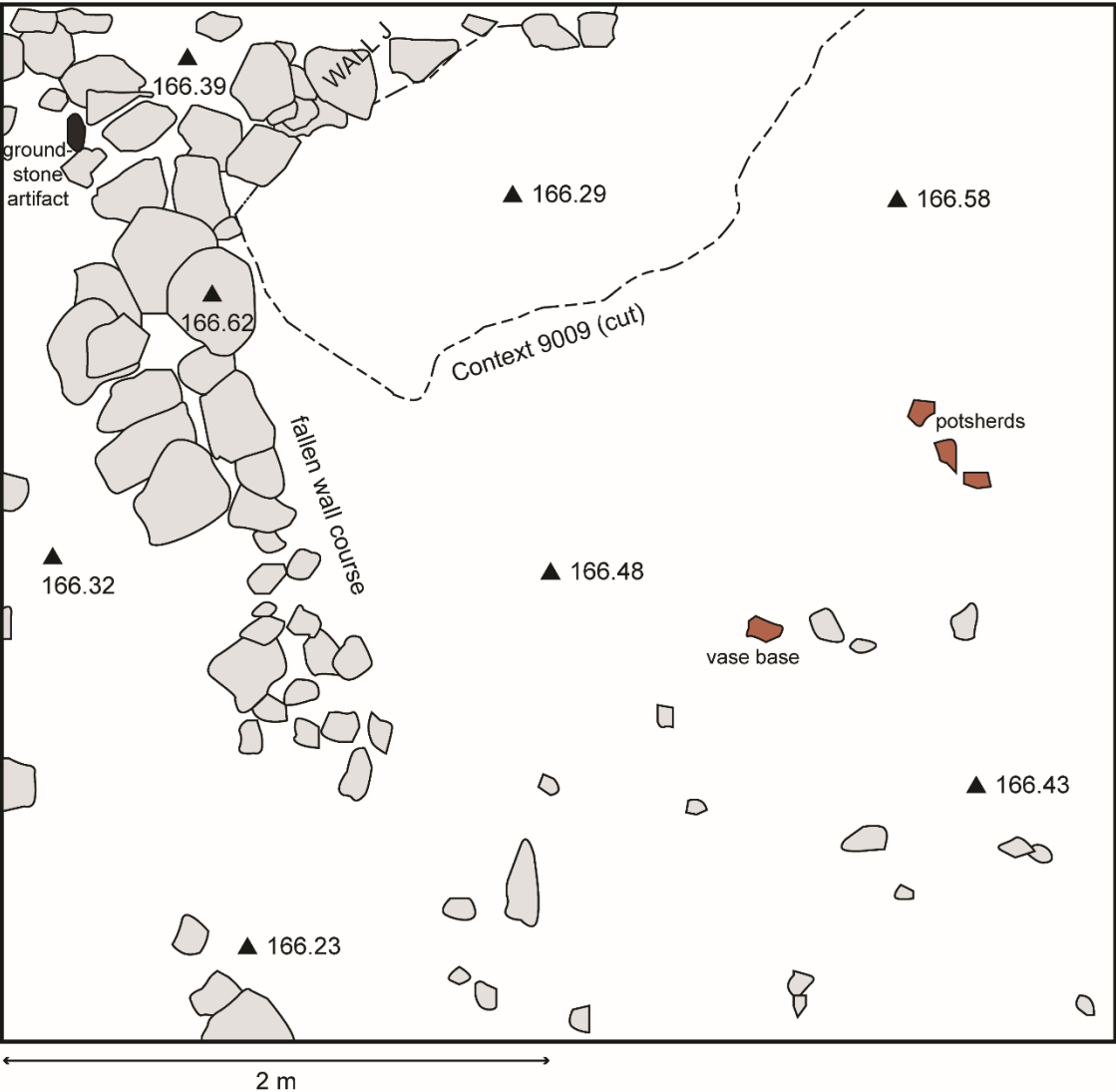


Fig. 6. Final state plan of Trench 9, July 2023 (cf. Figure 7).



Fig. 7. Detail of T9, looking north: Cut 9009, center; Wall BR, lower left; perpendicular wall (AB?), upper left (arrow pointing North, 1-meter range rod).

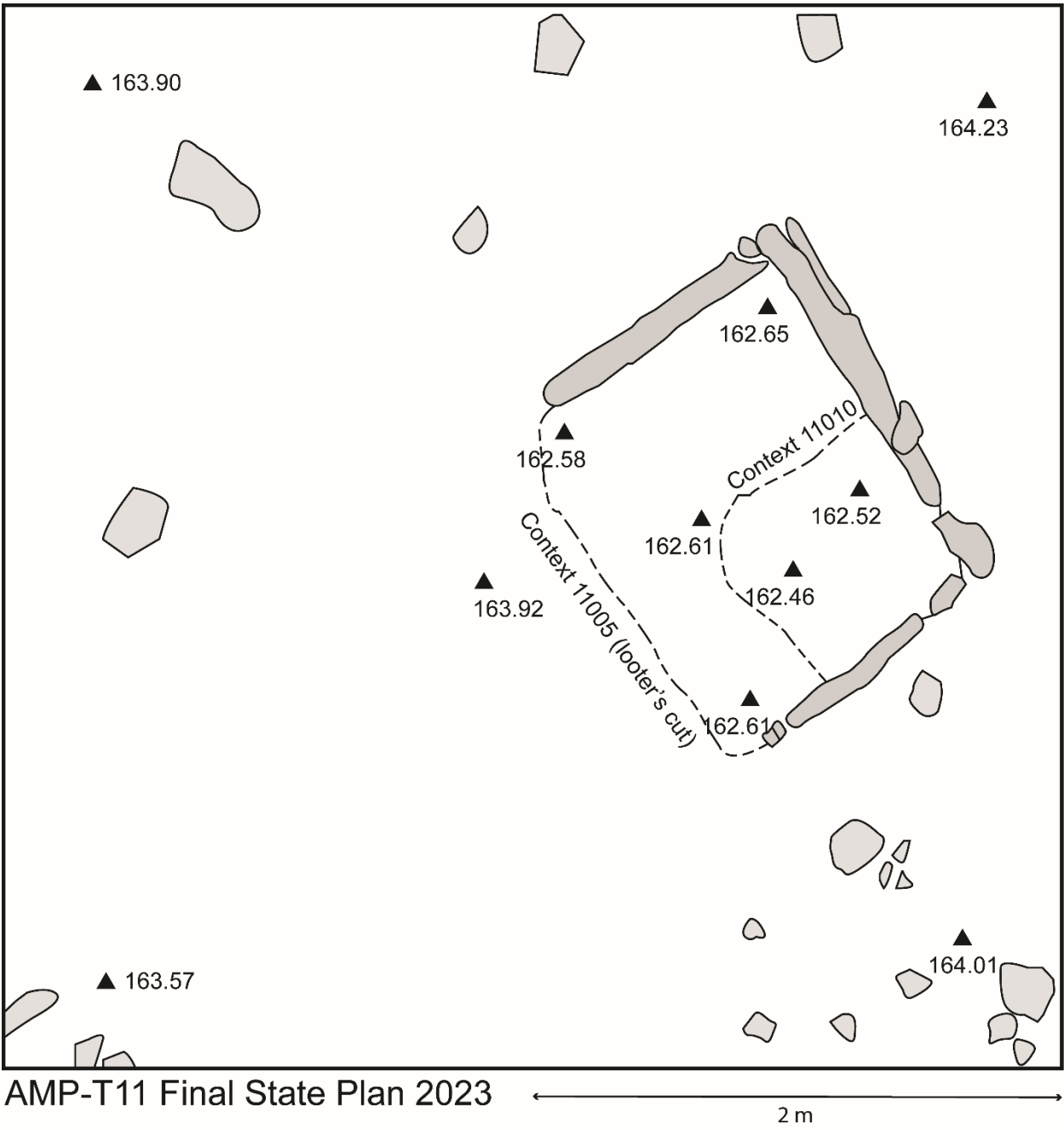


Fig. 8. Final state plan of Trench 11, July 2023.



Fig. 9. The slab stones of Cist ϵ in T11, looking North.



Fig. 10. Context 11009 (bones) in context 11010 (hollow) in Cist ε, T11 (arrow pointing North, 1-meter range rod).

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