Mycenaean Northeastern Kopais (MYNEKO): Annual Report, 2016

Michael F. Lane, University of Maryland Baltimore County (UMBC),
and Elena Kountouri, Hellenic Ministry of Culture and Sports (HMCS)

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1 SUMMARY

1.1 INTRODUCTION

The authors executed a program of digital mapping, stratigraphic excavation, and pedological and geomorphological sampling around the Late Helladic (LH) IIIB fortress of Glas (ca. 1300–1190 BCE) in the northeastern Kopaic Basin (Kopais), Boiotia, central mainland Greece, between June 6 and July 17, 2016. Their archaeological collaboration, titled "Mycenaean Northeastern Kopais" (MYNEKO), is a two-year program mutually agreed between them in their individual capacities as professional archaeologists. They share equally in setting research objectives and priorities as co-principal investigators and in making executive decisions in the field as co-directors. In 2016, MYNEKO was authorized by document no. 685 issued to Dr. Kountouri from the Central Archaeological Council of the HMCS. Dr. Lane in addition obtained a permit, no. 1130, from the Hellenic Institute of Geology and Mineral Exploration for taking geomorphological and pedological samples and for realizing a geological survey of the project area.

1.2 AIM AND OBJECTIVES

The aim of the collaboration is to link Dr. Kountouri's prior research of the nature and extent of the LH III drainage system in the region with Dr. Lane's prior research of the evidence of a system of irrigated agricultural fields covering hundreds of hectares in the plain around Glas. In the LH, the plain was a cultivable lakebed, drained by the hydraulic works that are the focus of Dr. Kountouri's research, and protected from floodwaters by a dike several kilometers long to the west. That is to say that the plain was a 'polder' in hydro-engineering terminology. Hence one objective of MYNEKO is to determine if and how the drainage system was connected with the system of water management within the polder, one topic of Dr. Lane's research. Furthermore, Dr. Kountouri has in mind particularly to clarify the construction characteristics of the mechanisms that presumably contained and directed the flow of the combined Melas and Kephissos rivers, as well as the mechanisms that regulated their debouchment into the northeastern bay of the Kopais, while Dr. Lane has in mind to clarify the nature and character of certain features in the polder that evidently constituted a network of levees and ditches of precise dimensions. He discovered the latter during the AROURA geophysical survey (2010–2014), a previous collaboration between UMBC and the HMCS, under the auspices of the American School of Classical Studies at Athens and funded by the Institute for Aegean Prehistory. Both principals furthermore want to understand more thoroughly the relationship of LH settlements on the shores of the Kopais to the drainage system and polder, as well as to the monumental palace-style residence and storehouses at Glas. They intend for MYNEKO to be a two-year bridging project from their prior researches to a more comprehensive, integrated archaeology of political and economic landscapes in northern Boiotia.

1.3 Goals and Accomplishments

In 2016, MYNEKO's goals were to uncover in plan and section, at several locations in the plain, features corresponding to magnetic anomalies resembling a network of irrigated fields—and dated to the LH—that had been detected during AROURA, as well as to excavate stratigraphically in a few carefully selected locales at the littoral sites of Aghia Marina Pyrghos (AMP) and "Aghios Ioannis"—apparently the Hellenic Military Geographical Service's misnomer—the site of successive churches dedicated to Aghios Gheorghios, a different saint. Dr. Kountouri had carried out a surface collection of the latter in 2011, while Dr. Lane had conducted an intensive surface collection (two-meter sampling units) of the former in 2011 and 2012. Their goal in 2016 was to determine the integrity of deposits and the relative and absolute chronology at both sites, and to learn more about these sites' administrative and economic relationship to the drainage system and the polder. Given protracted, delicate negotiations to gain permission from private landowners to excavate on the plain, a legal requirement, and the exigency of preempting grave robbers at Aghios Ioannis, the co-principals were nonetheless successful overall in attaining their goals.

1.4 Participants and Duties

With the exception of digital mapping, which Dr. Lane oversaw, field direction at Aghios Ioannis was divided between Dr. Kountouri, Dr. Nikolaos Petrocheilos of the Archaeological Museum of Delphi, and Dr. Kostantinos Theodoridis, archaeologist and LH pottery specialist. The crew at this site consisted principally of Greek investigators and field technicians. Dr. Lane directed fieldwork at AMP and in the plain. The trench supervisors to whom he delegated tasks and authority were Ms. Alicia Dissinger of the University of Virginia, Mr. Matthew Jameson of Bryn Mawr College, and Dr. Laetitia Phialon of the French School at Athens. The geographic information systems (GIS) and information technology specialists were Mr. Weston Bittner and Mr. Vassileios Oikonomou, both independent consultants. Mr. Daniel Fallu of Boston University took micromorphological samples. Dr. Leonidas Gouliotis, National and Kapodistrian University of Athens (NKUA), undertook the geological survey. Dr. Lane took the geomorphological and pedological samples. Not least, six Greek undergraduate students from the NKUA and University of Ioannina and five American undergraduates from UMBC received fieldwork training during the six weeks of the program in 2016.

2 Methods

2.1 Digital Mapping and Elevation Drawings

The project area was plotted in advance using GIS (ArcMap). The Hellenic state's official Greek Geodetic Reference System 1987 (GGRS-87) coordinate–projection was employed. The project area comprises 2,134.26 hectares and consists of two adjoining grids of 30-meter sampling squares. One is that of AROURA, which is aligned with the modern field boundaries enclosed by National Road E-1 (E-75) to the west, the current Melas River on the north, the scarp of Nisi and

alluvial fan of Souvli on the east, and Mt. Mytikas to the south (Figure 1). The other grid, joining the first to the northeast, near AMP, is aligned with the GGRS-87 cardinal directions. It is enclosed by two arbitrary north–south lines to the west and east (avoiding land claimed by the LARCO mining company) and by Mt. Profitis Ilias to the north (border with Fthiotidha Department) and the tableland of Nisi to the south (Figure 2). As needed, each 30-meter sampling square, originally designed for geophysical prospection and field walking, can be further divided into 225 two-meter squares, to which the basic excavation units ("test trenches") conform in plan. In this manner, particularly within the AROURA portion of the project area, previous surface collection and geophysical results can be compared with topographical precision to new excavation results.

The corner points of the test trenches for 2016 were determined in advance with ArcMap, using the sampling grids and various base maps, including the Hellenic Military Geographical Service (HMGS) 1-to-5,000-scale relief plan and Worldview-2 and Pléiades satellite data. Their GGRS-87 coordinates were then uploaded to the Javad Triumph-1 differential global navigation satellite system (DGNSS) data recorder. The DGNSS base station receiver was set up over the triangulation station on the summit of Glas' outcropping, whose longitude (x), latitude (y), and elevation (z) values, measured to the nearest centimeter, had been obtained from the HMGS. The roving DGNSS receiver could thus stake out points with an accuracy of less than three centimeters within a matter of seconds when radio communication between the receivers was clear. Adjustments to the north, south, east, or west in whole units of meters were made as needed using taut horizontal tape measures whenever a previously unnoticed obstacle to excavation had to be avoided or when an annex to an original trench was made. Annexes to the originally laid out test trenches were also staked out with this latter method. The x, y, and z values of the position of wooden stakes or steel rods marking temporary benchmarks near each test trench were also recorded to the nearest millimeter (where elevation was measured above the GGRS-87 ellipsoid height).

In the first of the six weeks of fieldwork in 2016, after the test trenches had been staked out, the American–Swiss crew began to map with the DGNSS extant lengths of cyclopean circuit and other probable LH walls, stone-lined cists, and occasionally other surface finds at Aghios Ioannis and AMP, wherever surface vegetation and organic overburden had been cleared away. X, y, and z values of points along these and at their corners were recorded to the nearest millimeter in GGRS-87. Furthermore, 1-to-20-scale elevation drawings of segments of cyclopean walls were created by students and staff, using measured offsets at intervals along a level line whose southernmost or westernmost end point had been recorded in the same fashion with DGNSS.

2.2 Excavation, Stratigraphy, and Finds

Excavation was conducted according to the "single context" method developed by Museum of London Archaeology and used at several sites in the Aegean (e.g. Corinth and Paliambela Toumba), and stratigraphy was recorded according to the method expounded by Harris in *The Principles of Archaeological Stratigraphy* and subsequent works. In accordance with these combined methods, archaeological deposits, as perceived in the field, are removed in the reverse order in

which they were laid down. Hence fills are removed and recorded before their cuts, and separately recorded, and wall courses, such as repairs and rebuilding, are also removed in reverse sequence and separately recorded. Each test trench at a site or in an area of investigation in the polder was given a sequential number, which was also the first numeral of the three-digit context numbers pertaining to it (realistically expecting there to be no more than 100 separate contexts in a trench). The context number ending in double zero (00) after the leading trench identifier digit was supposed to represent the collection of finds from the surface of the excavation unit. Excavation proceeded with small pointing trowels most of the time, although occasionally hand picks or mattocks and mason's "triangle" tools were employed.

Artifacts and such environmental remains as shell and bone were recovered both during excavation and with a shaker-screen of half-centimeter aperture (supplemented with a 0.2-centimeter nylon mesh when recovering fragmentary human skeletal remains). They were cleaned, recorded, and stored by context number. Occasionally, intact or mostly intact finds whose particular place of deposition was deemed noteworthy were recorded together with a sequential "special small finds" number. Samples of building material, such as stucco and mud brick, were taken from certain contexts and recorded with a special catalogue number. Charcoal was handled and stored according to standard protocols for later radiocarbon dating. Human remains were recorded both as a context and on a separate forensic analysis form. Once thoroughly air dried, all finds were stored in perforated polythene bags in polyvinyl chloride (PCV) crates in the second basement storerooms of the Archaeological Museum of Thebes, marked both on the exterior and on an interior Tyvek tag with all pertinent trench, context, and description information.

2.3 Micromorphology

Mr. Fallu removed four sections from balks of trench AMP-T1, two from AMP-T2, two from G1-T1 in the plain, and three from O2-T2, likewise in the plain. Their longest dimension varied from about 15 to about 45 centimeters, the largest, weighing over 30 kilograms, coming from O2-T2. They were removed by careful incision into the balk with a large Opinel knife, leaving a stratified section on a thin pedestal of sediment, then wrapping the exposed surfaces with plastered bandages, gently prying the block from the balk, and finally encasing the remaining face in plastered bandages. Once the plaster hardened, the samples were stored in the basement of the Archaeological Museum of Thebes, awaiting impregnation with an acryloid resin in order to be thin-sectioned for examination under a microscope for stratified deposits difficult or impossible to see in the field with the naked eye.

2.4 Geomorphological and Pedological Sampling

As in every year since 2010, Dr. Lane used a hand-driven auger with a seven-centimeter Dutch mud bit to remove cores of soil and sediment in stratigraphic sequence from locales at regular intervals along transects. The area of investigation in 2016 was perpendicular to and along the centerline of the ancient channel of the Melas River, which appears to have been diverted, as an

element of the LH drainage system, into the Spitia Sinkhole within 200 meters of the contemporary settlement at Aghios Ioannis. The objective was both the study of the differential development of soils in the drained northeastern corner of the Kopais by Aghios Ioannis and to determine if any evidence existed of episodes of desiccation or flooding (e.g. heavy clasts or surface features on soil horizon) such as could be proxies for periods of ancient artificial drainage and abandonment. Stratigraphic cores were recorded on pro-formas according to US Department of Agriculture standards and guidelines, and photographs of them to scale in half-sectioned one-meter PVC pipe trays were taken in the field.

2.5 Geological Survey

Dr. Gouliotis aimed to detail and correct the current, 45-year-old, 1-to-50,000-scale geological formations map of the region by A. Tataris with the US Geological Survey. His procedure in 2016 was as follows. He began at the highest point at Aghios Ioannis and moved away in on foot in ever-widening arcs until he had reach the uniform alluvial plain below. He did likewise from the summit of AMP. He then walked three transects across three surrounding faulted limestone or flysch formations, including that represented by Mt. Profitis Ilias (and Aghios Ioannis) to the north, that represented by Nisi (and AMP) in the central zone of the project area, and that represented by Mt. Ftelia and Mt. Mytikas to the south. He used digital drawing tools on an iPad to make annotations to Google Earth images. These he can geo-reference, along with the general geology map, HMGS topographic diagrams, and other satellite images in a GIS application.

3 Digital Mapping and Elevation Drawings

3.1 Aghios Ioannis (Figure 3)

Three segments of cyclopean circuit wall, one robbed out cist grave, and one curious pit-like feature (provisionally named the "cistern") were digitally mapped at Aghios Ioannis. The first were an eastern segment at the top of the scarp labeled "Wall A" (points A1–A6), another such segment to the southeast labeled "Wall B" (points B1–B3), and a third to the west labeled "Wall C" (points C1–C5). The position of the four corners of the cist grave were recorded (points D1–D4), and four points on the perimeter of the so called cistern were likewise recorded (E1–E4). In addition, the location of the four corners of the present church of Aghios Gheorghios were measured on grounds that the church probably reuses the foundations of the prior churches that appear on historic maps, which will make geo-referencing of these as base maps more accurate. Finally, near the southern end of the erstwhile promontory of Aghios Ioannis, an "off-site" (i.e. "out of excavation unit") find ("X-01") was made of a potsherd comprising the rim and ribbed strap handle of a Gray Minyan (burnished) carinated bowl or goblet and a body potsherd of a medium-fine reddish brown burnished ceramic vessel (both provisionally dated to MH II–III), both in the mouth of an animal den. Their location was recorded with the DGNSS too.

The American–Swiss crew at Aghios Ioannis furthermore drew a cleaned sub-segment of Wall A to scale, following the procedure described in the methodological section above, in order to provide the students with practice recording architecture, as well as comparanda for other remains of extant architecture and Aghios Ioannis and AMP. The part in question was about 10 meters long and ran between points A3 and A6 by way of A4 and A5. The elevation of the level line was recorded with DGNSS where it was fixed at points A4 and A6. Dr. Lane photographed sub-segments of Walls A, B, and C, including those of Wall A whose elevation had been drawn, along with a north arrow and one-meter range rod within the frame.

3.2 Aghia Marina Pyghos (Figure 4)

Nine features, including segments of wall, looted cist graves, and remains of a ramp were digitally mapped as AMP. Wall (feature) A (points A1–A8) was the north–south wall inside the inner enclosure, first discovered during AROURA surface collection, running between the northern and southern segments of the presumed circuit wall. Wall B was the mapped southern segment (points B1–B3), while Wall C was the mapped northern segment (points C1–C8). Feature D was small stone structure, sub-round in plan and less than three meters in diameter, near the base of the collapsed medieval tower that gives AMP its "Pyrghos" surname, which was first observed during AROURA surface collection. It has been tentatively identified as the retaining stones of a temporary shepherd's hut. Points E1–E6 were the west and east ends on the long axis of three emptied cists near the east end of the summit of AMP, south of the medieval watchtower.

Wall F was a segment of boulder construction, possibly re-built cyclopean masonry (as it had no clear courses and included smaller facing stones), fewer than five meters south of Wall B. Given this short distance, it is not out of the question that it is the remains of the outer face of a single massive cyclopean wall, of which Wall B, currently known only from its upper extant surface, may represent the inner face. It is worth noting here that it was initially assumed that Wall C, occurring at the top of the break in slope on the north side of the summit of AMP, represented the outer face of a cyclopean circuit wall. However, subsequent excavation (see below) indicates that it represents the inner face, and that the remains of the outer are found several meters farther down the slope (see 4.2.1).

Feature G (points G1–G4) is evidently a large looted cist grave on the saddle between AMP and Nisi to the south, one of two observed by J. Fossey in the 1970s. Points H1–H7 mark the extant remains of a ramp running from the gate on the southwest of AMP's summit toward said saddle, before the traces of the revetment on the ramp's southern edge are lost on exposed bedrock. Wall I is a segment of a retaining or terrace wall, over 50 meters long (points I1–I10), downslope from Wall F, parts of which were first detected during AROURA investigations.

The section supervisor and students, in addition to assisting with the digital mapping of the aforementioned features at AMP, drew to scale a four-meter-long elevation of a sub-segment of Wall

F. The elevation of the westernmost point of the level line used for the scale drawing was measured with DGNSS. Dr. Lane photographed the same sub-segment, including a north arrow and one-meter range rod in the frame.

4 Excavation, Stratigraphy, and Finds

4.1 Aghios Ioannis

Four test trenches were laid out here with DGNSS in the first week of fieldwork. AI-T1 and AI-T2 were perpendicular to the previously observed cyclopean retaining wall, outside of it and inside of it, respectively. AI-T1 intersected Wall A, being four meters from west to east and one meter from south to north, while AI-T2 intersected Wall B, having the same orientation and dimensions in plan. In the same week, it was decided that it would be useful to have two more test trenches by Wall C, on the opposite, west side of the promontory. Hence AI-T3 was laid out as a trench four meters from south to north and one meter from west to east parallel to Wall C and adjacent to its inner face, while AI-T4 had the same dimensions and orientation and was outside of the wall, adjacent to its outer face, and farther south than AI-T3. Although AI-T1 and AI-T2 were scheduled for excavation in the summer of 2016, they remained untouched in this season, since it was decided that excavation of the cist grave AI-Feature D, as well as an unlooted cist grave adjacent (to be mapped in 2017), were of higher priority, in order to preempt any effort by local grave robbers looking for antiquities with market value. AI-T3 was ultimately expanded by one meter both the west and east, the annexes named "AI-T5" and "AI-T7" respectively (with corresponding context numbers starting with 500 and 700). Furthermore, when the top of a wall perpendicular to the Wall C was detected on the surface, an additional trench, designated AI-T6, was begun (the location of which will be recorded with DGNSS in 2017). No collections were made from the top of any excavation unit at Aghios Ioannis.

4.1.1 AI-T3–5–7 (Figure 5 and Figure 6)

The first two strata of AI-T3–5–7 consisted of disturbed topsoil, the uppermost by animal burrowing, the lower mainly by plant roots. This was followed by a layer of topsoil covering the whole of the excavation unit in plan, from which 1,152 potsherds, mainly of Late Helladic date, were recovered. Since this number is an order of magnitude greater than the number of potsherds (or any other type of find) from any other context, it is supposed that it reflects post-LH erosion or deliberate clearance, or both, of the higher parts of the Aghios Ioannis promontory.

At the base of this context, the topmost course of the ruins of a wall running diagonally west-northwest to east-southeast through the trench was observed. Superposed layers were thereafter excavated as separate contexts on each side of this wall. The first layer to the north of the wall (705) contained scores of pieces of roof tile, mud brick, and plaster or stucco that were absent to the south. Together they were taken as evidence of a building's collapse after abandonment. This layer of collapsed material appeared to seal the interior of a building with a lime stucco floor and

plastered wall interior, from which the majority of finds consisted of 441 potsherds, provisionally dated to the LH IIIA through LH IIIB period. Small finds included a folded sheet of lead, possibly for vessel repair, and an askos. To the south of the crossing wall is what appeared to be a yard with a compact silty pavement. In the loose fill above it were recovered 613 potsherds, again dating to LH IIIA–B. Small finds here included a steatite spindle whorl, terracotta loom weight, two potsherds joined with a lead staple (see above), a miniature kantharos, and fragments of a stemmed kylix and one-handled cup. In the last week of excavation, sondages were dug through the floor of the interior of the building (contexts 308 and 706). The later yielded several pieces of plaster and mudbrick and 95 potsherds, some of which could be dated to the transitional "Early Mycenaean" MH III – LH II period. The foundations of wall 705 also appear to go little deeper than the floor and not as deep as the sondages, so it is now supposed that the LH III building rests on the ruins of an earlier settlement.

4.1.2 AI-T4 (Figure 5 and Figure 7)

AI-T4 was a trench designed to uncover the foundations of Wall C where it is well preserved in elevation, as well as to determine the terminus post quem of its construction, if not its precise chronology. The uppermost stratum of AI-T4 consisted of developed topsoil (400), containing some large stones, probably fallen from upper wall courses. Below it was a brown, slightly more compact horizon (401), crumbly and containing root mats. During the process of removing this layer, small stones appeared across almost the whole area of the trench. It was assumed that this represented a reinforcing fill at the base of the wall. A similar fill of stone and compact soil was found around the walls of buildings at Glas, wherever bedrock was insufficiently close to the surface or the substrate needed to be leveled. This context was labeled 402. Below it was a whitish, clayey, and friable subsoil horizon called context 403.

A total of 1,157 potsherds were recovered from this excavation, the majority from 402 and therefore provisionally associated with the abandonment phase of the settlement; 208 potsherds were found in subsoil layer 403. Of the specimens that could be typologically dated, all were consistent with the LH IIIB period.

4.1.3 AI-T6 (Figure 8 and Figure 9)

AI-T6 was located at the junction of south–north Wall C with a cyclopean west–east wall. It was trapezoidal and approximately four square meters in area. While exploring the surface of the level summit of the promontory not far from trench AI-T4, a line of large boulders was discovered that seemed to lead to the inner face of Wall C. It was revealed in time that these stones constitute a thick wall that continues to the northeast, although its upper course was not entirely visible at the beginning of exploration, because of dense overlying vegetation. The wall is not at a right angle to Wall C, but rather it intersects Wall C on a line from the northeast to the southwest. It was therefore decided that a trench should be opened at the junction of the two walls where they form an acute angle, in order discover their architectural relationship to each other and to learn more about the manner of construction of the interior or Wall C.

AI-T6's stratigraphy consisted of four successive layers, the first disturbed brownish topsoil (600), and the second a grayish horizon (601) which, like the layer above the crossing wall in T3–5–7, yielded copious vessel fragments in comparison with overlying and underlying layers (218 potsherds), as well as three roof tile fragments, and a chunk of chert. It also contained jumbled stones, possibly from the collapse of upper wall courses. Toward the bottom of this context, small stones similar to those in the fill near the base of Wall C in AI-T4 were found. The basal course of this perpendicular was reached at the bottom of 601. The preserved elevation consists of two courses, having a combined height of 0.66 meters in the west and 0.77 meters in the east.

Context 602 and 603 consisted of harder, white silty loam layers, resembling construction fills at AMP (see below). Context 603 was in fact a small sondage about 0.70 meters wide beside the inner face of Wall C, made in order to determine the depth of its foundations there. Context 602 yielded 48 potsherds, as well as some bone and shell, while 603 yielded 34 potsherds and some shell, as well as an obsidian blade. The pottery throughout could be dated to the LH IIIB, as in the upper strata of AI-T3–5–7.

Heavy equipment was hired to clear vegetation from the extant upper course of the wall. The total exposed length from southwest to northeast was 18.65 meters. The upper course shows the wall to be constructed of two parallel rows of large facing boulders with smaller stones and soil filling the gaps between them. The width varies between 0.88 meters in the northeast to 1.12 meters in the southwest, suggesting increasing thickness with the gradient of the hill, reminiscent of construction of the fortification at Glas. Another feature reminiscent of buildings at Glas is that approximately every three meters along its southeastern face are short perpendicular "pseudo-buttresses." It is attractive to think of these as the remains of storage spaces or silos, as at Glas. A site visit by architects M. Magnisali and Th. Bilis confirmed that the perpendicular wall is bonded with Wall C and must be part of the same construction phase. Exploration of the interior the conjoined walls is a priority in 2017.

4.1.4 Cist Graves (Figure 10)

The cist graves, Feature D ("Tomb 1") and a yet unmapped feature nearby ("Tomb 2"), were excavated stratigraphically. The first was oriented from almost west to east, the second perpendicular (roughly south-southeast to north-northwest) about five meters away. Both graves had been excavated in antiquity down to the substrate (sterile C or R horizon), between about 90 and 100 centimeters below grade. They are respectively of dimensions 1.85 by 0.76–0.82 meters and 0.80 by 2.00 meters on the surface.

Because Tomb 1 had obviously been looted, apparently in modern times—the lining slabs having fallen in and its sedimentary matrix and contents being mixed and loose—the extant spoil heaps to each side were excavated as contexts too. Neither Tomb 1 nor its spoil heaps contained any distinct evidence of human remains. Scores of pieces of pottery, animal bones (probably intrusive), and shell were found in its fill. Designated special small finds from the fill included a stone pestle, two incised stone spindle whorls (shroud pinheads?), and the better part of a matt-painted

askos, datable to the MH III – LH II Early Mycenaean transition period, such as is found in other graves of the same period in the region. The askos closely resembles one from tomb O of Grave Circle B at Mycenae and another from Tumulus D at Argos. If all these small finds once belonged in the grave, then it is likely that it represents the burial of a woman. An obsidian flake was found in the spoil on the north side of the grave. The horn from a terracotta zoomorphic (bovid?) figurine was found in the spoil to the south.

Tomb 1 was constructed in a rectangular trench whose long sides are lined with two large flat stones each, while the short ends each have one flat stone lining them. Another flagstone found in the fill of the tomb probably belongs to the covering slabs, estimated to number three or four. The floor of the tombs consisted of smoothed bedrock. A very thin layer of whitish clayey sediment was deposited on top of this. The tomb may have been used for several interments, since the floor is not level but rather displays a "step" down in its eastern end. The upper eastern step is about 0.60 meters long and 0.86–0.90 meters deep, after which the remaining western 1.07 meters drops down to about 1.10 meters.

Tomb 2 is constructed similarly to Tomb 1, although its longitudinal flagstones had smaller filling stones wedged between them. The fill of unlooted Tomb 2 contained more coarse gravel than that in looted Tomb 1. It also curiously contained mudbrick, perhaps also part of the fill originally sealing the grave, made up of material from abandoned residences. The grave contained likely human remains, though these were recorded neither as a separate context nor on a skeleton ("Sk") recordation form. It is possible that the bones that were found were remains of a secondary burial, as is found elsewhere in the Middle Helladic Period. Designated special small finds included a stone spindle whorl, obsidian blade, and shard of a fine burnished ware cup that, like the askos in Tomb 1, can be dated to the MH III – LH II period.

From surface exploration before and during excavation in 2016, it became clear that the northern part of the flat summit of Aghios Ioannis was used as a cemetery. It seems to have had a low enclosure wall that may have retained a low mound. South of this during this transitional Mycenaean Period was a lakeside village, similar to that evident at Orkhomenos, Stroviki, and possibly AMP (below). Pottery finds suggest a gap in inhabitation in the LH IIIA, after which the hill is inhabited again for the whole of the LH IIIB period, when it seems to have been fortified too. This phase of inhabitation and construction would correspond to the period of the Mycenaean drainage and irrigation works and the construction of the fortress of Glas. However, more reliable conclusions can be drawn after further excavation in 2017.

4.2 Aghia Marina Pyrghos

Two test trenches were laid out and excavated at AMP in 2016. AMP-T1 was two by two meters in plan, aligned with the AROURA grid, and adjacent and interior to Wall C. AMP-T2 was two meters from south to north and four meters from west to east (AROURA grid directions), to east and adjacent to Wall A. Both trenches were laid out over AROURA two-meter surface collection

units that had produced relatively large amounts of finds, especially chronologically diagnostic pottery, and where probing with a half-centimeter aluminum bar in 2015 had indicated sedimentary deposits of 42 and 72 or more centimeters in depth. AMP-T1 was intended to intersect the interior face of Wall C. However, as mentioned above, its placement was based on the misapprehension that the break in slope about two meters to the north of the excavation unit represented the exterior face. The unit was to be annexed to the (AROURA grid) north by a new unit, AMP-T3, one and a half by two meters (separated from T1 by a 0.5-meter balk), in 2016, but before this could be undertaken, infant burials in T1 requiring immediate attention and thoroughgoing recovery precluded the expansion.

4.2.1 AMP-T1 (Figure 11)

The surface collection of T1 produced no finds. The layer below consisted of topsoil disturbed mainly by tree and shrub roots. It did yield a characteristic LH II goblet base, probably moved upward from the underlying fills. The subsequent layer was removed in two separate passes, since it was a patchwork of stones or boulders and chunks of what appeared to be calcareous mortar in a hard, pale brown silty matrix. The stones were of a size and, though scattered, on enough of an alignment to represent a fallen wall course, just as the chunks of evident building material could have fallen from higher up. This layer was therefore construed as evidence of post-abandonment collapse. The finds collected from within it were consistent both with material fallen from within an LH building and with material that had been deposited by human or non-human agencies after abandonment. The first pass (102) contained a lump of lead, possibly material for making repairs to tools or vessels, as well as some gastropod shells. It contained a large quantity (208 fragments) of pottery of mixed date, as early as the MH III – LH II transition (Gray Minyan and matt-painted) and possibly as late as an Archaic black-slipped potsherd, some or all of which could have eroded to their present position. The second pass (103) likewise produced a handful of shells and a relatively large amount of ceramic (168 potsherds), but these were more consistently of LH date (Mainland bichrome, LH II–III goblet or kylix base).

The next underlying layer (104), while also being pale yellow in color, covered the entire area of the trench and was more consistent in its hard but friable, silty loam texture and well mixed calcareous inclusions mainly the size of coarse sand or fine gravel. It contained no measurable shell and considerably less pottery than the overlying layers (68 shards). Several lenses of material were immediately below this consisted of compact matrices of different colors containing larger and smaller pieces of stone, mortar or plaster, and mudbrick. The latter was especially concentrated toward the bottom of this sequence, where the fragments were larger too. As in the layer that sealed it, there was relatively little pottery, although there were a few pieces of shell. However, what pottery within this series of layers could be dated consistently belonged to the period LH II–IIIA1 (i.e. "pre-palatial" Mycenaean for the most part). The current interpretation is that contexts 104 (top) through 114 (bottom) represent a deliberately capped fill consisting of the remains of abandoned buildings of the age of the pottery included, some of the lower lenses perhaps simply being standing remains of said buildings that had been tipped over in situ. Hence a

level had been created on which post-LH IIIA1 structures could have stood, including possibly that one whose fallen stones and mortar had contributed to the formation of the overlying strata.

Below this hypothetical deliberate fill, the top of the first of three intact boulder-built walls appeared, Wall K. The others were named Wall M and Wall O. Most significantly for all subsequent stratigraphy and chronology, between the uppermost and next lowest course of Wall K (contexts 116 and 117) was found a shard of a shoulder-ribbed Gray Minyan bowl with a rounded everted rim, which is closely paralleled in nearby Mitrou's Middle Helladic Phase 7 (MH II Final/MH III; Figure 12). Hence, anything lying between Wall K and the overlying mixed fills probably dates to the period from MH III through LH I inclusive, while everything beneath it is plausibly of MH III date or earlier. While it is possible that the upper courses of Wall K are as late as the overlying fill, what lay on top and between this and the other walls strongly suggests MH III – LH I.

Stone slab-lined cist grave alpha (α), consisting of contexts 120 through 128, lay partly on top of Wall M, between it and Wall O, both of these walls abutting Wall K (Figure 13). Based on a count of extremely delicate occipital bone and scapula fragments, it appears to have contained the remains of at least two (probably not more) infants, small enough to be neonates. They were buried with jewelry made of glass paste and faience, including two spiral beads of shell or bone filled in with glass paste and two blue-green faience beads in the shape of six-pointed stars. At some point after this burial, a small pit was dug in the silty white fill that surrounded and capped the cist, at its east end, and the remains of a small mammal may have been interred, although these bones may be intrusive. Separate stratigraphically, although not immediately so, from Cist α was a small cist (γ) atop Wall M, which appeared to contain no remains, suggesting that the remains had decomposed entirely or perhaps that it was never used. A third (Cist β) was found to the east of this, near the corner of the test trench. It contained remains of another infant, better preserved than the first discovered and presumably somewhat older. It contained no jewelry. However, it did contain one body fragment of brown burnished pottery consistent with a "transitional" period date. Such burials of infants, with or without grave goods, in the ruins of houses are altogether consistent with funerary and mortuary practices in the region in the period from MH III through LH I. The American crew took samples of charcoal for accelerator mass spectrometry (AMS) radiocarbon dating from within the fill of Cist α and Cist β and well as from the sealed contexts beneath them, in order bracket their age between termini post and ante quem.

The fills stratigraphically lower than the cists (contexts 132, 146, and 147) also contained brown and gray fine burnished body fragments consistent with Middle Helladic or early Late Helladic pottery. Excavation into the MH strata will continue in 2017. To facilitate this, at the end of the excavation season in 2016, geotextile was laid down over the bottom of the excavation, and the trench was backfilled entirely.

4.2.2 AMP-T2 (Figure 14)

One undiagnostic piece of coarse-ware pottery was recovered from the surface of AMP-T1. The succeeding two layers (201 and 202), the first redder than the second, appear to be disturbed

topsoil. The matrix of 203 appears to be a continuation of 202's, although it seems to have been less affected by root action. In any case, it and the overlying topsoil, as elsewhere both at AMP and Aghios Ioannis, contain copious amounts of pottery of various periods, suggesting the combined result of bioturbation and erosion. The total for all three of these layers that occupy the whole of the trench in plan was 808 potsherds. Their date spans the whole of the LH.

Immediately below 203 and immediately above another continuous later, 208, which looked like a faintly mottled variant of the former, were four lenses that were construed as the latest phase of collapse of whatever building had adjoined Wall A, which runs through the western corner of the trench. These consisted of what were almost immediately described as slumps (sloughed off material) of whitish stucco and compacted fragments of mud brick, some lenses containing small round or sub-round pebbles that must have been brought from a streambed.

While lower layer 208 covered the whole area of the trench, it was very thin in places, with underlying layers and lenses appearing almost as soon as one scratched the surface. Like 203, it lies above a thick patchwork of layers and lenses that appear to be the remains of the successive stages of the collapse of a well furnished and possibly multistory building. The most significant find from context 214 in this group is two very nearly whole (although not intact) undecorated, monochrome deep bowls with disk bases, datable to the LH IIIC Early (Figure 15), along with a thick fragment of the body of a coarse-ware vessel, all found embedded in a layer of white stucco near Wall A and apparently fallen as a group from above. Another piece of an LH IIIB–C undecorated deep bowl was found in a slump of disintegrated mud brick in the trench's eastern half.

Beneath this group of contexts was a slightly hard silt-loam, light brownish gray layer (221), occupying the whole of the area of the trench. It appears to be a pedological A horizon formed in the sediments just a few centimeters thick that seal two walls; these are Wall L and Wall N, which are on a single alignment. They are perpendicular to Walls A and J, overlying and abutting the latter, and appear to be designed to buttress these earlier walls. Wall L, at least, is built in a narrow, shallow trench, not typical of Mycenaean architectural design, which supports this conjecture. Wall N very likely is so constructed too, especially if the stratigraphy is to be kept reasonable, though its builder's trench and fill may have gone undetected in the welter of collapsed building material of various kinds between Wall A and Wall N. Other than the fills in and around Wall L and Wall N, the only other two contexts below 221 and the next blanketing layer, 224, were two patches of white stucco, 222 and 223. These may be the earliest slump after the abandonment of this inhabitation phase of the building, before a pronounced layer of sediment formed over the ruins post in the LH IIIC Early period. In any case, the period between 221 and 224 seems to have been short-lived and fairly clean, since there were very few diagnostic finds, only some potsherds that could be dated to the later LH.

Context 224 appears to mark another important transition in the architectural history represented in the trench. It is a pale brown layer with a great quantity of pottery, building tile, mudbrick,

plaster, bone, shell, and other artifacts (e.g. chipped chert, steatite spindle whorl) on or in it. Beneath it are several overlapping layers and lenses of collapsed construction material of various kinds, once again suggesting the destruction of a massive, possibly multistory building. However, unlike the immediately overlying inhabitation phase, this construction appears to have been relatively long-lived, given the large quantity of materials connected with eating, drinking, and other activities associated with it. Furthermore, unlike the suggestion of gradual decay, especially above context 221 (post-LH IIIC Early), this building seems to have come down all at once—and the sudden abundance of wood charcoal mixed in with the sloughed off building material suggest a catastrophic fire. Special small finds included a bronze plate or plaque and a bronze bar (Figures 16 and 17), possibly with a perforated end, both about four centimeters in their longest dimension. Chronologically diagnostic potsherds spanned the whole of the LH IIIB, including Group A deep bowls with a "panel," Group B deep bowls with ca. three-centimeter rim bands, Group B deep bowls with a panel and flanking whorl-shell patterns, and probably an alabastron with rounded lip and krater with diagonal whorl-shell decoration (Figure 18). Toward the bottom of this group of contexts, a few potsherds possibly of Mainland Polychrome and a fine dark-gray burnished ware were found, perhaps representing the detritus of an earlier LH phase.

At the end of the season, the excavators were still sifting through the ruins of the earlier building. A sondage excavated about 10 centimeters into the northern corner of the trench in the course of removing a micromorphological sample (see section 5) revealed an underlying consistent pale yellow silty matrix, resembling the fill above the cist graves in AMP-T1. The current theory is that a building was erected here after the LH IIIA1 (fill) which was inhabited till some point in the LH IIIB, at which point it burnt down. After long enough a span of time for sediment 224 to accumulate (several years?), it was rebuilt, though this time with buttressing walls (L and N), possibly because the stone remains of the earlier building were deemed unstable. This was inhabited briefly or, at least, not intensively, until late in the LH IIIB or early in the LH IIIC (i.e. some or all of the LH IIIB2 phase). After that point, it was abandoned and left to decay. It is worth noting that Glas, only a kilometer and a half away, also suffered a fire at some point in the LH IIIB, after which it was rebuilt and redecorated. Then it burnt down again around the transition from the LH IIIB to IIIC Early (ca. 1190 BCE), and it was abandoned by its Mycenaean inhabitants. Samples of charcoal for AMS radiocarbon dating were taken from contexts associated with the hypothetical LH IIIB destruction. These are contexts 230, 236, 240 (associated with abundant decorated ceramic and burnt animal bone), and 244 (last surface reached in 2016). Thus strong chronological correlations can begin to be established for the local series of ceramic chronotypes.

Just as was done in AMP-T1, so too was geotextile laid down on the bottom of AMP-T2 and the trench backfilled at the end of the excavation season in 2016. This will both discourage illegal antiquities hunters and facilitate continuing excavation in 2017.

4.3 The Plain

4.3.1 G1-T1

This was a one by four meter test trench above one of the linear, magnetically negative anomalies making up a regular network of such anomalies (delimiting squares about 30 meters on a side) near the polder dike, several hundred meters to the west-southwest of Glas. Coring both from above the anomaly and from a point adjacent to it had revealed a band of sediment, between 15 and 20 centimeters thick, appearing to be re-deposited subsoil that uniquely corresponded to the anomaly. The same band of sediment appeared about 20 centimeters thick and about 2.5 meters wide in the profile of a modern irrigation ditch about three meters from the (grid) east edge of test trench G1-T1. This band was exactly aligned with the anomaly. Radiocarbon and optically stimulated luminescence (OSL) dates from both the soil cores and the section appearing in the ditch profile indicated deposition between the late 18th and early 17th century BCE. Stones and boulders in the surrounding fields, not part of the geology of the ancient lakebed, suggested that this and similar features had once been paved or shored up with stone. The objective of excavating G1-T1 was to expose the feature corresponding to the anomaly in plan and section, plotting it precisely and perhaps recovering more samples for radiometric dating.

A problem predicted before excavation began but whose severity had been underestimated was the effect of the modern irrigation ditches being filled with water from nearby Lake Likeri during the summer growing season. Flooding of the ditches temporarily raises the level of local groundwater, a problem for excavators that is exacerbated when crop sprinklers are used in the same area. Therefore, G1-T1 flooded within a day of its excavation, and it had to be bailed out the following day. Even so, once the sprinklers had been removed from field on whose edge it was laid out, the level at which a context corresponding in depth and extent to the anomaly was encountered (ca. 50–60 cm below grade) was only a few centimeters above the level of the groundwater. Nevertheless, a band of soil more mottled with gray than the overlying plow zone was charted, which diagonally from northeast to southwest, just as the anomaly does, lying in the (grid) north end of the trench (context 102; Figure 19). Furthermore, in the lowest few centimeters of immediately overlying lower topsoil (101)—and only in the north end, above the feature—four highly eroded reddish yellow and pink potsherds, a few centimeters in diameter, and several pieces of small limestone gravel were encountered. The latter are distinctly out of place, and the former's paste is at least consistent with that of Mycenaean pottery.

G1-T1 was backfilled after completion of excavation and recordation.

4.3.2 O2-T2

This trench was a one by four meter test trench situated above a long linear, magnetically negative anomaly and its corresponding signal in satellite data extending from close to the north scarp of Glas to the modern course of the Melas river, less than 200 meters south of the Mycenaean Era channel. Here the excavators encountered no problem with groundwater flooding, since the trench was nearly 200 meters south of the current river. At a depth of about 30 centimeters below

grade, the topsoil horizons gave way to a mottled light gray context (203) described as a BE soil horizon. Unlike the overlying horizons, it contained a considerable quantity of intact or mostly intact specimens (n = 52) of freshwater gastropod shells (apparently *Lymnaea* sp.), indicating that it had not be disturbed by plowing and probably represented the most recent lake bed. Below this, at a depth of about 70 centimeters, was context 204, currently identified with the anomaly. It is a harder, slightly mottled light brownish gray feature with a west edge running through half the length of the trench at an angle about 13 degrees east of north—the bearing of the previously observed anomaly (Figure 20). It ends very abruptly to the north, except for a portion protruding from the western balk, giving the impression, at least, that it had been cut through from west to east. GIS geo-referencing suggests that it lies directly over the anomaly. It seems only to be a few centimeters thick in this locality. Hence, if it is a built feature corresponding to the anomaly, then it was eroded or dug away before or during the return of the lake's waters to the polder.

Trench O2-T2 was backfilled onto a plastic tarpaulin at the end of the 2016 season in the expectation of returning in 2017 to sample the feature for OSL dating.

5 MICROMORPHOLOGY

5.1 AGHIA MARINA PYRGHOS

Mr. Fallu took four samples from AMP-T1, using the method described in 2.3, two from the north balk and two from the east. They were designed to capture sections of the fills overlying the remains of the presumably MH walls and the entirety of the sequence of deposits of which Cist β and Cist γ, the two graves that intersect the balks, consisted. Indeed, visual examination of the north balk just before taking the first sample showed there to be a few very thin (ca. 1 mm) sedimentary layers that microstratigraphic analysis could correlate with specific cultural or non-cultural processes.

Two samples were also taken from AMP-T2, one from the south (grid southwest) corner of the trench, from which the bronze artifacts and several pieces of charcoal had been recovered in the ruined remains of the LH IIIB1/2 building, and two from the north balk, intended for clearer understanding of the sequences of both the hypothetical first and second sequences of collapse.

5.2 THE PLAIN

Two micromophological samples were taken from trench G1-T1, one capturing the transition between the lower plow soil (context 101) and the feature corresponding to the anomaly (102) and the other the transition between the plow zone and the subsoil (103). They were taken when the trench was fortunately sufficiently dry to allow the samples to be consolidated in plaster bandages. Three samples were taken from O2-T2. Two of these were "grab samples" from the surface of the feature (context 204), while the other was massive, taking advantage of the dry conditions, approximately 55 by 35 by 25 centimeters (ca. 33 kg), covering the sequence from the BE horizon

(203) through the feature and into the strata below (Figure 21). It is hoped not only that a clearer picture of the sequence of deposits, especially any pertaining to the construction of the feature, can be obtained from the latter, but also that an accurate OSL date can be had. Dr. N. Zacharias of the Archaeometry Laboratory of the University of the Peloponnese has informed Mr. Fallu and Dr. Lane that the sample is large enough for such an end.

6 Geomorphological and Pedological Sampling

6.1 Spitia Sinkhole (*Katavothra*)

Dr. Lane removed a total of six soil cores from former bed of the Melas River where it had been diverted toward the Spitia Sinkhole beside Aghios Ioannis, as well as from its banks. As when he removed cores from around the Vrystika Sinkhole to the south of Glass in 2011 and 2015, the greatest obstacle to effective sampling was the quantity of stone in the topsoil, the majority of it the result of the habit local landowners have of dumping field stone into the mouths of sinkholes, in addition to the material displaced during the building and repair of nearby gravel farm lanes. Nevertheless, he was able not only to demonstrate that the banks and channel exhibited different profiles but also that in two cores in the erstwhile riverbed (2016SK01 and 2016SK03), at the bottom or the A2 or top of the B1 horizon (ca. 110–120 cm below grade), was a sequence of lamina of sandy and small gravel clasts in a dark, possibly sesquioxide matrix (Munsell color 10YR3/6, 10YR4/1) perhaps (pending further analysis) corresponding to the rapid re-flooding of the lake in antiquity. Below this (ca. 130–135 cm) was a developed, mottled B horizon containing small (< 1 cm) pieces of what may be highly decomposed ceramic (Munsell color 2.5,5YR7/8) that, again tentatively, could correspond to nearby prehistoric inhabitation.

6.2 Sampling for Radiocarbon

The B horizons of both 2016SK01 and 2016SK02 were sampled for AMS radiocarbon dating. So were the overlying, possibly flooding-related laminae and the A horizon below modern disturbance, in order to provide comparanda.

7 Geological Survey

7.1 Aghia Marina Pyrghos

Dr. L. Gouliotis' geological survey began at AMP. One of the first observations that he made, one that is very important for archaeological interpretations, is that the pale yellow to gray silty fill, on which many of the cultural remains at AMP appear to rest, looks as though it is not native. The local topsoils, such as are seen on Nisi, just to the south, are typically reddish. He has conjectured plausibly that they are more likely to be of lacustrine origin, deliberately brought to the

summit of AMP in order to level it. In fact, he has outlined a distinct patch of this material covering the summit. Moreover, he speculates the same material may have been mixed with stone and used to buttress the foundations of the medieval tower, and that therefore much of what previously has been interpreted and the tower's fallen courses is in fact part of the original structure. Finally, he has tentatively identified the source of the limestone for wall construction at AMP with an area on the northern slope of Nisi—part of a separate limestone formation from that of AMP—also visible from AMP, where beds of stone appear to have been cleanly broken away.

7.2 Aghios Ioannis

Dr. Gouliotis' findings from Aghios Ioannis and vicinity are no less interesting and important. As at AMP, he noted that a series of terraced scarps represented the retreat of the lake level during the Plio-Pleistocene (Neogene–Quaternary) or, conversely, the upthrust of the substrate rock. He furthermore pointed out that a clay quarry to about a kilometer to the west of Aghios Ioannis, at the base of Mt. Profitis Ilias, had an exposed section that would be ideal for the study of the geological history of the changes in the lake level and, more generally, of local hydrology and sedimentology. While circling down from the summit of Aghios Ioannis, he observed what is surely, given the traces of retaining walls and of pottery, a ramp coming up the eastern side, from the south, suggesting that in the Mycenaean Era, the settlement may have made use of the adjacent river for transportation. This ramp will be digitally mapped in 2017.

7.3 Other Observations

Not least, Gouliotis was invaluable in identifying the likely sources of stone found at Aghios Ioannis and Aghia Marina Pyrghos. This included not only the building stone (see above) but also the tentative location—southern Boiotia at the closest—of a crimson porphyritic stone, chunks of which were found in AMP-T2, and from which one spindle-whorl there had been fashioned. As he originally aimed to do, he was also able to map more precisely the geological substrate formations and the fault lines in them than they are presented on the current official 1-to-50,000-scale geological map.

8 Conclusions and Future Plans

8.1 Conclusions

Despite circumstances that were difficult or impossible to foresee, MYNEKO made considerable progress toward its stated goals for 2016. It was able to demonstrate that substantial settlements existed at Aghios Ioannis and AMP whose inhabitation overlaps with the Late Helladic period of drainage and irrigation works in the northeastern Kopais and particularly the LH IIIB phase of the construction of the retaining walls to the west of the project area for the Kephissos and Melas rivers and the building (and ultimate destruction) of the residence and storehouses of Glas. Of special significance is the evidence suggesting that the cyclopean structure at Aghios Ioannis was

much more than just a military outpost protecting the drainage point at the Spitia Sinkhole and perhaps also providing for its maintenance. Rather, both Aghios Ioannis and AMP were sites of long-lived settlements, with phases perhaps as early as the late MH II or early MH III. The latter two comprised both cemeteries and settlements of the living. This evidence leads to the intriguing possibility that, given the low-quality of farmland in the hills and mountains around the settlements, they may have been exploiting polders on Lake Kopais' margins already as early as the 18th or 17th century BCE. This would be consistent with the surprising, though internally consistent, AMS radiocarbon and OSL dates AROURA obtained from built features in the plain.

The fact that MYNEKO discovered substantial remains corresponding to anomalies in the polder from which further radiometric dates may be obtained, means corroboration of similar dates previously obtained will be possible. Moreover, they can be compared with radiocarbon dates obtained 2016's samples from the two settlement sites being investigated, as well as with one that Prof. G. Jones of the University of Sheffield lately obtained from a storeroom at Glas. Likewise, MYNEKO will now also enjoy the rare opportunity to correlate pottery series from sealed contexts with radiocarbon dates from the same. Thus it will make good on its express goal of comparing like dates with like dates and of bracketing events between precise and accurate termini post and ante quem.

8.2 Inter-season Plans

Between the excavation seasons of 2016 and 2017, Dr. Lane, in addition to applying for further fieldwork funding, intends to apply for funding from UMBC to cover the cost of seven AMS radiocarbon dates from sealed contexts or soil horizons—two from AMP-T1 (in and above Cist α), three from AMP-T2 (LH IIIB destruction phase), and two from cores removed from the Melas' channel close by the Spitia Sinkhole—and one OSL date from the section of feature O2-T2-204 encased in the micromorphology sample taken from said trench. If the Central Archaeological Council issues the relevant protocol letters in time, then he will visit Greece in the middle of January 2017 to deliver the samples to the relevant laboratories. At the same time, he will make preliminary arrangements for housing students and staff in the summer of 2017 and for obtaining needed materials, supplies, and equipment.

Dr. Lane will also submit an application to the National Science Foundation's Archaeometry grant program for a program of stratified sequences of AMS radiocarbon, OSL, and amino acid racemization/enantiomerization (AAR) dates in order to examine their correlations closely and, in particular, to see if they latter can be used to calibrate the former to local conditions since, unlike AAR, they may be influenced by hydrological and sedimentological processes.

8.3 Plans for Summer of 2017

It is imperative that MYNEKO complete its investigation of the drainage system, since this was one of the declared research objectives for which the project was funded. With sufficient personnel and concentrated effort, MYNEKO should be able easily to accomplish this end and also excavate the remaining two test trenches on the east side of Aghios Ioannis. Amid the anomalies in the ancient polder, MYNEKO will concentrate on two test excavations, one where a linear anomaly–feature running through Area G intersects the polder dike (trench H2-T1), which may reveal water-level regulatory mechanisms, and another (O2-T1) near the northern end of the same north–south anomaly–feature exposed in trench O2-T2. Since the latter is the more likely to pose an obstacle to necessary movement of farm machinery in the modern field, the alternate site for investigation is above one of the linear anomalies bounding the network pattern to the west of Glas (trench K2-T1). (Excavation in Area R was abandoned for similar reasons of access and use.) AMP-T1 and AMP-T2 will be pursued to bedrock or sterile soil, while a northern annex to the former, measuring 1.5 by 2.0 meters (separated by a 0.5-meter balk), called AMP-T3, will be started, and a north–south aligned annex to the latter, measuring 3.5 by 2.0 meters, where stratification is thinner (again separated by a 0.5-meter balk), named AMP-T4 will also be excavated. Dr. Lane expects personnel numbering at least as many, including supervisors, specialists, and UMBC students in 2017 (i.e. at least 10).

Further plans include a "study season" in the summer of 2018, application for excavation permit for the period 2019–2022 (either directly through the Central Archaeological Council or through the American School of Classical Studies), and application for private and public funding of more radiometric dates.

—EK/MFL

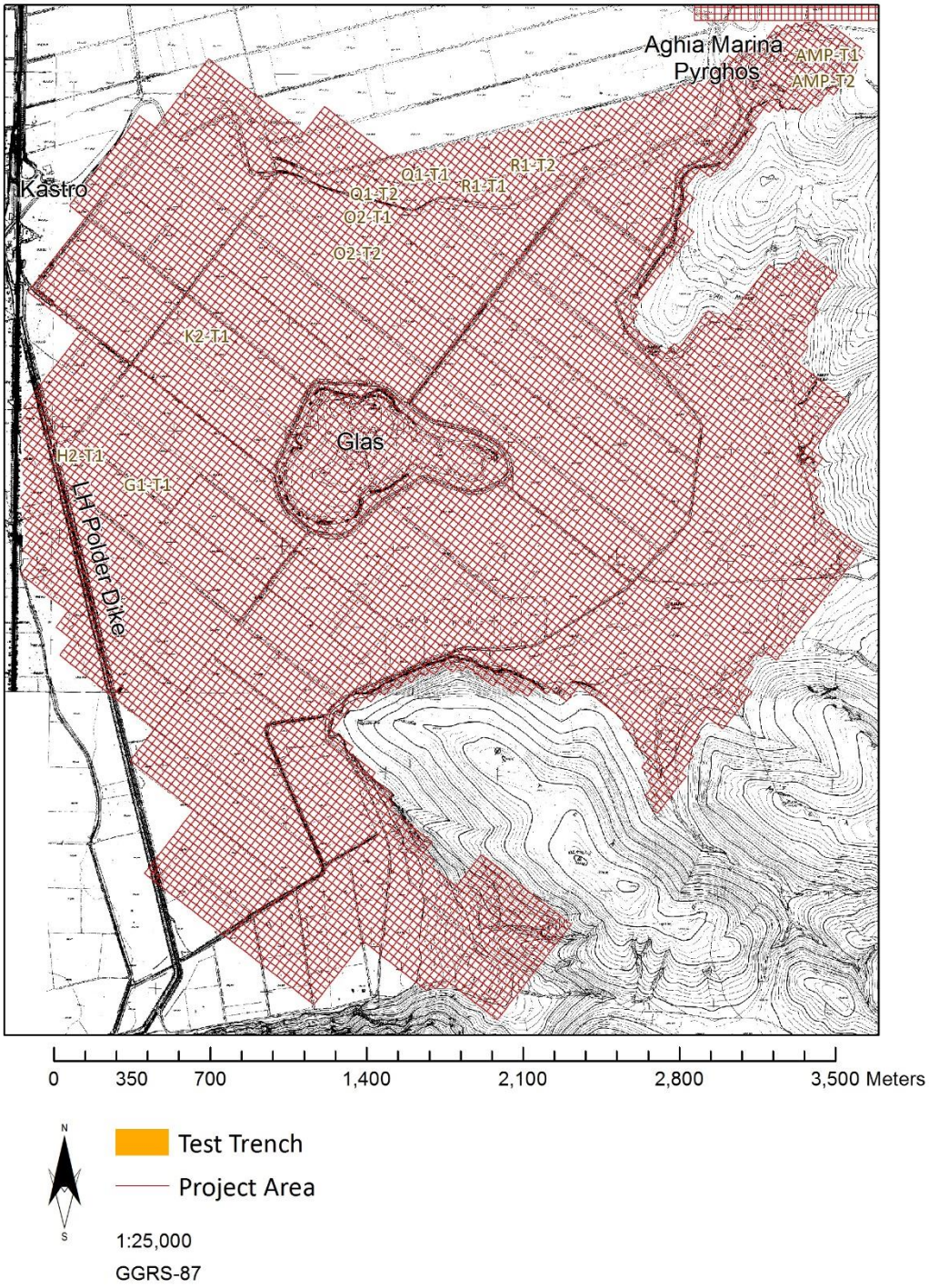

Fig. 1. MYNEKO project area (sampling grid), southwestern portion (AROURA project area).

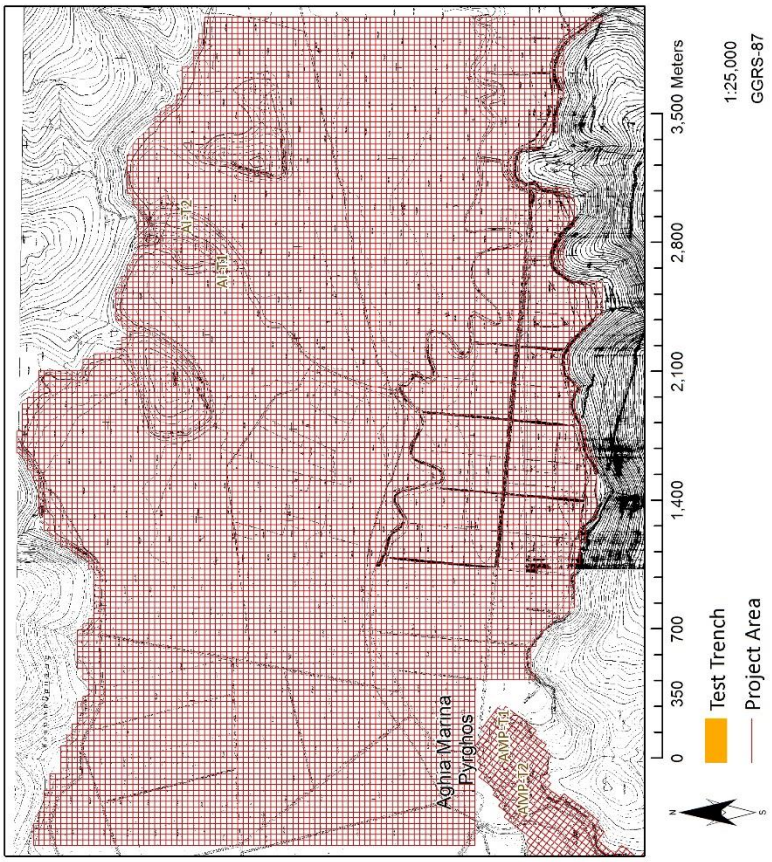

Fig. 2. MYNEKO project area (sampling grid), northeastern portion (around Aghios Ioannis).

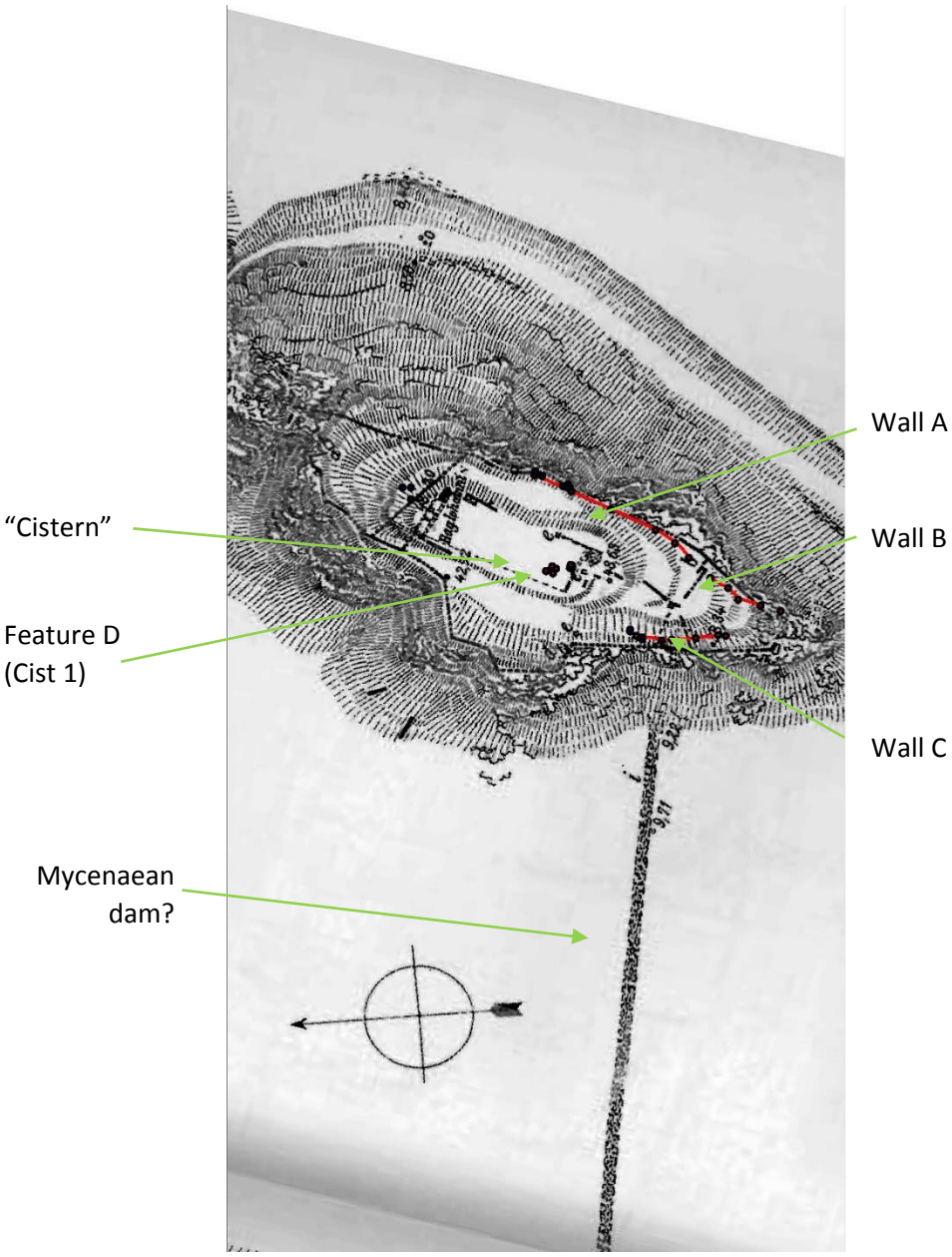

Fig. 3. Features mapped at Aghios Ioannis in 2016 geo-referenced onto Noack's (1894) plan.

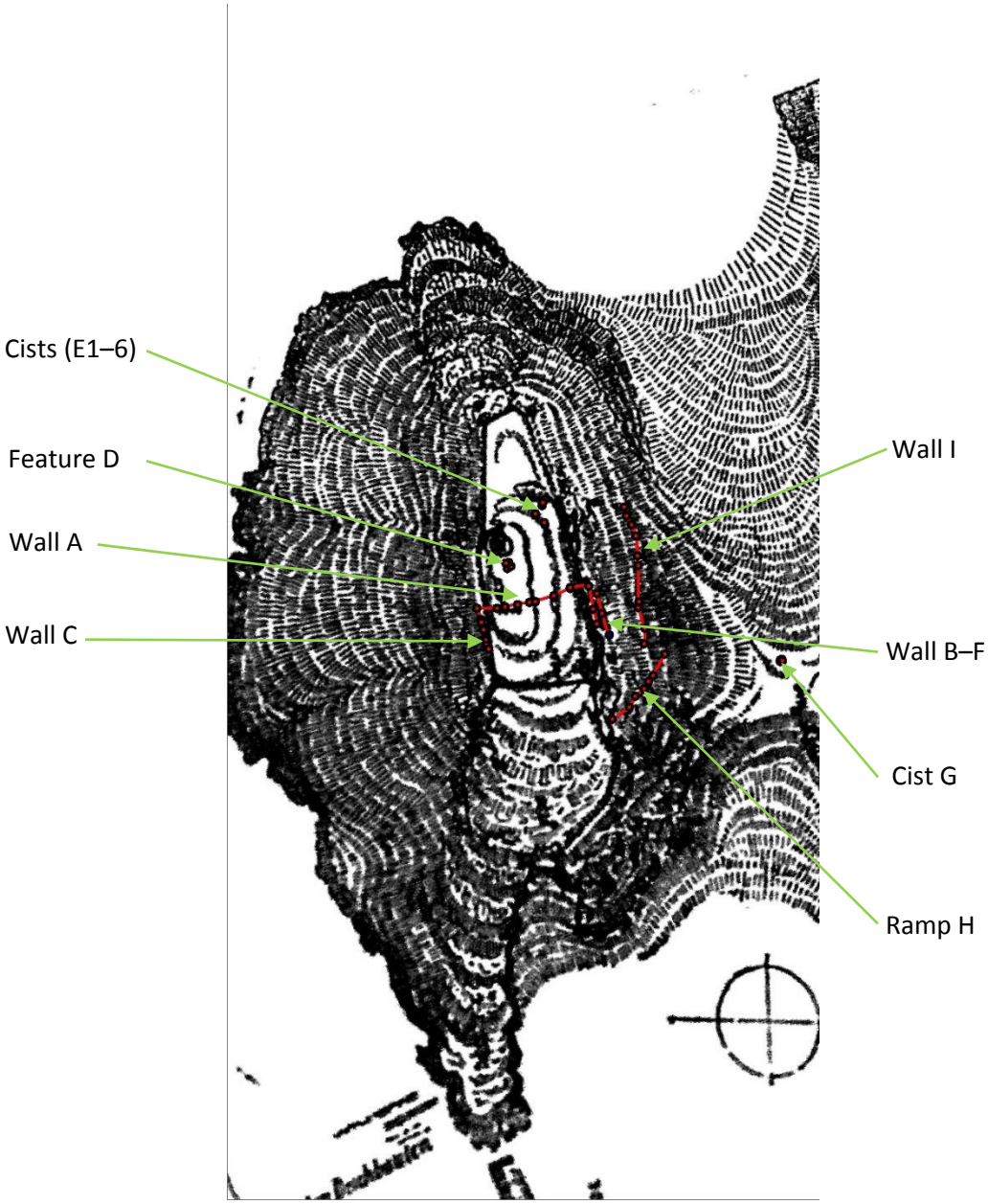

Fig. 4. Features mapped at AMP in 2016 geo-referenced onto Noack's (1894) plan.

Fig. 5. Aerial photograph of AI-T3–5–7 (left, above wall) and AI-T4 (right, below), looking east.

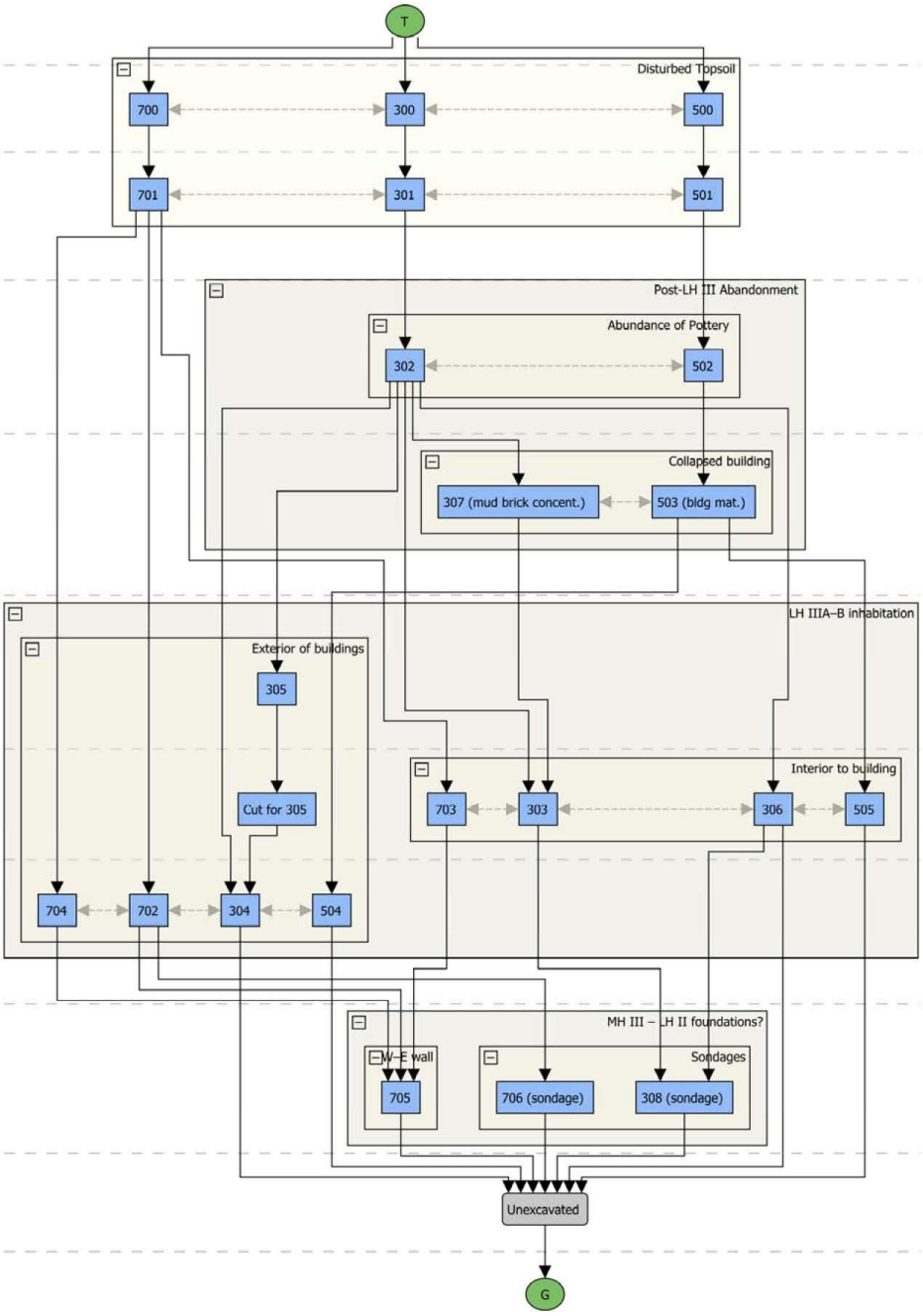

Fig. 6. Stratigraphic Harris Matrix of excavation of AI-T3–5–7 in 2016.

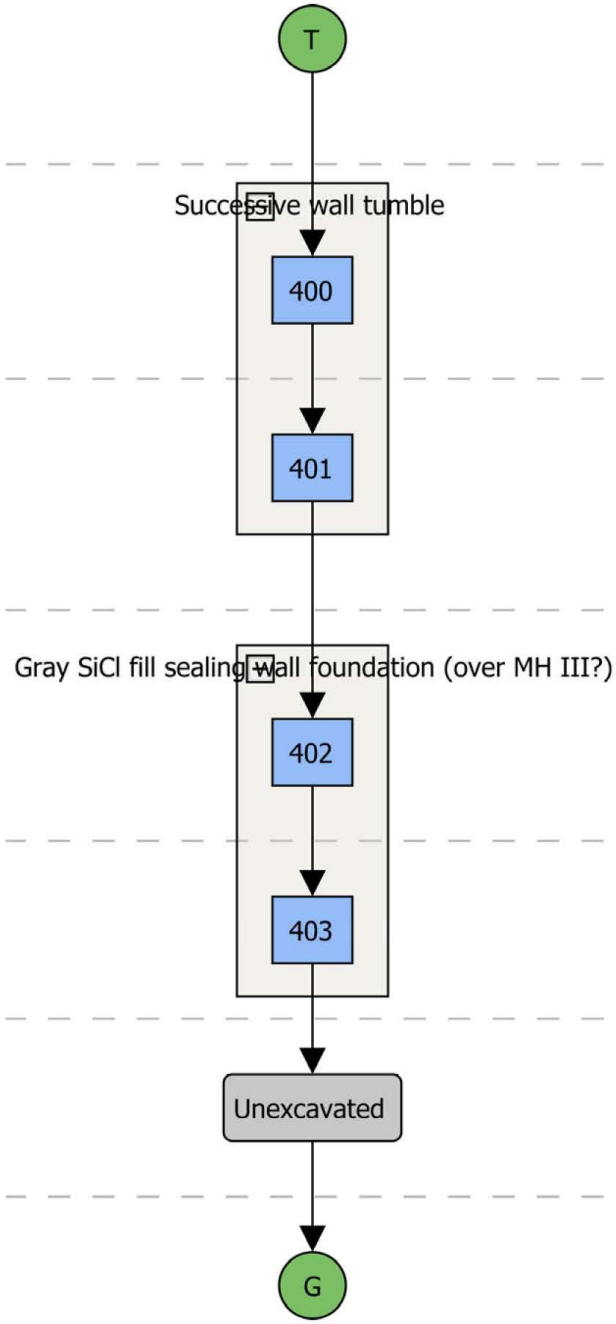

Fig. 7. Stratigraphic Harris Matrix of excavation of AI-T4 in 2016.

Fig. 8. Aerial photograph of AI-T6 and wall perpendicular to Wall C (north at top).

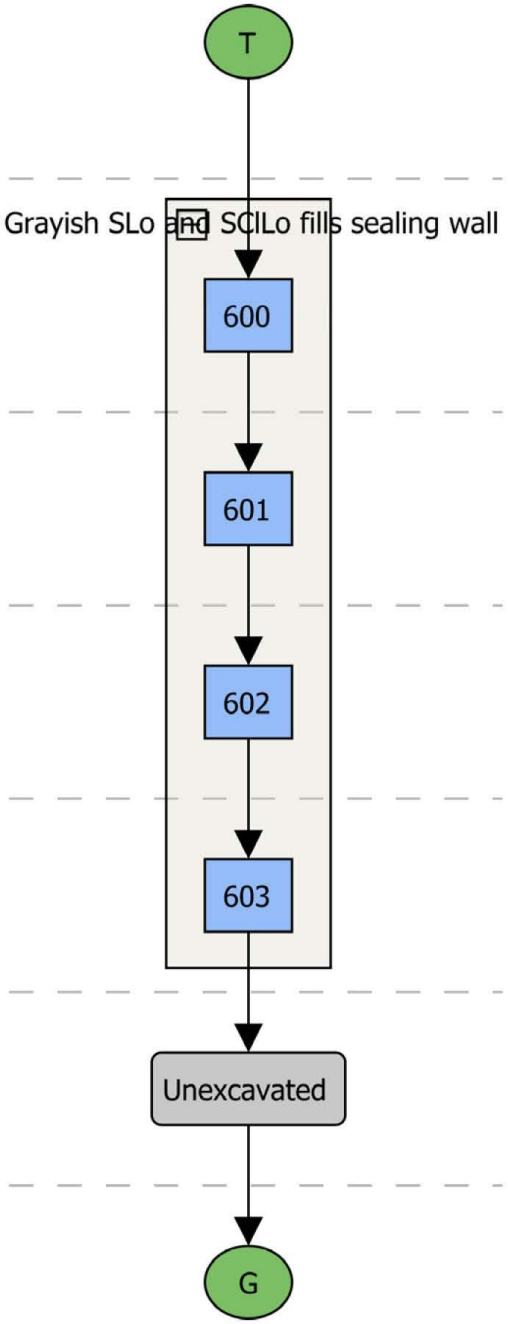

Fig. 9. Stratigraphic Harris Matrix of excavation of AI-T6 in 2016.

Fig. 10. Aerial photograph of Tomb 1 and Tomb 2 (north at top).

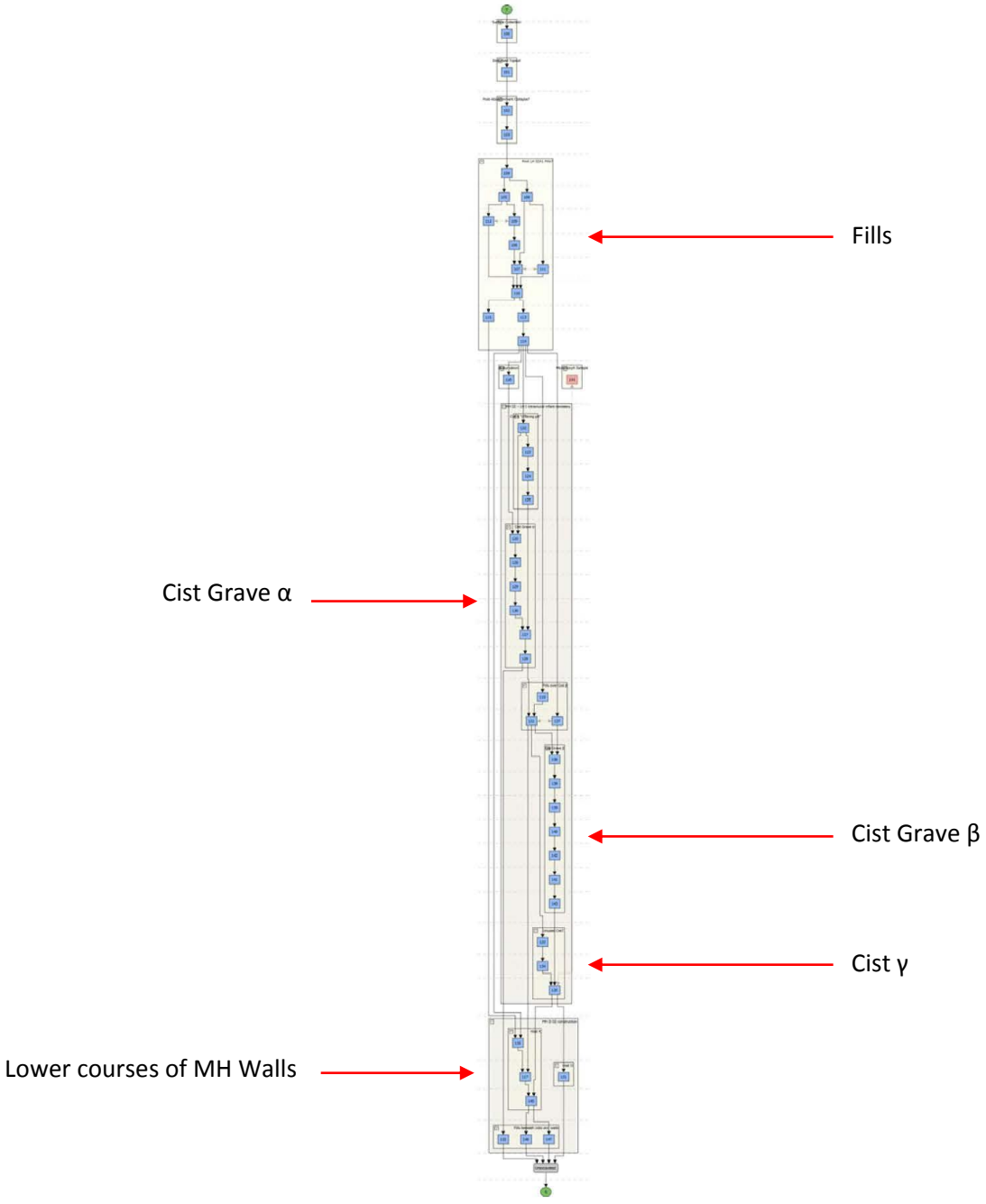

Fig. 11. Stratigraphic Harris Matrix of excavation of AMP-T1 in 2016.

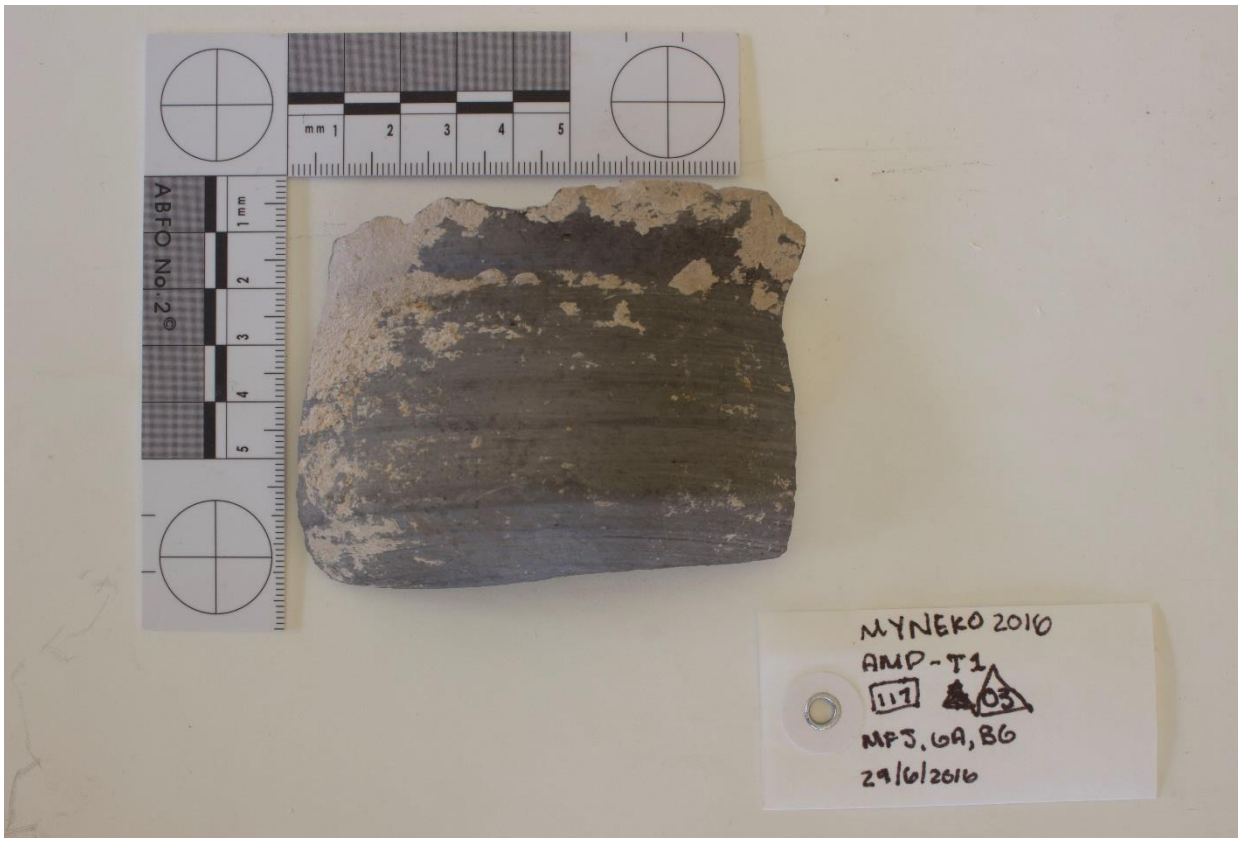

Fig. 12. Gray Minyan shoulder-ribbed bowl with everted rim from AMP-T1, context 117.

Fig. 13. AMP-T1 Cist Grave α after removal of sedimentary lens sealing it.

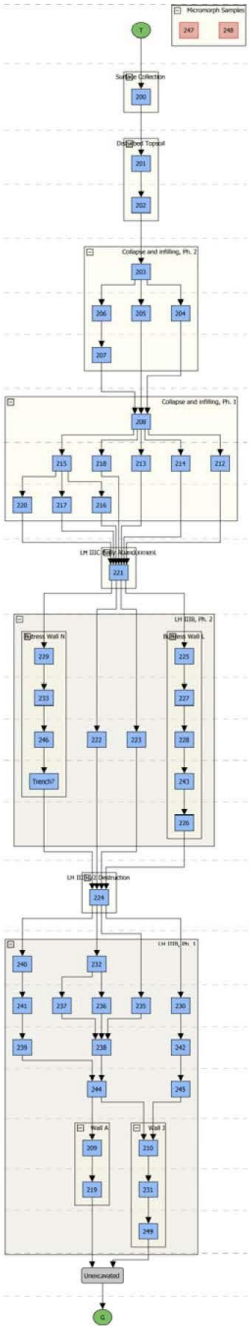

Fig. 14. Stratigraphic Harris Matrix of excavation of AMP-T2 in 2016.

Fig.15. LH IIIC Early monochrome deep bowl with disk base from AMP-T2, context 214.

Fig. 16. Special small find **5**, a bronze plaque, from AMP-T2, context 230.

Fig. 17. Special small find **6**, a bronze bar, possibly perforated, from AMP-T2, context 230.

Fig. 18a. Potsherds from AMP-T2, context 224.

Fig. 18b.Potsherds from AMP-T2, context 224.

Fig. 19. G1-T1, context 102, corresponding to magnetic anomaly, part of reticulate pattern.

Fig. 20. O2-T2, context 204, corresponding to linear magnetic "joining" anomaly.

Fig. 21. Micromorphology sample from O2-T2 swaddled in plastered bandage.