

Report Eastern Boeotia Archaeological Project 2016: Excavations at Ancient Eleon

Brendan Burke and Bryan Burns

On July 9, 2016 the Eastern Boeotia Archaeological Project (EBAP) concluded the first season of a three-year permit from KAS for excavation and study at the site of ancient Eleon in the village of Arma (Fig. 1 site plan). This *synergasia* project continues work begun in 2007 as a surface survey, and, since 2011, as an excavation between the Canadian Institute in Greece and the Ephorate of Antiquities of Boeotia, currently under the direction of Alexandra Charami (Ephorate of Antiquities of Boeotia) and co-direction of Brendan Burke (University of Victoria) and Bryan Burns (Wellesley College). Drs. Olga Kyriazi and Nikos Kontogiannis are also key partners in our research project. We are very grateful for the research funding we received in 2016 from an Insight Grant from the Social Sciences Humanities Research Council of Canada (#435-2012-0185), the Institute for Aegean Prehistory, and the Friends of the Library at Wellesley College. We also appreciate the dedicated efforts of the students and affiliated scholars who contribute so much to our research.

Our project, in summary, addresses two major periods at the site of Eleon, located on an elevated plateau overlooking the Theban plain, *en route* to Chalkis and the Euboean Gulf: First, a prehistoric phase spans the full Mycenaean period (Late Bronze Age), ca. 1700-1050 BC, during which connections between Eleon and the palace center at Thebes varied in intensity. We have mortuary material of late Middle Helladic to Early Mycenaean date, and substantial levels dating to the Late Helladic IIIB and IIIC sub phases. The best preserved settlement remains come from a burnt destruction level of the LH IIIC Early period. Eleon seems to be abandoned by the Early Iron Age.

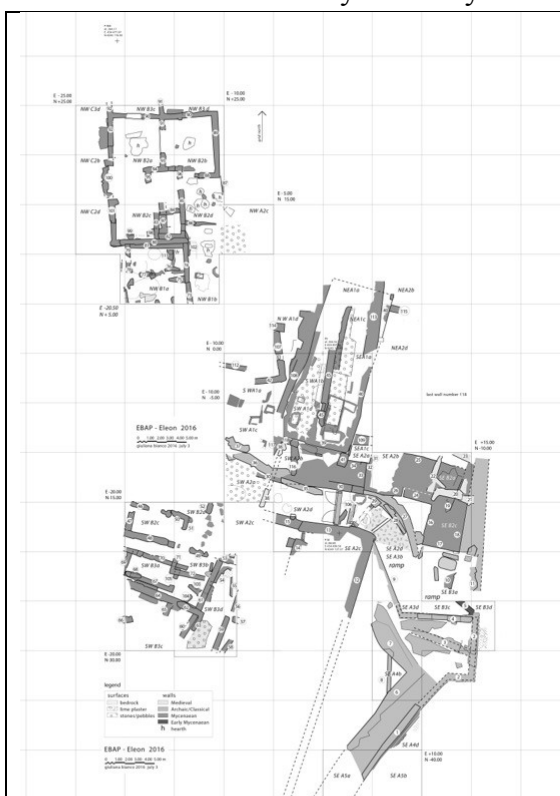


Figure 1 Schematic plan of the site end of 2016



Figure 2 Aerial view and plan of Blue Stone Structure end of 2015; estimates for the B SS extent (blue) and the tumulus (white)

The second major period at the site is post-Bronze ¹Age. The earliest scattered material is Late Geometric Euboean pottery of the 8th c. BCE but Eleon itself seems not to be reoccupied in

any substantial way until the 6th c. BCE. Also dating to the Archaic period is the construction of the large polygonal wall which is the most impressive monument at the site. The Classical period is followed by another long period of inactivity at the site until the Ottoman period, from which material survives in surface levels and deeper pits only.

Blue Stone Structure (SW and SE)

Located in the center of our site grid, three joining walls form the west, south, and east sides of the rectangular Blue Stone Structure (BSS) – a name derived from the polished blue limestone used to cap each wall. Within the perimeter walls were at least two cobbled surfaces at different elevations that were uncovered, documented and removed. Over these paved surfaces, running roughly north-south were support walls which were then covered in a clay cap to build up the mass of a tumulus over the entire structure. The removal of a portion of the mound and some of the upper structures has enabled us to identify, so far, four cist graves concentrated within the southern end of the BSS. As the area is not yet fully excavated, the relationship between the structure and individual burials is not entirely clear, but the tombs seem to have been dug and built within the space established prior to the construction of the BSS.

In previous seasons we excavated three other tombs outside of the Blue Stone Structure: one was a clay lined cist for a child in the northwest quadrant (NW B1b) and the other two were stone built cists that had been robbed out immediately west of the BSS (SWA1c). In 2016 we also found a shallow grave just outside the southwest corner of the BSS (SWA2b) which contained the flexed articulated remains of an adolescent, fully preserved in a contracted position with no associated artifacts. Preliminary analysis suggests this may have been a 15 year old male.

All of the human remains discussed above demonstrate that the Blue Stone Structure physically separated select burials from a larger cemetery that likely began in the Middle Helladic period. This follows a pattern known from the great grave circles at Mycenae, which were also constructed amidst an earlier MH cemetery. Similarly, all recovered material from the BSS gives a date contemporary with the Shaft Grave era, that is, the late Middle Helladic and early Late Helladic periods (ca. 17th c. BCE). This was the formative period of the Mycenaeans and we can see elites working to establish themselves in a mortuary landscape and working to distinguish themselves from their forebears and contemporaries through their burial architecture.

Within the BSS isolated walls and cobbled surfaces were preserved at several elevations which seem to mark, although not directly, individual tomb shafts below. In 2015 we believed we had excavated four tombs in the southern area of the BSS (Fig. 2). One small size clay cist (with internal dimensions 0.60 x 0.40 m) contained the intact skeleton of a child, while the others are larger cists with built stone walls, and their chamber size averages 1.65 x 0.85 m. Although the bone preservation was relatively poor, the tombs were used for multiple interments. One ‘tomb’ (labeled Tomb 3 in 2015 reports) we mistakenly believed was robbed out; it has now been shown to be the dromos to the large Tomb ‘5’ we excavated in 2016.

Although we did not expose the full perimeter of the BSS in 2016, we did find the continuation

of the eastern wall and the constructions longest side (Figs. 3 and 4). In the southern half, the eastern wall began with a large orthostate and was consistently capped with pieces of the smooth blue limestone that give the building its name. Our work in 2016 found that the enclosure wall on the eastern side has a length of 17 meters, making it one of the largest Shaft Grave era constructions known from central Greece. The northern end of this eastern wall was also marked with an orthostate block.

North of Tomb 1 are the ends of two roughly made stone walls which seem to have been structural supports for the dome over the Blue Stone Structure. With permission of and supervision by the Ephorate of Antiquities of Boeotia, we removed by mechanical means the five blocks of the easternmost wall on June 16, 2016. Excavating the fill below revealed a massive, fragmented capstone which continued to the west under wall 45. We received permission to remove this stretch of wall 45 also so that we could properly reveal the capstone below.



Figure 3 Aerial BSS showing wall ends in center before removal



Figure 4 Aerial BSS after wall removal and excavation of Tomb 5. Top of white stone stele in center

Within the matrix of wall 45, the western wall, we noticed one very large, straight, vertical stone, which was a grave stele above Tomb 5. This remarkable discovery of a standing grave stele above an early Mycenaean tomb is unprecedented as far as we know. The stele remains standing but the capstones were lifted to reveal a large chamber measuring 2.78 x 1.33 m, with walls built of vertically placed cut stones. Tomb 5 is a built chamber tomb with a lateral entrance at its north-east corner, what in 2015 we called Tomb 3. The northern wall that spans “Tomb 3” and Tomb 5 is a single construction, and a vertical stone that acted as a door remains

standing between the two spaces. Wear marks can be observed on this access block.

The excavation of the human remains in Tomb 5 was directed by Professor Nick Herrmann (Texas State University), a bioanthropologist with extensive experience excavating commingled burials. All of the excavated soil was dry sieved and then water sieved for total collection. Over the course of eight consecutive days 594 units of human remains were carefully mapped, recorded, and identified (Fig. 5). A preliminary assessment of the commingled remains suggests a minimum of eight individuals are represented. This minimum estimate will likely increase once all the remains are analyzed in 2017. The deposition of bones showed multiple reuse of the tomb, with earlier remains concentrated and pushed toward the southwestern end of the tomb chamber. The parallel nature of an assemblage of long bones from several individuals shows that these bones were gathered together, perhaps by the handful and put in place. On the tomb floor, the articulated remains of three additional interments were found (Fig. 6). Bone identifications, basic measurements, and general assessments were made at removal. The coordinate data and bone inventory are being processed and a general map of the human skeletal remains is being generated at Texas State University.

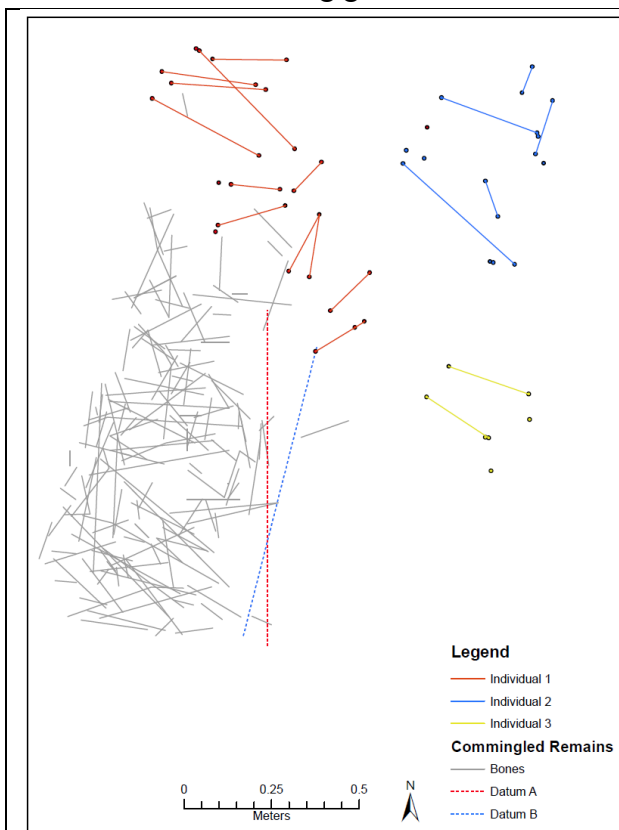
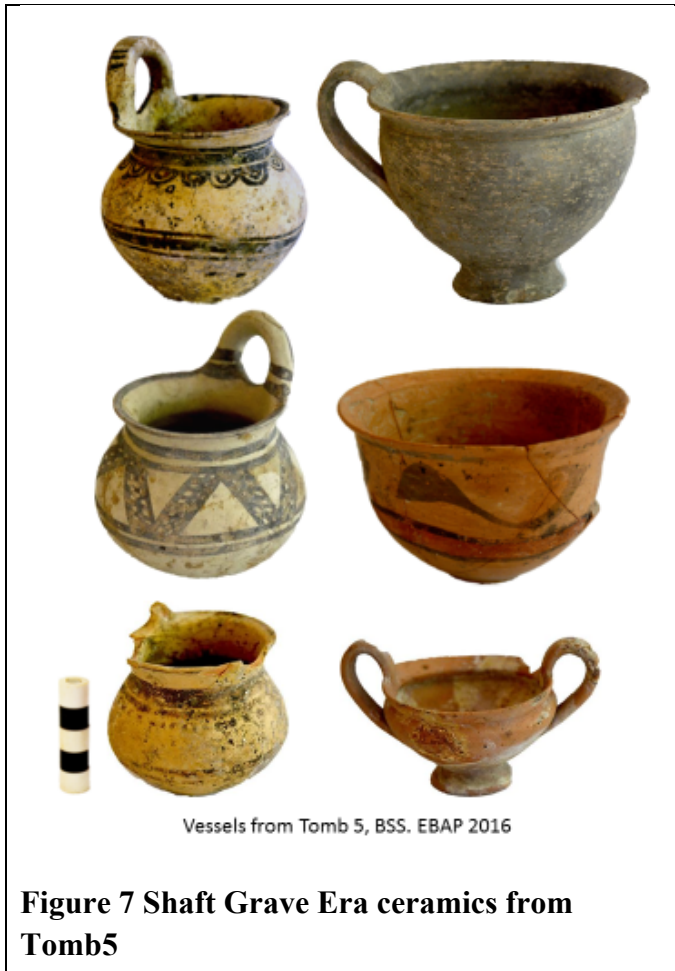


Figure 5 Schematic map of commingled remains



Figure 6 Photogrammetric model of tomb.

Several interesting grave goods were found associated with the articulated burials. The various ceramic vessels primarily date to the Late Helladic IA period (Fig. 7). The vessel types provide a succinct overview of Shaft Grave era ceramics, in general terms from earliest to latest - a Minyan cup, two matt painted vertical ring handled jugs, a bichrome cup, and an early Mycenaean painted askos. Finds include six whole ceramic cups, an askos, two pieces of ivory which probably made a sword pommel, spindle whorls, and several bronze artifacts: rivets, rings, and a dagger (Fig. 8).



Although there are parallels for communal burials during this period, including other rectangular structures in central Greece, several features distinguish the tombs of the BSS. The enclosure complex is monumentalized by orthostate markers and tumulus, all apparently constructed during the Shaft Grave period. The construction was coordinated for numerous tombs, as suggested by a shared wall between Tombs 1 and 5. The preservation of the tumulus through later periods demonstrated respect through the palatial and post-palatial Mycenaean eras and (probably) in the Archaic period as well.

The Early Mycenaean date of all the graves is further confirmed by ceramics found in association with the construction of a series of cobble-stone platforms built at various levels above the individual graves. Clay bricks, well documented in stacks above these paved levels, formed a mound over the mass of the Blue Stone Structure (Fig. 9). We also identified clay bricks of the tumulus along the exterior of the BSS wall at its south-east corner. The preservation of these various elements enable a rare opportunity to reconstruct the several phases of funerary activity – both the tombs’ use and after their architectural monumentalization – all during the Shaft Grave period.



Figure 9 SEA1a north baulk section showing tumulus construction of mudbrick (left) and rubble fill (right)

Excavation north of the current tombs demonstrated that the BSS tumulus and cobble platforms do continue into this area, but several later constructions were also found in these trenches. A Medieval structure just beneath the modern surface is indicated by patches of a pebble floor, traces of walls, and a large deposit (over 100 kg) of roof tiles spread across NEA1c. Traces of a pyrtotechnic feature to the west of this has not yet been dated, but could be a Mycenaean feature that was disturbed by the Medieval construction as well as later farming activities. Other large walls built framing the BSS are most likely constructions of the LH III period: Wall 108 to the west is formed of large boulders and seems to divide LH IIIC domestic constructions from the funerary mound. Wall 113 to the east is built directly above the north-east corner of the BSS, which was also covered by stone rubble packing that included Mycenaean as well as possible Geometric pottery. Despite these later constructions, it is important to note that elements of the BSS tumulus are preserved in the lower levels of these trenches, again with ceramics dating exclusively to the LH I period. We fully expect to clarify the stratigraphy through full analysis of the finds, and that tombs are most likely preserved at lower levels that will be reached next season.

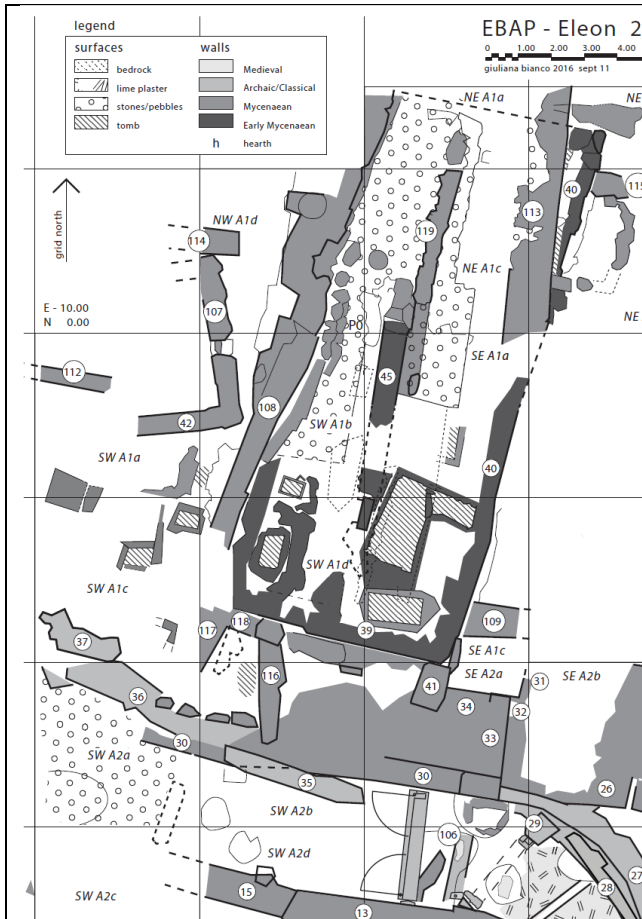


Figure 10 Schematic plan of BSS area end of 2016



Figure 11 Southern half of BSS. West of stele, likely area of unexcavated tombs

The excavation of the Blue Stone Structure is not complete. The monumental size of the complex and the close density of the multiple early Mycenaean burials in just the southern part caused our work to proceed slowly but yielded good results (Fig. 10). The central part of the enclosure, the area capped by the tumulus, still contains intact cobble surfaces which very likely cover more Mycenaean burials (Figure 11). Additionally, the eastern side wall of the BSS now turns a corner to the west, at the northern extent of the building. It remains to fully identify this northern wall of the BSS, which is still covered by later Mycenaean and Medieval constructions.

Our Greek colleagues in the Ephorate have followed our excavation closely and work for the year had to cease after we fully excavated the burial in Tomb 5. Both the structural remains and funerary material deserve continued focused attention and expert work. It is greatly hoped by us and the Ephorate that permission for excavation, as outlined in last year's application, will be granted by the CIG permits committee to excavate completely the remaining burials. Together with our Ephorate colleagues we have concerns about a funerary structure that is not fully excavated, since it could potentially lead to illegal exploration at the site

Study and Analysis

Our team of specialists conducted a study season on previous years' excavations, including

preliminary flotation sorting, digital mapping and 3D scanning of objects and architecture, a study of roofing and construction material, faunal study, starch grain residue analysis on ground stone tools, continued ceramic sequencing and conservation, and an initial program of PXRF (Portable X-Ray Fluorescence) analysis.

Our paleobotanist, Dr. Evi Margaritis (University of Cyprus), will complete a study of our collected flotation material to understand environmental exploitation, with a particular focus on the Late Bronze Age period. In 2016 over 30 samples were floated from known stratigraphic units and sorted.

Jordan Tynes of Wellesley College ran a program of digital modelling for both objects and architecture. Daily photogrammetric recording throughout the 2016 season documented changes on-site and provided great assistance as excavation progressed. 3D scans of ceramics, human bones and objects provide new and innovative methods of analysis and for disseminating the results of our research. Our colleagues at the Thebes Museum requested our collaboration to make 3D scans of objects in the collection unrelated to ancient Eleon which we happily did.

Dr. Kyle Jazwa (Monmouth College) studied 516 ceramic roof tile fragments dating to the Late Helladic IIIB and IIIC periods. This material represents the largest assemblage of Mycenaean tiles studied at a Bronze Age site to date and includes the first securely dated, Postpalatial roofing tiles in Greece. Nearly complete cover and pan tiles were recovered in several deposits allowing full dimensions and morphologies of both tile types to be reconstructed. A preliminary study of our Medieval construction materials was also conducted.

Dr. Yin Lam (University of Victoria) continued work on the faunal assemblage, focusing particular attention on LH IIIC material. Eleon has produced one of the richest archaeological faunal assemblages of Late Bronze Age Greece and adjacent time periods. The faunal remains are well-preserved and offer the potential to investigate many aspects of the local subsistence economy, as well as possible ritual practices, across a long period of time, from the Neolithic to the Byzantine periods. The preliminary analysis focuses on relative species abundance, as represented in a sample from the SW quadrant of the site, and on mortality profiles for the primary domesticates – sheep and goat – across the site. Both variables are important indicators of the agricultural economy practiced by the inhabitants of Eleon and may capture changes through time in their subsistence activities.

Dr. Calla McNamee (University of Alberta, ASCSA/Wiener Lab) conducted microbotanical extraction on 37 ground stone samples and two ceramic samples. Her focus was on LH IIIC Early and LH IIIC Middle ground stone tools used for food processing. In the Aegean multiple types of wheat, barley, and pulses were exploited. During processing, microbotanical residues from these staple resources can remain embedded in ground stone pores, allowing for identification of the resources processed on a particular artifact. Starch grains and phytoliths are two microbotanical residues commonly utilized to reconstruct plant based subsistence practices. This study will allow for an examination of changing subsistence practices, if any, which might occur through time between these two periods.

Our ceramics team, led by Dr. Bartek Lis (Polish Academy of Science) and Trevor Van Damme

(UCLA) have studied all of the ceramic deposits that have thus far been excavated. Their daily reports on the ceramics contribute greatly to the ongoing excavation. Their work has paid particular attention to the Middle/Late Helladic transition material, especially with respect to the excavation of the Blue Stone Structure; to the Late Helladic III C Early material which shows at least two different subphases (an unburnt and a burnt phase); and to the Late Archaic/Classical material as it relates to cult activity at the site, particularly around the ramp approach.

Finally, our project was fortunate to have Vanessa Muros (UCLA/Getty Conservation Program/CRM University of the Peloponnese) perform PXRF analysis on selected material from Eleon in the Thebes Museum apothekē. Approximately 20 objects were scanned to measure chemical composition from non-destructive surface scans. Copper alloys (dagger, blades, phiale), carved bone head, painted figurines, glass beads and a turquoise bead were all studied. Detailed results are forthcoming.

Our team's work in 2016 clarified some major questions about the site of ancient Eleon. We now know the nature of the burials which lay underneath the cobble fill and we will look for other grave steles marking them. For 2017 our priority continues to be analyzing material thus far excavated and to complete the excavation of the Blue Stone Structure. The four excavated early Mycenaean tombs conclusively demonstrate that Eleon maintained a burial monument. Later Mycenaean and Archaic occupants of the site refrained from building on it. Its form, while eroded somewhat, is unusual within the Mycenaean world and of great relevance to the emergence of Mycenaean elites and centers of power, such as the palace of Thebes.