

THE LEUKOS SURVEY PROJECT, REPORT ON THE 2010 FIELD SEASON

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Introduction

The 2010 season began July 12 and field work finished July 21. The project is carried out under the auspices of the Canadian Institute in Greece and the project staff thanks both Dr. Michaliadou and Ms. Papabasileiou of the 4th Ephorate of Byzantine Antiquities at Rhodes for their invaluable assistance and encouragement. The 2009 survey area of about 0.25 square kilometers was expanded to include the Coastal Plain (including Gialou Chorifi) and the Ridge Scarp (**Figures 1 and 2**). The latter forms the eastern boundary of the survey area and separates the Coastal Plain from the Upper Plain. The total area under investigation by the Leukos Survey Project is about 1.4 square kilometers. Dr. Amanda Kelly of the National University of Ireland, Galway joined the project this year as the ceramic specialist. Three student volunteers, one from Ireland and two from St. Louis, Missouri, also joined the team and assisted with all aspects of the fieldwork.

Work in the field accomplished the following two objectives:

- An intensive topographic and architecture survey of the ancient remains, modern constructions, and natural environment of the Coastal Plain and the Ridge Scarp, and;
- A ceramic sherd survey of the areas investigated in 2009.

The State of the Remains

In general, the exposed rubble-built walls and rock-cuttings continue to deteriorate. Wind and unimpeded tourist traffic cause the greatest damage. The walls on the North Peninsula have suffered extensively and several of the walls recorded in 2008 and 2009 no longer survive. The soft marl limestone bedrock, into which many architectural features were cut, suffers constant wind, wave and rain damage. Scarps which have fallen away because of erosion, especially on the leeward side of the North Peninsula and the west scarp of Lytos Field, have revealed more Byzantine walls.

Excavations by the Service were conducted in the Spring of 2010 in three areas (**Figure 3**) within the boundaries of our survey permit. In all three areas, walls and other built features were found that are similar to both those found in the plot excavated by Karabatsos in 2000 and those surveyed by the Leukos Survey Project in 2008, 2009 and 2010. These remains are nicely preserved and provide valuable information about the Byzantine settlement at Leukos. However, now the walls within the excavation trenches are suffering erosion and the trenches themselves are filling with wind-blown debris and garbage.

The Survey of the Coastal Plain and the Ridge

Current land use of the Coastal Plain is mixed and includes: hotels and rental studios (and construction thereof) and their associated properties, small seasonal private homes and their associ-

ated ancillary buildings, and abandoned fields demarcated with stone-built fences and stone-built terrace walls, some of which are collapsing. Some of the abandoned fields have been used for the dumping of soil excavated (by bulldozers and other similar tractors) for the construction of new hotels and rental studios. The Ridge is precipitous with large areas of exposed limestone bedrock and clusters of low, dense vegetation. It is currently unused and abandoned.

With the assistance of handheld Trimble GPS rover units, the topography of the Coastal Plain and the Ridge was traversed and all natural and human-made features were plotted: contours, trees, scarps, terrace walls, buildings and roads. In addition, all supposed ancient constructions and features were recorded and drawn. The three-dimensional coordinates collected with the GPS receivers were corrected by both an SBAS (Satellite Based Augmentation System) beacon signal from the Karpathos airport and rectified satellite (Quickbird) imagery.

Preliminary Survey Observations

At the eastern edge of the Coastal Plain and at the base of the Ridge, the small church of Gialou Chorafitissa was built inside the apse of a much larger and earlier church probably of Byzantine date, 5th to 6th century CE (**Figure 4**). The earlier apse is visible behind, or to the east, of the later apse. The wall was built of partially worked limestone blocks set with mortar between both block joints and courses. This type of construction was typical of all the Byzantine period walls of Leukos, including the basilica on the shoreline of Leukos Bay. Within the church and undoubtedly re-used from its much earlier predecessor are three architectural elements: two marble column bases and one granite column drum (**Figure 5**). A third architectural element, whose original architectural function is unrecognizable, was cut from the same marble as the column bases and was also built into the wall of the church as a bench-like construction. Similar granite column drums may have been used in the larger basilica on Leukos Bay; currently one is re-used in the small church on the south peninsula (Zoodokos Pigi); four were built into the concrete pier projecting into Leukos Bay, and a fifth column stands at the beach staircase of Mixali's Taverna in the direction of the Southeast Peninsula.

On the lower elevations of the Ridge and immediately behind (to the west of) the church of Gialou Chorafitissa, a series of tombs were cut into the soft limestone bedrock (these may have been noted but not studied by Ηλίας Κόλιας (1970 *Λευκός, Γαλού χωράφι Καρπάθου και η παλαιοχριστιανική Βασιλική του Λευκού*. EA 1-15). Fourteen tombs were plotted and drawn; some of them appear entirely unexcavated and therefore their tomb chambers could not be measured. Apart from the unexcavated tombs, the others were filled with modern refuse and soil and therefore floors were not visible and the heights of the tomb interiors could not be measured. Architecturally, the tombs are all quite similar. The tomb builders first cut a more-or-less flat façade into the bedrock which resulted in a short dromos-like space cut into the sharp slope of the ridge. Depending on the slope of the existing bedrock, the dromos varied in length for each tomb. Tomb 6 has the longest dromos which measures a bit more than three meters (**Figure 6**). The tomb façades were worked flat; chisel or adze marks were removed with abrasion. With the façade reasonably flat, the builders then cut in a rectangular doorway. The dimensions of the door itself were small, often no more than 80 centimeters in breadth. Because the tombs have not been properly cleared or excavated, the height of every door is not measurable. The doorway of Tomb 14 is completely exposed and measures 74 cm high by 69 cm in width. The doorways of tombs 8 and 11 were cut with rabbets on their exterior faces along the jambs, lintel and sill, as if they were meant to receive a single slab that served as the actual door closing off the tomb.

Once the builders cut about 20 cm into the façade, they then cut out the burial chamber. The chambers are neither of uniform size nor shape. A couple of them have a more-or-less rectangular footprint while others have a roughly circular footprint. The floors are presumably flat. In elevation, the tomb chambers also vary. Because the tombs are filled with debris and unexcavated soil, the heights of the chambers cannot be measured, but they were probably no more than two meters in height. Ceilings are roughly dome-shaped. The tombs walls are quite smooth. The builders must have removed the chisel marks with abrasion.

A number of walls were plotted on the Ridge, generally near its lower elevations. The wall construction technique of rubble masonry with the occasional use of the cement-like mortar is similar to those of the North Peninsula and those excavated in 2000 and 2010 in Lytos Field. Also in the same area a number of rock-cuttings were noted. They are wall-like in appearance as if their builders cut the footing of a wall into the bedrock and then built the height of the wall in typical rubble and mortar construction.

The Potsherd Survey of Lytos Field and the Peninsulas

The area surveyed in 2009 (the Southwest and Northwest Peninsulas and Lytos Field, see **Figure 1**) was the focus of an intensive potsherd surface survey. Survey and collection was spatially organized according to a 10 X 10 meter grid established on the Universal Transverse Mercator (UTM, WGS84, Zone 35 South) system. Within each grid square, one walker traversed the median line and tabulated sherd totals with a handheld clicker. All data, including geospatial, artifact, environmental conditions and visibility, was recorded in TerraSync data collection and maintenance software running on Trimble handheld GPS units. Although all visible potsherds were tallied to demonstrate distribution densities, only a minimal number of diagnostic potsherds were collected for the purposes of drawing ceramic profiles, establishing chronologies from comparative material, and further study. In total, 48 diagnostic potsherds were collected, drawn and photographed. For storage in the museum at Pigadia, the sherds were sorted and labeled by grid square.

Figure 7 depicts potsherd densities in Lytos Field and the North and Southwest Peninsulas. Visibly dense potsherd clusters concentrated in areas with little or no vegetation and primarily on the North and Southwest Peninsulas. The limestone scarp on the western edge of Lytos Field and separating the field from the sandy beach was similarly dense with potsherds. A few small portions of Lytos Field are currently devoid of vegetation, perhaps an indication of ancient structures beneath, and within those area potsherds were visible and easily tallied.

Initial Ceramic Analyses

The predominant diagnostic ceramic form was Phocaeen Red Slip Ware (PRSW), with some Late Roman 2 amphora sherds and a few African Red Slip Wares (ARSW) also noted. Two PRSW thin-walled sherds collected were stamped with crosses (**Figures 8** and **9**) and both date to the late 5th or early 6th centuries CE. Body sherds were not collected, but the majority of them shares fabrics consistent with diagnostic material from Phocaea. A number of locally-made table wares may also be represented in the body sherd corpus. Overall, the surface survey yielded pottery from a tight chronological timeframe of two centuries: the 5th through 6th centuries CE.

Preliminary Conclusions

The 2010 season was successful and the fieldwork goals were accomplished. As originally surmised (see 2009 Season Report), Leukos was a thriving Early Byzantine port town. The town definitely was operating by the 5th century, although undiagnostic Roman sherds are scattered about and suggest an earlier founding, perhaps in conjunction with the building of the rock-cut tombs. The town seems to have been abandoned in the early 7th century which coincides with Arab activity in the eastern portions of the Mediterranean. The town was big, although perhaps separated into two portions. The first portion clustered around the bays and undoubtedly serviced the harbors. The second portion seems to have clustered around the base of the Ridge Scarp. The area between the two portions consists of flat fields (now abandoned) with a relatively deep soil cover which may have been used for agricultural purposes. The kiln, excavated in the spring of 2010, confirms the production of locally-made table wares noted in the potsherd survey. Leukos also engaged in trade along a network which facilitated the transfer of pottery from the production centers at Phocaea in southwest Asia Minor.

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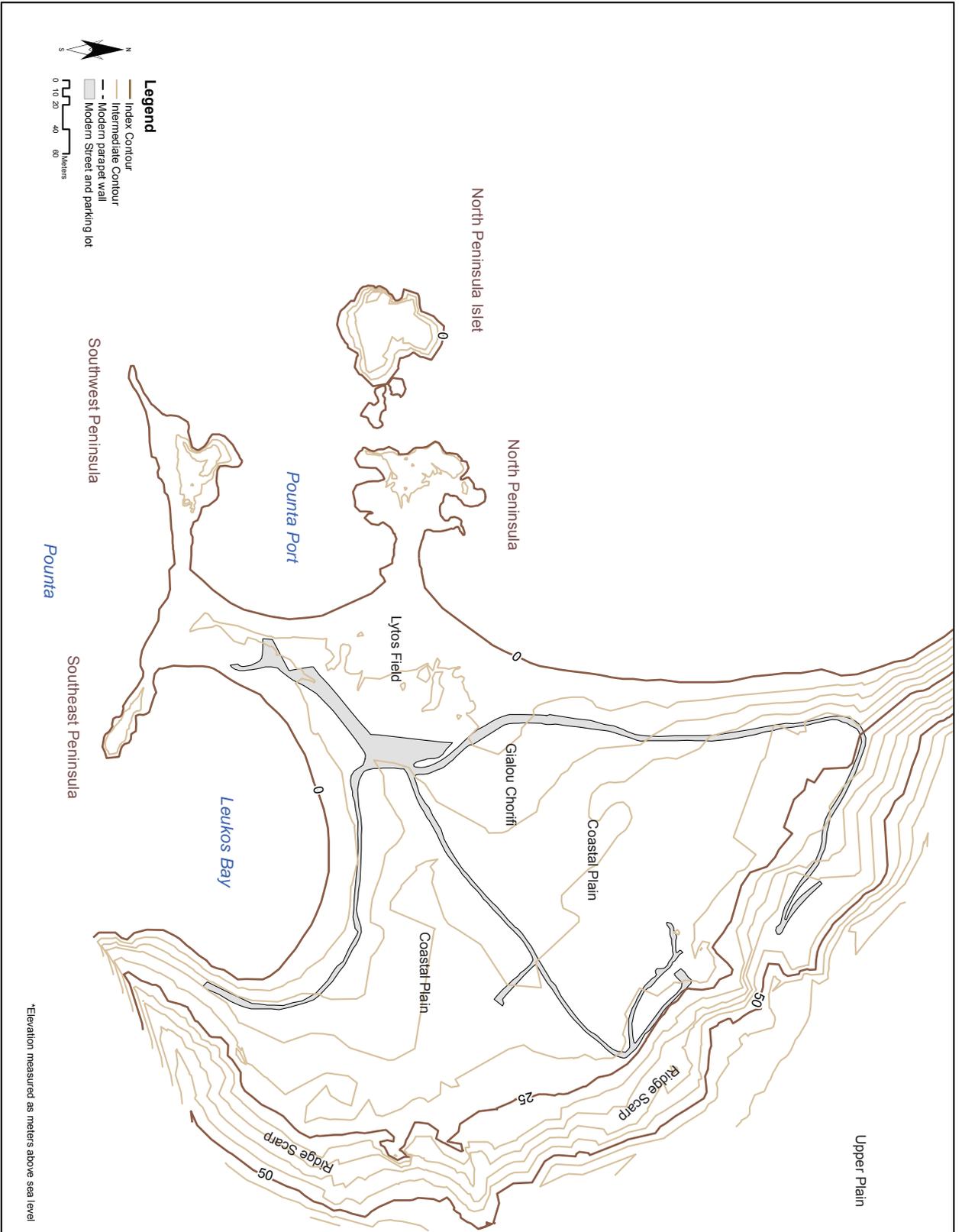


Figure 1: Kato Leukos, geographical areas and designations

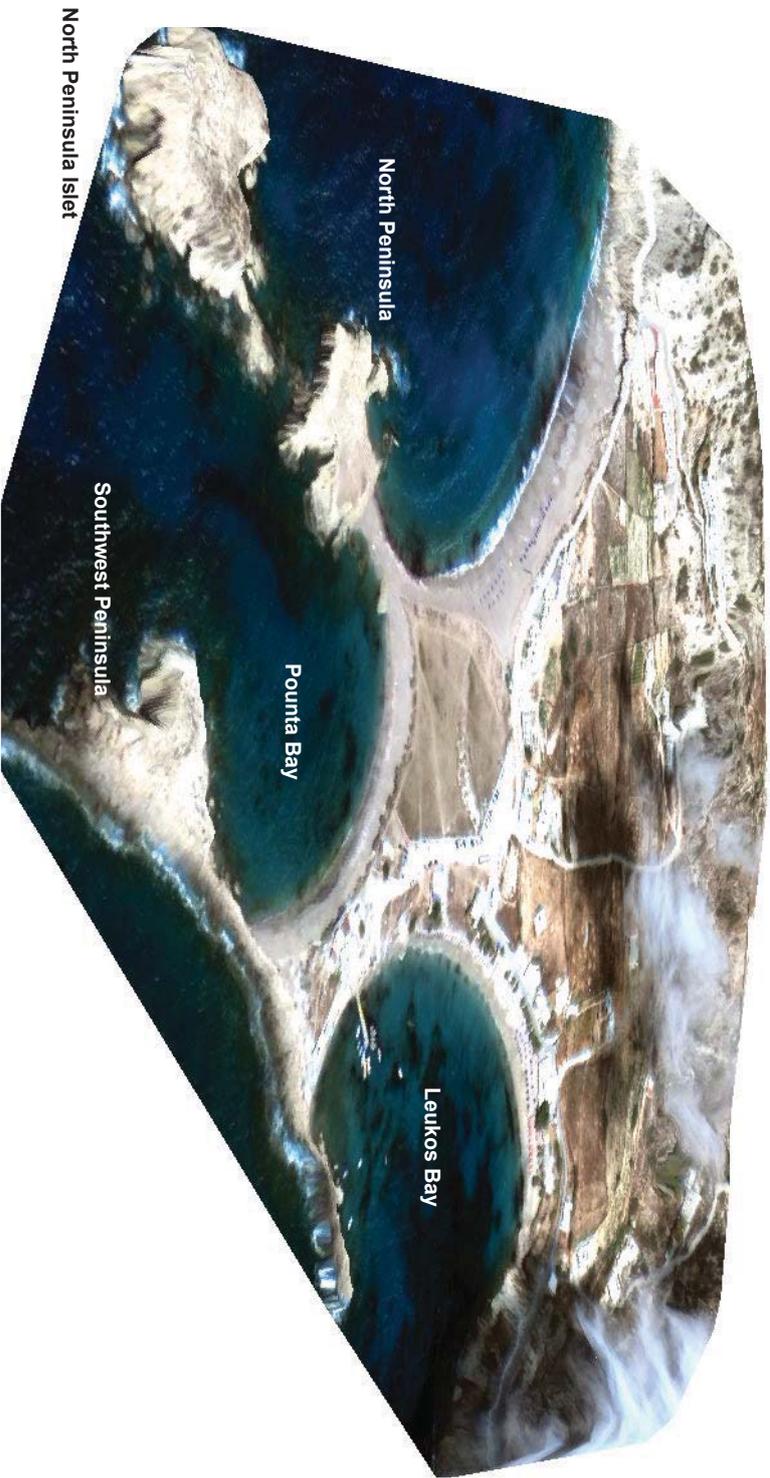


Figure 2: Kato Leukos, survey area

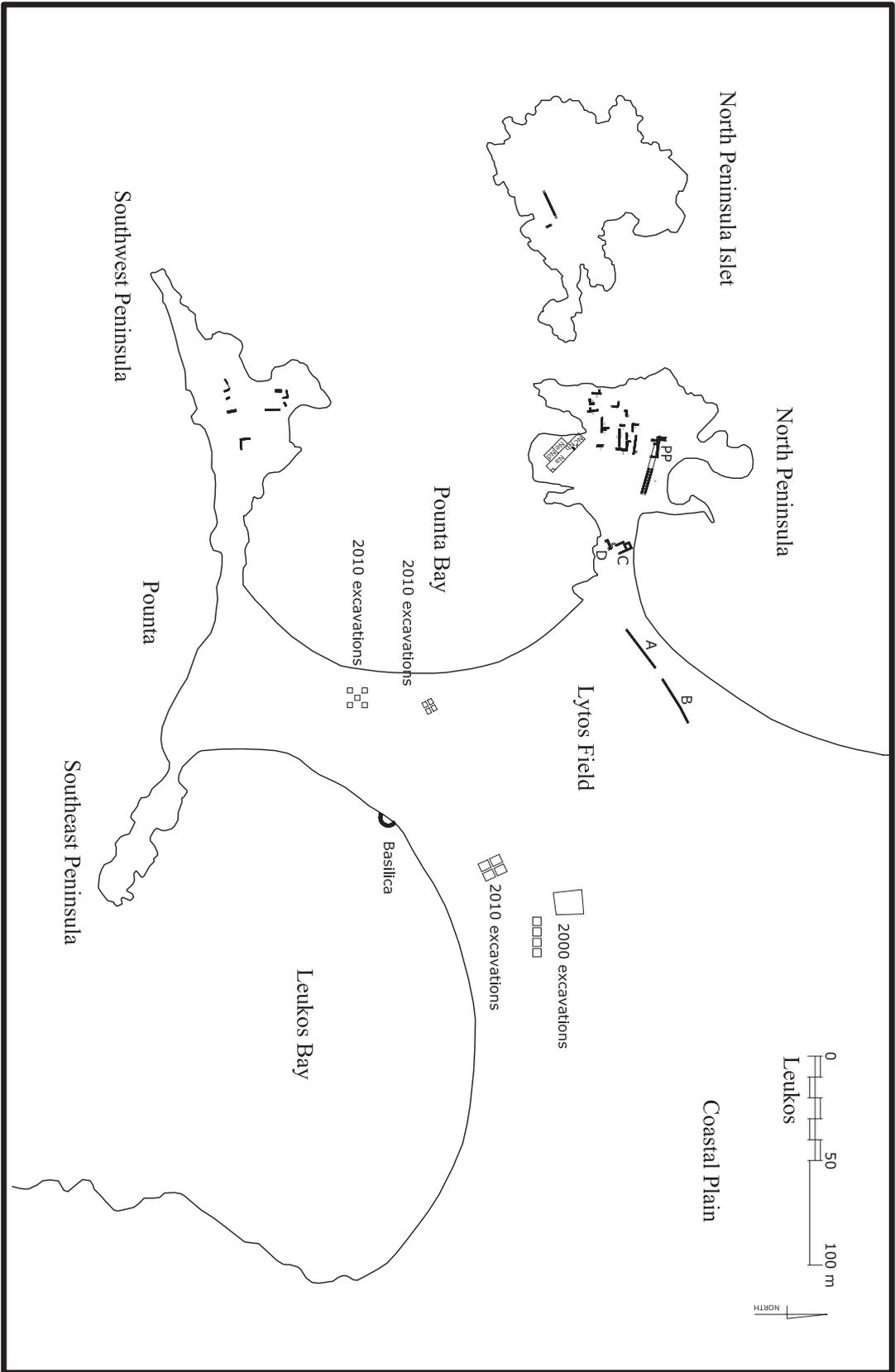


Figure 3: Kato Leukos, excavation locations



Figure 4: Kato Leukos, Church of Gialou Choraftissa



Figure 5: Kato Leukos, Church of Gialou Choraftissa, re-used marble column base and granite column drum



Figure 6: Kato Leukos, Ridge Scarp, Tomb 6 (from west)

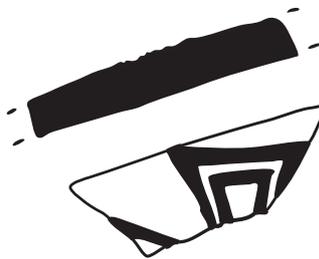


Figure 7: Kato Leukos, potsherd densities



Sherd L4.1
PRSW stamped

Figure 8: Kato Leukos



Sherd N4.1
PRSW stamped

Figure 9: Kato Leukos