

# THE LEUKOS SURVEY PROJECT, REPORT ON THE 2009 FIELD SEASON

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The project at Kato Leukos commenced on Wednesday, August 12, 2009 and completed on Wednesday, August, 19, 2009. The project is carried out under the auspices of the Canadian Institute in Greece and the project directors thank both Ms. Papabasileiou and Dr. Katsioti of the 4th Ephorate of Byzantine Antiquities at Rhodes for their invaluable assistance and encouragement.

Work in the field accomplished the following goals:

- A topographic survey of the ancient remains and modern features, and;
- An architecture survey of the visible ancient remains.

We divide the survey area into five geographical areas (fig.1):

1. Lytos Field
2. North Peninsula
3. North Peninsula Islet
4. Southwest Peninsula
5. Southeast Peninsula

**Lytos Field** (fig. 1) largely consists of the land purchased by the Greek Archaeological Service to prevent any further commercial development. Today, it is a grassy and sandy, large flat plain gently sloping down from the east to the west. A modern parapet wall bounds Lytos Field on the south and east, and steep scarps mark its limits on the west and north. The tops of several ancient walls, belonging to the Byzantine period, poke through the surface, especially near the north and west edges, and run more or less parallel with the scarps themselves.

The **North Peninsula** (fig. 1) is a wind-blown and wave-battered limestone outcropping connected to Lytos Field by a short spit of sandy beach. From the beach on the east side, the topography of the North Peninsula rises, in some places steeply, towards the west; the south, west and north edges are precipitous cliffs. On the leeward side, some surface soil remains, but on the windward side, the limestone bedrock is bare. The majority of visible ancient walls surveyed in 2009 occupy the North Peninsula. On the sandy spit of land connecting Lytos Field and the North Peninsula is the standing remains of a large, barrel-vaulted Byzantine building (Structures C and D in figure 1; fig. 4).

The topography of the **North Peninsula Islet** (fig. 1) is similar to that of the North Peninsula. It is a limestone outcropping with precipitous cliffs on all sides and a small plateau that slopes upwards from the east to the west. The leeward portion preserves some surface soil but the windward side is bare bedrock. Fragmentary and severely eroded rubble-built walls still stand on the leeward side on the southern side of the islet.

The **Southwest Peninsula** (fig. 1) is also a limestone outcropping with a plateau that slopes down gently from the northwest to the southeast. The north and northwest sides are precipitous cliffs that have been worn smooth by the washing waves. The south and east sides have been stripped of their topsoil by wind and wave and are now pockmarked, bare limestone. Bedrock cuttings and

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ancient walls occupy the south side and the sloping plateau.

Lastly, the **Southeast Peninsula** (fig. 1) has been completely battered by the crashing waves which have left its exposed bedrock pockmarked and worn. No ancient architecture survives on this peninsula.

### The Topographic Survey

The topographic survey was carried out with a handheld Trimble GPS receiver with the resulting three-dimensional coordinates corrected by both an SBAS (Satellite Based Augmentation System) beacon signal from the Karpathos airport and rectified satellite (Quickbird) imagery. Figure 2 illustrates the topographic plan created in 2009. Figure 3 illustrates a Quickbird satellite image overlaid upon the topography of the surveyed area of Kato Leukos. Ancient architectural features, primarily walls and cuttings in the exposed limestone bedrock, were plotted with the GPS receiver and then drawn by hand with measuring tapes.

### The Visible Ancient Architecture

The surviving architecture is rubble walls composed of locally gathered limestone rubble and roughly hewn limestone blocks, in some cases set with a cement-like mortar, and in other cases, simply dry laid. Coursing is evident, but usually only one or two courses survive. Wall thicknesses vary between 60 and 90 cm with an average thickness of about 65 cm. The narrow walls supported only single story buildings. Most of the surviving walls are relatively short in length, 2-4 meters, with some longer walls preserved at the perimeters, for example on the north side of **Lytos Field** (walls A and B in figure 4; also fig. 5) and the north side of the **North Peninsula**. Individual buildings are difficult to identify. Structures C and D are two of the better preserved structures documented in the survey area (figs 4 and 6). Structure D is the remains of a low barrel-vaulted, two-story building. Structure C consists of two rooms with the largest room containing a small semi-circular niche. The walls of both structures were built with rubble and roughly hewn limestone blocks set with a cement-like mortar that contains pottery and tile sherds.

The bedrock of the **Southwest** and **North Peninsula** was worked for architectural purposes, either as buildings for habitation or as cisterns, or for both functions. Structure N (figs 4 and 7) on the **North Peninsula** is the largest surviving and distinguishable bedrock cutting. In plan, it is a long rectangle (ca. 22 x 4 m) aligned approximately northwest-southeast. The northwest corner has been lost to sea erosion. In space Na, a square (ca. 1.5 x 1.5 m), plaster-lined basin was sunk further into the bedrock in the room's east corner. It probably served as a settling basin of sorts. The space seems to have been divided into three separate rooms (Na, Nb and Nc). A rubble-built wall, preserved only at northeast end, abuts the rock-cut face of structure N and separates room Na from Nb. A poorly preserved bedrock wall separates room Nb from Nc. The building was expanded to the southwest with the addition of two spaces (Nd and Ne), which are also rectangular in their footprints.

On the **Southwest Peninsula**, on its south side, at least three, but probably more, apparently single room buildings were erected against the precipitous limestone face. The bedrock was cut and smoothed to form a flat vertical surface which served as the buildings' north wall. Rubble walls, running perpendicular to the bedrock cuttings abut the bedrock walls.

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These two examples of bedrock cuttings are quite large and it should be noted that the process of cutting and working the bedrock served two purposes. First, it created habitable or usable space. Second, working the bedrock was essentially a quarrying operation which produced building material, perhaps even some of the partially squared limestone blocks used in some of the walls.

The builders also took advantage of the bedrock to supplement freestanding walls. On the **North Peninsula**, the walls of Structure PP (figs 4 and 8) were built of both rubble and worked bedrock. Structure PP's west wall was quite thick and measured slightly more than 1.7 meters in length. Only the wall's east, rubble-built face survives to one to two courses in height. The wall's west face is missing, but cuttings in the bedrock indicate its original alignment and thickness.

## Summary

By all accounts, the field work at Kato Leukos was successful and fruitful, and the season goals were accomplished. The approximate area surveyed was 2.9 hectares (29 stremmata). Ancient architecture was observed and documented on approximately 86% of the survey area, or 2.5 hectares (25 stremmata). Thus, the settlement at Kato Leukos was large. Furthermore, it is without a doubt that the Byzantine city extended beyond the limits of our survey permit. An overall urban plan is not yet evident from the visible remains and a coherent settlement organization may never have been a consideration for the builders or settlers. But the walls on the North Peninsula align more or less to the cardinal directions. Some buildings obviously responded to the original topography, especially near the shoreline, and incorporated and in some cases altered, limestone cliff faces for architectural purposes. The settlement as a whole was composed of small, single story buildings with perhaps two or three larger buildings, such as Structures C, D and N. The presence of thick plaster coating some of the walls and the bedrock cuttings suggest that some of buildings served as cisterns most likely for the storage of water.

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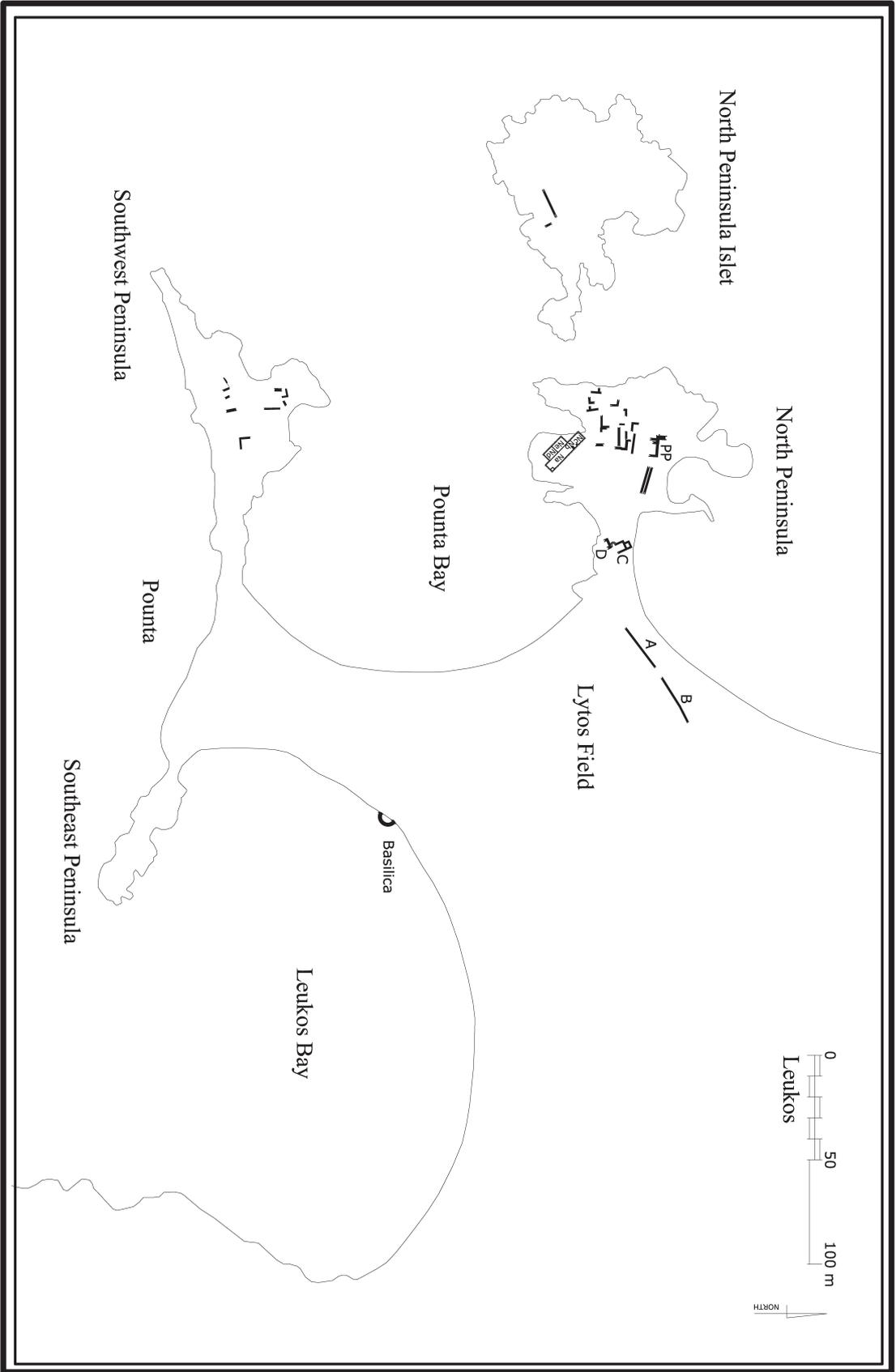


Figure 1: Kato Leukos, geographical designations and ancient walls

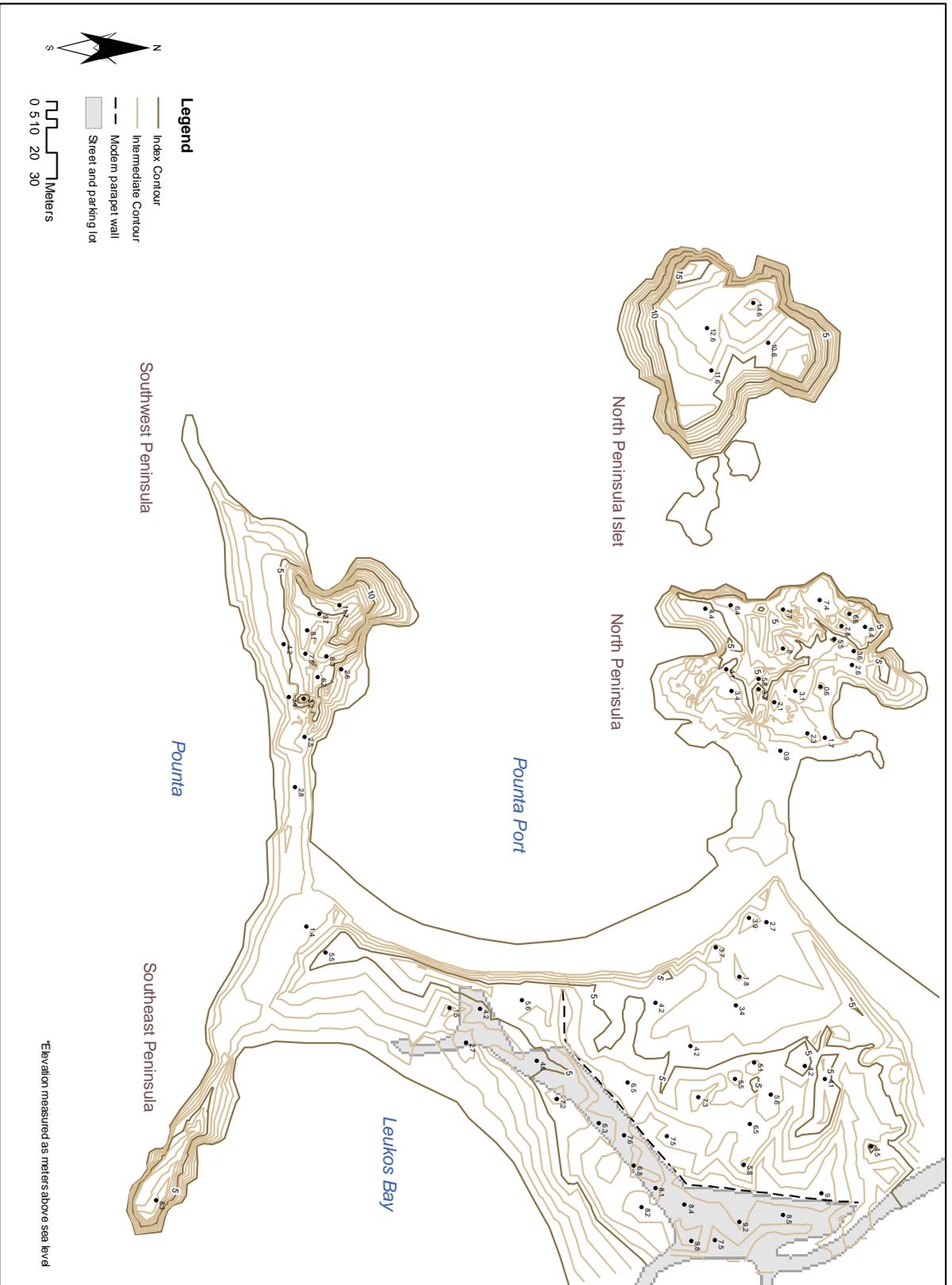


Figure 2: Kato Leukos, topographic plan

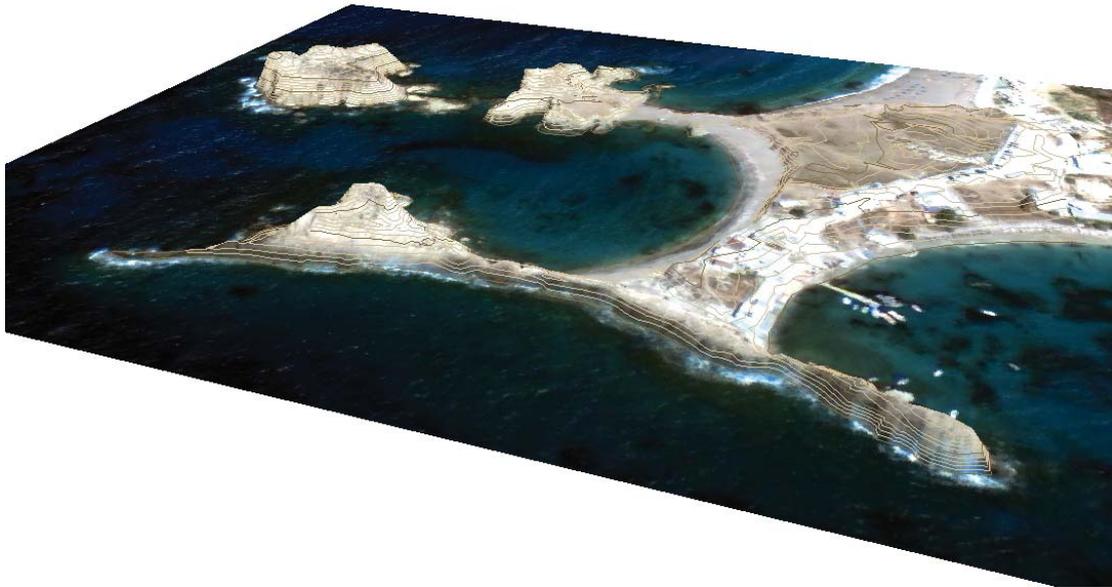


Figure 3: Kato Leukos, topography

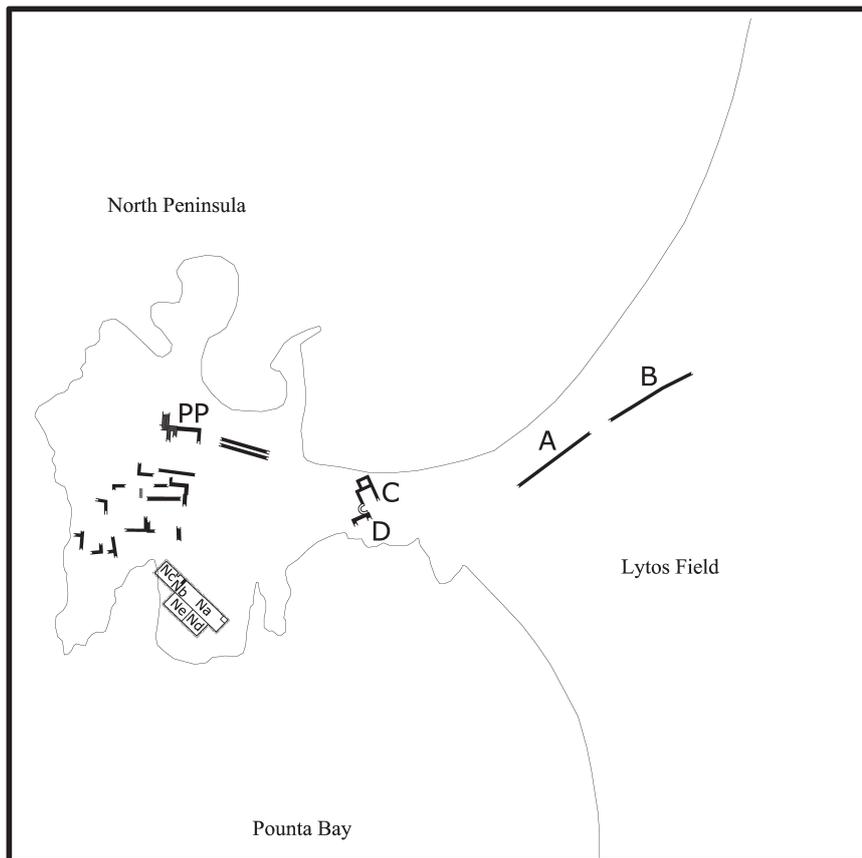


Figure 4: Kato Leukos, ancient walls on the North Peninsula and in Lytos Field



Figure 5: Kato Leukos, walls A and B in Lytos Field(from east)



Figure 6: Kato Leukos, remains of structures C and D (from west)



Figure 7: Kato Leukos, structure N on the North Peninsula(from west)



Figure 8: Kato Leukos, structure PP on the North Peninsula(from east)