

NOTION ARCHAEOLOGICAL SURVEY, 2015

A. Introduction

The second season of the Notion Archaeological Survey began on 18 May and ended on 15 June 2015. The average size of the staff was 13 persons. The director was Christopher Ratté. The Representative of the Ministry of Culture was Yalçın Yılmaz, for whose collegiality and helpfulness we are very grateful.

B. Current Work

Notion is a coastal site approximately 35 ha in area, surrounded by 3 km long fortification walls (see fig. 1). It occupies a ridge running east-west and parallel with the coast, framed by two promontories projecting southward into the Aegean Sea. It is clear from the visible remains and from satellite imagery that Notion is a grid-planned city, oriented according to the cardinal directions. The promontories and the north and south slopes of the site are occupied by residential areas. The central ridge is dominated by a chain of public and sacred building complexes, set on terraces largely carved out of the native rock. These include, from west to east, the Temple of Athena, the Heroon, the Agora, the Theater, and the so-called East Agora. The highest point on the site is the hill east of the Theater, which rises to an elevation of 85 m asl.

Work in 2015 had the following emphases:

- 1) Geophysical prospection of the eastern area of the city
- 2) Documentation of civic and domestic architecture
- 3) Documentation of the fortification walls
- 4) Documentation of cisterns
- 5) Documentation of quarries and local geology
- 6) Collection and study of pottery
- 7) Photogrammetric mapping and aerial survey
- 8) Continued study of conditions for conservation management plan.

- 1) Geophysical prospection

As in 2014, the geophysical survey was based on a grid of 30 by 30 m squares oriented 30 degrees west of north. The grid was laid out with a Total Station, and a total of 67 full and 31 partial 30 X 30 m grid squares were surveyed with a Bartington Grad 601-2 fluxgate gradiometer. The geophysical survey was directed by G. Tucker, a doctoral student in archaeology at the University of Michigan. The results of the survey are shown in fig. 2. The geophysical survey has done much to clarify the street plan and domestic architecture of the city.

- 2) Documentation of civic and domestic architecture

Architectural documentation focused on the Heroon and Bouleuterion. Both buildings were cleaned and recorded in 1:50 state plans (see fig. 3). In addition, a program of systematic recording of all other visible architectural features was begun, focusing on the area around the Heroon and Agora and the terraced slopes to the south. Six full

city blocks have been surveyed with a total station and all the architectural features observed have been recorded in a GIS-based database.

3) Documentation of the fortification walls

The entire circuit of the fortification walls was surveyed with a Real Time Kinematic Global Navigation Satellite System (RTK-GNSS). Select portions of the walls, especially on the north side, where the remains are best preserved but also most overgrown, were cleaned for study and photography. Architectural documentation of specific details was also continued. One feature of particular interest is a large drain in the south wall (see fig. 4)

4) Documentation of cisterns

Eight of the 14 cisterns and probable cisterns noted in 2014 were measured, drawn, and photographed (see fig. 5). In addition, laser scans were made of two cisterns, producing detailed three-dimensional models (see fig. 6). All the cisterns were cut into the native rock, in some places schist, in others limestone, in still others, especially in the area of the Heroon, banded schist and limestone. As noted in last year's report, the cisterns are flask or bottle-shaped, with narrow cylindrical necks, widening out as they descend. In several cases, the upper parts of the necks are built out of rubble masonry, supporting schist or limestone cover slabs. Three of the best-preserved cisterns also feature two terracotta pipes situated opposite each other just below the level of the cover slabs. These presumably served to channel water running from roofs and drains into the cisterns. The interiors of the cisterns are sometimes but not always coated with a thick layer of hydraulic plaster, apparently routine in the case of cisterns dug into schist (to prevent loss of water through seepage into the rock), optional in the case of cisterns dug into the less permeable limestone.

5) Documentation of quarries and local geology

The bedrock of Notion consists of limestone, schist, and conglomerate rock. All three stones are used in the architecture of the site and were presumably, at least to a significant extent, quarried locally. A number of large quarry cuttings are visible, especially on the east and west promontories (see fig. 7). In addition, as noted above, the civic and sacred areas on the crown of the ridge that runs through the center of the city rest on broad level terraces hewn out of the native rock – they were thus in effect large open-area quarries. One puzzle is the source of the conglomerate rock used at Notion – the local outcroppings are not very extensive, and it is possible this stone was transported from other sources to the north or east.

6) Collection and Study of Surface Finds

A new program of controlled collection and study of surface finds was inaugurated this season. Four areas were examined, from west to east: the slopes to the north of the Temple of Athena; the Agora; the “saddle”, or low terrace between the Agora and East Agora; and the east promontory. For find collection, we used the same 30 X 30 m grid also used in the geophysical survey. Each 30 X 30 m square was further subdivided into nine 10 X 10 m squares. Each square was surveyed by five people walking 2 m apart, collecting all visible finds, almost exclusively tiles and pottery.

Finds were then sorted in the field into five basic categories: tiles, coarse body fragments, coarse diagnostics (rim, handle, or foot fragments), fine body fragments, and fine diagnostics. Weights were taken of all the pottery and all the tiles, and all the finds from each square were photographed as a group. The tiles and body fragments were then re-deposited in the 30 X 30 m square to which they belonged. The diagnostic pottery was taken back to the excavation camp, washed, sorted, classified, and photographed – and then also re-deposited in the 30 by 30 m square in which it was originally found. On June 11, a selection of the pottery was examined by ceramicists Gül Gürtekin Demir and Sabine Ladstätter. It is remarkable that none of the pottery seems to predate the 3rd century B.C. or to postdate the 1st century B.C. The fine wares include typical late Hellenistic and Augustan wares such as mold-made bowls, lagynoi, Augustan relief ware, ESA, and early ESB – but no later ESB (see fig. 8). The amphorae also appear to be exclusively Hellenistic.

7) Photogrammetric mapping and aerial survey

Between June 6 and June 9, a program of aerial survey of the site was carried out by Alexey Gribovskiy and Cesar Serrano Montero, using lightweight drones manufactured by the Swiss company SenseFly. Aerial photographs were made of the entire site; these photos were then used to construct a digital elevation model, which have in turn been used to generate ortho-rectified images to aid in mapping the architectural remains of the site, as well as detailed contour maps (see fig. 9). In addition, select parts of the site were surveyed at dawn with a thermal sensor. Since stone retains heat for longer than earth, this provided a very effective way of mapping stone structures partially or largely buried under the earth (see fig. 10).

7) Site management plan

Architect Kathy Velikov continued her work on a preliminary site management plan, with the assistance of a team of architecture students from the University of Michigan. Her work this year focused on documentation of the plant species found on site, and on mapping the landscape zones that surround the ancient city, including the adjacent beach town.

C. Conservation Needs

In addition to these research emphases, the survey team noted evidence for illegal excavation in several places, and potentially damaging plant growth in a number of excavated or partially excavated monuments.

1) Illegal excavation

Robber's trenches were recorded in several locations; a list has been provided to the Ministry Representative. These trenches should be filled in or fenced off, to prevent deterioration of adjacent buildings, and to protect visitors and livestock from falling in.

2) Damaging plant growth

Limited excavation has been undertaken at Notion on several previous occasions, revealing parts of the Theater, the Bouleuterion, and two temples. As noted in a previous report, plant growth should be cleared in all areas, to prevent damage to the monuments. Especially pressing is the condition of the Theater, where a number of pine trees growing up between seats threaten to dislodge the seats. These trees should be cut and herbicides applied to prevent regrowth.

D. Conclusion

It has been a great privilege to continue work at Notion. In future years, we hope to continue the geophysical survey, architectural documentation, and conservation planning that have formed the main emphases of this season's work. We also hope to expand our work to include the cemeteries of ancient Notion, which have occasionally been subject to looting, as well as the surrounding region. We are very grateful to the Ministry of Culture of the Republic of Turkey for permission to study and document the remains of this remarkable archaeological site.

Illustrations

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- Fig. 10 Map showing locations of illegal trenches

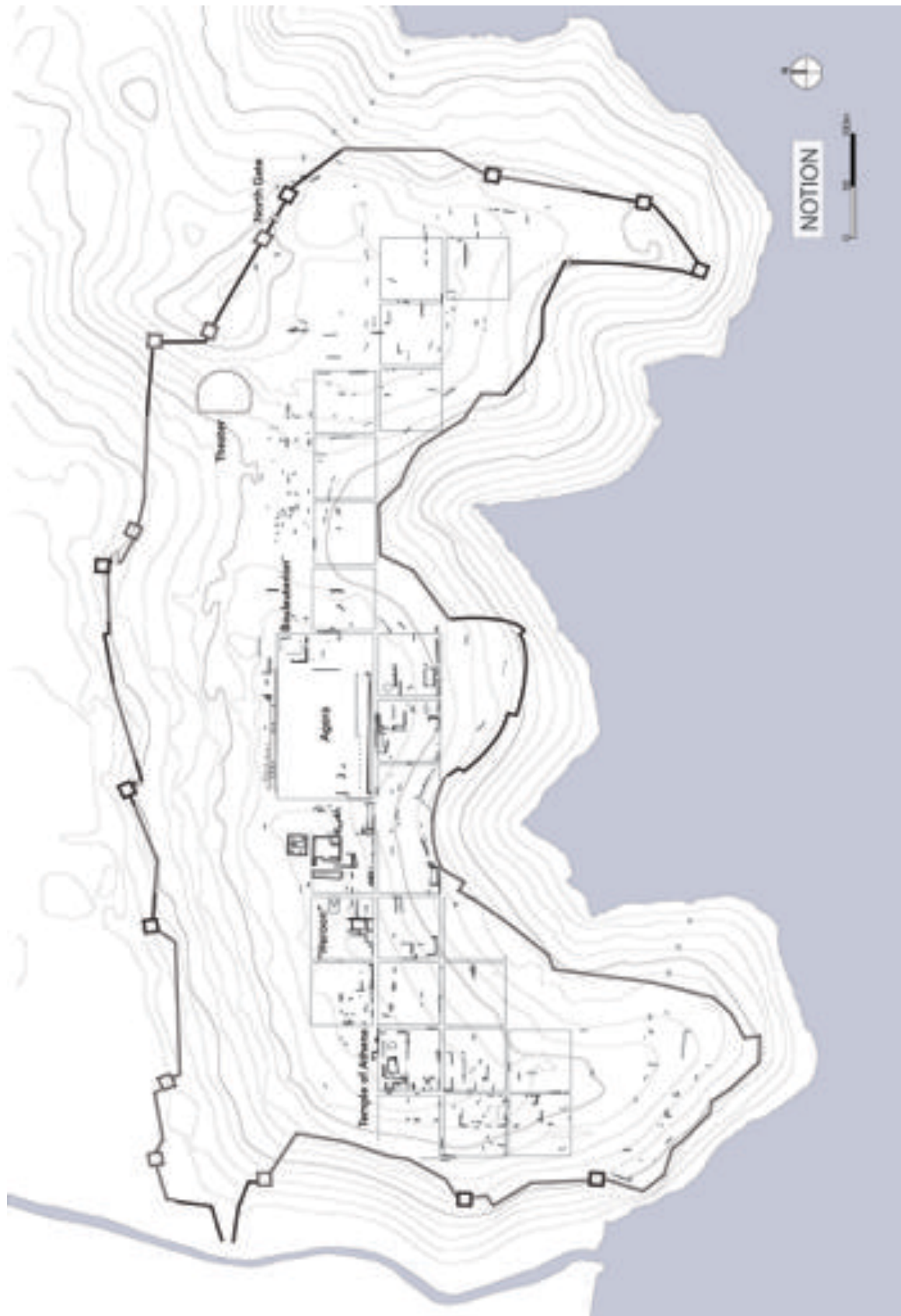
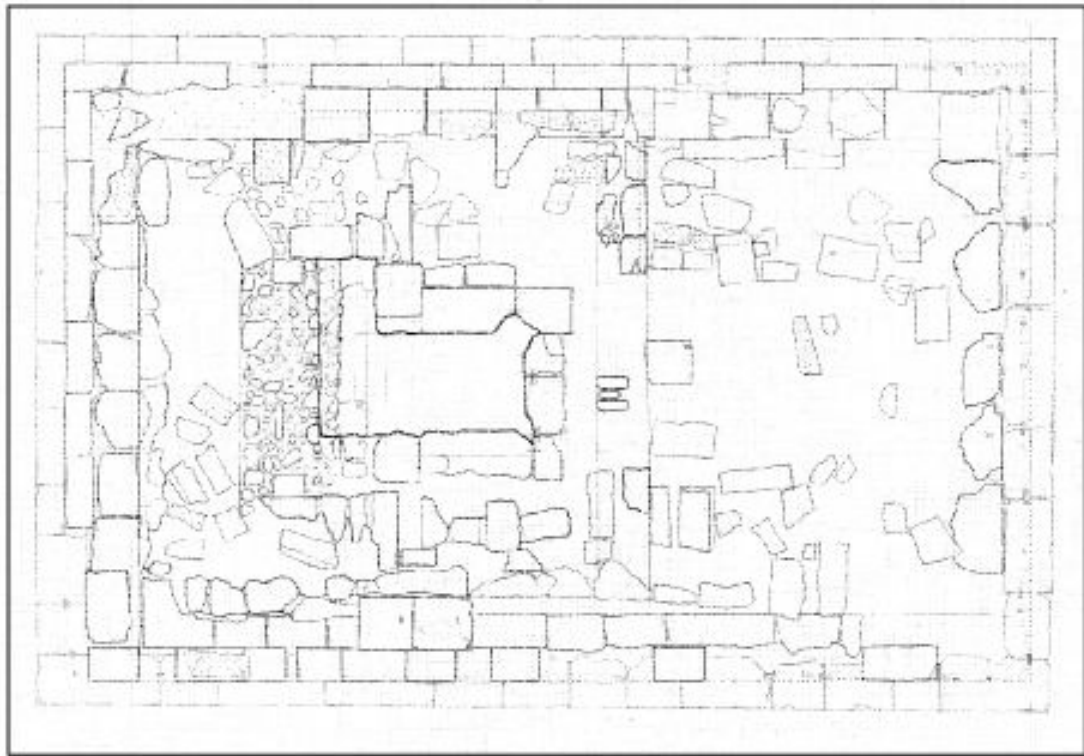


Fig. 1 Plan of site



Fig. 2 Results of geophysical survey

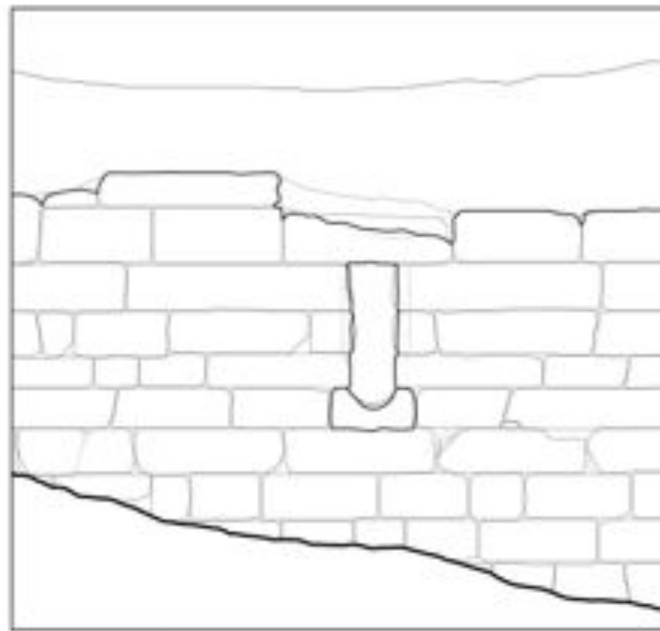


NOTION ARCHAEOLOGICAL SURVEY

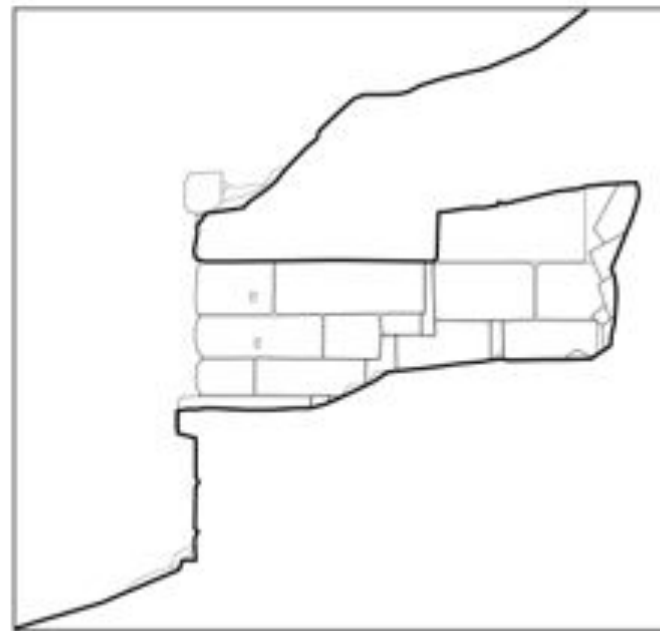
Plan of "Heroon"



Fig. 3 Plan of Heroon



NOTION ARCHAEOLOGICAL SURVEY
BRICKS IN FORTIFICATION WALL (Drawing 1)



NOTION REGIONAL SURVEY
BRICKS IN FORTIFICATION WALL (Drawing 2)

Fig. 4 Elevation and section of drain in north wall of fortifications

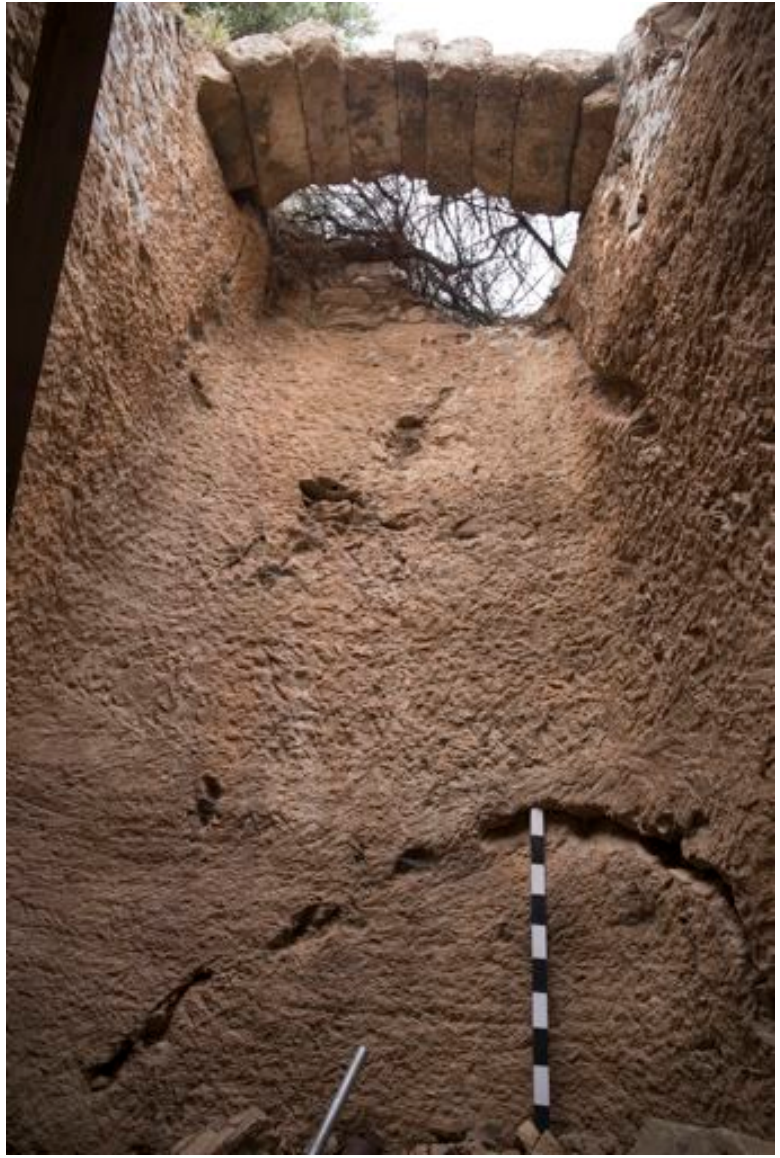


Fig. 5 View of interior of cistern



Fig. 6 Section of interior of cistern, produced by laser scan



Fig. 7 View of quarry on west promontory



Fig. 8 Selection of late Hellenistic and Augustan sherds



Fig. 9 Orthophoto of Heroon and adjacent areas



Fig. 10 Thermal image of center of city