

# **The Archaeological Survey and the Graphical Documentation of the Excavation in Monastiraki Square for the Athens Metro Construction – Excavation Site B'**

**Georgia ANAGNOSTOPOULOU, Greece**

## **Key words:**

## **SUMMARY**

Since the beginning of the project, the Construction Technical Works, for the Metro of Athens in Monastiraki Square, demanded the archaeological excavation of two large sites. In the Site A' area there was the construction of the Metro's new Station and in the Site B's area the connection of ISAP's old train Station with the new Metro Station.

The excavation site B', was 490 m<sup>2</sup> in area and reached the 5,5 m – 7,5 m in depth. The excavation work started on October of 1994 and completed on July of 2001. The excavation team consisted of seven archaeologist, three conservators, one architect, one designer, three surveyors (in turn) and the necessary work-tank.

The archaeological survey work was executed by a digital theodolite but all drawing and filing work was made by the traditional method (with pencil and ink).

The architectural documentation of the excavation of Site B' in Monastiraki Square contains, among others the plans (900 A3) and the elevations of all surveyed archaeological finds filing in chronological order and the final drawings (168 A0) filing in archaeological period order.

# **The Archaeological Survey and the Graphical Documentation of the Excavation in Monastiraki Square for the Athens Metro Construction – Excavation Site B’.**

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## **1. GENERAL REMARKS**

Since the beginning of the project, the Construction Technical Work for the Metro in the Monastiraki Square of Athens demanded the archaeological excavation of two large sites. In the Site A’ area there was the construction of the Metro’s new station and in the Site B’s area was the connection of the ISAP’s old train station to the new Metro station. (P1)

The Ministry of Culture appointed the Ephorate of Byzantine Antiquities as supervision manager of the archaeological excavation, given the fact this authority is competent for all interventions in the Monastiraki Square. The execution was dedicated and co-financed by the Attiko Metro Company and was realized from the Consortium of Athens Olympic Metro.

## **2. THE EXCAVATION FACTS**

The Monastiraki Square is in the hub of the city and its commerce, with non-stop traffic of people towards the access to the existing train station, which remained open during the whole period of the works. Consequently it was not possible to start the excavation on the whole of the requisite surface. Initially, the area size of excavation site B’ was that of 210,35 m<sup>2</sup>. The final total surface was that of 490 m<sup>2</sup>.

The archaeological excavation in all trenches had to exhaust every alluvium layer, as the depth of the technical works was much larger than the anticipated level of the natural bedrock (kimilia<sup>1</sup> of 5,50m up to 7,50 m below the Square’s surface).

## **3. THE TIME SCHEDULE**

The archaeological excavation in the site B’ of the Monastiraki Square started on October of 1994 and completed on July of 2001, when the whole archeological area was given over to Attiko Metro for the Technical Work for the construction of the connection to the new station. The initial estimated time for the completion of the works of the first trench was 6 -12 months. Naturally, there was a lot of pressure to expedite the works given the key spot of the area, as much from the Company of Attico Metro as from the Partnership, in order to keep the time schedule. On the other hand the amount and importance of the archaeological finds, as well as the request of the Ephorate of Byzantine Antiquities to perform an ultra pedantic inventory and documentation, conflicted with the ordinary methods of the works for a

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<sup>1</sup> This is the name of the natural rock of the area. It consists of a type of rock similar to chalk.

redeeming excavation that had to be completed the soonest possible. In particular, the decision to conserve in site a large section of the archaeological area resulted to the modification of the technical project and the planned time schedule. Apart from the above, an important factor that affected the works time program were the technical difficulties, like the amplitude of surface waters and the unstable ground on the sides that, either demanded time-consuming supporting constructions, or made the excavation difficult. In some areas where there was too much water we had to constantly pump the waters out throughout the excavation research.

#### **4. THE EXCAVATION TEAM**

From its experience at the excavation of the site A' of the Monastiraki Square and the excavations in other central areas of the town (the Mitropoleos Square), the 1<sup>st</sup> Ephorate of Byzantine Antiquities estimated that they initially had to organize an excavation team with three archaeologists, three conservators, one architect, one designer and the necessary work-tank. With the gradual expansion of the works, the team was reinforced with four more archaeologists. Each one was in charge of one section of the excavation area. The excavation in those sections was not moving too fast, especially because of the particularity of the finds appearing each time.

As for the topographical support, it was organized from the Consortium of Olympic Metro with the creation of a special survey group that was almost exclusively assigned with the archaeological surveys, not only for the specific site, but also for all the other excavations made for the Metro. Three to five surveyors, depending on the needs, that covered the needs of all the archaeological excavations, staffed the section related to the construction of the Metro.

#### **5. ARCHAEOLOGICAL SURVEY METHODS AND ORGANIZATION**

The archaeological survey work was always executed by a digital theodolite and in addition, in special cases, with the traditional items of measuring tape and the leveling-tire. The topographical section completed, apart from the surveying, the printing of the surveyed points and altitudes. The printing of the surveyed points was always carried out in a transparent and non-dilatable paper to avoid changes in dimensions. (P3)

On a daily basis, the archaeologists were determining the finds of the trench that were to be surveyed and set the priorities. The architect of each site would notify the Topographic Section of the consortium and the next day a surveyor would be available for all the necessary time. One of the workers experienced with this kind of works, was always appointed assistant of the surveyor, in order to accelerate the archaeological survey. Although there were many attempts to program the duration of the survey this was proved to be impossible, as there were always some new finds which we had to immediately plot in order to remove them.

The architect was responsible for all the plotting work in the building site. The rough drawings were sketched on site, just before the plotting. The possibility we had to accurately survey the finds allowed us to picture the finds even with the roughest sketch without the exact dimensions but with a considerable amount of details. In general, every survey contained a large number of data for the following reasons: (P2)

- The extension of the trench by new excavation sections and in different time, when the excavation in the contiguous sections either was completed or was in a lower level was making the connection of the finds difficult. The accuracy of the survey and the amount of the surveyed points sometimes made the connection possible not only in large walls but also in the thin earthen floors.
- The density of the finds, their overlapping and the use of sections from previous constructions also made our exploration of archaeological phases. There were many times when the data we had surveyed by minimal alterations was effectively helping to clarify the phases.
- Because of the limited time, we were only able to process the material (the final drawing of the ground plans, the cross-sections and the side views) after all the finds were removed from the archaeological site. Often during the processing there was the need for further clarifications in details of the constructions, the role of which was not clear during the excavation. So, there were many times that proved ex post facto that the large number of the surveyed points was necessary for the further processing of the material.

After the end of each survey we would photograph analytically every one of the findings.

## **6. THE METHOD AND THE ORGANIZATION OF THE DRAWING**

Quickly enough, we were able to make drawing of the archaeological survey.(P4) In correlation with the relevant pictures we would draw the surveyed finds, by pencil, in a scale of 1:20, per sections in a non-dilatable A3 paper for reasons of easy filing.

We marked the most important altitudes (the depths of the floors, the supporting depth and the findings of the upper surface) in order to have direct confirmation along with the data obtained by the archaeologists. In the same sketch were also marked the photo shoots corresponding to each surveying.

Regularly (every ten days) we recomposed the amount of all recent surveyings in a scale of 1:50 so as to form a sort of calendar of the site B' situation. Those ground plans, although consistent as for the archaeological phases, proved to be very useful for the archaeologists as for the processing and the correlation of the data. (P5)

When an excavation phase was completed, there would follow a first process of the material with the aim to form an archaeological report, which was followed by the relevant order of

the sketches. The general ground plans of the archaeological phases were reviewed and completed many times during the excavation. (P6) And only after the latter was totally completed it became possible to finally draw all the archaeological phases of the contiguous trenches. The draughtsman of the excavation team performed the final drawing in ink of all the sketches. (P7)

Apart from the sketches of the stationary findings (stonework, floors etc) the plotting and drawing substantiation of the mobile findings of ceramic art (oil lamps, pots etc) was also realized. This work was exclusively performed by the traditional method (tooler, depth-meter etc) and the drawing was made with pencil and ink. (P8)

## **7. FILING**

The designer of the excavation team was responsible for the organization of the file (photos, rough sketches, drawings, calendar and classification). The calendar, apart from keeping a written file, also included a drawing record, i.e. the placement on a 1:50 setting of a limited number of archaeological surveying, each one colored differently according to the date it was surveyed. (P9) This method was a quick solution when we would search information. Because of the large number of the archaeological finds and the lack of digital means of filing it wasn't possible to file the drayed material in any other way (for example according to the type of each find or the archaeological layers etc).

## **8. AVAILABLE MEANS**

The excavation team always determined the necessary means for the integral execution of the works. In general they were provided in full. For the archaeological Site B of the Monastiraki Square we used the same method as the one in previous archaeological sites of the excavations for the Metro. In particular we used digital equipment to survey and print the points and the traditional method to photograph, draw and file them.

Of course an organization by means of electronic computer would simplify the work, each time we had to reconsider the archaeological phases of the drawings or to organize the finds by type and to correlate the layers of the floors, the stonework etc.

Furthermore a computer system to file and draw the finds would offer us much more possibilities concerning the keeping and preserving of all this drawing material and its posterior process.

## **9. BRIEF ASSESSMENT**

As for the final results, it was generally very good from an esthetic point of view as well as in its substance that is, concerning the documentation, the accuracy of drawing and its contribution to the archaeological research.

Furthermore, the excellent cooperation between the members of the excavation team, as well as the trust and appreciation from the part of the 1<sup>st</sup> Ephorate of Byzantine Antiquities had a determined part in the quality of the work, the documentation and processing of the material. Given the fact that the evidence exist, the next remaining step is to process in a more analytical way the material and to promote the knowledge that resulted from the archaeological research towards the scientific community that is interested in the past of Athens city.

## **BIOGRAPHICAL NOTES**

**Georgia Anagnostopoulou.** Born in Athens (1965)

### *Studies*

- Architect Engineer Degree in National Technical University of Athens NTUA(1989)
- Diplome d'Etudes Superieures Specialises, IFU-Paris 8, in Urban Design (1991)
- Certificat d'Etudes Approfondies, School of Architecture Paris Villemin, in Houses Architecture (1991)
- Diplome d'Etudes Approfondies in History of Art in IFR, Paris I, Sorbonne (1992)

### *Professional Experience*

- Archaeological survey and drawing of monuments for the Study of History of Architecture in NTUA - prof. H. Bouras (1985–1988)
- Practice (stage) for three months in Architecture Service of Ministry of Culture in Paris (1990)
- Collaboration with Arch. B. Schoebel architecture office in Paris (1992)
- Employment, for seven months, in Archaeological Service of Ministry of Culture in Athens (1994)
- Employment as a chief architect at the archaeological excavation of the site B' of Monastiraki Square, to the company Olympic Metro of Athens (1994-2002)
- Permanent employment to the Municipality of Athens, Section of Traditional Buildings and Monuments (since 2002 till now)
- Other private projects (1998,2003)

## CONTACTS

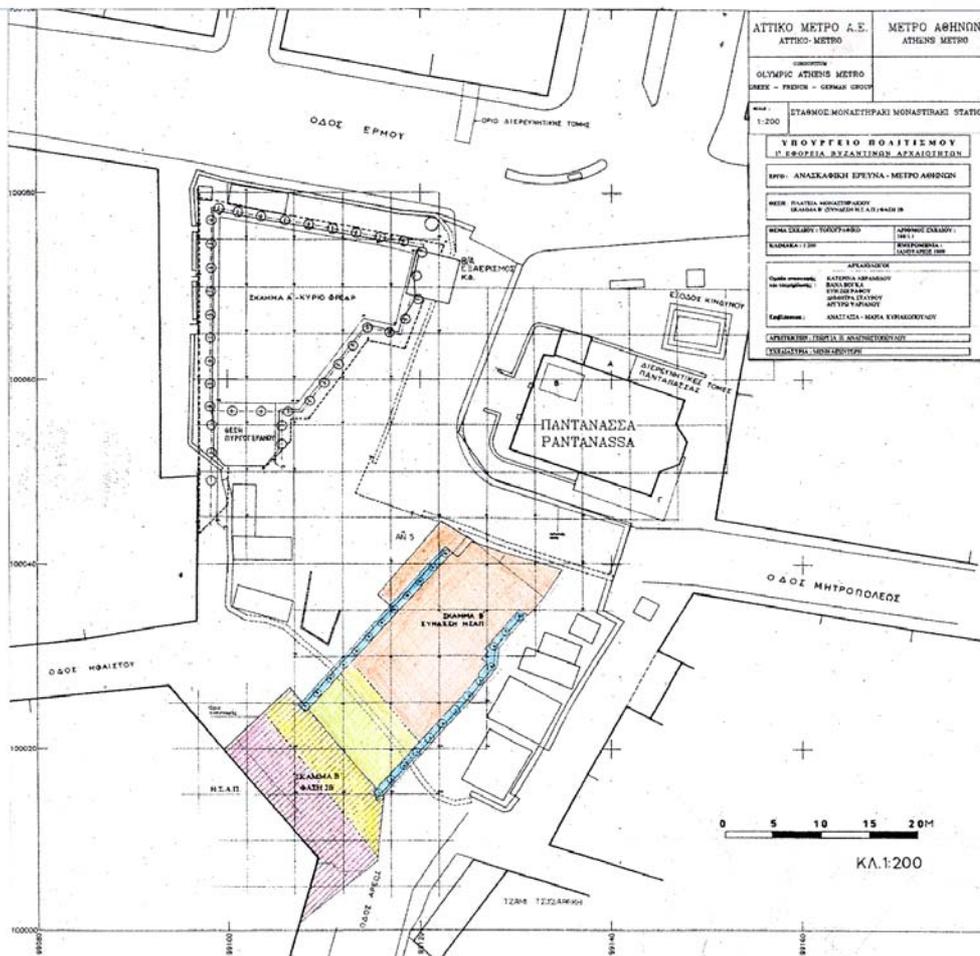
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**ARCHAEOLOGICAL SURVEYS AND ARCHITECTURAL DOCUMENTATION OF EXCAVATION MADE AT MONASTIRAKI SQUARE FOR THE ATHENS UNDERWAY CONSTRUCTION - EXCAVATION SITE B'**  
**1<sup>st</sup> EPHORATE OF BYZANTINE ANTIQUITIES, MINISTRY OF CULTURE – ATTIKO METRO**

P.1.

GENERAL PLAN

<b>TOTAL AREA = 490 m<sup>2</sup></b>	<b>TOTAL ARCHAEOLOGICAL FINDS : 1050</b>	<b>EXCAVATION TEAM</b>
 : Started in 10/1994	<b>Floor surfaces, Pavements, Piles of stones : 535</b>	<b>Archeologists : 7</b>
 : Started in 01/1995	<b>Masonries, Constructions : 400</b>	<b>Conservators : 3</b>
 : Started in 10/1995	<b>Aqueducts, Dikes : 71</b>	<b>Architect : 1</b>
 : Started in 07/1997	<b>Earthenware jars, Circular structures : 32</b>	<b>Designer : 1</b>
 : Started in 12/1997	<b>Wells : 12</b>	<b>Surveyors, (alternately) : 3</b>
<b>Finished in 07. 2001</b>		
 <b>AN 5 = 25,35 m<sup>2</sup> (Started in 1998)</b>		



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P.2.

PHOTOGRAPHS OF ARCHAEOLOGICAL FINDS



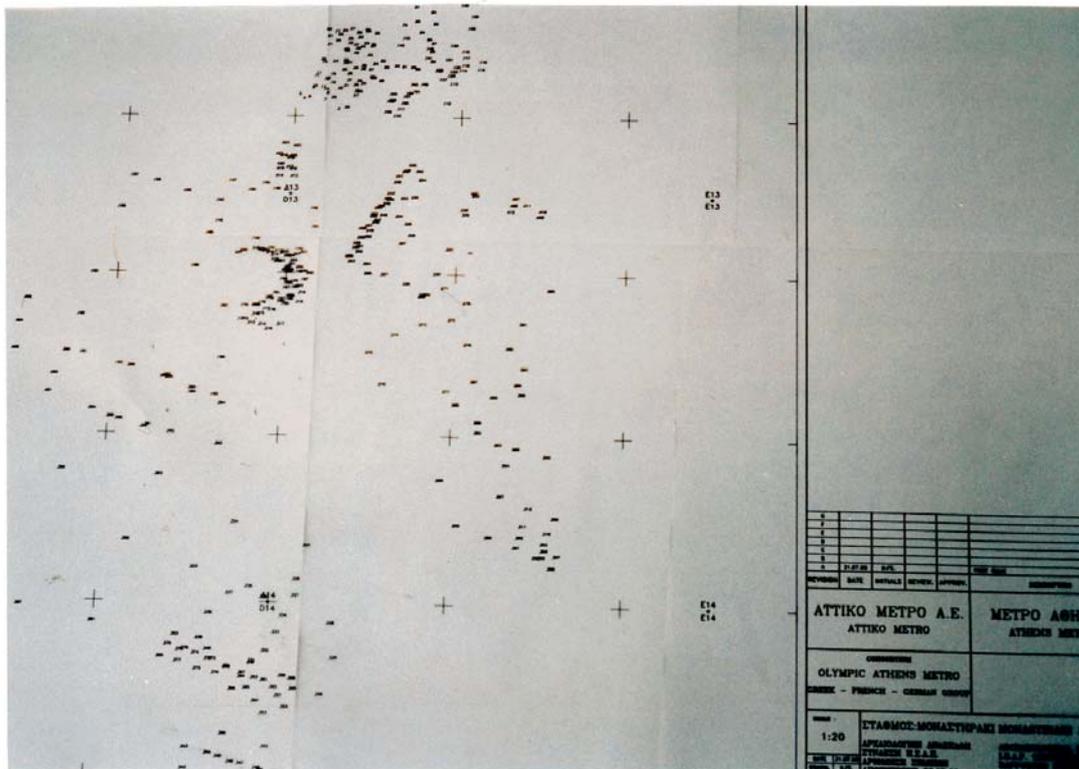
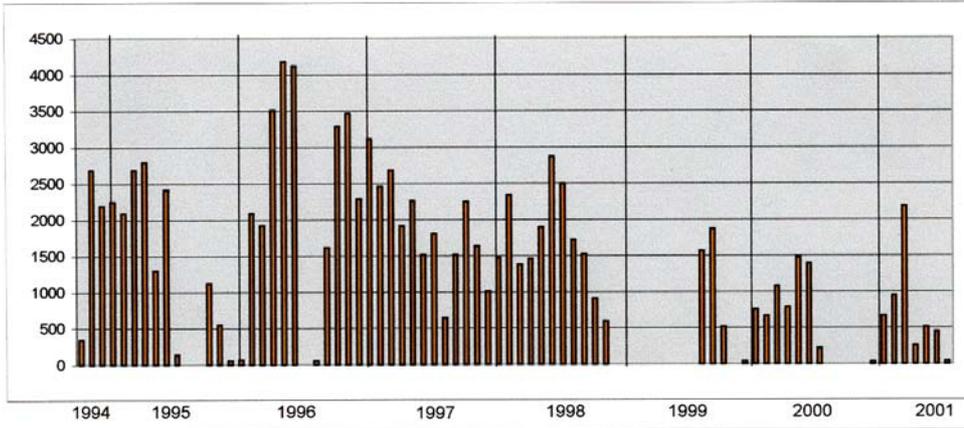
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p.3.

I. GRAPH OF SURVEYED POINTS PER MONTH,

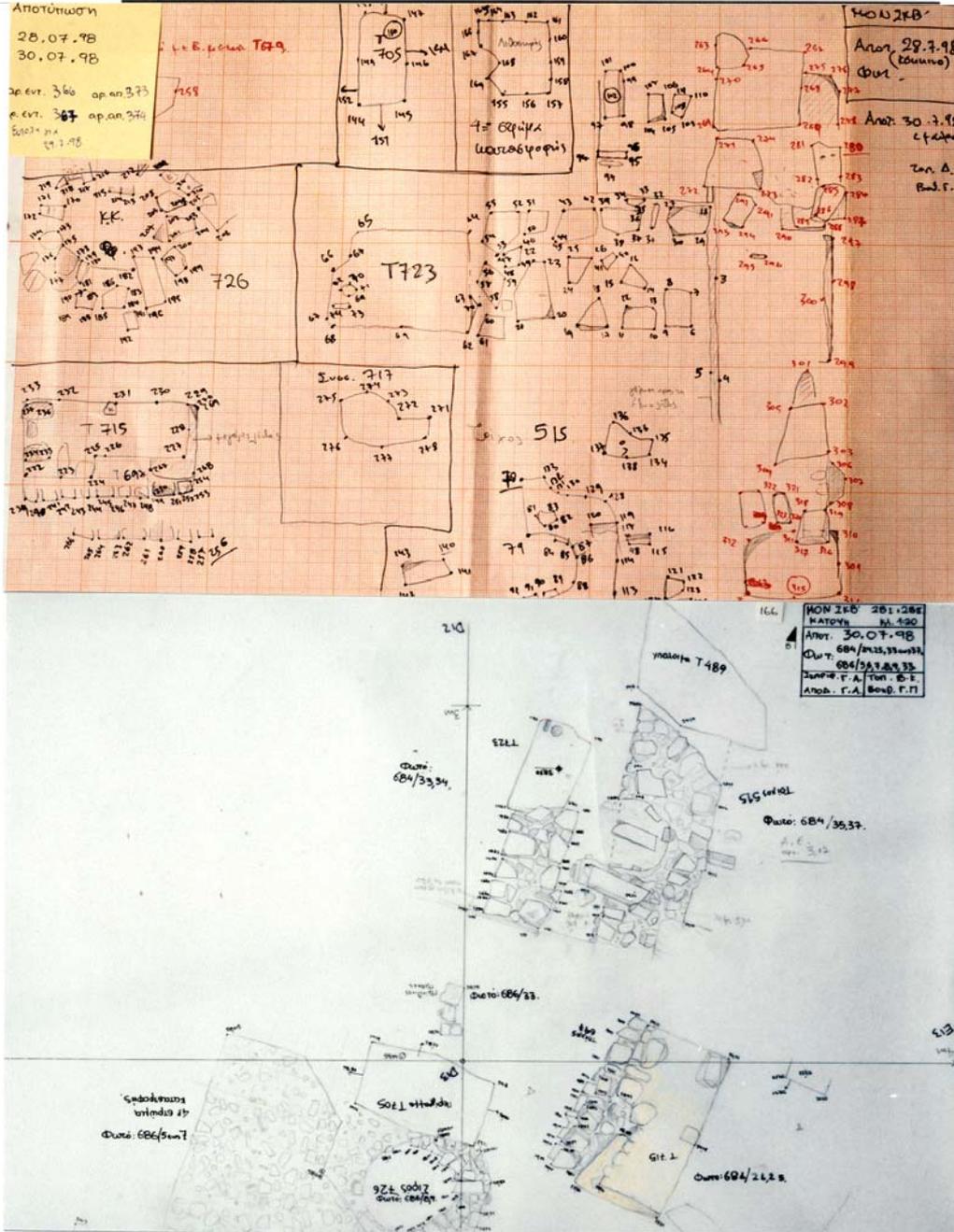
II. TOPOGRAPHICAL PLAN OF SURVEYED POINTS



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1<sup>st</sup> EPHORATE OF BYZANTINE ANTIQUITIES, MINISTRY OF CULTURE – ATTIKO METRO

P.4. I SKETCHES, II PLAN WITH PENCIL IN SCALE 1:20



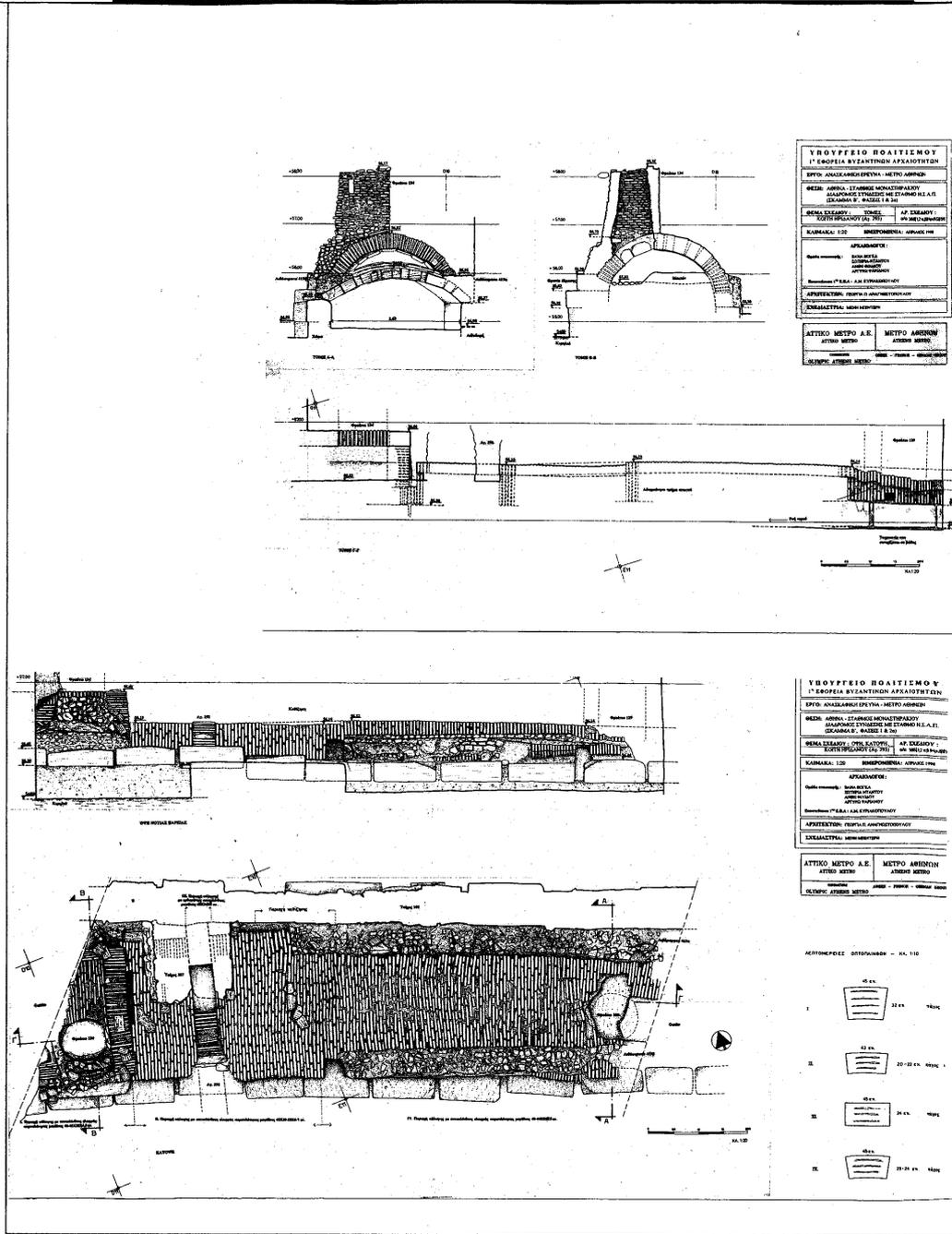




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**P.7.**

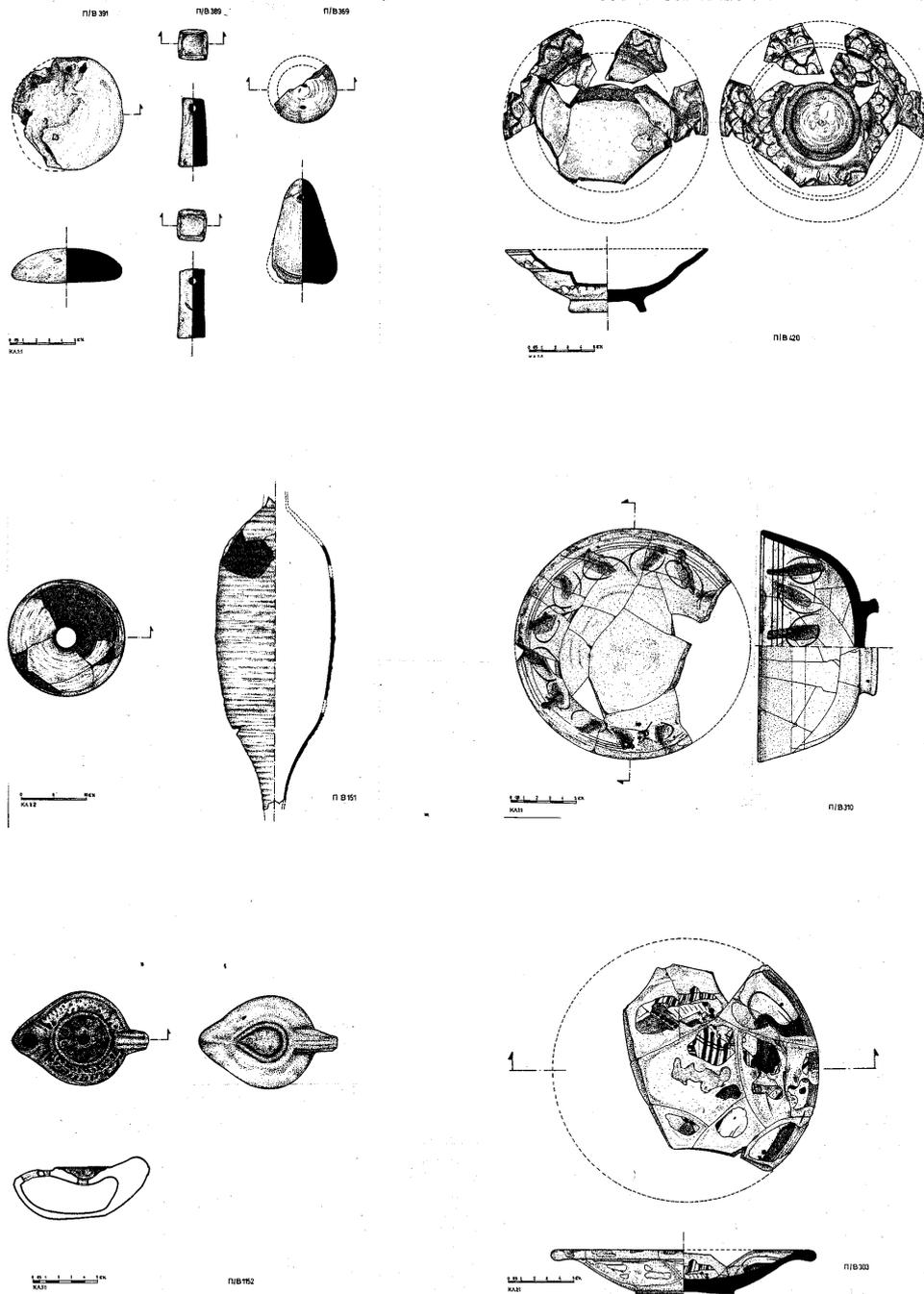
**DETAILS OF THE COVERING CONSTRUCTION OF IRIDANOS RIVER**



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**PLANS OF CERAMIC ART FINDS**



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P.9. DRAWINGS OF ARCHAEOLOGICAL SURVEYS COLORED BY CHRONOLOGICAL ORDER

