



## Recent Work (2018–2019) at Porsuk-Zeyve Höyük in Southern Cappadocia

Claire Barat, Emine Köker Gökçe, Jean-François Pichonneau, Vivien Mathé, Guillaume Bruniaux

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# The Archaeology of Anatolia, Volume IV

*Recent Discoveries (2018–2020)*



Edited by

Sharon R. Steadman

Gregory McMahon

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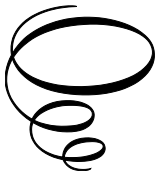
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## CHAPTER ELEVEN

### RECENT WORK (2018–2019) AT PORSUK-ZEYVE HÖYÜK IN SOUTHERN CAPPADOCIA

CLAIRE BARAT, EMİNE KÖKER GÖKÇE, JEAN-FRANÇOIS PICHONNEAU,  
VIVIEN MATHÉ, AND GUILLAUME BRUNIAUX

The Porsuk-Zeyve Höyük project (Niğde prefecture) in southern Cappadocia is the oldest French excavation still in operation in Turkey. The archaeological site is situated on Zeyve Höyük, which belongs to the small southern Cappadocian village of Porsuk (in the Niğde province, 14 km east of the subprefecture of Ulukışla), and rests at the base of the central part of the Taurus Mountains (Bolkar Dağları) (Fig. 11-1) (Dupré 1983: 13; Pelon & Dupré 1987: 14). It is located 40 km from the Cilician Gates (Gülek Boğazı), the famous pass between the Anatolian plateau and Cilicia (Lebreton 2013).

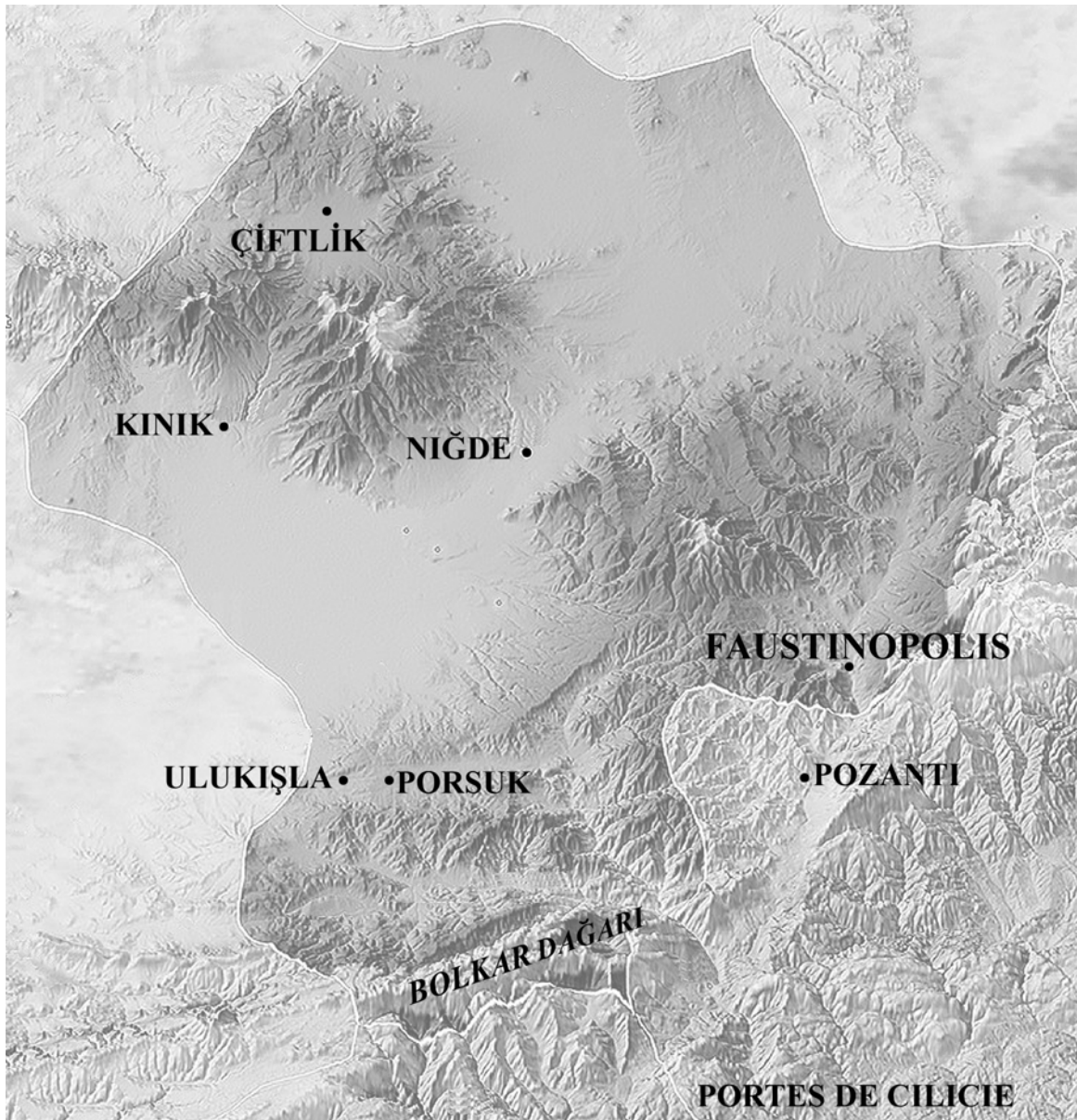


Figure 11-1. Map of the archaeological sites in Niğde province (Jean-François Pichonneau).

The site of Zeyve is a tabular höyük, 400 × 180 m in size, situated at an average elevation of 1300 m asl, with an area of 4 ha (Dupré 1983: 13; Pelon and Dupré 1987: 17). The höyük consists of a conglomerate table upon which rests 8 m of archaeological strata (Dupré 1983: 13; Pelon and Dupré 1987: 18) (Fig. 11-2).

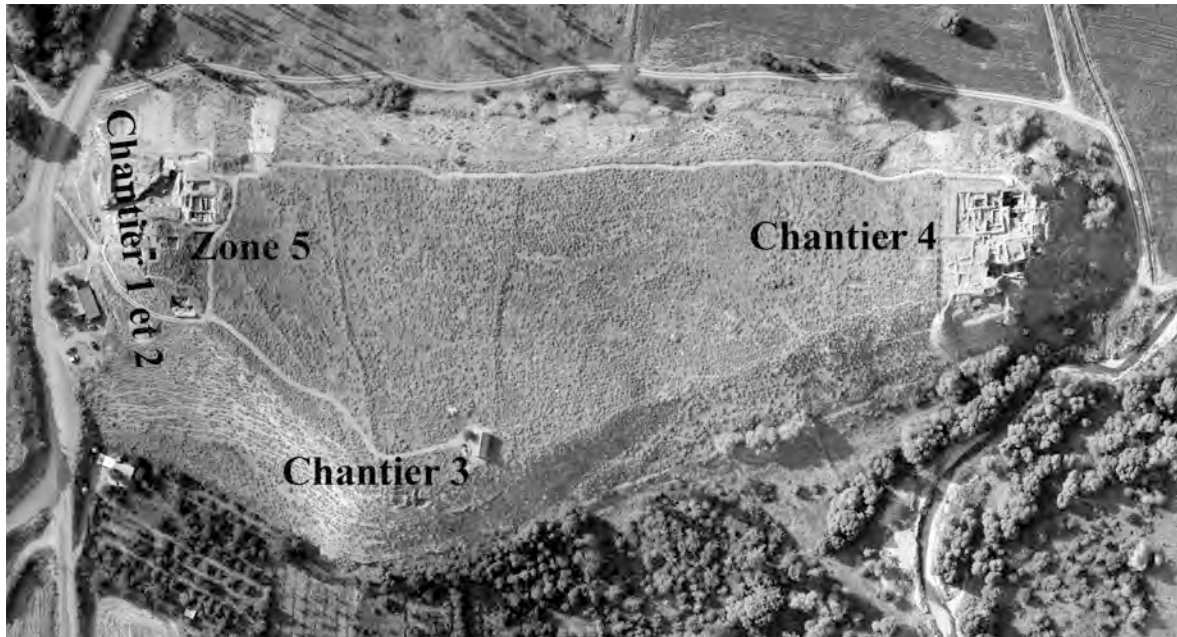


Figure 11-2. Aerial view of the Zeyve Höyük site (DAO Jean-François Pichonneau).

The first to identify the site of Zeyve Höyük (without giving it a name) in Porsuk village was the Scottish archaeologist W.-M. Ramsay. He visited the area in 1891 and again in 1902 (Ramsay 1903: 401–403; Dupré 1983: 13–14; Beyer 2012: 47). He identified an archaeological site thanks to the presence of marble and cut stones, but he was not able to describe more than that due to the presence of crops. Having observed and deciphered three milestones in the Porsuk cemetery, Ramsay identified the site as *Colonia Faustianiana*, founded in 176 CE by the Roman emperor Marcus Aurelius, at the place where his wife, Faustina the Younger, died on their return from Syria (Ramsay 1903: 401–403; Pelon and Dupré 1987: 16).

The Swiss Assyriologist and Hittitology pioneer E.-O. Forrer visited the site in 1926 (Forrer 1937: 146–149; Dupré 1983: 14, 127–128; Pelon and Dupré 1987: 16; Beyer 2012: 47) and identified Hittite pottery fragments as “pre-Roman,” as well as the remains of a vaulted structure which appeared to be Hittite. Forrer identified the site as Dunna (from Hittite texts), Tunna (from Assyrian sources), Dana (from Xenophon, *Anabasis* 1.2) and Tynna (from Ptolemy<sup>1</sup>), next to the site of Faustinaupolis, founded by emperor Marcus Aurelius in 176 CE (Forrer 1937: 146–149; Dupré 1983: 14, 127–128; Pelon and Dupré 1987: 16). After that, the site of Zeyve Höyük was not investigated by archaeologists during the first half of the 20<sup>th</sup> century.

A new opportunity occurred in 1960 when a bulldozer, while building a track giving access to the neighboring gypsum quarry, cut the western end of the höyük and substantially shaved the top off of it. The action exhumed a big sandstone block bearing a Neo-Hittite hieroglyphic inscription (Dupré 1983: 14; Pelon and Dupré 1987: 17). The inscription was brought to the Niğde museum in July 1960 (Beyer and Laroche-Traunecker 2017: 230, n. 6), and it was there that E. Laroche (Strasbourg University) came to know of it (Beyer and Laroche-Traunecker 2017: 230). After becoming director of the French Institute of Archaeology in Istanbul in 1964, Laroche took steps to obtain excavation permission from the Turkish authorities for the site of Zeyve Höyük. Finally, after a survey campaign in 1968, at Laroche’s request, O. Pelon took responsibility for the archaeological mission of Porsuk-Zeyve Höyük in 1969 (Dupré 1983: 14–15; Beyer and Laroche-Traunecker 2017: 230).

The Neo-Hittite hieroglyphic inscription discovered at Zeyve Höyük in 1960 mentioned General Parahwaras, who was pleased with himself due to the favor of the god Sarmas and that of King Masaurhisas; the inscription was published in 1969 (Hawkins 1969: 99–109; Dupré 1983: 14) and dated to the second half of the 8<sup>th</sup> century BCE (Beyer 2012: 47). The discovery of the inscription drew the attention of archaeologists to the Porsuk region. J.D. Hawkins visited the region after the discovery of the inscription, and later, P. Meriggi (Padua University), visited during his third trip to Anatolia in 1962 (Meriggi 1963: 283–284). Meriggi mentioned the discovery of a Latin inscription on a now missing funerary altar (Meriggi 1963: 284) bearing the epitaph of the Roman centurion Titus Sempronius Augustinus and dated to the reign of Marcus Aurelius (161–180 CE) (Tibiletti 1963: 300–303; Pelon and Dupré 1987: 16).

In 1969, excavations began at Zeyve Höyük under the direction of Pelon, who opened three areas (called “Chantiers”) (Fig. 11-3): Chantier I, at the foot of the höyük, where a Late Roman building was brought to light;

<sup>1</sup> Based on the mention of Tynna in the itinerary found on a grave stone (*CIL*, VI, 5076).

Chantier II on the upper western side of the höyük, partially damaged by a bulldozer in 1960, where a defense system was discovered; and Chantier III, where an exploratory excavation was undertaken on the southern side of the site in 1968, which revealed stone foundations of the surrounding wall. During this 1969 campaign, fortification walls and a gate system, known as the “Hittite postern,” were removed. They are the most representative remains of the site. Pelon led excavations at Porsuk from 1969 to 1977 (Pelon 1970, 1972, 1976, 1978, 1982), then from 1986 to 1989 (Pelon 1992), and then in 2002, totaling 15 campaigns (Pelon 2005; Beyer 2012: 47). During this period, Chantier IV was opened at the northern end of the site, where Hellenistic and Roman remains and foundations of gypsum chambers were brought to light.

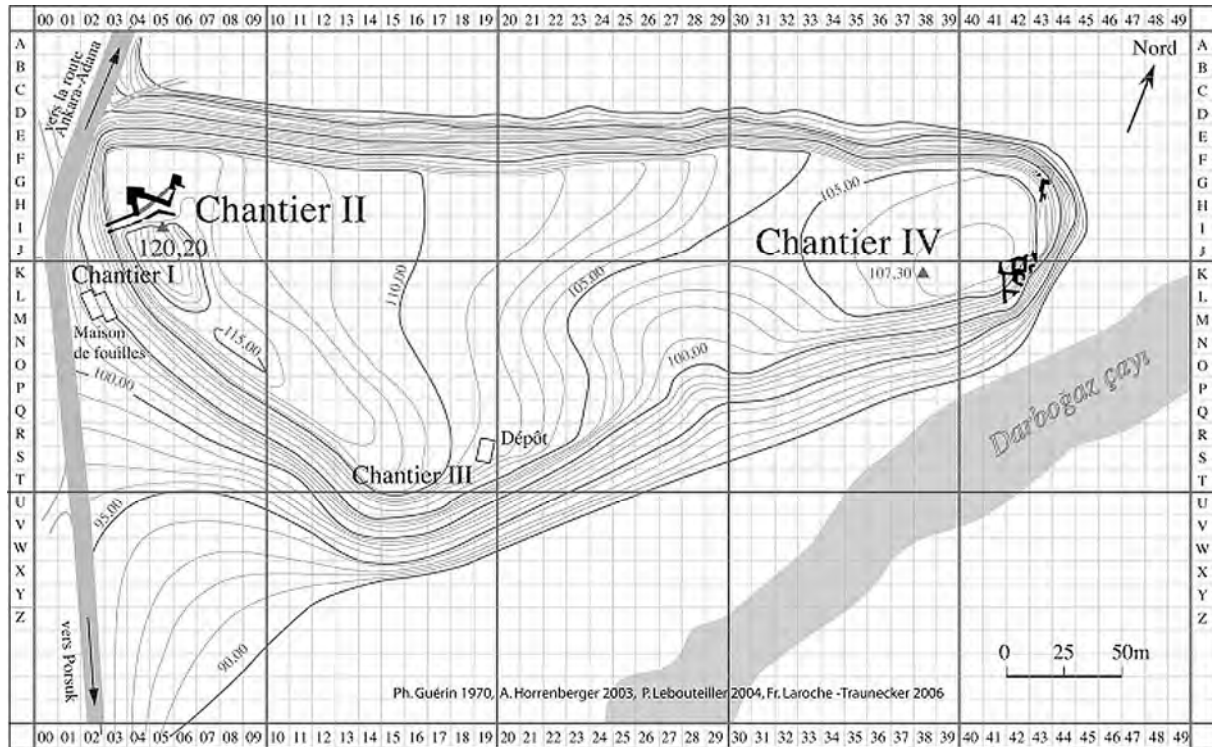


Figure 11-3. Map of the localization of the different “Chantiers” (excavation areas) at Zeyve Höyük (after Beyer 2012: 47, Fig. 3).

Professor Dominique Beyer (Strasbourg University) succeeded Pelon in 2003 and led 13 archaeological campaigns up to 2015 (Beyer 2006, 2007, 2008, 2009, 2011; Beyer et al. 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2012, 2013, 2014, 2015, 2016), continuing the excavations in the four areas previously opened by Pelon. In 2016, Claire Barat, Associate Professor at Valenciennes and Hainaut-Cambresis University, now Hauts-de-France Polytechnic University, became the director of the Porsuk-Zeyve Höyük excavation, with the collaboration of Dr. Emine Köker Gökçe, Hacı Bektaş Veli University, as assistant director; they led their first campaign in 2017 (Barat and Köker Gökçe 2019). This chapter presents the 2018–2019 work at Porsuk-Zeyve Höyük (see also Barat et al. 2020).

## DIGITAL INVENTORY OF THE ARCHAEOLOGICAL DEPOT AND ARCHIVES

One of the most urgent missions of the Porsuk-Zeyve Höyük archaeological team was the inventory of the archaeological depot. This depot was built in 1970–1971, at the present excavation house location (Pelon 1972: 303–304), during the first campaigns led by O. Pelon. It was destroyed in 1984 by mine blast fragments from the neighboring gypsum quarry (Pelon 1992: 306–308). A new depot was built out of reach of the mine blast fragments, in the southern area of the höyük (Pelon 1992: 309, fig. 6). This depot contained all the mission’s equipment and some of the archaeological objects (architecture fragments, basalt millstone, and human bones). The ceramic material, initially stored on the site, was brought to the Niğde museum in 1977 (Pelon 1992: 306, n. 8). The new depot, consisting of two rooms, continued to be used under the direction of Beyer (2003–2015). A new excavation house was built in 1993 on the western slope of the höyük, at the location of the former depot; one of its rooms was designated as a depot, mainly for small objects.

During these forty-five years of archaeological excavations, no inventory of the excavation material had been undertaken. A systematic and computer-based inventory of the depot began in 2018, under the direction of J.-F. Pichonneau, an archaeologist in the Regional Service of Archaeology at the Regional Directorate of Cultural Affairs of Nouvelle Aquitaine (Bordeaux), in the French Ministry of Culture and Communication. The mission applied the inventory system following the norms of the French Ministry of Culture and Communication (Simon-Millot 2012). The objects were repackaged, in accordance with Niğde museum standards, in integrated plastic boxes, type Curver

Unibox 20 lt (432 × 350 × 165 mm)–29 lt (432 × 355 × 245 mm). These new containers were labeled using a continuous numbering system, associated with one or more forms detailing their contents. The ceramic material was repackaged in plastic bags. The faunal material was separated from the ceramic material and also repackaged in plastic bags. The same procedure was applied to the other material, whatever its nature. Human fragments were treated and packaged separately. The aim of the digital inventory is to facilitate access to excavation material for future researchers.

In addition to the transition and transmission of the digital data during the change of directorship from Beyer to Barat in 2015–2016, a number of the Pelon and Beyer mission excavation archives were also stored in the research laboratory Archimède (UMR 7044, CNRS–Strasbourg University) (Beyer and Stahl 2015: 22–24), and not digitized. Thanks to collaboration between the research laboratory CALHISTE (EA 4343, Valenciennes and Hainaut-Cambrésis University) and Archimède laboratory, an exhaustive digitization of the Porsuk-Zeyve Höyük excavation archives was undertaken in 2018. A total of 18,901 documents were listed, classified, digitized, and indexed (1208 black and white or colour photographs, 377 negatives, 1058 slides, 1528 drawings, and 14,730 digital photographs). The destination of these digitized documents is a future open access database (Zanella et al. 2017).

## MAGNETIC SURVEY<sup>2</sup>

In 2018, a magnetic survey covered an area of 3.2 ha, i.e., the whole of Zeyve Höyük, except for the areas opened up by the Chantier II, Chantier II sud, and Chantier IV excavations (see Fig. 11-4). The aim of this non-invasive survey was to map the remains of buried but near-surface archaeological structures, and thus to highlight the organisation of urban development.

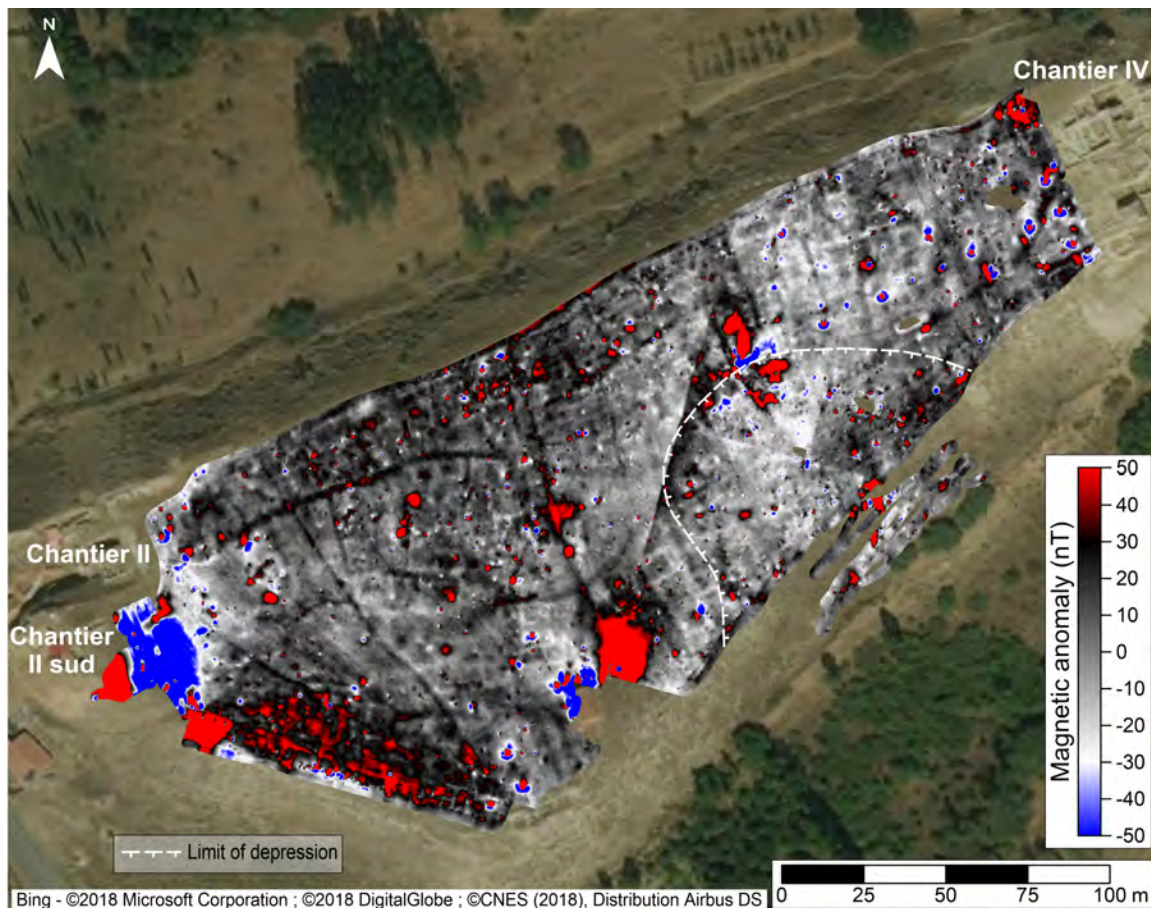


Figure 11-4. Magnetic anomaly map of Porsuk-Zeyve Höyük (Guillaume Bruniaux and Vivien Mathé).

The site is located at an altitude of 1300 m asl, shaped as an elongated hillock 16 m high, 400 m long (east/west) and approximately 180 m wide (north/south). The höyük, which dips slightly to the east, is located at the confluence of two rivers flowing to the northeast. The slopes are steep, except for a depression in the southeastern part of the site.

According to the geomorphological study by Kuzucuoğlu (1997), Zeyve Höyük is composed of a thick layer of conglomerate resting on a gypsum substrate. This conglomerate is covered by 8 meters of archaeological deposits. The origin of the conglomerate seems to be fluvial (sediments laid by torrential water flows) and gravitational

<sup>2</sup> This section was contributed by V. Mathé and G. Bruniaux.

(erosion/colluvial deposits). The petrography of the conglomerate is heterogeneous but associated with rocks characterizing the Bolkar Dağları massif located south of the site. Its petrographic composition can be subdivided into two categories: magnetic rocks (ophiolites, serpentinites, granodiorites) and non-magnetic rocks (marble, quartzite, gypsite). These different rocks can be found in archaeological layers and on the surface.

The presence of materials with magnetic properties on or in the ground causes a local deformation of the earth's magnetic field called a magnetic anomaly. Most archaeological structures that create associated anomalies are:

- burnt or heated structures such as hearths, kilns, and ceramic heaps;
- depressions such as ditches, pits, and postholes;
- wall foundations composed of stones that have a weaker magnetic signal than the ground (e.g. quartzite, gypsite, and limestone);
- wall foundations composed of basic and ultra-basic rocks (e.g., basalts, gabbros, and serpentinites) which have a high natural magnetization.

Magnetic prospecting mainly highlights magnetic anomalies less than 1 m below the surface because the magnetic field strength decreases rapidly with the distance between the source and the sensor.

The magnetic survey protocol employed on Zeyve höyük uses a GSMP-35G magnetometer (GEM System) consisting of two potassium vapour sensors with a sensitivity of 0.3 pT (manufacturer's reference). The sensors are positioned in the horizontal plane, 50 cm apart and approximately 30 cm above the ground. The magnetometer records the magnetic field at a rate of 20 measurements per second. The measurements are positioned by a GPS antenna placed above the sensors. The acquired magnetic data are processed (Bruniaux et al. 2017) and then interpolated to a  $10 \times 10$  cm grid using the kriging method.

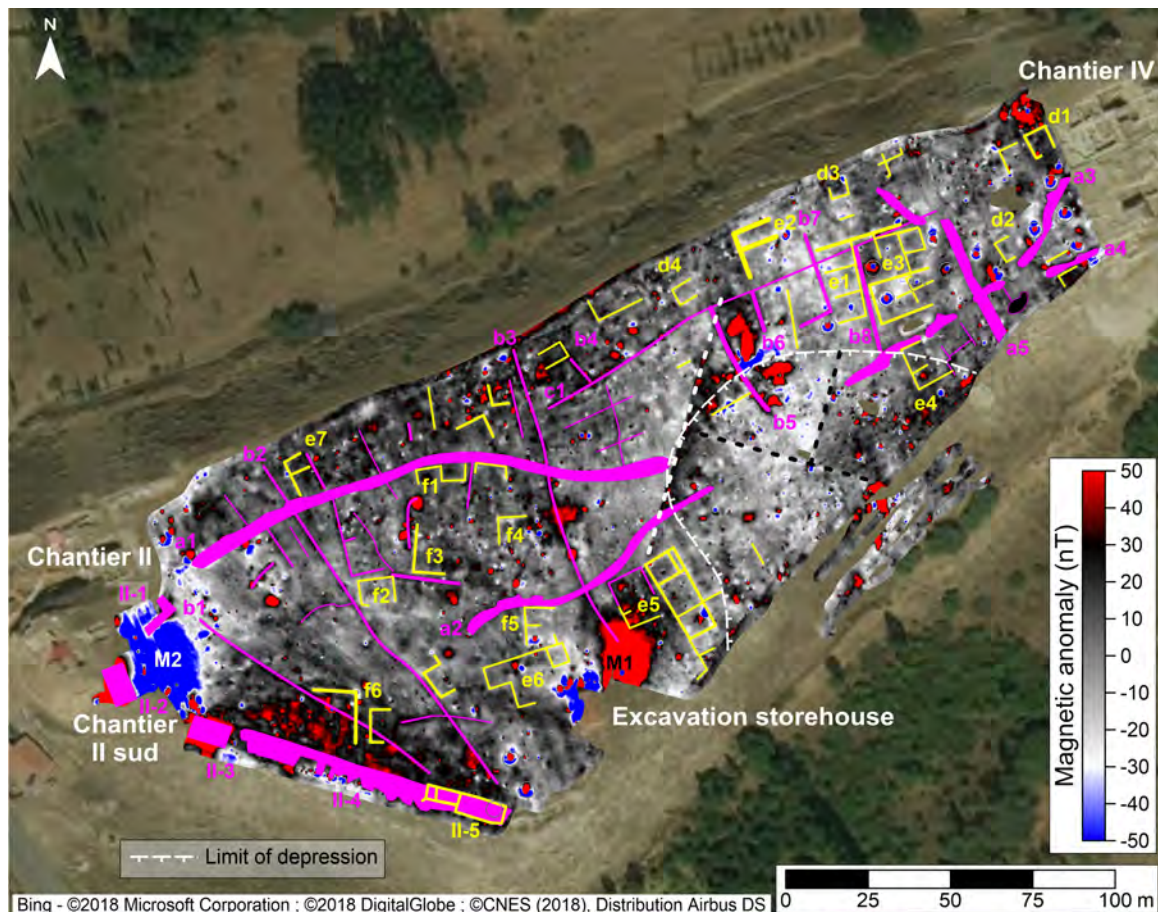


Figure 11-5. Identification of the main anomalies visible on the magnetic anomaly map (Guillaume Bruniaux and Vivien Mathé).

The various magnetic disturbances and features delineated in the acquisition protocol have been listed in Fig. 11-5. It is essential to begin the list of anomalies by isolating those that are not of archaeological interest. This is notably the case for a set of high intensity magnetic dipoles forming parallel and perpendicular straight lines (Fig. 11-5: black circles). These magnetic sources correspond to metal stakes marking an old square grid (10 m square). The iron structure of the excavation deposit and the numerous pieces of metal present in the vicinity of the construction generate a very intense anomaly (M1) extending over a radius of several tens of meters. A second very intense

anomaly (M2) extends to the east of Chantier II sud. It originates both from the fence surrounding the excavation area and from the baked brick wall of the fortification.

To these anomalies created by highly magnetic and well identified sources, one must add the disturbances created by the acquisition protocol and the data processing. Tangential to the boundary of the depression in the centre of the site, the white dotted lines (Fig. 11-5) mark a strong discontinuity between a less magnetic zone (to the west) and a more magnetic zone (to the east). This discontinuity is located at the boundary between two acquisition zones. It is created by a variation in the height of the sensors in relation to the ground at a point where the slope is very marked. Two other discontinuities are visible in the depression and mark the limits of the survey areas (black dotted lines). These two boundaries are artefacts of the processing carried out to correct for temporal variations in the earth's magnetic field. They are not taken into account for the interpretation of the magnetic map.

The map of magnetic field intensity variations shows the presence of numerous anomalies, many of them linear and rectilinear (Fig. 11-4). A major spatial orientation emerges (southwest/northeast) mainly in the northern third of the site and around the excavation depot. This direction is consistent with that of the remains uncovered by the excavation in Chantier IV; it also corresponds to the direction of the northwestern flank of the plateau. On the other hand, on the southern half of the plateau, other directions appear, sometimes overlapping the previous one, which complicates the interpretation of the map.

To the southeast, the excavations in Chantiers II and II sud revealed the presence of a rampart composed of terracotta bricks and gypsum blocks. The terracotta materials have a high thermo-remnant magnetization and an increased magnetic susceptibility. They are therefore one of the most intense magnetic sources that can be encountered on the plateau: they most often create a high positive anomaly. On the other hand, gypsum sedimentary rocks are very weakly magnetic. Consequently, their presence in the soil creates a negative anomaly. The rampart uncovered by Chantiers II and II sud shows a successive use of these two materials: brick for the base of the construction, which is older, and gypsum for the upper parts.

Anomalies II-1 to II-4 correspond to high values ranging from 50 to over 100 nT (Fig. 11-5). They indicate structures made of baked bricks, probably elements of the rampart whose width could be estimated here at 6 to 7 m. The irregularity of the southern limit of anomaly II-4 suggests that the wall is in a poor state of preservation on the southern slope. Linear anomalies II-5, with low magnetism (about 10–15 nT), are superimposed on the southeast end of the highly magnetic anomaly II-4 (about 100 nT). These are walls made of gypsum and forming the upper part of the rampart; some of them are visible on the ground surface.

The geophysical survey revealed the presence of numerous positive and linear magnetic anomalies, some of them measuring more than 100 m in length. On the one hand, we can distinguish the 2 to 3 m wide anomalies, crossing the plateau longitudinally and forming some curves (Fig. 11-5, a1 to a4, magenta bands). The signal intensity, weaker than for anomalies II-1 to II-4, could correspond to mudbrick structures (walls?). However, the shape of these anomalies trends instead in favor of roads. The anomalies a1, a2, and a3 are interrupted at the level of the depression. It can be assumed that these structures are either eroded or masked by a greater thickness of colluvial sediment covering them. It is indeed likely that, for example, a1 and a3 are one and the same structure. A fifth band, a5, intersects a3 at right angles.

These broad linear anomalies are complemented by a large number of narrower positive and linear anomalies (Fig. 11-5, magenta lines). One, measuring over 130 m in length (c1), parallels the northern edge of the plateau and lies in the continuation of the western half of a1. Most of the others (b1 to b8), on the other hand, are approximately perpendicular to anomalies a1 to a4 and c1. From a magnetic point of view, these anomalies have the characteristics of mudbrick walls or ditches filled with fine sediments, but they may also correspond to narrow circulation axes (about 1 m wide).

Numerous negative and linear anomalies were also mapped (Fig. 11-5, yellow lines). To the north, the identification of the source of the anomalies was facilitated by the proximity of Chantier IV. Indeed, the anomalies follow the same directions as the structures uncovered by the excavation. The very angular shapes of these anomalies and their low magnetic intensities indicate that they are gypsite or quartzite walls. On the one hand, there are small square structures of about 6 m on each side (d1 to d4), and on the other hand, more complex structures such as e1 to e4. To the west of the depression, comparable anomalies are found, but the orientations of the structures are variable. Some of them follow directions close to the structures uncovered in Chantier IV (southwest/northeast, northwest/southeast). This is the case of the large complex e5 or e6 and e7, but not of the anomalies f1 to f6, oriented according to the cardinal directions (east/west, north/south).

Magnetic surveys on Zeyve Höyük in Porsuk have revealed numerous magnetic anomalies between the excavations of Chantiers II and II sud to the west of the mound, and Chantier IV to the east. The analysis of the magnetic map allowed us to discern several sets of anomalies according to their spatial organisation, their shape, and their location.

Along the continuity of Chantiers II and II sud, the survey highlights the layout of the brick rampart. Six to seven m wide, it completely blocks the southwestern face of the spur, i.e., the face that is least naturally protected by the slope. This rampart is topped on the southeast by a stone construction. The two materials used here correspond to two periods of occupation of the site; the brick constructions are from the Hittite period, whereas the stone constructions are more likely to be from the Roman period. Such stone wall constructions are very numerous in the vicinity of Chantier IV, along the northwestern slope, but also to the south, around the excavation site. They are mostly oriented southwest/northeast and northwest/southeast like those found in Chantier IV. Based on the nature of the materials used

and the main directions of the structures, it seems reasonable to hypothesize that the plateau was densely occupied in the Roman period and that there was a real urban framework.

Numerous linear anomalies interpreted as roads, brick walls, and depressions (ditches or wall recovery trenches) complete the indications of occupation of the site revealed by the magnetic surveys. It is probable that some of these structures are from the Hittite period, but this hypothesis needs to be confirmed. It is indeed essential to have recourse to targeted archaeological surveys in order to clarify the interpretations of the results of the prospection and to verify the hypotheses put forward following this operation.

### CONSOLIDATION, PRESERVATION WORK, AND MUDBRICK WORKSHOP

During the 2017 summer campaign, an initial cleaning was carried out in previous excavation areas (Chantier II and Chantier IV) and in access pathways (Barat and Köker Gökçe 2019: 509). Particular attention was paid to the establishment of circulation routes.

In 2018, a cleaning of the “Hittite postern” area, in Chantier II was undertaken, both because this is the first, impressive, area encountered by visitors to the site, and also due to the need to secure this area. In 2019, the cleaning of squares F05 and F06 in Chantier II took place in order to make the Iron Age fortification visible from the road going to Zeyve Höyük, in an effort to highlight the value of the site. After this work, consolidation activities were carried out in Chantier II, prior to restoration and reconstruction.

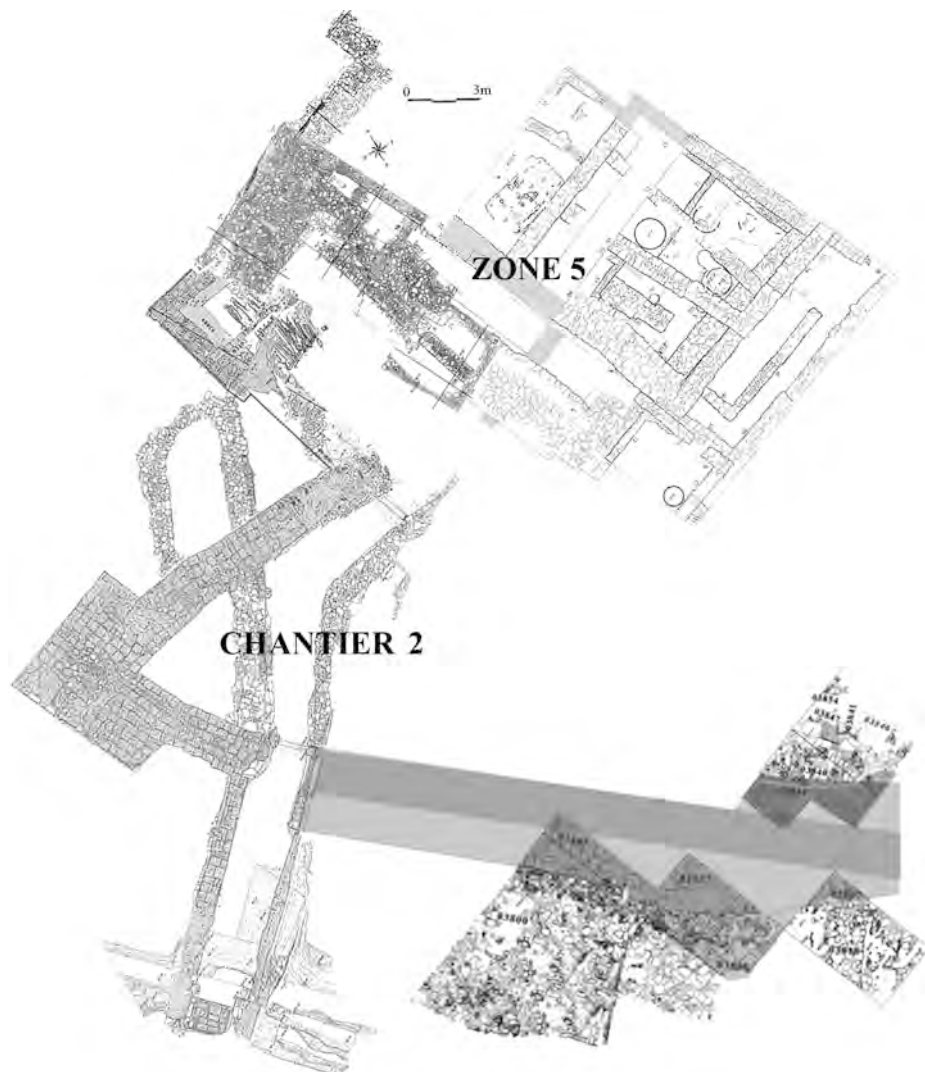


Figure 11-6. Map of Chantier 2 and Zone 5 (Jean-François Pichonneau).

Consolidation work was conducted in Chantier II beginning in 2018. This included consolidating Iron Age walls utilizing the dry masonry technique (squares F05, F06, and H05), particularly inside the curved corridor. In 2019, parallel to the archaeological excavations led in Zone 5 (see Fig. 11-6), stabilisation and consolidation work took place in Chantier II, in squares H04, G04, and H05 (see Fig. 11-7), in preparation for a restoration project.



Figure 11-7. Consolidation work, Chantier 2 (Jean-François Pichonneau).

The chosen zone for this work was the northwestern part of the Hittite fortification wall and tower (Late Bronze Age), which was reused in the Iron Age. Initially, the tower and fortification were cleaned in preparation for consolidation. For stabilisation and protection, mudbricks from a stock created in the 2018 summer campaign (see below) were used. These mudbricks correspond to the later building phase of the fortification wall. The first building of the fortification consisted of mudbricks of larger size. This earlier wall had been destroyed and rebuilt with mudbricks of smaller size. The northern corner of the tower, (stabilized during the 2019 summer campaign), had been destroyed during a second fire which destroyed the fortification wall, which was then rebuilt with stones during the Early Iron Age. It was thus decided to leave this Early Iron Age restoration intact for the stabilisation of the north corner of the tower.

The wall between the tower and the curved corridor was consolidated. At the bottom of this wall were sandstone bases, and above, mudbrick elevations, baked during the fires endured by the fortification. These baked mudbricks have melted due to time and exposure to the elements.

The chosen technique for preservation was to encase the original fortification using mudbricks constructed in 2018, in an eight-row matrix of mudbricks. This consolidation/stabilisation and protection technique was a preliminary test as a restoration project. The materials used are earth, water, and straw, rather than concrete. This consolidation/stabilisation/protection action is part of an environmentally responsible approach, respectful of local skills and materials and based on traditional mudbrick construction. In fact, the use of mudbrick is found in the vernacular architecture of the Porsuk region, a piedmont zone at the base of the Taurus Mountains. The old village of Porsuk (winter village), abandoned during the 1980s for the new village of Porsuk (summer village), due to a conversion of agricultural activities (a transition from pastoralism to arboriculture), provides beautiful examples of traditional mudbrick houses. In the future, the archaeological mission of Porsuk-Zeyve Höyük intends to promote and utilize its excavation workers' skills.

In 2018, a mudbrick workshop was initiated on the excavation grounds in order to create a stock of mudbricks for the preservation/consolidation work planned for 2019 (see Fig. 11-8). The 1300 mudbrick reserve was used for the preservation of the tower and Hittite fortification walls in Chantier II (squares H04, G04, and H05) described above (see Fig. 11-7).

The composition for the creation of the 1300 mudbricks was the same as that used in 2014<sup>3</sup>:

- 30 wheelbarrows of earth (1800 lt)
- 3 wheelbarrows of straw
- 250–300 lt of water

<sup>3</sup> The mission was able to observe the state of preservation of the mudbricks made in 2014 and thereby choose the best composition.



Figure 11-8. Mudbrick workshop (Emine Köker Gökçe).

The adobe texture was trampled by booted workers for about two hours and then left for twelve hours. The texture was then moulded in  $40 \times 18 \times 12$ – $13$  cm moulds (Beyer et al. 2015: 287) to create the mudbricks. Afterwards, the mudbricks were dried in the sun for one week. A minimum of forty days of drying is necessary before utilisation. During the 2019 summer campaign, more than 3000 mudbricks were manufactured.

### ZONE 5 EXCAVATIONS

Zone 5 excavations took place during the 2019 summer campaign. Geographically, zone 5 is adjacent to Chantier II (Fig. 11-9). This new zone, located in squares H06, H07, I06, and I07, corresponds to a space previously excavated



Figure 11-9. Aerial view, zone 5.

by Pelon at the beginning of the 1970s (Pelon 1972: 305–306) and by Tibet and Beyer between 2008 and 2012 (Beyer et al. 2009: 343–349, 2010: 235–238, 2012: 178–186, 2013: 201–213). At the beginning of the new excavations, zone 5 presented only some walls on the surface. After weeding, and revealing the various archaeological levels, zone 5 was divided into seven sectors, numbered from 1 to 7. The boundaries of the sectors were defined by walls linking these sectors (Fig. 11-10).

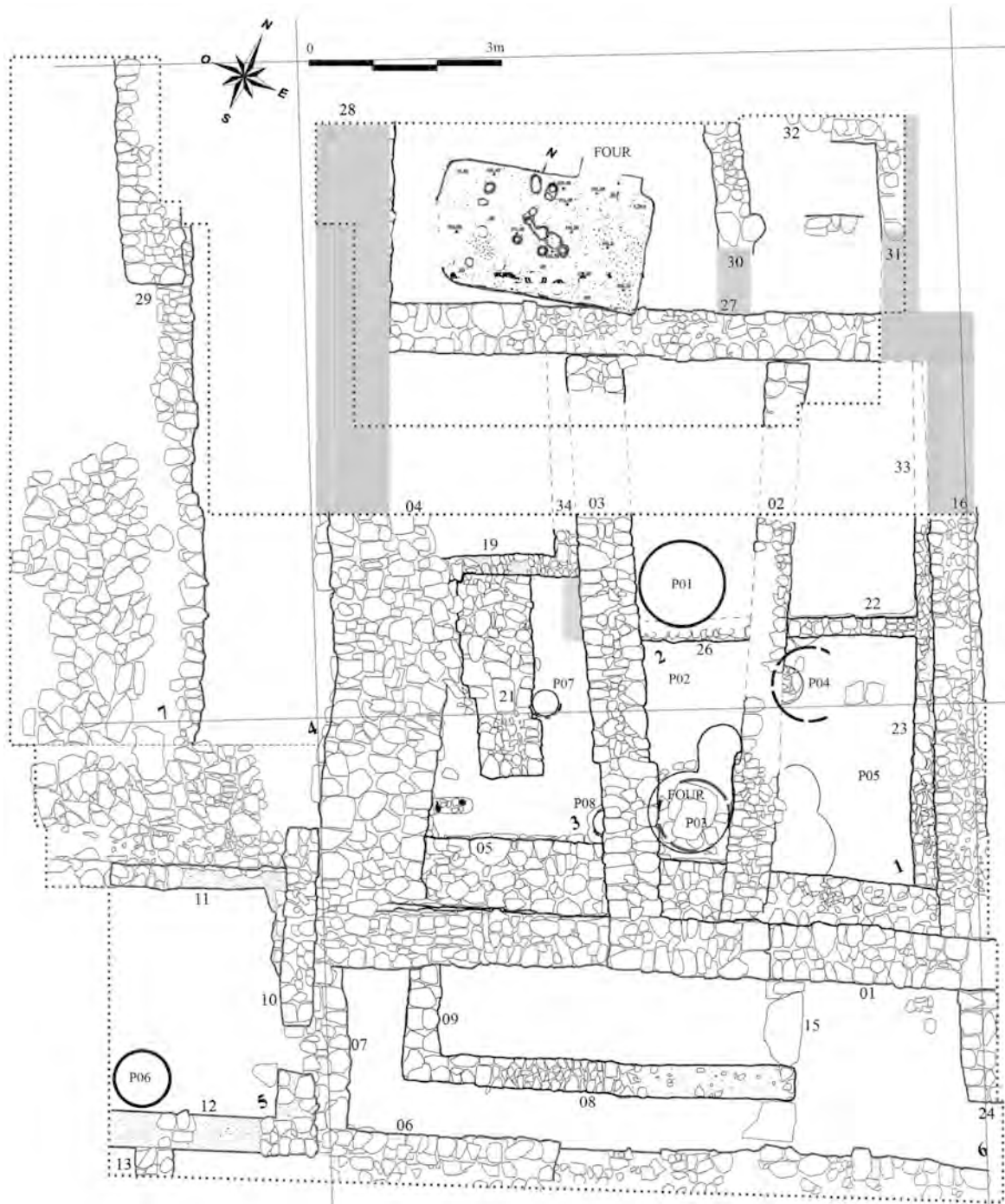


Figure 11-10. General plan of zone 5 (Jean-François Pichonneau).

Sector 1 is the space situated between walls 01, 02, and 16. On its northern side, it is limited by a 2 m wide bench, preserved between the zone 5 excavations and Tibet's earlier sounding excavation in Chantier II. However, for better coherence, the data from Tibet's sounding excavations have been integrated into that of zone 5. The first archaeological levels brought to light in sector 1 (5001, 5036, and 5087) are alluvium deposits where pithoi (P04, P06) were discovered. Under these levels, we find a destruction stratum with a few mudbrick fragments, wall primer, and pithoi. This destruction level lies on alluvial ground corresponding to the last stratum excavated in this sector, but also contemporary with walls 02, 22, 36, and 23. In the northern area of sector 1, a narrow structure (35 cm) appeared, composed on the plan by wall units 22, 36, and 33. These low walls, made of bricks and little stones, are covered by an earthen layer, coated in whitewashed plaster. The ceramic material found in these strata is limited in quantity, but allows dating to the beginning of the 1<sup>st</sup> century BCE for the building and occupation of this first building level of housing (level 1). Subsequently, the walls of level 1 were systematically knocked down and leveled off for the construction of a new building, constituted by walls 01, 02, 03, and 16. These walls have an average thickness of 75 cm and were constructed of big gypsum blocks with an earthen mortar. The footings of the walls of this new level 2 construction were placed directly on the structures of level 1. The occupation strata contemporary to level 2 were

previously excavated by Pelon in the 1970s and also during the sounding excavation made in the northern area by Tibet between 2008 and 2012.

Sector 2 is separated from sector 1 by walls 02 and 36. Stratigraphically, sector 2 is similar to sector 1, but it was designated as a separate sector because the structure built in level 2 had important modifications; the basement, arranged to gather the reserves stored in the pithoi, was modified, and wall 02 was razed to extend this storage space. The foundations of these new structures 01, 02, 03, and 16 are, in part, composed of large river stones, which were laid down directly on level 1 structures. However, walls 01 and 03 simply leaned against walls 05 and 20. The superstructure of these walls is composed of gypsum block bases. Due to the nature of gypsum, the cut of the blocks did not fit that of the river stones. Pithoi 01 and 03 belong to this last level and were inserted into deposit 5001, also covering wall 02. However, deposit 5086, present in sectors 1 and 2, leans on wall 02, and we can see the same phenomenon for destruction strata 5087 and 5088, covering level 1. In the southern area of sector 2, a hearth, leaning back against wall 05 and pithos 03, was revealed. Pithos 03 was installed in the domestic hearth after the destruction and backfilling of this baking structure. The destroyed hearth preserved the internal walls of the baking chamber. The hearth walls were built with small gypsum stones joined by an earthen mortar, similar to the other built structures. The baking chamber, 1.20 m in diameter, was totally filled by blocks. One of these blocks, entirely burnt and polished, on which pithos 03 rested, could have functioned as a support element on the floor. The somewhat burnt state of the walls of the baking chamber allows us to estimate that the top temperatures reached were not very high. We can therefore infer a domestic use for this hearth. The fire installation consisted of a simple pit which does not conform to any particular structure. The pit holds ashes and charcoal from its last use. Belonging to level 1 of this housing, the hearth is situated in a space defined as a courtyard, opening onto a cooking area, sector 3, and to rooms, to the north. In sector 2, the strata contemporary to the hearth activity are deposits 5022 and 5032. These occupational strata are composed of alluvium containing a very high percentage of charcoal particles. Above, stratum 5031 contains some elements of burnt clay coming from the destruction of the hearth. This ensemble is covered by deposit 5001, found everywhere in zone 5, as if this space had been elevated and reconfigured.

Sector 3 also presents the two levels of construction described for sector 1 and 2. Level 1 is composed of structures 05, 19, 21, 28, and 34. Wall 28, with an average width of 80 to 90 cm, is built with gypsum blocks, constituting, in the lower part, relatively well-ordered bases. The impressive wall 28 forms a corner with wall 05, which was originally meant to be the western boundary of the first house of level 1, but was raised and extended as a terrace wall between sectors 5 and 6 in the second level. Inside the sector 3 space, we find platform 21, forming a platform or a ramp that gives access to a threshold in wall 28. This platform is composed of mudbricks, small gypsum stones, and sandstone slabs. Against this platform, pithos 07, small in size, was placed. Pithos 08, also installed in level 1, against wall 05, was covered during the building of wall 03 in level 2. Between wall 28 and platform 21, a paving was constructed which continues a little bit to the south, along the platform, and moves on to matrix 5032, on which charcoal layer 5022 rests. In the southwestern corner of sector 3 there was a small quadrangular pit. In the pit fill we found a small ceramic bottle, a pot base intended for cooking, and small gypsum stones. In the northeastern corner of sector 3, between platform 21 and wall 03, two counterweights were brought to light in the soil of level 1. Here we have noted the presence of a small posthole in the matrix of 5032. On the southern area, against platform 21, and in matrix 5032, some burnt clay stains combined with an ashy deposit are the only evidence of fireplace activity. In sector 3, the whole of level 1 is covered by stratum 5031, comparable to a destruction stratum, above which deposit 5001 was laid.

Sectors 1, 2, and 3, in level 1 and then in level 2, present completely different housing types. Level 1 is composed of three rooms, resting against enclosure wall 27; these three rooms open, in the south, to an interior courtyard, leading on to a space that could have been a kitchen and perhaps also a weaver's workshop in the northeastern corner of sector 3. In this courtyard, but against wall 05, which marks the southern boundary of the housing area, a domestic hearth had been constructed. The nature and narrowness of the level 1 walls do not suggest that this housing had a second floor. The interior walls of the rooms were covered by a layer of earthen surface on which was placed a layer of whitewash. The ceramic material, limited in quantity in the excavated strata, is attributable to the end of the 2<sup>nd</sup> century BCE. In fact, occupation strata contained sigilated Aretine ceramics, among which we found fragments of plates with annular stems, dated between 40 and 15 BCE. This ceramic material is quite comparable with that defined by C. Abadie-Reynal for phases 4 and 5 in the 1989 Porsuk excavations (Abadie-Reynal 1992: 373–376). Level 1 of zone 5, excavated in 2019, can be associated with phase 5 of the 1989 excavations in Chantier IV, and level 2 of zone 5, the second and last occupation of the zone, can be associated with phase 4 of the 1989 excavations in Chantier IV. During the 1<sup>st</sup> century BCE, this first type of housing, the plan and layout of which resembles Hellenistic housing, was totally razed in order to move on to a new type of house. This new house was provided with a cellar where pithoi intended for surplus were stored. The walls of the new house were much wider and built with shapeless gypsum blocks, the bases of which sit directly on level 1 walls. The walls of the new house were covered by an earthen surface. Wooden stairs, the base of which were situated in sector 6, allowed access to the second storey rooms through a gallery. The plan of this house is reminiscent of a small urban building, with storage and shops on the first floor.

Sector 4 is a space situated between the paved pathway of sector 7 and walls 4 and 28 (enclosure wall). The excavation stopped on the destruction strata of the level 1 remains. Wall 35, 50 cm wide, was built using gypsum stones. It was totally destroyed, then filled in for the construction of the paved pathway of sector 7. This space stayed open. It borders the path in the first level and forms a natural spillway for grey and rain water draining to the north.

Sector 5, situated in the southwestern corner of zone 5, presents two building levels and is delimited by walls 10, 11, and 12. The first level is composed of gypsum stone bases to walls 10, 11, and 12, joined by an earthen mortar.

The ceramic material collected there suggests that this first housing was built during the 1<sup>st</sup> century BCE. Wall 12, 65 cm wide, is a raw earthen wall, with sides covered by a whitewash primer. The building of wall 12 with raw earth required the use of form panels. This technique consists of producing a mobile form (mould) the same thickness as the wall; the interior of the form is filled with adobe and then packed down. A threshold was created in wall 10, allowing access to sector 6 between walls 06 and 08. This ensemble, forming the first level of sector 5, was planned, and a new structure, this one built of big blocks of gypsum, was constructed according to the same plan as the previous building. There are two openings for this building: one in the north, through wall 11, giving direct access to a paved terrace in front of the pathway of sector 7, and the other, through wall 10, maintained from the earlier level. In the southwestern corner of sector 5, pithos 06 was placed in the fill stratum of the second level of the building.

Sector 6 is a space situated in the southern part of zone 5 and can be defined as a passage between the last two levels of construction. A sandstone threshold slab, preserved between walls 06 and 08, marks the access to sector 5. Wall 07, made of gypsum stones, corresponds, from its original construction, to a terrace wall, which is also an elongation of wall 04. Small walls 08 and 09, 40 cm wide, are the bases which supported wooden stairs leading to private apartments on the second floor. Between walls 08 and 01, a large sandstone slab (slab 15) marks the base of this stairs. It is clear that wall 06 experienced three stages of construction and repair during its expansion. In its first iteration, this wall was a light structure composed of small stones set in an earthen mortar, the sides of which were covered by a primer. In the second stage, only the portion of the wall in contact with walls 05 and 07 was built up. The final stage of walls 06 and 07 represents the final reconstruction in sector 5.

Sector 7 was previously excavated in 1969 by Pelon (Pelon 1972: 306). It features the remains of a slab that slopes significantly toward the north. It may correspond to the remains of the pathway (mentioned above) that has a north–south orientation that allows access to the summit of the site. In sector 7, wall 35, destroyed then filled, passed under the pathway, in a western direction. During the 1969 excavation, little information was recorded about the archaeological strata of this sector. The western part of the pathway was bordered by a large gypsum wall of which only a few piled stones remain.

## CONCLUSION

At the conclusion of the excavation campaign in zone 5, it became clear that there is a transition between a Hellenistic housing model (level 1) to a Roman housing model (level 2) with very different plans. These two levels of construction correspond to phases Ia, Ib, and Ic as defined by Tibet in the test excavation in square H7 (Beyer et al. 2013: 203–209). Phase Ia corresponds to the 1960 destruction and leveling. This assessment permits us to understand the transformation of zone 5, in which the first constructions attributable to phase Ic are built according to a Hellenistic plan. Through level 1, zone 5 presents a concept of housing adopted and developed during the Hellenistic period. The most characteristic element of this house is the presence of a courtyard around which space is organized. It is a central space, initially designed for open-air domestic activities. The rooms are built around this space and were erected as needed, showing therefore an agglutinated character. However, the plan of the later levels Ia and Ib corresponds precisely to a Roman model, more urban than rural, like a small *insula à tabernae* provided with only one or two floors.

This dating of levels of construction is not surprising from a political point of view for the southern part of Cappadocia. The site of Zeyve Höyük is indeed situated at the southern extremity of the Kingdom of Cappadocia, a friend of Rome after the peace of Apamea in 188 BCE. The Kingdom of Cappadocia, like other Anatolian kingdoms (Pontus, Bithynia) became an allied and client kingdom to Rome in the Late Hellenistic period, when Rome began to create provinces in Anatolia (e.g., creation of the province of Asia in 129 BCE after the bequest of the Kingdom of Pergamon; creation of a command, *provincia*, in Cilicia in 100 BCE, actual provincialisation of Cilicia in 78–74 BCE) (Ferrary 2004: 780–781). The site of Zeyve Höyük is only 40 km distant from the Cilician Gates (now Gülek Pass or *Gülek Boğazı*); between the 1<sup>st</sup> century BCE and 1<sup>st</sup> century CE, if this pass was really creating a political frontier between a client kingdom and a Roman province, we can suppose it was in no way a commercial or cultural frontier. Roman tableware was imported into the Porsuk region and surely served, as elsewhere, as a marker of social distinction. The Kingdom of Cappadocia was made into a province between 15 and 17 CE (Sartre 1991: 36, 1995: 170), under the reign of Emperor Tiberius, and thus Rome assumed the political administration of the territory in which the site of Zeyve Höyük was located. It is therefore normal for the second level of construction (1<sup>st</sup>–2<sup>nd</sup> century CE) to find more Roman ceramics and a clearly Roman housing model.

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