

## REPORT ON THE EXCAVATIONS OF THE GIOIELLA-VAIANO VILLA 2016-2017

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### INTRODUCTION

Two seasons of excavation have now been completed at the Gioiella-Vaiano Villa site in the comune of Castiglione del Lago under the direction of the Umbra Institute Summer Archaeology Program in cooperation with Intrageo and DePauw University (Greencastle, Indiana, USA), by a permit granted to the Comune di Castiglione del Lago by the Ministero dei Beni e delle Attività culturali e del Turismo, Direzione Generale Archeologia (Prot. n. DG 4159, Class n. 34 31 07 / 1431, 22 aprile 2016). In 2015, our team completed a systematic survey, which provided evidence of the scope and chronology of the site.<sup>1</sup> Between 2016 and 2017, we completed two seasons of excavation. This report includes an overview of what we have learned thus far about the topography and geology of the site, and a preliminary report on the excavations.

The Gioiella-Vaiano Villa (Comune of Castiglione del Lago) is located between the towns of Gioiella and Vaiano on a gentle hill overlooking Lago di Chiusi near the border between Tuscany and Umbria (Fig. 1). Local residents have long known that there was an ancient site below the modern ploughsoil. Maps of the area refer to this hill or possibly a slightly higher rise (Poggio S. Maria) to the northeast, as “La Villa.”<sup>2</sup> However, no prior excavation has been conducted in the area. Preliminary evidence suggests that the site was occupied from the 2nd century BC through the 3rd century AD. A central question for our project is the changing role of a villa in Central Etruria from the mid-Republican to the late Imperial periods.<sup>3</sup>

The environs of the site consist of a patch of rolling hills between Lago Trasimeno, Lago di Chiusi, and Lago di Montepulciano, just east of the Val di Chiana. Geologically, the sediments of these hills were formed in a fluctuating coastal environment (consisting of both marine and continental braided fluvial deposits) during the late Pliocene to middle Pleistocene, ca. 3.60 – 0.78 mya. Those sediments (which in the locality of “La Villa” vary from sand to silty clay) have subsequently undergone tectonic uplift that tends to angle downward from northwest to southeast, and riverine incision that drains southward.<sup>4</sup> The current shape of the terrain largely resembles that in place ca. 500 BC.<sup>5</sup> However, during the Etruscan and Roman periods, the river Clanis ran south, rather sluggishly, within the Val di Chiana and through Lago di Montepulciano and Lago di Chiusi (post-Pliocene lake remnants), before it drained into the Tiber river just to the southeast of Velzna/Volsinii Veteres (Orvieto).<sup>6</sup>

The Etruscan presence in the territory of Castiglione del Lago, which was probably within the ambit of Chiusi (Etruscan *Clevsin*; Roman *Clusium*), is largely known from chance finds and limited exploration.<sup>7</sup> Material from tombs on the southwest side of Castiglione del Lago and from deposits at Poggio S. Maria and Podere Fontegallo (both just northeast, up the slope from our project site) attest to occupation since the 7th century BC.<sup>8</sup> Most of the evidence for pre-Roman period activity is funerary, and that evidence tends to cluster along a “Ridge Road” that runs from Villastrada in the south to Petrignano in the north (Fig. 1). This must have been a high-ground ancient route that linked Chiusi with Cortona; its line essentially divides the Lago Trasimeno watershed from the Val di Chiana/Lago di Chiusi watershed.<sup>9</sup> The sites being investigated by our project are oriented in the latter direction.

Tomb material of the 5<sup>th</sup> century BC has been recovered at Bruscalupo, about midway between Villastrada and Ceraso, as well as “La Villa,” Gioiella and Pozzuolo (Fig. 1).<sup>10</sup> Evidence in this area west of Lago Trasimeno seems to drop off in the 4<sup>th</sup> century BC, which Renzetti sees as a rupture of the previously developed equilibrium between city and countryside (and perhaps also the balance amongst the Etruscan cities of Cortona, Perugia, and Chiusi as they respond to Roman incursions), excepting a possible important sanctuary at Casamaggiore, where five votives were found.<sup>11</sup> During the Hellenistic period (3<sup>rd</sup>-2<sup>nd</sup> c. BC), evidence extends more broadly across the landscape: numerous tombs and necropoleis occupy the same north-south communications corridor (“Ridge Road”), but also appear along routes connecting to Lago Trasimeno and especially upon high ground overlooking the north side of Lago di Chiusi or the Val di Chiana to the west.<sup>12</sup>

During the Roman Republican and Early Imperial periods, this area “tra i laghi” flourished due to its terrestrial, lacustrine, and fluvial resources, as well as its accessibility to Rome via the Clanis and Tiber rivers, and the Via Cassia, by which local residents could supply cultivated, hunted, and foraged products to the capital.<sup>13</sup> In southern Umbria as a whole, a number of rural villas dating from the 1st c. BC have been identified, also generally following major routes of communication such as the Via Flaminia, the Via Amerina, and the Tiber.<sup>14</sup> In the west-central part of Umbria around Lago Trasimeno, only a few villas have been systematically excavated. These include the Villa at Ossaia,<sup>15</sup> located between Cortona and the northwest shore of Lago Trasimeno, and the villa at Passignano sul Trasimeno (Loc. Quarantaia),<sup>16</sup> on the northeast shore of the lake. Both sites are nestled in the lower slopes of the Apennines and thus have a different aspect and underlying geology than our site (well west of Lago Trasimeno). The extensive and well-documented excavations at the Villa at Ossaia have revealed an estate that functioned as a luxury home in the 1st c. BC to the 1st c. AD. However, by the 2nd c. AD new owners had transformed the villa into a more industrial property. The Villa at Passignano sul Trasimeno, which was occupied only from the 1st c. AD to the beginning of the 2nd century, may present more immediate parallels with what we know so far about the Gioiella-Vaiano site, in particular its focus on agricultural facilities and possible industrial production, except that our site appears to have been founded earlier.

About 800 m. east of our site, on the slopes of Piè Maggiore/Poggio S. Maria, is a Roman cistern and a possible stretch of ancient roadway, both identified in 2015 (Figs. 1-2). The cistern has standing walls, and during the 2016 field season, its perimeter was mapped by GPS survey. It is nearly perfectly square, measuring about 10.5 m. (E-W) x 10.2 m. (N-S) on its badly eroded exterior faces. Material from the cistern site in the antiquarium at Castiglione del Lago, particularly a rectangular bronze tile stamp with an enigmatic two-line inscription ( MDIIVSF I RVFKVST ), suggests that the cistern was used for levigating clay for terracotta production—the present landowners claim that a series of square (settling?) basins, now buried, step down the slope from the base of the cistern. Certainly the landscape would have been perfect for ceramic production: excellent clay, abundant water, fuel from forests,<sup>17</sup> and proximate waterways to ship the finished items. At the Vaiano-Gioiella site, the focus of our project, the 2015 intensive surface survey revealed that the location was occupied, but perhaps not continuously, from the 2nd century BC to the 3rd century AD. The survey recovered various evidence: mosaics, lead piping, sculpted marble, amphorae, dolia, a loomweight and spindlewhorl, two bronze coins, vernice nera, sigillata italica, and nearly 880 kg. of tile, suggesting at least two large buildings (one to the south, and one to the north) with agricultural, residential, and thermal components.<sup>18</sup>

Prior to excavation in 2016, a limited geophysical prospection was completed. Initial results looked promising, indicating a potential floor surface in an area where materials collected from the 2015 survey had suggested the presence of a building (Fig. 3a, b, d: areas marked in dark red, indicating high electrical resistivity—that is, low moisture content). However, the areas of high resistance turned out to be natural sediment, namely a thick layer of sand, which, if dry and highly porous, becomes strongly resistant to electrical waves (like brick or stone). The sand deposits date to the Pliocene.<sup>19</sup> Although this was not what we initially expected to find, ground-testing through our excavation has improved our understanding of the local natural sedimentation, and how it correlates to the resistivity results. For instance, a drain feature excavated in squares B1 and B2 (described below) precisely matches a decrease in resistivity between two highly resistant patches of soil (Fig. 3b). Toward the middle of the season we did a second (ground-penetrating radar) test, which identified the limits of a large tile deposit in square C2, later excavated (see below).

After two seasons of excavation we now have a better understanding of the underlying geology of the site and how that correlates with the resistivity done in 2016. The site is composed of layers of natural sand, which in some areas is very close to the surface, and clay fills. Based on the current topography, resistivity, and excavation data, it appears that the Roman occupants of the site created at least three terraces and, based on the excavations on the southeast edge of the site, the lowest terrace at least was carved out of the sand stratum. In fact, the sand itself was used as part of the architecture of the site (see below).

## 2016 EXCAVATIONS

Weather conditions limited the 2016 season to approximately 15 days of fieldwork between 6 June and 4 July. Four (4 x 4 meter) excavation squares were opened on the eastern edge of the site (Fig. 4), encompassing the two sections of the resistivity test as well as concentrations of sigillata and common wares from the 2015 survey. Based on the features and artifacts uncovered, three broad chronological phases can be identified above the natural sediment: (1)

the construction of a drainage channel (US 22) and the early phase of a stone wall (US 15), both identified in squares B1 and B2; (2) modification of that wall (US 46, 47, and 48); and (3) the abandonment and destruction of the site, debris from which was excavated in all four squares (Figs. 5-6). The natural sediment, which consisted of a layer of pure sand, was reached in squares A1 and B1 (Fig. 6). That sand is consistent with the 'surface' indicated by the geophysical survey (see above).

The most interesting feature of the 2016 season was the drainage channel cut into the natural sand. The channel was cut in a roughly east-west alignment and came to a clear end, marked by a horizontal tile, just inside the south-eastern corner of square B1. The channel extends at least 6.5 m. to the west, that is, towards the central part of the site, but its overall length and starting point remain to be discovered. The cut for the channel (US 11) varied, but was approximately 68 cm deep and 45 cm wide. Within the channel, roof tiles were pitched in pairs to form a triangular covering (Fig. 7). We removed two sets of the pitched tiles, one set in B1 and the other in B2 (Fig. 6: US 11 and US 45). In both cases we were surprised to discover that there was no base to the channel system—the pitched tiles sat directly on the natural sand—and the accumulated fill within the tiles did not include any materials except for fragments of carbon, which we sampled (analysis is not yet complete). We hypothesize that the channel and the pitched tiles were constructed as a drainage system, and that—even without a tile base—the dense sand would have provided a usable surface for run-off, and eventually natural absorption of liquids, possibly from a thermal installation or other structures uphill. Brief experimentation with water runoff on the excavated sand surface in A1 demonstrated its surprising efficacy for drainage. It is possible that the 'gap', or decrease in electrical resistivity, found directly beneath the drainage channel by our geophysical prospection (Fig. 4b) was formed by repeated seepage of liquids and organics through the floor of the drain. Terracotta drains are not uncommon at early imperial sites in the region, and they vary in construction type, but all have built floors (drains at the villa at Passignano sul Trasimeno and the large cistern at Camarelle near Chianciano Terme were constructed of flat pan tiles set between masonry side walls;<sup>20</sup> at the Villa at Ossaia, large terracotta pipes were used).<sup>21</sup> The closest parallel to our drain is a drainage channel at the terracotta manufactory at Marcianella, just west of Chiusi. That drainage channel seems to have been installed in the late 3<sup>rd</sup> to early 2<sup>nd</sup> c. BC in order to move rain water southeast off the hill and away from the kiln complex while it was being built; it was constructed of pan tiles set vertically on either side of an open trench with tiles<sup>22</sup> for flooring that at its head measured about 42 cm wide, broadening to ca. 75 cm near its outlet.

Parallel and to the north of one segment of the channel is a short stone wall (Figs. 8-9). Stratigraphically, it appears that the channel was constructed first and that the wall was a later addition, perhaps as a retaining effort against the sand on the north side. During at least part of the wall's history, the tops of the pitched tiles in the channel were visible, because debris from the wall fell directly on top of the tiles. In both B1 and B2, excavation of the fill on both the north and south sides of the pitched tiles did not reveal much material. In order to control for any stratigraphic distinction and the possibility that fill was packed against the lower part of the tiles to stabilize them at the time of construction, we removed the fill as two strata. Although we noted more debris in the upper stratum (UUSS 21 and 20 in B1, UUSS 38 and 39 in B2) than the lower one, there does not seem to be a chronological distinction. Overall, this fill includes fragments of cooking, dining, and storage wares, as well as a few pieces of *tubuli* and a segment of a column tile for *suspensurae* (e.g., Fig. 12), giving the impression that the channel was open and the upper parts of the tiles were exposed while it was in use. Eventually, layers of debris completely covered the channel and accumulated against the wall.

The wall itself appears to have at least three phases based on the construction technique, as well as the fact that the fill immediately above the channel (UUSS 37 and 36) may run underneath the western edge of the wall (which itself may be a late repair). Analysis of the ceramics from the strata running under and against the later wall construction (US 36 and UUSS 30, 33, and 34 respectively) has not been completed. However, we note that evidence of kiln activity, in the form of both tile and metal wasters, appears only *above* the level of wall repair. This suggests that industrial activity at the site was introduced at a later phase (as at the Villa at Ossaia)<sup>23</sup>—a hypothesis that we can test in future seasons.

After the modification of the wall, the site appears to have been destroyed and abandoned. A compact layer of mostly roof tiles was excavated in the southwest corner of square B2 (US 18). This tile layer appeared to extend towards the south and west. Thus we decided to open the adjoining square to the south, C2, but because of time constraints we moved two meters to the south and only excavated a 1 x 4 meter segment of C2. Here we encountered the same dense

accumulation (Figs. 5, 6, 10). The deposit consisted almost entirely of roof tiles, a few floor tiles, and at least one piece of cocciopesto flooring. In just the 1x4 meter area excavated in C2, we recovered over 153 kg of tile. The density and distribution of the building material indicates that it was purposely dumped at this location.

In contrast, the accumulation of debris excavated to the north of the channel and the wall appears to be the result of recent agricultural activity spreading artifacts from further up the slope (to the north and the west). This debris, approximately 50 cm below the topsoil, consists of a range of ceramic materials, including dining wares (*sigillata italica*), storage vessels, and cooking wares. In both A1 and B1, this debris came down upon the natural sand (the “surface” indicated in the geophysical survey), into which the drainage channel was cut.

Although few architectural remains were uncovered in 2016, the materials recovered from the debris layers indicate that at the height of its occupation the overall complex was extensive, including structures for dining, food preparation and storage, industrial production, and bathing. Among the many pieces of *sigillata italica* (Arretina) recovered, are several examples with manufacturers' stamps, including an *in planta pedis* with the initial A M (probably) for Aulus Manneius, another with A M PRV for Aulus Manneius Prudens, and one, we suspect, with CN A for Gnaeus Ateius (Fig. 11).<sup>24</sup> One curious fragment of cooking ware is inscribed with the letters PR(I).

## 2017 EXCAVATIONS

In 2017 we had a larger team and were able to work in two areas of the site: a zone from the middle of our survey area (2015), which we are currently referring to as the central terrace, and one to the southwest of the central area where survey had indicated a concentration of materials indicative of a bath complex (Fig. 4).

### *Central area*

The 2015 survey in this area indicated a large concentration of *sigillata* and building debris. In 2017, we cleared a large area (12 x 8 meters) for excavation. Evidence of architectural features was visible immediately below the plough soil. We opened two contiguous trenches, labeled Z6 and Z7 on the site plan (Figs. 4 and 12). The fill in this area is composed of a dense clay that was compact and hard at the upper levels but became softer as we excavated down. In Z6, in fact, we noted that the sediment on the east remained moist even after exposure of several days (there was almost no rain in 2017). Removal of the fill in and around the walls exposed in Z6 and Z7 revealed three distinct architectural features, each of a different construction technique and likely belonging to different phases of the villa. Due to decades of modern agricultural work on the site, we anticipated only modest preservation of features. We were pleasantly surprised both by the depth of preservation, owing to a significant amount of fill, and the quality of the preservation. The fill itself appears to have accumulated over a long period of time (see below).

Between areas Z6 and Z7, two parallel north-south walls (US103/104 and US107) were revealed as the supports for a stairwell that likely connected the central and lower terraces, *although we did not reach the bottom in 2017* (Figs. 12 and 13). This feature clearly continues to the south and will be further investigated in 2018. The construction of these two supporting walls consists of limestone blocks cut to create regular, but short, risers for the steps, which themselves do not survive and were probably made of wooden planks. The limestone blocks are keyed into the wall itself. Above the large blocks supporting the steps, the remaining vertical portion was constructed of smaller and flatter limestone blocks, alternating with tiles. The uppermost stone stair support on the west side is of a different material, a red volcanic-like stone, whose origin should be investigated. Both walls show evidence of robbing. At least four of the limestone supports are missing from the east wall, which caused the upper courses to fall towards the north and clay fill to accumulate where the stones once were; only one stone appears to have been robbed from the west wall (Fig. 14). The robbing of the stones indicates that the stairwell continued to be open and exposed after the stairs themselves went out of use. One small fragment of *invetriata* from the lowest stratum excavated to-date in the stairwell (US 138) indicates that the stones may have been removed from the walls at the time that the *casolare* was first constructed on top of the hill in the 14th century AD.

The fill removed from the stairwell was characterized by clayey sediment with lenses of sand, which seems to have blown in against the walls. As we removed layers of this fill we noted areas of a grey clay that was clean—no inclusions. Below the fill, particularly towards the north, there are descending rows of tiles oriented east-west between the support walls. However, these “rows” are not deep enough to be actual steps. They may have provided additional support for the

wooden beams that extended from the limestone bases. However, at the top of the stairwell the tiles are mortared and possibly form the roughly finished exterior of a vaulted construction beneath, leading us to hypothesize that under the stairs there may have been a cryptoporticus or other sub-surface chamber (Fig. 15). At the end of the 2017 season, a three-meter length of the stairwell had been excavated to a depth of 1.5 meters on the south end of area Z6/Z7.

We estimate that the lower terrace, where the bath complex is located, is approximately approximately 3.5 meters in elevation below the central area. To reach that lower terrace the complete length of the stairwell would have to be approximately 6.5 meters.

To the east of the stairwell, in Z6, we have uncovered two features of different phases that, to date, appear unrelated to the stairs (Figs. 12 and 16). The latest feature in this area (UUSS 109/131/132) is a concrete wall that extends from north to south across the length of Z6; its overall extent is yet unknown. This wall was built over an earlier cobble structure (UUSS 118, 119, 127) at the north end of Z6. The concrete of the later wall appears to have been poured in phases as the upper 'course' comprises larger cement sections that include pieces of reused *cocciopesto* and stone. This course extends over an earlier cobble structure (UUSS 118/119/127) and appears to cap the lower part of the wall, which extends up to but not over feature UUSS 118/119/127. At the end of the 2017, we had reached the bottom of the lower concrete wall (US 109) in most of area Z6, but at the south baulk it appears that the wall may continue down for another course, suggesting that this it may have been used to terrace the site in a later period (Fig. 17). The preserved height of US 109 ranges from 0.80 m on the very south (where it appears to continue down) to 0.64 m on the north where the concrete wall runs up to US 119. The stratum on which the wall US109 sits is unexcavated. The upper course of the wall also continues to the north, over the fill inside wall UUSS 118/119/127.

The upper course of the concrete wall effectively bisects an apsidal section of the earlier cobble wall (US 119). The curve of this wall continues to the east, outside the limits of area Z6 and the foundation of this wall is not yet certain. It was constructed out of large cobbles and some pieces of tile, and ceramic (for example, an amphora handle is visible of the south outside face of the wall). On the west side, at the line of the north baulk, the apse creates a corner with a straight east-west length of wall (US118). This appears to be part of the same structure as US 119 but is not as well built (the cobbles are looser) and it only extends approximately 1 meter from the junction with the apse; however, it is possible that this wall makes a right angle turn and continues to the north). The interior of this structure appears to open towards the north in unexcavated area Y6.

Due to the density of the clay fill in Z6, we only excavated between the concrete wall (US 109) and the east wall support for the stairwell (US 107). As in Z7 to the west, the fill in Z6 accumulated in several deposition phases—some deliberate, others natural—during the period of abandonment from the late Roman period to the 14<sup>th</sup> century. The depth of the fill in the central area surprised us at first, given that the accumulation of sediment and debris in A1 (16 m to the east; excavated in 2016) was less than a meter deep above the natural sand (see above). The extreme variation in the depth of the fill across the (rather limited) area excavated so far is an indication of the extensive terracing that has occurred on the site since antiquity. In Z6, after the excavation of US 129, we decided to section area Z6 and continued removing fill only in an area up against walls US 119 and US 109 in order to understand how deep those features are (see above).

Artifacts recovered from the fill in area Z6 include a wide variety of pottery of different periods as well as fragments of tiles. One of the most interesting finds from the central area is part of a *catillus* from a mill (from US 137, the lowest stratum excavated in 2017). It is made of volcanic stone and preserves part of the cut for a wooden beam for turning the mill (Fig. 18). In the same stratum, still in the north baulk, is part of the rim of a wellhead; and to the south were the remains of a fire. While not associated the use levels of the architectural features in this area, the fire, the *catillus*, and the wellhead fragment indicate that this area was filled up in stages, and the process included both the intentional dumping of material from other areas of the site and natural processes. *Note: a quick calculation of the pottery from the fill between US 109 and US 107 indicates an increase in the amount of vernice nera from the two lowest strata excavated in 2017 (US 134 and 137) compared with the upper levels of the fill (UUSS 117, 122, 125, 129) – 25 pieces in the lowest levels compared to 4 fragments in the upper levels. US 137 may run under the wall US 109 – we need to check this in 2018.*

Between the cobble apsidal structure (US 119), the north baulk of Z6, and the concrete wall (US 132), we excavated two strata of fill (UJSS 120 and 130). After the removal of US 120 it was clear that one layer of the concrete wall (US 132) extends over the fill inside the apsidal wall US 119 and that, therefore, the concrete wall is a late addition to the site, after US 119 had been filled in. This interior fill was consistently more damp than outside the wall, even after many days of no rain. This fact, as well as the presence of part of a wellhead in the fill outside the wall (see above) has led us to hypothesize that this feature may be associated with a water source. Although only a small area of the fill inside wall US 119 was excavated in 2017, we recovered a variety of ceramics, including several fragments of *vernice nera*, some fragments of cookware, and the rim, base, and wall fragments of *ceramica depurata*. The diagnostic shards may indicate the *terminus post quem* for the construction of the concrete wall.

At the end of the 2017 season, the area to the east of US 109/131/132 and US 118/119/127 remains unexcavated. In 2018, we plan to open the area to the north of Z6 (Y6).

#### *Lower terrace*

In 2017 we opened an excavation area corresponding to square E2, with a one-meter extension to the west into area E3 and to the south into F2 (see Fig. 4). Square E2 is 8 meters south of the drainage system in B1/B2 and approximately 5 meters south of the dense concentration of roof tiles excavated in C2.

Based on the survey data from 2015 and reports from the landowners, we had reason to believe that the bath-house for the villa was located in this area. Removal of the plough soil in this area immediately revealed collapsed building materials. A modern cut runs diagonally across E2 (US 303), and much of the 2017 season was devoted to cleaning the fill in that cut (US 304) and the collapsed building material across the square. At the end of the season, we were able to identify the substructures of at least three rooms associated with a bath-house (Figs. 19 and 20). Each room is characterized by a lining of *cocciopesto*, and the two rooms to the east preserve *suspensurae in situ*, indicating that we have reached the hypocaust of those rooms (Fig. 21). Vano A, on the southeast, is rectangular. The preserved *cocciopesto* indicates a width of approximately 3 meters north-south; the overall length is unknown as the room continues to the east into squares E1/F1. On the south side, the *cocciopesto* of Vano A is constructed directly against the natural sand. This is also the case on the north side of the room. On the other hand, the west wall of *cocciopesto* is built against an inner wall of packed cobbles and ceramic fragments with a few courses of horizontal tiles above; this may indicate the original floor level of the bath-house, now destroyed by modern plowing. In Vano A, at least eight sets of *suspensurae* preserve one or more circular tiles *in situ* (US 324); not all of the debris was removed from this area (US 306). The column in the northwest corner of the room is constructed of quarter rounds and is slightly wider than the others. We have other examples of quarter-round tiles in the debris layers of A1 and B2, excavated in 2016, and Z7. Pieces of mosaic and hundreds of individual *tesserae* from the debris across E2 indicate that the floors were originally decorated with black and white mosaic. We do not have any pieces large enough to reconstruct the patterning (Fig. 22).

A second room, Vano B, sits immediately to the north of Vano A; a narrow strip of compact sand separates the two rooms (Fig. 19). Vano B is also lined with *cocciopesto* and here seven sets of *suspensurae* are preserved *in situ* (US 325); we did not remove all of the fill (US 314) on the east, in order to preserve some of the columns. The west side of this room forms an apse, which appears to be supported on the west by a cobble fill packed against the sand separating the two rooms. Only a fraction of the room was excavated in E2; the remainder continues to the north (D2) and the east (E1). Vano A and Vano B are connected by a cut through the dividing "wall," indicating that they were part of the same hypocaust system. The stoke hole for the hypocaust must be to the east.

To the west of the two identified rooms, disturbance from the modern cut (US 303) and more compacted fill outside the cut (UJSS 302 and 310) made excavation more difficult. Nevertheless, to the south of the cut we retrieved several pieces of window glass and at the end of the season recognized another length of *cocciopesto* against the south side of the cobble fill that supports the apse of Vano B and is in line with the north *cocciopesto* wall of Vano A. A few stones oriented east-west and in line with the south wall of Vano A may indicate the southern limit of this third room.

In addition to the *suspensurae* and fragments of mosaic, other destruction debris recovered from Vani A and B includes tubuli, floor tiles, and roof tiles. The tubuli, squared pipes for conducting

hot air, are notable because there appear to be two types: thin-walled and thick-walled. We recorded the numbers and weights for each category. From US 301 (the debris/fill that covered most of the east side of E2 before we could distinguish two rooms), we recovered 225 thin tubuli weighing 21.65 kg, and 66 thick tubuli weighing 17.90 kg. From US 314 (a debris stratum limited to Vano B and not completely excavated), we recovered 75 thin tubuli weighing 4.80 kg and 120 thick tubuli weighing 19.95 kg.<sup>25</sup> A preliminary conclusion could be that there is a higher concentration of thick tubuli in Vano B, the apsidal room, suggesting that the thicker-walled tubuli in that part of the bath-house had a specific function such as channeling hotter air.

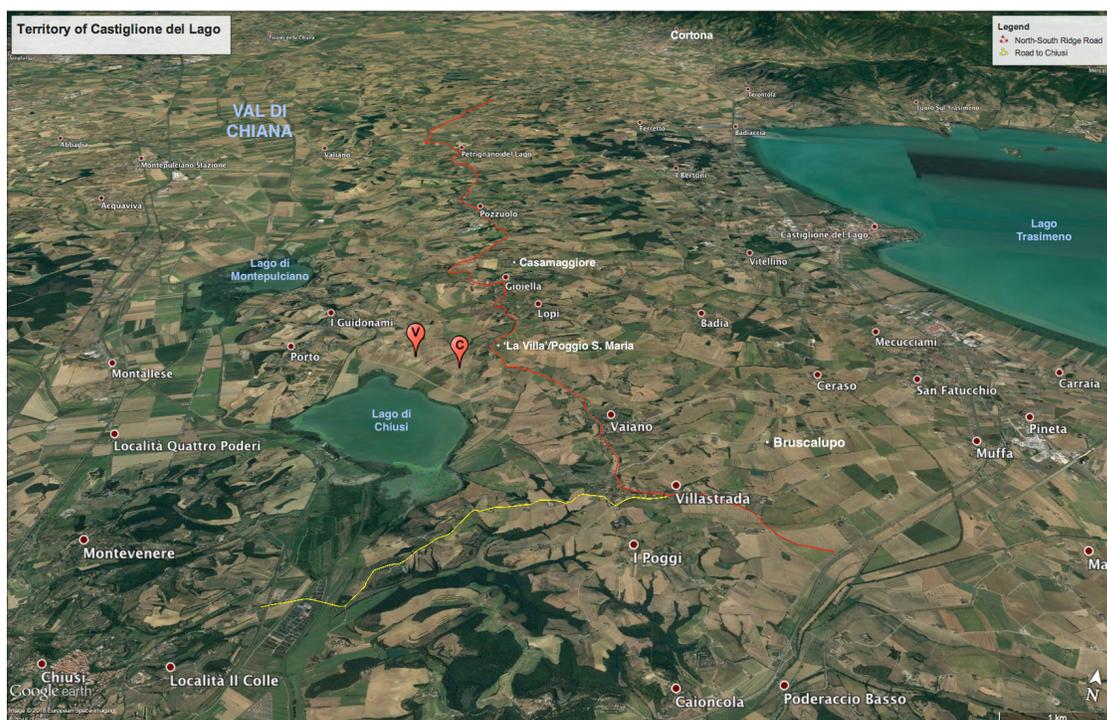
The construction techniques employed in this structure are intriguing. As far as we can see, to the east and the south, the sub-structures for the hypocaust system were cut directly into the natural sand stratum and that the *cocciopesto* lining for the hypocaust was built against the sand. Accordingly, the sand is part of the architecture of site. In 2018, we will further explore the extent of the bath complex as well as the use of the natural sediment in the construction of this area of the site.

### **Brick Stamps**

In 2017, we identified four stamped bricks, all from the surface (US 0) (Fig. 24). Two of the stamps may be the same: one preserves “LA-“ and the other just a “L-“, possibly for “LATAL.” On one we can read “CL•MN-“ and on the fourth, “LLIAN”. These will be further studied in 2018.

*The excavation team thanks the Soprintendenza for the opportunity to work at the Gioiella-Vaiano site. We are also grateful for the support and collaboration of the Sindaco and Comune di Castiglione del Lago.*

### Figure Captions



*Fig. 1. The territory of Castiglione del Lago, the sites of the likely villa (V) and cistern (C), and the north-south ridge road (red) that divides the watersheds of Lago Trasimeno and the Val di Chiana/Lago di Chiusi, and the route (yellow), at Villastrada, that connects west to Chiusi (GoogleEarth; P. Foss).*

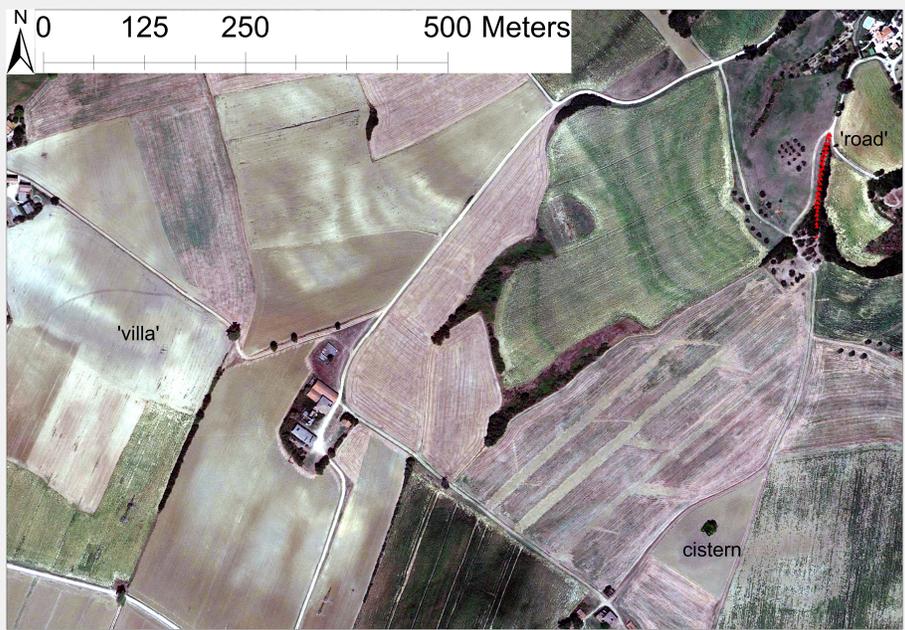


Fig. 2. Detail of the project area showing the 'villa' site, likely road, and cistern. (GoogleEarth/ArcGIS 10; P. Foss).

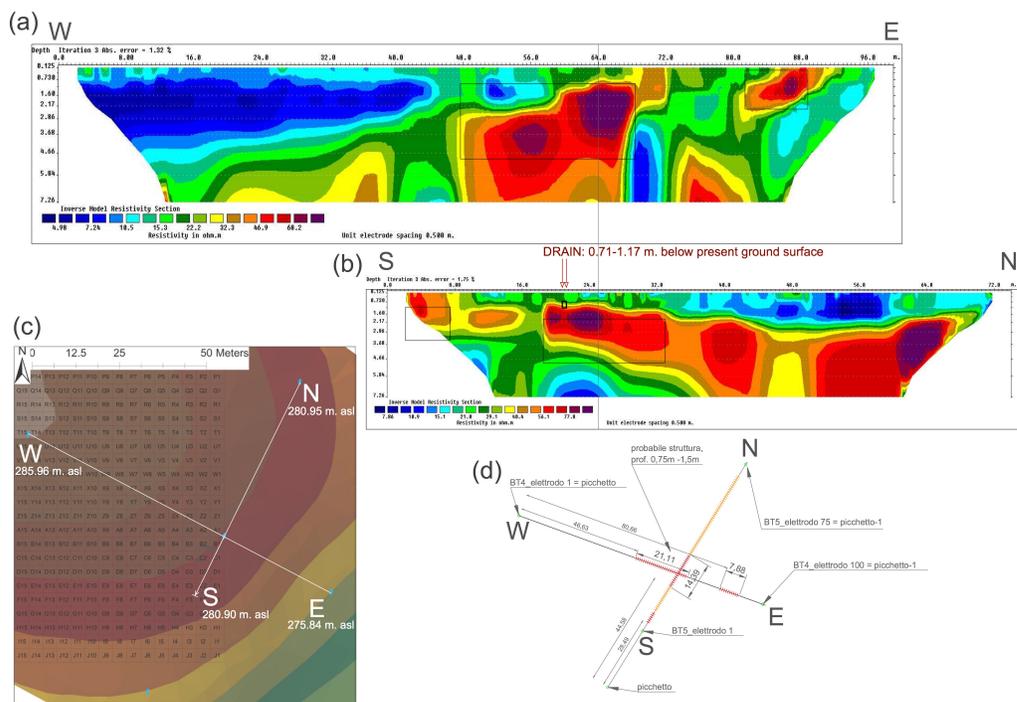


Fig. 3. Resistivity sections at the excavation site: (a) W-E section; (b) S-N section, showing the location of the drain; (c) position of the sections at the site [intersecting at the SE corner of square A1], including surface elevations for the endpoints of the resistivity sections, and showing the location of the excavated squares A1, B1, B2, and C2; (d) details of the resistivity setup (Massimiliano Mazzocca and P. Foss).

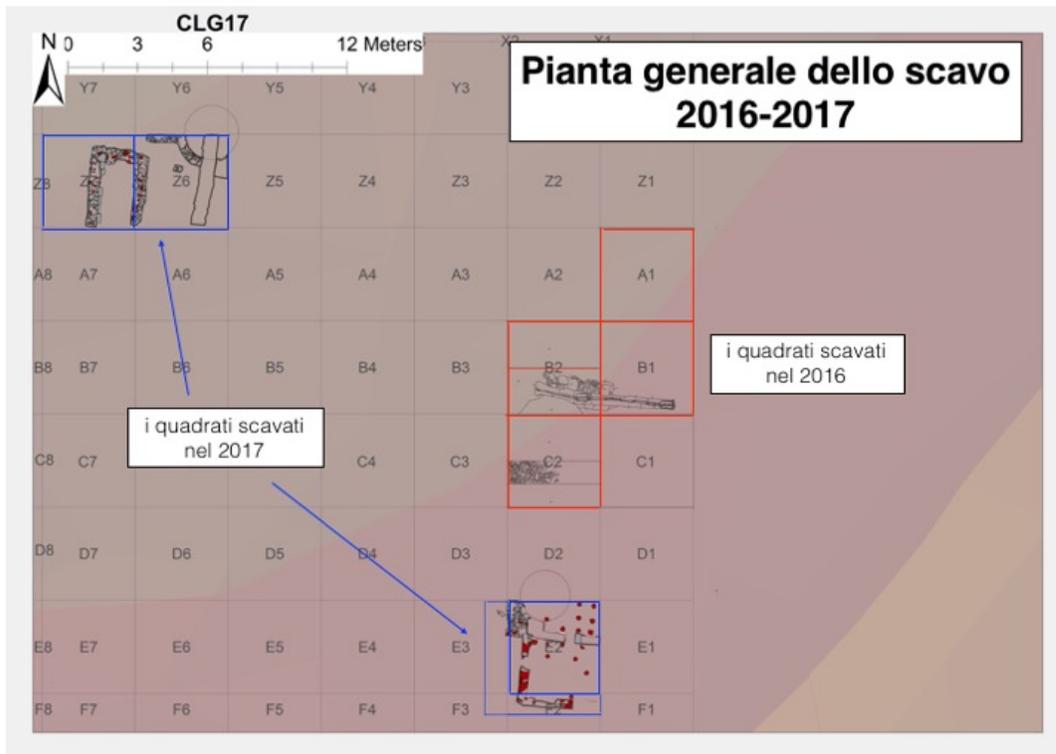


Fig. 4. Plan of the excavation site showing the squares excavated in 2016: A1, B1, B2, C2; and in 2017: Z6, Z7, and E2 (ArcGIS 10; P. Foss).

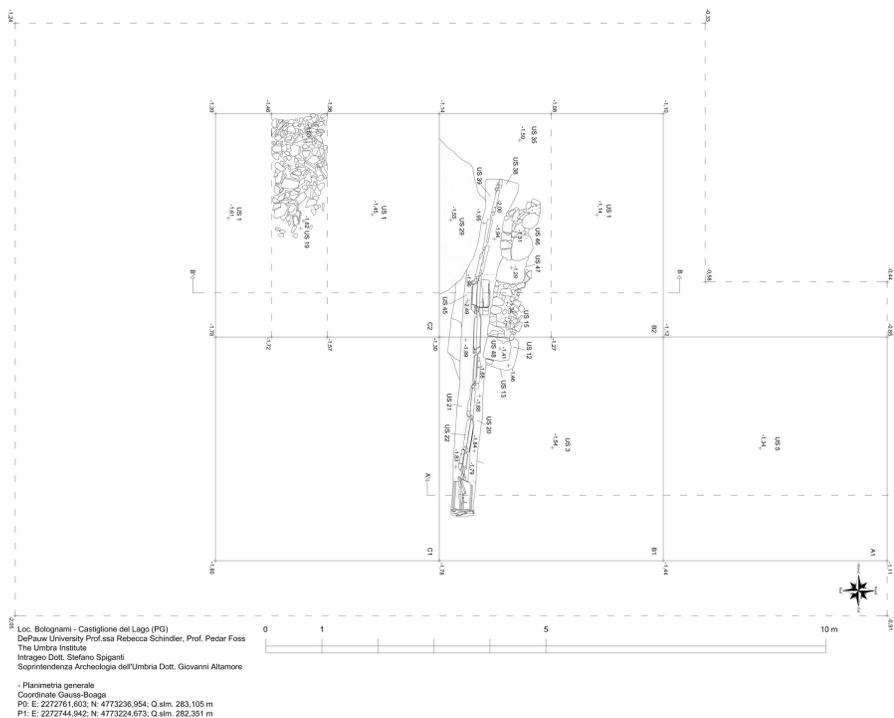


Fig 5. Plan of the area excavated in 2016. North at right (S. Spiganti).



*Fig. 6. Composite photo of the excavated areas. North at left. The natural sediment is visible in squares A1 and B1; the channel and wall can be seen in squares B1 and B2. In area C2 partially excavated destruction debris is visible (S. Spiganti).*



Fig. 7. Detail of the pitched tiles within the channel, square B1. View west (S. Spiganti).

Loc. Bolognami - Castiglione del Lago (PG)  
QQ. B1/B2\_Prospetto E-W visto da S

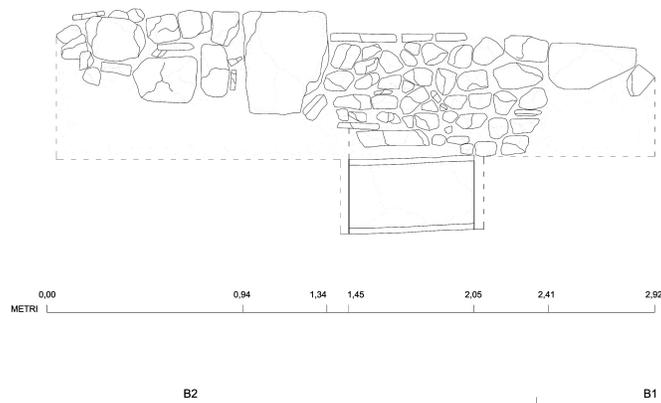


Fig. 8. Section drawing of the stone wall in B1-B2 (UUSS 15, 46, 47, 48), and the tile channel below and to the side. View from the south (S. Spiganti).



Fig. 9. Wall and channel in area B2 (UUSS 11, 15, 46, 47, 48). View to the north (S. Spiganti).



Fig. 10. Photo of square C2 looking west at the accumulation of tile debris: US 19 (S. Spiganti).

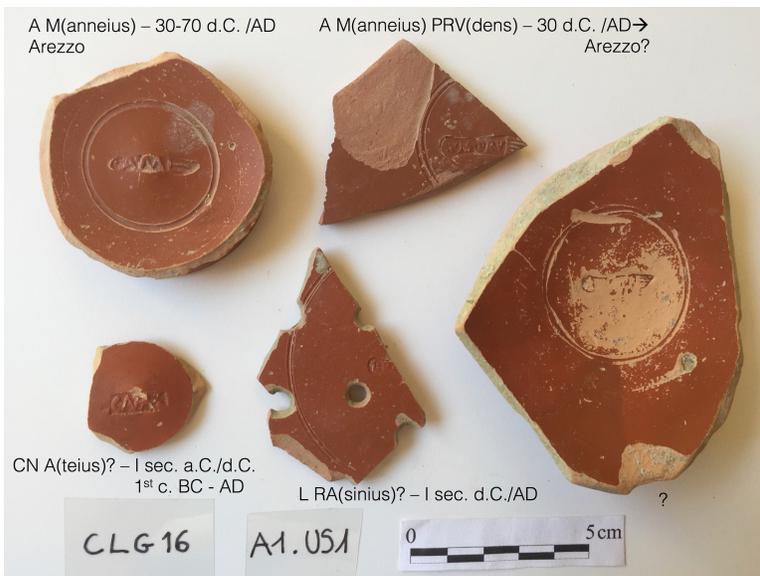


Fig. 11. Examples of sigillata with manufacturers' stamps, from A1 (P. Foss).

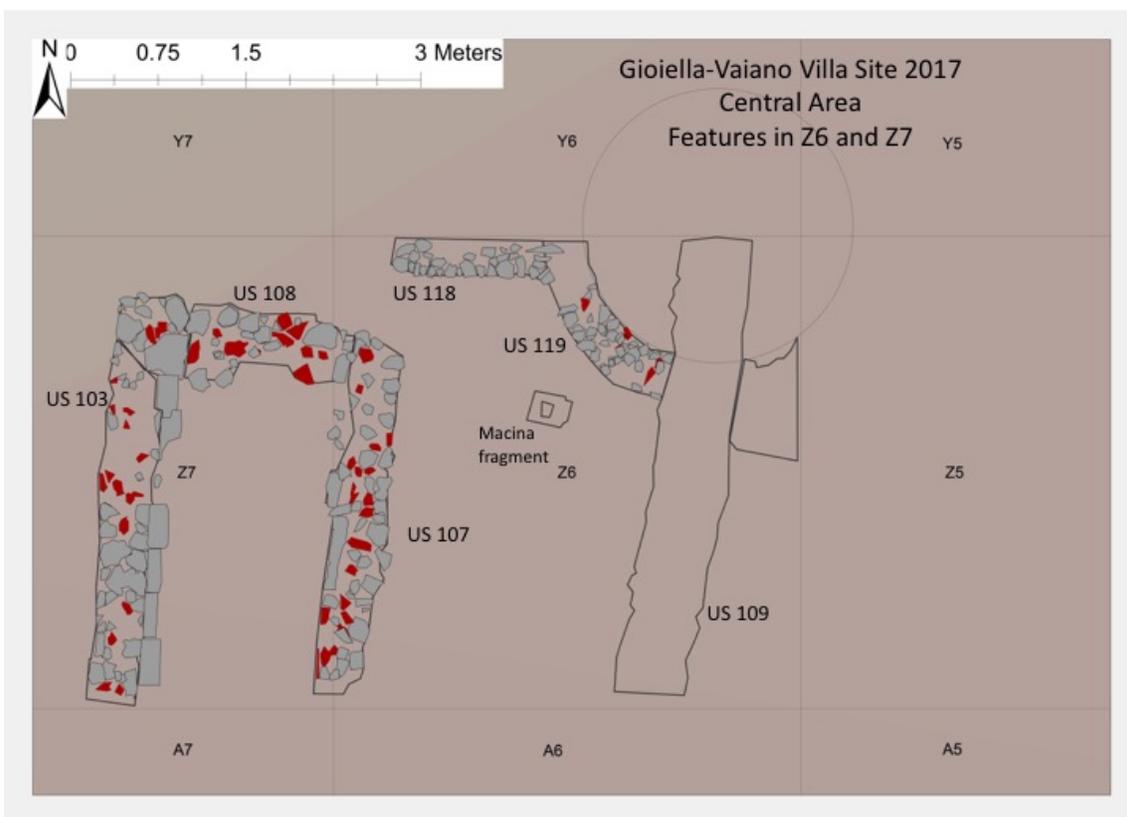


Fig. 12. State plan of the Central Area, showing features excavated in Z6 and Z7 (ArcGis 10; P. Foss and R. Kerns).



Fig. 13. View north of Z7 showing the support walls (UUSS 103/104 and 107) for the stairwell (R. Schindler).



Fig 14. View west of Z7 showing the west support wall for the stairwell (US 103/104) (R. Schindler).



Fig. 15. Detail view of the 'top' of the stairwell in Z7 (R. Schindler).



Fig. 16. View north of Z6 showing concrete wall US 109 and the apsidal cobble wall US 119 (R. Schindler).



*Fig. 17. View east of Z6 showing profile of US 109 and US 119 (R. Schindler).*



*Fig. 18. View in situ of the catillus for a macina, excavated from US 137 (fill) (R. Schindler).*

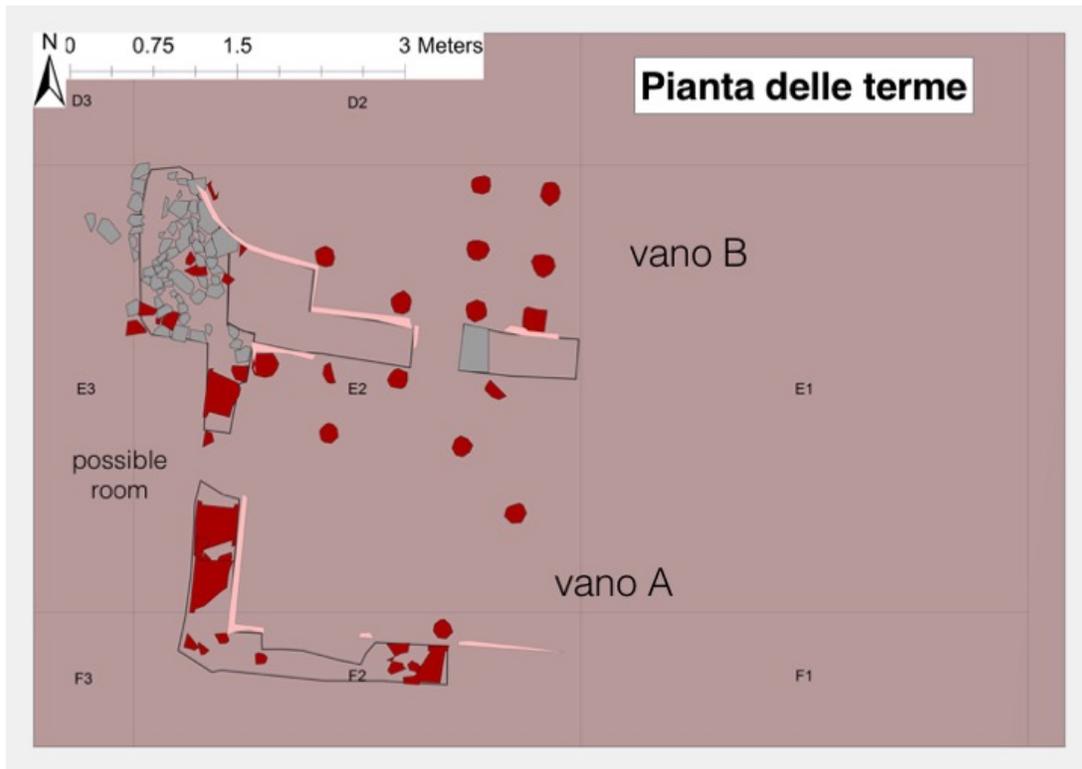


Fig. 19. Plan of the features in E2. Two rooms are clearly visible and there it appears that there is a third room to the west (ArcGIS 10; P. Foss and R. Kerns).



Fig. 20. View west of the substructure of two of the rooms in the bath complex (R. Schindler).



Fig. 21. Example of pilae in situ (R. Schindler).



Fig. 22. Examples of mosaic fragments from the debris in E2 (R. Schindler).



Fig. 23. Examples of window glass from the debris in E2 (R. Schindler).



Fig. 24. Three of the brick stamps (R. Schindler).

<sup>1</sup> G. Bevagna, Pedar Foss, Rebecca Schindler, Stefano Spiganti, 2016, "Castiglione del Lago, Gioiella site survey, 2015: preliminary report" (<http://www.fastionline.org/docs/FOLDER-it-2016-348.pdf>), 5-17.

<sup>2</sup> The site is also included in the catalog of villas and sites compiled by the Soprintendenza Archeologica dell'Umbria in 1983: *Ville e insediamenti rustici di età romana in Umbria* (Perugia). The site is located at approximately 43.07142 degrees Latitude 11.963102 degrees Longitude (WGS84), or N 4773236 E 2272751 (Gauss-Boaga Monte Mario 2 [East]).

<sup>3</sup> note here on the potential parallels with Ossaia and also on the use of the term villa to refer to the settlement activity at this site?

<sup>4</sup> BIZZARRI ET AL., 2015, ESP. FIG. 1; BIZZARRI ET AL., 2011; LUCILIA 2004, 180-85. SEE ALSO PUCCI AND MASCIONE 2003, 303-06; GIROTTI 2003; ALEXANDER 1984, 528-530.

<sup>5</sup> BATINO 2014, 186; PIZZILO AND SARTI 2011.

<sup>6</sup> TALBERT 2000, MAP 42 (ARRETIUM-ASCULUM); ALEXANDER 1984, 530-32; FOSSOMBRONI 1835, 16-22.

<sup>7</sup> The most detailed treatments of the area have been by RENZETTI 2011, PAOLUCCI 2002, PAGNOTTA 1984, AND BIANCHI BANDINELLI 1925. RENZETTI 2011, 241 posits that Chiusan control of the area north of Lago di Chiusi began in the late 7<sup>th</sup> c., reaching its peak in the 6<sup>th</sup>-5<sup>th</sup> centuries BC. BRUSCHETTI 1997, 10-23 also has a historical overview.

<sup>8</sup> RENZETTI 2011, 237-44; PAOLUCCI 2002, 165-66; cf. also PAGNOTTA 1984, 40 AND CARTA ARCHEOLOGICA.

<sup>9</sup> RENZETTI 2011, 238.

<sup>10</sup> RENZETTI 2011, 239 (esp. n.15), 244-246; PAGNOTTA 1984, 42.

<sup>11</sup> RENZETTI 2011, 246-56; PAGNOTTA 1984, 62.

<sup>12</sup> RENZETTI 2011, 256-64; PAGNOTTA 1984, 87-88 AND CARTA ARCHEOLOGICA.

<sup>13</sup> BIANCHI BANDINELLI 1925, 513. PLINY, *Historia Naturalis* 14.11 and 18.12, respectively mentions the vines and wheat in the region of Clusium; STRABO 5.2.9 discusses abundant fish, aquatic birds, and aquatic plants (e.g., papyrus, reeds, and reed tufts used for stuffing beds and pillows) from Lago di Chiusi and Lago Trasimeno, as well

as their transport via rivers to Rome; see RAIMONDI 2001, 109-10. For road systems, see COLIVICCHI, F. AND ZACCAGNINO, C., 2008, 73-79; RAIMONDI 2004; MOSCA 2002; and HARRIS 1965; for river traffic, see KEENAN-JONES 2013, 249-50, with analysis of PLINY, *Historia Naturalis* 14.53-54; also WILSON 2008 for the technology and economy of irrigated horticulture in the lower Tiber valley.

<sup>14</sup> COLIVICCHI, F. AND ZACCAGNINO, C., 2008, 69-79; Fig. 3.29.

<sup>15</sup> GUALTIERI 2014; FRACCHIA, 2006.

<sup>16</sup> BRUSCHETTI 1997. Bruschetti summarizes the scattered evidence for other villa sites in the area of Trasimeno on pp. 36-37, including a villa at 'Poggio Santa Maria', which seems to denote the site we are excavating for this project.

<sup>17</sup> PUCCI AND MASCIONE 2003, 315-20, in a chapter by DI PASQUALE, provides analysis of the carbon from the Marcianella ceramic factory just SE of Chiusi, which permits a hypothetical reconstruction of local arboreal resources from the 3rd c. BC – 2nd c. AD. Results indicate oak forests upon the plains and low hills in a humid-subhumid Mediterranean climate, featuring holm oak, turkey oak, downy oak, maple, hornbeam, european beech, and silver fir, the last of which is cited by Livy as an item supplied by Chiusi to help build the Roman fleet that invaded Africa in 205 BC (Livy 28.45.18).

<sup>18</sup> BEVAGNA ET AL. 2016, 5-17.

<sup>19</sup> For the early geological history of the Val di Chiana, see above, n. 4.

<sup>20</sup> Passignano: 1st-2nd c. AD: BRUSCHETTI 1997, 29-21, TAV. 4-5, 7; Camarelle: PAOLUCCI 1988, 33, TAV. XXXIII-XXXVII.

<sup>21</sup> Second c. AD: GUALTIERI 2014, 79-81, when the property was converted to terracotta production. PUCCI AND MASCIONE 2003, 303-06

<sup>22</sup> PUCCI AND MASCIONE 2003, 28-29, ATTIVITÀ 7, FIGS. 16-17, 22.

<sup>23</sup> GUALTIERI 2014, 111 FF.

<sup>24</sup> A. OXÉ ET AL., 2000; OCK Types 1059.2 (probably A. M[ANNEIUS]), ca. AD 30-70; 1107.3 (A. M[ANNEIUS] PRU[DENS]), after ca. AD 30; 278.98 tabella ansata variant (perhaps CN. ATEIUS), ca. 15 B.C. – A.D. 50 and after.

<sup>25</sup> **US 301 -**

thin tubuli 225 pieces; 21.65 kg

thick tubuli 66 pieces; 17.90 kg

$225/66 = 3.41$

$21.65/17.90 = 1.21$

**US 314**

thin tubuli 75 pieces; 4.80 kg

thick tubuli 120 pieces; 19.95 kg

$75/120 = 0.625$

$4.80/19.95 = 0.24$