

The 2012 Field Season at I.1.1-10, Pompeii: Preliminary report on the excavations

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This article provides a preliminary report on the 2012 field season of excavations undertaken by the University of Cincinnati's 'Pompeii Archaeological Research Project: Porta Stabia'. This was the eighth – and final – season of excavations for the project, during which four trenches were excavated within four separate properties across insula I.1. As the last of a series of preliminary reports published with FOLD&R, this article anticipates the final publication of the project's research in a series of forthcoming monographs; the preparation of these volumes are currently underway. The focus of the present report is on the stratified sequences uncovered in each trench. It also outlines the phases of activity and how some of these relate to the development of other parts of the buildings already excavated by the project throughout insula I.1, as well as to the results from our excavations on the western side of the via Stabiana at insula VIII.7. The earliest sequence of activities begins in the 6th century BCE, with major developments occurring in the 3rd and 2nd centuries BCE (the establishment of the standing buildings, one of which operated a pottery production facility), the Augustan period (the replacement of production spaces with retail, as well as some significant quarrying activities), and the last decades of habitation (the structural recovery from the earthquake/s).

Introduction

The Pompeii Archaeological Research Project: *Porta Stabia* (PARP:PS) undertook its eighth and final campaign of excavations during the summer of 2012, during which four trenches were opened across the extent of I.1.1-10 (fig. 1); these followed from the seven trenches that were excavated in *insula* I.1 during our 2010 and 2011 field seasons¹. Our excavations of those trenches had established a phased development of the *insula* that was not unlike that already established from our excavation of VIII.7 during our 2005-2009 field seasons². The briefest sketch of the overall development of the area is as follows³: some sparse occupation can be attributed to the 6th and 4th centuries BCE, with notably less activity in the 5th and 3rd centuries (the most significant being a pottery production facility from the 3rd century)⁴; urban development escalated rapidly and notably through the 2nd century BCE, with most of the buildings appearing at this stage and operating cottage-scale industries (notably fish-salting and tanning); those activities ceased during the

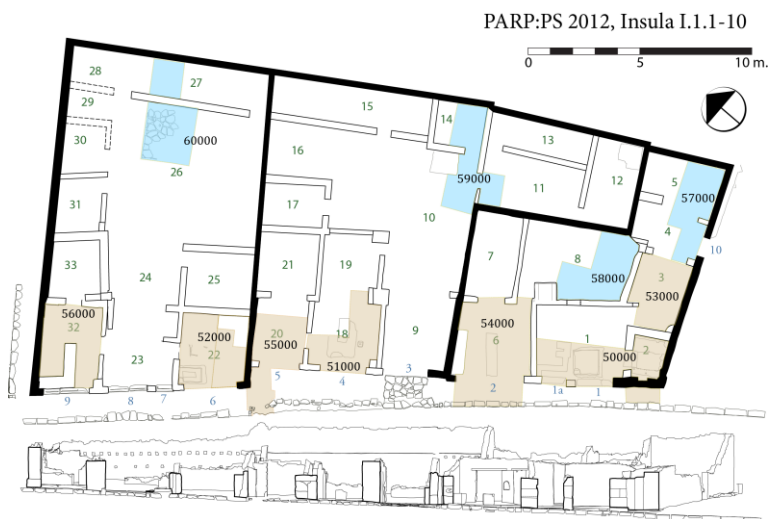


Fig. 1. Location of the 2012 trenches (in blue) in insula I.1.1-10.

¹ For the 2010 season, see ELLIS, EMMERSON, PAVLICK, DICUS 2011; for the 2011 season, see ELLIS *et al.* 2012.

² Publication of this research on VIII.7 includes: DEVORE, ELLIS 2005; 2008; ELLIS 2011b; ELLIS, DEVORE 2006; 2007; 2008; 2009; POEHLER, ELLIS 2011; 2012; 2013.

For the online profile of the Pompeii Archaeological Research Project: *Porta Stabia*, see <http://www.uc.edu/pompeii/>.

³ See also ELLIS 2011b.

⁴ On the so-called hiatus period/s at Pompeii, see COARELLI, PESANDO 2011.

Augustan period, a time when almost all of the street-front spaces were converted more exclusively to retail activities. The earthquake/s of the early 60s CE caused significant damage to the area, with every property requiring significant reconstruction; the final phase/s of the *insulae* were dominated by hospitality and retail activities, with some considerable socio-economic distinctions being registered between one property and the next, particularly with regard to consumption patterns.

The intention of the 2012 season was to focus on some more specific outstanding questions for the development of the *insula* and to add some necessary clarity to the structural relationships between the properties and how these developed over time. Apart from allotting one trench for each property, as we had done for the 2011 season, the location of each trench was targeted to build upon our understanding of the chronological development of each property. In the past two seasons we had privileged the street-side frontages, which tend to provide much information on structural developments and various activities. This season, however, our aim was to chart some of the developments toward the rear of each property. Trench 57000 was opened across the two rear rooms (Rooms 4 and 5) of the property at I.1.1/10; Trench 58000 was located in the rear room (Room 8) of I.1.2, a property whose standing architectural delineation suggested that it had originally been a part of I.1.1/10; Trench 59000 was opened across three rooms at the rear of property I.1.3-5, being the large central space (Room 10) and two smaller spaces to its east and south (Rooms 11 and 14); and Trench 60000 was opened at the rear of property I.1.6-9, covering parts of rooms 26 and 27.

Along with the stratified excavations, the project continued several lines of integrated research. The careful collection and detailed analysis of the bio-archaeological record and geological terrain of VIII.7.1-15 and I.1.1-10 continued under a team led by Mark Robinson (Oxford), Michael MacKinnon (Winnipeg), and Andrew Fairbairn (Queensland)⁵. Archer Martin (Köln and the American Academy in Rome) and Luana Toniolo (Venezia) led a team of ceramics specialists in the analysis of the pottery, while Leigh Lieberman (Princeton) directed the team responsible for the vast range of artefacts. Giacomo Pardini (Roma) led the study and conservation of the coins. Eric Poehler (UMASS Amherst) directed our architectural survey of the entire zone in addition to his efforts at the Pompeii Quadriporticus Project (PQP)⁶. John Wallrodt continued the advancement of the digital infrastructure of the Project, concentrating on our data collection procedures and database.

Trench 57000:

Trench 57000 comprised the southern halves of Rooms 4 and 5 in property I.1.1/10 (fig. 2)⁷. The location was chosen to satisfy two research objectives. First, we aimed to establish the occupational phases of these two back rooms in order to construct a stratigraphic sequence that encompassed the entirety of property I.1.1/10. Second, given that our excavations in the 2011 field season placed the construction of these rooms within a relatively late phase (late 1st century BCE)⁸, we sought a clearer understanding of the early activities that took place here when the area was still public space. How this area related – structurally and socially – with the *Porta Stabia* was also of interest. Each room was excavated down onto natural volcanic deposits, being an ash paleosol of a light grey friable matrix.

Phase 1: 4th century BCE construction

The evidence for the earliest occupation came from the discovery of a single *pappamonte* block found *in situ* on a stratum of the above-mentioned natural ash deposit at the south-central extent of Room 4. The *pappamonte* block ran in a NW-SE direction, continuing under the later threshold of a doorway within the later southern wall (WF 1021/1002) that enclosed the

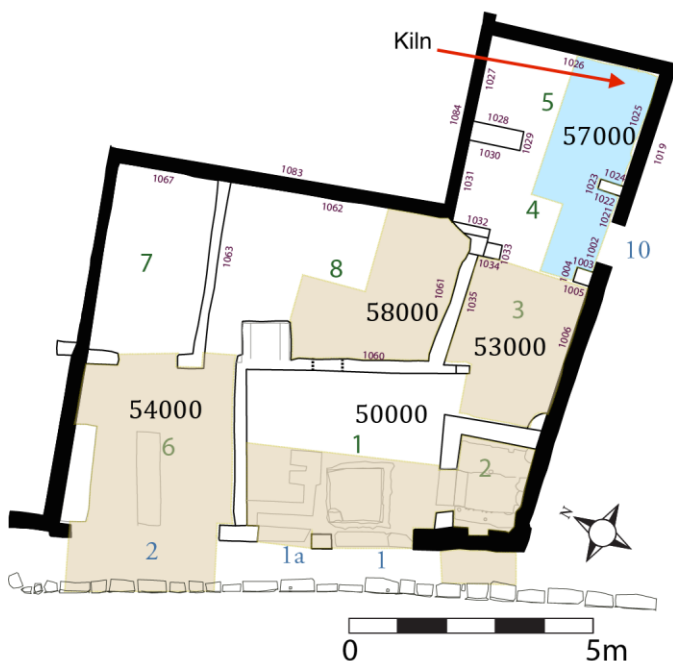


Fig. 2. Plan of Trench 57000.

⁵ ROBINSON 2011.

⁶ POEHLER, ELLIS 2011; 2012; 2013. On the architectural methodologies, see ELLIS *et al.* 2008.

⁷ Trench 57000 was excavated under the supervision of Kevin Dicus, Case Western Reserve University.

⁸ ELLIS *et al.* 2012: 5-6.

space in Phase 4; the block's full dimensions were thus obscured (it was 35 cm wide and 40 cm high, but only 30 cm of its length could be detected before it continued into the southern wall). No artefacts were associated with its context and thus little can be determined from the block alone. The nearest spatial comparanda for similar *pappamonte* blocks/foundations was found to the NW in our 2011 excavations of Trench 54000 (see Phase 2), in Room 6 of Property I.1.1-2/10⁹. There, three similarly sized and aligned *pappamonte* blocks represented the foundations of a façade to a property alongside the early incarnation of the *via Stabiana*; their installation, however, dates to the 6th century BCE¹⁰.

Phase 2: Pottery production facility (from the early- to mid-3rd century BCE)

The second phase of activities in this area was dominated by the installation of a pottery kiln, probably in the early- to mid-3rd century BCE. Given that the kiln would ultimately be put out of use and buried for the construction activities of Phase 4, below, it is strikingly (and surprisingly) well preserved with many of its main structural elements present (fig. 3)¹¹. Equally surprising is the fact that the upper-most part of the kiln was first identified some 100 years ago by Matteo Della Corte, who dug a small pit (to describe it as a systematic archaeological trench would be something of an exaggeration) in this location around September 1912¹². His digging of a small pit here was neither explained nor published, but must have been in relation to his interests in locating the Pompeian *pomerium*¹³. All that survives of his activities is a hand-drawn sketch to indicate his awareness of the kiln¹⁴, as well as the archaeological remains of the pit itself that we uncovered directly above the kiln (the pit was identified as having been cut into the lowest of the modern surfaces here).

The kiln was aligned east-west, and retained a narrow *praefurnium* that ran eastward approximately 60 cm from the west-facing stokehole, within which a deposit of ash – thus the remains of the final firings of the kiln – was recovered. The *praefurnium* opened up to a rounded combustion chamber, of which the diameter was just over 1 m. The combustion chamber's floor was composed of tile and clay, which supported a central pedestal. This support was constructed from the upper parts of an amphora, cut width-wise across the body¹⁵. The pedestal supported the perforated oven floor, 45 cm above the combustion chamber floor. The oven floor was made by three, and possibly four, thick (ca. 10 cm) terracotta perforated wedges extending from the inner edge of the rounded oven wall; remarkably, three of the oven floor pieces survived *in situ*, providing an opportunity to observe elements of a kiln's structure that rarely survive to this degree. The inner points of the wedges met at the center, supported by the central pedestal. The pottery would have been stacked on the oven floor, the perforations acting as vents to draw the heat from the combustion chamber below. Very little of the oven wall survives, and nothing of its (domed) roof.

The kiln parallels those of Class 1a in Ninina Cuomo di Caprio's typology of pre-Roman and Roman kilns of south Italy and Sicily¹⁶. Kilns of this class were circular and contained central supports. It is one of the most common kiln types, primarily because it is the simplest solution of supporting the perforated oven floor, guaranteeing "a strong support to the central (and therefore weakest) part of the oven floor"¹⁷. The kilns of this sort from south Italy



Fig. 3. View of the kiln, looking southeast.

⁹ On *pappamonte* foundations uncovered throughout Pompeii see, especially, ESPOSITO, KASTENMEIER, IMPERATORE 2011; HOLAPPA, VIITANEN 2011; and BALL, DOBBINS 2013: 465. Also ELLIS 2011a: 9.

¹⁰ ELLIS *et al.* 2012: 9.

¹¹ The terms of the various elements follow those set by CUOMO DI CAPRIO 1978/79.

¹² We are grateful to our friend and colleague, Nicolas Monteix, for first bringing this information – and specifically the otherwise easily missed document – to our attention.

¹³ Nothing of the kiln, let alone any excavation, is mentioned in DELLA CORTE 1913.

¹⁴ The sketch is on the first page of Della Corte's notebook nr. 17 (dated 24 Sep 1912 - 18 Dec 1912; Vander Poel Campanian collection, series I.C, box 47, f. 5).

¹⁵ For the various ways in which amphorae were re-used, see PEÑA 2007: 119-192. The amphora itself, under the study of Archer Martin, was of a local fabric but in a highly unusual form.

¹⁶ CUOMO DI CAPRIO 1971/72; 1978/79, and 1979.

¹⁷ CUOMO DI CAPRIO 1978/79: 24.

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Fig. 4. One of the juglets produced in the kiln (Drawing by Nicole Gross and Gina Tibbott; Photo by Jennifer Stephens).

wall of WF 1027, demonstrating that the former was built *before* the latter; the late phase of the wall (in Phase 4, below) abuts against the northern wall, indicating that the former was built *after* the latter (see Phase 2 of Trench 58000, below, for the construction of the north wall). The kiln, therefore, predates the construction of the property to the north in relative terms.

The artefact assemblages associated with the kiln are equally of interest. Of the many fragments of pottery found within the destruction layer of the kiln, the vast majority was of a form of common ware juglet of variable, but all small, sizes (fig. 4). In form they are most similar to those of Marabini III and, especially, Marabini IV²¹. The juglets represent the final batch of vessels fired in the kiln, during which time the kiln underwent a significant failure after which it remained inoperable. One miniature votive cup recovered from the layer of ash on the *praefurnium* floor, perhaps dedicated (unsuccessfully, it seems) to protect the kiln, or perhaps also being fired, was the only notable different form²².

The kiln assemblages, furthermore, brought back into focus other assemblages recovered in the previous year's excavations²³. In the adjacent Room 3, we had uncovered a large amount of pottery fragments associated

can date as early as the 6th century BCE and continue throughout the Roman Empire¹⁸. Of 73 examples of Class 1a kilns studied in and around Greece, furthermore, the chronological range extends from the Bronze Age to the Byzantine periods, with the majority (31) dated to the Hellenistic period¹⁹.

The kiln abuts a corner created by N-S and E-W running walls (WF 1026 and 1025, respectively) that supported the rear (eastern) and southern sides of the kiln and provided a built space for the pottery production facility. A terracotta tube (damper), used to control the draw of the kiln, ran from the rear of the kiln through the N-S wall (WF 1026). The presence of this damper could indicate that the structure had a permanent domed roof; that none of the roof survived could otherwise indicate the use of a temporary domed structure, of a type known elsewhere²⁰. Materials from the kiln's destruction were found packed within the tube itself, demonstrating that the kiln and the walls were contemporaneous.

The two walls (WFs 1026 and 1025) were erected in a series of phases, the earliest being this phase for the construction of the pottery production facility. These early walls were eventually used as the foundation of later walls that enclosed and privatized the space (see Phase 4, below). It is this later development that remains visible above the modern level of the topsoil, but it is important to recognize that the walls were erected in two very different events. The demarcation between the two phases is clear: the early, lower section of the wall was constructed using a variegated mix of stones, including tuff, limestone, and lava stones; the later, upper part of the wall was constructed using almost entirely black lava stones (ca. 90%). Likewise, the relative chronological difference of the two phases is clear: the interface of the N-S wall (WF 1026) and the E-W wall at the north of the room (WF 1027) is different between the two different phases of the wall. The early phase of WF 1026 runs through the (not yet existing) northern

¹⁸ CUOMO DI CAPRIO 1978/79: 25-26, and CRACOLICI 2003: 11. For a catalogue of known kiln sites in Italy, see OLCESI 2012.

¹⁹ HASAKI 2002: 160, table III.7. Bronze Age: 7; Geometric: 2; Archaic: 6; Classical: 12; Hellenistic: 31; Hellenistic-Roman: 0; Roman: 10; Late Antique: 0; Byzantine: 4; Undated: 1.

²⁰ Such temporary domed structures were often constructed before each firing by applying a layer of clay over tiles to enclose the oven. After firing, the tiles and clay would be removed and discarded. On these see CUOMO DI CAPRIO 1978/79: 23.

²¹ We owe this identification to Luana Toniolo, who is working on these assemblages. On the type, see MARABINI MOEVS 1973.

²² The votive cup exhibits a form that is commonly found in central and southern Italy between the 4th and mid-2nd centuries BCE. See BONGHI JOVINO 1984: 175-176, TAV. 111. 4-5; and D'AMBROSIO 1984: 140, tav. XXX-XXXI. 316-317.

²³ See Phase 1a-c of Trench 53000 in ELLIS, EMMERSON, PAVLICK, DICUS, TIBBOTT 2012: 3-4.

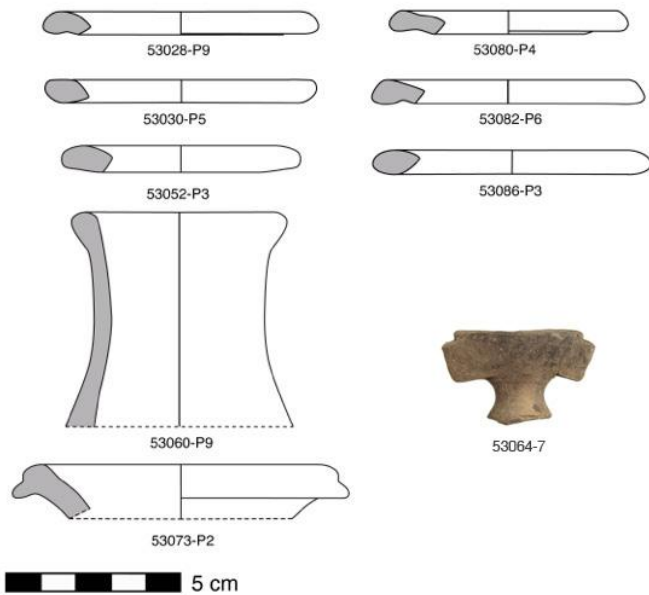


Fig. 5. Some of the cylindrical vessel supports and an example of the type of votive cup (Drawings by Nicole Gross, Jenny Kreiger, Sedef Kinacioglu and Gina Tibbott; Photo by Jennifer Stephens. All images to same scale).

dical vessel supports from a kiln (fig. 5). Vincenzo Cracolici, in his study of the typology of vessel supports at Metapontum, dates similar examples from the 5th to the 3rd centuries BCE²⁴. The walls of the low-walled structure were lined with heavily burned refractory clay; the masonry in the walls was equally discolored from repeated high temperatures. Over its base was a significant layer of ash. Combined with these assemblages, as well as the stratified sequence itself, it would now appear that the structure was in use at the same time as the kiln from 58000, the 3rd century BCE, and that the structure was not sacred in nature, as our preliminary ideas had led us due to the presence of so many votive materials, but rather was a form of kiln in operation with the pottery production facility. This low-walled kiln became inoperable first, however, and was dismantled. The remains of its structure were then used as a pottery dump, filled with misfired vessels from the kiln in Trench 58000.

These discoveries bring to light another pottery workshop in Pompeii²⁵. Further study is, of course, needed, but at this time it appears that the kiln was one of at least two active near the *Porta Stabia* during this period. Excavations in 2005 in the back garden of property I.5.2, for example, uncovered a poorly preserved kiln²⁶. A part of the west wall, its interior built with bricks covered by a refractory layer of clay, and a fragment of the combustion chamber, constructed of *tegulae*, were all that remained due to later-phased disturbances. Like our pottery processing facility just 20 meters to the SW, this kiln produced common ware vessels for domestic use; six vessel separators were also recovered. Stratigraphic relationships place the kiln's construction in the early 1st century BCE, when the kiln in Trench 58000 may still have been in operation (if for not much longer), and in use until the construction of the tannery vats in the garden in the second quarter of the 1st century CE. The votive materials and vessels, as well as the close location of these kilns to an urban gate, suggest the production may have been in association with a nearby sanctuary²⁷.

Phase 3: Opus incertum wall and first architectural delineation of the space (later 2nd century BCE to early 1st century BCE)

A large *opus incertum* wall, oriented NW/SE, on the same alignment as the *pappamonte* block of Phase 1, was built in the third phase of activity in Room 4 (fig. 6). Its width was 40 cm and it ran the extent of the trench, continuing through the northern baulk toward the northern wall (WF 1031/1035) that separates I.1.1 from I.1.2. Spatial



Fig. 6. Opus incertum wall of Phase 3 in Trench 57000; the same wall served as the base of a drain in Phase 4.

with a small, low-walled structure. The majority again came from a single form: the common ware juglet of the same typology of as those from the kiln, many of them showing evidence of misfiring. Other fragments of misfired vessels – including black gloss – and wasters were included in this assemblage. Other pieces included votive cups of an analogous type to the one found in the *praefurnium* and numerous perforated and unperforated, cylindrical

²⁴ CRACOLICI 2003: 38-45.

²⁵ For a review of other pottery workshops in Pompeii, see PEÑA, MCCALLUM 2009.

²⁶ CAVASSA 2009.

²⁷ DI GIUSEPPE 2012.

constraints compelled us to stop excavating beside the wall before we could reach its lowest course. Unpainted plaster survived in rather large fragments against the wall's western face. Smaller fragments were detected on the eastern face as well; some of this plaster lipped over the earlier, and now out of use, *pappamonte* wall of Phase 1. Moreover, a beaten earth surface was found abutting the wall's eastern face, at an elevation that indicates it had covered the earlier *pappamonte* wall (although Phase 4 activities had removed the surface directly over the *pappamonte*). Later (Phase 6) construction destroyed any trace of a surface on the western side of this Phase 3 wall.

As with the *pappamonte* block of Phase 1, the *opus incertum* wall projected through the later (Phase 4) southern wall (WF 1021/1002); therefore, it was in place before the privatization of the space. The relationship between this wall and the large wall (WF 1031) to the north was not apparent. We thus have no secure way of knowing whether the former predates, postdates, or is contemporary with the latter's construction. However, its northern trajectory and alignment allows us to construct a credible hypothesis as to its relationship to the remaining standing walls. The coordinates of the wall, plotted onto the plan of the site, show that it is aligned precisely with the large wall that defines the back of I.1.2 (WF 1062/1083; see Phase 2 of Trench 58000, below). Thus, it was most likely contemporary with the construction of the properties to the north in the later 2nd century BCE (thus the origin of both I.1.1 and I.1.2; see Phase 2 of Trench 58000 and Phase 1b of Trench 59000, both below).

This conclusion also speaks to the function of the wall. During the 2010 excavations we uncovered a large public well in the SW corner of property 1, now enclosed within Room 2 (see fig. 2)²⁸. The evidence showed that the well was built around the same time as the earliest delineations of the domestic spaces. At that time, there had been two distinctly different types of space: private and domestic to the north, and, at the southern edge, now enclosed as Rooms 2, 3, 4, and 5 of property 1, a highly trafficked public area where people congregated to collect water. In this context, we can see the *opus incertum* wall functioning as the eastern limit of the region around the well. The principal pedestrian access to the well was from the west, from the *via Stabiana*, while more restricted access was from the east, limited by this *opus incertum* wall. The higher traffic from the west was dramatically marked in the structure of the well itself: more and deeper grooves from drawing buckets of water scored its inner wall at the western access point²⁹.

Fewer activities can be registered in the eastern limits of the trench, within Room 5, for Phase 3. The most significant of them, however, was the destruction of the kiln, the vast majority of the evidence for which, and not least diagnostic information, was lost in later developments. Even so, the event appears to have occurred sometime in the early 1st century BCE.

Phase 4: Privatization of the public space (Augustan period)

The wall of Phase 3 was dismantled in Phase 4, during the late 1st century BCE, as part of a major building program that enclosed the public space described above, privatizing the southern end of the *insula* and significantly expanding southward the area of Property 1. At this time, the fish-salting activities in (at least) Room 1 ended and the large vat was filled and covered by a new floor³⁰. A doorway was opened up at the SW to provide access between the front of the property and the newly created space (identified on the plan as Rooms 3, 4, and 5)³¹. Originally, this space was not delineated into separate rooms, an event that took place in Phase 5, but instead was a single large space; for the purpose of clarity, room numbers of the latest configuration are nevertheless used to specify where features are located.

As stated above (Phase 2), the enclosure wall (WF 1026 and 1025) in Room 5 used the earlier walls surrounding the kiln to the east and south as foundation. In order to create the interior space, major infilling of leveling debris raised the surface not less than 80 cm. The first interior surfaces were of beaten earth; two successive beaten-earth surfaces were distinguished in Rooms 4 and 5. A small (1.5 x 2.2 m) enclosure was constructed at the south of the new space. It began in Room 4, with a minor *opus incertum* wall running north from the southern wall (WF 1021) and cornering east, where it extended into Room 5, resting on top of the remains of the now-covered kiln. This feature was open at its eastern end and created an approximately 2 m² separate space within the property.

In Room 4, a doorway accessed the alley running west toward the *via Stabiana*. A drain was built under the threshold, using the uppermost course of the dismantled wall from Phase 3 as a foundation (see fig. 6). It ran southward into the alley, presumably leading to another drain with an outlet onto the *via Stabiana*; later activities destroyed all remains of the drain's northern course in Room 4.

²⁸ See Phase 2 of Trench 50000 in ELLIS, EMMERSON, PAVLICK, DICUS 2011: 3-4.

²⁹ ELLIS, EMMERSON, PAVLICK, DICUS 2011: 4, fig. 6.

³⁰ See Phase 5 of Trench 50000 in ELLIS, EMMERSON, PAVLICK, DICUS 2011: 5; ELLIS 2011b.

³¹ See Phase 4 of Trench 53000 in ELLIS, EMMERSON, PAVLICK, DICUS, TIBBOTT 2012: 5-6.

Phase 5: Delineation of rooms 3, 4, and 5 (first half of the 1st century CE)

The large single room was divided during Phase 5 into three smaller rooms. This was accomplished by constructing two *opus incertum* walls that ran N-S. It is clear that the walls were meant to function only as room dividers: both are too narrow and poorly founded to bear much weight. They are no longer visible above the modern topsoil, and thus were not assigned wall numbers during our early survey of the site; however, their trajectories can be ascertained easily by the presence of two pairs of wall segments (WF 1028/1029/1030 and 1022/1023/1024; 1003/1004/1005 and 1032/1033/1034) that mark the northern and southern extents of each wall. The SE *opus incertum* wall segment (WF 1022/1023/1024), must be read as modern: the mortar itself is entirely modern and it abuts against a modern reconstruction of the south wall (WF 1025/1021). The SW wall segment (WF 1003/1004/1005), however, dates to Phase 5. Built of *opus latericium*, the segment, which extends 60 cm from the south wall (WF 1006/1002), was built on an *opus incertum* foundation that ran so deep that excavations were forced to stop in that particular area for lack of space after excavating over 2 m below ground-level. The excavations of our 2011 field season revealed, on the west side of the segment, in Room 3 (see fig. 2), a latrine built in the mid-1st century CE, possibly after 62 CE, that used the segment and its foundation as its eastern extent³².

That the walls are later additions to the internal space is marked clearly by their physical relationships to the remains of the previous phase. The construction trench of the wall between Rooms 4 and 5 (now beneath wall segments 1028/1029/1030 and 1022/1023/1024) cut through the beaten-earth surfaces of the previous phase. The wall itself runs over the remains of the dismantled feature of the previous phase. Once the rooms were delineated, new beaten-earth surfaces were laid down. In Room 5, three successive beaten-earth surfaces were found to abut the east face of the dividing wall. In Room 4, due to later construction events that disturbed the area, we were able to detect one beaten earth surface.

Phase 6: Opus signinum flooring (from the mid-1st century CE; Probably post-earthquake).

The latest of the Phase 5 beaten earth surfaces were replaced in the last decades of occupation by an *opus signinum* floor surface; a sequence that is known for Rooms 3, 4, and 5. The 2011 excavation of Room 3 brought to light a contemporaneous *opus signinum* floor that was directly associated with the construction of the latrine in the mid- to late-1st century CE, possibly after the earthquake of 62 CE³³. It is likely that the *opus signinum* in Room 4 dates to the same event as well. In Room 5, a very fragmentary *opus signinum* surface was identified.

Trench 58000:

Trench 58000 was located in the back room (Room 8) of property I.1.2 (fig. 7)³⁴. Given the location of this space, being at the junction of three separate properties, as well as the trench's spatial and physical relationship to other trenches (especially 50000 and 53000), the aims of this excavation was to connect the stratified sequences of different spaces in the development of the southern part of the *insula*. It was also apparent, from architectural analysis alone, that this part of the property (I.1.2) had originally been spatially connected to – or part of – the two now neighbouring properties of I.1.1 and I.1.3-5; the development of this structural relationship would hopefully be identified in the building sequences uncovered in the trench.

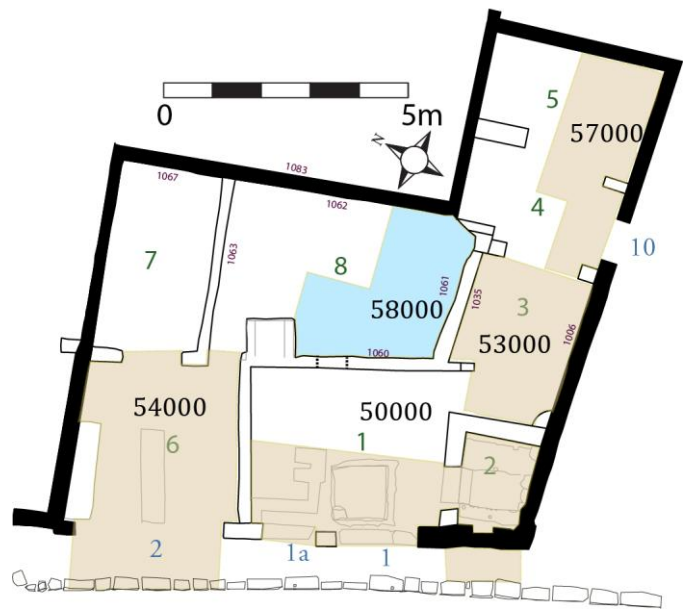


Fig. 7. Plan of Trench 58000.

³² See Phase 6 of Trench 53000 in ELLIS *et al.* 2012: 6-8.

³³ See Phase 6 of Trench 53000 in ELLIS *et al.* 2012: 6-8.

³⁴ Trench 58000 was excavated under the supervision of Gina Tibbott, Temple University.



Fig. 8. Excavated section of the mortar slurry foundation to WF 1062.

Phase 1: Terracing of the area with redeposited paleosols (Later 2nd century BCE)

The earliest activities were visible in just the northernmost corner of Trench 58000. Here we uncovered the redeposition of (otherwise culturally sterile) paleosols, which terraced the uneven terrain; this kind of activity has been detected already in this part of the *insula*, as well as across both *insulae* I.1 and VIII.7³⁵. These fills were covered with a hard-packed earthen surface, dark grey in color and rich in clay fraction. Although no diagnostic materials were present, the related terracing event in Phase 1b of Trench 59000, below, places this event in the later 2nd century BCE. These terracing activities could thus have been directly intended for the building activities of Phase 2, or at least to level the landscape for some specifically separate purpose.

Phase 2: Installation of standing architecture (later 2nd century BCE)

The earliest structural activity began with the construction of three of the four walls that defined Room 8 for all of its occupation. While the three walls (WFs 1060, 1061, and 1062) were constructed as a single event, a construction sequence was discernable. For example, the first to be built was WF 1061, which formed the SE boundary of the room. The foundations of this major partition wall were cut so deep into the otherwise undisturbed natural *Mercato* ash that our excavations, albeit to a depth of 3 m below the ground surface, were unable to reach the lowest foundations of the wall. While our excavations in Trench 53000 uncovered a construction trench against the southern face of this wall (WF 1035), the lowest level of the wall foundations continued deeper than the lowest limits of our excavation of it³⁶. It is noteworthy that the northern side of the construction trench, within Trench 58000, was much narrower than that recovered on the southern side in Trench 53000, demonstrating that the foundations were constructed from that southern side with the foundation stones being set against the north face of the cut, one result being that no dating material was recovered from the construction trench in Trench 58000.

The other two walls – WF 1060 (the NE wall) and WF 1062 (the SW wall) – were built to abut WF 1061, but very likely as part of the same construction event. Both walls were built in a style, visible only in their foundations, that has been detected elsewhere in this *insula*³⁷. Whereas the architecture of the northern part of the *insula* could often be founded upon a shallow lava bedrock, a significant drop in bedrock elevation occurs somewhere around the division between properties I.1.3-5 and I.1.6-9 (thus between doorways 5 and 6). The loss (or drop) of that bedrock in this part of the *insula* meant that a different approach to support the foundations was taken. The foundations for the two walls (WFs 1060 and 1062) were constructed upon a poured base of a lime-rich slurry. This slurry was poured into the bottom of a construction trench that was approximately 20 cm wider than the foundations it was intended to accommodate (fig. 8). The slurry was around 20-30 cm deep. The ultimate effect was a very hard, flat, and stable base. A continuation of the poured foundation associated with WF 1062 was identified in Trench 59000, further to the north, from the eastern side (WF 1083) of this wall (see Phase 2 in Trench 59000, below); it was also located in Room 20 of the same property³⁸.

During this second phase a deep, subterranean structure was created in the SW corner of the room at the intersection of WFs 1061 and 1060. Built of un-faced masonry, with an arched, masonry cover, the structure extended at least 3m below the ground surface - too deep to reach the bottom. The structure was probably a cesspit, which was sealed during Phase 3. None of the waste material could be reached, however, given that the 3 m of fill recovered from the void was made up of debris that had collapsed into it during the 79 CE eruption; the deepest material recovered from the collapse was part of the Phase 3 floor surface that sealed the cesspit.

The floor surface associated with this phase was of a beaten earth with a thin skim of mortar on its surface. This surface was prepared after the constructions of the walls of this phase were in place. More notable was a sig-

³⁵ ELLIS *et al.* 2011: 3, 7; ELLIS *et al.* 2012: 8, 14-15, 19.

³⁶ See Phase 2 of Trench 53000 (equivalent to Phase 2 of Trench 58000) in ELLIS *et al.* 2011: 4.

³⁷ See ELLIS *et al.* 2012: 11 (for the example in Phase 4 of Trench 54000), 15 (for Phase 3a of Trench 55000), and 20 (for Phase 9 of Trench 56000). Other examples are known across VIII.7 and I.1 (if not referred to specifically in publication), for example: Phase 2 of Trench 51000 in I.1.3-5; and Phases 4 and 5 of Trench 28000 in VIII.7.14-15. See also Phase 2 of Trench 59000, below.

³⁸ For the excavation of WFs 1063 and 1072 in Phase 4 of Trench 54000 (equivalent to Phase 2 of Trench 58000), see ELLIS *et al.* 2011: 10-11. See also Phase 3a of Trench 55000 in ELLIS *et al.* 2012: 15.



Fig. 9. Some of the amphorae used in the deep leveling fill.



Fig. 10. Cesspit in the southeast corner of Room 8, beneath the buttressing to WFs 1061 and 1062.

nificant difference in level between the surface against WF 1060 and that of WF 1062: the latter, to the east, was not less than 60 cm higher than the western side of the space. The construction activities of Phase 3 destroyed the junction between these levels, which seems to have run along a parallel axis along the center of the room; we might expect there to have been a (now lost) wall that divided the space, but nothing survives of this configuration. Numismatic and ceramic material pointed to a later 2nd century BCE dating for this phase.

Phase 3: Levelling and renovation

The third phase of activity was marked by an effort to level the difference in elevation between each side of Room 8 (or the divided space, as it may have been, in Phase 2). A large fill of mostly broken, recycled amphora laid on their sides was used to fill the volume (fig. 9). The amphorae varied in typology and quality, but with several Dressel 1 vessels of the late 2nd century BCE. Some vessels were complete or near-complete, while others were only partial or noticeably fractile. The remainder of the fill material was of brick, tile, cookware, and coarseware; the assemblage, as well as the total lack of finewares, speaks to the nature of selectivity in the choice of recycled waste material for the leveling and construction of floor surfaces³⁹. So poor was the quality of materials used in this debris that some of the amphora fragments were so mis-fired that it was possible to flake away the fabric with one's fingernail.

This leveling event ultimately unified the space, and any partition that may have operated in Phase 2 was no longer a part of Phase 3; Room 8 was now one space. A mortar surface topped the leveling event. A large masonry structure, perhaps designed to hold liquid, now occupied the center of Room 8. This structure would be almost wholly destroyed in the following phase (Phase 4), thereby rendering it almost impossible to identify, describe, and understand. Only parts of its plaster-lined walls survived in a concentrated area of debris, occupying an area of about 1m² and ca. 20-30 cm in height.

Phase 4: Introduction of an opus signinum floor surface (Augustan period)

An *opus signinum* floor was installed throughout Room 8 during Phase 4. This caused the almost complete obliteration of the Phase 3 structure in the center of the room. The *opus signinum* was of a poor quality, and was in parts repaired in antiquity with the application of some mortar patches and skims. There was otherwise very little change to the shape of space – there was certainly no change in the architecture – and little else could be learned

³⁹ On the recycling of waste material in in the construction of buildings at (not least) Pompeii, see DICUS 2014 and ELLIS *forthcoming*.

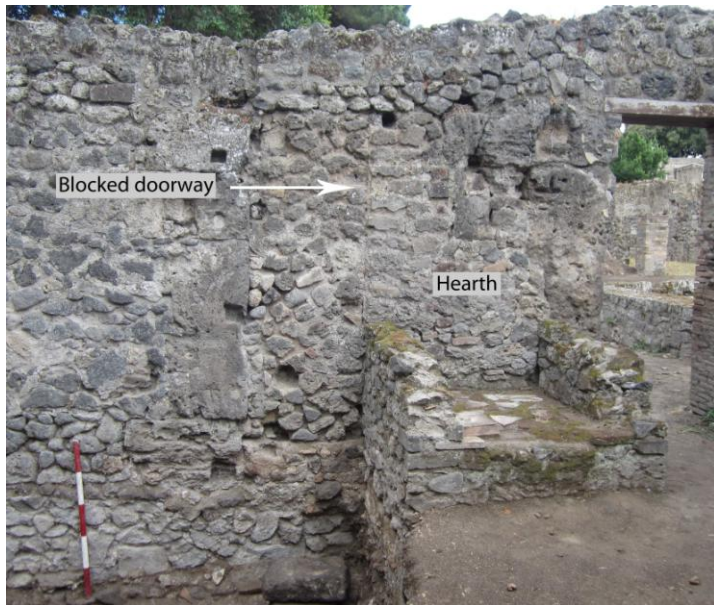


Fig. 11. Cooking hearth built against the northern end of WF 1060; note its placement against the (ultimately blocked) doorway into Room 1 of I.1.1.

about the function of the room at this time. Even so, the dating of this period can be placed approximately in the Augustan period, a period of notable development throughout both I.1 and VIII.7⁴⁰.

Phase 5: Earthquake repair and introduction of food-processing features (60s CE)

More significant, or at least more discernable, developments to Room 8 define Phase 5. That many of these developments relate to the rebuilding of the walls, but without any genuine spatial reorganization of them, suggests that this renovation phase was in response to major earthquake damage; our project has already documented significant earthquake damage, doubtless from the early 60s CE, across *insulae* I.1 and VIII.7⁴¹. The upper course of WF 1061, for example, was wholly rebuilt at this time. At the junction of this wall and WF 1062, in the SE corner of Room 8, a deep cesspit was dug; the cesspit had a masonry entrance of about 1m in width (fig. 10). This appears to have been open in 79 CE, as most of the fill of the void was made up of lapilli from the eruption. Intact wood

fragments pulled from the fill of the cesspit suggest that the structure could have been built up around a supporting frame, or that some wooden structure collapsed here during the eruption. Issues of safety meant that only 2 m of debris could be excavated, and thus the full depth of the structure – and not least its contents – remain unknown. A downpipe (diameter: 10 cm) from a second storey above Room 8 also let its contents into the cesspit. This downpipe was built within a buttressing section of masonry that was added in this phase to the SE corner of the room, at the intersection of WFs 1061 and 1062 (see fig. 10); this buttress was doubtless another response to earthquake damage.

The floor surface was also raised in this phase, with a 20 cm sub-floor fill culminating in a mortar surface. This sequence, in which a typically sturdier *opus signinum* floor was replaced by a poorer mortar surface, was something of a 'signature' event for the post-earthquake recovery phase across both *insulae* I.1 and VIII.7⁴².

In one of the more discernable functional developments, a cooking platform was built upon this new surface, against WF 1060 (toward its northern end; fig. 11). The southern edge of the structure aligned directly with a doorway in WF 1060 that gave access onto Room 1 of the (not yet) neighbouring property of I.1.1. While this doorway would later (see Phase 6) be blocked as part of a splitting of one property into two, it is clear that during this phase the space was still an access point between the front and rear spaces of a single property.

Phase 6: Division of one into two separate properties (I.1.1 and I.1.2)

The final identifiable development was the blocking of the doorway in WF 1060, which most likely occurred sometime after the installation of the cooking facility in Phase 5. Although just a single change, the blocking represents a rather significant spatial – and doubtless social – change to the occupation of the property. What had been a single property until this point was now two distinctly separate properties. It is noteworthy that no direct dating information was available for the blocking of the doorway from the stratified deposits. It should be added, therefore, that there is a possibility that this event could have occurred earlier, in the first half of the 1st century BCE, when the two doorways between Rooms 1 and 6 were blocked⁴³; we have placed it *after* Phase 5 only on basis that the hearth was built up to – and thus seemingly 'respecting' – the open doorway between Rooms 1 and 8.

⁴⁰ On the impact of these Augustan developments across *insulae* I.1 and VIII.7, see ELLIS 2011b; ELLIS *forthcoming*.

⁴¹ For more on earthquake damage in the properties excavated by PARP:PS, see DEVORE, ELLIS 2008: 4; ELLIS, DEVORE 2009: 5, 17; 2010: 8, 18; and ELLIS *et al.* 2012: 7-8, 23. See also ELLIS *forthcoming*.

⁴² Two of the clearest examples are in Phase 6 of Trench 25000 in VIII.7.5-6 (ELLIS, DEVORE 2010: 8) and Phase 12 of Trench 56000 in I.1.6-9 (ELLIS *et al.* 2012: 23).

⁴³ ELLIS *et al.* 2011: 13-14.

Trench 59000:

Trench 59000 was excavated across three rooms at the rear of property I.1.3-5, being the large central space (Room 10) and two smaller spaces to its east and south (Rooms 11 and 14; fig. 12)⁴⁴. In addition to the general aim of furthering our understanding of the diachronic development and use of property I.1.3-5, we specifically targeted this area in order to explore the delineation of the original footprints of the property and its southern neighbour, I.1.2, while at the same time investigating several subterranean features that had been revealed by geophysical surveys we carried out in the *insula* in December 2011⁴⁵. The trench was excavated down to the prehistoric volcanic deposit of yellow sandy silt with white lapilli inclusions, likely the result of a Mesolithic eruption of Mt. Vesuvius (7070-6770 BCE). This deposit of Mer-cato ash has been encountered elsewhere in *insulae* I.1 and VIII.7 overlying a layer of grey lava with white inclusions, which is best dated to a Late Pleistocene (ca. 12000 BP) eruption of the Pompeii volcano⁴⁶. The grey lava was not encountered in Trench 59000. Previous seasons have shown that its depth varied across the *insula* (as mentioned in Phase 2 of Trench 58000, above); here it must have been deeper than 8.082 masl, the lowest level reached in the trench⁴⁷.



Fig. 12. Plan of Trench 59000.

Phase 1a and 1b: Earliest terracing activities

The first discernable human activities in the trench were quite ephemeral, represented only by two shallow pits and a small posthole cut into the top of the paleosol (Phase 1a). No dateable materials were recovered in association with these features⁴⁸. Sometime later, a deposit of yellow-grey sandy silt, a redeposited paleosol, was put in place over the pits and posthole (Phase 1b; contemporary with the terracing event in Phase 1 of Trench 58000, above). This large terracing deposit was ca. 25-50 cm deep and extended throughout the trench. It contained diagnostic materials that place the event in at least the late 2nd century BCE, which is thus significant for the dating of this important period of leveling the landscape⁴⁹, an event that, because of its related sequence in Phase 1 of Trench 58000, above, may have been in immediate preparation for the construction of property I.1.2.

Phase 2: Foundation of property I.1.2 (later 2nd century BCE)

The area of property I.1.3-5 remained unoccupied in Phase 2. Immediately to the south, however, the rear (easternmost; WF 1067) wall of property I.1.2 was constructed, reflecting the foundation of the property as a whole. The sequence revealed against the east side of the wall (WF 1067) matched that found against its west side (WF 1062) in Trench 58000 (See Phase 2 of Trench 58000, above). The construction trench for the wall – exhibiting the same signature style of mortar poured foundations – cut through the Phase 1 terracing deposits (fig. 13)⁵⁰. A

⁴⁴ Trench 59000 was excavated under the supervision of Allison Emmerson, Indiana University.
⁴⁵ We thank our colleagues, Sophie Hay and Stephen Kay of the British School at Rome and the Archaeological Prospection Service of Southampton, for undertaking the geophysical survey on our behalf.
⁴⁶ ROBINSON 2011: 20. Cf. ELLIS, DEVORE 2010: 2, 5; ELLIS *et al.* 2011: 2, 7; ELLIS *et al.* 2012: 2, 14.
⁴⁷ At the front of this property, within Trench 55000 for example, the lava was at 7.35 masl.
⁴⁸ Cf. some similar pits in Phase 1 of Trench 50000 in ELLIS *et al.* 2011: 2-3.
⁴⁹ A 2nd century BCE terracing event has been noted elsewhere in the *insula*, see ELLIS *et al.* 2011: 8; ELLIS *et al.* 2012: 10-11, 15.
⁵⁰ See note 35, above.



Fig. 13. Mortar foundations to WF 1067, at left (scale = 40cm); cf. fig. 7.



Fig. 14. The Phase 3 (underlying) and Phase 4 (overlying) N-S aligned walls in Room 10.

packed earth surface was found behind (to the east of) the new property. This activity was dated to the later 2nd century BCE, based on material uncovered in associated deposits of Trench 58000⁵¹.

Phase 3: Foundation of property I.1.3-5, Industrial Use

The first architectural definition of property I.1.3-5 occurred in Phase 3 with the construction of the earliest rear wall, which ran along a true N-S alignment across the rear of (later) Room 10 and met the previously established WF 1067 at the rear of property I.1.2 (fig. 14). In this phase, therefore, the central property of the *insula* was smaller than its 79 CE form, with an “indoor” (although likely open-air) space to the west of this wall, and an outdoor space behind the property to the east. A beaten earth floor, only very ephemeral pieces of which survived, was installed in the interior space. On the eastern side of the wall, in the outdoor space, the earlier terracing fills continued to be used as a surface.

This earliest architecture on the east side can be related to the western, street-front side of the property. Excavation of Trench 51000 during the 2010 season revealed that in its earliest iteration (Phase 2), Room 18 was smaller than it was in 79 CE, defined by a pair of walls that were later destroyed, one that ran N-S and another that ran E-W⁵². To the north of the room defined by these walls, in Trench 55000 (excavated during the 2011 seasons) was an open, probably unroofed space behind the façade wall of the same property (Phase 3a)⁵³. These earliest walls at the front of the property aligned with the N-S wall uncovered in Trench 59000, suggesting that all were conceived together in the first phase of the property’s development.

A shallow tank constructed against the west side of the buried wall in (later) Room 10 suggested that the space was used for some kind of production activity in the 2nd century BCE; similarly, we see production activities at the front of the property for the same phase (Phase 2 in Trench 51000)⁵⁴. The tank measured 90 cm wide; its excavated length was 115 cm, but its northern edge continued beyond the north baulk of the trench and was not recovered, so its full length remains in question. The south and west edges of the tank were built of masonry made of small pieces of Sarno limestone (each ca. 10-20 cm in diameter); the partition wall served as the east edge of the tank. It was lined in grey plaster, and an *opus signinum* sluice drain ran into it from the SW corner. A weathered lava stone placed on the SE side might have served a similar purpose. The tank was shallow, only 20 cm deep, and although its uppermost edge was weathered, the presence of the sluice drain suggests that it was preserved to its full depth. The purpose of this tank remains unclear.

An additional sluice drain, this one made of mortar, ran from north to south behind property I.1.2 during Phase 3 (along the east side of WF 1067), to drain the outdoor area behind (to the east of) properties I.1.2 and I.1.3-5.

⁵¹ See Phase 2 of Trench 58000, above.

⁵² For Phase 2 of Trench 51000, see ELLIS, EMMERSON, PAVLICK, DICUS 2011: 8-9.

⁵³ See ELLIS *et al.* 2012: 15-16.

⁵⁴ ELLIS *et al.* 2011: 8-9.



Fig. 15. Remains of the Phase 4a well beneath the Phase 7 cooking structure in Room 10, looking east.



Fig. 16. Poorly preserved remains of the mouth of the Phase 4a waste-pit, at right.

Phase 4a: Installation of water management features (late 2nd century BCE)

Phase 4 began with the destruction of the Phase 3 tank, which was filled with a slurry of brown loam mixed with lime⁵⁵. It is likely that this slurry represents construction debris, and it remains possible that the tank's small size and ephemeral nature reflect a short life during a phase of reconstruction (similar to the Phase 2 tank of Trench 60000, below), rather than extended use during the preceding Phase 3. A new wall now replaced the earlier one from Phase 3, partially overlying the filled tank (see fig. 14). The wall had a slightly different alignment than the Phase 3 version, running NW/SE to form a corner with a second new wall, uncovered under the later WF 1081/82. The "indoor" area to the north and west of the walls was filled with a ca. 30 cm deep leveling deposit, which was topped by a beaten earth surface. A layer of grey plaster covering the new rear (eastern) wall of the property lipped down onto this surface.

Just to the east of the rear wall of I.1.3-5, a large, square cut was made through the early terracing fills for the construction of a round well (fig. 15). Following construction, the cut around the well was filled; the same material that made up the fill was also used to raise the entire outdoor space by ca. 50 cm. Remains of an *opus signinum* surface on top of the leveling fill were recovered only on the east side of the well; it is possible that this surface did not exist to the west, perhaps reflecting that the feature was typically accessed from the east. This was the only example of an *opus signinum* surface found in Trench 59000; it seems that only the activities of water-collection in this area required such a durable and impermeable surface.

Based on material recovered in the fill of the well's construction trench, including Vesuvian black gloss, Campana A ware, and a Dressel IA rim, the well post-dated the later 2nd century BCE. Excavations in Trench 55000 in the 2011 season revealed an attempt to dig a well in the western, street-side frontage of this property, which was partially constructed and then abandoned perhaps during the same period⁵⁶. The builders of the well in Trench 55000 reached the layer of extremely hard natural grey lava before discontinuing their efforts. The well in Trench 59000 probably represents the redeployment/movement of those efforts. Although our excavations extended deeper here than in Trench 55000, the same, very hard bedrock was not encountered in Trench 59000, indicating that the very hard natural grey lava was shallower to the north and west⁵⁷. It is notable that the same technique of well construction, with a channel extending from the south side of the round well to facilitate access for building the structure, was encountered in the well constructions in both Trenches 59000 and 55000.

A waste-pit was built during this phase, located to the south of the well in the area of Trench 59000 that was excavated in (later) Room 11 behind property I.1.2. Mortared lava and Sarno stones overlying a slab of *opus signinum* covered in thick hydraulic plaster formed the mouth of the waste-pit (fig. 16). The waste-pit itself, which was unlined, cut through earlier terracing fills. Both this feature and the well seem to have belonged to a shared outdoor space behind properties I.1.3-5 and I.1.2.

⁵⁵ A similar lime-based slurry was used in early constructions in various parts of the *insula*: see note 35, above.

⁵⁶ See Phase 3b in Trench 55000 in ELLIS *et al.* 2012: 15-16.

⁵⁷ See note 46, above.

Phase 4b: Modification of water management features (late 2nd or early 1st century BCE)

Some slight modifications were made to the area behind (east of) property I.1.2 in Phase 4b. A work surface made of Sarno stones and tile was mortared partially over the mouth of the waste-pit, along with a second work surface that was constructed in the same way and located slightly to the south. The second work surface sloped towards the SW, notably away from the waste-pit, and might have been used as a sluice drain. Although the sluice drain did not run to the waste-pit, these features functioned together to continue liquid disposal activities in this area. No diagnostic material was associated with this sub-phase, but it should be placed in the late 2nd or early 1st century BCE, based on the dating of Phase 4a and subsequent phases.

Phase 5: Recovery from (sub-)structural collapse; continuation of water management (Augustan period)

Phase 5 began with the collapse of a large subterranean void – probably a cistern – to the east of *insula* 1.1 and beyond the boundaries of the trench. This might have occurred under the alley that ran east of the *insula* or even in the area of *insula* 1.5. This event caused the Phase 4a *opus signinum* surface east of the well to slump significantly towards the SE. To repair the collapse, a massive leveling fill⁵⁸ was laid down across the entire area east of the rear walls of properties I.1.3-5 and I.1.2, destroying the waste pit in (the later) Room 11. Several cuts into the earlier terracing fills alongside WF 1067, made before the leveling, might have been related to these repairs and thus suggest that the collapse had also caused damage to that wall. Additionally, a new cistern was built against the eastern side of the Phase 4a well, indicating that the well either went out of use at this time or its output had been affected and required supplementation. The cistern, which was excavated for nearly 2 m of its depth, but continued deeper, was built as a nearly vertical tube that bowed only slightly. Its walls were constructed directly against the edge of its construction trench, leaving no fill material associated with the trench.

Despite these developments, the architectural footprint of property I.1.3-5 was not altered in Phase 5, with the Phase 4a N-S wall continuing to serve as the property's rear wall. In this phase, a covered drain was constructed immediately to the east of this wall, running from north to south behind I.1.3-5 and I.1.2. Drains in (at least) this area of the city tend not to cross property limits⁵⁹; in this instance, a drain running behind both properties suggests that the area continued to serve as a shared, outdoor space. No notable concentrations of organic material were found within the drain, suggesting that it managed rainwater and other run-off⁶⁰.

Traces of a mortar floor were preserved in the outdoor area; this seems to have been patched and re-surfaced regularly. In the "indoor" space west of the rear wall of property I.1.3-5, the Phase 5 surface had been removed entirely by modern activity since the early 20th century. The only trace of the phase in this area was a leveling fill that raised the (now lost) floor level by at least 30 cm. Diagnostic materials in the fills of this phase point toward the activities occurring in the Augustan period⁶¹.

Phase 6: Reconstruction of property I.1.3-5 (c. mid-1st century CE)

Phase 6 brought about a major architectural reorganization of the space. The wall that had served as the back wall of property I.1.3-5 since Phase 3 was destroyed, along with the Phase 5 drain and cistern, by the construction of a series of new walls: WFs 1096, 1097, 1098, 1099, 1103, 1107, 1108, and 1111. With these new walls, property I.1.3-5 extended its overall footprint eastward to now occupy what had been the outdoor space behind it.

An ephemeral mortar surface associated with Phase 6 was recovered in Room 11, but all traces of surfaces had been removed by modern activity in the rest of the trench. A leveling fill associated with this phase remained in Room 14, but the equivalent fill was missing from Room 10.

Phase 7: Post-earthquake/s reconstruction

The final phase of ancient activity in Trench 59000 was missing from the stratigraphy of the trench, having been cut away or otherwise destroyed by modern activity, but traces of it were preserved in the surrounding architecture. In the long rear wall of the property (WF 1107), a massive repair was made after much of its upper half fell away. The repair showed the distinctive curved signature of earthquake damage – out of plane failure – and repre-

⁵⁸ This fill was over 1.5 m deep at its deepest point, in the SE corner of (later) Room 14, ranging to about 0.4 m deep immediately east of the (Phase 5) back wall of the property.

⁵⁹ See ELLIS, DEVORE 2006: 7-8; ELLIS, DEVORE 2009: 4-5, 8-9.

⁶⁰ For some discussion on drain fills, and on the different assemblages in drain fills from one part of the *same* drain or the other, see ELLIS, DEVORE 2010: 4-5; also ELLIS *et al.* 2012: 22. For some broader discussions of archaeological contexts and their taphonomic processes, including those of drains, see DICUS 2014 and ELLIS *forthcoming*.

⁶¹ On the sweeping changes to *insulae* I.1 and VIII.7 in the Augustan period, see note 39, above.



Fig. 17. The rear, easternmost wall (WF 1107) of property I.1.3-5; note the out-of-plane failure.

sents reconstruction following the earthquake/s of 62/63 CE (fig. 17)⁶². Beyond this repair, new walls were added in Phase 7, including WFs 1093, 1086, 1089, and 1084. With these walls, property I.1.3-5 now enclosed the last of the open, outdoor space of the *insula*, occu-

pying the area behind property I.1.2. As elsewhere in the *insula*, the property maintained this post-earthquake architectural delineation until the eruption of 79 CE.

In addition to these major architectural changes, a new feature revised the function of the rear area of the property in Phase 6. The Phase 4a well, which had perhaps been out of use through Phases 5 and 6, was now covered by the construction of a domed oven that abutted the west side of WF 1101 (see fig. 15). Several pieces of chicken wire mortared into the masonry of the oven show that it had been partially reconstructed in the modern period. The oven created a narrow corridor between Rooms 10 and 14; its mouth opened from the corridor (on the south side of the oven). In the doorway between Rooms 10 and 14, a crudely made threshold stone was put in place, which indicated that the room's door could be locked from the inside.

Trench 60000:

Trench 60000 was located at the rear of property I.1.6-9, covering parts of rooms 26 and 27 (fig. 18); the two spaces were separated by a low (ca. 1 m) wall (WFs 1196 and 1198), if only – we would discover – from a very late phase (see Phase 3, below)⁶³. The location of the trench was selected to provide necessary structural information on the development of the eastern limits of the property; we hoped this information would connect to the results from two trenches already excavated at the western, street-side frontage of the property (Trench 52000 in Room 22 and Trench 56000 in Room 32, respectively)⁶⁴. From the architectural and spatial configuration alone, Room 26 clearly had become a large courtyard space, the largest such space in the *insula* (88m²), while Room 27 served as a long room that separated the property from the (unnamed) alley behind.

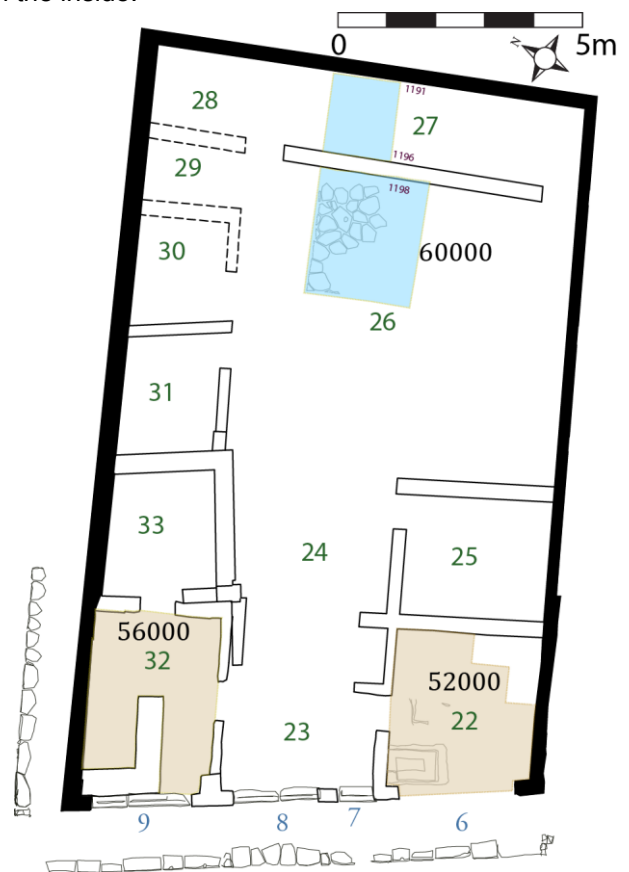


Fig. 18. Plan of Trench 60000.

⁶² On earthquake damage across *insulae* I.1 and VIII.7, see Phase 5 of Trench 58000, above, as well as note 40. On 'out of plane' failure, see MARTINI 1998. For a good discussion on the likelihood of *another* earthquake occurring around 70-75 CE, see MONTEIX 2010 (ch. 5).

⁶³ Trench 60000 was excavated under the supervision of Amanda Pavlick, University of Cincinnati.

⁶⁴ For Trench 52000, see ELLIS *et al.* 2011: 11-16; for Trench 56000, see ELLIS *et al.* 2012: 18-24.



Fig. 19. The quarrying platform built onto the lava in Trench 60000.



Fig. 20. The quarrying platform on the north side of the vicolo del Conciapelle.

void was packed with an earth fill, the uppermost part of which was compacted into a thin (ca. 2 cm in depth) packed earth surface.

In the western side of the trench, under what would become Room 26, all that survives of quarrying activities are six lava boulders, which either were never removed or returned here as part of an infilling of the quarry (fig. 21). They were covered by a levelling fill and beaten earth surface, which raised the topography here by 1 – 1.3m. No architectural remains were located within the boundaries of Trench 60000.

Phase 1: Quarrying activities (pre mid-1st century BCE)

The earliest identifiable activity in Trench 60000 was the quarrying of the lava bedrock to extract building material⁶⁵. So pervasive were these endeavours that any earlier evidence of activity in this area, had it existed, was destroyed. This quarrying activity was carried out in two distinct episodes. In the NE corner of the trench, under what would become Room 27, a N-S running cut was made into the bedrock to facilitate the removal of the material. Only a small portion – ca. 50 cm wide – of the resulting void was found within the boundaries of Trench 60000; the remainder continued eastward beneath the later WF 1191 and so beyond the trench. Following the completion of quarrying activity in this area, the void was filled with the off-cut pieces of lava, ranging between 20 and 30 cm in width, and a sandy, loose fill. These fills contained materials that date to as late as the mid-1st century BCE.

A short time after this activity – perhaps immediately after – the bedrock in the center of Trench 60000 was prepared for quarrying. The rock was fire-broken to create penetrative cracks in the lava; a fire was made on the surface of the lava and then doused with cold water so that the rapid temperature change caused cracks and fissures in the lava. The ash that resulted from this process was discarded onto the fill that had closed the area of the first quarrying. The bedrock in this central area was then cut and removed, creating ridged formations in the lava to the west and east and a u-shaped depression that sloped downward to the south. The quarry's overall size is difficult to detail, given that it extended beyond the limits of the trench, but it had at least covered most of this back area and was at least a couple of meters deep.

In the eastern limit of the trench, beneath the later partition wall (WF 1191) of the property, an *opus incertum* platform, 90 cm N-S x 60 cm E-W, was built to facilitate these quarrying activities (fig. 19). The platform was of a type that supported a wooden superstructure, such as a winch, to facilitate the quarrying. The remains of another such platform are located on the *vicolo del Conciapelle*, the road immediately to the north of *insula* I.1; this structure, barely 8.5 m from the first, was built over an outcropping of lava bedrock to exploit the exposed lava – some of which remained so until 79 CE – in this part of the city (fig. 20). The platform in Trench 60000 was damaged on its western side by the vertical motion of raising the quarried lava; the wearing pattern is reflected in the lava bedrock beneath.

A series of similar N-S quarrying cuts survive also in the western portion of this part of the trench (still within the later defined Room 27). After the quarrying was completed here, the

⁶⁵ For quarrying activities elsewhere in this property, see Phases 8 and 9 of Trench 60000 in ELLIS *et al.* 2012: 20.



Fig. 21. Lava boulders in the fill of the quarry in Phase 1 (below); partial remains of the Phase 2 tank (in section at left); lava pavers of Phase 3 (above).



Fig. 22. Base of the *opus incertum* wall, at right, beneath the Phase 3 lava paving stones and wall (WF 1196/1198).

It should be noted that this levelling fill and surface were not present within the Room 27 trench, indicating there was some measure of separation between these two spaces, even though no formal boundary was uncovered during excavation.

Phase 2: Establishment of earliest architecture

This phase was signalled by a cut through the beaten earth surface of Phase 1, found in the westernmost area of the trench. The cut extended ca. 70 cm in depth and was of the type of quarrying cut made to retrieve Mercato ash that we have seen elsewhere across VIII.7 and I.1⁶⁶; it was thus filled not long after by redeposited Mercato ash mixed with cultural material and sealed by a thin layer of mortar. A tank was built into part of this fill material, roughly constructed of unlined *opus incertum*; the part of the tank exposed in the baulk was c. 1m in length (or width?), but the remainder of its size is unknown (see fig. 21). The tank's purpose seems to have been as a temporary mixing basin for the construction activities of this phase: its interior retained the remains from the mixing of building material and mortars (cf. the reuse of the tank in Phase 4a of Trench 59000, above). Moreover, the structure and its fills were covered by a layer of fill and sealed by an *opus signinum* surface that once extended across most of this area. The walls of the tank thus survive only to a height of about 15 cm.

On the eastern side of the trench but still within what would become Room 26, an unusually wide *opus incertum* wall was constructed in this phase (fig. 22). The wall was at least 70 cm wide and possibly even wider, given that its eastern face was covered by a later wall (WF 1196/1198 of Phase 3, below). A construction trench for the wall was cut into the surface of the previous phase; it was ca. 50 cm deep and filled with yellow-brown mortar. The wall was in place with the *opus signinum* surface, and seems to have served as the earliest defined eastern limit of property I.1.6-9.

At around the same time, or at least in the same phase, to the east of the newly constructed wall (thus within the later defined Room 27), the irregularly shaped void of the quarry – notably (still) exposed for longer than that

⁶⁶ For similar quarrying pits, see ELLIS, DEVORE 2009: 5, 14; ELLIS *et al.* 2011: 8; ELLIS *et al.* 2012: 15-16. See also ROBINSON 2005.

found within the property – was filled. Large lava boulders (up to 35 cm in diameter) were discarded in the bottom of the void, over which a fill of Mercato ash, cultural material, and lime was (re)deposited. A surface was laid over this levelling fill, abutting the central wall. This surface was up to ca. 40 cm thick and highly durable, made of a slurry of soil and lime poured over the sub-surface fill. In spite of the levelling of the area and creation of a new surface, the quarrying platform from Phase 1 remained exposed.



Fig. 23. Phase 3 *opus incertum* wall (WF 1196/1198) running across the middle of the trench (as seen from the east, looking toward WF 1196).

Phase 3: Eastern property boundary and Rooms 26 and 27 delineated

Activity for this phase began with the excavation (and filling) of a large (ca. 4-5 m in diameter, up to 1m in depth) pit in the SW area of the trench. These activities also saw the destruction of the large *opus incertum* wall that had been built in Phase 2, which was dismantled until it was the height of the surface for the previous phase. A new *opus incertum* wall – WFs 1196 and 1198 – was then built directly overlying the now-dismantled wall (fig. 23; see also figs 18 and 22). The new wall was narrower than the earlier wall, being ca. 40 cm wide, and extended N-S for 8m. The wall was initially built as a free-standing structure with no construction trench; the underlying wall served as support, while the raising of the floor level in this phase then abutted its lowest course. At the same time the limits of the property were extended eastward with the construction of a new partition wall, WF 1191 (see fig. 18), to delineate what is now Room 27 from what had been an outdoor space; it is now that Rooms 26 and 27 served as separate spaces within the same property, with Room 26 being a courtyard with ramped access (if it was not serving such a function already) and Room 27 perhaps serving as a stable. The new partition wall (WF 1191) was built directly over the quarrying platform from Phase 1 as well as portions of exposed lava bedrock. This wall was built similarly to the wall that now divided Rooms 26 and 27, in that it shared the same mortar and was also constructed of the same *opus incertum* with *opus mixtum* quoins. This wall preserves a series of beam-holes that once supported a mezzanine level; 23 beam-holes survive.

The earthen fill (already mentioned as supporting the wall) was laid throughout Room 26, above which was installed a surface of lava slab paving stones (see figs 20, 21, and 22). This was a patently sturdy surface, of the type usually seen in production areas such as around millstones; indeed, these are the type of stones that pave the city's streets. No such production facility survives in this courtyard, however, and even some of the stones appear to have been lifted from the floor; 26 lava slabs survive within the area excavated, but they did not extend over the entire area. Whether only parts of the courtyard were originally paved, and seemingly in an irregular shape, or some of the paving stones were removed, either in antiquity or more recently, could not be determined. The ramped access to this space at least implies cart and equine traffic⁶⁷. Even with that level of traffic, however, the type of floor surface is unusual.

In Room 27, no surface was found for this final phase, having been entirely removed by modern activity; its complete removal suggests it had been an earthen floor. Many of the surrounding walls have been rebuilt, or are entirely missing. The cause of so much destructive activity is doubtless the dropping of a WWII bomb on the northern edge of the property, just meters away from the location of the trench⁶⁸; the bomb destroyed much of the north wall of the property, as well as Room 29.

⁶⁷ For ramps in Pompeii, see POEHLER 2011: 196-204.

⁶⁸ GARCIA y GARCIA 2006: 37.

Conclusion

This final season of excavations has shed some necessary light on the development of *insula* I.1, particularly with regard to the rear portions of each of the four properties. While these results do not radically modify our understanding of the overall development of the area, still the discoveries and new insights are of significance to our understanding of the development of *insula* I.1. The first of the structural activities occurred in the 6th century BCE with the construction of at least a single building at the south end of the *insula*, beneath the front room (Room 6) of the property at I.1.2; as so often for these earliest constructions, all that remains are some sections of foundations in *pappamonte*. An associated surface (a potential wheel-rut indicates a road) was formed upon the compacted, re-deposited Mercato ash that had helped to level the undulating topography. Few other activities can be recognized until the 4th century BCE, when significant fill layers were deposited – especially in the central area of *insula* I.1 – to terrace the landscape (once more). A series of roads were formed upon the newly shaped area, east of the later, paved *via Stabiana*. More buildings with *pappamonte* foundations can be attributed to this period, on each side of the *via Stabiana*, but again too little of the foundations survive to delineate structures. Once into the 3rd century BCE, the most significant and identifiable activity is seen in the pottery production facility at the south end of *insula* I.1. Otherwise, it is not until the 2nd century BCE that we see wholesale structural and spatial developments across the entire neighbourhood. It is at this time that the earliest structures – particularly those that will remain standing until 79 CE – begin to take shape; many of these building activities, with their requisite terracing, obliterate the archaeology of the earlier phases. To this period can be attributed a series of properties whose street-frontages were typically given over to cottage-scale industries, notably fish-salting. Important public infrastructure is another hallmark of this period: the construction of a large public well, for example, and the paving (and draining) of the *via Stabiana*. The next major change came in the Augustan period, when the production activities were mostly abandoned, a pattern also well known in our excavations at VIII.7, with retailing activities dominating at least the frontages of these properties until their final destruction in 79 CE.

Since the conclusion of the excavation, the project has invested all of its time and resources toward the final publication of VIII.7 and I.1. This has involved two study seasons in 2013 and 2014 at Pompeii, as well as ongoing work on our material stored at the American Academy in Rome, during which time we have been able to process the ceramic and artefactual assemblages, coins, and the full range of bio-archaeological material. These efforts are leading to a four-volume series of monographs that not only document the eight seasons of excavations, but which especially contribute toward revealing the structural and social relationships over time between Pompeian households of variable economic portfolios, to determine the role that sub-elites played in the shaping of Roman urban networks over time, and to register their response to city- and Mediterranean-wide historical, political, and economic developments.

Moreover, the forthcoming publications will focus on a re-evaluation of how we can understand the making of an urban space. That is, the ongoing research aims to throw light on the site-formation processes for complex, multi-phased urban sites. By delineating, categorizing, and quantifying the fundamental differences between systemic and archaeological contexts, the very things that make up the entire volumetric matrix of an urban archaeological site, we aim to discern more easily and appropriately the components that created the city, that maintained the city, and that reconstructed the city over time. Thus, beyond telling the building history of one *insula* or another, the results of these excavations are being drawn on to systematically assess the construction industry at every level, to chart the development of approaches to, and (re)use of, urban refuse in antiquity, and to ultimately question the nature and purpose of the thousands of excavated contexts.

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