

Field Notes on Three Campaigns of Excavations at Oplontis B: 2019, 2021, and 2022

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In 2012 the Oplontis Project began a series of archaeological campaigns to investigate the complex known as Oplontis Villa B located in Torre Annunziata, Italy. Italian authorities had previously uncovered a complex series of structures that together functioned as a warehouse, housing, and wine packaging facility at time of the eruption of Vesuvius in AD 79. At the time of their recovery scholars assumed, based on the use of tuff as a principal construction material in columns, that the complex dated to the mid-second century BC. The investigations of the Oplontis Project of the past three seasons have continued to examine the materials produced by the previous excavations as well as to record and further excavate the structure to understand its development. The results of the excavations discussed here have managed to revise the dating sequence of the complex. They indicate at least six phases of occupation starting in the late second century BC. Two earlier phases bear little relation to the series of buildings present today at Oplontis B and seem to have functioned in some sort of industrial or workshop capacity. The final layout of the structures seems to be late in date compared to initial estimates, including the construction of a series of barrel-vaulted storage spaces that likely date to the post-earthquake period after AD 62¹.

In a series of three major campaigns conducted between 1974 and 1991 in the town of Torre Annunziata, Italian authorities excavated several Roman buildings that Mount Vesuvius had buried during the eruption of AD 79. As workers cleared the ashes a complex site emerged that may very well have been a suburb of ancient Pompeii or even the town of ancient Oplontis as a multitude of nearby ruins suggest (fig. 1)². The excavated structures are centered on a large two-story courtyard with surrounding storage spaces on the lower level and living quarters on the upper floor. At the time of the eruption, part of the complex functioned as a warehouse storing over 1400 used amphorae that workers were cleaning and readying to be filled with wine³. Further structures surrounded the central courtyard. To the south excavators uncovered a series of separate barrel-vaulted storage rooms supporting an upper floor featuring small apartments. To the north workers recovered a Roman street running east-west, lined with small two-story houses. The street intersected with a major regional road running north-south that connected the coast and Oplontis with the countryside around Pompeii. To

¹ The Oplontis Project thanks the Parco Archeologico di Pompei and its director Gabriel Zuchtriegel for its support. We also want to thank the previous director Massimo Osanna and the current supervisor of Oplontis Giuseppe Scarpati for their help with our project. Our gratitude also goes to all the volunteers, Paul Wilkinson, and the Kent Archaeological Field School who help make the fieldwork and the study of the artefacts a reality.

² CLARKE 2014; FERGOLA 2014; MARASCO 2014.

³ See MAGGI 1977: 50; PEÑA AND MCCALLUM 2009: 191; THOMAS 2015; THOMAS 2016; MUSLIN 2016; MUSLIN 2019; Emmerson 2020: 161-162; CLARKE *et al.* 2021:103-105.



Fig. 1. The spatial relationship of Oplontis to Pompeii. Image modified from Google Earth.

the west, excavators recovered the corner of another unidentified building (fig. 2, space 23) constructed in brick-faced concrete. Its walled-up windows in reticulate masonry indicate its abandonment or radical repurposing at the time of the eruption.

After excavation and reconstruction efforts ceased in 1991, Oplontis Villa B remained closed to the public and largely unstudied except for some minor reports and catalogs of some exceptional finds⁴. Starting in the summer of 2012, the Oplontis Project, supported by the Universities of Texas at Austin and at Dallas, began to study and excavate at Oplontis Villa B. The project's aim has been to document the standing structures and to examine the recovered artifacts; included in this work is reconstructing the architectural development of the site. The project has since produced regular reports on its progress as first assessments of the results encountered in the field from 2012 to 2018, postulating five phases of development⁵. This report details the results of the campaigns, carried out in 2019, 2021 and 2022, that sought to better understand the five phases and further document the stages of construction. In what follows, we document our work in three main areas: the southern side of the building, the courtyard, and the western wing.

In 2019, work focused on two areas: the central courtyard with trench OPB 41, the adjacent room 15 (trench OPB 40), and the open space (44) to the south of the barrel-vaulted rooms with trenches OPB 32 and 39. Excavation resumed in 2021 after a COVID related hiatus in 2020. Although brief, the 2021 season was productive with the excavation of two strategic trenches. Unit OPB 42, located in space 44 adjacent to trenches OPB 6 and OPB 34, had as its aim to clarify the construction sequence associated with Oplontis B. Another trench, OPB 43, located in the southeastern corner of peristyle 20, aimed to recover the stratigraphy associated with a brick floor uncovered in space 15 during the 2019 season. In 2022, the field campaign shifted its focus back to the western side of the complex and continued the work on the southern side. The purpose of these investigations was to revisit trenches OPB 4 and OPB 6, dug in the early campaigns, where results had emerged regarding earlier phases that needed further clarification. Trench OPB 44 focused on an unexcavated room 38 that had received only minimal excavation as part of OPB 4.

⁴ See Maggi 1977; MALANDRINO 1977; MALANDRINO 1981; LAGI DE CARO 1983; KOCKEL 1985; D'AMBROSIO 1987a; D'AMBROSIO 1987b; D'AMBROSIO 1991; D'AMBROSIO, DE CAROLIS 1997; FERGOLA, PAGANO 1998; FERGOLA 2004.

⁵ THOMAS *et al.* 2013; VAN DER GRAAFF 2016; VAN DER GRAAFF *et al.* 2016; VAN DER GRAAFF *et al.* 2019; MUSLIN 2019; VAN DER GRAAFF *et al.* 2020; Clarke *et al.* 2021.



Fig. 2. Plan of Oplontis. The excavated trenches discussed here are marked in red. Water features are marked in blue. The storage spaces are in green. The north houses are in yellow. The west wing is in purple.

The southern side of the complex

Trench OPB 32

The recovery of substantial architecture preceding the current barrel-vaulted storage spaces on the south side of the complex in the 2018 season led to the decision to reopen and expand trench OPB 32 in 2019 (fig. 3, room 28). Its primary aim was to understand more of the earlier walls recovered beneath the AD 79 surface and to assess whether they connected to the foundations recovered in trench OPB 35 to the north⁶. The team expanded the previous trench by cutting two 2 x 2-meter slots on either side of the unit: One extending north on the eastern side of the room, and one extending south on the western side of the area.

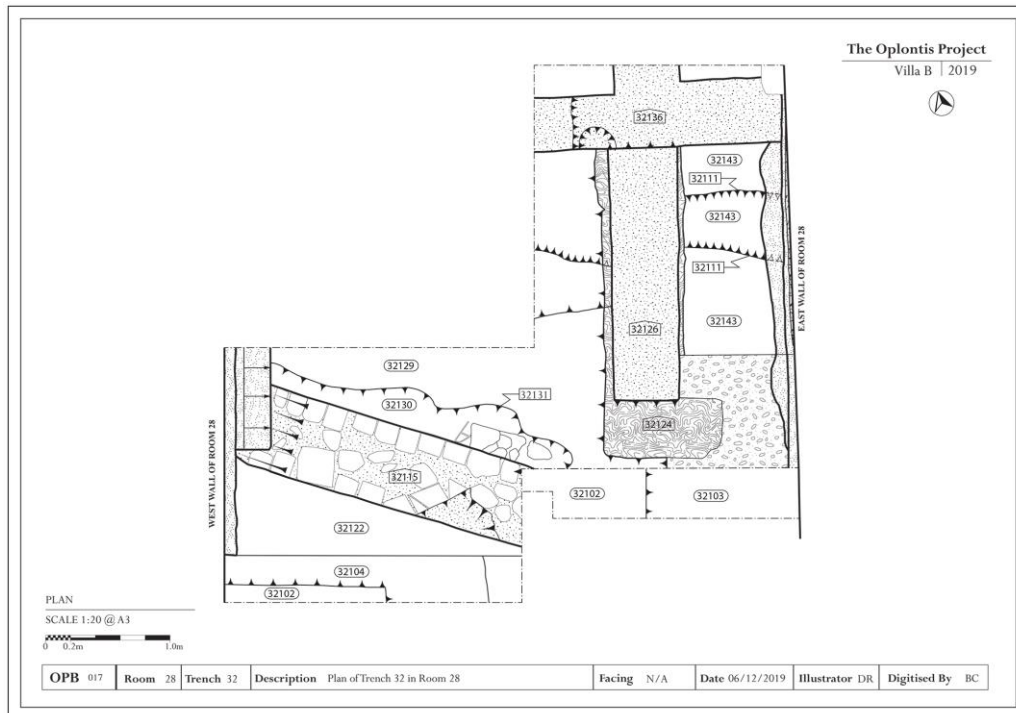
After removal of our previous backfill, excavation continued to examine wall **32115**, already discovered in the 2018 season (fig. 4). The wall, built in concrete faced with large stones, belongs to the first of four phases of occupation in the area⁷. As opposed to the north-south disposition of the later complex, the foundation ran in a southeast-northwest direction, suggesting that it belonged to an entirely different structure. A foundation trench

⁶ VAN DER GRAAFF *et al.* 2019: 17-18.

⁷ The technique is reminiscent of another foundation (**15145**) recovered in OPB 15 see VAN DER GRAAFF *et al.* 2016: 4-5; VAN DER GRAAFF *et al.* 2019: 13-15.



Fig. 3. Overview of trench OPB 32 view from the northeast facing south.



OPB 017	Room 28	Trench 32	Description	Plan of Trench 32 in Room 28	Facing	N/A	Date	06/12/2019	Illustrator	DR	Digitised By	BC
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Fig. 4. Plan of trench OPB 32.

32131 emerged for this wall that cut through an apparent late Bronze Age pyroclastic layer **32129**, also recovered in OPB 1⁸. The fill contained sherds of Dressel 2-4 amphorae, suggesting that its construction occurred no earlier than the mid-first century BC. The wall did not extend much above the pyroclastic layer on the north side, indicating that workers carefully demolished it in antiquity. Further unexcavated rubble continued for at least another 20 cm on the southern side of the wall. Ancient builders must have used the wall to even out this slope with a series of terracing fills, presumably for an earlier version of the courtyard structure.

Excavation continued in the eastern side of the unit, where walls **32126** and **32136** emerged, signaling the second major phase of occupation in the area. Wall **32126**, already recovered in the 2018 season, continued north until it abutted wall **32136**, which formed a T-shaped junction running east-west and another heading north into the baulk. Space limitations prevented further investigation to understand the rooms that the walls once created. However, the disposition of the architectural remains suggests that the spaces were some sort of small storage areas that likely worked together with the earlier architecture recovered in rooms 35 and 18 to the north⁹.

Wall **32126** ran in a north-south direction. It displayed a finished edge/corner and a likely threshold on its southern side. Excavation on the eastern and western sides of the wall recovered two floor levels associated with an interior room to the east and an exterior space to the west. Both surfaces covered the previous phase in the trench¹⁰. The removal of these collective floors revealed further clues to these interior and exterior spaces. On the southern side of the trench further foundations belonging to the demolished buildings emerged, heading from beneath wall **32126** at a right angle toward the neighboring room 26, where further structures await excavation¹¹. The removal of the floor to the east of the wall reached the Bronze Age pyroclastic deposit where a cut **32111** suggests some sort of drainage apparatus that workers had removed in antiquity. The narrow confines of the space made any further interpretation difficult without extended excavations.

A thick fill layer covered up both walls to form the third phase in the trench. It featured a surface with two postholes related to uncertain architecture. This surface seems to have functioned as the later construction level for the barrel-vaulted space 28 in its final configuration. A deep cut on the eastern side of the trench acted as a foundation trench for the eastern wall of space 28.

A fill layer composed of sandy gritty soil mixed with demolition debris served to level the area to accommodate the floor of space 28 that forms the fourth phase. The surface was composed of a thin layer of heavily degraded *cocciopesto* flooring that covered all the earlier walls. The *cocciopesto* surface descended at a slight angle to the southeast, presumably to a drain. In both sectors of the trench the *cocciopesto* floor lay beneath a covering deposit composed of a laminated, consolidated pyroclastic layer also recovered in the 2018 season. It represents the remains of a Pyroclastic Density Current composed of a mix of seawater and volcanic ash that washed ashore as the first volcanic deposit in this area¹².

Trench OPB 39

The objective of OPB 39, located on the eastern side of space 44, was to connect the last piece of a large section excavated on the exterior of the building that includes trenches OPB 6, 28, 34, and 39 (fig. 5). The purpose of this strip was to shed light on the development of the area south of the barrel vaults and to recover the Roman floor level of AD 79 still buried under a thin layer of lapilli. Another aim of this trench was to sink lower than the AD 79 level to gain better insight into the wall structures in the area, many of which emerged in trenches OPB 15, 28, and 34¹³. The trench began as a 2 x 2.5-meter area that purposefully included small sections of trenches OPB 28 and OPB 6 on either side to connect their stratigraphy.

⁸ THOMAS *et al.* 2013: 4-5. This chronological marker shows how far the context dips toward the south, dropping from lying just beneath the surface in the courtyard to the north to about 1.80 meters deep.

⁹ See VAN DER GRAAFF *et al.* 2016: 10; VAN DER GRAAFF *et al.* 2019: 11-13.

¹⁰ The floor **32127** featured a mixed composition associated with its use and extended toward the west from wall **32126** to cover the previous wall **32115**. It belonged to what looked like an exterior space. Another floor level **32125** located on the eastern side of wall **32126** seems to have been interior space.

¹¹ Wall **32124** on the plan. Given its size and general direction, it could very well have functioned in conjunction with a similar wide foundation recovered in trenches OPB 4 and OPB 44 to the north (see below).

¹² VAN DER GRAAFF *et al.* 2019: 18-20.

¹³ VAN DER GRAAFF *et al.* 2019: 13-18; VAN DER GRAAFF *et al.* 2016: 3-5.



Fig. 5. Overview trench OPB 39 view facing south.

Upon the final excavation the trench presented at least four phases of occupation (fig. 6). The first appeared in a sondage on the western side of the trench where a surface emerged with a clear posthole cut into it. Its structural relationship with any building remains unknown. After the documentation and removal of the posthole, excavation ended with a sondage that cut through a layer of rubble that acted as a leveling fill for the surface. The sondage exposed another fill of rubble below it that remains unexcavated.

A distinct, highly stratified surface, rich in lime content, covered the previous phase-one floor to form the second phase in the trench. It was clearly associated with the repeated use of a basin recovered on the eastern side of the trench. The team first identified two of its exterior walls **39011** and **39012** running north-south through the trench. The interior space between the walls consisted of an artificial fill of lime-rich concrete. Excavation between the walls yielded a large fragment of a Dressel 1c type amphora. Its production began around 140 BC and ceased in the mid-first century BC, suggesting that the basin dates no earlier than the 50s BC. A series of basalt stones about the size of a tennis ball, that must have served some sort of industrial purpose, lay at the base of the feature.

The recovery of walls **39011** and **39012** prompted a further expansion of the unit to the south. A third wall emerged defining the eastern, western, and southern sides of a basin. The foundations of space 10 must have obliterated its northern edge. A small section of a new wall **39033** composed of reused roof tiles emerged at a 90-degree angle to the basin. Although its function remains unknown, it seems that it may have been part of the original structure, perhaps a platform from where to direct any kind of mixing occurring within the basin.

The role of this basin remains enigmatic, but it must have functioned in some sort of industrial capacity. The heavy concrete fill and its lime-rich contents suggest that it may have once functioned as a lime slaking basin. To our knowledge such basins are rare in the Pompeii area. It may also represent the remains of a dismantled temporary lime kiln such as the one recovered in the House of the Lararium of Achilles (I.6.4)¹⁴, where workers were using it to apply plaster to the walls of the house at the time of the eruption. Lime preparation served a variety of uses for hydraulic cement, concrete mixing, leather tanning, and agriculture¹⁵. Any of these

¹⁴ ADAM 1999: 126.

¹⁵ CATO *agri.*: 36-37; VITRUVIUS *de arch.*: 2.5.1; BLAKE 1947: 324-327; LUGLI 1957: 392-397; DIX 1981: 340-342; ADAM 1999: 116-129; LANCASTER 2005: 16-17; MOGETTA 2021: 92-101.

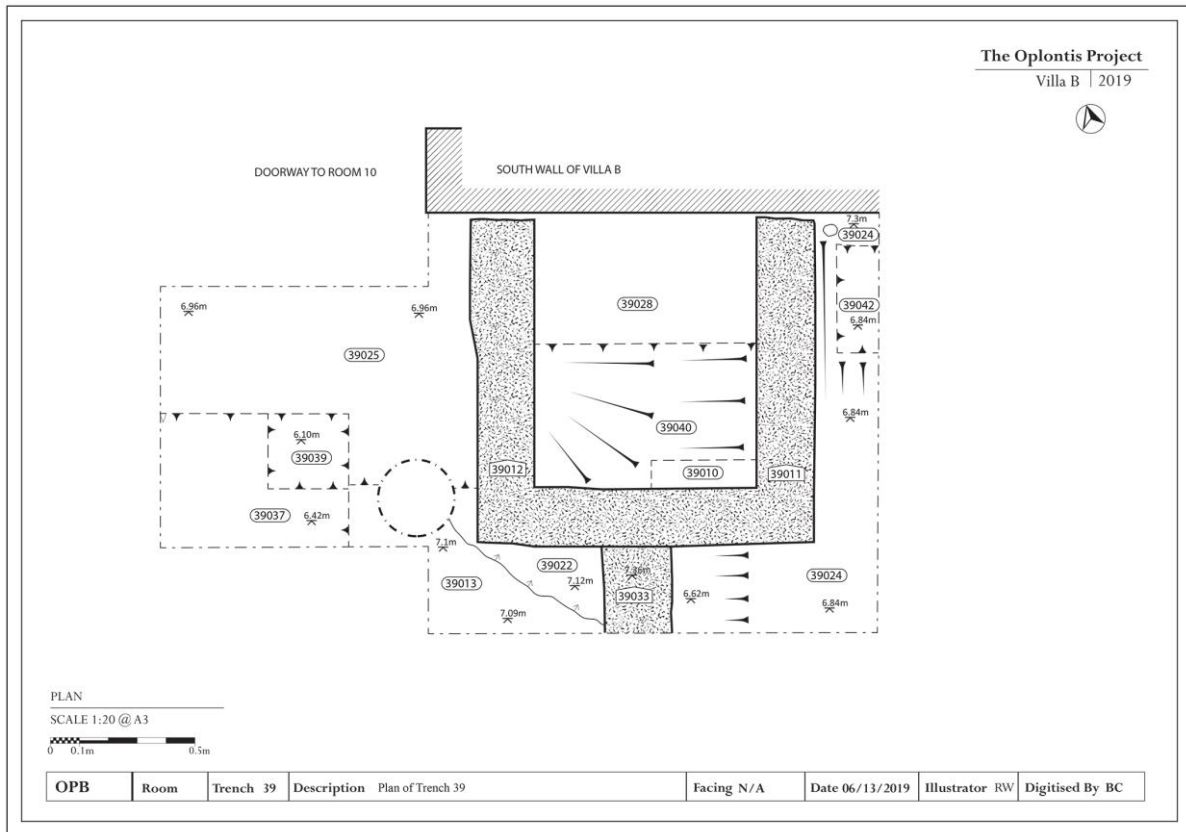


Fig. 6. Plan of trench OPB 39.

activities would be appropriate for Oplontis B where lime could be used for construction, as well as for leather tanning for the *cullei* used in wine transport¹⁶, or for fertilizing nearby fields. The discovery of the basin indicates a probability that others were present on site that may have functioned in similar capacities.

The basin was buried in antiquity beneath a floor that signals the third phase of occupation. To support the floor, builders deposited a construction fill of beach pebbles interspersed with well-rounded ceramic sherds about the size of a fist, likely collected from the nearby beach¹⁷. The surface was a well-prepared floor composed of concrete that transitioned into a looser earthen surface toward the west. Such a robust surface was suited for heavy traffic.

The foundations of spaces 10 and 49 to the north clearly cut through this floor level, indicating their construction in a later fourth phase. Except for a patch of harder Roman concrete on the western side of the unit, a layer of earth ranging between 5-10 cm thick deposited above the third-phase floor made up the AD 79 level on the exterior of the barrel-vaulted rooms. In places, the lower part of the deposit was rich in charcoal, suggesting that the stratum had accumulated over time, perhaps as part of the general use of the area. Unlike the heavy cement pavement found in the courtyard, its composition suggests that the barrel-vaulted rooms relied less on cart or pack animal traffic before the eruption of AD 79.

Before reaching the surface associated with the eruption of Vesuvius, the team excavated about 0.5 meters of lapilli still *in situ*. Among the pumice were the traces of at least three pyroclastic events as well as the remains of a round modern concrete pile, the result of the construction activity for the nearby school that originally led to the discovery of the site¹⁸. The alternate layers of pyroclastic and lapilli deposits did not follow neat horizontal linear depositions. Instead, the pyroclastic strata undulated heavily, indicating that the lapilli behaved

¹⁶ PEÑA AND MCCALLUM 2009: 191; THOMAS 2015: 407; MUSLIN 2019: 24, 146.

¹⁷ Previous campaigns recovered a similar deposit in trenches OPB 6, 15, and 28.

¹⁸ CLARKE AND MUNTASSER forthcoming.

in a manner similar to windblown snow or sand, swept in banks and otherwise spilling into areas below roof cover. The western edge of the unit displayed a pyroclastic deposit lying on top of the AD 79 level that then sloped up steeply toward the east, where it covered a substantial bank of lapilli. The pyroclastic surface displayed the imprints of thin, narrow wooden beams that had long since rotted away in the lapilli above. Notably, the laminated deposit uncovered during the 2018 season in OPB 32 to the west was absent, suggesting that this type of deposition was limited to the interior spaces.

Trench OPB 42

Trench OPB 42, excavated in the 2021 season, investigated the area to the south of unit OPB 34 and east of OPB 6 in space 44 on the south side of the complex (fig. 7). Restoration work carried out in the area in 1984, had partially disturbed the stratigraphy with the construction of a drainage well and sewers to handle the rainwater falling on site. These works had intercepted an older foundation wall that seems to be in line with the earliest wall recovered in OPB 32 to the east, in circumstances that needed further clarification. Despite the modern intervention, enough stratigraphy remained *in situ* to define a complex sequence of four phases.



Fig. 7. Overview trench OPB 42 view facing south.

The earliest first phase of occupation in the area emerged in sondages conducted on the southeastern corner of the trench in the form of a foundation wall (**42012**) (fig. 8). This wall ran roughly in the direction of a similar structure **38115** recovered in trench OPB 38 to the west and may represent the same feature as its northwestern-southeastern orientation suggests. Given the length of this structure and position on the southern end of the site, it might have functioned as an early terracing wall.

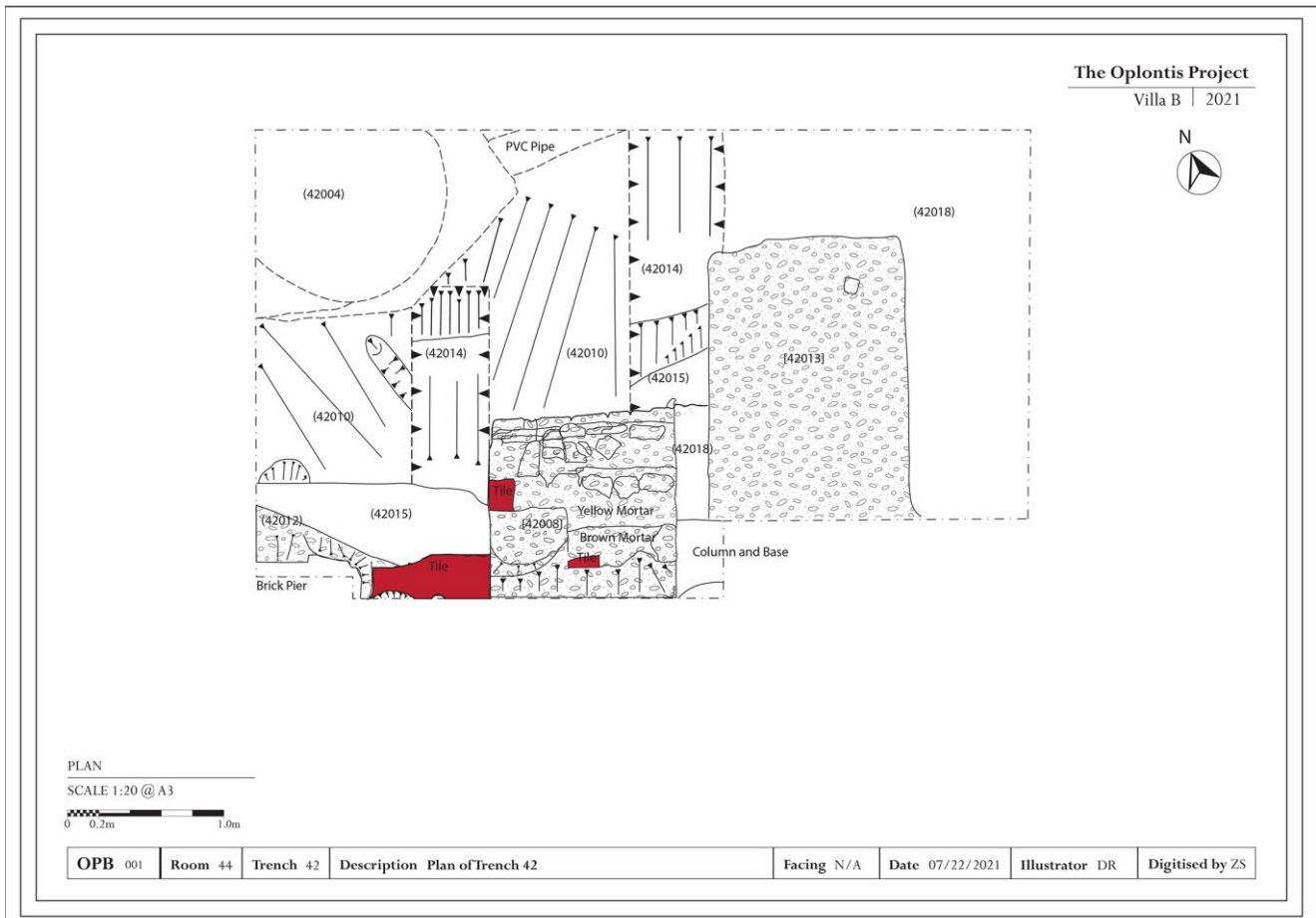


Fig. 8. Plan of trench OPB 42.

A floor level covered the wall to form the second phase of occupation. It is likely associated with the first use of the large foundation wall **(42013)** uncovered to the west. This structure ran in a north-south direction toward the seashore. At 1.16 meters wide, it is one of the largest foundations uncovered so far at Oplontis. It lay buried, embedded within a concrete floor level that represents the third phase of occupation in the area.

The floor of the third phase consisted of a hard-packed concrete matrix with a consistency like *opus signinum*, much like the cocciopesto floor uncovered in trench OPB 39. Under it was a familiar foundation layer composed of rounded pebbles and ceramics, also like the one uncovered in OPB 39. The packing, in turn, lay upon a fine layer of crushed ceramics and rock known as *schiuma di lava*, representing a first preparation layer upon an earlier surface for the floor above. The whole matrix sloped heavily down toward the southwest, presumably following the natural slope of the terrain toward a lower threshold composed of an upside-down roof tile set next to a brick pier on the southern edge of the trench. To define these contexts and the walls better, the team extended the trench slightly toward the south to include the brick pier and column present in the area.

In the fourth phase in the unit, workers built the southern colonnade to the east of the brick pier. They also built a large wall **42008** running parallel to wall **42013** that emerged embedded in the final surface on the south side of the trench. This wall functioned in some capacity at the time of the eruption. As reported elsewhere, the trenches excavated in space 44 all displayed a brown layer of lightly beaten earth that covered the previous concrete floor. It represents the surface of AD 79. As opposed to the other trenches excavated in the area where the brown soil appeared to be a natural accumulation, here the layer increased in thickness to act as a levelling fill for the AD 79 surface. It included large pieces of plaster, the base of a terra sigillata plate with

a stamp (CNĀAS), indicating its production in the workshop of *Gnaeus Ateius* in Pisa ca. AD 66-68¹⁹, as well as a Claudian coin with the representation of *Spes Augusta* ca. AD 50-54²⁰. Collectively these finds indicate that the layer likely formed after the earthquake of AD 62.

Considering their mass, composition, and direction, it is likely that the two recovered foundation walls, **42013** and **42008**, represent piers or quays used in different phases at Oplontis B. The stratigraphic sequence indicates that the colonnade on the southern side of the trench cut through wall **42013** and that wall **42008** was a later addition after its construction. Previous work in the area has demonstrated that the beachfront was close by to the south of the complex. Furthermore, Bradyseism acted to lower the terrain considerably in the years before the eruption²¹. In this scenario, wall **42013** would be the first pier, whereas wall **42008** would be the second, built in response to the changing topography. It also helps to explain the uneven position of wall **42008** at a slight angle which may be a result of its hasty construction and subsequent damage due to seismic events.

In trench 42, layers of volcanic material still covered the surface of AD 79. The top layer of pumice was about 20 cm thick and contained large pieces of heavily degraded masonry that must have belonged to the upper floor of the building collapsed during the eruption. A new layer consisting of a hardened pyroclastic flow emerged from beneath the lapilli. It constitutes the first volcanic event that effectively sealed the surface of AD 79 below it. The interface between the two strata displayed small rock, pumice, and sand particles consistent with the pattern of the first fall-out of Vesuvius. On the northwestern side of the trench a large modern drainage well pierced the archaeological strata. Italian engineers had sunk it into the area to help with the drainage of excessive rainwater. A modern PVC pipe reached the drainage well from the northeast, running in a continuous line through neighboring OPB 6 and serves to drain the modern corrugated steel roof covering the building.

Trench OPB 6

In 2022, investigations continued the south side of the complex with the extension of trench OPB 6 toward the east (fig. 9). The aim was to clarify the course of a wall uncovered in our previous exploration of the unit. The wall ran in a north-south direction, and it featured a T-shaped junction with another wall at a 90-degree angle that continued to the west, as recovered in trench OPB 34²². A large sewer running from the courtyard to the north cut through this structure in a later phase, before the construction of the barrel-vaulted spaces. The reopening of trench OPB 6 sought to clarify the relationship of these structures with the colonnade **06223** on the south side of space 44.



Fig. 9. Overview of trench OPB 6 view facing south.

The reopening of trench OPB 6 sought to clarify the relationship of these structures with the colonnade **06223** on the south side of space 44.

The lowest recovered surface represents phase one. It is not associated with any of the recovered architecture, but it seems likely that this surface belongs to the earliest walls recovered in trenches OPB 32 and 42 to the west (fig. 10).

In phase two, workers built the wall **06211** in a neat *opus reticulatum* matrix. Two contemporaneous surfaces were associated with this wall: One, placed at a slightly higher elevation, was part of an interior room to the east, and the other placed at a lower level

¹⁹ See OxÉ *et al.* 2001: OCK type 279.2 or 279.3, 30, 133 who argues for a Flavian production; FÜLLE 1997: 143; MENICHELLI 1995: 20 *RIC* I #115.

²¹ THOMAS *et al.* 2013; DI MAIO 2014; MUNTASSER AND DI MAIO 2016; VAN DER GRAAFF *et al.* 2016: 9.

²² See THOMAS *et al.* 2013: 5; VAN DER GRAAFF *et al.* 2016: 3; VAN DER GRAAFF *et al.* 2019: 16-18.

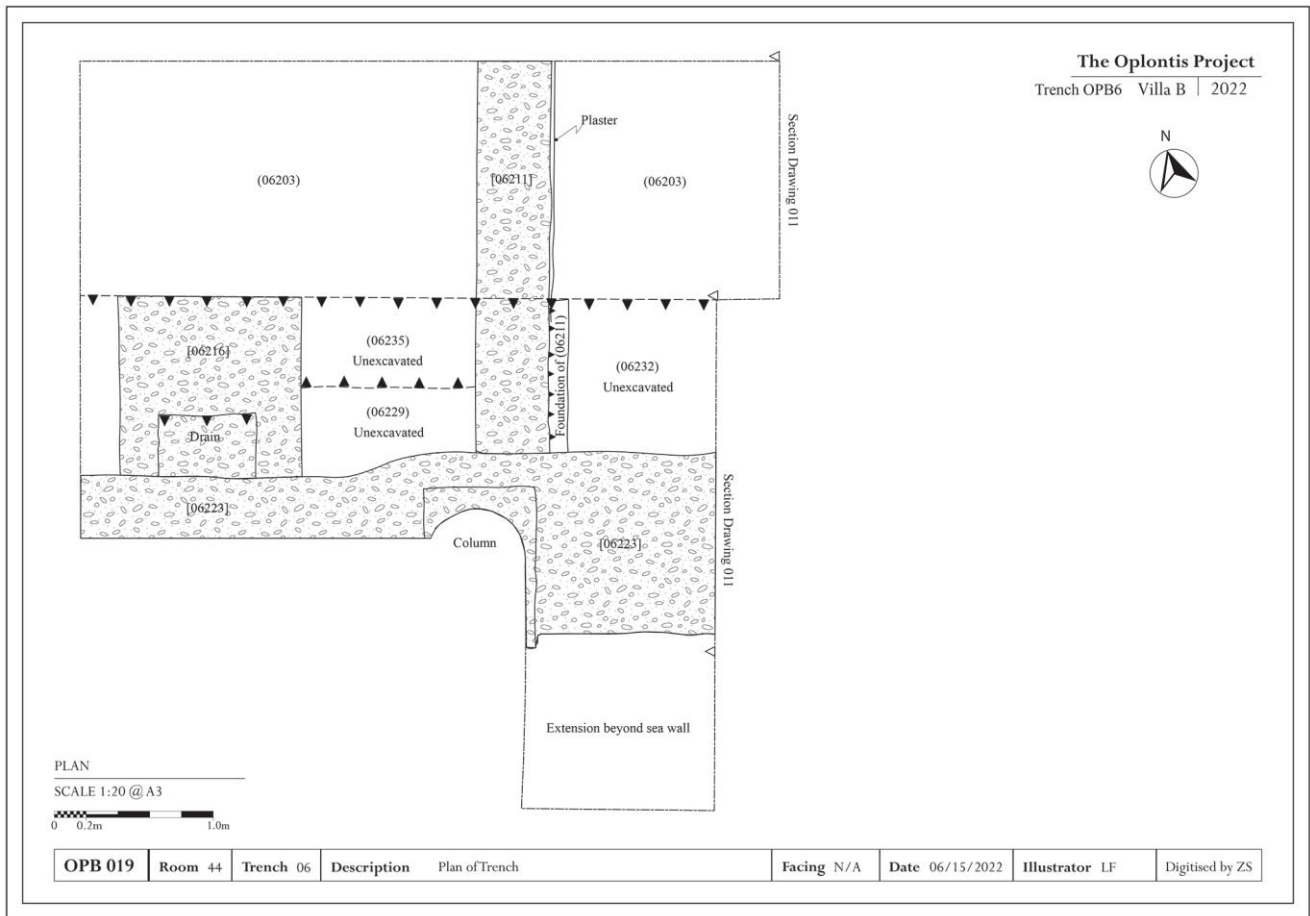


Fig. 10. Plan of trench OPB 6.

belonged to an exterior space on the western side²³. The interior floor featured a series of micro strata built up over time, like the floor associated with the basin recovered in neighboring OPB 39. The strata to the west of the wall were slightly different. The surface associated with the exterior of wall **06211** was buried beneath a later leveling dump of material associated with the construction of the sewer **06203**. Whatever its function, the building was once substantial and it seems to have operated with the basin recovered in neighboring trench OPB 39. It is also entirely possible that the colonnaded courtyard to the north already existed together with this building. The composition of wall **06211** in reticulate masonry is uncommon in Oplontis before the first century AD²⁴. The materials recovered from the trench are still under study and this building may date slightly earlier, to the second half of the first century BC.

In phase three, workers demolished the building associated with wall **06211** and raised the area with a fill. They also constructed the sewer **06203** to discharge wastewater from the courtyard to the north into the sea to the south. Workers then covered the area with the familiar rounded ceramics and pebble fill also recovered in trenches OPB 39 and 42, that served as a bed for a concrete pavement²⁵. Unlike the disparate nature of the architecture belonging to the earlier phases recovered in the trenches, this sequence indicates that this concrete pavement and the sewer operated together with the courtyard complex to the north.

The concrete surface covered all previous architecture except for the southern colonnaded seawall that clearly cut through it in phase four. The colonnade also cut off the drain **06203** that connected to a T-shaped

²³ Excavation below it uncovered traces of another possible surface of beaten earth and its associated fill, as well as another leveling dump of refuse/debris.

²⁴ LUGLI 1968: 422.

²⁵ The stratigraphy on the western side of the drain differed somewhat where the floor foundation featured a fine layer of preparation composed of crushed red volcanic rock or *schiuma di lava*. A similar preparation layer appeared in OPB 42 to the west.

basin in the courtyard to the north (see fig. 2). The basin served to collect excess aqueduct water from a western channel as well as wastewater flowing through the adjacent latrine, suggesting that the water supply to the complex was either cut off or re-routed in this phase. The evidence from OPB 39 and our previous excavation of OPB 6 indicates that the foundations of the barrel-vaulted spaces similarly cut through the concrete pavement and the drain, signaling that these spaces were the last structures built in the area²⁶.

The brown layer recovered elsewhere in the area also belongs to phase 4 and is the surface of AD 79. The subsequent excavation of the surface produced familiar artifacts as excavated from this deposit elsewhere including a Claudian *quadrans* coin with a modius on the obverse and a SC on the reverse (42-54 CE)²⁷, as well as a *dupondius* featuring a portrait of Claudius on the reverse and an image of the goddess Constantia on the obverse, minted between 50-54 CE²⁸. These finds suggest a construction date at the earliest after 54 and most likely after the earthquake of AD 62.

Excavation of the trench also focused on expanding it toward the east to uncover more of the earlier foundation wall **06211**. In the process, a series of volcanic deposits of alternating lapilli and pyroclastic flows emerged, akin to those uncovered in OPB 39. The pyroclastic flows undulated heavily and both pumice and pyroclastic deposits occasionally lay directly on the surface of AD 79. The lowest pyroclastic flow in the unit appeared to spill over the foundation of the southern colonnade at a steep angle. This circumstance led to the expansion of the trench to the south where a further sondage up to two meters deep recovered more evidence of the volcanic deposit. Although security reasons halted further digging, the final excavated context featured pumice mixed in with beach sand, suggesting the presence of the ancient shore.

This beach context, together with the steep angle and the depth of the volcanic deposit, suggests that the colonnade acted as a seawall on a nearby shore in antiquity. It also further corroborates the results of an Electrical Resistivity Tomography survey conducted in our first season, which indicated the presence of the seashore just a few meters south of the colonnade²⁹. The presence of the seawall signals a measure of coastal erosion since it clearly cut through the previous drain **06203** that served to funnel excess water from the courtyard to the north, in turn suggesting a radical alteration of the water lines supplying the complex³⁰. Such a scenario also explains the presence of the two piers recovered in trench OPB 42 to the west that engineers must have built to counter the subsidence of the terrain, an effect of Bradyseism in the years leading up to the eruption.

The courtyard

OPB 40

In addition to the work taking place on the south side of the complex, the courtyard continued to be a focus of investigation. Trench OPB 40, placed in room 15, faced the interior of the courtyard. The aim was to recover evidence of earlier architecture found in trench OPB 33 excavated in room 10 to the south, and in trench OPB 15 in room 49 to the southeast. Excavation began with the removal of a *cocciopesto* floor that was *in situ* at the time of the eruption. Along with room 14 next door, room 15 is the only space that featured a *cocciopesto* floor, suggesting that both had some special sort of function that set them apart from the other spaces surrounding the courtyard.

A unique floor belonging to an earlier phase soon emerged with the removal of the concrete pavement (fig. 10). It featured a series of large, fired bricks about 330 mm long x 310 mm wide and 90 mm thick, arranged in a pseudo-basketweave pattern. Adjustments in the brick pattern suggest that several corrections occurred as the workers assembled the floor. A thin layer of chalk/lime covered the bricks, akin to a layer recovered in trenches OPB 26 in room 14 and OPB 3 in the adjacent courtyard³¹. The rough lime coating and the brick struc-

²⁶ The small drainage shaft for the roof above the barrel vaults recovered in OPB 34 also clearly cuts through this *cocciopesto* surface. See VAN DER GRAAFF *et al.* 2019: 16-18.

²⁷ RIC I #90.

²⁸ RIC I #111.

²⁹ THOMAS *et al.* 2013: 3-4; CLARKE *et al.* 2021: 103-105.

³⁰ The seawall also cut the north-south wall **06211**, preventing the recovery of further information associated with the earlier building.

³¹ See THOMAS *et al.* 2013: 6; VAN DER GRAAFF *et al.* 2016: 11.

ture suggest that the space functioned primarily for utilitarian purposes. The pavement respected the layout of the room as it reached the outer walls, indicating that they functioned together³². Traces of wear and split bricks as well as an arcuated feature cut into the floor suggest that the pavement was in use for some time before the concrete covered it in the final phase. The brick pavement is still fully *in situ* and the team did not excavate below it (fig. 11).



Fig. 11. Overview of trench OPB 40 view from northwest facing southeast.

The brick floor at Oplontis B is rare among pavement types recovered in the region of Pompeii and elsewhere. Part of the problem is that excavators did not document many of these floor types upon their recovery and many are likely still buried beneath later pavements³³. An early example of a brick pavement dating to the Samnite period, in this case set up in a scale- and lozenge-shaped brick pattern, belonged to an unidentified building beneath the House of the Banker (VII.14.5) in Pompeii. Other examples are usually laid out in the more familiar herringbone pattern of *opus spicatum*³⁴. By contrast, at Oplontis B the bricks lay flat in a more haphazard disposition and are larger compared to later *opus spicatum* floors. In addition, the bricks seemed somewhat badly fired, suggesting their repurposing from elsewhere, perhaps the walling of a dismantled kiln³⁵.

An early estimate for the brick floor at Oplontis puts it in the range of the second half of the first century BC. Although both Vitruvius and Pliny the Elder discuss the use of bricks in construction, they do not mention

³² Only the eastern wall of the room features a heavy jog in it, which is the result of a modern faulty reconstruction that the Vitiello construction company conducted in the 1980s.

³³ BLAKE 1930: 146.

³⁴ BLAKE 1930: 146.

³⁵ Such a kiln may be further evidence of the lime production recovered in the vat of OPB 39 because workers need to heat lime before they can slake it in vats where they can mix it with water.

their use in floors³⁶. Instead, the floor at Oplontis seems to follow a tradition originating in southern Italy and Sicily where the earliest pavements from Helesa, Agrigento, and Solunto, date to the third century BC³⁷. The floor at Oplontis B thus fits in a spectrum of a south Italian building tradition that later spread elsewhere.

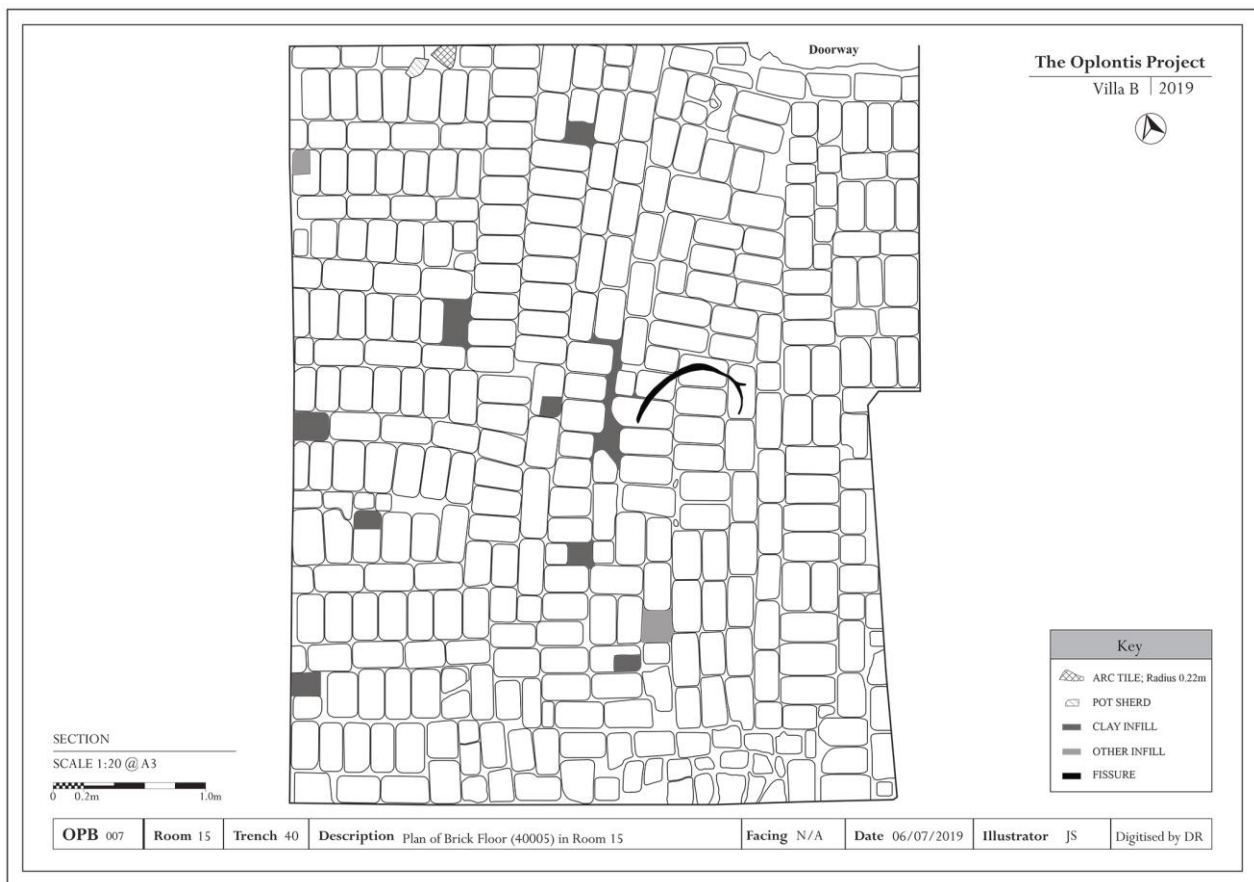


Fig. 12. Plan of trench OPB 40.

OPB 43

Considering the discovery of the brick floor in room 15, trench OPB 43, excavated in 2021, had as its aim to examine the development of the southeastern corner of the peristyle and the stratigraphic relationships with the interior spaces immediately around it (fig. 13). The trench also sought any evidence for earlier thresholds in the adjacent doorways. The results did not yield much in terms of previous architecture or doorway thresholds, but the trench did present three phases of occupation.

The earliest phase in trench OPB 43 appeared, in terms of its consistency, to be a hardened pyroclastic flow associated with an earlier eruption also recovered in trench OPB 1³⁸. The layer presented numerous cuts including traces of a foundation trench, dug to build the walls of room 15 and 34. Although most features remain unexcavated owing to a lack of time, they do not seem to belong to the development of the complex, except for the foundation trenches associated with the construction of its walls (fig. 14).

³⁶ Construction in fired brick was already known to Vitruvius and Pliny the Elder who describe its origin in Greece. VITRUVIUS *de arch.*: 2.3.3; PLINY THE ELDER *nat. hist.*: 35.49. An early use of fired bricks in walls occurs in Velia in southern Italy, as well as Arezzo in Etruria starting as early as the third century BC. LUGLI 1968: 538; BLAKE 1947: 282-287; PESANDO 2012.

³⁷ ADAM 1999: 472, LUGLI 1968: 534-539. By contrast, the earliest brick pavements in Rome seem to date to the early first century BC. See BLAKE 1930: 146.

³⁸ THOMAS *et al.* 2013: 4-5.



Fig. 13. Overview of trench OPB 43 view from the west facing east.

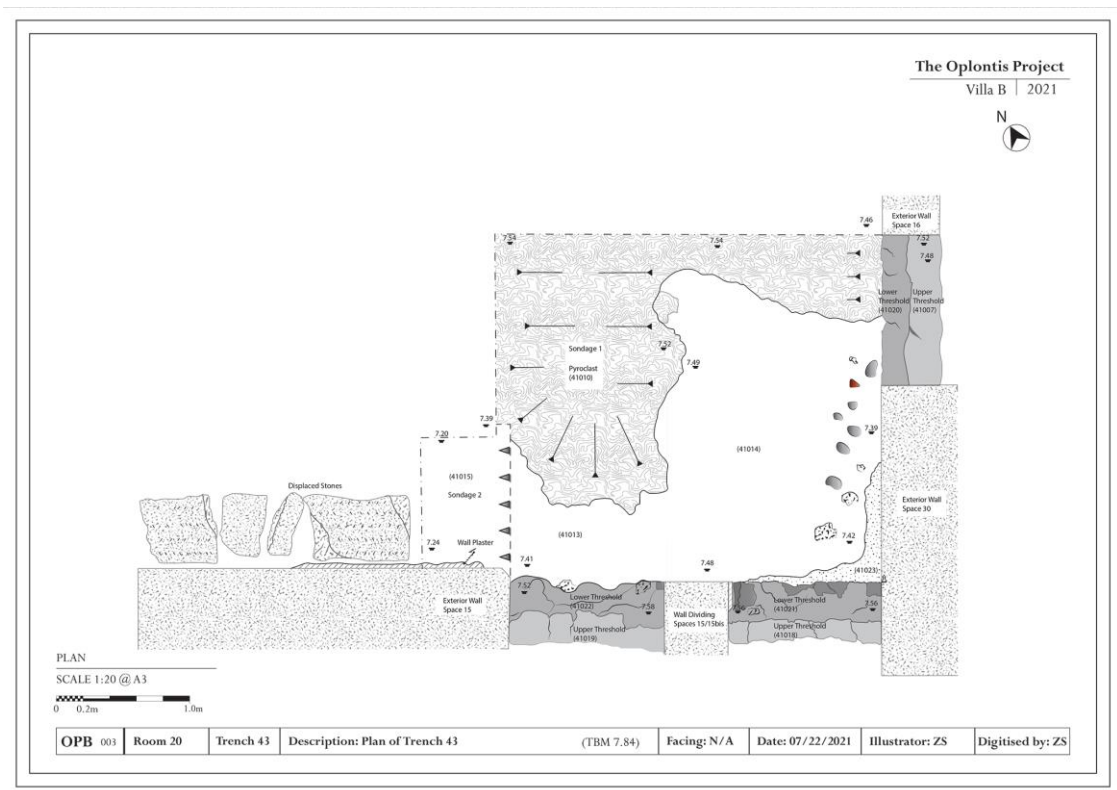


Fig. 14. Plan of trench OPB 43.

A leveling fill deposited to support a surface signals phase two for the unit. The leveling layer contained heavily broken ceramic building material that acted as a packing for the floor. The floor level, composed of a beaten earth matrix, featured broken white lime trampled down on the surface. This floor was badly broken and somewhat inconsistent throughout the unit. The presence of the plaster suggests that this surface is contemporaneous with the coat of broken plaster that covered the brick floor recovered in OPB 40 in room 15³⁹. Initial results date it to the second half of the first century BC.

Another levelling fill supported the ancient surface associated with the eruption of AD 79. The layer contained patches and traces of burning and displayed a heavy viscous matrix likely associated with the amphora pitching operations that happened in this area of the site⁴⁰. This surface presented several built-up deposits over time in the form of micro strata.

The area presented a thick modern overburden composed of a mixture of lapilli and fine sand that was likely the product of the modern reconstruction that took place in the 1980s and 90s. Below it a thin layer of grey claylike silty sand appeared. It included an occasional small piece of trampled pyroclastic material that may represent the vestiges of the volcanic flow that hit the area first in AD 79. This layer included some modern intrusions.

OPB 41

Trench OPB 41 sought to continue the clean-up and recording of the pavement used in AD 79 on the western side of the courtyard (fig. 15). Its aim was to understand the use of the building by identifying marks of wear or traffic, as well as any repairs or leveling events. After a sondage on the northwestern side of the courtyard, the trench expanded into an open area dig that recovered the pavement between the columns and the earlier trench OPB 1.



Fig. 15. Overview of trench OPB 41 view from the south facing north.

³⁹ We recovered similar floors in adjacent OPB 3 and OPB 26 in room 14. See Thomas *et al.* 2013: 6; Van Der Graaff *et al.* 2016: 11.

⁴⁰ MUSLIN 2019: 157; PECCI *et al.* 2017.

The ancient pavement displayed two compositions, indicating at least two paving events (fig. 16). The top pavement was a hard *cocciopesto* with few inclusions of pebbles or other materials. The western side included a ramp of sorts between columns 3 and 4 that corresponds with room 22, where a door walled up in antiquity once offered a western access to the complex. In places, the top pavement covered a rougher pebble framework like a *via glareata* (dirt with gravel surface) that seems to belong to an earlier phase. Interestingly those thresholds on the courtyard that displayed cart marks coincided with the upper pavement coming up to the stylobate. By contrast, the rougher pebble pavement (*acciottolato*), where exposed in the corners of the courtyard, did not display the same cart marks in the abutting thresholds. Such an arrangement suggests that cart traffic was less intense in the corners of the yard.



Fig. 16. Plan of trench OPB 41.

The turf layer contained some of the digging debris left behind at the time of the area's first excavation and reconstruction, including discarded fresco fragments and large pieces of Dressel 2-4 amphorae. On the southern side of the trench, the team encountered an earlier sondage excavated in the 1980s to examine the foundations of the courtyard. The irregular hole was partially filled with modern concrete. However, enough of the ancient foundation was visible to determine the traditional sleeper block pattern recovered for the foundation of the stylobate elsewhere in trenches OPB 1, OPB 2, and OPB 10⁴¹. Below the turf was a layer ranging between 10-15 cm thick, composed of crushed and broken pottery that seems to be an ancient leveling event; these materials were brought in to cover the floor, somewhat like a new layer of *opus signinum* but without the binding mortar. It may also represent a heavy trample layer with extensive build-up.

⁴¹ See trench OPB1 and OPB 2 in THOMAS *et al.* 2013: 3-5; also trench OPB 10 in VAN DER GRAAFF *et al.* 2016: 8.

The western wing

The examination of the western part of the complex resumed in 2022 with trenches OPB 4 and OPB 44, placed to examine a series of architectural alterations that occurred in antiquity. In origin the courtyard complex was largely symmetrical in its layout with the L-shaped rooms 6, 34, and 18 forming its outer corners. A series of alterations then changed this configuration. On the eastern side, the construction of a new wall created room 15bis and reduced the size of room 34⁴². On the western side workers walled off the door that gave access to room 18, as well as the entrance through room 22 that offered access to room 38. The result of this alteration shut off rooms 18, 21, 38, 39 from the courtyard complex and reoriented them to face west and the access corridor 40 that leads to the street on the north side of the site. Trenches OPB 44 and OPB 4 sought to date these changes and better understand the previous walls and phases recovered in the area that predate the rooms⁴³.

In the original excavation diary, the entry dating to the 25th and 26th of February 1977 contains a sketch which represents the only known documentation of the western wall of spaces 21 and 38 (fig. 17). Workers found that it had collapsed sideways and was too degraded for conservation. They proceeded to demolish the wall soon afterward; today only a stump of it remains. The sketch shows a wall elevation consisting of engaged columns flanking a window opening on space 38, and a door to space 39 that opened on the adjacent corridor 40. The masonry today suggests that the window to space 38 is a partially walled-up door, and access changed to a new door opening on space 39. The sketch also indicated that the wall received many alterations in antiquity. Indeed, one can see another walled-up window on the top left corner as well as beam holes for a second floor that has now disappeared.

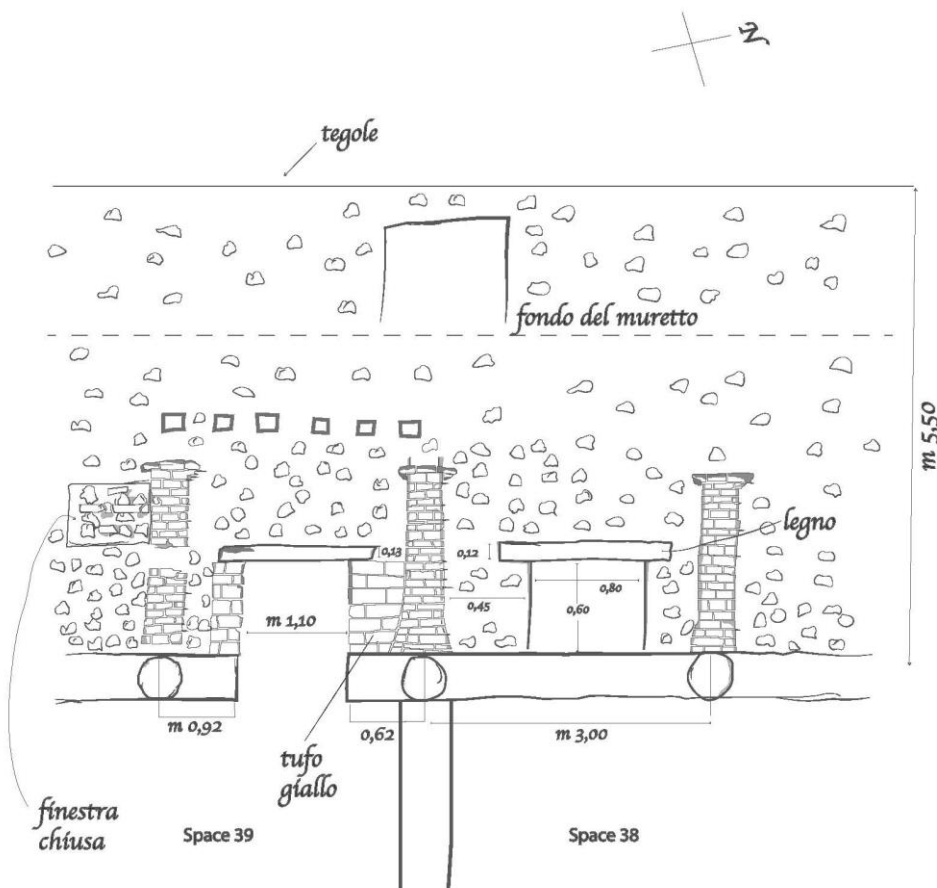


Fig. 17. Surviving sketch of the western wall of spaces 38 and 39 (now demolished).

⁴² Its construction led to the thorough demolition of the earlier structures in the area. This circumstance explains the shallow foundations for the wall recovered in OPB 25. See VAN DER GRAAFF *et al.* 2016.

⁴³ THOMAS *et al.* 2013: 7.

OPB 4

Trench OPB 4 spanned spaces 21 and 39 to focus on an area where our previous excavation carried out in 2013 had revealed only part of a floor composed of upside-down roof tiles on the north side of space 39; the remainder were removed before the eruption⁴⁴ (fig. 18). The missing floor together with a large pit discovered in trench OPB 18 excavated in the adjacent room 18 suggests that the area was under construction, perhaps with the addition of underground spaces at the time of the eruption⁴⁵. This circumstance allowed us to expand the trench to learn more about the much earlier foundation wall recovered during the 2013 season.



Fig. 18. Overview of trench OPB 4 view from south facing north.

The continued excavation of space 39 shed light on the development of the western side of the trench that had remained unexcavated. The earliest phase is associated with the continuation of wall **04104**. A beaten earth floor with some concrete mixed in appeared to be the surface associated with the operation of the wall. The finds associated with this wall indicate a mid-first century BC date although further study is necessary. What is striking is that the wall foundation clearly predates the current layout of the building and likely connects to the small pottery kiln found in OPB 35⁴⁶ (fig. 19).

Another beaten earth floor covered wall **04104**, signaling a major reorganization of the area in phase two that led to the complete demolition of the structures belonging to phase one. The results suggest that the date of the courtyard in its current shape is much younger than previously thought, with a possible construction date stretching even into the first century AD.

The ancient surface of AD 79 appeared after the removal of modern debris. It featured a beaten earth floor mixed with traces of lime and concrete mixed in. On the north side it abutted the remaining roof tiles that had been part of the floor throughout the space before workers removed them in antiquity. A small groove, like-

⁴⁴ THOMAS *et al.* 2013: 7.

⁴⁵ See trench OPB 18 in VAN DER GRAAFF *et al.* 2016: 10.

⁴⁶ VAN DER GRAAFF *et al.* 2019: 11-13.

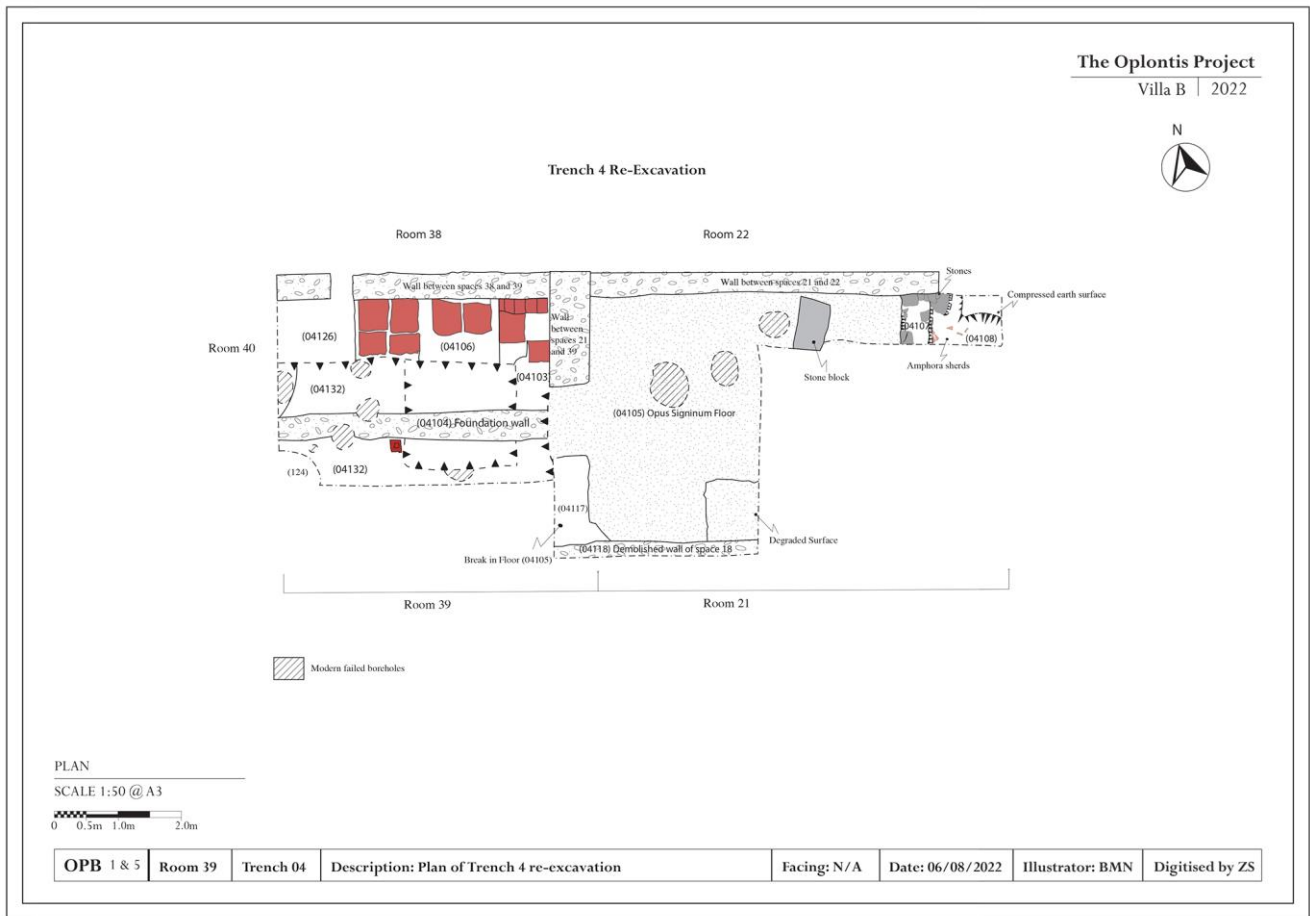


Fig. 19. Plan of trench OPB 4.

ly a drainage channel, in the tiles on the northeastern side of the room suggests that space once served some artisanal function. Overall, the floor lacked solidity outside of the remaining tiles, suggesting that the room was under construction at the time of the eruption.

A sondage focused on the removal of the degraded threshold between spaces 21 and 39 to reach the previous phase-two floor. It produced an important series of finds that help date this portion of the building. The first was an *As* coin minted under the emperor Caligula in 37-38 AD⁴⁷. It featured an image of the goddess *Vesta* seated on her throne and holding a *patera* on the reverse side, and a portrait of the emperor on the obverse. The coin was part of a broader rubble deposit that composed the floor foundation. Much of the rubble featured demolition pieces of Fourth Style fresco. These finds securely date the pavement between these two spaces to after AD 45, in turn telling an important story for the complex. The pavement was already in place or workers built it together with the event that separated the western wing from the rest of the complex, and more specifically when the access doors through rooms 28 and 38 were walled off. Indeed, it likely already was in place when this event occurred.

Further important results relate to the excavation of room 21 that was part of the eastern extension of the unit. It featured a well-preserved *cocciopesto* floor that was to remain *in situ*. A series of drill holes for concrete pilings, related to the proposed construction of the *Scuola Media Parini*, pockmarked the AD 79 surface. Upon excavation, one of these holes appeared to contain the masonry, suggesting that wall **04104**, recovered in space 39 turned north. A sondage extension to the east had as its aim to examine the threshold between spac-

⁴⁷ RIC I #38.

es 21 and 19. Although the plan shows the presence of a door here, the extension proved that a threshold between the spaces did not exist and is a modern construct. This suggests that room 21 did not communicate directly with the courtyard and interacted primarily with the western side of the complex.

OPB 44

Trench OPB 44 in space 38 (fig. 20) aimed to understand the composition of the floor in the room and its development in relation to the walled-up door between spaces 22 and 38. The trench yielded at least three phases of occupation. Like OPB 4 to the south, earlier architecture emerged that seems to have little in common with the final configuration of the courtyard to the east.



Fig. 20. Overview trench OPB 44 view from west facing east.

A much earlier wall **44005** marks the first phase in the trench. It had little or nothing to do with the current architectural arrangement of the spaces. The wall ran through the unit and continued underneath space 22 (fig. 21). On its western end the wall featured a prominent corner to the south that ended just short of the southern wall of space 38, creating the threshold to the earlier space. The width of this corner remains unknown because it continued beneath corridor 40 to the west. The placement of wall **44005** suggests that it was contemporane-

ous with wall **04104**, recovered in trench OPB 4 to the south and created a space with a threshold to the west, perhaps an earlier workshop. This phase featured a prominent floor that showed evidence of burning. Initial results suggest the mid-first century BC as a construction and use date for this earlier structure. Its placement indicates a very different kind of structure for this side of the complex prior to the current arrangement.

In the second phase workers demolished the structures associated with the earlier wall **44005** and built the room with its current walls. The excavation uncovered a floor belonging to this phase that was clearly associated with the threshold of the walled-up door when it still communicated with space 22 to the east. The floor featured a dark charcoal matrix indicative of burning. The precise nature of this burning event is unclear but may be the result of a destructive event such as the earthquake of AD 62.

The excavation began with the removal of the modern overburden that covered the ancient floor level. This included a layer of lapilli and debris washed down from the excavation scarp above the room. Inside this debris were fragments of marble sills and a fragmentary terracotta figurine of a seated Zeus. The ancient surface was a simple beaten earth floor that featured cuts through it on the eastern and western edges of the space. The ruined state of the floor suggests that the space was out of use at the time of the eruption. Such a circumstance also explains the crude opening cut through the masonry of the southern wall to communicate with room 39 to the south.

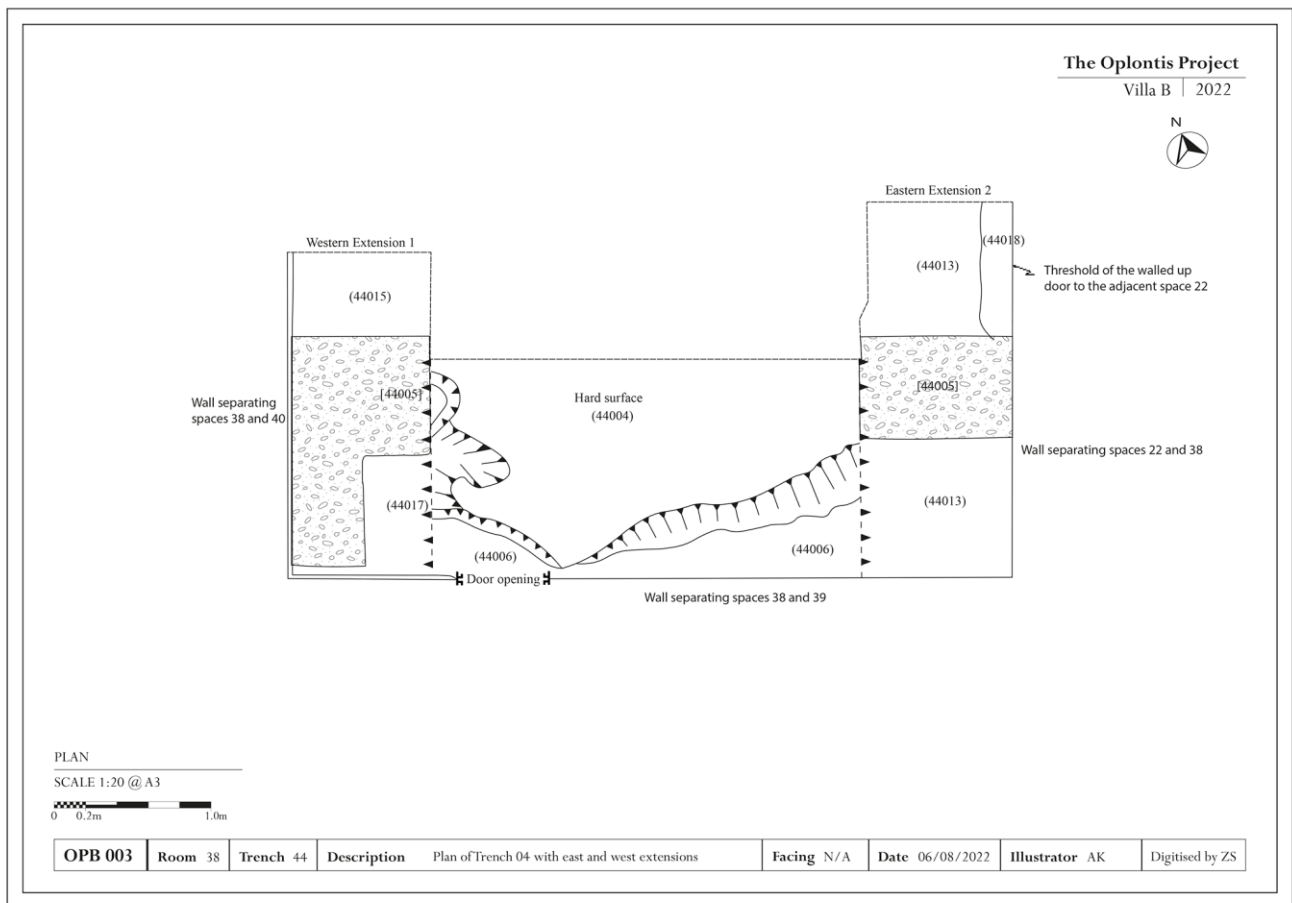


Fig. 21. Plan of trench OPB 44.

Conclusion

The work in trenches OPB 32, 39, 42 and 6 on the south side of the complex in the past three seasons have confirmed the existence of at least five phases of occupation, three of which have no relation to the barrel-vaulted spaces currently there (fig. 22). The earliest, Phase 1, associated with the wall recovered in OPB 32 (**32115**) and 42 (**42012**), runs at a different angle and orientation from the current complex in a southeast-northwest direction. Although its function remains enigmatic, it may represent the sea-ward terracing wall of an early complex, whose function remains unknown⁴⁸.

In Phase 2 a radical alteration takes place as the building takes on the current north-south orientation. The evidence indicates the presence of multiple structures, including walls **32126** and **32136** in trench OPB 32, and possibly a pier **42013** in OPB 42. Elsewhere, Phase 2 corresponds with walls **44011** recovered in OPB 44 and **04104** in OPB 4. Collectively they belong to a separate structure on the western edge of the site⁴⁹. It could very well be that the colonnade in the courtyard already stood as part of these earlier structures dating to the late second century BC.



Fig. 22. Plan of Oplontis with phases recovered in the trenches discussed in this article.

In Phase 3, dating no earlier than the second half of the first century BC, the core of the courtyard complex starts to take shape. The structures that are part of this phase are the basin **39011/39012** in OPB 39, and wall **06211**, as well as the brick floor in OPB 40. It seems plausible to assume that pier **44011** and wall **04104** were in use during this phase. The basin recovered in OPB 39 this season is an important breakthrough in our understanding of the site. The shallow walls seem to be part of industrial operations dating to before the construction of the barrel-vaulted rooms.⁵⁰ The presence of lime slaking installations does not necessarily conflict

⁴⁸ Another structure related to this phase might be wall **15041** located in trench OPB 15 excavated in space 49. See VAN DER GRAAFF *et al.* 2019: 13-15.

⁴⁹ It seems likely that wall **15145** and drain **15022** recovered in trench OPB 15 in space 49 also belong to this phase. VAN DER GRAAFF *et al.* 2016: 4-5; VAN DER GRAAFF *et al.* 2019: 13-15.

⁵⁰ The shallow basin recovered in OPB 39, also seems to correspond with a series of walls in OPB 15 that collectively to belong to the third phase: Walls **15035**, **1514**, **15149**, **15131** and **15139** which were likely in use in the next phase 4 as well. The wall **34034**

with the idea of the structure being involved in wine preparation. Lime was an element used in construction and in leather-tanning, as well as in agriculture.

In Phase 4 workers built the drain **06214** and its associated pavement on the south side of the complex. The presence of the sewer which functioned to drain the water supplying the courtyard to the north indicate that the main building at the center of the site and the two-story colonnade operated sometime in the last quarter of the first century BC. Indeed, as attested in trench OPB 26 this sewer runs clear beneath the walls of room 14 to the north, suggesting their contemporaneous use.⁵¹ The pier **42011** also seems to continue to function during Phase 4.

It is in this phase, then, that we get a clear picture for the layout and construction of the courtyard building's core. This core seems to be composed only of the peristyle and its surrounding rooms (1-9, 11-17bis, 18-24, 30, and 34) on two floors. Our study in the courtyard has revealed two major phases of use associated with equally well-defined pavements. Such pavements seem to be part of the existing architecture on the south-eastern part of the site. The evidence uncovered in both trenches OPB 40 and OPB 43 once again confirms the general trend observed on site, where the courtyard sees comparatively little architectural development. In contrast, the south side sees much more activity in a short period. This scenario is the result of the relatively late construction of the courtyard structure in its current layout dating no earlier than the second half of the first century BC. This late date stands in sharp contrast to the mid-second century BC construction date suggested for the complex in published studies⁵².

In Phase 5 the complex undergoes a major shift where the western wing is closed off from the main courtyard structure. The surviving masonry, the evidence from the trenches, as well as the sketch from the 1975 diary, shed new light on its development. They suggest that in Phase 4 the courtyard complex once had a series of secondary accesses on the western side in addition to its main entrance through space 9 to the east. It also featured an exterior portico that matched another on the eastern side. It is likely that the columns engaged in the wall of space 40 were once free-standing. Excavations conducted in 2007 by the Superintendency of Pompeii recovered a similar free-standing brick column on the eastern side of the complex⁵³. Although the portico on the eastern side remained intact, it seems that workers walled in the western side to create new spaces, perhaps *tabernae* of sorts that now opened to the west. The finds from the trenches suggest that this transformation occurred somewhere in the Claudian period. The area then suffered further damage during the earthquake and was in construction at the time of the eruption. The subsequent earthquake of AD 62 heavily damaged the area and it was still under construction at the time of the eruption. We should note a likely possibility that Phase 5, and the following Phase 6 belong to the same reconstruction event after the earthquake of AD 62.

The earthquake certainly marks Phase 6 with the construction of the barrel-vaulted spaces and the sea-wall colonnade on the south side of the site. This scenario is likely the result of Bradyseism affecting the topography with the lowering of the landscape leading to extensive terracing events as well as the construction of a new pier **42008** and the seawall colonnade on the southern side of the site. During this phase the old water supply and drainage system from the courtyard seems largely interrupted. This event however did not stop the wine-packaging process which was ongoing at the time of the eruption.

By AD 79 the complex had witnessed six major phases of development stretching back into the late second century BC. More study will be needed to identify a secure chronological timeframe and distinguish the function of the earlier structures. However, these phases likely correspond to historical and social disruptions such as the arrival of the colonists in Pompeii in the first century BC, as well as the changing topography because of seismic upheavals in the years leading up to the eruption. Together with all the previous phases identified on site, this circumstance suggests that the courtyard in its current configuration and hence its function as a wine packaging center is comparatively late, starting no earlier than the second half of the first century BC. The wine-packaging operation might even have started as late the Claudian period.

running east in trench OPB 34, excavated just west of OPB 6 must also be part of this phase as the drain **06224** cuts through it. See THOMAS *et al.* 2013: 7; VAN DER GRAAFF *et al.* 2016: 3-4; VAN DER GRAAFF *et al.* 2019: 16-17.

⁵¹ VAN DER GRAAFF *et al.* 2019: 10-11.

⁵² MAGGI 1977; MALANDRINO 1977; MALANDRINO 1981; LAGI DE CARO 1983; KOCKEL 1985; D'AMBROSIO 1987a; D'AMBROSIO 1987b; D'AMBROSIO 1991; D'AMBROSIO, DE CAROLIS 1997; FERGOLA, PAGANO 1998; FERGOLA 2004.

⁵³ These excavations remain unpublished. See FERGOLA 2008.

After the earthquake of AD 62, the area of Oplontis B that is excavated today had developed six zones. The eastern rooms facing the regional road, although attached architecturally to the courtyard, do not feature mutual access points, suggesting that they operated separately as workshops of sorts. This same situation exists on the northern side of the site where the row houses built in the Augustan period lined a street. They abut the courtyard building but do not communicate with it. A similar development had occurred in the west wing where many rooms were shut off from the courtyard building. Above the barrel-vaulted spaces facing the sea on the south side was a series of rooms that again do not communicate with the abutting courtyard rooms. Some of these spaces were apartments and preserve fresco decoration in course of study. Finally, an unidentified separate brick building, possibly a bathhouse, lay abandoned to the west with its windows walled up in *opus reticulatum* masonry. Dynamic forces changed this architectural landscape many times. Although our conclusions need further verification in terms of timing, they reveal a complex in flux from the late second century BC right up to the eruption.

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