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## PVN Op 21 and 43 2018 Field Season Excavation Report

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## Operation 21, 2018 field season

Operation 21 encompasses an area in southeastern La Sierra that stretches back to the south from the edge of a high terrace of the Rio Chamelecon. Investigations conducted here during March and April 2018 concentrated on clearing Str. AH-18 along with digging seven test pits. The latter probes were devoted to defining the southern edge of a large depression (the South Depression) the borders Op.21 on the northwest. The primary goal of this work was to collect ceramic samples to be subjected to petrographic, Instrumental Neutron Activation (INAA), and X-Ray Florescence (XRF) analyses as part of a project to determine if specific taxa of pottery vessels could be linked to the workshops in which they were made. The uncovering of Str. AH-18 was pursued as an extension of that effort, driven in part by the likelihood that the building would soon be destroyed by continued commercial cultivation of sugar cane in the area.

### Structure AH-18

Structure AH-18, when first seen in March 2018, appeared as a concentration of stones, mostly cobbles, that were embedded firmly in modern ground surface. It was 19m southeast of the South Depression and about 25m south of the steep drop to the lower terrace of the Rio Chamelecon. The ground here is relatively level. Digging within Subop. 21AB-AT uncovered about 50m<sup>2</sup>, excavations reaching a maximum depth of 0.6m below modern ground surface within and beyond construction. Two major constructions efforts were identified in the course of this work.

### Time Spans

<u>Time Span</u>	<u>Construction Phase</u>	<u>Units</u>	<u>Strata</u>	<u>Features</u>	<u>Date</u>
1	-	-	S.3	-	LCL?
2	Str. AH-18-2 <sup>nd</sup>	U.1	-	-	LCL
3	-	-	S.3	-	TCL
4	Str. AH-18-1 <sup>st</sup> Str AH-18-Sub1	U.2-13, 15 U.14	-	F.2-4	TCL
5	-	-	S.1, 2	F.1	

Note: Some Middle Preclassic (1200-400BCE) sherds were recovered mixed with the later materials that were analyzed from contexts associated with Str. AH-18.

Note: Pottery sherds diagnostic of the Middle Preclassic were found consistently mixed with Late and Terminal Classic materials in these excavations.

### Time Span 1

The earliest activity attested to in Str. AH-18's vicinity was the deposition of a hard-compacted, fine-textured, tan soil (S.3). Stratum 3 underlies to an undetermined depth

construction that constitutes TS.2 architecture (U.1). We did not locate the base of S.3 as our excavations halted after exposing portions of U.1.

### Time Span 2

The uncovered portion of Str. AH-18-2<sup>nd</sup> consists of a 0.2m-high stone construction that is at least 0.8m wide and forms an arc that measures 1.7m across its open northeast side. The concave northeast flank of U.1 is approximately 0.15m deep northeast-southwest. Excavations may have revealed U.1's southeast end. Its northwest side appears to have been disrupted by TS.4 construction. Consequently, Str. AH-18-2<sup>nd</sup>'s full dimensions are unknown. We infer that Str. AH-18-2<sup>nd</sup> might originally have comprised a circle or semi-circle, its hard-packed earthen-floored interior (the top of S.3 at this time) being bordered by a low but broad solid stone wall made primarily from river cobbles that are set in a mud mortar (U.1). The flatter faces of the rocks comprising U.1's northeast face are consistently oriented in that direction. Structure AH-18-2<sup>nd</sup>'s dimensions, in any case, cannot be reconstructed from the data in hand. There were no clear signs of burning directly associated with TS.2 architecture.

### Time Span 3

During this interval, accumulation of S.3 resumed, as much as 0.3m of this tan soil being laid down now. At least some components of Str. AH-18-1<sup>st</sup> were set atop U.1 and were backed by the portions of S.3 that accumulated during TS.3. These relations tentatively suggest that Str. AH-18-1<sup>st</sup> was constructed at the same time that upper S.3 was being introduced, the latter possibly comprising fill that was brought in to raise the ground surface that supported the former building. As this interpretation remains uncertain, S.3 retains a designation suggesting that its deposition resulted from natural processes.

### Time Span 4

Structure AH-18-1<sup>st</sup>'s core consists of two stone walls (U.2 and 15) that stood 0.25-0.35m tall and were 0.4-0.7m wide. Together, U.2 and 15 consist of distinct arcs that together define the north and southwest sides of a semi-circle. The northern segment (U.2) covers 2.5m in straight-line distance east-to west, its open, concave side facing south and measuring 1.75m across by 0.45m deep north-south. Its southwestern analogue (U.15) is displaced 0.6m west and 0.15m northwest of U.2's west end. From here U.15 defines an arc the concave side of which is open to the northeast, encompasses 3m southeast-northwest, and is 1.15m deep, northeast-southwest. There is a 1.75m-wide gap between U.2's east end and the eastern terminus of U.15 where few stones are found. It may be that the gap was part of the original construction or that stones were selectively appropriated from this portion of the circle after the building was abandoned. In either case, the area circumscribed by U.2 and 15 consists of an oval the interior of which was floored with a hard-compacted tan soil (the same earth surface that was at least partially enclosed by U.1 during TS.2). This space measured 2.75m east-west by 3m north-south and was possibly open in the east where 1.75m separates the termini of U.2 and 15. The building measures 4m across its exterior at its widest point.

The area separating U.2 and 15 on Str. AH-18-1<sup>st</sup>'s northwest side is filled with a 'U-shaped' stone construction (U.3) that is open to the southwest. Unit 3's walls are 0.3m tall by 0.15-0.2m wide and are composed of stones some of which are flat-laid while others are set vertically. Together these rocks define a stone-floored interior space that covers 0.25m

northwest-southeast by 0.35m. The purpose of this open-ended 'box' is unclear. A dense concentration of burnt earth fragments and medium-size stones (F.4) was recorded where they had fallen into the 0.2m-wide gap separating U.3's northwest wall from U.15's north end. It may be that F.4 consists of debris that tumbled from U.3, the charred earth pieces suggesting that the latter was associated with burning. This view is reinforced by the recovery of numerous small pieces of burnt earth off U.3's southeast side, within the area delimited by U.2 and 15.

A 0.28m-tall stone block (U.4) projects 1.1m northwest into the earthen-floored space bounded by U.2 and 15. Unit 4 is 1.15m wide and, while its southwest side extends 1.1m northwest of U.15, its northeast flank measures 2.1m long, running past U.15's east end. An addition (U.5) was appended to U.4 at some point during TS.4. At 0.28m tall, U.5 continues the line of U.4's northwest face for 0.85m northeast of the latter's north corner. Unit 5 then turns a corner and extends 0.8m to the southeast after which it runs back to the southwest where it rejoins the main body of the U.4 stone block. Unit 5's width narrows from northwest-to-southeast, encompassing 0.55m across at its southeast edge. The result of these modifications was to convert U.4 into a 0.28m-high 'L-shaped' construction the 'stem' of which ran northwest-southeast while the 'leg,' comprised of U.5, projected 0.55-0.85m to the northeast of the block's northwest terminus.

Two stone circles (U.6 and 7) were found off U.15's west side. The best preserved of these (U.6) was built into U.15, its bordering rocks defining an oval that covered 0.45m northeast-southwest by 0.5m. Unit 6's base is gently concave, sloping up 0.05m over 0.08m to the bordering rocks that rise 0.17-0.25m above that floor and form a perimeter that is 0.15m wide. The construction's earthen floor is composed of a fine-textured, hard-compacted, brown soil that is burnt orange. Large quantities of burnt earth (F.2) filled this space. Located 0.4m southwest of U.6 is what appears to have been the disturbed and partial remains of another stone circle (U.7). Unit 7's northeast stone wall, the only segment of the construction that was well preserved, is 0.08m high by 0.1m wide and bordered an area covering ca. 0.5m in diameter. The dense concentration of burnt earth recorded within U.6 was not replicated here though some fragments of this charred material were recovered within the area encompassed by U.7's perimeter wall.

The area bordering U.6 to the southwest and surrounding U.7 is filled with stones the dispositions of which do not suggest that they were part of a formal surface. A pavement (U.8) was recorded immediately southeast of U.6 and 7, stretching back 1.8m southwest of U.15. In all, U.8 encompasses 2.7m<sup>2</sup> and is connected to a comparable floor (U.10) to the east by a 1.45m-wide stone surface (U.9) that borders U.15 on the south. Unit 10 is 1.95m east of U.8 and measures 1.5m southwest-northeast. It extends at least 2.1m southeast of U.15's south side though its terminus in this direction was not definitively identified. Unit 12, a low wall that delimits U.10 on the northeast, intersects U.4's southeast flank at a point 0.5m southwest of the latter's east corner.

Two additional stone arcs were recorded off Str. AH-18-1<sup>st</sup>'s south and northeast sides (U.11 and 13). Unit 11 was built into the juncture between U.9 and 10 and was seemingly integral to both constructions. The curved wall that comprises the exposed portion of this construction is 0.2m tall by 0.25m wide and projects at least 1.5m south from the intersection of U.9 and 10. The construction's open, concave side is to the west, its uncovered segment measuring 1.5m north-south by 0.25m deep east-west. The final form and dimensions of U.11 were not determined as excavations ceased before the construction was fully exposed. What we can tell of this configuration is that it was bordered by the east-west running line of U.9 on the north and the curved arc of U.11 on the east. Large amounts of burnt earth were found

embedded in the hard, fine-textured, brown soil enclosed by U.9 and 11, this charred material lapping up onto and covering U.11's west (concave) side.

Unit 13's southern edge is 0.05m northeast of U.4's east corner. Unit 13 consists of a 0.15m-high by 0.25-0.3m-wide stone wall that forms the east side of a semi-circle the concave side of which is open to the west. Unit 5, the northeast addition to U.4, is 0.4m to the northwest while U.4's northeast wall is 0.6m southwest of U.13's northern terminus. Overall, U.13's concave west side covers 0.8m north-south and is 0.15m deep east-west. The earthen-floored space bordered by U.4, 5, and 13, therefore, covers 1.75m northwest-southeast by 0.6m, a 0.4m-wide gap between U.5 and 13 providing access to the interior. There were no signs of burning within the area enclosed by U.4, 5, and 13. Lying immediately east and south of U.13 was a moderately dense scattering of medium-size rocks many of which appeared to have been originally set vertically (F.3). It was not clear if the F.3 stones were part of a purposeful construction; they were not sufficiently tightly packed and flat laid to have been a floor. It may be that these rocks were put in place to stabilize round-bottomed ceramic vessels that were associated with activities conducted within Str. AH-18-1<sup>st</sup>.

The only portion of Str. AH-18-Sub1 that was uncovered consists of a 0.06m-high by 0.25m-wide stone wall (U.14) that was recorded 1.4m northwest of Str. AH-18-1<sup>st</sup>. Unit 14 was oriented ca. 32 degrees over the 1m-long (northeast-southwest) segment that it was exposed. Most likely this construction served as a footing for a perishable upper wall that formed the southeast perimeter of an earthen-floored building raised directly on ancient ground surface. Unit 14's base sits at, or up to 0.05m above, the base of U.15 suggesting that the two constructions are roughly contemporary.

By the conclusion of TS.4, Str. AH-18-1<sup>st</sup> was an oval construction bordered by curved stone walls on its north, west, and south sides; the east flank may have lacked architecture over a distance of 1.5m north-south. These bordering walls rested in part on U.1 and are 0.25-0.35m tall by 0.4-0.7m wide. Together they enclose an earth-floored interior that encompasses 2.75m east-west by 3m, the overall construction measuring 4m across its widest point. A box delimited by stone walls measuring 0.3m tall by 0.15-0.2m wide is located in this oval's north side, separating the northern arc from the rest of the construction. The box is open to the southwest, has a stone-floored interior that covers 0.1m<sup>2</sup>, and shows signs of burning. A 0.28m-tall L-shaped stone block projects 1.1m into Str. AH-18-1<sup>st</sup>'s earthen-floored interior from the building's southeast side. The 'stem' of this construction encompasses 1.15m wide northeast-southwest while the 'leg' projects 0.55-0.85m to the northeast from the block's northwest edge (narrowing from northwest-to-southeast). Stone pavements border the oval on its southwest and southeast sides, covering 2.7m<sup>2</sup> and 3.1m<sup>2</sup>, respectively. The 2m separating these floors is bridged by a 1.45m-wide stone surface that borders Str. AH-18-1<sup>st</sup>'s south flank. Two circles defined by stone perimeter walls that are 0.08-0.25m high by 0.1-0.15m wide lie within, and off, Str. AH-18-1<sup>st</sup>'s west side. The best preserved of these encompasses 0.45m northeast-southwest by 0.5m, was built into the Str. AH-18-1<sup>st</sup>'s curved western wall, and showed signs of having been subject to intense burning. Its compatriot, 0.4m to the southwest, was not found intact. What survived of the latter construction suggests that it originally had a diameter of roughly 0.5m and was likely as deep as its neighbor to the northeast. Though fragments of charred earth were found within this entity, evidence for burning was not as extensive as it was within the better-preserved pit. Arcs composed of curved stone walls were built into Str. AH-18-1<sup>st</sup>'s south and east sides. These constructions are 0.15-0.2m tall by 0.25-0.3m wide and define curves that are 0.8m long by 0.15m deep (U.13 on the east) and at least 1.5m long by 0.25m deep (U.11 on the south). Unit 11 was apparently associated with activities that burned the earthen surface it bordered on the east; signs of comparable conflagrations were not apparent in U.13's vicinity.

The medium-size stones, some of which were set on end, found east and south of U.13 may have been used to support ceramic vessels.

Several conclusions seem to be borne out by this evidence. First, the ca. 50m<sup>2</sup> cleared on and around Str. AH-18-1<sup>st</sup> likely revealed only a segment of a larger building complex that certainly extended further to the south and west. Second, the activities conducted in the exposed portion of that aggregate involved burning. Given Str. AH-18-1<sup>st</sup>'s proximity to the South Depression, a declivity created during mining for clay used in pottery manufacture, this building probably was a ceramics kiln.

Structure AH-18-Sub1, in contrast, was probably a surface-level edifice that was raised 1.4m northwest of Str. AH-18-1<sup>st</sup>. Very little can be said about this construction save that it had an earthen floor and was aligned approximately 32 degrees. Most likely, Str. AH-18-Sub1 and its southeast neighbor were in use at the same time.

All constructions erected now were fashioned primarily of river cobbles the flatter aspects of which were directed outwards. Faced blocks were occasionally found among these rounded rocks, usually incorporated within formal surfaces. One piece of masonry was part of U.4's northeast outer facing. All of the rocks were set in a mud mortar.

### Time Span 5

After Str. AH-18-1<sup>st</sup>'s abandonment, between 0.07-0.21m of a fine-textured, hard-compacted, dark brown soil (S.2) was laid down. A 0.12-0.15m-thick humus level (S.1) subsequently formed atop S.2. The primary feature distinguishing S.1 and 2 is the far greater concentration of small roots in the former. A moderately dense concentration of rocks (F.1) was found embedded in S.1 and, mostly, S.2. The F.1 stones likely tumbled from final-phase architecture. A particularly dense concentration of these displaced rocks was found extending 0.9m northwest of U.15, reaching to 0.15m southeast of U.14. The flat-laid disposition of these stones (mostly river cobbles) coupled with their close packing to a thickness of 0.22m may imply that they were part of a construction that was associated with Str. AH-18-1<sup>st</sup> but which was not otherwise exposed in the course of our excavations. It seems unlikely that so many rocks fell from U.15, a view supported by the fact that they did not appear to be tilted down and away to the northwest from that construction.

### Test Pits

Seven test pits, each measuring 1x1m, were dug northwest of Str. AH-18 in an effort to secure ceramics for INAA, XRF, and petrographic analyses. Five of these probes (Subop. 43AB-AF) were excavated along the south edge of the South Depression. Suboperation 43AA is 4.4m south of that declivity while Subop. 21AA is 13m south of the depression and 6m northwest of Str. AH-18-Sub2's U.14. Digging reached maximum depths of 0.5-1.04m below modern ground surface. No constructions were encountered in the course of this work.

### Time Spans

<u>Time Span</u>	<u>Construction Phase</u>	<u>Units</u>	<u>Strata</u>	<u>Features</u>	<u>Dates</u>
1	-	-	S.3-5	-	LCL?

Note: A few sherds diagnostic of the Late and Middle Preclassic (1200-400BCE) were among the analyzed examples retrieved from the Op. 43 and Subop. 21AA test pits.

### Time Span 1

The earliest activity attested to in the excavations conducted within the Southern Depression was the deposition of at least 0.28m of a fine-textured, hard-compacted, tan-to-brown, greasy clay (S.3; its base was not encountered). Stratum 3 did not yield any cultural material and appears to have been the clay that was being mined for the making of pottery vessels. In general, S.3 was observed to drop 0.75m over 7.8m from Subop. 43AB on the South Depression's south edge to Subop. 43AE within that declivity. This clay deposit also descended 0.2m over 11.6m from Subop. 43AC on the Depression's east edge to Subop. 43AE on the southwest. Some evidence of the clay mining that formed the Southern Depression was recorded in Subop. 43AC. Here the top of S.3 runs flat for 0.3m northwest from the pit's south corner, subsequently dropping 0.2m over 0.4m southeast-to-northwest. A similar rate of descent was noted in the excavation's northeast wall where S.3 falls 0.22m across 0.4m from southeast-to-northwest from Subop. 43AC's east corner. In the other pits dug within the Southern Depression during 2018, S.3 retained a more-or-less level upper surface.

The situation outside the South Depression is different. Here, the earliest soil (S.5) to be deposited is a fine-textured, moderately soft-compacted, tan silt mottled with blotches of dark brown clay. Stratum 5 was exposed to a maximum thickness of 0.21m in Subop. 21AA (the stratum's base was not located). Subsequently, 0.09-0.27m of a fine-textured, moderately soft-compacted, tan silt that lacked the aforementioned clay inclusions (S.4) was laid down over S.5. Stratum 4 was identified in Subop. 21AA and constituted the basal earth level encountered in Subop. 43AA. Artifacts were recovered from both S.4 and 5.

### Time Span 2

Fully 0.28-0.73m of a fine-textured, hard-compacted, dark gray-black clay (S.2) now accumulated over S.3 within the South Depression and atop S.2 in Subop. 43AA. In some places within the South Depression this clay was mottled orange from the numerous pottery fragments it contained. The staining of S.2 dark gray-black, possibly from the inclusion of organic matter, along with the relatively high concentration of artifacts within it suggests that portions of the South Depression were likely being used as places to jettison trash once digging for clay in those areas had ceased. Further to the south in Subop. 21AA, S.2 was replaced in the stratigraphic sequence by a fine-textured, moderately soft-compacted brown silt (S.6) that was 0.24-0.28m thick and also contained numerous artifacts, mostly ceramics. A 0.14-0.28m-thick, fine-textured, hard-compacted, dark gray-brown humus horizon (S.1) subsequently formed on top of S.2 within and beyond the Southern Depression.