

Las Capas Archaeological Project: Field Methods, the Retention Basin, and Extramural Feature Descriptions

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George L. Tinseth
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Contributions by

James M. Vint



Technical Report No. 2014-01
Desert Archaeology, Inc.

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ABSTRACT

Field methods and extramural feature descriptions are presented in this report from archaeological investigations at the prehistoric site of Las Capas, AZ AA:12:111 (ASM), situated in the Tucson Basin of southern Arizona. Testing and data recovery excavations at Las Capas were conducted by Desert Archaeology, Inc., from August 2008 through September 2009, with smaller phases of fieldwork in 2012 and 2013, as part of Pima County's Regional Wastewater Reclamation Department Regional Optimization Master Plan (ROMP). This massive project involved major upgrades and expansion of wastewater facilities at the Tres Rios Wastewater Reclamation Facility (WRF). Funding was provided by Pima County, and the excavations were conducted under the supervision of their Office of Cultural Resources and Historic Preservation, which requires all projects to adhere to the Federal standards of Section 106 of the National Historic Preservation Act of 1966 (as amended).

Las Capas is located in the northern Tucson Basin, situated on the eastern bank of the Santa Cruz River, just downstream from the confluences of the river with Rillito Creek and Cañada del Oro Wash. This is the point in the Santa Cruz River Valley where all major tributaries in the surrounding watersheds converge because of the terrain and the gradient, making it an ideal location for agriculture due to high water table levels and predictable streamflow. The great majority of features recovered at Las Capas dated to the San Pedro phase (A.D. 1200-800 B.C.) of the Early Agricultural period (2100 B.C.-A.D. 50).

The archaeological excavations allowed the singular opportunity of investigating a large area of the site in detail and intensity, providing the most comprehensive look at a San Pedro phase farming community conducted, to date, in southern Arizona. Backhoe trenches were excavated over most of the wastewater facility area to document the extent of archaeological deposits. Following this effort, intensive excavations were conducted in loci where new plant facilities were to be constructed (identified as Loci A-E; Loci F-H were only treated during the exploratory phase of the project).

Data recovery resulted in the identification of more than 5,500 prehistoric features, of which 3,455 were excavated or tested. Investigated feature types included 53 pithouses, 8 possible pithouses, 22 extramural surfaces, 610 bell-shaped pits, 49 large pits, 2,099 small pits, 490 roasting pits, 40 pits of unknown or other function, 20 inhumations, 2 cremations, and 11 animal burials. The excavations resulted in the recovery of more than 113,000 artifacts and 7,300 samples of various kinds, representing the largest quantity of San Pedro phase material recovered yet from the Tucson Basin. A large agricultural field system was also discovered containing primary and lateral canals that delivered irrigation water from the Santa Cruz River to hundreds of small fields. This field system has now been well-documented, and its history of development and modification through time reconstructed in detail.

Primary research issues investigated at Las Capas include chronology, artifact analyses, irrigation technology, subsistence systems, and syntheses of Early Agricultural lifeways. In short, the excavations at Las Capas have provided an ideal opportunity to study an Early Agricultural irrigation community in detail from the "production" end—fields, canals, and their contexts—to the "consumption" end of domestic living.

The results of the Las Capas investigations are presented in a series of Anthropological Papers, Technical Reports, and a book published, variously, by Archaeology Southwest and Desert Archaeology. The two Anthropological Papers provide a broad overview and synthetic examination of the site, with a specific emphasis on the reconstruction of prehistoric life in the northern Tucson Basin during the Early Agricultural period San Pedro phase. One volume (Anthropological Papers No. 50) provides the environmental and cultural context of the Las Capas project area. The environmental setting is discussed in detail, as it is the "stage" on which all cultural behavior is enacted. The complex mix of environment and culture defines the "Anthropogenic Landscape," the overarching research theme of the Las Capas Archaeological Project. The other volume (Anthropological Papers No. 51) explores the cultural and behavioral components of the San Pedro phase Las Capas occupation and the Early Agricultural period occupation of the Tucson Basin in general.

The five Technical Reports focus on more specific research issues, providing data that may be of interest to a more limited or specialized audience. The Technical Reports include discussions of the field methods, feature descriptions and descriptions of the mortuary assemblage, and an experimental analysis examining Early Agricultural period agriculture and ground stone tool production. A map packet is also

included as a Technical Report, with areal maps showing the project area and feature location by individual locus. Finally, the book is available that presents the first comprehensive study of Early Agricultural period projectile points in the greater Southwest United States, including both typological and behavioral interpretations.

The Las Capas-related publications are as follows:

Anthropological Papers

Vint, James M. (editor)

- 2015 *Implements of Change: Tools, Subsistence, and the Built Environment of Las Capas, an Early Agricultural Irrigation Community in Southern Arizona*. Anthropological Papers No. 51. Archaeology Southwest, Tucson.

Vint, James M., and Fred L. Nials (editors)

- 2015 *The Anthropogenic Landscape of Las Capas, an Early Agricultural Irrigation Community in Southern Arizona*. Anthropological Papers No. 50. Archaeology Southwest, Tucson.

Technical Reports

Adams, Jenny L., Joyce Skeldon Rychener, and Allen J. Denoyer

- 2015 *Las Capas Archaeological Project: Ground Stone and Maize Processing Experiments*. Technical Report No. 2014-02. Desert Archaeology, Inc., Tucson.

Price-Steinbrecher, Barry, George L. Tinseth, J. Homer Thiel, John R. McLelland, Rachel M. Byrd, and James T. Watson

- 2015 *Las Capas Archaeological Project: The Burial Assemblage*. Technical Report No. 2014-09. Desert Archaeology, Inc., Tucson.

Sinensky, Robert J., Jessica M. South, Barry Price Steinbrecher, and George L. Tinseth

- 2015 *Las Capas Archaeological Project: House and Extramural Surface Descriptions*. Technical Report No. 2014-08. Desert Archaeology, Inc., Tucson.

Theriot, Tyler S., and Catherine B. Gilman

- 2015 *Las Capas Archaeological Project: Map Packet*. Technical Report No. 2014-10. Desert Archaeology, Inc., Tucson.

Whitney, Gregory J., Robert L. Sinensky, George L. Tinseth, Barry Price Steinbrecher, and Jessica M. South

- 2014 *Las Capas Archaeological Project: Field Methods, the Retention Basin, and Extramural Feature Descriptions*. Technical Report No. 2014-01. Desert Archaeology, Inc., Tucson.

Book

Sliva, R. Jane

- 2015 *Early Agricultural Period Projectile Points: Typology, Migration, and Social Dynamics from the Sonoran Desert to the Colorado Plateau*. Archaeology Southwest, Tucson.

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INA ROAD RWRF PROJECT FIELD METHODS AND SAMPLING STRATEGIES

*Gregory J. Whitney
Desert Archaeology, Inc.*

Archaeological investigations were conducted by Desert Archaeology, Inc., personnel for the Ina Road Regional Wastewater Reclamation Facility (RWRF) Expansion and Upgrades project between 25 August 2008 and 30 July 2013. The Ina Road RWRF project area comprises an area of approximately 95 acres, the bulk of which included a large portion of the Las Capas site, AZ AA:12:111 (ASM). Fieldwork resulted in the discovery of more than 5,000 cultural features in nine loci, occurring within six major geomorphic stratigraphic units, and representing a timespan of approximately 3,500 years.

The investigations began with a Phase 1 data recovery testing program across the Ina Road facility area. This was completed in winter 2009, and dovetailed with a Phase 2 intensive data recovery program over the main portion of the project area, which was completed in September 2009. Limited fieldwork conducted after the main data recovery program included: (1) Phase 1 trenching and subsequent monitoring within an off-site stormwater retention basin in October 2009 and June 2010, respectively; (2) monitoring various Phase 2 data recovery areas during the initial plant expansion and upgrade construction excavations late in 2009 and early in 2010; (3) Phase 2 data recovery in the northern portion of the Ina Road facility between January and March 2012, in advance of the construction of a warehouse building; and, (4) Phase 2 data recovery located adjacent to the warehouse building during July 2013, prior to construction of a small stormwater retention basin.

A complete summary of feature types and counts identified at Las Capas by Desert Archaeology during the Ina Road RWRF Expansion and Upgrades project is provided in Appendix A (this volume). Feature counts in Appendix A tables are presented by geomorphic stratum and by locus; percentages of the various excavated feature types are also provided.

2008-2009 PHASE 1 TRENCHING INVESTIGATIONS

The Phase 1 goals of the Ina Road RWRF archaeological investigations were to systematically trench the project area to reconstruct the geomorphic stratigraphy across the site, to define areas of prehistoric settlement, and to identify potential agricultural landscapes within the various geostratigraphic contexts. Prior to backhoe trenching, aerial imagery of the Ina Road facility was examined, and a surface reconnaissance was conducted. It was known from the outset, based on previous research conducted at the site (Mabry 2008; Whittlesey et al. 2010), that cultural deposits were expected to be deeply buried and that surface and near-surface deposits had been significantly affected by previous land-clearing activities, predominately through historic agriculture and modern industrial use. As expected, ground truthing the Ina Road facility failed to reveal any meaningful surface manifestations of cultural features or concentrated artifacts.

Two factors affected where subsurface archaeological efforts would be focused in the project area. It was immediately evident that most of the project area was previously disturbed by treatment plant infrastructure and deep excavations, such as detention basins and borrow areas, was inaccessible for subsurface exploration because it would interfere with the daily operations of the plant (areas such as paved roads and parking lots), or was unsafe for archaeological crews to work in and around (such as areas traversed by utility lines and those within the construction footprint of structural foundations) (Figure 1.1). The second limiting factor was the discovery of an ancient channel of the Santa Cruz River shortly after the beginning of Phase 1. The channel meandered across the entire southern portion of the project area, an area of approximately 35 acres, and it had removed much of the stratigraphy corresponding with the Early Agricultural period (1200 B.C.-A.D. 50). Once all the recent disturbances,

inaccessible areas, and ancient channel deposits were considered, the effective area that could be systematically investigated for evidence of subsurface cultural deposits was limited to a patchwork of areas measuring approximately 22 acres.

Site Organization and Trenching Strategy

The Ina Road RWRF layout was almost entirely oriented on a grid aligned with the northwest-southeast running Interstate 10 (I-10) and its frontage road, the Casa Grande Highway. Rather than aligning trenches to the customary cardinal directions, most of the trenches in the project area were aligned with the plant grid. For the project area, an arbitrary baseline was established running from the Ina Road RWRF Administration Building to the Service Water Building. This baseline facilitated trench recording during Phase 1 by serving as an arbitrary north-south reference line and dividing work areas of the plant into eastern and western halves¹. Trenches in the western half of the project area were numbered as a 100-number series, while the eastern half was assigned a 200-number series. In all, 56 trenches were excavated during Phase 1, including 16 trenches in the western half and 40 in the eastern half (Figure 1.2).

The general layout and infrastructure of the plant occasionally made it difficult to provide consistently even coverage across the project area. Consequently, individual length and orientation of trenches, as well as spacing between, was variable. Trenches were generally excavated to a depth just under 1.5 m, using a 2-ft-wide (60 cm) backhoe bucket. However, many trenches were probed deeper to provide a glimpse into the lower stratigraphy of the site. While the trenches were usually adequate to expose Stratum 504 (late San Pedro phase) cultural deposits, they were not deep enough to expose earlier cultural deposits in Strata 505, 506, and 507, representing early San Pedro phase and Silverbell Interval. Thus, most of the trenches were outfitted with a short, 3-m-deep stratigraphic section that was judgmentally placed, but that usually occurred near the midsection of a trench.

All trenches exceeding 1.5 m of depth that were entered by field personnel were reinforced with hydraulic safety shoring to comply with OSHA standards. Occasionally, trench walls in the 3-m-deep sections proved unstable as sloughing sands and gravel deposits were exposed. This was particularly true in the west-central portion of the project area, including Trenches 103, 105, and 116, where deeper probing revealed loose sand to a depth of about 5.2 m, the furthest reach of the backhoe bucket. In these instances, the archaeologist did not enter the excavation, but rather took notes on stratigraphy and recorded the presence or absence of cultural materials from above the trench. Once documented, unstable deep trenches were immediately backfilled to a depth less than 1.5 m.

Several of the initial trenches excavated on the eastern side of the site were too shallow to expose Stratum 504 cultural deposits (late San Pedro phase) at the 1.5 m level. This was largely due to significant amounts of plant construction-related overburden in that area. To compensate for the depth differential, the upper 60 cm of overburden along a trench alignment was stripped away with a 7-ft-wide blade, and a 1.5-m-deep trench was subsequently excavated from the middle of the stripped area. These “stepped trenches,” as they were referred to, usually included a judgmentally placed deep section that extended the vertical exposure to some 3.7 m below the modern ground surface.

Safety concerns occasionally prevented the adequate inspection of Phase 1 trenches. A few of the earliest excavations in the eastern portion of the project area, specifically Trenches 203-206, were flooded during a heavy monsoonal rain event. Standing water that remained within the clay-rich trenches compromised the sidewalls such that the trenches had to be backfilled prior to documentation. In another instance, as the deep section of an eastern project area trench was being excavated, the entire southern wall collapsed under the weight of its spoils. The underlying cause of the collapse appeared to be an oversaturation of rainwater deep below the topsoil. As a result of the collapse, the entire trench was backfilled, and no subsequent trenches were excavated beyond 1.5 m in the vicinity. Wherever possible, these compromised trenches were replaced with offset parallel trenches, usually about 10 m away.

¹The arbitrary north used during trench testing, or “plant north”, as it was referred to, was actually angled N35°E of true north. In a few locations along the perimeter of the plant, trenches were aligned with the cardinal directions in reference to true north (Trenches 102, 107-109, 111-114, 221, and 237-238). After stripping areas were opened up for data recovery excavations, true north was utilized exclusively.



Figure 1.1. Overview of the Ina Road Regional Wastewater Reclamation Facility project area depicting existing plant infrastructure, disturbances, and the projected location of the ancient Santa Cruz River channel, Las Capas, AZ AA:12:111 (ASM).

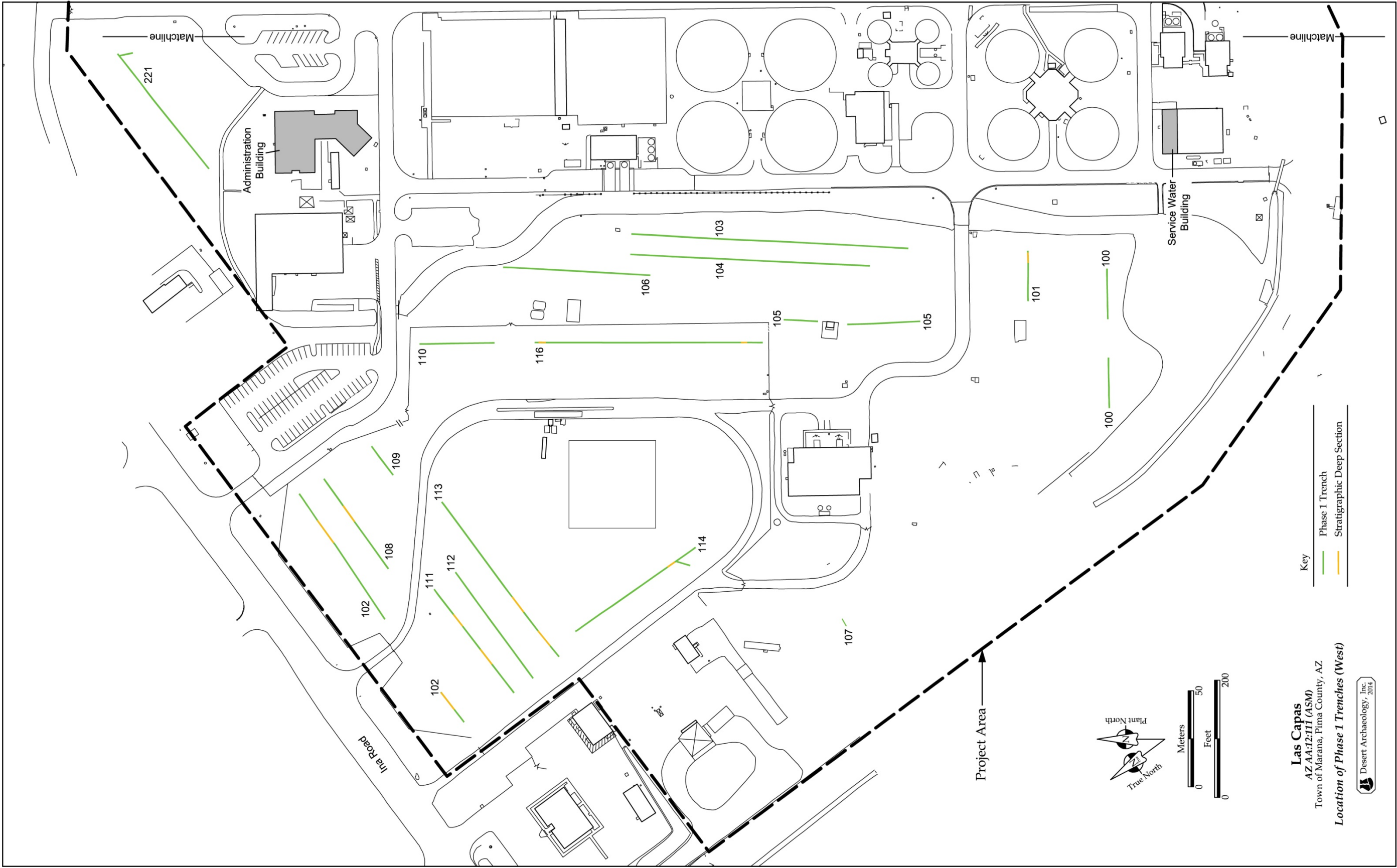


Figure 1.2a. Locations of trenches excavated during Phase 1 of the Ina Road Regional Wastewater Reclamation Facility project: western half.

Trench Recording

Once excavated, both walls of a trench were scraped with hand tools to remove burnishing marks left by the backhoe bucket. Facing the trench sides delineated the natural stratigraphy and revealed the presence or absence of cultural and natural features. All Phase 1 trenches were documented with a trench record form. Additionally, at least one detailed stratigraphic profile was drawn of each trench. This was used to correlate site-level stratigraphy and to map the elevations of strata throughout the project area. This project used the same geomorphic stratigraphic unit designations, Stratum 500 series, developed by Desert Archaeology during their previous fieldwork at the site (Nials 2008) (Table 1.1).

Attribute information for individual cultural features was recorded on feature profile forms. Scale profiles were drawn of every pit structure or possible pit structure identified in a backhoe trench. At the discretion of the supervisory staff, other feature types, such as pits, were either drawn to scale or were sketched with dimensional details. Artifacts discovered in feature profiles were plotted and collected if they were potentially temporally diagnostic, or if they could inform on activities associated with use of the feature.

Except canal features, which were assigned to a separate, linear site, AZ AA:12:753 (ASM), all cultural features identified during the testing phase were assigned to a 3000-number series. This was done to avoid duplicating feature numbers used on earlier Desert Archaeology field projects at Las Capas. All previously known AA:12:753 canals were re-assigned to a 9000-number series to avoid confusion with duplicate numbering (see Nials 2015a, 2015b, 2015c). For example, when a new exposure of Feature 3 from Desert Archaeology's 1998 field season was exposed, it was designated Feature 9003. All newly discovered canals from the Ina Road RWRF project area were numbered sequentially beginning with Feature 20.

During Phase 1, a new feature type, "occupational debris," was utilized to denote areas within trenches of concentrated, but low density, cultural material, such as charcoal, daub, and fire-cracked-rock, that could not be placed into a discrete feature boundary, but that did not contain a high enough density to be considered a component of a trash midden. Occupational debris often occurred in trenches as the only evidence of cultural activity, but suggested the nearby presence of other, more discrete cultural features. Thus, the new feature type served two purposes. It allowed recording of the presence of cultural activity within strata across the site, marking possible feature distributions, and it became a management tool for Phase 2 data recovery strategies.

2009 EXPANDED PHASE 1 DATA RECOVERY

Once systematic trenching of the Ina Road RWRF plant was completed, Desert Archaeology divided the intact, accessible portions of the plant into eight loci, A-H (Figure 1.3). It was clear from the outset of

Table 1.1. Las Capas, AZ AA:12:111 (ASM), specific chronology.

Las Capas Divisions	Stratum	Age Range	Comments
Cienega phase to modern	501	Hohokam to Protohistoric, capped by historic present	—
	502	circa 730 B.C. forward	Cienega phase; continues into the Hohokam sequence
	503	circa 730 B.C.	Single event flood; age based on intersection of direct OSL (optical stimulated luminescence) dates on Stratum 503 sands with an end range of Stratum 504
Late San Pedro phase	504	circa 800-730 B.C.	—
	505	circa 930-800 B.C.	Scouring by Stratum 505 probably removed terminal Stratum 506 deposits; does not necessarily mean a hiatus in occupation
Early San Pedro phase	506	circa 1220-1000 B.C.	Scouring event between contact of Stratum 505 with Stratum 506 indicated by hiatus in 14C model and geomorphology between Strata 506 and 505
Pre-San Pedro phase/ Silverbell Interval	507	circa 1500-1220 B.C.	—
	507?	circa 2300-1900 B.C.	Dates are tentative; based on 3 ages from SWCA's work, no associated features or artifacts

the project that substantial construction was planned for Loci A-D. These locations were known to contain, or were expected to yield, substantial Early Agricultural period deposits, and were therefore slated for intensive data recovery during Phase 2. It was less certain at the end of trench testing which other loci containing significant cultural deposits, specifically Loci E-G, would be impacted by construction, and to what extent. As these three areas were being assessed, Desert Archaeology moved forward with an expanded Phase 1 data recovery program in these loci, including excavating multiple control units across extramural space, and conducting limited area mechanical stripping to expose habitation areas and canal alignments for sampling through hand-excavation.

Sampling of Extramural Space

The first task of expanded Phase 1 data recovery was to excavate a series of 1-m by 2-m control units² along trenches in Loci E-G. The goal of these excavations was to sample the natural stratigraphy and to document artifact densities in extramural space from nonfeature contexts across the site. The control units were excavated following the site's major geomorphic strata in 10 cm levels, typically from the modern ground surface to the upper portion of Stratum 505, or to a depth of 1.5 m, whichever came first. Ten such control units were excavated in Locus E, two were dug in Locus F, and six were excavated in Locus G (Table 1.2; see Figure 1.3). In a few instances, the units exposed cultural features. If the feature was smaller than the control unit (for example, a small pit), it was excavated in its entirety. Then, excavation of the unit resumed. When a large feature was exposed (for example, a pit structure), unit excavation terminated at the depth of the feature.

Table 1.2. Exploratory 1-m by 2-m control units excavated during expanded Phase 1 data recovery, Las Capas, AZ AA:12:111 (ASM).

Locus E		Locus F	Locus G	Block G1 ^a	Block G2 ^a
1200	1208	1507	1500	1543	1588
1201	1209	1509	1501		1589
1202	1210		1502		
1203	1211		1503		
1204			1504		
1207			1506		

^aUnit excavation began from the stripped level of Stratum 505.

Small Block Stripping Areas

Subsurface cultural deposits in Loci E-G were explored in four small excavation blocks exposed through horizontal backhoe stripping (see Figure 1.3). The Locus E block, measuring 440 m², focused on a concentrated cluster of cultural features originating in Stratum 504. In all, 92 features were exposed during stripping of the block, including 5 pit structures, 2 extramural occupation surfaces, and 85 pits (among them a dog burial). Each pit structure was completely excavated, the extramural occupational surfaces were excavated to their maximum visible extent, and all but eight of the pits were screen-sampled through hand-excavation.

The excavation block for Locus F was the largest of the expanded Phase 1 data recovery areas at 526 m². It was also the shallowest, focused on exposing the upper traces of canal Feature 9007. While this linear cultural feature originated within Stratum 504, its alignment was evident as high up as the Substratum 501.02/Stratum 502 interface. At this stratum break, a circa 10-m-long exposure of Feature 9007 was hand-excavated through a series of 1-m by 4-m noncontrol excavation units, Units 100-107. In addition to the canal, 11 pit features and a possible well were identified within Substratum 501.02. All the pits were screen-sampled through hand-excavation, while the possible well, Feature 3402, was partially hand-excavated

²Excavation procedures are discussed in the section "Phase 2: Data Recovery."

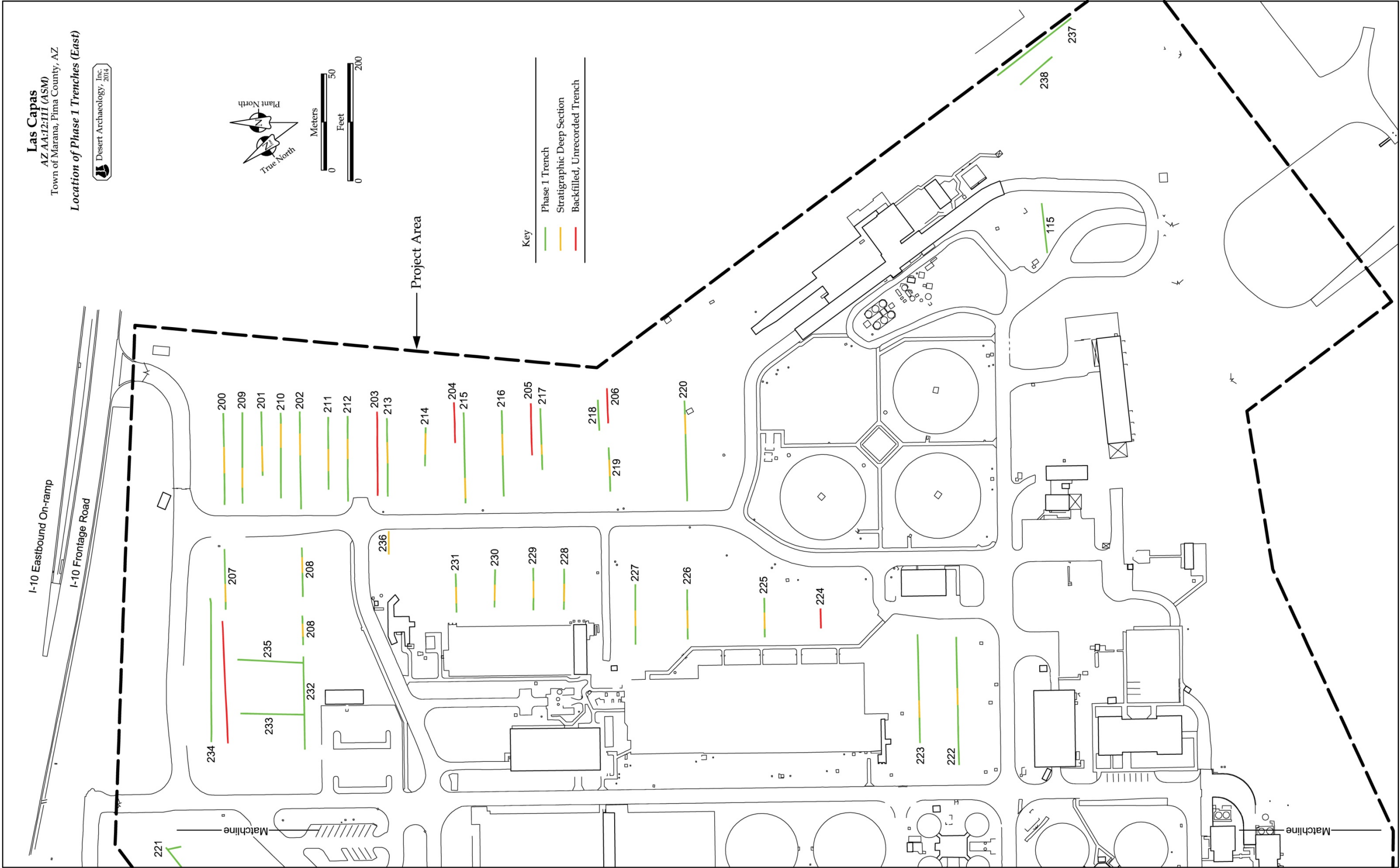


Figure 1.2b. Locations of trenches excavated during Phase 1 of the Ina Road Regional Wastewater Reclamation Facility project: eastern half.



Figure 1.3. Overview of Ina Road Regional Wastewater Reclamation Facility project area depicting loci, locations of expanded Phase 1 nonfeature control units, and expanded Phase 1 data recovery stripping areas, Las Capas, AZ AA:12:111 (ASM).

with a 2-m by 2-m control unit, and subsequently trenched via 2-ft-wide backhoe bucket to reveal its depth and profile. Stripping the Locus F Phase 1 block did not continue below Stratum 502.

Two Phase 1 stripping areas were explored within Locus G. The northern excavation block was designated G1, and the southern block, located approximately 65 m to the southwest, was designated G2. G1 was selected for Phase 1 stripping because it seemed to be a good candidate for a Stratum 504 habitation locale, based on the initial discovery of possible pit structures identified in both Trench 201 and a 1-m by 2-m control unit, Unit 1503, placed to the side of the trench. While horizontal exposure revealed these Stratum 504 features to be non-structural in nature, slightly deeper stripping into Stratum 505 revealed 51 pits within the 135-m² block. All the pits were sampled through hand-excavation, and two human burials, Features 3306 and 3464, identified among the pits were fully excavated.

After the Stratum 505 features were documented, a single 1-m by-2 m unit was excavated from the stripped level (see Table 1.2). Moving from Stratum 505, excavation within the control unit sampled the remainder of the stratum, all of Stratum 506, and approximately 20 cm of Stratum 507. The discovery of three pits within Stratum 506 and one pit possibly originating in Stratum 507 prompted deeper stripping within the G1 excavation block. Stripping proceeded in the northern half of the block, exposing a layer of occupational debris in the upper portion of Stratum 506. The removal of this debris in the northeastern portion revealed 11 pits and an extramural occupation surface.

About the time these features were defined, construction plans were finalized for the Ina Road RWRF plant upgrade, and Desert Archaeology learned that Locus G would not be subject to subsurface construction impacts. Therefore, a decision was made to stop stripping in the G1 stripping block and focus on areas that required mitigation during Phase 2. Four of the pits identified within the 63 m² exposure of Stratum 506 were sampled through hand-excavation, and the occupation surface was sampled with a 2-m by 2-m control unit. Individual feature definition was not achieved in the western portion of the lower excavation block, which remained obscured by occupational debris.

While the primary goal of the 480 m² G2 stripping block was to expose the alignment of Feature 9003, a canal that originated in Stratum 506, trenching data suggested the presence of a high density of cultural features at the Stratum 504/Stratum 505 contact. Thus, a substantial effort was made to expose features along this interface. While stripping revealed only three features, all pits, within Stratum 504, 57 pits and pit structure Feature 3396 were identified in the upper deposits of Stratum 505. Except about one-third of the feature that lay outside the G2 excavation block, the pit structure was excavated in its entirety; all but four of the pits exposed through stripping were screen-sampled through hand-excavation. From the stripped Stratum 505 level, approximately 1.75 m below the modern ground surface, two 1-m by 2-m control units (see Table 1.2) were excavated into the natural stratigraphy through Stratum 506 and stopped in the upper portion of Stratum 507. The easternmost control unit exposed a single pit within Stratum 506.

Also from the Stratum 505 stripped level, a previously excavated Desert Archaeology canal trench from 1998 was re-opened, Trench 74 (renamed Trench 239 for this project), and a new trench, Trench 240, was cut to provide additional vertical exposures of Feature 9003. In addition to exposing the canal, the trenches revealed three pockets of occupational debris and a possible pit structure, all of which were associated with Stratum 506. Shortly after opening these trenches, Desert Archaeology learned that construction activities from the plant upgrade would not affect subsurface deposits in G2. After the trenches and features were documented, fieldwork in G2 was terminated. Consequently, canal Feature 9003 was not exposed in plan view, and no hand units were excavated along its alignment.

Finalized Construction Plans / Phase 1 to Phase 2 Transition

As plans for peripheral areas of the Ina Road RWRF plant upgrade became finalized, it was concluded there would be no impacts to buried cultural deposits in Locus E³, which was slated for use as a

³The scope of subsurface impacts to Locus E changed after the main Phase 2 data recovery investigations had been completed; this portion of the Ina Road RWRF project area was redesigned to include a warehouse building and stormwater retention basin/pond. Phase 2 data recovery was conducted in the 0.63-acre Warehouse Locus in 2012 and the 0.28-acre Pond Area in 2013. The results of pit sampling from the 2012 Warehouse Locus investigations are discussed below in the "Pit Sampling Strategies of Stratigraphic Occupation Layers" and "Locus E 2012 and 2013

temporary craft parking lot, and Locus G, which would be used only as a materials staging area. In contrast, plans called for Locus F, which was already serving as an informal, shallow retention basin for the plant's stormwater runoff, to be deepened for use as a formalized retention basin. Therefore, the scope of work for Locus F changed to match the mitigation efforts planned for Loci A-D. After taking existing infrastructure and the proposed construction footprints of each area into consideration, the portions of these loci in which Phase 2 data recovery would be conducted was approximately 6.65 acres (3,689 m²) (Figure 1.4; Table 1.3).

Upon completion of Phase 1, Desert Archaeology backfilled all Phase 1 trenches and excavation blocks located outside the Phase 2 data recovery areas. Additionally, all the pit structures in Locus E and the 63 m² exposed portion of Stratum 506 in Locus G1 were covered with geo-textile fabric as a preservation measure.

Due to the substantial depth of the occupational layers targeted for Phase 2 data recovery, from 80 cm to 1.5 m below the modern ground surface, the overlying, minimally occupied strata, Strata 501 and 502, were expeditiously removed to the level of the culturally sterile, yet easily discernible Stratum 503 flash flood deposit that directly overlay occupational substrata within Stratum 504. In the places where the Stratum 503 marker was absent, bulk earth removal terminated at a level estimated to be the elevational equivalent of the stratum. The overburden was mechanically removed with large earthmoving equipment and hauled away. All stripping activities were monitored by archaeologists. Rarely, features were identified in these upper deposits. When encountered, the features and the area immediately surrounding them were pedestaled so they could be carefully investigated once wholesale stripping was complete.

Table 1.3. Acreage of Phase 2 loci, Las Capas, AZ AA:12:111 (ASM).

Locus	Acres	m ²
A	0.29	1,180
B	0.78	3,150
C	0.57	2,290
D	4.48	18,130
F	0.53	2,140
Total	6.65	26,890

Note: Does not include subsequent Phase 2 areas in Locus E (Warehouse Locus and Pond Area), comprising 0.91 acre/3,689 m².

2009 PHASE 2 DATA RECOVERY

Archaeological investigations conducted during Phase 2 focused on the identification, excavation, and documentation of Early Agricultural period settlements within the selected loci of the Ina Road RWRP plant, while geomorphological studies focused on the reconstruction of contemporary canal and agricultural field systems in those respective loci. Discussion of Phase 2 data recovery on the Ina Road RWRP project is presented here in four parts: (1) context; (2) the feature discovery and mapping process; (3) descriptions of the most commonly encountered feature types and the general methods used to sample and document them; and, (4) the strategies used for sampling pits, the most abundant cultural features encountered in the various stratigraphic occupation layers across Phase 2 loci.

Context

Most cultural features occurred in the context of extramural space and were classified as *primary* features. In contrast, *secondary* features, or subfeatures, were those that originated from within another feature. Examples of the latter included postholes, hearths, and pits that were located on the floor of a pit

Investigations" sections. Results of the 2013 Locus E stormwater retention basin investigations are discussed in detail in Chapter 3 (this volume).



Figure 1.4. Overview of the Ina Road Regional Wastewater Reclamation Facility project area depicting the various loci boundaries and mechanical stripping limits of Phase 2 investigations, Las Capas, AZ AA:12:111 (ASM).

structure. Primary features in each Phase 2 locus were numbered sequentially from a designated block of numbers (see Table 1.4). These number blocks served to not only conveniently identify which locus a feature belonged to, but also to distinguish Phase 1 data recovery features (3000-number series) from Phase 2 features.

In addition to the geomorphic stratum designations used to describe the major alluvial units deposited at the site (for our purposes, Strata 501 through 507), Desert Archaeology used a set of strata designations to indicate specific archaeological contexts (Table 1.5). For example, the fill sampled from an extramural pit was designated Stratum 50; if distinct deposits were documented within a pit, the first excavated layer was considered Stratum 50, the second was designated Stratum 50.01, the third was designated Stratum 50.02, and so on. These designation are the same as those used on all Desert Archaeology projects, which allows for comparative databases to be constructed between various field projects.

Collection Type (Coll Type) was another means of context used on this project to indicate how artifacts and samples were recovered. For example, Coll Type 97 was assigned to artifacts and samples collected from the context of a backhoe trench, while Coll Type 96 was assigned to artifacts recovered during mechanical stripping. Three collection types dealt specifically with hand-dug excavation units. Coll Type 90 was assigned to control units, while Coll Type 93 and Coll Type 99 were assigned to screened and unscreened non-control units, respectively. A complete listing of collection types utilized over the course of the Ina Road RWRF plant upgrade project is provided in Table 1.6.

Table 1.4. Assigned blocks of feature numbers used for Phase 2 loci, Las Capas, AZ AA:12:111 (ASM).

Locus	Feature Series	Agricultural Features
A	4000	6000
B	7000/8000/9000	19000
C	12000	N/ A
D	13000/14000	N/ A
F	23000	N/ A

Table 1.5. Strata designations used during the Ina Road Regional Wastewater Reclamation Facility project, Las Capas, AZ AA:12:111 (ASM).

Structural Context	
10	Undifferentiated fill of a pit structure
11	Roof/wall fall (defined as burned layer and/or daub layer)
20	Floor
30	Fill of secondary feature located within a pit structure
40	Undifferentiated fill between floors
Extramural Feature Context	
50	Fill of an extramural (primary) feature
51	Extramural occupation surface
56	Fill of secondary feature of an extramural feature
59	Canal sediments
Nonfeature Context	
0	Modern ground surface
1	Plowzone (land farmed historically)
2	Naturally deposited overburden with few artifacts
4	Sheet trash (overburden containing cultural material)
5	Alluvium and other natural deposits
80	Any major disturbed context
99	Unknown context

Table 1.6. Collection types utilized on the Ina Road Regional Wastewater Reclamation Facility project, Las Capas, AZ AA:12:111 (ASM).

Non-excavation Coll Type	
7	Non-systematic/judgmental collection
Excavation	
90	Control unit
93	Screened noncontrol unit
94	Pit trench collection
96	Mechanical stripping
97	Trench collections (from trench face or backdirt)
99	Unscreened, noncontrol unit
Sediment Sample	
101	Subfloor pollen sample collection
102	Agricultural field soil sample

Control units are the analytical units from which much of the quantified artifact sample was derived. On the current project, they were rectangular units, typically 1 m by 2 m in size, excavated in natural layers or arbitrary levels generally no more than 10 cm thick, with all material screened through ¼-inch mesh. Although they were used to sample extramural space during Phase 1, these units were more commonly utilized during Phase 2 to evaluate the productivity of fill within a pit structure and assess the likelihood of a floor assemblage. These units were also placed into large indeterminate feature stains such as possible pit structures or pockets of occupational debris to explore the nature of the deposit, and to provide a means of control in the event the stain turned out to be a pit structure.

Noncontrol units were typically irregular in shape, with edges defined by the outline of the feature. The method of sampling in noncontrol units was variable, as units could be screened, unscreened, or both. Pits were usually sampled in a single level as a screened unit. Noncontrol units in pit structures were usually fully screened in arbitrary levels down to the floor, although the upper fill was occasionally expediently removed as a single, unscreened level, while the basal 5 cm of fill (the floor fill) was almost always screened.

Mapping

Mapping and survey at Las Capas utilized GIS enabled, sub-centimeter-precision GPS instrumentation for ground measurement. All measurements were made with L1/L2 GPS receivers and antennas using standard real-time kinematic methods and rigorous precision tolerances. Instrumentation was controlled by Microsurvey Field Genius land surveying software and used an attribute data collection structure designed specifically for archaeological cartography. Instrument mapping provided all horizontal and vertical control for excavation, and ground measurements were the backbone for all spatial recording. Liberal instrument mapping developed a comprehensive and current geospatial and attribute database throughout the excavation.

The Las Capas surveying record consists of more than 115,000 ground measured points integrated into a single mapping and GIS database. All mechanical trenching and stripping was mapped, unexcavated features were located during archaeological discovery, and a large sample of excavated feature boundaries and elevations were instrument mapped. Hand-drawn plan and profile illustrations were georeferenced with instrument mapped control points, and excavation control was maintained with the measurement of vertical excavation datums. Controlled excavation units, sample contexts and nonfeature point provenienced artifacts were also mapped with GPS. Classes of field data and/or measurements include roughly 13,000 individual pieces of vector linework, 3,800 various archaeological contexts, and 9,200 mapping nails for horizontal and vertical excavation control.

The basis of horizontal and vertical coordinates is a 2008 geodetic control network survey completed by Aztec Engineering Group, LLC (Reece 2008). This survey established and measured four permanent brass cap surveying monuments set flush in concrete using standard GPS surveying methods (Table 1.7).

Desert Archaeology established two additional semi-permanent GPS occupation points on existing structures in the Ina Road RWRF. DAI 1 is located at the northern end of the headworks structure. It is a 5/8-inch bolt set in a ¼-inch steel plate that was bolted to the corner of the steel guard rail. DAI 2 consisted of a standard 5/8-inch bolt affixed to the steel handrail of a safety training structure in the west-central portion of the plant. These secondary occupation points were measured with four hours of concurrent, static GPS occupations. The subsequent GPS network adjustment was constrained to control points Aztec 1, 2, and 3 on the horizontal and vertical, and all network vector residuals were less than 0.006 m, which is at the tolerance of the equipment and methods utilized. All ground measurements were made in Arizona State Planes Central, NAD83(92)/HARN, NAVD88(Geoid03) using metric coordinates and grid distances, although some postfield data were occasionally translated into UTM Zone 12 coordinates (Table 1.8). Arbitrary excavation elevations, meters below datum (mbd), are tied to the GPS control network with 0.0 mbd equaling 681.360 m orthometric.

Table 1.7. GPS network control points in the Ina Road Regional Wastewater Reclamation Facility project, Las Capas, AZ AA:12:111 (ASM).

Point ID	Grid North ^a	Grid East	Ground North ^b	Ground East	Elliptical Height ^c	Orthometric Height ^d
Aztec 1	486551.066	961054.962	486610.912	961173.171	2096.381	2192.537
Aztec 2	486875.394	962074.923	486935.280	962193.258	2107.638	2203.768
Aztec 3	485785.082	961837.561	485844.834	961955.867	2101.238	2197.384
Aztec 4	485939.998	961161.002	485999.768	961279.225	2096.147	2192.307
Desert Archaeology 1	485890.709	962449.63	485950.474	962568.011	2119.82	2215.951
Desert Archaeology 2 ^e	486513.223	961242.25	486573.064	961360.483	2106.471	2202.624

^aNAD83(92)/HARN, international feet.

^bGAF = 1.000123.

^cGRS80, international feet.

^dNAVD88(Geoid03), international feet.

^eMonument destroyed.

Table 1.8. Horizontal and vertical control points for archaeological mapping, Las Capas, AZ AA:12:111 (ASM).

Point ID	AZ SP Central ^a		UTM Z12 ^b		Elliptical ^c Height	Orthometric ^d Height	Datum Height ^e	Description
	North	East	North	East				
Aztec 1	148300.765	292929.552	3577546.61	793276.45	638.977	668.285	-13.075	BCSM ^f
Aztec 2	148399.62	293240.437	3577642.77	493588.05	642.408	671.708	-9.652	BCSM
Aztec 3	148067.293	293168.089	3577311.2	493512.89	640.457	669.763	-11.597	BCSM
Aztec 4	148114.511	292961.873	3577360.16	493307.16	638.906	668.215	-13.145	BCSM
IRWRF 1	148432.304	293178.618	3577675.97	493526.54	640.02	669.321	-12.039	BCSM
IRWRF 2	148333.491	293337.079	3577575.84	493684.09	645.172	674.471	-6.889	BCSM
IRWRF 3	148077.868	293354.436	3577320.17	493699.25	644.074	673.375	-7.985	BCSM
Desert Archaeology 1	148099.488	293354.647	3577341.78	493699.65	646.121	675.422	-5.938	5/8-inch instrument mount
Desert Archaeology 2	148289.23	292986.638	3577534.59	493333.41	642.052	671.36	-10	5/8-inch instrument mount

^aNAD83(92)/HARN, metric grid coordinates.

^bNAD83(92)/HARN, metric grid coordinates.

^cGRS80, metric.

^dNAVD88(Geoid03), metric.

^eMetric.

^fBrass cap surveying monument set flush.

Additional surveying monuments, which relate to the earlier “plant-north” surveying system, were measured using high-tolerance real-time kinematic methods. These provide redundant lower order control and are the basis for translating older surveying and archaeological mapping onto the current GPS network. For consistency and efficiency, DAI 1 was utilized for all base station occupations. Instrumentation could be mounted directly on the control point without the added error or setup time of a tripod. DAI 1 remains on the headworks structure in the same condition as when installed and measured, but it is subject to future damage and motion. Used as redundant GPS control, DAI 2 was subsequently destroyed during construction at the plant and is no longer recoverable.

After fieldwork, the field surveying measurements were migrated to other database and cartographic software, and were supplemented with additional cartography. The resulting project GIS consisted of spatial objects in Autodesk Autocad with linked attribute data in Microsoft Access. CH2MHILL provided orthophotography, topography, and planimetric mapping for the Ina Road RWRF, and previous archaeological mapping data were acquired. Hand-drawn excavation maps and illustrations were rasterized and georeferenced using ground measured control points. These maps were digitized and combined with the instrument data. The GIS data were available to authors and analysts over the duration of the project to supplement their exploration of the Las Capas archaeology. Various processes and analyses were completed using ESRI Arcview and Autodesk Civil, and publication graphics were produced in Autocad.

Feature Discovery

During Phase 2, backhoes were the primary means of exposing the various occupational layers and vast quantities of individual cultural features. Three backhoes were used on a full-time basis, with each machine outfitted with a customized 7-ft-wide stripping blade. Skilled backhoe operators were paired with field supervisors trained in feature discovery and identification. Once feature stains were revealed, their outlines were delineated with marking paint. Field supervisors were responsible for assigning feature numbers and maintaining primary feature lists for assigned loci.

The outline of every delineated feature was mapped with a GPS receiver-data collector. Printouts of mapping records were made available to field supervisors in the form of plan maps of loci and tabular data that included all features, mapping nails, and elevation datums that were recorded during a mapping session. Mapping sessions were typically conducted every one to three days, and data printouts were usually distributed to supervisory personnel in the field the day after a mapping session. The combination of frequent mapping and quick turnaround time with the data facilitated record keeping and helped track progress within each study area.

Feature Excavation and Documentation Procedures

All features selected for sampling were investigated and recorded using standard professional methods. For hand-excavated features, horizontal unit numbers were assigned, and forms were completed describing each level excavated within those units. Levels proceeded with vertical, below-datum control. Flotation samples were collected from each stratum within a unit, and pollen samples were collected from feature bottoms in significant feature contexts. Where applicable, samples for chronometric analyses, as well as other miscellaneous studies were also collected. All excavated features included hand-drafted scale maps that were referenced from a local three-nail mapping system. The mapping technique was designed to allow crew members to establish local horizontal control around a feature without the constraints of a project-wide grid system. Once the three or more nails were set into the ground and mapped with the GPS receiver-data collector, the fine details of a feature could be tied into horizontal space.

Pits of various form and function, hearths, pit structures, pockets of occupational debris, extramural occupation surfaces, and burials were commonly occurring settlement features within the Ina RWRF project area; canals, bordered fields, and planting pits dominated the agricultural features of the site. The general strategies used to sample and document each of these feature types are discussed.

Pits

The decision of which pits to manually excavate was at the discretion of the field supervisor overseeing the particular locus. Most pits selected for excavation were typically bisected, with half the feature sampled in a single, ¼-inch-screened level. In almost all cases, a flotation sample was collected from fill within the body of the pit, and a pollen sample was collected from the near base. Once bisected, a 1:20 scale (1 inch = 20 cm) profile of the pit was drafted. If discrete cultural stratigraphy was noted within the pit fill, the remainder of the pit was often excavated as a separate unit, with levels parsed into the distinct stratigraphic levels. Additionally, if the initial half of the pit produced valuable data (for example, maize cupules, tools, ceramic figurines) a supervisory decision was made whether or not to excavate the remaining half. Care was taken to avoid mixing contexts. Thus, when a pit overlapped another feature and the sequence was unclear, the half opposite the pit overlap was typically the only portion sampled.

In other situations, complete excavation of the feature as a single unit was the most practical course of action, particularly if a pit proved to be more shallow than anticipated and an opportunity to collect a flotation sample would have otherwise been lost, or access to the feature was limited due to the size and shape of the pit, such as a deep bell-shaped pit with a constricted opening. Exceptionally large pits were initially sampled with a 1-m by 2-m control unit. Depending on the productivity of the fill, a decision was made to excavate additional units in the feature or not. After a feature was adequately sampled, a non-architectural feature form was completed for the pit, and a 1:20 scale plan map was drafted. Digital photographs were not taken of every pit feature, but rather, of select pits. Examples of pits that might be photographed were those with intentionally placed artifacts (pit assemblages), those that could serve as examples of the various pit morphologies, and those that exhibited clear and distinct stratigraphy.

Throughout most of the occupational strata encountered in Phase 2 loci, once the hand-excavated pit sampling quota for the stratum was met⁴, the remaining pits were expeditiously investigated through pit-trenching. This method of documentation consisted of digging either a hand-dug shovel trench or a mechanical backhoe trench through a pit, usually exposing the widest portion of a profile of the feature, and recording attributes of the feature on a simplified feature form. The pit-trenching form included basic pit coding information, a brief feature description, and a schematic plan and profile drawing. As the intent of pit-trenching was to provide expedient documentation, the fill excavated from the trench was not usually screened, and artifacts and samples were only collected if warranted (for example, if flaked stone tools were discovered or if the pit contained a heavy charcoal concentration). The remainder of a pit-trenched feature was occasionally excavated as a screened, noncontrol unit and documented with a nonarchitectural feature form.

Hearths

Hearths were defined primarily by pockets of ash overlying discrete, small areas of oxidation (burning) on a use-surface. While some hearths were truly definable pits, an equal number had no discernible shape or depth, but rather, appeared to be simply the locations of intentional thermal activities that occurred on a pit structure floor or outdoor activity area. Hearths of the latter type were frequently referred to as hearth areas, and were often discovered after the fact. That is, the overlying ashy fill had been removed and mixed with overlying deposits rather than being sampled as a separate context. Unlike typical pits, hearths were usually excavated in their entirety. As hearths rarely exhibited substantial depth, their entire fill contents were often collected as a flotation sample. Due to the poor preservation of pollen from oxidized contexts, pollen samples were only collected from about one-third of the excavated hearth features. With few exceptions, every hearth encountered was hand-excavated. Documentation procedures for these features were the same as those for pits.

Pit Structures

Pit structures and possible pit structures identified through mechanical stripping were high priority targets for excavation. As such, an effort was made to sample each one through hand-excavation. Whenever possible, sampling of pit structures began with a 1-m by 2-m control unit placed centrally

⁴Pit sampling strategies are discussed in section "Pit Sampling Strategies of Stratigraphic Occupation Layers."

within the discrete feature stain or projected outline. Levels were excavated following the natural stratigraphy of the feature. Ideally, levels were 10 cm thick. However, features were occasionally very shallow, or were backhoe stripped to less than 10 cm deep. The basal 5 cm of fill (or as close to 5 cm as could be estimated) was arbitrarily dug as a floor fill level to separate materials that were potentially associated with floor activities from those likely associated with a postabandonment context. Once the control unit was excavated, the pit structure was typically bisected and at least half the feature was excavated with a noncontrol unit.

Unique field numbers (FNs) were assigned to each floor artifact, except flaked stone debitage and fragmentary pieces of faunal bone, which were bagged in bulk from across the unit. Composite pollen samples were collected from each unit as a floor scrape across the surface and beneath floor artifacts, when present.

Internal floor features were assigned secondary feature designations and were excavated as a separate context from the floor. Secondary features, such as hearths and floor pits, as well as postholes, with recovered artifacts or samples logged in as FNs, received sequential numbers within the primary feature using a decimal number. For example, the floor of Feature 7024 contained a small pit, Feature 7024.01, a posthole with artifacts, Feature 7024.02, and a hearth, Feature 7024.03. Postholes without FN collections were assigned letter designations. Using the Feature 7024 example, eight such postholes were identified, and were labeled Postholes A-H.

After the excavation of a pit structure was complete, a plan map and cross section or profile was drawn at a scale of 1:50 (1 inch = 50 cm). The plan map depicted the outline of the pit structure and provided floor details, such as the location of secondary features and point-provenienced artifacts. Individual 1:20 scale plan maps and cross sections or profiles were also drawn of pits and hearths. A pithouse excavation form was completed for each pit structure, as was a nonarchitectural feature form for each excavated secondary feature, excluding postholes. A series of digital photographs was taken of each excavated pit structure. Finally, a subfloor pollen sample, used for control purposes, was collected from roughly 4 cm below the base of each pit structure.

Occupational Debris

During mechanical stripping, occupational debris appeared as relatively large pockets of cultural fill that had either settled into slightly depressed areas, was concentrated atop pit clusters, or had accumulated against barriers, such as canal embankments or linear field borders. The stains and outlines of occupational debris frequently resembled possible pit structures. Therefore, the more ambiguous large stains were assigned feature numbers and investigated with a 1-m by 2-m control unit. As these cultural deposits were shallow by nature, the units were usually excavated as a single level to the underlying culturally sterile substrate. Once it was determined that a feature was, in fact, occupational debris rather than a pit structure, excavation ceased and a nonarchitectural feature form was completed. A scale drawing of the control unit was made only if it exposed the discrete outlines of underlying extramural features. However shallow, control units placed within these stains proved useful in providing screened samples of cultural fill from extramural contexts.

Extramural Occupational Surfaces

Like pit structures, extramural occupational surfaces were high priority targets for excavation. They were typically identified one of two ways during data recovery. They could be exposed during mechanical stripping, or they were discovered at the base of control units while sampling pockets of occupational debris. For the former, these outdoor use-surfaces were usually defined through the presence of a nearly level, but irregularly-shaped, oxidized (burned) surface from which other features, usually pits and hearths, originated. The occupational surfaces were often troweled to their definable extents, with overlying fill screened as noncontrol units. Extramural occupation surfaces initially identified through control units were usually confined to, or constrained by, slight surface depressions with minimal patches of oxidation. Surfaces defined in this manner were not typically excavated in their entirety, but rather, were usually bisected, with only half excavated as a screened noncontrol unit.

If the basal fill above an extramural occupation surface appeared to contain *de facto* refuse, artifacts and samples were collected as feature fill (Stratum 50); otherwise, all overlying fill was considered sheet

trash (Stratum 4). Features, such as pits and hearths, originating from an extramural occupation surface were assigned secondary feature numbers. Once sampling of the surface was complete and all subfeatures documented, a 1:50 scale map of the extramural occupation surface was drafted, and a nonarchitectural feature form was completed.

Mortuary Features

All mortuary features, including human remains and animal burials (canids and raptors) were fully excavated, mapped in detail, and meticulously documented in accordance with the burial agreement for this project. No samples or photographs were taken from human burial features; photographs were taken of animal burial features, although no samples were collected. The excavation of human inhumations was conducted by human osteology specialists who kept meticulous notes and took detailed measurements during the excavation process. Human cremations and animal burials were excavated by trained field crew. All fill from mortuary features was sieved through 1/8-inch mesh or, in the case of cremation features, was sometimes collected in bulk for careful analysis in the laboratory setting. In addition to standard Desert Archaeology burial forms, inhumations were documented with an Arizona State Museum (ASM) osteological analysis form.

Canals

Most of the canals found during Phase 2 data recovery were exposed by mechanical stripping. Once an alignment was determined, one or more backhoe trenches was cut at an approximate right angle across the channel with either a 2-ft-wide backhoe trench or a 7-ft-wide stripping blade swath. At least one detailed profile was drawn of each canal. Canal profiles were designated by feature number along with a decimal number. For example, the first profile of Feature 21 was Canal Profile 21.01, while sequential decimal numbers were assigned to subsequent profiles of that feature (that is, Canal Profiles 21.02 and 21.03). Unit numbers were usually assigned to the trenches or swaths dug for the purpose of exposing canals in profile. These unit designations became particularly useful as a way to track sediment samples that were collected from profiles and for keeping track of other cultural features that may have been exposed, especially those assigned to the Las Capas site.

Bordered Fields

A vast array of bordered agricultural fields was identified during mechanical exposure of various Phase 2 loci. In plan, the interconnected bordered fields formed a waffle-like grid of interconnected garden cells punctuated by a fairly regular arrangement of small distribution canals. Individual fields, or cells, were formed by criss-crossing low earthen berms constructed of soil excavated from the immediate surrounding environment or from the embankments of canals. In Substratum 504.01, in the southern portion of Locus A, a limited number of hand-trenches were excavated through berms and cells in effort to obtain detailed profiles (1:10 scale) and to collect pollen and soil samples from both contexts.

In this limited study, individual garden cells were assigned primary feature numbers. The network of connected berms, or grid, was also assigned a primary feature number (for example, Feature 6001), while individual berms in the network were assigned secondary feature numbers (for example, Feature 6001.01). As the project went on and the magnitude of the field systems became apparent across horizontal space and in multiple underlying strata, numbering these agricultural features was abandoned. Soil samples continued to be collected from freshly exposed stripping surfaces, and these were point provenienced. The soil samples were coded with information denoting the locus, sample number, and whether it was from a berm or field context.

Planting Pits

While numerous prehistoric planting pits were identified across Phase 2 loci and within multiple geostratigraphic layers, they were only investigated in detail from Stratum/Substrata 502, 504.01, and 504.02 of Loci A and B. In these areas, planting pits were assigned primary feature numbers, and a few were selected for sampling. These planting pits were hand-trenched to expose their profiles, which were

illustrated at a 1:10 scale. Samples were selectively collected from the remaining portions of planting pits. Pollen samples were the highest priority, followed by soil samples. If sufficient fill remained after these samples were taken, flotation samples were collected. Finally, any remaining fill was screened through ¼-inch mesh. Approximately 20 percent of the 475 planting pits identified in Locus A were hand-excavated, while just under 10 percent of 139 planting pits in Locus B were sampled. All excavated planting pits were documented with nonarchitectural feature forms.

Natural Features

Several features exposed during Phase 2 mechanical stripping were initially thought to be cultural in origin, but were, in fact, natural occurrences. Among these features were piping vents that, at first, appeared to be pits and wells, root burns that superficially resembled roasting pits and hearths, tree wells thought to be small pits, and large, dish-shaped depressions that gave the appearance of possible pit structures. These natural phenomena were sometimes excavated and documented with nonarchitectural feature forms, pit-trenching forms, or feature profile forms before it was discovered that they were actually natural phenomena.

In other instances, natural features, particularly those contemporary with the occupation of the site, were assigned feature numbers as a way of placing them into archaeological context. Examples of these types of features include Feature 13619, a channel containing cultural material, and Feature 14343, a natural levee atop of which rested a sizable concentration of lithic debitage. With these features, both were sampled via control units, and were documented with nonarchitectural feature forms.

Pit Sampling Strategies of Stratigraphic Occupation Layers

Excluding features such as bordered fields associated with the Las Capas agricultural field systems (see Nials 2015a, 2015b, 2015c), the overwhelming majority of cultural features exposed during mechanical stripping of Phase 2 of the Ina Road RWRF project area were pits. While other types of Las Capas settlement features (pit structures, extramural occupation surfaces, hearths, mortuary features) were sampled at or near 100 percent, it was neither feasible nor practical to fully investigate every pit during Phase 2. Therefore, sampling strategies were devised to deal with pits on a stratum by stratum basis, as they occurred in various occupation layers across the project area.

Except Stratum 503 and Substratum 504.03, which were culturally sterile flash flood layers, pits originated in all geomorphic stratigraphic units between Stratum 502 and Stratum 507 (Table 1.9). This section discusses the idealized sampling strategies adopted for pits (small pits, large pits, bell-shaped pits, and roasting pits) exposed in plan view during mechanical stripping in each stratum, and also describes the actual sampling that occurred, as deviations from original plans were sometimes necessary due to adjustments in the research focus, environmental factors, and time constraints.

Table 1.9. Strata containing discrete occupational layers within Phase 2 loci of the Ina Road Regional Wastewater Reclamation Facility project area Las Capas, AZ AA:12:111 (ASM).

Geomorphic Stratum	Locus A	Locus B	Locus C	Locus D	Locus E ^a	Locus F
502	X ^b	X		X	X	X
504	X ^c	X ^c	X	X ^c	X	X ^c
505	X	X		X	X	X
506	X	X				X
507	X	X				

^aWarehouse Locus only.

^bPlanting pits only.

^cIncludes multiple Stratum 504 substrata; for example, 504.01, 504.02, 504.04.

Stratum 502

While numerous planting pits were identified in Stratum 502 in Loci A and B, very few settlement features were documented within this geomorphic stratum during Phase 2. Among these were two pits in Locus B, eight pits and three pit structures in Locus D, 11 pits, two pit structures, and an area of occupational debris in the Warehouse Locus of Locus E, and 2 pits and an extramural occupation surface in Locus F. Due to the small quantity of cultural features and limited data for occupation of the stratum, all settlement features were sampled through hand-excavation, and each was documented with either a nonarchitectural feature form or a pithouse excavation form, as applicable.

Stratum 504

Evidence of Stratum 504 occupation was present in all Phase 2 data recovery areas. Except of Locus C, where occupation was limited to Substratum 504.02, cultural features occurred in multiple, discrete layers of Stratum 504 (that is, 504.01, 504.02, and/or 504.04). More than one occupational layer was sometimes contained within a substratum. The idealized approach to sampling Stratum 504 was to hand-excavate 50 percent of all pits within a substratum. Those that were hand-excavated were documented on nonarchitectural feature forms and drawn to scale. Upon completion of the hand-excavated sample, the remaining pit features were documented through the pit-trenching process (see “Feature Excavation and Documentation Procedures” section for a description of pit-trenching). After the 50-50 sampling of an occupational layer was complete, a locus was mechanically stripped to reveal the next layer of features, whether it was a lower occupational layer within the same substratum or in the underlying substrata.

Sampling in Loci A and B proceeded through the Stratum 504 occupational layers in Substrata 504.01, 504.02, and 504.04 following, and in several instances, largely exceeding, the 50-50 sampling strategy (Tables 1.10-1.11). In Locus C, where occupation was only evident in Substratum 504.02, 114 of 206 pits (55 percent) were hand-excavated, 77 (37 percent) were pit-trenched, and 15 (7 percent) were left unexcavated. Excavations in Locus F also closely followed the idealized sampling strategy outlined for Stratum 504, although 4 percent of pits from Stratum 504.04 were left unexcavated (Table 1.12). These non-sampled pits were stripped away toward the end of the data recovery phase to expedite exploration of underlying occupational strata within the locus.

Locus D merits a separate discussion of Stratum 504 pit sampling strategies due to its sheer size, large quantity of pits, and somewhat complicated stratigraphic sequence. At 18,130 m² (4.4 acres), it was more than twice the size of all other Phase 2 loci combined, and with the discovery of 971 pits, it contained more

Table 1.10. Quantities and percentages of sampled Phase 2 Stratum 504 pits exposed during mechanical stripping in Locus A, Las Capas, AZ AA:12:111 (ASM).

Substratum	Hand-excavated		Pit-trenched		Unexcavated		Total
	No.	Percent	No.	Percent	No.	Percent	
504.01	58	73.0	21	27.0	-	-	79
504.02	24	57.0	18	43.0	-	-	42
504.04	19	47.5	21	52.5	-	-	40
Total	101		60		-		161

Table 1.11. Quantities and percentages of sampled Phase 2 Stratum 504 pits exposed during mechanical stripping in Locus B, Las Capas, AZ AA:12:111 (ASM).

Substratum	Hand-excavated		Pit-trenched		Unexcavated		Total
	No.	Percent	No.	Percent	No.	Percent	
504.01	78	71.0	32	29.0	-	-	110
504.02	71	54.0	61	46.0	-	-	132
504.04	18	62.0	11	38.0	-	-	29
Total	167		104		-		271

Table 1.12. Quantities and percentages of sampled Phase 2 Stratum 504 pits exposed during mechanical stripping in Locus F, Las Capas, AZ AA:12:111 (ASM).

Substratum	Hand-excavated		Pit-trenched		Unexcavated		Total
	No.	Percent	No.	Percent	No.	Percent	
504.02	16	55.0	13	45.0	-	-	29
504.04	42	62.0	23	34.0	3	4.0	68
Total	58		36		3		97

Table 1.13. Quantities and percentages of sampled Phase 2 Strata 504 and 505 pits exposed during mechanical stripping in Locus D, Las Capas, AZ AA:12:111 (ASM).

Substratum	Hand-excavated		Pit-trenched		Unexcavated		Total
	No.	Percent	No.	Percent	No.	Percent	
504.01/504.02 ^a	452	48.0	394	42.0	90	10.0	936
504.04	9	26.0	19	54.0	7	20.0	35
505	3	75.0	1	25.0	-	-	4
Total	464		414		97		975

^aSubstrata 504.01 and 504.02 features are combined here because more than 400 pits were assigned only as "Stratum 504" context.

than 25 percent more pits than the total from the four other loci (Table 1.13). Most of the Locus D pits (96 percent) were situated within Substrata 504.01 and 504.02. While there was some vertical overlap of these substrata occupational layers, especially with agricultural fields overlying pit clusters, the stratigraphic break between Substratum 504.01 and Substratum 504.02 was largely a horizontal facies change, with clay-rich Substratum 504.01 comprising most of the northeastern half of the locus and sandy Substratum 504.02 dominating the southwestern half. Initially, no distinction was made between these stratigraphic units; later, pits with ambiguous fill that could not be parsed with confidence into one of these substrata were assigned to Stratum 504. The bulk of features assigned to the generic Stratum 504 were, in fact, associated with Substratum 504.01. However, subdividing the pits after the fact was impractical and, in most cases, not possible.

In attempting to conduct a 50-50 sampling of pits in Locus D, approximately 90 percent of the pit features were sampled across Substrata 504.01 and 504.02, with slightly more than half hand-excavated and the rest pit-trenched. As the project continued, time constraints and an emphasis on exploring deeper stratigraphic deposits at the site resulted in 10 percent of the pits being left uninvestigated.

Mechanical stripping of these latter two areas exposed a natural levee, Feature 14343, that had formed during the deposition of Stratum 505. It provided a relatively stable surface for the Substratum 504.04 occupation of the area. In addition to three Stratum 505 pits along the levee, all of which were sampled, 35 Substratum 504.04 pits were exposed. Time constraints, however, forced 35 percent of the Substratum 504.04 features to be left unexcavated, and of those that were sampled, most were pit-trenched. One other Stratum 505 pit, Feature 13628, was discovered beneath the floor of a Substratum 504.04 pit structure, Feature 13367; it was sampled through hand-excavation.

The final data recovery effort in Locus D was the excavation and documentation of two backhoe trenches, Trenches 246 and 247, cut from the stripped surfaces of Substrata 504.01 and 504.02, as well as an 11-m-wide portion of Trench 246 originating from the stripped surface of Stratum 505. Trench 246, measuring 67 m long, was placed across the horizontal facies change that included a well-preserved agricultural field system, as well as the natural levee formation, Feature 14343, explored within limited lower stripping areas mentioned above. Trench 247, measuring 82 m long and situated south and west of Trench 246, was strategically placed to traverse a series of canals just downstream from their junction. While the intent of these trenches was geomorphological exploration, two additional Substratum 504.04 pits were identified in the walls of Trench 246, in proximity to the natural levee; both features were documented with feature profile forms.

In the Warehouse Locus of Locus E, where Phase 2 data recovery was conducted in 2012, 82 percent of the documented cultural features were found within Stratum 504 (see "Locus E 2012 and 2013

Investigations" section). In all, 80 pits were identified in Stratum 504 (features in this locus were not divided to the substratum level). Of these, 75 were sampled through hand-excavation, and the remainder was pit-trenched (Table 1.14). Only two pits were identified in the underlying Stratum 505, both of which were hand-excavated.

Stratum 505

The sampling approach to Stratum 505 was to continue the idealized 50-50 pit sampling strategy used for Stratum 504. This sampling quota was easily accomplished in Locus D (see Table 1.13) and in Locus A (Table 1.15), as both areas contained minimal quantities of Stratum 505 cultural features. This strategy was also attempted, initially, in Loci B and F.

Well into the 50-50 pit sampling of Stratum 505 cultural deposits in Locus F, severe flooding on 3 July 2009 inundated most of the locale that had been exposed through mechanical stripping. Because the northeastern portion of the Ina Road RWRP plant prior to the project had already served to channel stormwater runoff into the Locus F locale from the southeast, the decision was made to seal off the southeastern half with fill dirt in an effort to preserve the northwestern half of the locus for additional data recovery. The lost area that constituted the southeastern portion measured approximately 1,100 m² (0.27 acres). Six pits that had been exposed in the southeastern half were buried beneath flood deposits, and no additional work could be conducted as the sacrificed area continued to flood sporadically throughout the summer. In the salvaged northwestern half, 31 new pits were identified as stripping proceeded. However, as time for the project was running out and deeper deposits in Locus F required exploration, only five of those 31 pits were sampled. These included one that was hand-excavated and four that were pit-trenched.

In Locus B, mechanical stripping in Stratum 505 began along the northeastern half where, 14 pits were initially exposed in plan (later stripping would reveal three additional pits). Except three pits that were stripped away, the initial pits were sampled evenly through both hand-excavation and pit-trenching. As mechanical stripping continued into the southwestern half of the locus, an unexpectedly large quantity of Stratum 505 features, nearly 90 percent of all the pits identified in Locus B, was uncovered in an area roughly 650 m² (0.16 acre) in size. As this dense concentration of Stratum 505 features was found concurrently with even larger quantities of surrounding Stratum 506 features, a decision was made to expedite the sampling of Stratum 505 to ensure enough time remained to adequately explore underlying Stratum 506 cultural deposits. Although considerably more pits were hand-excavated than pit-trenched in the Stratum 505 sample in Locus B, approximately 40 percent of Stratum 505 pits in Locus B were stripped through without sampling.

Table 1.14. Quantities and percentages of sampled Phase 2 Strata 502, 504, and 505 pits exposed during mechanical stripping in the Warehouse Locus of Locus E, Las Capas, AZ AA:12:111 (ASM).

Substratum	Hand-excavated		Pit-trenched		Unexcavated		Total
	No.	Percent	No.	Percent	No.	Percent	
504	75	94.0	5	6.0	-	-	80
505	2	100.0	-	-	-	-	2
Total	77		5		-		82

Table 1.15. Quantities and percentages of sampled Phase 2 Stratum 505 pits exposed during mechanical stripping in Loci A, B, and F, Las Capas, AZ AA:12:111 (ASM).

Locus	Hand-excavated		Pit-trenched		Unexcavated		Total
	No.	Percent	No.	Percent	No.	Percent	
A	3	100.0	-	-	-	-	3
B	97	37.2	60	23.0	104	39.8	261
F	45	35.0	52	40.0	33	25.0	130
Total	145		112		137		394

During the transition from Stratum 505 into Stratum 506 in Locus B, six trenches were dug from the base of Stratum 505 to expose lower deposits in profile, a task that could not be readily accomplished during Phase 1 (trench testing). While one of the trenches, Trench 225, was a deeper extension of a Phase 1 trench, five were reopened and deepened. In some cases, the trenches were extended portions of SWCA trenches excavated during their testing work at the Treatment Plant Locus (Lascaux et al. 1999)⁵.

Stratum 506

Mechanical stripping of Stratum 506 began in the southwestern portion of Locus A, and soon continued in the adjacent northeastern half of Locus B, where it was quickly apparent that the upper portion of the deposit, Substratum 506.01, contained an extremely high density of pit features, unlike anything encountered in the overlying strata, but with quantities matching those discovered by SWCA in their adjoining Treatment Plant Locus (Table 1.16). In addition to the heavy concentrations of features, features clearly originated at different levels within the substratum, although there was a lack of discernible occupation layers. Compounding the issue even further was the fact that pockets of occupational debris, themselves resembling large features, were usually found in conjunction with the clustering of pits. Thus, individual feature delineation was, at times, difficult, as the upper portions of pits merged with the ubiquitous overburden, and pits often overlapped in both horizontal and vertical space.

To accommodate the massive number of pits located in Substratum 506.01, exposed through mechanical stripping across the two loci ($n = 1,983$), new sampling strategies were devised. Due to the time constraints of the project, a 50 percent hand-excavation of pits could not realistically be conducted. Therefore, the sampling quota was reduced to 30 percent. Further, due to the high degree of superimposed pits and the general proximity of features in the substratum, pit-trenching, which can be highly destructive to surrounding deposits, was generally avoided.

The strategy utilized for exposing and preliminarily documenting features within Substratum 506.01 was to mechanically expose one layer of features in a single stripping swath, usually no more than 20 m wide, where the outlines of all features were delineated with white marking paint, feature numbers were assigned, and the outlines were mapped with a GPS receiver-data collector. Once the stripping swath was completely exposed, the backhoe moved to an adjacent swath and repeated the process. Meanwhile, the crew moved into the prepped area and sampled at least three of every 10 pit features. After a swath had been completely sampled, it was re-stripped to expose a deeper layer of pits. All previously documented, but non-selected pits (those mapped and assigned feature numbers but not sampled) were marked in paint with an "X" to prevent them from being tallied among the new suite of pits.

After mapping the second round features, at least 30 percent of the newly discovered pits were sampled through hand-excavation. This stripping-documenting-sampling process continued through Substratum 506.01 until swaths appeared to be virtually free of cultural overburden. This was usually accomplished in most places over three to four passes. Once feature densities dropped to minimal quantities and the surrounding matrix appeared to be culturally sterile, typically Substratum 506.02, any remnant Substratum 506.01 pits were either pit-trenched or carefully stripped away to ensure that they did not contain human remains. Occasionally, the lower portions of previously documented, non-sampled pits

Table 1.16. Quantities and percentages of sampled Phase 2 Stratum 506 pits exposed during mechanical stripping in Loci A, B, and F, Las Capas, AZ AA:12:111 (ASM).

Locus	Hand-excavated		Pit-trenched		Unexcavated		Total
	No.	Percent	No.	Percent	No.	Percent	
A	162	40.0	24	6.0	216	54.0	402
B	726	46.0	19	1.0	836	53.0	1,581
F	13	24.5	12	22.6	28	52.8	53
Total	901		55		1,080		2,036

⁵SWCA backhoe trench numbers BHT 20-BHT 23 were relocated and designated Trenches 241-244, respectively, for this project.

were hand-excavated if they were found to contain a pit assemblage, such as a ground stone cache, or were otherwise worthy of more detailed investigation.

Nearly 45 percent of Substratum 506.01 pits exposed in Loci A and B were sampled through hand-excavation. In contrast to the 1,972 pits found in Substratum 506.01 in Loci A and B, the underlying Substratum 506.02 contained only 11 pits between the two loci. Locus A contained five pits, including one that was hand-excavated, one pit-trenched, and three left unexcavated. In Locus B, six pits were identified; two were hand-excavated, and the rest were stripped away without sampling.

Unlike Loci A and B, where substratum distinctions in Stratum 506 could easily be made based upon the degree of weathering between the upper and lower deposits, Locus F did not readily exhibit these variations. Thus, all features were assigned simply as Stratum 506. The other disparity setting Locus F apart from the other loci was its relatively low feature density ($n = 53$ pits).

As mentioned in the Stratum 505 discussion, severe flooding affected Locus F such that the southeastern half needed to be backfilled to realistically pursue data recovery activities in the remainder of the locus. In so doing, four of 24 Stratum 506 pits that had been exposed in the southeastern half before the flood were lost. Ultimately, 29 Stratum 506 pits were exposed in the salvaged northwestern half. However, having lost momentum waiting for the basin to dry out, and being delayed by additional, sporadic rain events, efforts in Locus F fell behind schedule. This, in conjunction with the low density of Stratum 506 features, forced a minimization of Locus F efforts to focus on sampling features in Loci A and B. Consequently, only five of the pits in the northwestern half were sampled, and all were pit-trenched.

Stratum 507

Based on previous investigations at the site by SWCA and the occasional inadvertent discovery of earlier deposits while exploring Stratum 506 features⁶, a low-density occupation was expected within Stratum 507, although the lateral extent of the settlement was largely unknown. Unfortunately, in dealing with vast quantities of features in the overlying stratum and facing some critical time constraints with the end of Phase 2, Stratum 507 explorations in Locus B were treated with a reduced area stripping strategy. In contrast, Desert Archaeology was able to fully explore Locus A. This was facilitated largely due to its smaller size and fewer numbers of pits in the overlying stratum.

In Locus B, five stripper swaths (averaging 4.3 m wide) spaced between 14.0 m and 21.5 m apart (average spacing of 16.2 m) and two irregular stripping areas (154 m² and 72 m²) were excavated into Stratum 507 to explore for features. Each swath was placed adjacent to the alignment of a reopened SWCA trench⁷, traversing the short axis of the locus. The total area of Stratum 507 explorations in Locus B was 0.21 acres (855 m²).

Although the overall horizontal exposure was limited across Locus B, 48 pits were identified (Table 1.17). Except a pit that was documented with a feature profile form and two pits that were pit-trenched, all Stratum 507 features were hand-excavated. In Locus A, only one feature, a dispersed fire-cracked-rock rock cluster that was likely once a roasting pit, was discovered and sampled through hand-excavation.

Table 1.17. Quantities and percentages of sampled Phase 2 Stratum 507 pits exposed during mechanical stripping, Las Capas, AZ AA:12:111 (ASM).

Locus	Hand-excavated		Pit-trenched		Total
	No.	Percent	No. ^a	Percent	
A	1	100.0	-	-	1
B	45	94.0	3	6.0	48
Total	46		3		49

^aOne pit was exposed in a trench (Unit 7258) and documented with a feature profile form.

⁶SWCA found evidence of occupation in Stratum 6B, the likely equivalent of Desert Archaeology's Stratum 507, during their 1999 data recovery phase at the Treatment Plant Locus of the site. Stratum 507 features were also occasionally discovered while investigating Stratum 506 features in Locus B.

⁷SWCA backhoe trench numbers BHT 20-BHT 23 were relocated and designated Trenches 241-244, respectively, for this project.

ADDITIONAL COMPLIANCE-RELATED ARCHAEOLOGICAL FIELDWORK, 2009-2013

Monitoring Construction Excavations

There was no need to backfill open work area excavations after the completion of Desert Archaeology's scheduled Phase 2 fieldwork in September 2009, as construction activities for the plant upgrade were set to commence immediately afterward. Post-Phase 2 monitoring of construction activities was extremely limited over the course of the treatment plant expansion and upgrade, primarily because construction impacts were usually well-contained inside the limits of Desert Archaeology's mitigated work areas. On a few occasions, Desert Archaeology personnel were called to the facility to assess inadvertent discoveries. However, these turned out to be natural phenomena each time.

Locus I Testing

After completion of planned Phase 2 activities, archaeological testing was conducted in October 2009, within a 150 m by 80 m Pima County-owned detention basin located approximately 200 m west of the northwestern edge of the Ina Road RWRF facility, immediately south of Ina Road. Plans for the basin, referred to by Desert Archaeology as "Locus I," called for steepening the lower slope and deepening the base to increase its volume to adequately capture stormwater runoff from construction activities associated with the plant upgrade.

Eight backhoe trenches, totaling 318 m, were placed along the upper, middle, and lower portions of the basin, resulting in the discovery of two pits within inferred Stratum 502 and Stratum 506 deposits. Feature profile forms were completed for each pit, and flotation samples were collected. Additionally, eight ¹⁴C samples were collected from geomorphic strata within five of the trenches. The basin was mechanically excavated in June 2010, and these mechanical excavations were monitored by Desert Archaeology personnel. Two additional cultural features were discovered at this time along the lower slope of the basin, including a roasting pit in the northern wall and a possible canal in the western wall. Both features were located stratigraphically above inferred Stratum 506 deposits. All features associated with Locus I were assigned to the 25000-number series, labeled Features 25001-25004.

Locus E 2012 and 2013 Investigations

As construction plans changed for the treatment plant expansion and upgrade in the area defined as Locus E, Desert Archaeology returned to the northern half of the locus in 2012 and 2013, to conduct Phase 2 data recovery in the areas scheduled to be affected. A 0.63-acre (2,564-m²) area comprising the construction footprint of Warehouse Building 88 was investigated between January and March 2012. Numerous archaeological features were documented in the Warehouse Locus, including multiple generations of agricultural features, such as canals, agricultural fields, and planting pits (see Nials 2015a, 2015b, 2015c), and various settlement features, including pit structures, pits, and occupational debris. The latter set included 101 features: (1) 15 features in Stratum 502, 2 pit structures, 11 pits, 1 occupational debris, and 1 naturally occurring set of canid remains; (2) one feature in Stratum 503, a cluster of shell and ground stone beads; (3) 93 features in Stratum 504, 1 possible pit structure, 80 pits, 1 occupational debris, 1 natural piping vent; and, (4) two pit features in Stratum 505. Features from the Warehouse Locus associated with Las Capas were assigned to a number series beginning with Feature 3550.

Desert Archaeology investigated a 0.28-acre (1,125-m²) area adjacent to the Warehouse Locus in advance of construction of a stormwater retention basin in July 2013. Referred to as the Pond Area of Locus E, cultural features were documented in two geomorphic strata. Six features, all pits, were found in Stratum 502. Stratum 504 included 99 pits, 1 area of occupational debris, 1 human burial, 13 canals, and numerous associated, interconnected agricultural fields. Due to the late scheduling of fieldwork for the Pond Area, most information from this phase is not integrated into the main body of work for the project. Rather, the results are summarized in greater detail in Chapter 3 (this volume).

EXTRAMURAL PITS

Barry Price Steinbrecher and George L. Tinseth
Desert Archaeology, Inc.

Extramural pit features represented the most common feature identified at Las Capas, AZ AA:12:111 (ASM), through both mechanical stripping and trenching. In all, 3,126 pits were sampled across the site (Whitney et al. 2015), by both mechanical trenching, as well as by hand-excavation. These extramural pit features were grouped into either thermal or nonthermal categories.

Nonthermal pits were characterized as those extramural pits that contained no evidence of in situ burning or oxidation. The nonthermal pits were used for storage, trash disposal, and various unknown purposes. Nonthermal extramural pits encompassed various pit types, including small pits, bell-shaped pits, rock-filled pits, and large pits. Of these types, small pits were the most common feature excavated across Las Capas. Artifacts most commonly found or associated within nonthermal pits included various tool manufacturing waste (flaked stone, cores, and unworked shell), burned and unburned faunal bone, and complete and broken tool types (whole and broken ground stone, bifacial stone tools, and bone awls). Many nonthermal pits also contained charcoal flecks, ash, fire-cracked rock, and burned and unburned daub (but no evidence of in situ burning).

Thermal pits were characterized as extramural features with evidence of in situ burning, such as the presence of oxidation on their bases and sidewalls. Thermal pits generally consisted of roasting pits, bathtub roasting pits, as well as extramural hearths. They usually contained high amounts of fire-cracked rock, charcoal and other burned organic material, burned faunal bone, and macrobotanical remains (annuals, unidentified seeds). The thermal pits excavated and sampled rarely contained formal artifacts (flaked stone, flaked stone tools, other artifacts), and were primarily used for food preparation, as well as other indeterminate uses.

Given the large number of excavated extramural features, a sample of individual descriptions for both thermal and nonthermal pits is provided here. This sample of individual pit descriptions was taken from all loci at Las Capas. See Whitney et al. (2015) for metric and nonmetric information on all excavated extramural pit features.

LOCUS A

BELL-SHAPED PITS

Stratum 504.01

Feature 4015, Elevation: 12.54-13.36 mbd

General Description. This bell-shaped pit (Figure 2.1) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This bell-shaped pit was oval in shape, and measured 1.35 m in diameter at the pit opening. It averaged 82 cm deep and contained 1.3056 m³ of volume. The opening of the feature constricted to a neck diameter of 1.22 m before it expanded to a basal measurement of 1.55 m east-west by 1.44 m north-south. No in situ signs of burning were present.

Internal Stratigraphy and Artifact Content. The fill of this feature consisted of a uniform, brown, loosely consolidated, silty clay. Artifact density within the feature was low, and included of 19 pieces of flaked stone, 4 pieces of ground stone, and 18 pieces of faunal bone.

Functional Inferences. Given the size and shape of Feature 4015, it was likely used for storage. The uniform fill may be representative of naturally deposited alluvium that carried in trash rather than dumped-in refuse deposits.

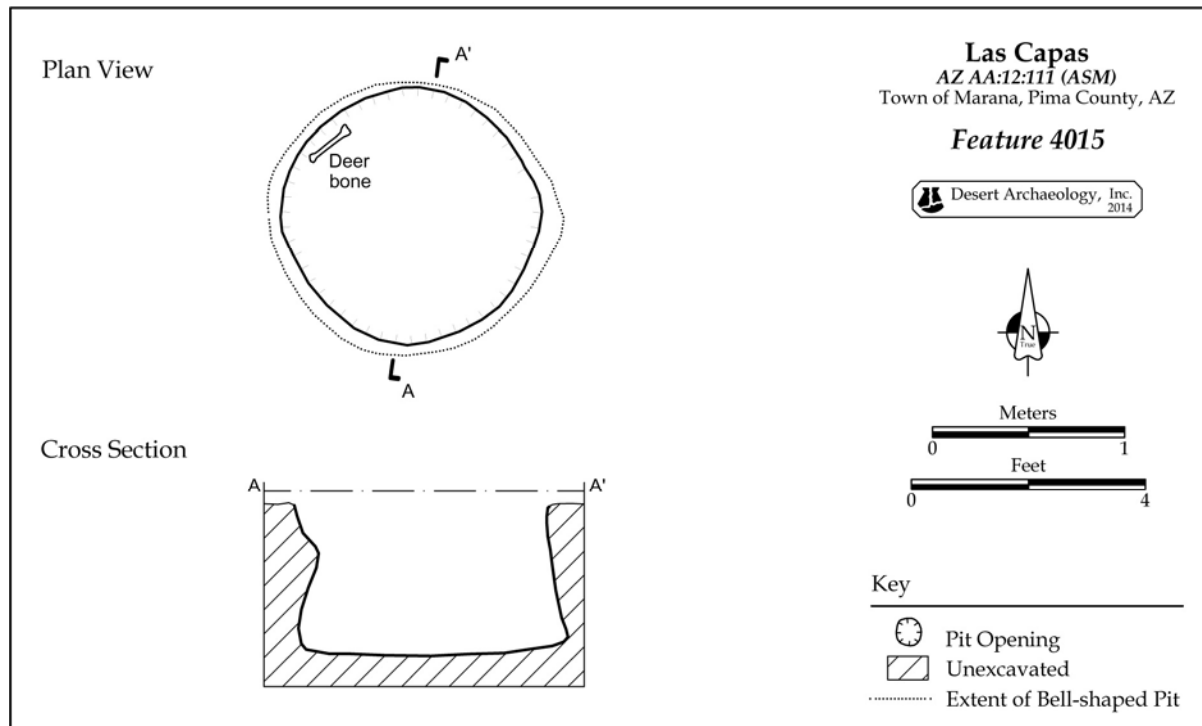


Figure 2.1. Plan view and cross section of bell-shaped pit Feature 4015, Stratum 504.01, Locus A, Las Capas, AZ AA:12:111 (ASM).

Stratum 506.01

Feature 4267, Elevation: 14.18-15.07 mbd

General Description. This bell-shaped pit (Figures 2.2-2.3) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This bell-shaped pit averaged 88 cm in depth, with a total volume of 0.4926 m³. It had a circular-shaped opening, which measured 78 cm east-west by 77 cm north-south. The feature opening almost immediately constricted to a neck diameter of 68 cm, before expanding to a basal measurement of 91 cm east-west by 90 cm north-south.

Internal Stratigraphy and Artifact Content. This internal fill of this feature consisted of a uniform, brown to reddish-brown, loosely consolidated, silty sandy loam, with large amounts of charcoal flecks throughout, as well as small amounts of burned daub and ash. Also within the internal fill were 18 pieces of fire-cracked rock and several burned corn cobs. No in situ burning was present.

The artifact density for this feature was very high. Two complete metates were recovered from the feature, one of which was located approximately 30 cm below the stripped surface, while the other lay upside down, directly on the base of the pit. Also recorded were 121 pieces of flaked stone, 2 flaked stone tools, an Empire style projectile point, 215 pieces of faunal bone, and a shell pendant fragment.

Functional Inferences. Based on the size and shape, the primary function of Feature 4267 was likely storage. The high density of artifacts in the fill indicates a secondary use as a trash pit.

Feature 4669, Elevation: 13.96-14.95 mbd

General Description. This bell-shaped pit (Figure 2.4) was discovered during mechanical stripping. The feature was subsequently hand-trenched, with the entire northwestern half excavated in a single level. This feature averaged 99 cm in depth, and measured 84 cm in diameter at its opening. It constricted to 77 cm at its neck before expanding to a basal diameter of 1.04 m.



Figure 2.2. Bell-shaped pit Feature 4267, mid-excavation, with ground stone cache, Stratum 506.01, Locus A, Las Capas, AZ AA:12:111 (ASM).

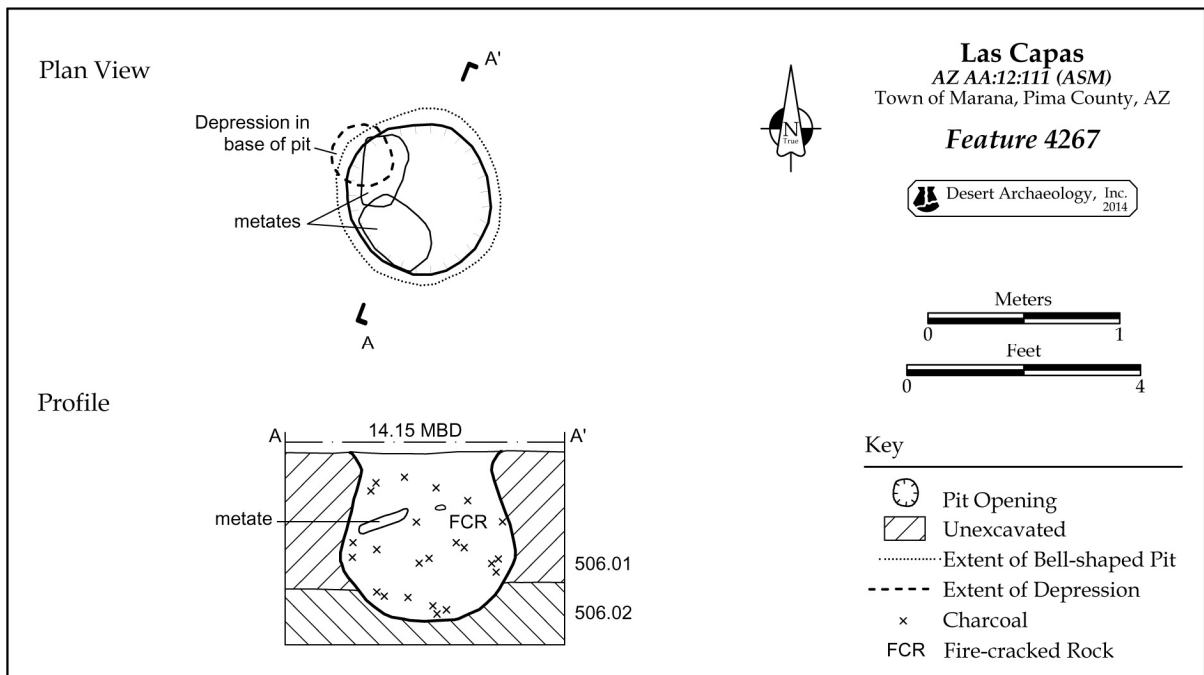


Figure 2.3. Plan view and profile of bell-shaped pit Feature 4267, Stratum 506.01, Locus A, Las Capas, AZ AA:12:111 (ASM).



Figure 2.4. Bell-shaped pit Feature 4669, profile, Stratum 506.01, Locus A, Las Capas, AZ AA:12:111 (ASM).

Internal Stratigraphy and Artifact Content. This bell-shaped pit contained five discrete stratigraphic layers. The first 10-12 cm consisted of a brown, silty clay that was loosely consolidated and likely representative of the natural alluvium. The following 10 cm consisted of a grayish-brown, loosely consolidated, silty clay that contained large amounts of small charcoal flecks throughout, as well as visible pieces of fire-cracked rock; it may be representative of a cultural-fill episode. The next 35-40 cm consisted of a brown, silty sand that was loosely consolidated and fairly uniform, with a very sparse amount of charcoal flecks and no visible artifacts.

The subsequent stratum averaged 15 cm in thickness, and consisted of a grayish-brown, loosely consolidated, silty sand that contained a moderate amount of small charcoal flecks throughout and likely represents a cultural fill episode. A small piece of faunal bone was identified in the uppermost portion of this stratum. The last stratum, which comprised the bottommost fill of the feature, consisted of a tan, fine-textured, bedded silt that contained no charcoal inclusions. A single piece of fire-cracked rock was identified in this stratum. As this feature was pit trenched, no fill was screened. Thus, artifact density is unknown, although from the profile, it appears to be low.

Functional Inferences. Based on the size and shape of Feature 4669, it likely functioned primarily for storage. The stratified fill of the feature indicates this bell-shaped pit was used as a trash dump over its use-life. The pit appears to have been left partially open and filled by natural alluvium.

SMALL PITs

Stratum 506.01

Feature 4485, Elevation: 14.24-14.64 mbd

General Description. This small pit (Figure 2.5) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The pit was oval in shape, with a basin-shaped bottom. The feature measured 86 cm north-south by 68 cm east-west, with an average depth of 40 cm and a total volume of 0.1225 m³.

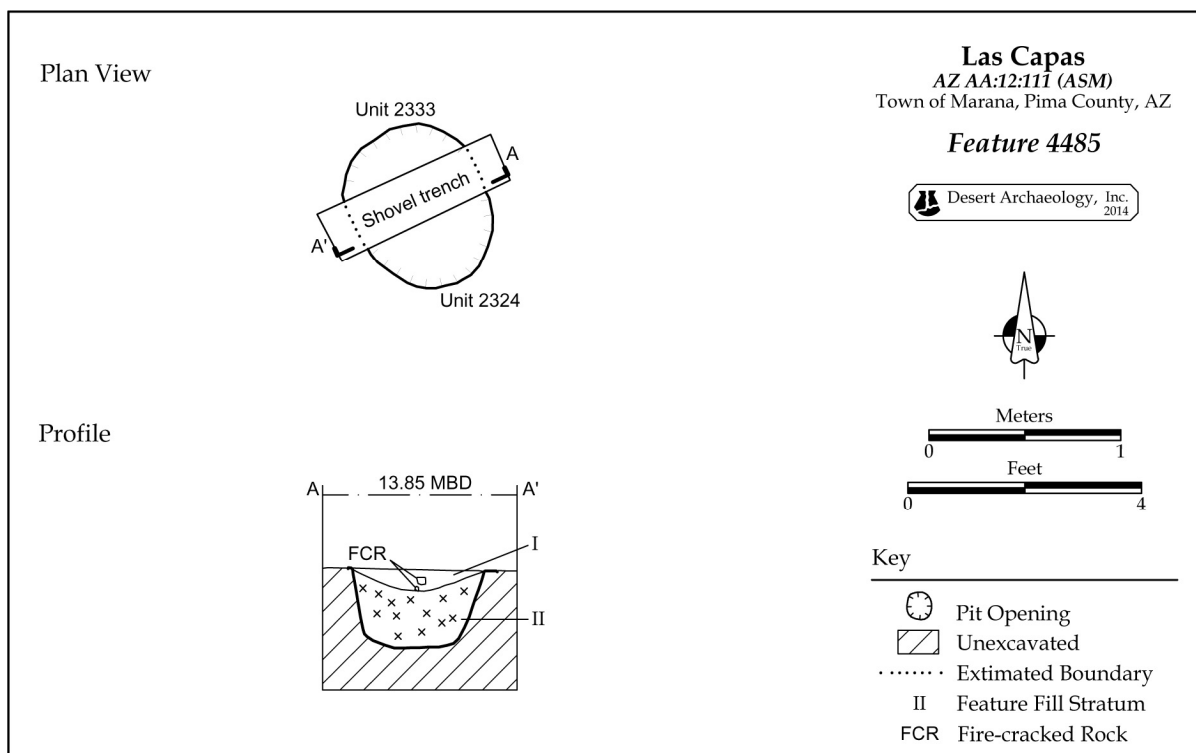


Figure 2.5. Plan view and profile of small pit Feature 4485, Stratum 506.01, Locus A, Las Capas, AZ AA:12:111 (ASM).

Internal Stratigraphy and Artifact Content. The internal fill of this feature was comprised of two distinct strata. The uppermost stratum averaged 12 cm in thickness and was a reverse parabola in shape. This stratum consisted of a uniform, loosely consolidated, grayish-brown, sandy silt that contained ash inclusions, as well as charcoal flecks throughout. The bottommost stratum averaged 35.5 cm in thickness, and consisted of a uniform, brown, silty sand that was loosely consolidated. It contained a sparse amount of small charcoal flecks throughout. Artifact density in this feature was low throughout, and consisted of 43 pieces of flaked stone and 20 pieces of faunal bone. Two pieces of fire-cracked rock were present in the upper stratum.

Functional Inferences. Feature 4485 represents a small extramural pit used for indeterminate purposes. The internal stratigraphy indicates the feature was filled with natural alluvial deposits that contained cultural debris.

LOCUS B

BELL-SHAPED PITS

Stratum 504.04

Feature 7019, Elevation: 12.90-14.04 mbd

General Description. This bell-shaped pit (Figure 2.6-2.7) was discovered during mechanical stripping. The cultural overburden for the southern half of the feature was subsequently removed by hand-excavation. This pit was slightly oval in shape, it measured 1.58 m east-west by 1.28 m north-south and averaged 1.14 m in depth, with 2.9912 m³ of volume. The pit walls almost immediately expanded outward to a basal dimension of 2.24 m north-south by 2.08 m east-west, and the bottom of the pit was relatively flat. Overlying Feature 7019 was a small canal, Canal Feature 159, which did not intrude on the bell-shaped pit.



Figure 2.6. Bell-shaped pit Feature 7019, mid-excavation, detail showing quartz pestle and stone tray fragments, Stratum 504.04, Locus B, Las Capas, AZ AA:12:111 (ASM).

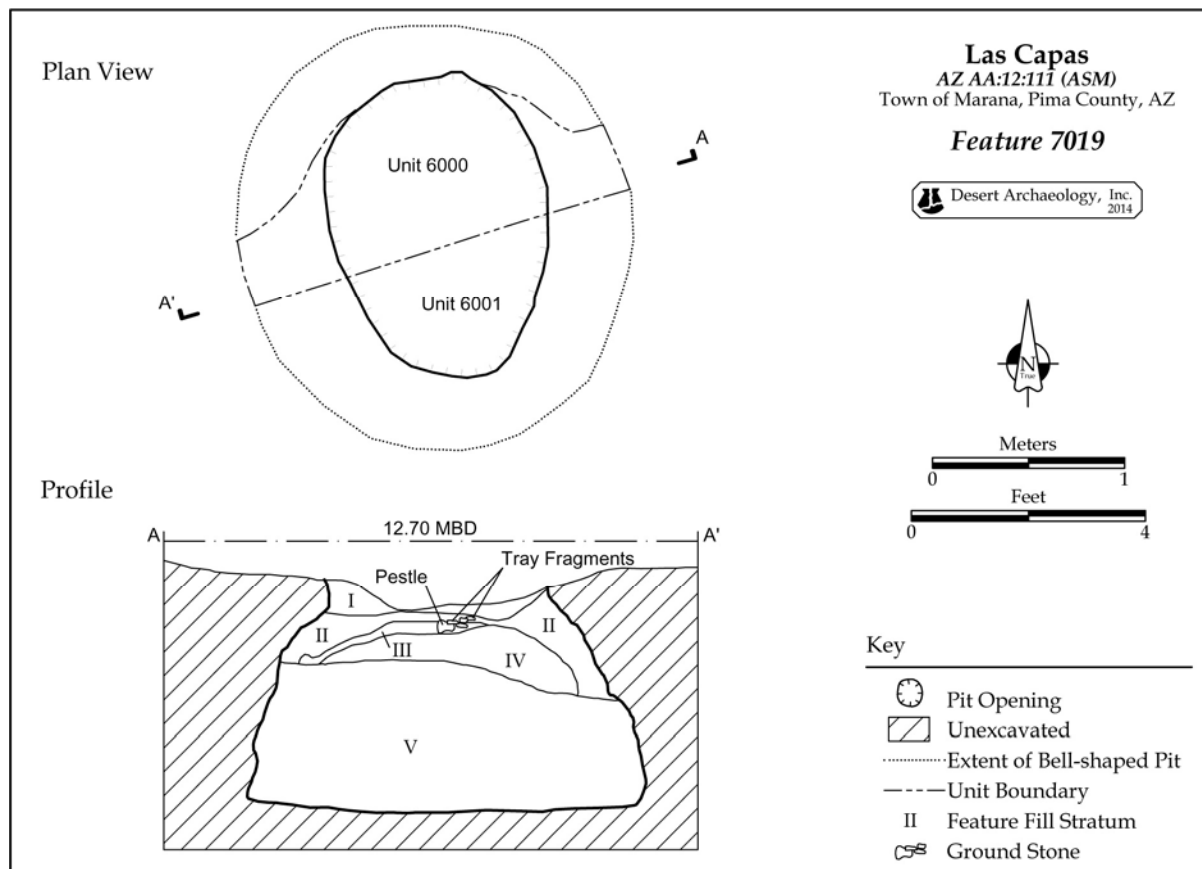


Figure 2.7. Plan view and profile of bell-shaped pit Feature 7019, Stratum 504.04, Locus B, Las Capas, AZ AA:12:111 (ASM).

Internal Stratigraphy and Artifact Content. The internal fill within Feature 7019 contained five discrete stratigraphic layers. The uppermost layer averaged 19 cm in thickness, and consisted of a uniform, grayish-brown, moderately hard, blocky textured, silty clay that contained sparse amounts of very small charcoal flecks throughout. No artifacts were present. The following stratum averaged 56 cm around the interior perimeter of the bell-shaped pit, but only 4 cm in the center. This stratum consisted of a grayish-brown, moderately hard, silty clay, with high densities of burned material, including charcoal and burned daub pieces in excess of 3 cm in diameter. Slight amounts of ash were also present. Artifact density was moderate, and consisted of flaked stone, faunal bone, and a stone tray. Most of the fire-cracked rock within this feature was present in this stratum.

The next stratum averaged 6 cm in thickness, and consisted of a uniform, loosely consolidated layer of ash that contained a cache of ground stone, including two pestles and a metate, in addition to small amounts of flaked stone and faunal bone. The subsequent stratum averaged 20 cm in thickness, and was confined to the center of the pit, with no contact on the side walls. This stratum consisted of a uniform, brown, moderately hard silty clay that contained large amounts of small charcoal inclusions throughout. Artifact density was low, and consisted of flaked stone and faunal bone. The final, bottommost, stratigraphic layer was a uniform, light brown, loosely consolidated silt with sparse, very small charcoal flecks. No artifacts were present.

The artifact density for the entire pit was high. Artifacts included 59 pieces of flaked stone, a possible stone spindle whorl fragment, an incipient plain ware ceramic sherd, 12 pieces of groundstone (including two quartz pestles, a metate, and various fragments of a stone tray), 89 pieces of faunal bone, and 10 burned corn cobs. A large amount of fire-cracked rock was located throughout the fill, totaling 176 pieces.

Functional Inferences. The massive size, as well as the general shape of Feature 7019, indicates it may have been used for storage or food preparation. The high yield of burned faunal bone, fire-cracked rock, and burned corn cobs may suggest food preparation rather than storage. The uppermost, ashy strata that contained ground stone caches appeared to have been purposefully and carefully placed within the fill.

Stratum 506.01

Feature 7932, Elevation: 14.50-15.17 mbd

General Description. This feature (Figure 2.8-2.9) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The pit was circular in plan view, and averaged 67 cm in depth with 0.3160 m³ of volume. The top of the feature measured 65 cm east-west by 62 cm north-south. The feature did not constrict, and it immediately expanded to a basal dimension of 95 cm east-west by 84 cm north-south. The pit showed no signs of in situ burning.

Internal Stratigraphy and Artifact Content. The internal fill of this feature was a uniform, light brown, loosely consolidated, sandy silt, with a moderate amount of ash and small charcoal flecks throughout. Artifact density was high, and consisted of 58 pieces of flaked stone, 133 pieces of faunal bone, and a complete metate within the fill.

Functional Inferences. Based on the size of Feature 7932, it likely had a primary function of storage. The amount of trash, as well as the presence of a metate in the fill, may indicate secondary usage for refuse disposal. This pit appears to have been filled in by natural alluvial deposits.

Feature 8520, Elevation: 15.18-15.58 mbd

General Description. This bell-shaped pit (Figure 2.10-2.11) was initially discovered during mechanical stripping, and was later further identified when a sump trench was cut for water control, revealing the profile of the feature and truncating the northern half. The remaining cultural overburden was subsequently removed by hand-excavation. This pit was roughly circular shaped in plan view, and it measured 39 cm north-south by 35 cm east-west. The pit opening quickly constricted to a neck diameter of 31 cm before bellling out to a basal diameter of 60 cm. This feature averaged 40 cm in depth, and was unburned.

Internal Stratigraphy and Artifact Content. The internal fill consisted of a uniform, brown, moderately hard, silty clay that contained small amounts of charcoal flecks throughout, two pieces of fire-cracked rock,

and three pieces of fire-cracked ground stone. Feature 8520 contained a moderate artifact density, which consisted of 31 pieces of flaked stone, 6 pieces of ground stone, and 43 pieces of faunal bone. Two of the ground stone pieces, a mano and tabular piece of ground stone, were lying flat on the base of the feature.



Figure 2.8. Bell-shaped pit Feature 7932, post-excavation, showing metate, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

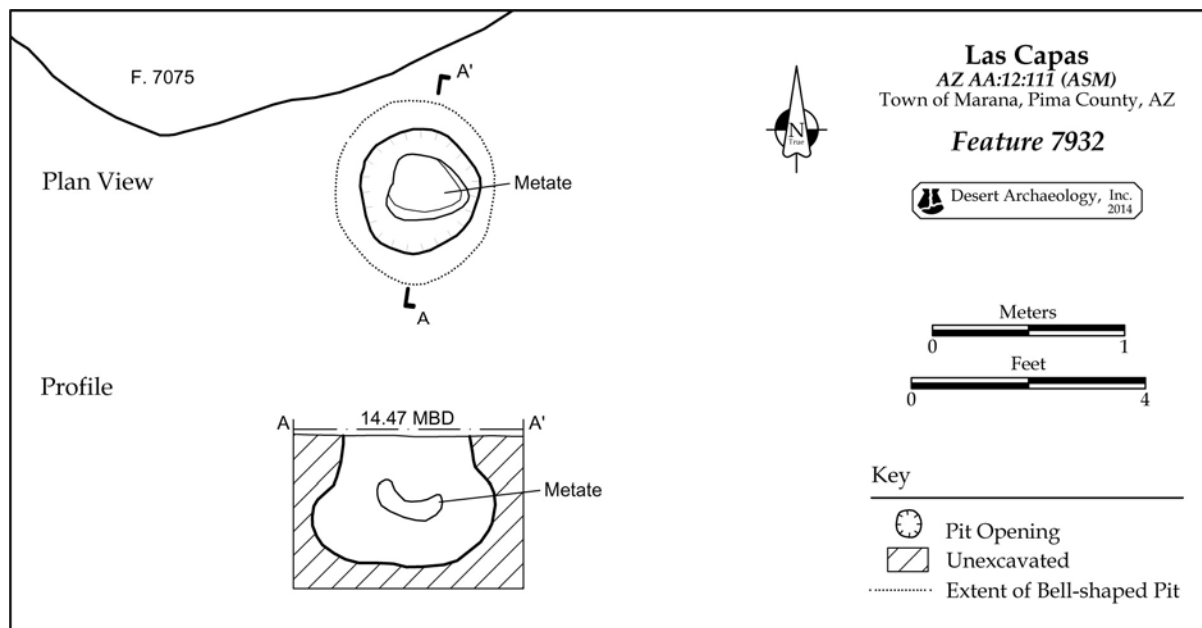


Figure 2.9. Plan view and profile of bell-shaped pit Feature 7932, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).



Figure 2.10. Bell-shaped pit Feature 8520, post-excitation, showing ground stone cache, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

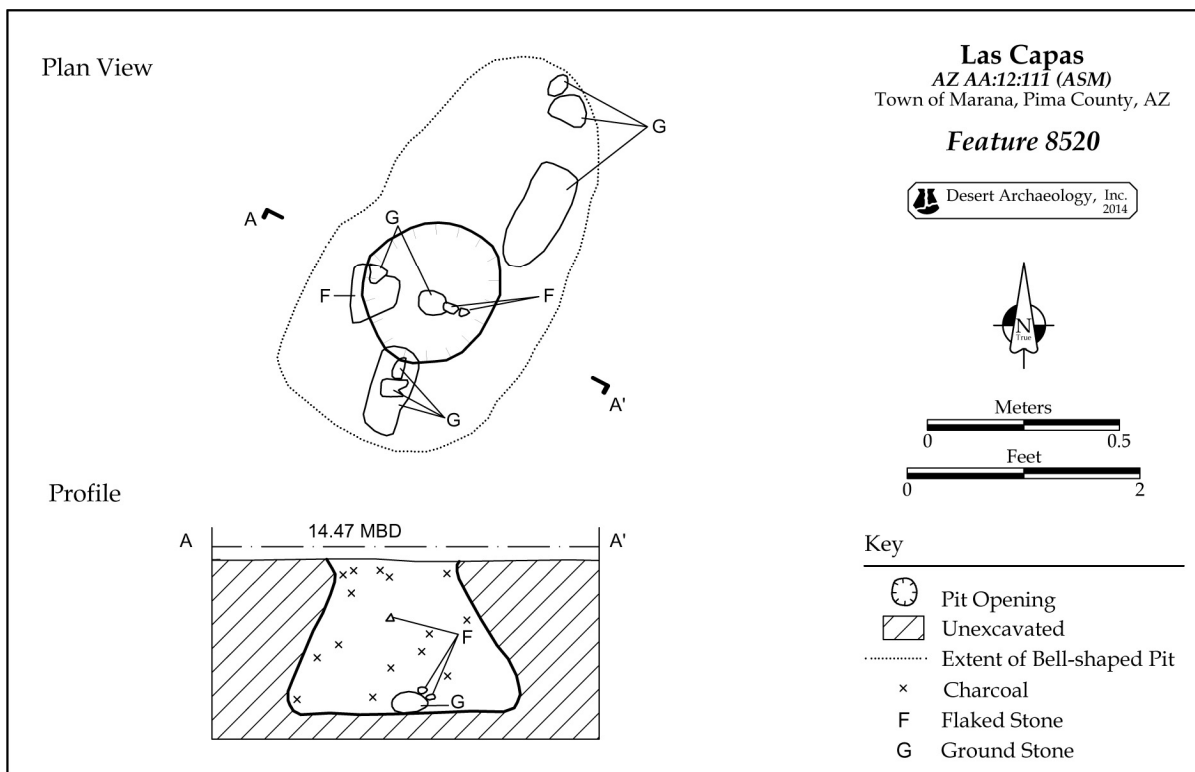


Figure 2.11. Plan view and profile of bell-shaped pit Feature 8520, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

Functional Inferences. Based on its shape, this bell-shaped pit may have initially functioned for storage. The large amounts of debitage located within the internal fill may indicate the feature was also used for refuse disposal.

Feature 8700, Elevation: 14.62-15.34 mbd

General Description. This bell-shaped pit (Figure 2.12) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature averaged 72 cm in depth, and contained a total volume of 0.4194 m³. The pit opening measured 78 cm in diameter, and immediately expanded to a basal measurement of 1.12 m north-south by 1.02 m east-west.

Internal Stratigraphy and Artifact Content. Two separate strata were identified within the internal fill of this feature. The upper stratum consisted of very loosely consolidated, grayish-brown, silty sand with large amounts of charcoal flecks and ash inclusions throughout, and that likely represented a cultural deposit. The second stratigraphic layer consisted of a uniform, brown, moderately hard, silty sand that contained caliche-covered stones throughout. Charcoal flecks were found in low frequencies around the interior perimeter of this stratum. This stratigraphic layer is likely representative of the natural alluvium.

Artifact density was high within the uppermost stratum, which also contained an abundance of fire-cracked rock ($n = 45$). The lower stratum contained a low artifact density, primarily flaked stone. The total number of artifacts recovered from the feature included 385 pieces of flaked stone, 221 pieces of faunal bone, and 3 pieces of ground stone.

Functional Inferences. Based on its size and shape, Feature 8700 likely functioned as a storage pit. The internal stratigraphy suggests the feature was cleaned out and partially filled in by a layer of natural alluvium, and subsequently filled in by a trash dump episode.

Stratum 506.02

Feature 8554, Elevation: 14.88-15.43 mbd

General Description. This bell-shaped pit (Figure 2.13) was discovered during mechanical stripping. The feature was subsequently bisected by backhoe trenching, and the remaining profile was drawn. The

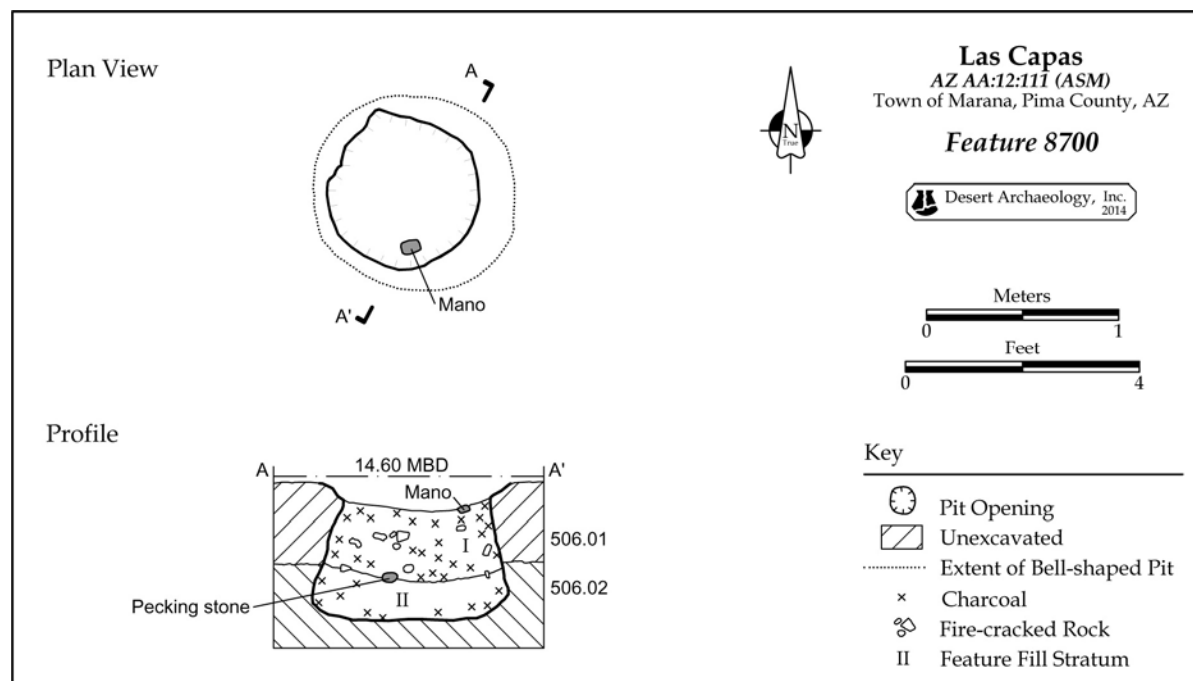


Figure 2.12. Plan view and profile of bell-shaped pit Feature 8700, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

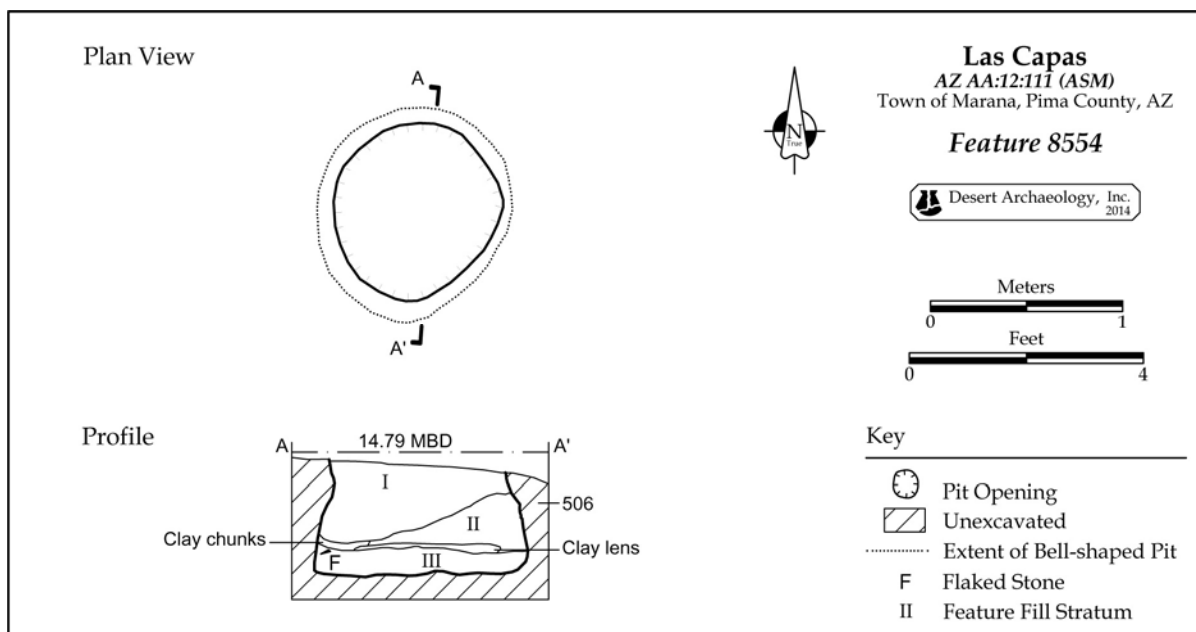


Figure 2.13. Plan view and profile of bell-shaped pit Feature 8554, Stratum 506.02, Locus B, Las Capas, AZ AA:12:111 (ASM).

pit measured 91 cm north-south by 49 cm east-west at its uppermost opening. The pit constricted slightly before expanding to a basal diameter of 1.10 m. No signs of in situ burning were present.

Internal Stratigraphy and Artifact Content. Three distinct stratigraphic layers were identified in this feature. The first and uppermost stratigraphic layer was the thickest, averaging 53 cm in depth. This stratum was a uniform, light brown to tan, loosely consolidated, silty sand that contained sparse amounts of calcium carbonate streaking and very small pieces of charcoal that occurred intermittently throughout. The following stratum averaged 6-13 cm in thickness, and consisted of a very loosely consolidated, grayish-brown, silty sand with a non-continuous, thin layer of a moderately hard dark brown clay at the base of this layer. Given the shape and gray color of this stratum, it appears to have been representative of a dumping episode. The bottom layer of the feature averaged 15 cm in depth, and consisted of a light brown, uniform, loosely consolidated, silty sand with very sparse charcoal flecks throughout.

Artifacts visible within the profiled wall were collected, and they included 6 small pieces of flaked stone, 1 shell fragment, and 44 pieces of faunal bone. One biface fragment was recovered from the uppermost stratigraphic layer. The exact artifact density for this feature is unknown.

Functional Inferences. Based on the size and shape of Feature 8554, it likely had a primary function of storage. The stratigraphic deposition within the feature fill may indicate the bell-shaped pit was cleaned out and left open on abandonment, when it accumulated a small amount of natural alluvium. The feature may have subsequently been used for refuse disposal, but left partially open before it was completely buried by naturally deposited sediments.

LARGE PITS

Stratum 506.01

Feature 8065, Elevation: 14.65-15.45 mbd

General Description. This large pit (Figures 2.14-2.15) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This large pit was slightly irregular in shape, with a basin-shaped profile. The feature measured 2.03 m east-west by 1.87 m north-south. This large pit was intruded on by Feature 8070, a roasting pit, in the southwest, and it intruded into small pit Feature 8077.



Figure 2.14. Large pit Feature 8065, mid-excavation, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

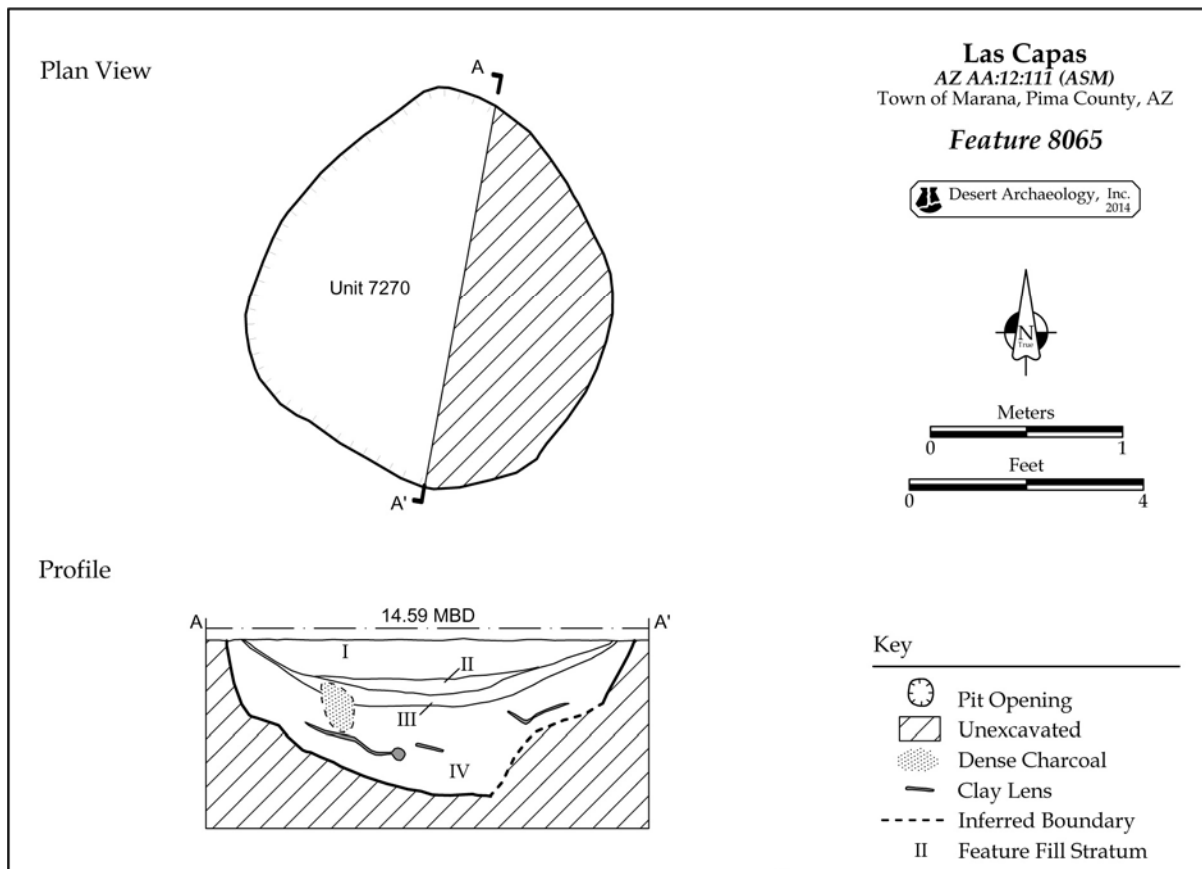


Figure 2.15. Plan view and profile of large pit Feature 8065, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

Internal Stratigraphy and Artifact Content. This large pit contained four distinct strata within its fill. The uppermost stratum averaged 21 cm in depth, and consisted of a light brown, moderately hard, blocky textured, silty clay. The following stratum averaged 7 cm in depth, and consisted of a reddish-brown, granular, loosely consolidated, sandy silt. The next stratigraphic layer averaged 6 cm in depth, and consisted of a banded layer of tan, fine-textured silts with dark brown clay that likely represented flood deposits. The final layer averaged 46 cm in depth, and consisted of a brown, loosely consolidated, slightly granular, silty loam that contained sparse amounts of charcoal flecks throughout.

Artifacts were present within the bottom two strata only. Artifact densities were fairly high within these strata, and included of 686 pieces of flaked stone, a few broken bifaces, and 77 pieces of faunal bone.

Functional Inferences. The exact function of Feature 8065 is unknown. The slightly irregular shape may suggest the feature functioned as a borrow pit. The internal stratigraphy may also indicate the open pit was used for refuse disposal, as indicated by the density of cultural debris, as well as filled by natural alluvial deposits.

ROASTING PITS

Stratum 504

Feature 7036, Elevation: 12.50-12.66 mbd

General Description. This roasting pit (Figure 2.16) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature was slightly irregular in shape with an undulating bottom. The feature measured an estimated 1.03 m east-west by 96 cm north-south, with an average depth of 16 cm and a total volume of 0.0828 m³.

Internal Stratigraphy and Artifact Content. This roasting pit contained a uniform, loosely consolidated, brown clayey silt. A very high amount of loosely consolidated ash and charcoal flecks, as well as fire-cracked rock, was concentrated in the upper portions of the internal fill. Oxidized soil was present throughout the fill, as well as along the feature bottom. No artifacts were present.

Functional Inferences. Feature 7036 likely functioned as an extramural roasting pit. The exact nature of what was being roasted is indeterminate.

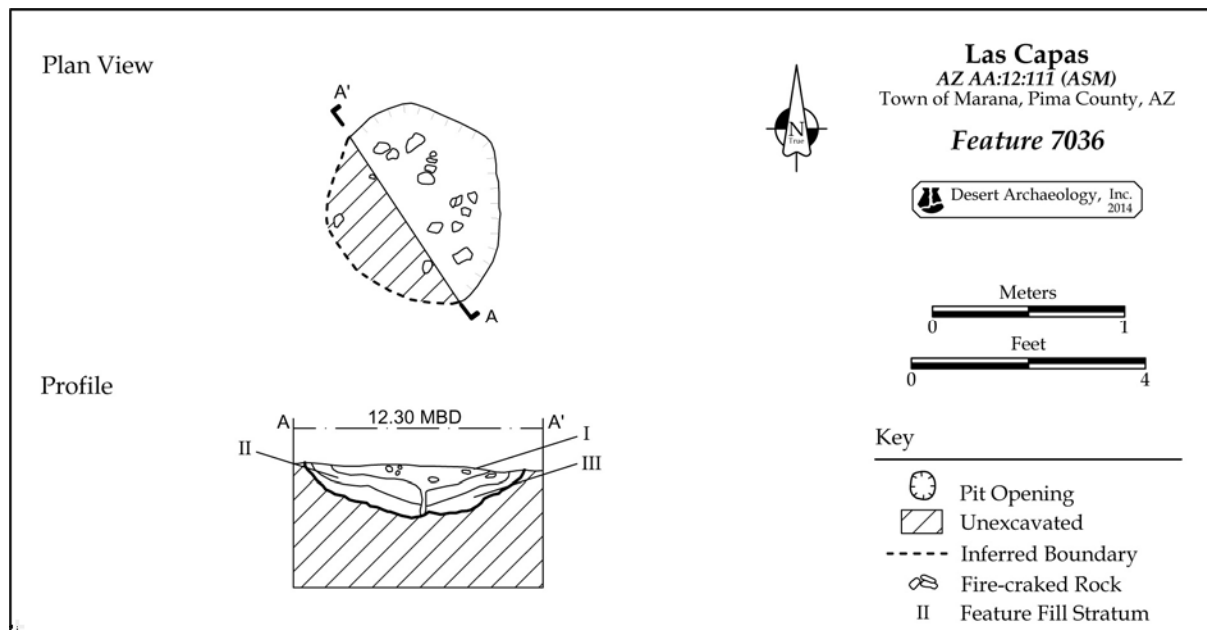


Figure 2.16. Plan view and profile of roasting pit Feature 7036, Stratum 504.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

Stratum 506

Feature 9298, Elevation: 14.71-15.16 mbd

General Description. This bathtub-shaped roasting pit (Figures 2.17-2.18) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This roasting pit was oval-shaped in plan view, with a basin-shaped profile; it measured 1.30 m east-west by 85 cm north-south. This feature had a highly oxidized bottom, and averaged 45 cm in depth.

Internal Stratigraphy and Artifact Content. The internal fill for this feature consisted of a uniform, loosely consolidated, brown, silty sand that contained large amounts of charcoal flecks throughout and a thin ash lens just above the highly oxidized bottom of the pit. Artifact density within the feature was high, and included 155 pieces of flaked stone, 74 pieces of faunal bone, and a metate fragment. Seventeen pieces of fire-cracked rock and 11 pieces of fire-cracked ground stone were also found within the fill.

Functional Inferences. Feature 9298 likely functioned primarily for food preparation. The large dimensions of the feature may suggest it was used to prepare significant quantities of food per use. It is not known what was prepared within the feature, or if it had any other specific functions.



Figure 2.17. Bathtub-shaped roasting pit Feature 9298, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

ROCK-FILLED PITS

Stratum 506.01

Feature 8904, Elevation: 14.66-14.84 mbd

General Description. This rock-filled pit (Figures 2.19-2.20) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature was circular in shape, with a basin-shaped bottom. It measured 60 cm in diameter and 18 cm in depth. The pit contained a total volume of 0.0339 m³.

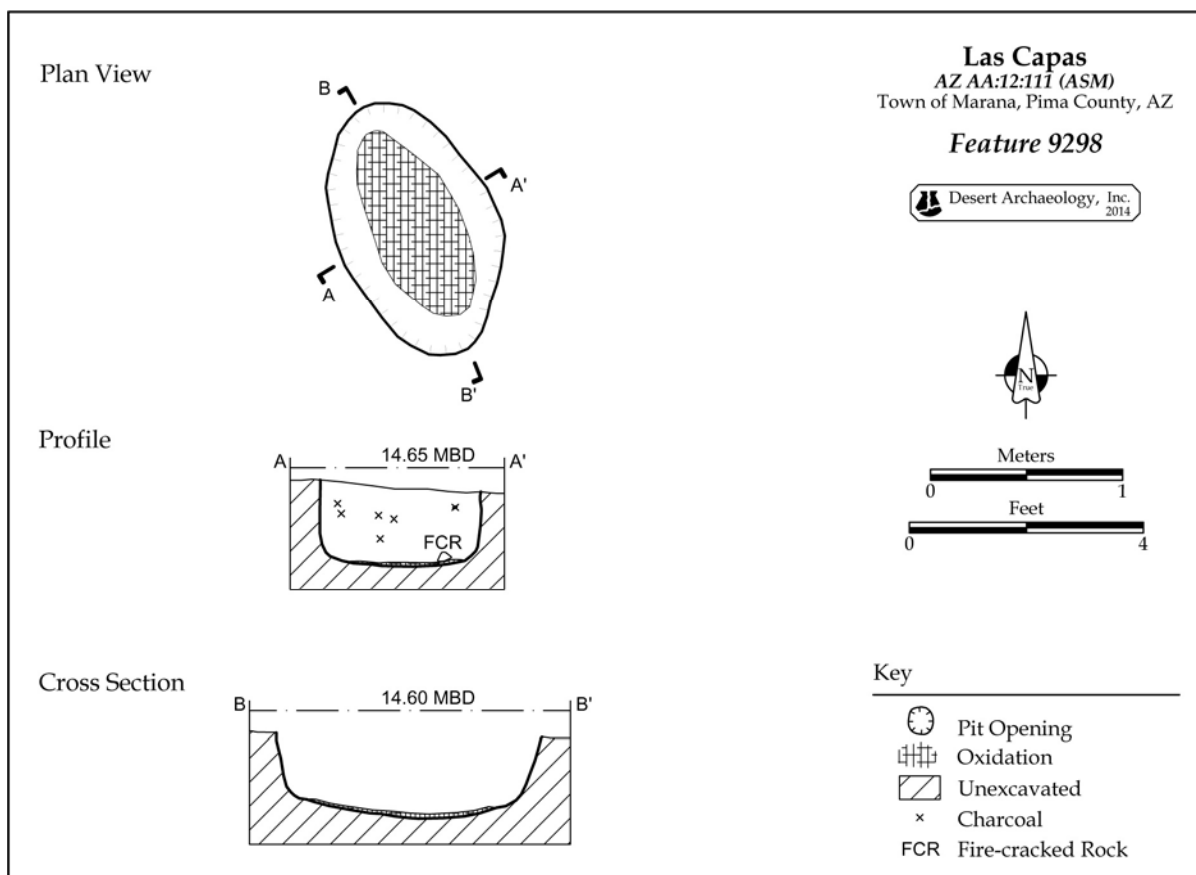


Figure 2.18. Plan view, profile, and cross section of bathtub-shaped roasting pit Feature 9298, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

Internal Stratigraphy and Artifact Content. The internal fill was a uniform, light brown, moderately hard, silty clay that contained a moderate amount of small charcoal flecks throughout. This fill contained a dense concentration of unworked cobbles, fire-cracked rock, fire-cracked ground stone, and ground stone within the center of the feature. Artifact density within the fill was low, and consisted of one piece of flaked stone and six pieces of ground stone.

Functional Inferences. The function of Feature 8904 is unknown, although it may have been used to store or cache stones for use in roasting pits.

Stratum 507

Feature 9411, Elevation: 15.42-15.71 mbd

General Description. This rock-filled pit (Figure 2.21-2.22) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. Feature 9411 was circular in shape, with a basin-shaped bottom. The feature measured 85 cm north-south by 81 cm east-west, and averaged 29 cm in depth, with a total pit volume of 0.1045 m³.

Internal Stratigraphy and Artifact Content. The internal fill of this feature consisted of a uniform, brown, loosely consolidated, silty clay. Neither ash, charcoal, nor oxidation were present within the fill or on the pit base. Artifact density was low. Three pieces of fire-cracked ground stone, as well as 38 pieces of fire-cracked rock, were present within the fill but were not collected. A single piece of flaked stone was recovered from the surface of Feature 9411.

Functional Inferences. This pit may have been used to cache stones for use in roasting pits.



Figure 2.19. Rock-filled pit Feature 8904, post-excavation, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

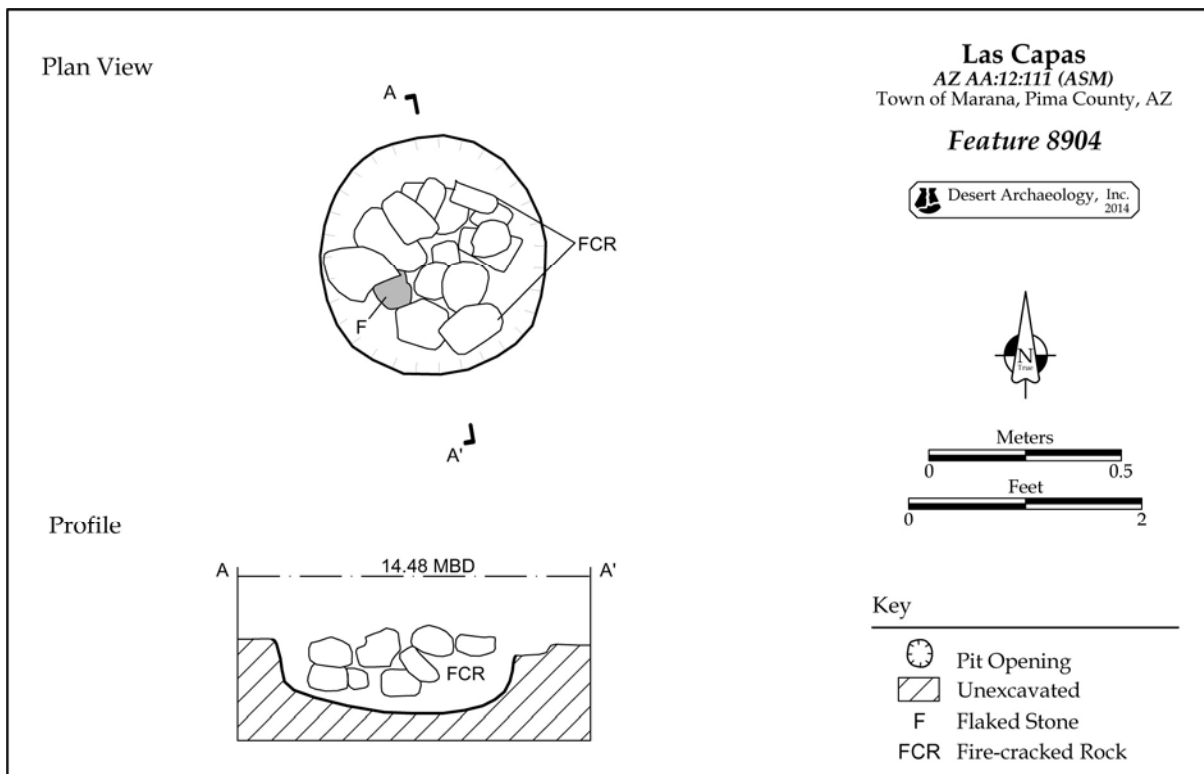


Figure 2.20. Plan view and profile of rock-filled pit Feature 8904, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).



Figure 2.21. Rock-filled pit Feature 9411, Stratum 507, Locus B, Las Capas, AZ AA:12:111 (ASM).

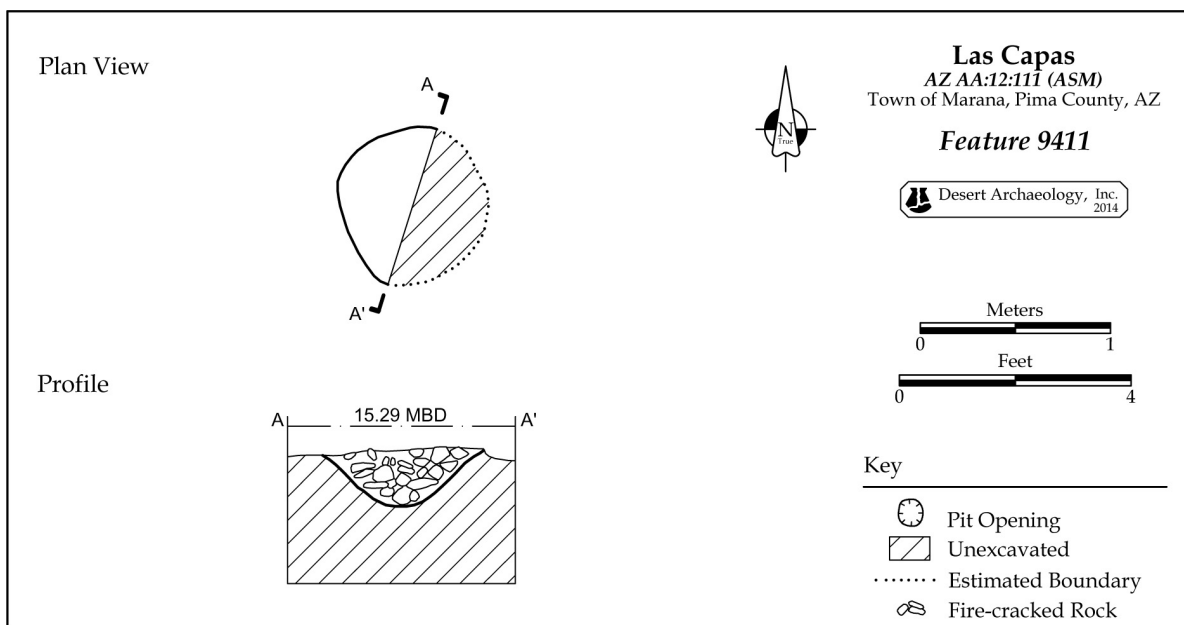


Figure 2.22. Plan view and profile of rock-filled pit Feature 9411, Stratum 507, Locus B, Las Capas, AZ AA:12:111 (ASM).

SMALL PITS

Stratum 506.01

Feature 7664, Elevation: 14.78-15.23 mbd

General Description. This small pit (Figure 2.23) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The pit was oval in plan view, with straight side walls and a slightly rounded bottom with no signs of in situ burning. The feature



Figure 2.23. Small pit Feature 7664, post-excavation, showing metates, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

measured 92 cm east-west by 71 cm north-south, with an average depth of 45 cm and a total volume of 0.2309 m³. Feature 7664 intruded into Feature 8680, a small pit.

Internal Stratigraphy and Artifact Content. The fill of the pit consisted of a uniform, loosely consolidated, brown silty sand that contained small amounts of charcoal flecks throughout. This feature contained a low artifact density, consisting of 15 pieces of flaked stone and 11 pieces of faunal bone. Two complete metates were directly on the floor of the pit. Both metates were upside down, and one was slightly on top of the other.

Functional Inferences. Feature 7664 represents a small extramural pit of unknown specific function. Based on the artifacts present, the feature appears to have been used to discard worn metates and was subsequently filled in by natural alluvial deposits.

Feature 8023, Elevation: 14.70-15.05 mbd

General Description. This small pit (Figures 2.24-2.25) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The pit was circular in plan view with a flat bottom. The feature measured 75 cm in diameter, and averaged 35 cm in depth, with a total volume of 0.1546 m³. This small pit contained no signs of in situ burning.

Internal Stratigraphy and Artifact Content. The internal fill of Feature 8023 was a uniform, grayish-brown, moderately hard, silty sand that contained a moderate to high, amount of charcoal flecks throughout. Artifact density within the fill was high and consisted of 152 pieces of flaked stone, 48 pieces of faunal bone, 1 piece of ground stone, and 1 hammerstone.

Functional Inferences. This feature represents a small extramural pit of undefined function.



Figure 2.24. Small pit Feature 8023, post-excavation, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

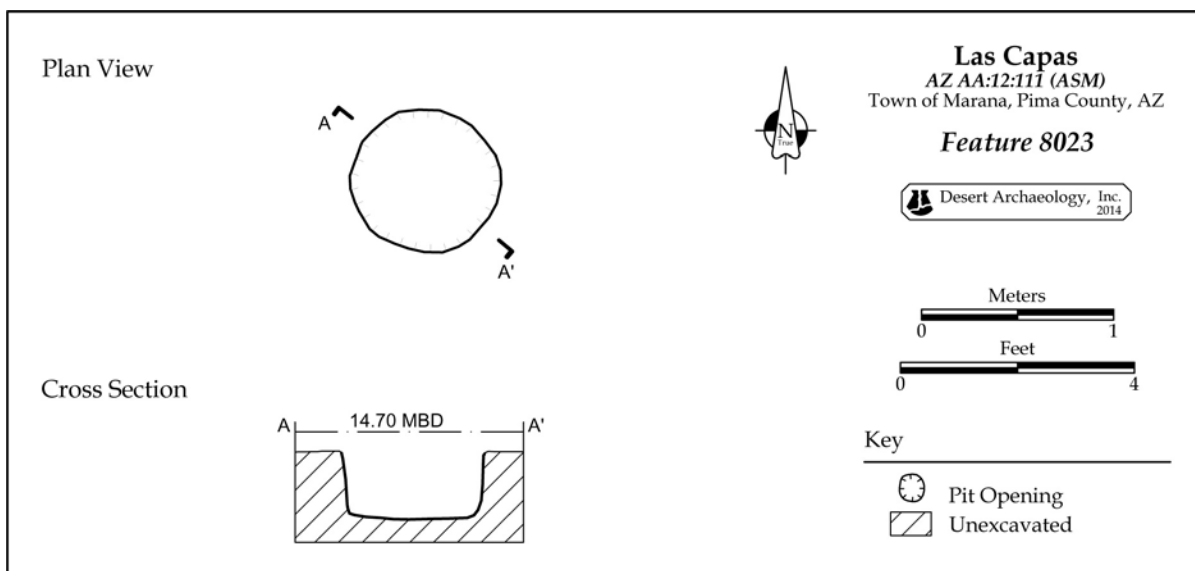


Figure 2.25. Plan view and cross section of small pit Feature 8023, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

Figure 2.27. Plan view and profile of small pit Feature 8238, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

Internal Stratigraphy and Artifact Content. The fill of the feature consisted of a uniform, hard, brown, sandy silty clay that contained very sparse charcoal flecks throughout. Artifact density was moderate, and consisted of 49 pieces of flaked stone, 249 pieces of faunal bone, and a piece of worked faunal bone. At the base of the small pit was a complete metate, which was not lying flat, but rather, was propped up, leaning against the side wall of the pit. Underneath the metate were two small hand manos.

Functional Inferences. Feature 8238 represents a small pit of unknown function.

Feature 9302, Elevation: 14.89-15.08mbd

General Description. This small pit (Figures 2.28-2.29) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The pit was oval-shaped in plan view, with straight walls and a relatively flat bottom, and no evidence of in situ burning. This pit measured 67 cm east-west by 64 cm north-south, with an average depth of 19 cm and a total pit volume of 0.0943 m³.

Internal Stratigraphy and Artifact Content. This small pit was filled with a uniform, brown, loosely consolidated, silty sand, with a sparse amount of charcoal flecks throughout. Artifact density was low throughout the fill, and consisted of six pieces flaked stone and six pieces of faunal bone. A cache of ground stone was resting on the pit floor. The cache included two complete metates, both of which were upside down, and two hand manos.

Functional Inferences. Feature 9302 represents a small extramural pit of unknown function. The cache of ground stone at the base of the pit may signify this feature functioned either for storage or refuse disposal.



Figure 2.28. Small pit Feature 9302, showing ground stone cache, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

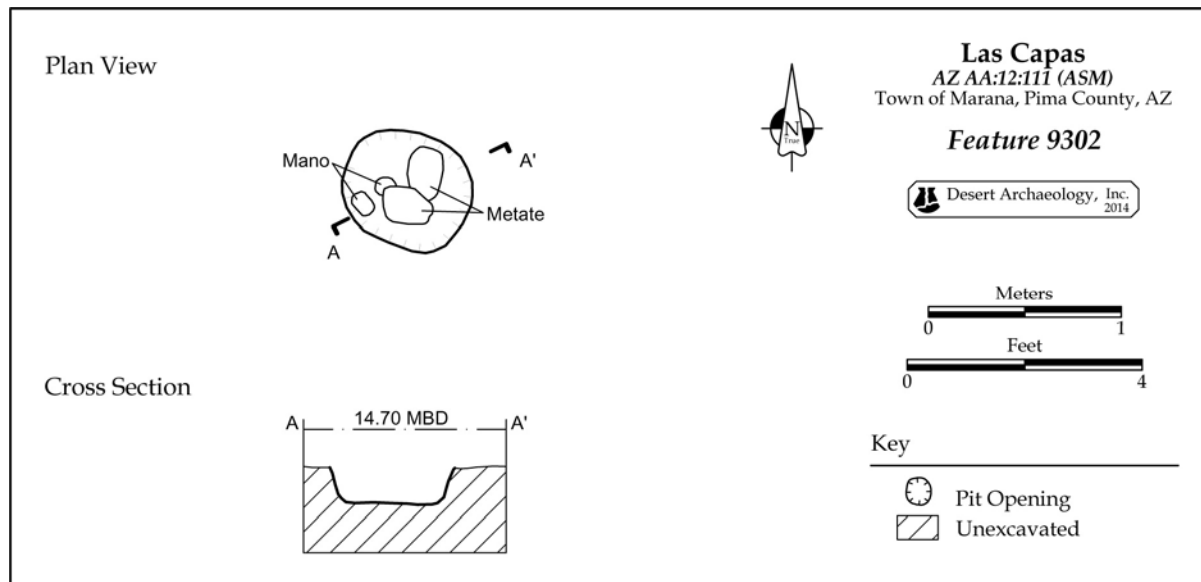


Figure 2.29. Plan view and cross section of small pit Feature 9302, Stratum 506.01, Locus B, Las Capas, AZ AA:12:111 (ASM).

Stratum 507

Feature 9423, Elevation: 15.71-15.88 mbd

General Description. This feature (Figures 3.30-3.31) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The pit was circular in shape, with a basin-shaped bottom. It measured 47 cm east-west by 46 cm north-south, with an average depth of 17 cm.

Internal Stratigraphy and Artifact Content. The fill of the feature consisted of a uniform, slightly grayish-brown, moderately hard, sandy silt that contained sparse amounts of pea-sized gravels and charcoal flecks throughout. Artifact density was low throughout the fill. Artifacts recovered included flaked stone, sparse faunal bone, and a hand mano located on the base of the pit.

Functional Inferences. Feature 9423 represents a small extramural pit of unknown function. The cultural debitage present within the fill may indicate the feature was used for refuse disposal, although it is unknown if this was the primary function of the pit.

LOCUS C

BELL-SHAPED PITS

Stratum 504

Feature 12035, Elevation: 12.50-13.14 mbd

General Description. This feature (Figures 2.32-2.33) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The pit averaged 64 cm in depth, had an opening measurement of 95 cm north-south by an estimated 88 cm east-west, and it immediately expanded to a basal diameter of 1.05 m. Mechanical stripping likely removed the original top of the pit.

Internal Stratigraphy and Artifact Content. The internal fill consisted of a uniform, light brown, silty sand that contained moderate amounts of small charcoal flecks throughout. A small amount of fire-cracked rock ($n = 6$) and fire-cracked ground stone ($n = 1$) were also present within the fill. Artifact density was

low, and included seven pieces of flaked stone and three pieces of faunal bone throughout the fill. A complete tray, lying flat and upside down, was resting on the base of the pit.

Functional Inferences. Based upon the size and shape of Feature 12035, it likely functioned as a storage pit. Because the fill was uniform and contained a low artifact density, the feature likely filled in with natural alluvium that contained sheet trash.



Figure 2.30. Small pit Feature 9423, Stratum 507, Locus B, Las Capas, AZ AA:12:111 (ASM).

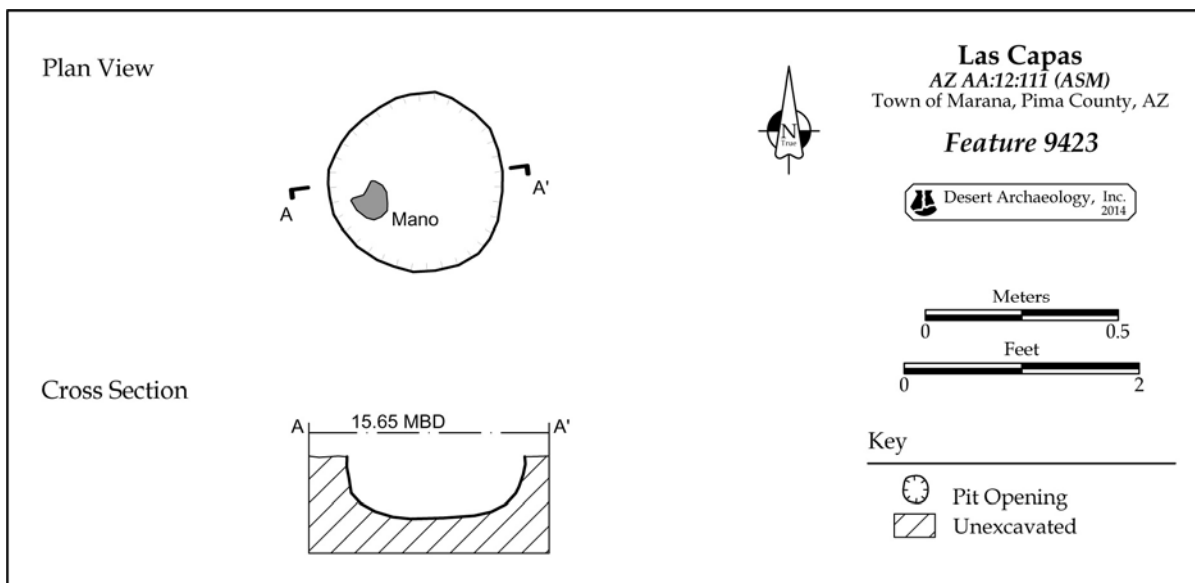


Figure 2.31. Plan view and cross section of small pit Feature 9423, Stratum 507, Locus B, Las Capas, AZ AA:12:111 (ASM).



Figure 2.32. Bell-shaped pit with tray Feature 12035, post-excavation, Stratum 504.02, Locus C, Las Capas, AZ AA:12:111 (ASM).

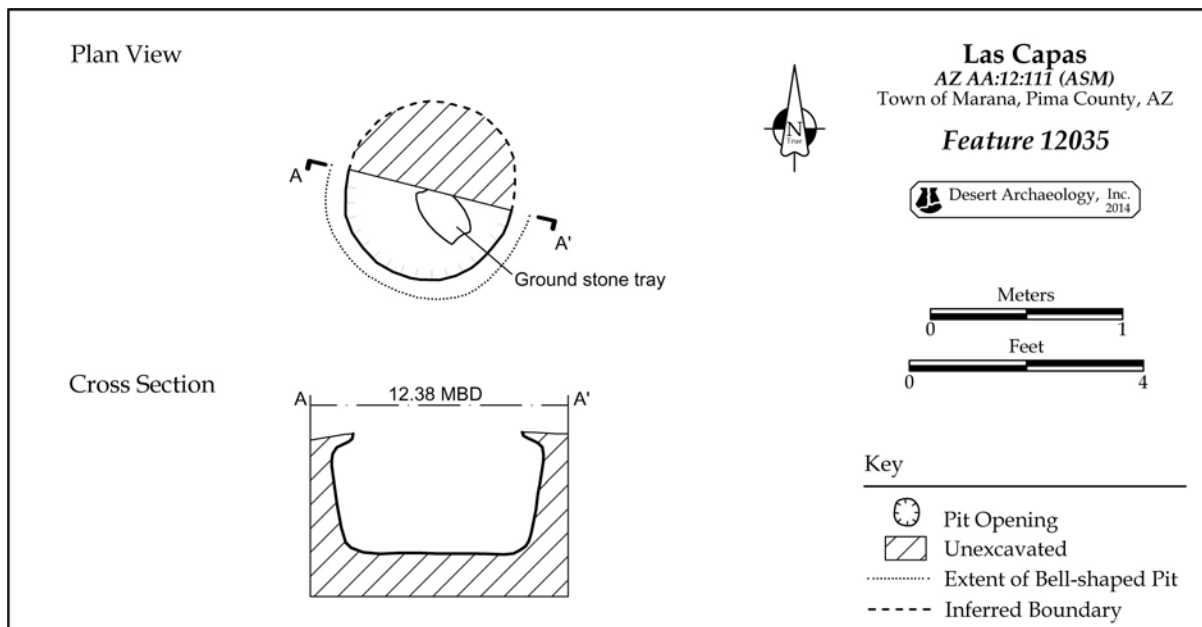


Figure 2.33. Plan view and cross section of bell-shaped pit with tray Feature 12035, Stratum 504.02, Locus C, Las Capas, AZ AA:12:111 (ASM).

LOCUS D

BELL-SHAPED PITS

Stratum 504

Feature 13398, Elevation: 13.84-15.11 mbd

General Description. This bell-shaped pit (Figures 2.34-2.35) was discovered during mechanical stripping. The remaining fill was subsequently removed by hand-excavation. This feature averaged 1.27 m in depth, and contained a total volume of 0.8479 m³. At its opening, the feature measured 80 cm east-west by 74 cm north-south, and constricted to 52 cm in diameter before expanding to a basal measurement of 1.15 m east-west by 1.09 m north-south. No signs of in situ burning were identified.

Internal Stratigraphy and Artifact Content. Four discrete stratigraphic layers were identified within the internal fill of this feature. The uppermost layer averaged 10 cm in depth, and consisted of a uniform, dark brown, moderately hard, blocky textured, silty clay; it was likely a natural deposit. The next layer averaged 30 cm in depth, and consisted of a uniform, brown silt that contained sparse amounts of charcoal flecks throughout, and was also likely a result of natural alluvial deposits. The subsequent layer averaged 60 cm in depth, and consisted of a brown, loosely consolidated, fine-textured silt that contained a moderate amount of charcoal flecking throughout, as well as intermittent inclusions of a dark brown clay and red sand. The bottommost stratigraphic layer averaged 14 cm in depth, and consisted of a light brown, uniform, loosely consolidated, sandy silt with a sparse amount of charcoal flecks throughout. This stratum likely represents the natural alluvium that comprised the pit base.

Artifact density was moderate throughout all strata, and consisted primarily of flaked stone artifacts. Total counts included 61 pieces of flaked stone, 48 pieces of faunal bone, 2 pieces of ground stone, and 2



Figure 2.34. Bell-shaped pit Feature 13398, post-excavation, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

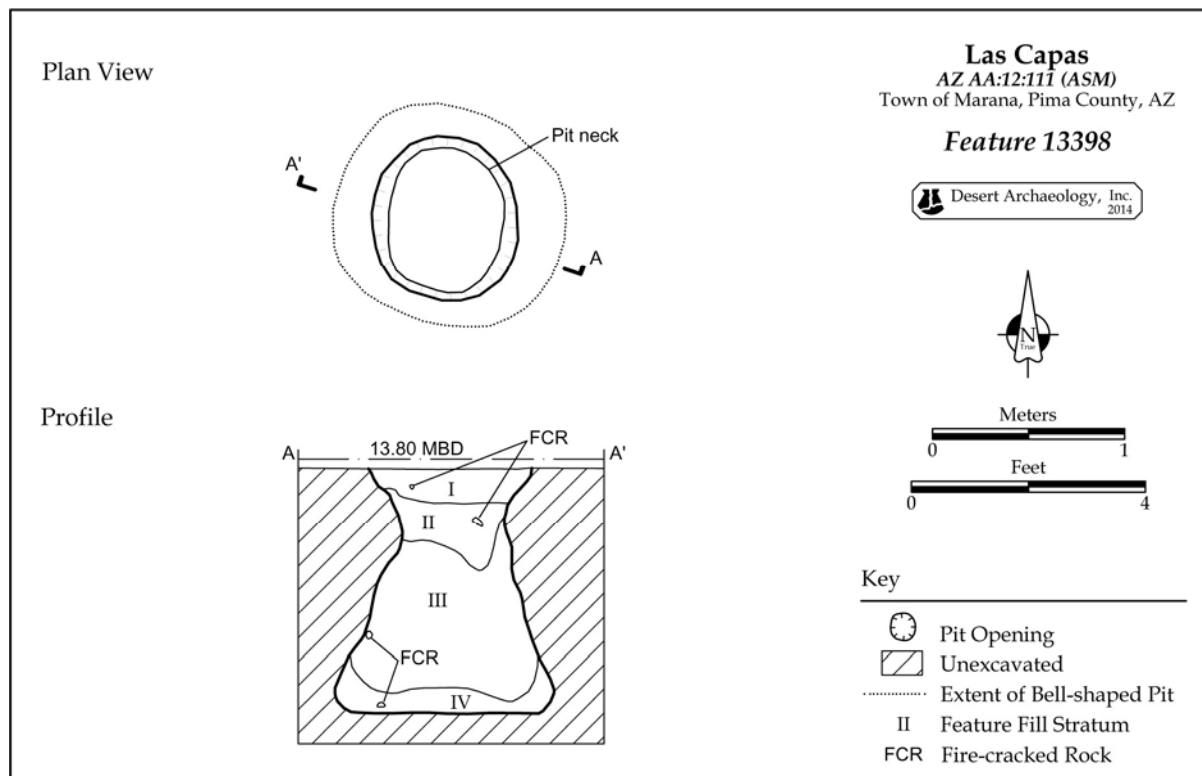


Figure 2.35. Plan view and profile of bell-shaped pit Feature 13398, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

incipient plain ware potsherds. In all, 52 pieces of fire-cracked rock and 2 pieces of fire-cracked ground stone were present in the fill.

Functional Inferences. Based upon its size and shape, Feature 13398 likely functioned primarily for storage. The stratigraphic layers may be representative of natural alluvial deposits, which contained cultural debris that accumulated in the open pit after it was abandoned. The 60-cm-thick stratigraphic layer (the second stratum from the bottom of the pit) may have been culturally deposited, as it was mottled with different soil types, indicating it may have been churned or stirred. It also contained a slightly higher artifact density than other internal strata.

Feature 13446, Elevation: 13.20-14.08 mbd

General Description. This bell-shaped pit (Figures 2.36-2.37) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature averaged 88 cm in depth, and had a total volume of 0.6359 m³. The circular-shaped opening measured 90 cm north-south by 82 east-west. The pit opening constricted to a neck measurement of 83 cm east-west by 77 cm north-south before it expanded to a basal measurement of 1.07 m north-south by 1.03 m east-west. No in situ burning was present.

Internal Stratigraphy and Artifact Content. This feature contained two separate strata within its fill. The uppermost stratum averaged 48 cm in depth, and consisted of a light brown, loosely consolidated, sandy silt that contained very sparse, very small charcoal flecks throughout. This stratum appeared to be a result of washed-in natural alluvial deposits that contained cultural debris. The bottommost layer averaged 38 cm in depth, and consisted of a loosely consolidated, dark brown, sandy silt, with a low density of charcoal flecks. This stratum was representative of a cultural deposit.

Artifact density was high throughout both strata, and included 155 pieces of flaked stone, 54 pieces of faunal bone, 1 burned corncob, and a burned, unidentified nut shell. There were also 24 pieces of fire-cracked rock and seven pieces of fire-cracked ground stone, one of which was a stone tray fragment. A complete pestle was found lying at the base of the pit.

Functional Inferences. Based on its size and shape, Feature 13446 likely had a primary function of storage; the large amount of cultural debris in the fill suggests the feature had a secondary use of refuse disposal. This bell-shaped pit was likely partially filled with cultural debris before it was completely filled in by natural deposits.



Figure 2.36. Bell-shaped pit Feature 13446, post-excitation, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

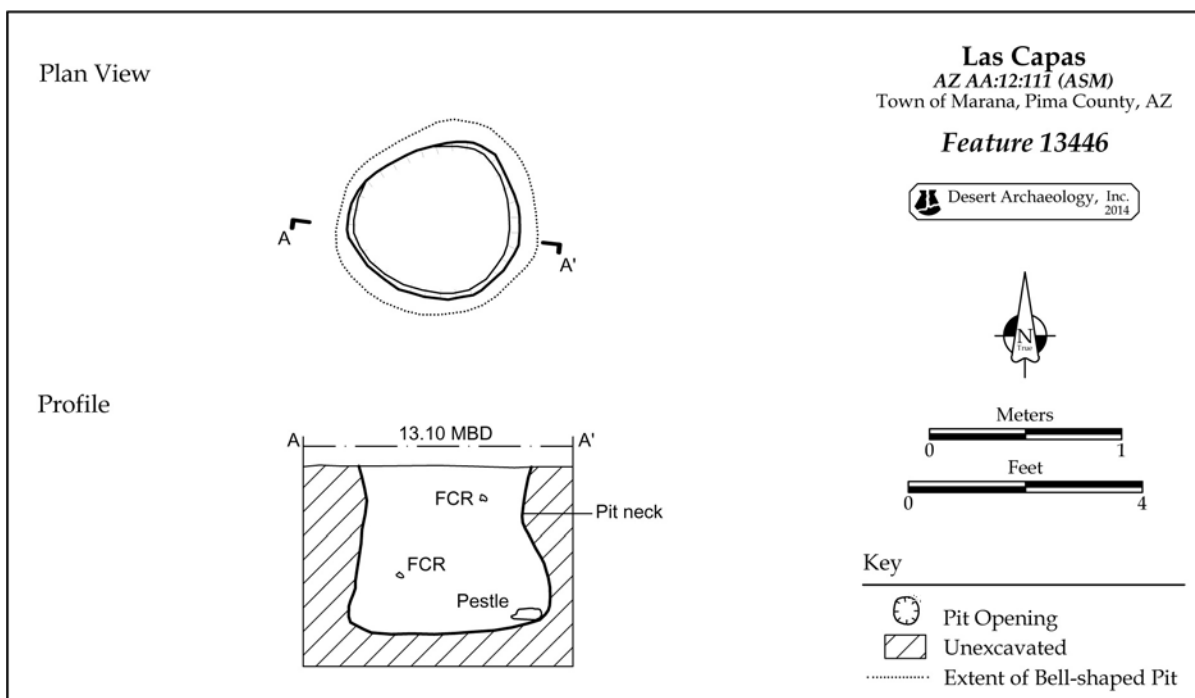


Figure 2.37. Plan view and profile of bell-shaped pit Feature 13446, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

Feature 13748, Elevation: 13.90-14.52 mbd

General Description. This bell-shaped pit (Figure 2.38) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature had an average depth of 62 cm and a total volume of 0.2971 m³. The top of the feature had a rather wide opening, which measured an estimated 84 cm north-south by 74 cm east-west, and it constricted to a neck diameter of 58 cm before it expanded to a basal measurement of an estimated 82 cm north-south by 72 cm east-west.

Internal Stratigraphy and Artifact Content. Five stratigraphic layers were identified within the internal fill of the pit. The upper layer averaged 16 cm in depth, and consisted of a uniform, light brown, moderately hard, silty sand that contained a sparse amount of very small charcoal flecks throughout; it was representative of natural alluvial deposits. The following layer averaged 8 cm in depth, and consisted of a uniform, medium brown, moderately hard, silty clay, which contained a large, loosely consolidated pocket of ash and burned daub in its center. The next stratigraphic layer averaged 12 cm in depth, and it consisted of a uniform dark brown hard silty clay with sparse charcoal flecks throughout.

The subsequent stratum averaged 16 cm in depth, and was a discontinuous layer relegated primarily to the western portion of the feature. It consisted of a uniform, loosely consolidated, silty sand that was grayish-brown in color; it contained a sparse amount of charcoal flecks throughout. The bottom layer averaged 22 cm in depth, and consisted of a uniform, light brown, loosely consolidated, silty sand with a very sparse amount of charcoal flecks throughout.

Artifact density for this feature was moderate throughout all strata, and consisted of 18 pieces of flaked stone and 40 pieces of faunal bone. Eleven pieces of fire-cracked rock were present throughout the fill.

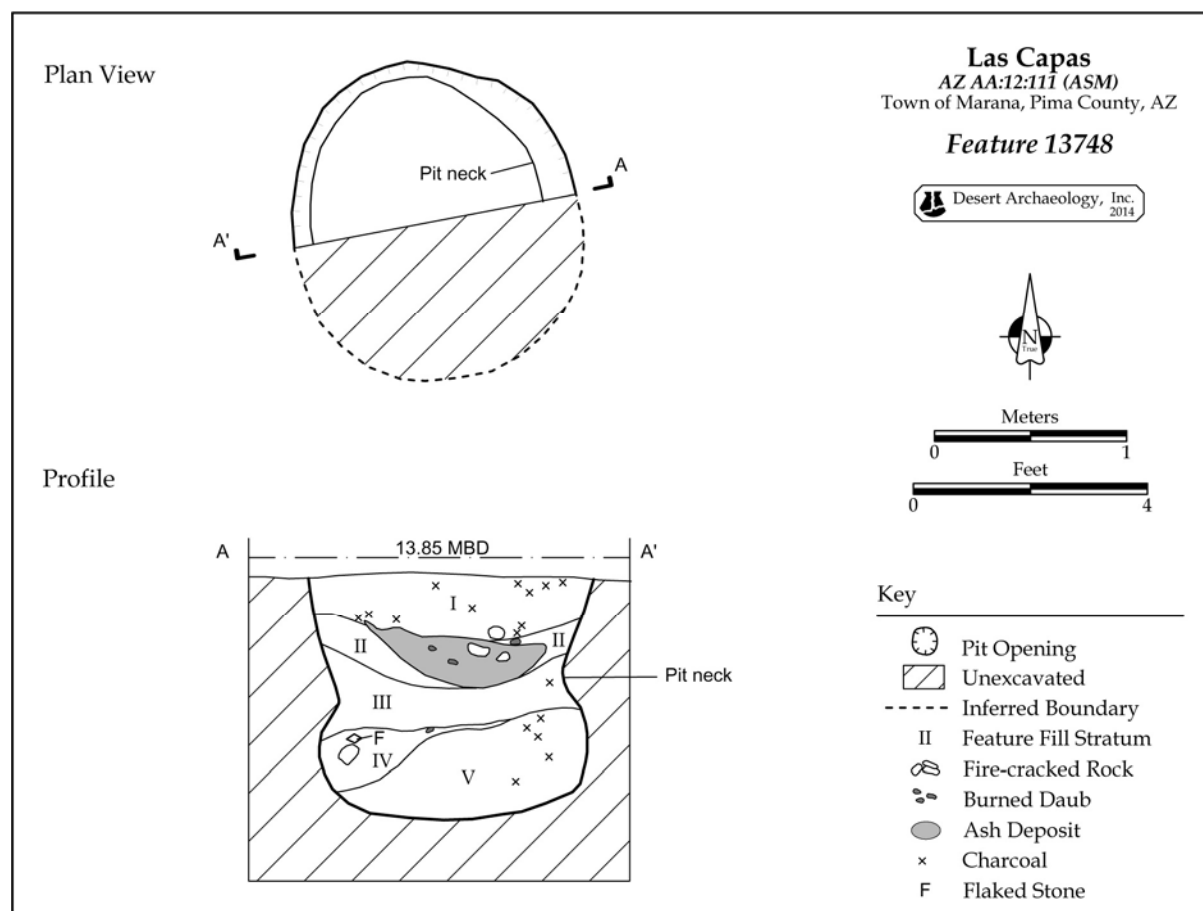


Figure 2.38. Plan view and profile of bell-shaped pit Feature 13748, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

Functional Inferences. Based on its size and shape, Feature 13748 likely had a primary function of storage. The internal stratigraphy may also indicate the pit had a secondary function of refuse disposal, namely clean-out from roasting pits, given the ash and charcoal contents of individual strata.

LARGE PITS

Stratum 504.02

Feature 14208, Elevation: 13.53-13.96 mbd

General Description. This large pit (Figures 2.39-2.40) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature was circular in shape with a basin-shaped bottom. The feature measured 3.00 m east-west by 2.60 m north-south, with an average depth of 43 cm and a total pit volume of 1.7562 m³.

Internal Stratigraphy and Artifact Content. The internal fill consisted of a uniform, brown, fine-textured silt that contained very sparse, small charcoal flecks throughout. No signs of burning were present. Artifact density was very low, and consisted of 57 pieces of flaked stone and 12 pieces of faunal bone. A single ground stone fragment was also present in the fill.

Functional Inferences. The exact function of Feature 14208 is indeterminate. Given its shape and close proximity to house-in-pit Feature 14207, it may have been initially excavated for construction of a similar structure.



Figure 2.39. Large pit Feature 14208, mid-excavation, Stratum 504.02, Locus D, Las Capas, AZ AA:12:111 (ASM).

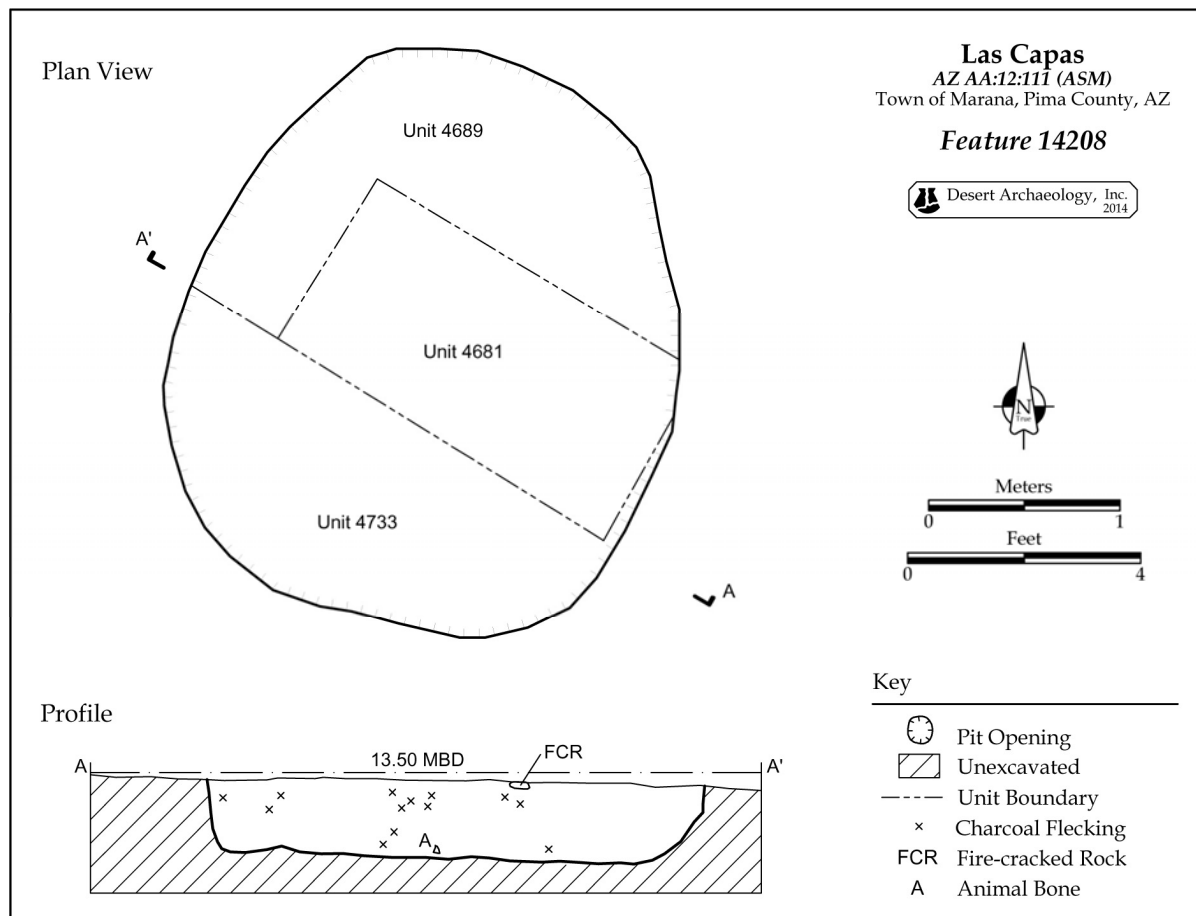


Figure 2.40. Plan view and profile of large pit Feature 14208, Stratum 504.02, Locus D, Las Capas AZ AA:12:111 (ASM).

PIT-WITHIN-PITS

Stratum 504

Feature 13857, Elevation: 13.18-13.83 mbd

General Description. This feature (Figures 2.41-2.42) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-stripping. The initial small pit was circular in plan view with a basin-shaped bottom. The feature measured an estimated 77 cm north-south by 74 cm east-west, with an average depth of 24 cm. At the base of the small pit, a circular stain of an additional feature was observed. This feature was also excavated, by hand, in a single level. This small bell-shaped pit was circular in plan view, and it measured 28 cm in diameter and 43 cm in depth. The pit walls immediately expanded to a basal measurement of 42 cm in diameter, and it had a basin-shaped bottom. The combined volume of the two pits totaled 0.1939 m³.

Internal Stratigraphy and Artifact Content. The fill for both the small pit and the small bell-shaped pit that originated at its base, was a uniform, brown, moderately hard, silty clay with a sparse amount of charcoal flecks throughout. Small patches of oxidation were present at the base of the small pit, as well as within the fill of the bell-shaped pit. Only a single pecking stone was present in the fill of the initial small pit. No artifacts were present in the smaller, bell-shaped pit.

Functional Inferences. Based on the uniformity of the fill within both pits, they appear to have been a single pit and not separate features. The bell-shaped pit may represent a cache pit that was cleaned out. The presence of oxidation at the base of the small pit, as well as within the fill of the bell-shaped pit, may be indicative of either in situ burning or an attempt to solidify the base of the small pit through thermal means.



Figure 2.41. Pit-within-pit Feature 13857, post-excitation, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

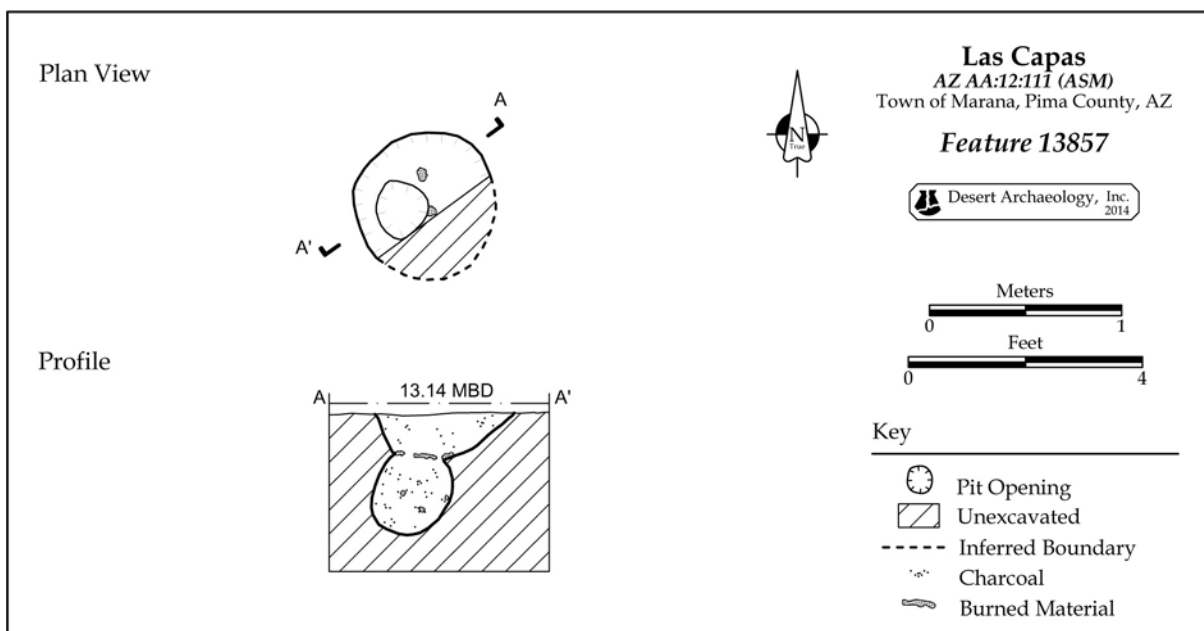


Figure 2.42. Plan view and profile of pit-within-pit Feature 13857, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

Stratum 504.02

Feature 13856, Elevation: 13.32-14.10 mbd

General Description. This pit-within-pit (Figures 2.43-2.44) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The initial bell-shaped pit was circular in plan view, and measured 80 cm east-west by 78 cm north-south. The feature immediately belled out to a basal diameter of 84 cm, and averaged 32 cm in depth.

At the base of this feature, a clear outline of an additional pit was identified and excavated. This additional bell-shaped pit was circular in plan view, with an average depth of 48 cm. It measured 38 cm north-south by 28 cm east-west, with a basal diameter of 46 cm.

Internal Stratigraphy and Artifact Content. The internal fill of both bell-shaped pits was a uniform, light brown, loosely consolidated, silty loam with a sparse amount of small charcoal flecks throughout. Artifact density was very low, and consisted of seven pieces of flaked stone. Given the homogenous fill throughout both pits, they do not likely represent two distinct features, but rather, a single one.

Functional Inferences. Based on its size and shape, Feature 13856 likely had a primary function of storage. The exact function of the subfeature found at the base of the pit is unknown. It may have been a cache, and it was likely open at the same time as the primary pit, before they were both filled in with naturally deposited alluvium.



Figure 2.43. Pit-within-pit Feature 13856, post-excavation, Stratum 504.02, Locus D, Las Capas, AZ AA:12:111 (ASM).

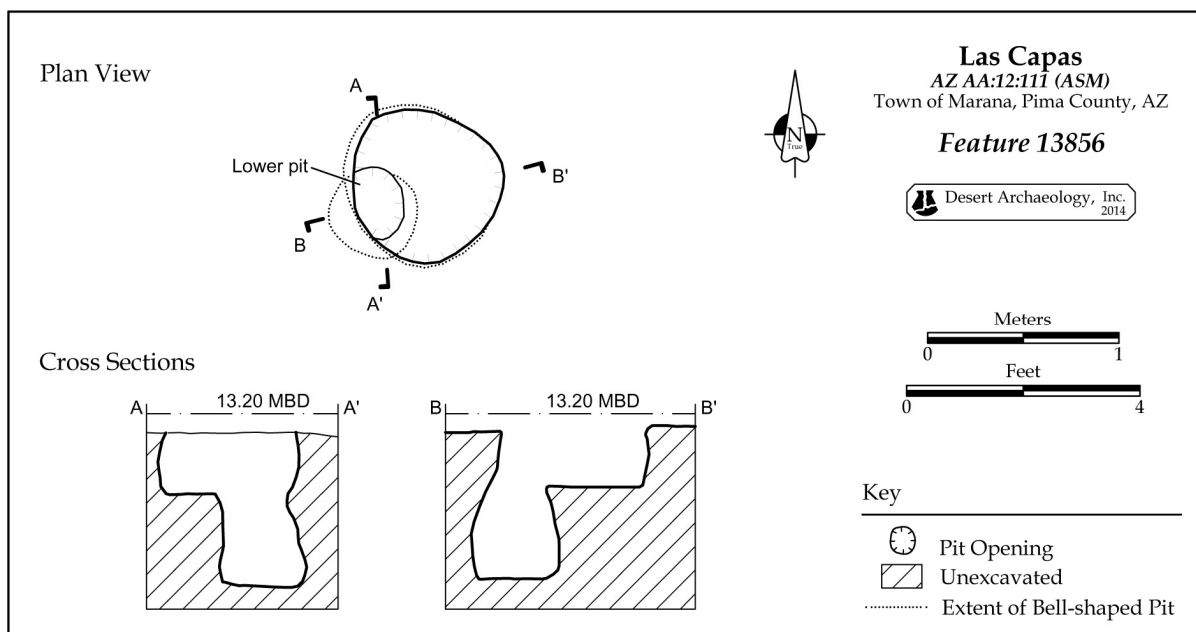


Figure 2.44. Plan view and cross sections of pit-within-pit Feature 13856, Stratum 504.02, Locus D, Las Capas, AZ AA:12:111 (ASM).

ROASTING PITS

Stratum 504

Feature 13222, Elevation: 13.86-14.11 mbd

General Description. This roasting pit (Figures 2.45-2.46) was first identified in Trench 110, which cut the eastern corner of the feature; it was re-identified upon mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This roasting pit was circular in plan view, and measured an estimated 86 cm in diameter. The pit had an oxidized basin-shaped bottom that averaged 25 cm in depth, with a total volume of 0.0946 m³.

Internal Stratigraphy/Artifact Content. The internal fill consisted of a uniform, brown, slightly hard, blocky, silty clay that contained sparse amounts of charcoal flecks and small pieces of burned daub throughout. A dense concentration of 54 pieces of fire-cracked rock and one piece of fire-cracked ground stone was found directly on the oxidized base of the feature. Artifact density within the feature fill was low, and consisted of four pieces of flaked stone and a possible San Pedro style projectile point.

Functional Inferences. Feature 13222 likely functioned as an extramural roasting pit used for indeterminate means.

Feature 13354, Elevation: 13.61-13.83 mbd

General Description. This roasting pit (Figure 2.47) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature was circular in shape, and measured an estimated 74 cm north-south by 63 cm east-west, with a basin-shaped bottom. The roasting pit averaged 22 cm in depth, and had a total volume of 0.0806 m³.

Internal Stratigraphy and Artifact Content. The internal fill of this feature consisted of a uniform, dark brown, moderately hard, blocky, clayey silt. Moderate amounts of charcoal flecks and pockets of ash were intermixed throughout the fill. A layer of five pieces of fire-cracked rock and three pieces of fire-cracked ground stone rested on top of the partially oxidized bottom of the feature. Artifact density was low, and consisted of two pieces of flaked stone and three pieces of faunal bone.

Functional Inferences. The primary function for Feature 13354 was likely extramural thermal activities.



Figure 2.45. Roasting pit Feature 13222, post-excitation, Stratum 504, Locus D, Las Capas, AZ AA:12:111(ASM).

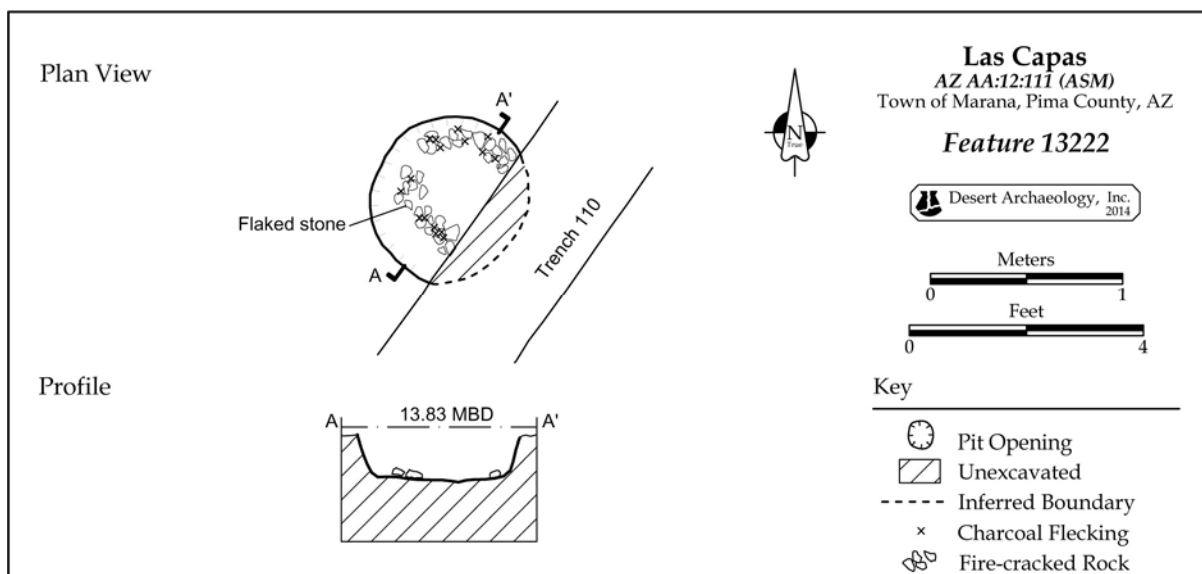


Figure 2.46. Plan view and profile of roasting pit Feature 13222, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

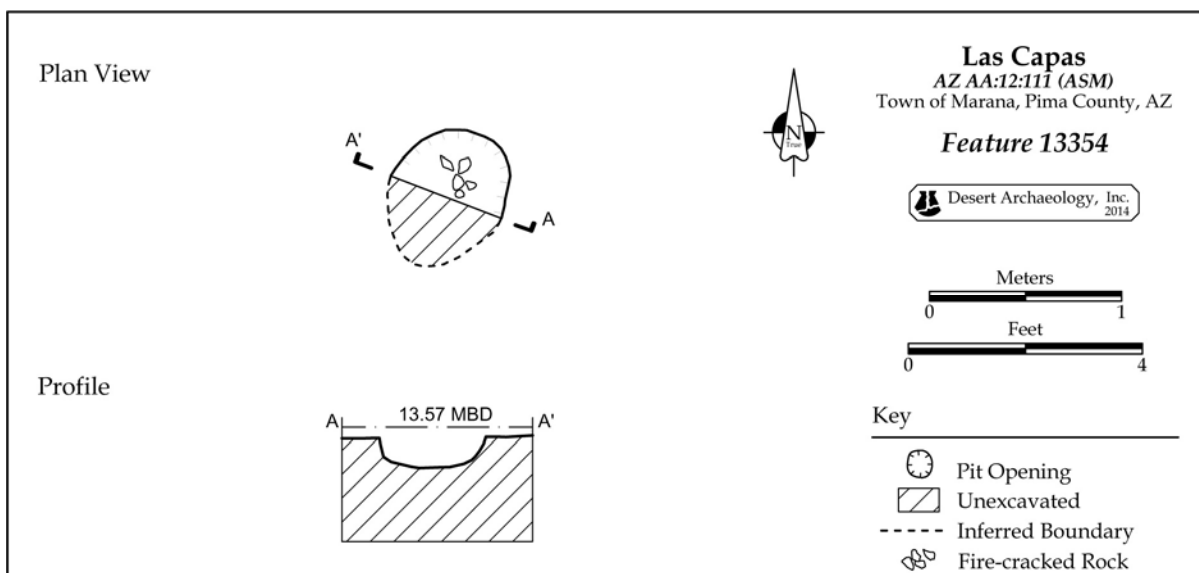


Figure 2.47. Plan view and profile of roasting pit Feature 13354, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

Stratum 505

Feature 14354, Elevation: 14.08-14.24 mbd

General Description. This roasting pit (Figures 2.48-2.49) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This roasting pit was circular in shape, with a basin-shaped bottom. The feature measured 1.05 m north-south by 92 cm east-west. It averaged 16 cm in depth, with a total volume of 0.0809 m³.



Figure 2.48. Roasting pit Feature 14354, post-excavation, Stratum 505, Locus D, Las Capas, AZ AA:12:111(ASM).

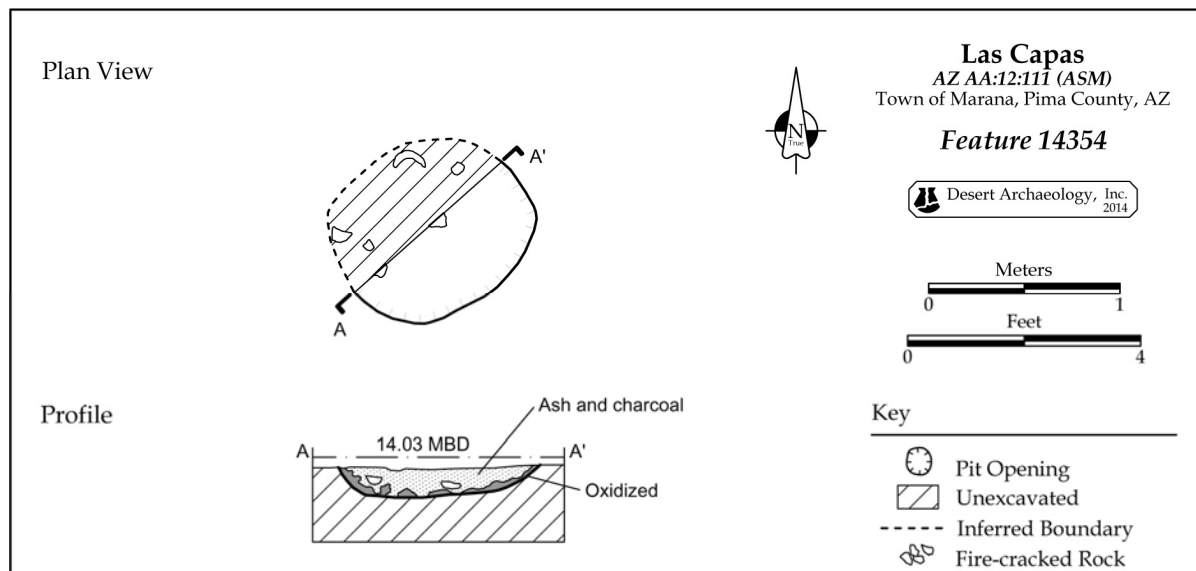


Figure 2.49. Plan view and profile of roasting pit Feature 14354, Stratum 505, Locus D, Las Capas, AZ AA:12:111 (ASM).

Internal Stratigraphy and Artifact Content. The internal fill consisted of a uniform, light brown, loosely consolidated, silty clay that contained a very high amount of ash, charcoal, and 24 pieces of fire-cracked rock. Artifact density within the feature was low, and consisted of six pieces of flaked stone and one piece of faunal bone throughout.

Functional Inferences. Feature 14354 likely functioned as an extramural roasting pit. Based on the faunal remains in the fill, it may have been used to cook various small mammals.

ROCK-FILLED PITS

Stratum 504.02

Feature 14226, Elevation: 13.42-13.63 mbd

General Description. This rock-filled pit (Figure 2.50) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature was circular in shape, with a basin-shaped profile. The feature measured 41 cm east-west by 40 cm north-south. It had an average depth of 21 cm, with a total pit volume of 0.0180 m³.

Internal Stratigraphy and Artifact Content. The fill within Feature 14226 was uniform, dark brown, loosely consolidated, silty clay. This feature contained no artifacts but did contain a high density of fire-cracked rock ($n = 41$) throughout the pit.

Functional Inferences. No signs of in situ burning were identified, and it is possible Feature 14226 was used to cache stones for use in roasting pits.

SMALL PITS

Stratum 504

Feature 13899, Elevation: 13.81-14.24 mbd

General Description. This small pit (Figure 2.51) was identified during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The small pit was circular in shape, with a basin-shaped bottom. The feature measured 98 cm north-south by 96 cm east-west, with an average depth of 43 cm and a total pit volume of 0.2118 m³.

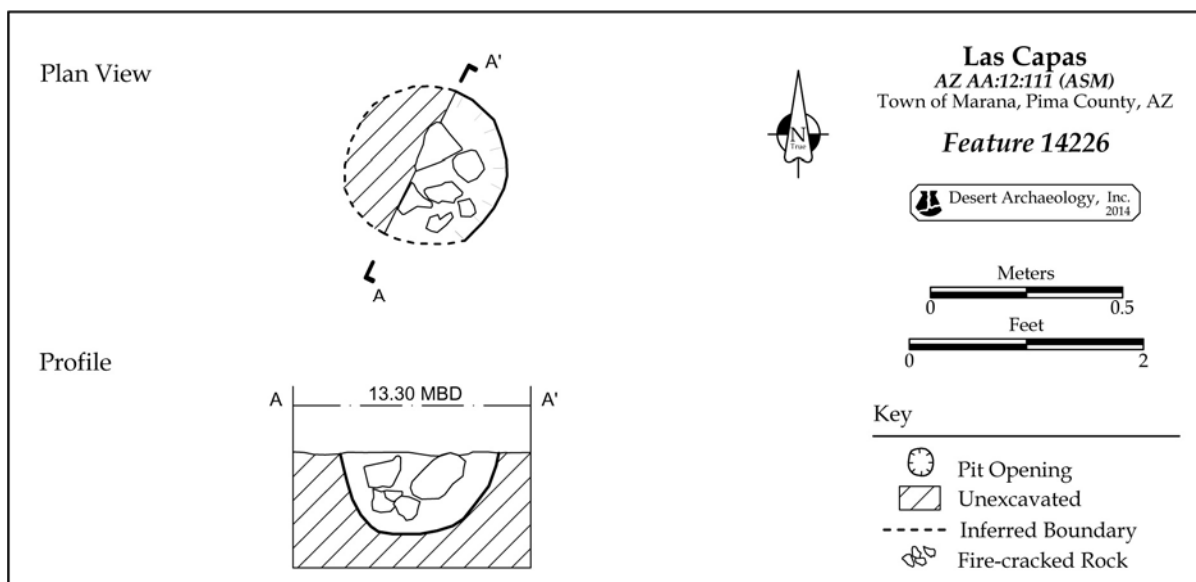


Figure 2.50. Plan view and profile of rock-filled pit Feature 14226, Stratum 504.02, Locus D, Las Capas, AZ AA:12:111 (ASM).

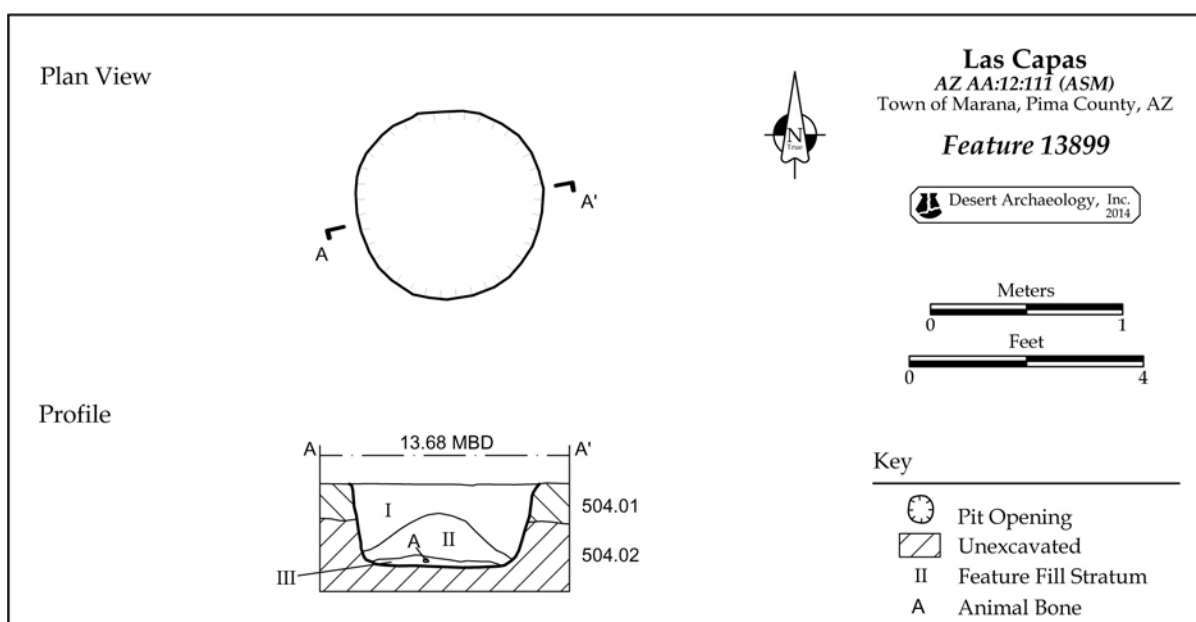


Figure 2.51. Plan view and profile of small pit Feature 13899, Stratum 504, Locus D, Las Capas, AZ AA:12:111 (ASM).

Internal Stratigraphy and Artifact Content. The internal fill contained three distinct strata. The uppermost stratum averaged 25.5 cm in depth and consisted of a brown, moderately hard, blocky textured, silty clay with a sparse amount of charcoal flecks throughout. The following stratum was parabola shaped, and averaged 25.0 cm in depth; it consisted of a loosely consolidated, gray, silty clay with a moderate amount of ash and charcoal flecks throughout. The bottommost stratum averaged 6.0 cm in depth and consisted of a uniform, loosely consolidated, reddish-brown, silty sand that contained a sparse amount of small charcoal flecks throughout.

Artifact density was high within the second stratigraphic layer, which yielded several flaked stone tools, including an Empire style projectile point. The upper and bottommost stratigraphic levels contained a low artifact density, which consisted of a few pieces of flaked stone. Artifacts recovered from the entire feature included 139 pieces of flaked stone, 74 pieces of faunal bone, and a single piece of ground stone.

Functional Inferences. Feature 13899 represents a small extramural pit of unknown function. The internal stratigraphy of the feature indicates it was left open and was partially filled with natural alluvial deposits. The middle stratum represents a refuse dump episode, followed by natural alluvium that completely filled in the small pit.

LOCUS E

BELL-SHAPED PITS

Stratum 504

Feature 3427, Elevation: 14.40-15.08 mbd

General Description. This bell-shaped pit (Figures 2.52-2.53) was identified during mechanical stripping. The remaining cultural overburden was excavated by hand in two stratigraphic levels. The pit averaged 68 cm in depth. It measured 1.01 m north-south by 83 cm east-west at its opening, with a very slight constriction, and expanded to a basal length of 1.01 m east-west by 1.00 m north-south.

Internal Stratigraphy and Artifact Content. This feature contained two separate stratigraphic layers of internal fill. The lower layer, at the base of the feature, averaged 32 cm in thickness, and consisted of a uniform, loosely consolidated, silty sand that contained small pockets of ash and charcoal toward its uppermost portions. The top of this layer formed a parabola shape in profile, which may indicate this layer was a result of a trash dump episode.



Figure 2.52. Bell-shaped pit Feature 3427, post-excavation, Stratum 504, Locus E, Las Capas, AZ AA:12:111 (ASM).

The upper layer of fill averaged 37 cm in thickness, and consisted of a uniform, brown, moderately hard, blocky textured, silty clay with a sparse amount of very small charcoal flecks throughout. This layer is likely representative of natural alluvium that filled in the feature. Artifact density was low in the upper layer and moderate in the bottom layer. The entire feature contained 24 pieces of flaked stone, 8 pieces of faunal bone, 1 raw piece of ochre, 1 shell fragment, and 10 pieces of fire-cracked rock.

Functional Inferences. Based on its size and shape, this pit was likely used for storage. The internal stratigraphy and the presence of trash within, may indicate the feature was also used for trash disposal.

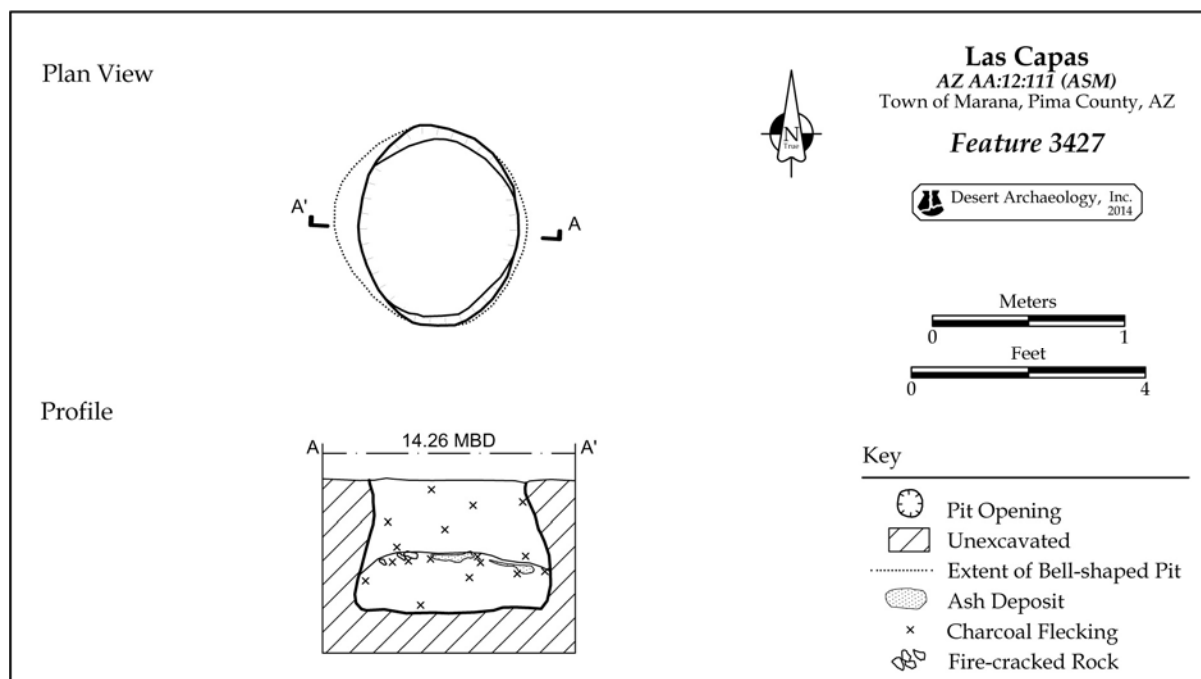


Figure 2.53. Plan view and profile of bell-shaped pit Feature 3427, Stratum 504, Locus E, Las Capas, AZ AA:12:111 (ASM).

ROASTING PITTS

Stratum 504

Feature 3419, Elevation: 14.53-14.62 mbd

General Description. This roasting pit (Figures 2.54-2.55) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. The pit was slightly irregular in shape, with a basin-shaped bottom. The feature averaged 9 cm in depth, and measured 82 cm north-south by 76 cm east-west, with a total volume of 0.0294 m³.

Internal Stratigraphy and Artifact Content. The internal fill of this feature consisted of a very loosely consolidated mixture of ash and silty sand that contained a high amount of charcoal flecks. The charcoal flecks rested atop a layer of fire-cracked rock, which rested on the highly oxidized base of the roasting pit. Artifact density was low, and consisted of a single flaked stone and three pieces of fire-cracked ground stone, all recovered from the layer of fire-cracked rock.

Functional Inferences. Feature 3419 functioned as an extramural thermal pit, although the exact means of use are indeterminate.



Figure 2.54. Roasting pit Feature 3419, post-excavation, Stratum 504, Locus E, Las Capas, AZ AA:12:111 (ASM).

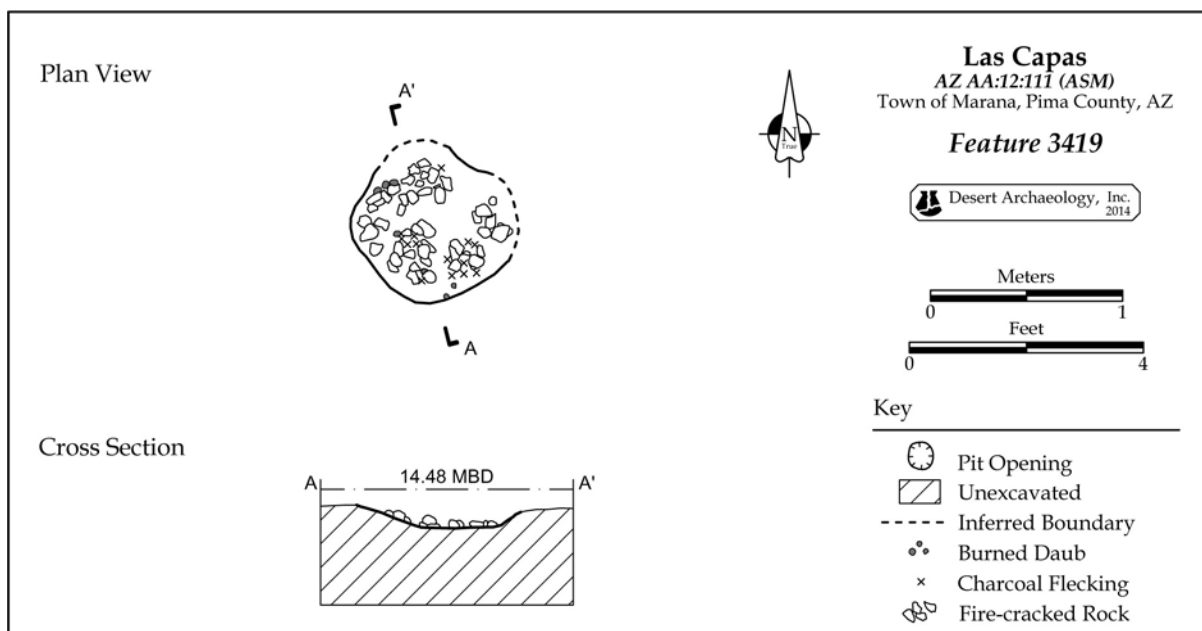


Figure 2.55. Plan view and cross section of roasting pit Feature 3419, Stratum 504, Locus E, Las Capas, AZ AA:12:111 (ASM).

LOCUS F

BELL-SHAPED PITS

Stratum 505

Feature 23765, Elevation: 13.32-14.04 mbd

General Description. This bell-shaped pit (Figure 2.56) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature averaged 72 cm in depth, and had a total volume of 0.6913 m³. The circular-shaped opening measured 96 cm east-west by an estimated 84 cm north-south. The opening constricted to a neck diameter of 78 cm before it expanded to a basal diameter of 1.28 m.

Internal Stratigraphy and Artifact Content. This feature was identified as having eight distinct stratigraphic layers. The upper 14 cm of fill consisted of a slightly grayish-brown, mildly hard, silty sand that contained a small amount of charcoal flecks throughout. The bottom of this layer was highly oxidized, suggesting this layer was culturally deposited. The next layer averaged 32 cm in depth, and was a tan, mildly hard, sandy silt with a small amount of a reddish, loose sand and a low amount of small charcoal flecks throughout. This stratigraphic layer was naturally deposited.

The remaining six stratigraphic layers ranged from 4-7 cm in depth, and all were a loosely consolidated, black to light-gray ash and charcoal rich silty sand. All of these layers represent cultural dumping episodes. The bottom of the bell-shaped pit and portions of the side walls were highly oxidized. In all, 67 pieces of fire-cracked rock and a single piece of fire-cracked ground stone were distributed throughout the strata. Artifact density for the entire feature was high, and consisted of 193 pieces of flaked stone, 229 pieces of faunal bone, and a single burned corn cob fragment.

Functional Inferences. This bell-shaped pit may have functioned primarily for storage, based on its size. The internal stratigraphy of Feature 23765 suggests it was used for refuse disposal before it was filled in by natural alluvial deposits and was capped by what may represent a roasting pit or a final cultural fill

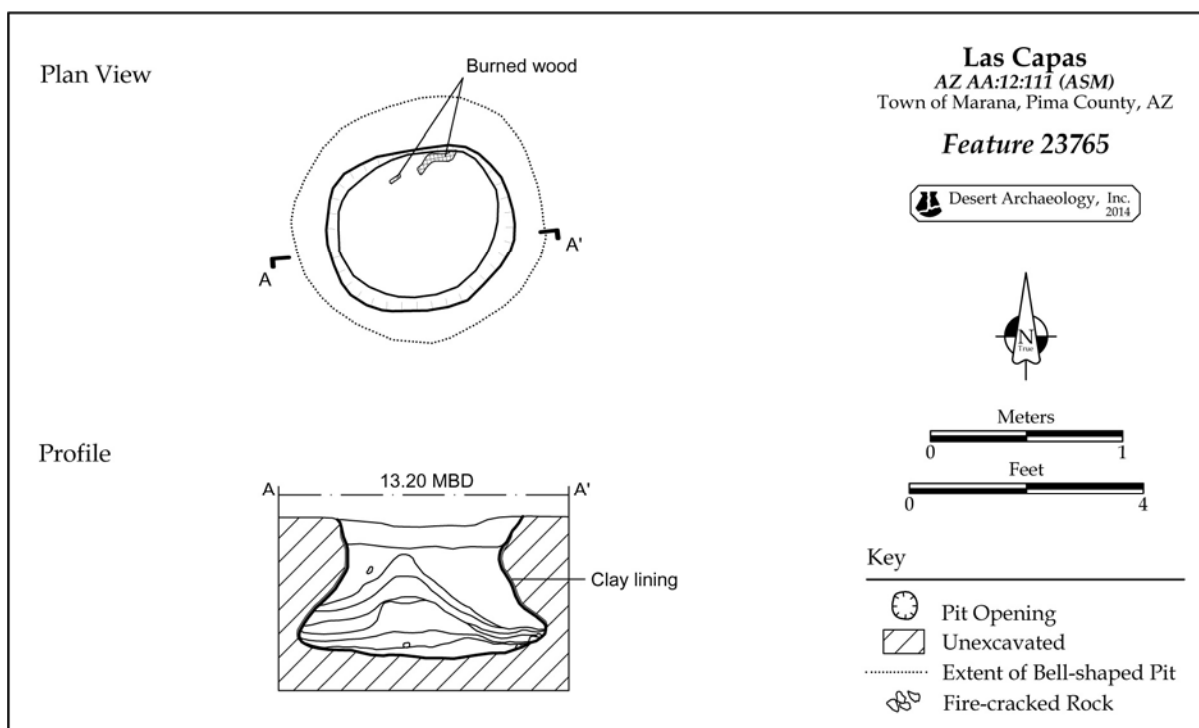


Figure 2.56. Plan view and profile of bell-shaped pit Feature 23765, Stratum 505, Locus F, Las Capas, AZ AA:12:111 (ASM).

episode. The densities of fire-cracked rock, as well as the high amounts of ash and charcoal in the bottom six stratigraphic layers, may be representative of hearth clean-out, which may account for the oxidation present within the pit.

ROASTING PIT

Stratum 504.02

Feature 23553, Elevation: 12.85-12.96 mbd

General Description. This roasting pit (Figure 2.57) was discovered during mechanical stripping. The remaining cultural overburden was subsequently removed by hand-excavation. This feature was circular shaped, and measured an estimated 99 cm east-west by 93 cm north south. The average depth for the feature was 11 cm, and it contained a total volume of 0.0530 m³.

Internal Stratigraphy and Artifact Content. The internal fill of this feature consisted of a uniform, dark brown, clayey silt intermixed with a loosely consolidated mixture of charcoal flecks and ash. The feature contained 10 pieces of fire-cracked rock and three pieces of fire-cracked ground stone throughout the fill; it had an oxidized bottom. One piece of flaked stone was recovered from the fill.

Functional Inferences. Feature 23553 likely functioned as an extramural roasting pit.

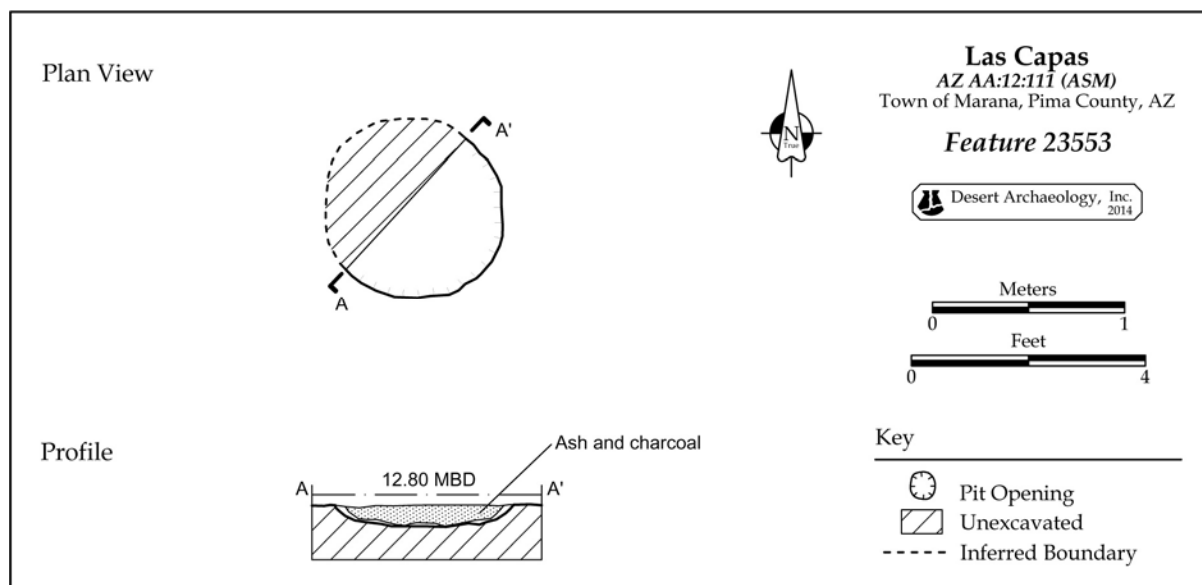


Figure 2.57. Plan view and profile of roasting pit Feature 23553, Stratum 504.02, Locus F, Las Capas, AZ AA:12:111 (ASM).

RESULTS OF DATA RECOVERY AT THE POND AREA OF LOCUS E

*Gregory J. Whitney
Desert Archaeology, Inc.*

The results of Phase 2 data recovery fieldwork conducted during July 2013, in the northwestern portion of Locus E at the Las Capas site, AZ AA:12:111 (ASM), are presented here. Data recovery was undertaken prior to construction of a 1,125-m² (0.28 acre) stormwater retention basin, referred to here as the Pond Area (Figure 3.1). The Phase 2 fieldwork was the final component of cultural resources investigations by Desert Archaeology, Inc., for the Ina Road RWRP Expansion and Upgrades project. Because this fieldwork was conducted four years after the main project, most information from this phase is not integrated into the main body of work for the project (Chapter 1, this report; see also Vint 2015; Vint, ed. 2015). Rather, it is summarized here. The single human burial recovered during this work is addressed in Watson and Byrd (2015).

The current project area, like other investigated portions of Locus E, including the 2008-2009 data recovery area and the 2012 Warehouse Locus, revealed significant cultural deposits, in both feature and nonfeature contexts, in Strata 502 and 504 (see Chapter 1; also Nials 2015a). Few archaeological features were identified in Stratum 502, in keeping with the less intensive occupation documented elsewhere across the site. Most archaeological features were identified in Stratum 504, where numerous pits and thermal features, a human burial, canals, and agricultural fields were identified. No evidence of cultural deposits was identified in sediments underlying Stratum 504 in the Pond Area.

METHODS

Fieldwork for the Pond Area was conducted between 8 and 30 July 2013, and required 64 person-days of in-field labor. Excavation began in the southeastern portion of the project area, where a 3-m-wide swath was dug up to 1.5 m deep by the backhoe along the southern margin of the project boundary. The edge of the swath was situated within 10 m of the 2008-2009 Locus E data recovery area, and was used by the backhoe operator and stripping monitor to reference the local archaeological stratigraphy throughout the rest of the Pond Area.

Features in the Pond Area were assigned to a 26000 number series to distinguish them from features found during other data recovery phases and loci around the Las Capas site; similarly, a unique block of Field Numbers (FNs), beginning with FN 16500, was assigned for collected artifacts and samples from the Pond Area.

Overburden consisting of sediment disturbed by modern agriculture and construction was removed to expose intact deposits. Six features, all pits, were identified in Stratum 502 (Figure 3.2; Table 3.1). All Stratum 502 features were hand-excavated, and their fill was screened through ¼-inch mesh; flotation samples and pollen samples were collected, as appropriate, based on feature fill contents. Pits were each bisected, with one half excavated, except one that was completely excavated.

Two discrete occupational layers were identified in Stratum 504. All the pits ($n = 99$) (see Table 3.1), the infant burial, an area of occupational debris, and a few small shallow canals ($n = 3$) were identified in the upper portion of Stratum 504 (see Figure 3.2). In the lower occupational layer, cultural deposits consisted entirely of small, shallow canals ($n = 10$) and numerous associated, interconnected agricultural fields (Figure 3.3).

Excavation of the Stratum 504 pits proceeded within the exposed pit outlines, where all but nine of the pits were hand-excavated, screened, and sampled, either partially or completely. Of these pits, 52 were bisected and 38 were fully excavated. The non-sampled pits included three that were dug completely but not screened, five that were “pit-trenched,” and one that was left unexcavated because the bulk of the feature lay beyond the western edge of the project area. The pit-trenched features were sectioned with a hand-excavated trench exposing the widest portion of their profiles, and their attributes were recorded on standardized Desert Archaeology field forms. All the larger sized identified pits in the Pond Area were fully explored to ensure any burials would be located. A single mortuary feature, Feature 26121, was discovered. The area of occupational debris, Feature 26122, was not formally excavated or sampled, but was described on a standardized field form.

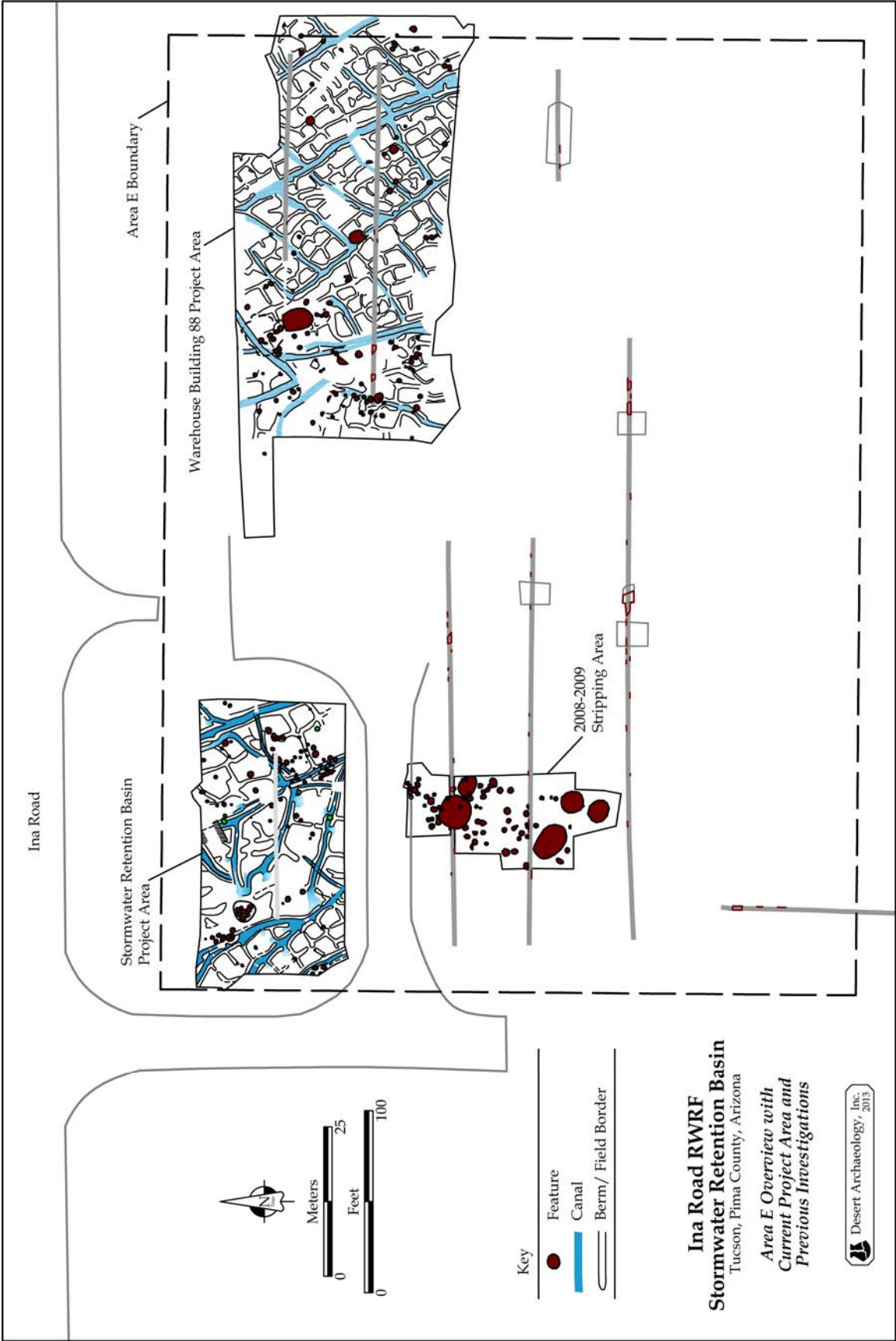


Figure 3.1. Locus E of the Las Capas site, AZ AA:12:111 (ASM), showing the Pond Area and earlier phases of archaeological data recovery conducted in the locus.

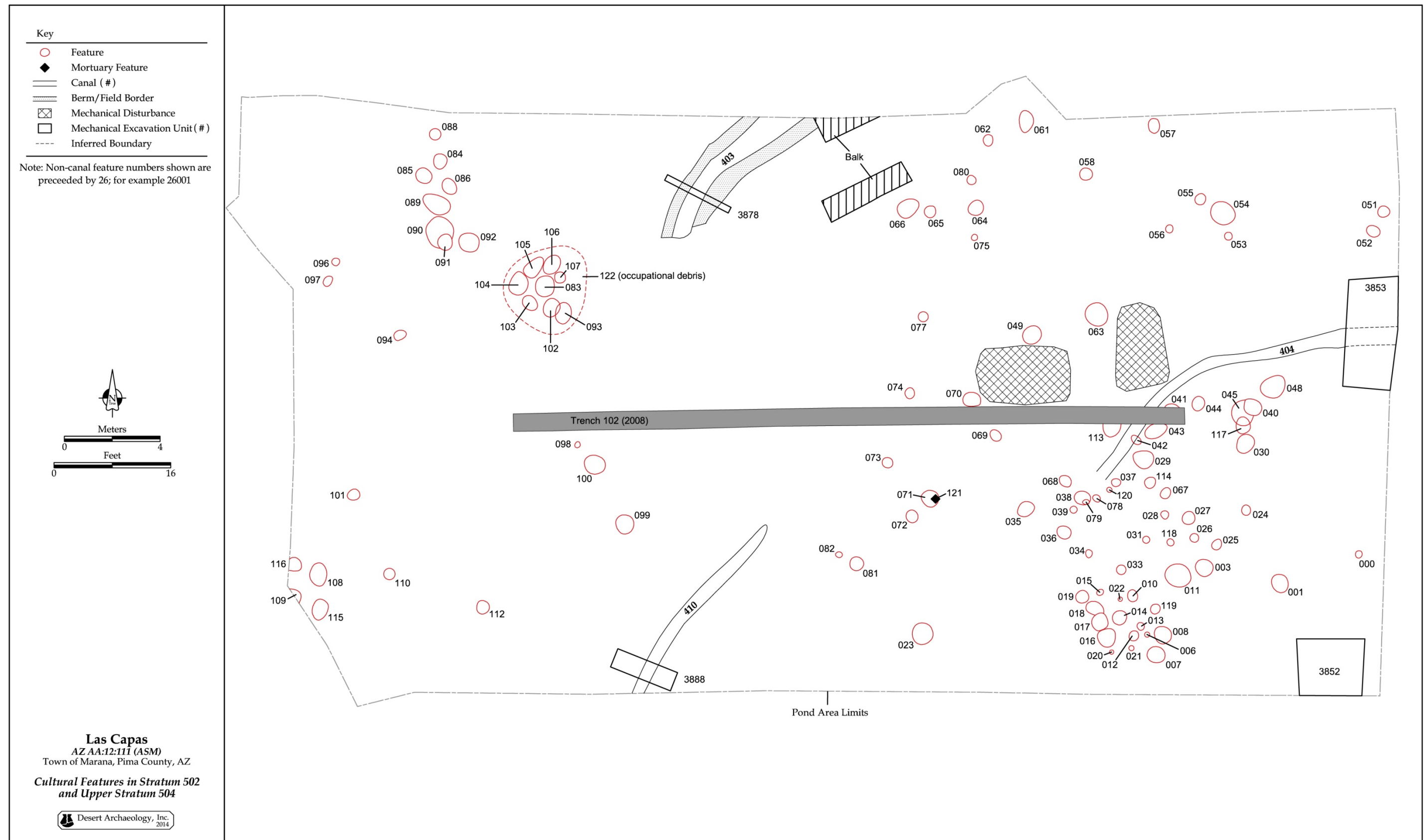


Figure 3.2. Overview of cultural features discovered within the Pond Area in Stratum 502 and the upper portion of Stratum 504, Las Capas, AZ AA:12:111 (ASM).

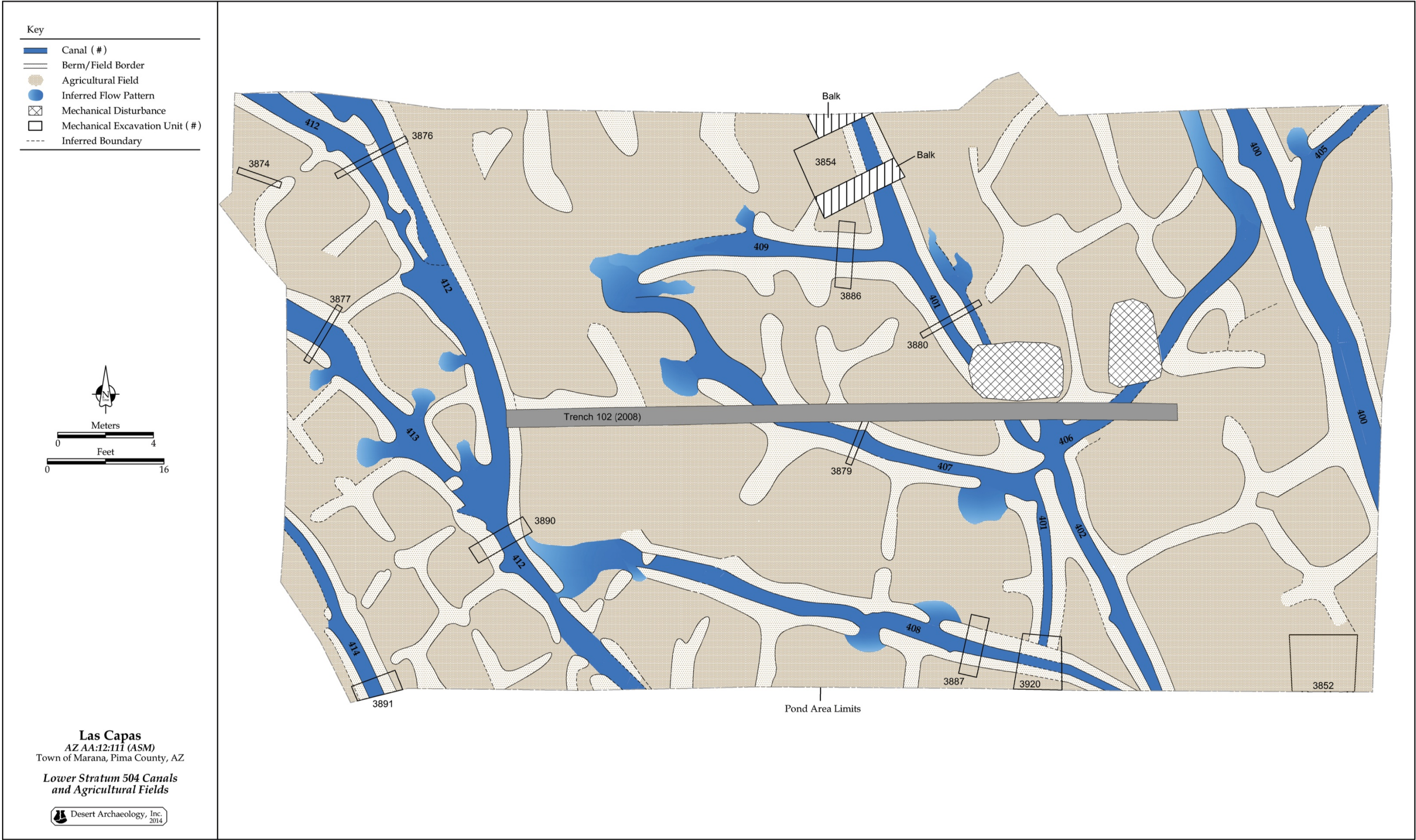


Figure 3.3. Canals and associated agricultural fields discovered within the Pond Area in the lower portion of Stratum 504, Las Capas, AZ AA:12:111 (ASM).

Table 3.1. Summary and count of pit types found in the Pond Area, Locus E, Las Capas AZ AA:12:111 (ASM).

Type	Stratum 502	Stratum 504
Thermal		
Roasting	3	20 ^a
Nonspecific	1	—
Nonthermal		
Bell-shaped pit	—	13
Undifferentiated	2	66
Total	6	99

^a One feature was not investigated.

Agricultural features in Stratum 504 included a series of shallow distribution canals and numerous, interconnected earthen-bordered agricultural field cells. When scraped sharply and evenly with the backhoe blade, canal and field berm alignments, although subtle, could generally be distinguished from the agricultural fields surrounding them by the differences in sediment texture and color. Field cells were visible as areas of sediment enriched with dark brown clay, bounded by berms of light yellowish-brown silty sediment, as typically seen elsewhere in the site. Canals bottoms often included linear ribbons of pale brown silt. Trenches were excavated across most of the canals to expose their channel profiles. Feature outlines and surrounding stratigraphy were delineated, photographed, and drawn to scale by the project geomorphologist. Canal channels were assigned feature numbers associated with linear site AZ AA:12:753 (ASM), the canal system at Las Capas, beginning with Feature 400; individual feature numbers were not assigned to the field cells.

No sediment samples were collected from canal profiles, agricultural fields, or berm contexts; such contexts from elsewhere at the site were extensively sampled and analyzed during the earlier main phase to document the soil chemistry and paleoenvironment of fields and canals (Homburg 2015; Huckleberry 2015; Palacios-Fest et al. 2015). Similarly, no pollen or flotation samples were analyzed, although selected macrobotanical specimens were examined. Potential radiocarbon samples were collected and are curated with the project collections at the Arizona State Museum (ASM) under Accession No. 2008-329; none were submitted for dating due to the large sample already analyzed (Vint 2015).

EXCAVATION RESULTS

Pits

Investigations in the Pond Area revealed 105 extramural pits, including six pits in Stratum 502 and 99 in Stratum 504 (see Table 3.1). All were characterized as small pits, defined as being less than 1.5 m in length. Of these, 22 percent were classified as thermal pits and 78 percent were nonthermal pits. Individual characteristics of sampled extramural pits from the Pond Area and elsewhere throughout Las Capas for the Ina Road RWRP Expansion and Upgrades project are summarized in Sinensky et al. (2015).

Thermal pits exhibited in situ burning, defined by the presence of oxidized pit walls and bases. All but one of the 24 thermal pits could be further classified as roasting pits, based on fill containing fire-cracked rocks, including fragments of ground stone, and concentrated charcoal and/or deposits of ash (Figure 3.4). Bits of burned sediment were also common in the fill of thermal pits. Roasting pits were almost exclusively basin shaped in profile, and averaged 78 cm long, 71 cm wide, and 10 cm deep.

One thermal pit, Feature 26023, in Stratum 502 had oxidized pit walls, but lacked the above-mentioned burned fill inclusions in sufficient quantities to suggest use as a typical roasting pit (see Figure 3.4). The function of the pit remains unknown. It was significantly deeper than identified roasting pits, and was only one of two thermal pits in the Pond Area with straight-sided walls. The circular pit measured 100 cm long, 97 cm wide, and was 56 cm deep.

Nonthermal pits contained no evidence of in situ burning. These pits are subdivided into bell-shaped pits ($n = 13$) and undifferentiated pits ($n = 68$). Bell-shaped pits were found only in Stratum 504, and two

distinct types were identified. In profile, Type 1 pits, as described here, include a pit rim that is notably narrower than its maximum basal portion (Figure 3.5). Type 1 pits were all circular in plan view. They averaged 55 cm across the top, 62 cm across the base, and 28 cm in depth. Type 1 pits in the Pond Area may actually be truncated Type 2 pits. Type 2 pits resemble more of an hour glass in profile, with a basin or cone at the top of the pit, a constricted neck, and an expanded, often bulbous, base. Pits of the latter type were the most common, comprising nearly two-thirds of the bell-shaped pit assemblage. Type 2 pits were circular to oval in plan view. They averaged 68 cm at the pit rim, 56 cm across at the neck, and 70 cm long across the base. The average depth of these pits was 36 cm. As described and illustrated in Chapter 2 (this volume), both basic types of bell-shaped pits discussed here are found elsewhere throughout the greater site area. They are inferred to have been used for storing food or other material.

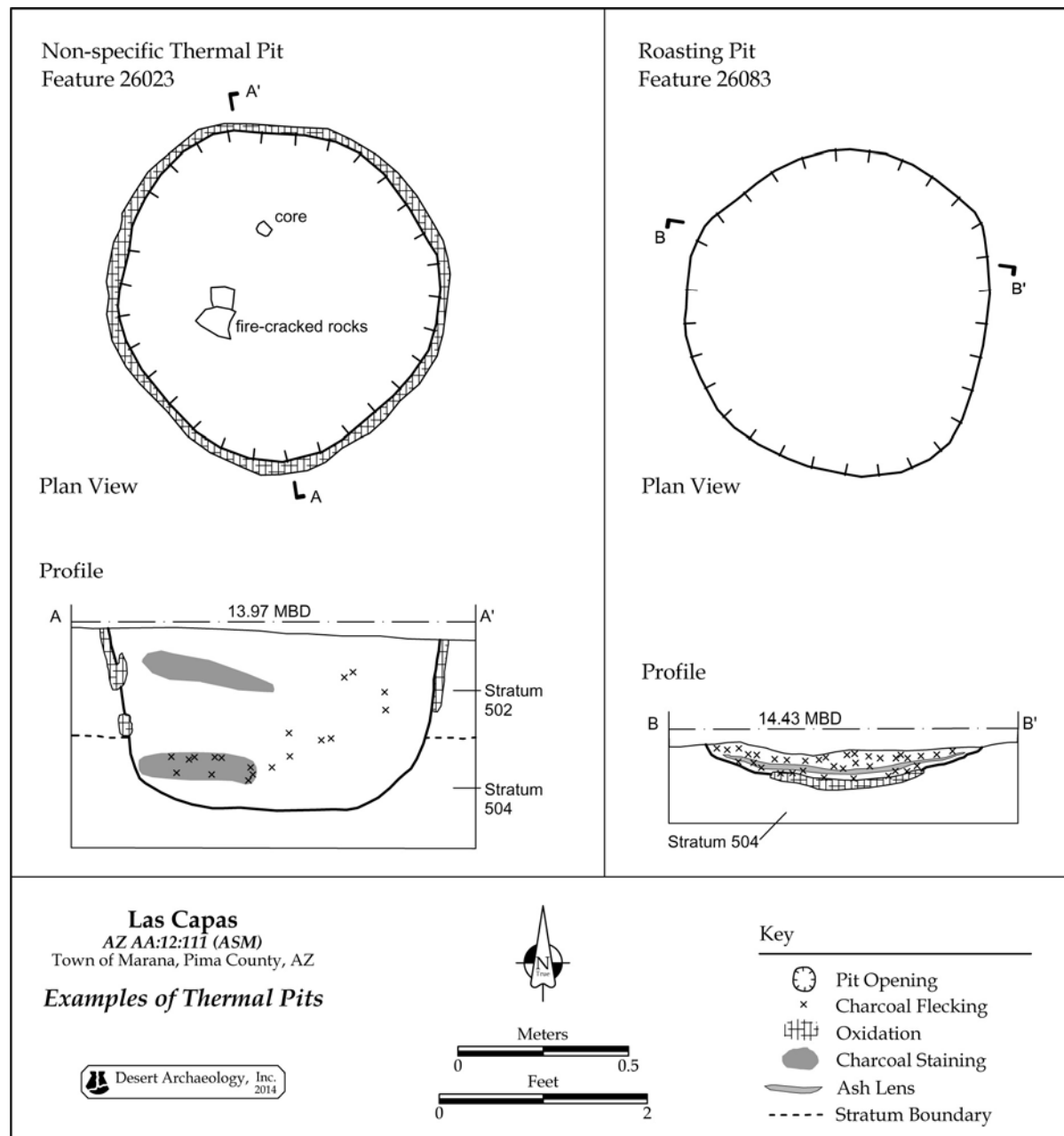


Figure 3.4. Examples of thermal pits from the Pond Area, Locus E, Las Capas, AZ AA:12:111 (ASM).

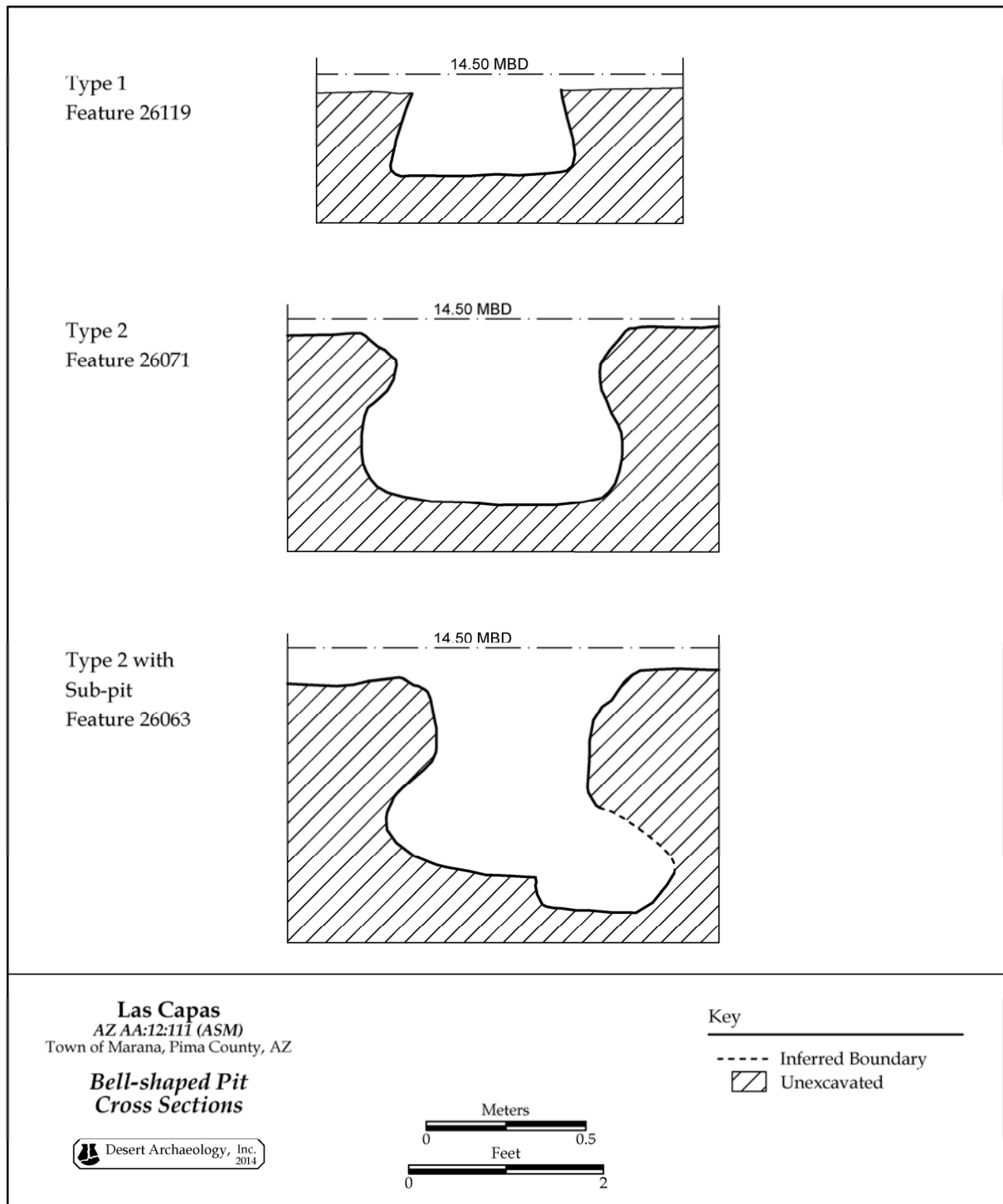


Figure 3.5. Cross section examples of bell-shaped pits from the Pond Area, Locus E, Las Capas, AZ AA:12:111 (ASM).

One bell-shaped pit, Feature 26063, was unusual, as it contained a pit within a pit (see Figure 3.5). The main pit chamber was a Type 2 pit. It measured 78 cm by 75 cm at the opening, 50 cm long at the neck, 75 cm long at the base, and 66 cm in depth. The sub-pit was on the eastern side of the main pit, extending 10 cm below the pit floor and through the lower wall of the feature. The sub-pit was oblong in plan view, measuring 56 cm in length and 46 cm in width. From the point where it cut into the wall of the main pit to

the sub-pit bottom, it had a maximum depth of about 30 cm. Pits within pits occur elsewhere Las Capas, but are rare (see Chapter 2).

Feature 26063, like other bell-shaped pits, is inferred to have been a storage pit. The function/association of the sub-pit, however, is unknown. The sub-pit contained a concentration of fire-cracked rocks, but revealed no evidence of in situ burning. Although it does not appear to have been used for roasting, hot rocks may have been placed in the sub-pit to heat food items in the main chamber, or otherwise “heat treat” the pit to reduce moisture and microorganisms in the sediment. Alternatively, the rocks may have simply been deposited as refuse. In either case, the consistency of sediment between the main pit and the sub-pit indicate they were filled at the same time.

Undifferentiated pits were the most abundant and varied pit type in the project area. The 68 pits exhibited a diversity of profiles, including basin ($n = 52$), straight-walled ($n = 13$), and conical ($n = 3$) shapes. The pits were circular to oval in plan view, ranging in length from 19 cm to 145 cm. Depths ranged from 4 cm to 33 cm. On average, undifferentiated pits measured 60 cm in length, 52 cm in width, and 13 cm in depth. The exact function of undifferentiated pits is unknown, although they probably served a variety of purposes, such as storage, caching of tools or other items, and food processing. However, no direct evidence of any of these activities was found in undifferentiated pits in the project area.

The fill of Pond Area pits was generally stained darker than the surrounding matrices, or otherwise stood out through the presence of concentrated bits of charcoal or other non-artifact inclusions. Feature fill was typically uniform, with brown to grayish-brown deposits of fine-textured silts, sands, and clay loams. Stratified deposits occurred within four bell-shaped pits, Features 26007, 26027, 26028, and 26063, and undifferentiated pit Feature 26008. In addition to the uniform fill described above, these pits contained a discrete deposit of dark brown blocky clay-enriched sediment over the top portion of the feature. This upper stratum resembled clayey sediment deposited in the nearby agricultural fields, and was likely deposited by flood or irrigation waters that also covered the fields. Charcoal was present in the fill of nearly every pit feature. However, outside of roasting pits, it usually occurred in low to moderate amounts. Fire-cracked rock fragments occurred in just over half the nonthermal pits, also in low to moderate amounts. Other, less common, fill inclusions were bits of burned sediment and pockets of ash. Artifacts were recovered from half the pits ($n = 52$) investigated in the project area, and artifact densities were generally low.

Only one feature was encountered with an in situ artifact assemblage. The base of Feature 26029, a bell-shaped pit, included a 20-cm-diameter concentration of bone in its northeastern quadrant, representing the partial remains of at least two canids, probably coyotes (*Canis latrans*). Along the pit wall in the southeastern quadrant was a hammerstone. No other pits contained in situ artifacts or even dense secondary refuse. Only one pit exhibited evidence of deliberate re-use, with the burial of a human neonate (described below). Most pits identified in the Pond Area appear to have been filled through a combination of cultural and natural processes, including the casual discard of refuse, sediment, sheetwash action, and flooding.

Mortuary Feature

Feature 26121 was the partially preserved primary inhumation of a neonate. The individual was placed in the north-central portion of bell-shaped pit Feature 26071, midway between the pit top and bottom. At 110 cm, Feature 26071 had the largest basal length of any of the bell-shaped pits in the project area. No outline was discernible for the burial pit, but the distribution of skeletal elements measured 27 cm in diameter, with a depth of 5 cm. The body was found lying face down and flexed, and the orientation of the head was toward the east. No grave offerings were present, although some trash was found in the fill of the surrounding bell-shaped pit, including bits of faunal bone, a core hammer, and pieces of flaked stone debris. While no evidence of habitation was found during the Pond Area investigations, the individual from Feature 26121 could be closely affiliated with the inhabitants of a cluster of pit structures approximately 25-50 m south, located during the 2008-2009 data recovery investigations of Locus E. Documentation and illustration of the skeletal remains from the individual in Feature 26121 are presented in Watson and Byrd (2015) and Price-Steinbrecher et al. (2015).

Occupational Debris

Feature 26122 was an ovate, 3.7-m by 3.5-m area of concentrated charcoal and ash staining with scattered fire-cracked rock exposed in the northwestern portion of the project area. Due to its large size, the feature outline was initially thought to represent a possible pit structure. However, upon investigation of the stain through shovel trenching and troweling, it was determined to be a large pocket of occupational debris encompassing a cluster of eight shallow pits, six of which were roasting pits.

Agricultural Features

Pond Area investigations exposed 13 shallow canals and numerous interconnected earthen-bordered agricultural field cells in Stratum 504. Two discrete layers of agricultural features were identified. All the field cells and 10 of the canals were identified in the lowermost cultural deposit of Stratum 504 (see Figure 3.3). Except the western one-third of the project area, most of the cells vary in size and shape (large and small, subrectangular to amorphous). When viewed as a system with their associated canals, the cells appear to lack any consistent arrangement or orientation. This disarray contrasts with the more regular field arrangement exhibited in the western portion of the project area, west of canal Feature 412, where there is a well-organized, consistent arrangement of subrectangular field cells, mostly small in size (2.5-3.0 m on a side), between parallel-running channels. Similar well-organized systems occur over most of Locus E's Warehouse Locus, the central portion of Locus D, and other areas of Las Capas further to the south (Nials 2014a).

The irregular field layout seen in the Pond Area is likely indicative of the furthest extent of the irrigated field system from the headgate, where canal capacity is limited, water conveyance is difficult to maintain, and a marginal attempt was made to get water to the fields except perhaps when sufficient flow was available to reach the terminus of the system. The regular patterning and uniform size of the field cells in the western portion of the project area also suggests the possibility that fields in the Pond Area are part of a different canal system positioned with a headgate located downstream from the network of canals feeding the more central portion of Las Capas (Nials 2014a).

Remnants of three northeast-flowing canals, Features 403, 404, and 410, occurred approximately 15-20 cm above the lower field system, in roughly the same stratigraphic horizon as the originating depths of Stratum 504 pits (see Figure 3.2). Upon mechanical excavation of the project area, it was apparent that each of these canals overlay a component of the earlier system, indicating at least two generations of agricultural features were present in the project area vicinity in Stratum 504 (Figure 3.6). One pit, Feature 26042, intruded into canal Feature 404, indicating at least some occupation postdated an undetected, but inferred, upper layer of agricultural fields.

MATERIAL CULTURE

The quantity of cultural material recovered from the Pond Area was low. Fieldwork recovered 292 pieces/fragments of animal bone, 190 pieces of flaked stone, 5 pieces of ground stone, 1 marine shell, 4 maize cobs, and 1 remnant of a wild squash. Artifacts were recovered from 52 of the sampled pits (50 percent), and except a flaked stone core and two fragments of faunal bone from Stratum 502, all were recovered from Stratum 504 feature contexts.

Flaked Stone

Debitage comprised 94 percent of the flaked stone assemblage. Other flaked stone items included three cores/core fragments and nine tools. The latter included 3 core hammers, 1 core chopper, 4 expedient unifaces, and 1 projectile point. Among the tools, only the projectile point was made from a high-quality lithic material. For this study, only the projectile point was examined and discussed in detail.

The projectile point (FN 16670) was recovered from the fill of a bell-shaped pit, Feature 26018. It is a small quartzite San Pedro point whose design is consistent with the overall Stratum 504 projectile point

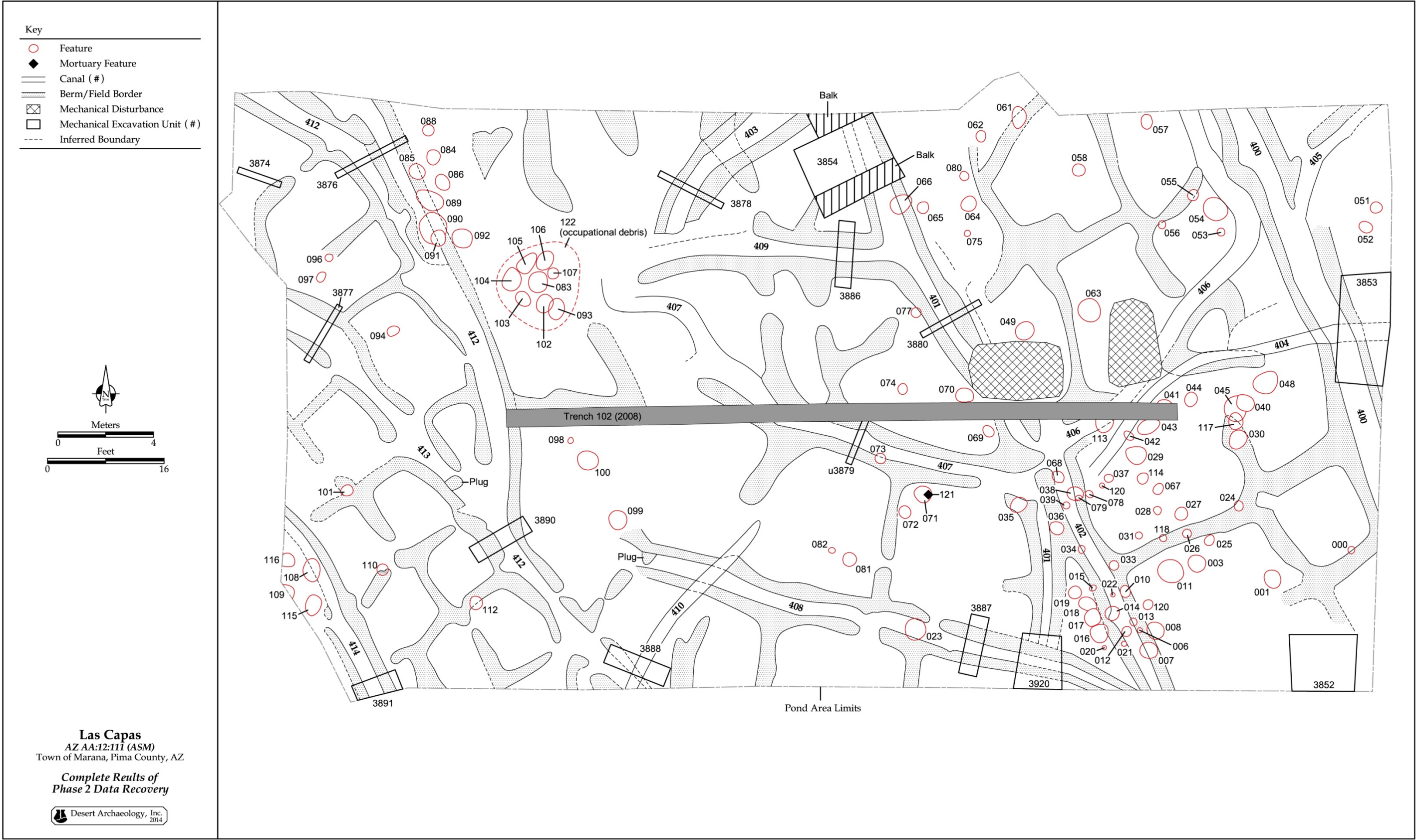


Figure 3.6. Overview of all cultural features discovered within the Pond Area, Locus E, Las Capas, AZ AA:12:111 (ASM).

assemblage at the site (Figure 3.7). It differs from the other San Pedro points recovered from Locus E in that it is corner-notched rather than side-notched, but it is well within the range of morphological variation observed among San Pedro phase point designs within the larger borderlands area (Sliva 2015).



Figure 3.7. San Pedro projectile point from the Pond Area, Locus E, Las Capas, AZ AA:12:111 (ASM).

Ground Stone

Five ground stone artifacts were recovered during the Pond Area excavations. These artifacts were analyzed and described (Table 3.2; see also Table A.1). Four of the five artifacts could have manufacturing activities attributed to them, but the fifth—probably a netherstone (FN 16728) with two opposing used surfaces—is too fire-cracked to be identified to type or use.

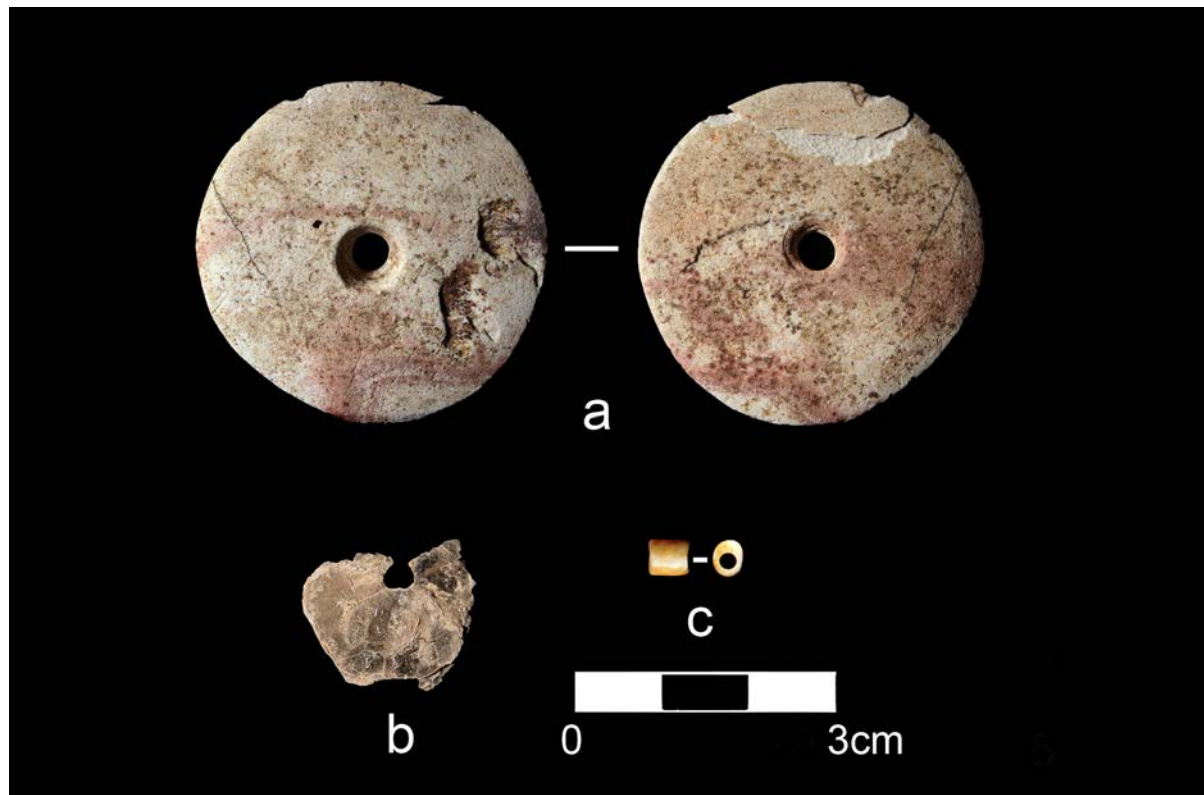
The hammerstone (FN 16596), recovered from bell-shaped pit Feature 26029, and the pecking stone (FN 16721) were used to shape other stone objects. The hammerstone was used as a knapping billet, a handstone, and a pigment-processing tool. Impact fractures from manufacturing or refurbishing other tools are the most obvious use-wear patterns. One side of the hammerstone was used as an abradar to powder red pigment (pigment Munsell Value 10R 5/6). Other areas of the hammerstone were used for processing unknown substances against a netherstone. The pecking stone is a flat pebble with broad sides that were used lightly for shaping something hard. One edge and two corners have impact fractures from use in stoneworking activities. This tool may have been used in both the forming and finishing stages of stoneworking.

A whorl (FN 16669) was ground to shape and drilled with a stone bit to create a hole for a spindle (Figure 3.8a). The hole was drilled most of the way through on one side and then finished from the opposite side, creating a nearly cylindrical hole. The hole shows no evidence of wear from having been used as a fly wheel on a spindle. A small piece was broken off the spindle during excavation. Although no other whorls were found in Locus E, two were recovered from features in Locus F during the 2008-2009 investigations at the site (see Adams 2015), where an intensive occupation occurred in and around the Stratum 504/505 contact. Unlike this item, these others were decorated with incised lines.

A large piece of muscovite (FN 16727) was probably a pendant broken during manufacture. One hole was drilled and subsequently overlapped by a second drilled hole (Figure 3.8b). The fragile layers of muscovite crumbled as the holes were drilled. The 2008-2009 data recovery investigations recovered muscovite artifacts in Stratum 504 deposits from three features in Locus E and two features in Locus D, all indicating use of the mineral in the manufacture of ornaments.

Table 3.2. Ground stone items recovered from the Pond Area, Locus E, Las Capas, AZ AA:12:111 (ASM).

Artifact	FN	Extramural Pit	Overburden	Sheet Trash	Total
Hammerstone	16596	1	-	-	1
Netherstone	16728	1	-	-	1
Ornament	16727	-	-	1	1
Pecking stone	16721	-	-	1	1
Whorl	16669	-	1	-	1
Total		2	1	2	5

**Figure 3.8.** Ground stone and shell ornaments recovered from the Pond Area, Locus E, Las Capas, AZ AA:12:111 (ASM): (a) stone whorl (Feature 0, FN 16669, Catalog No. 2008-329-510); (b) drilled mica pendant (Feature 0, FN 16727, Catalog No. 2008-329-511); (c) shell bead (Feature 26091, FN 16789, Catalog No. 2008-329-512).

Shell

A single, small shell bead was recovered from the fill of Feature 26091, a shallow roasting pit. The artifact was examined and described. The bead was manufactured from either a *Spondylus* or *Chama* shell, which are marine bivalve shells found in the Gulf of California (Figure 3.8c). Although both species exhibit similarities in color, unfortunately the ornament manufacturing process removed external morphological characteristics that could aid in species identification. The shell is a creamy white color, with a reddish-orange band that runs the length of the bead, especially along one side. Based on thickness, the bead may have been made from the hinge area of the shell. The sides of the bead were ground smooth and slightly rounded, with one side having been flattened by longitudinal faceting. The bead is rectangular in plan view and primarily cylindrical in cross section. The perforation for suspension is cylindrically drilled, with an interior diameter of 2.3 mm. The bead measures 6.2 mm in length, 5.5 mm in width, and 4.5 mm in thickness. It is not burned and is in good condition. This bead is similar in species and form to one recovered during the 2012 Warehouse Locus data recovery phase of Locus E (see Virden-Lange 2015:Figure 6.1v).

Fauna

Only selected faunal materials were examined from the Pond Area. Analyzed faunal material includes the cluster of bone recovered from the base of bell-shaped pit Feature 26029 (FN 16667), and several bone artifacts recovered primarily from the fill of pit features. Feature 26029 contains parts of at least two canids, probably coyotes (*Canis latrans*). One is an adult, represented by a left distal humerus, left proximal ulna, at least four ribs, four metacarpals, six metatarsal, and five tarsals. The other is a juvenile, less than 6 months old at death, based on a right radius with unfused proximal and distal epiphyses (Sisson 1975:1437). A somewhat small, proximal right humerus shaft may also be part of the juvenile individual. One of the tarsals, the right cuboid or fourth tarsal, exhibits cutmarks. This suggests the specimens represent butchering remains, not an animal burial.

Other animal bone present in the fill of the feature, including jackrabbit and cottontail specimens, and other, unidentified small mammal specimens, further suggest the remains are representative of a trash deposit rather than a formal animal burial. Canid remains associated with trash deposits have been found elsewhere at Las Capas (see Waters et al. 2015). In Locus E, however, canid remains are represented by a probable domestic dog burial, Feature 3432, excavated in Stratum 504 during the 2008-2009 data recovery phase excavations, and a skeleton, Feature 3553, probably that of a coyote, found in a filled-in burrow or den at the Warehouse Locus.

Three bone awls were recovered (Table 3.3). All were made from unspecified artiodactyl (Artiodactyla) long bones. FNs 16668 and 16674 are split metatarsal awls. The awls were recovered from bell-shaped pits. A fragment of FN 16674, which was broken into four pieces, was also recovered from undifferentiated pit. This pit contained another awl, FN 16672, which was manufactured from a distal femur shaft. The awls from the Pond Area are similar to others collected during the previous data recovery phases of Locus E (see Griffiths and Waters 2015). Antler fragments (FN 16611) were also recovered from a nonfeature context in the Pond Area. Locus E was probably a specialized location involved in stone toolmaking, based on the amount of antler recovered from pit structures and related features during the 2008-2009 data recovery phase.

Table 3.3. Taxa and elements represented by the bone tools recovered from feature contexts in the Pond Area, Locus E, Las Capas, AZ AA:12:111 (ASM).

Feature No.	FN	Taxon	Element	Artifact Type	Measurements (mm)
26007	16668	Unspecified artiodactyl (Artiodactyla)	Proximal metatarsal	Nearly complete awl, tip missing	Length = 156.6, Width = 9.4
26008	16672	Unspecified artiodactyl (Artiodactyla)	Distal femur shaft	Complete awl	Length = 86.2, Width = 19.3, Tip Width = 2.9, Tip Thickness = 2.5
26019	16674	Unspecified artiodactyl (Artiodactyla)	Proximal metatarsal	Nearly complete awl ^a	Length = 119.6, Width = 16.0, Tip Width = 2.8, Tip Thickness = 2.8

^aOne fragment recovered from Feature 26008, FN 16672.

Macrobotanical Specimens

Several hand-collected macrobotanical specimens were analyzed for the Pond Area data recovery phase. These included four burned maize cob fragments and the burned pulp and seed fragments of a *Cucurbita* sp. fruit (Table 3.4). Where possible, cob fragments were identified on the basis of row number, and these included two 12-row cobs and one 10-row cob. Although the sample size of maize cobs identifiable by row number at the site is relatively low (see Diehl 2015:Table 8.10), 12-row cobs were found to be the most frequent variation throughout Stratum 504, while 10-row cobs were among the least common. One undifferentiated pit, Feature 26112, from the Pond Area contained the *Cucurbita* (squash) remains in addition to a maize cob fragment. Although not abundant in the investigated areas of the site, several other squash fragments have been identified at Las Capas from Stratum 504 and Stratum 505 contexts (Diehl 2015:Table 8.4), and *Cucurbita* pollen and *Lagenaria* phytoliths were identified in field sediments (Diehl and Davis 2015; Yost 2015).

Table 3.4. Macrobotanical specimens from the Pond Area, Locus E, Las Capas, AZ AA:12:111 (ASM).

Feature	FN	Contents	Weight (gm)
26000	16511	Wood charcoal; desert tree legume	0.1
26069	16723	Maize cob fragment; indeterminate row number	1.2
26081	16774	Maize cob fragment; 12-row	0.6
26105	16777	Maize cob fragment; 10-row	0.5
26112	16739	Maize cob fragment; 12-row	0.7
26112	16740	<i>Cucurbita</i> sp.; wild, fruit tissue with seed fragments	1.3

SUMMARY AND CONCLUSIONS

Data recovery in the Pond Area of Locus E was the final phase of fieldwork for the Ina Road RWRP Expansion and Upgrades project conducted by Desert Archaeology, Inc., at Las Capas. This phase of fieldwork was conducted after analyses and report writing for the primary phase of the project were well under way. Archaeological features and artifacts identified during this phase of work do not substantively differ from what was found during the principal data recovery effort. The infant inhumation is included in the analysis and documentation of human remains recovered from mortuary features at the site in Watson and Byrd (2015). Otherwise, artifact and feature descriptions presented above augment the analyses presented in the Vint (ed. 2015).

Archaeological features were identified in Strata 502 and 504 deposits (see Chapter 1). The bulk of data recovery efforts focused on Stratum 504, where evidence of late San Pedro phase (1200-800 B.C.) activities, including farming, resource processing, and storage, was identified. One human burial was recovered. Flaked and ground stone tools, shell ornaments, faunal remains, and macrobotanical remains recovered from the Pond Area are consistent with material culture recovered from the greater site area. Results of excavations in the Pond Area complement previous work at the site, and most significantly, add to documenting agricultural fields and canals at the terminal end of the Las Capas irrigation system.

Acknowledgments

A big thanks goes out to the Pond Area field crew—Shalyn Barstow, Eric Bondra, Katie Bubnekovich, Chris Lange, and Tyler Theriot—who toiled in the heat and humidity of the 2013 monsoon season, and occasionally the muck, without any complaint. Tyler Theriot also provided mapping services and produced the project area maps. Deborah Swartz co-directed field operations with me, and we are grateful for the keen eyes of field supervisors Allen Denoyer and Barry Price-Steinbrecher. Fred Nials helped make sense of the stratigraphy and confusing array of field cells and channels during his visits to the project area. Mechanical excavations were provided by Innovative Excavating, with the amazing Dan Arnit on the backhoe. Desert Archaeology support staff who I would like to thank personally are Mario Arechederra for tending to our field needs, Lisa Eppley for processing artifacts and samples, Sara Lely for entering the numerous field forms and scanning maps and giving us a clean set of data on the other end, Robert Ciaccio for artifact photography, Susan Hall for drafting the pit figures, and Emilee Mead and Donna Doolittle for report production. Finally, I wish to thank Project Director Jim Vint for offering constructive comments on the Pond Area results with his bigger picture perspective; the result is a greatly improved chapter.

APPENDIX A

**FEATURES IDENTIFIED AT LAS CAPAS,
AZ AA:12:111 (ASM)**

*James M. Vint
Desert Archaeology, Inc.*

Table A.1. Total number of features, identified by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

Feature Type	502			503			504			505			506			507			Total		
	Total (n)	Excavated	Percent	Total (n)	Excavated	Percent	Total (n)	Excavated	Percent	Total (n)	Excavated	Percent	Total (n)	Excavated	Percent	Total (n)	Excavated	Percent	Total (n)	Excavated	Percent
		(n)	Excavated		(n)	Excavated		(n)	Excavated		(n)	Excavated		(n)	Excavated		(n)	Excavated		(n)	Excavated
Pithouse	5	5	100	-	-	-	31	30	97	3	2	67	16	16	100	-	-	-	55	53	96
Possible pithouse	-	-	-	-	-	-	23	5	22	4	2	50	7	1	14	-	-	-	34	8	24
Extramural surface	1	1	100	-	-	-	14	9	64	10	7	70	6	5	83	-	-	-	31	22	71
Bell-shaped pit	2	2	100	-	-	-	199	186	93	90	78	87	350	339	97	5	5	100	646	610	94
Large pit	-	-	-	-	-	-	45	35	78	6	6	100	25	8	32	1	-	-	77	49	64
Small pit	23	19	83	-	-	-	1,406	1,207	86	445	265	60	1,609	568	35	43	40	93	3,526	2,099	60
Roasting pit	9	8	89	-	-	-	432	414	96	22	18	82	63	49	78	1	1	100	527	490	93
Other pit	2	2	100	-	-	-	16	14	88	12	12	100	12	10	83	3	2	67	45	40	89
Inhumation	-	-	-	-	-	-	9	9	100	2	2	100	9	9	100	-	-	-	20	20	100
Cremation	-	-	-	-	-	-	1	1	100	-	-	-	1	1	100	-	-	-	2	2	100
Animal burial	1	1	100	-	-	-	6	6	100	1	1	100	3	3	100	-	-	-	11	11	100
Channel/ Arroyo	-	-	-	-	-	-	2	1	50	4	1	25	-	-	-	1	-	-	7	2	29
Occupational debris	1	1	100	-	-	-	28	9	32	5	1	20	25	12	48	-	-	-	59	23	39
Other feature	4	2	50	1	1	100	32	16	50	4	2	50	9	3	33	3	2	67	53	26	49
Feature voided	14	-	-	1	-	-	204	-	-	80	-	-	134	-	-	8	-	-	441	-	-
Total	62	41	66	2	1	50	2,448	1,942	79	688	397	58	2,269	1,024	45	65	50	77	5,534	3,455	62

Table A.2. Features identified in Locus A, by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

Feature Type	502			503			504			505			506			507			Total		
	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent
		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated
Pithouse	-	-	-	-	-	-	5	5	100	-	-	-	4	4	100	-	-	-	9	9	100
Extramural surface	-	-	-	-	-	-	1	1	100	-	-	-	-	-	-	-	-	-	1	1	100
Bell-shaped pit	-	-	-	-	-	-	29	29	100	-	-	-	66	65	98	-	-	-	95	94	99
Large pit	-	-	-	-	-	-	4	3	75	-	-	-	7	1	14	-	-	-	11	4	36
Small pit	-	-	-	-	-	-	120	118	98	6	3	50	326	118	36	-	-	-	452	239	53
Roasting pit	-	-	-	-	-	-	13	12	92	-	-	-	3	3	100	-	-	-	16	15	94
Other pit	-	-	-	-	-	-	1	1	100	-	-	-	3	3	100	-	-	-	4	4	100
Inhumation	-	-	-	-	-	-	-	-	-	-	-	-	1	1	100	-	-	-	1	1	100
Animal burial	-	-	-	-	-	-	1	1	100	-	-	-	-	-	-	-	-	-	1	1	100
Occupational debris	-	-	-	-	-	-	2	2	100	-	-	-	3	-	-	-	-	-	5	2	40
Other feature	-	-	-	-	-	-	3	3	100	1	-	-	1	1	100	1	1	100	6	5	83
Feature voided	-	-	-	-	-	-	38	-	-	-	-	-	27	-	-	-	-	-	65	-	-
Total	-	-	-	-	-	-	217	175	81	7	3	43	441	196	44	1	1	100	666	375	56

Table A.3. Features identified in Locus B, by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

Feature Type	502			503			504			505			506			507			Total		
	Total (n)	Excavated (n)	Percent Excavated	Total (n)	Excavated (n)	Percent Excavated	Total (n)	Excavated (n)	Percent Excavated	Total (n)	Excavated (n)	Percent Excavated	Total (n)	Excavated (n)	Percent Excavated	Total (n)	Excavated (n)	Percent Excavated	Total (n)	Excavated (n)	Percent Excavated
Pithouse	-	-	-	-	-	-	8	8	100	1	1	100	12	12	100	-	-	-	21	21	100
Possible pithouse	-	-	-	-	-	-	-	-	-	2	2	100	1	1	100	-	-	-	3	3	100
Extramural surface	-	-	-	-	-	-	1	1	100	4	4	100	5	4	80	-	-	-	10	9	90
Bell-shaped pit	1	1	100	-	-	-	9	9	100	53	51	96	278	270	97	4	4	100	345	335	97
Large pit	-	-	-	-	-	-	8	8	100	5	5	100	17	6	35	1	-	-	31	19	61
Small pit	1	1	100	-	-	-	203	202	100	193	90	47	1,216	426	35	43	40	93	1,656	759	46
Roasting pit	-	-	-	-	-	-	50	50	100	14	13	93	58	45	78	1	1	100	123	109	89
Other pit	-	-	-	-	-	-	4	4	100	4	4	100	9	7	78	3	2	67	20	17	85
Inhumation	-	-	-	-	-	-	1	1	100	-	-	-	8	8	100	-	-	-	9	9	100
Cremation	-	-	-	-	-	-	-	-	-	-	-	-	1	1	100	-	-	-	1	1	100
Animal burial	-	-	-	-	-	-	-	-	-	-	-	-	2	2	100	-	-	-	2	2	100
Channel/Arroyo	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	2	-	-
Occupational debris	-	-	-	-	-	-	6	4	67	-	-	-	17	12	71	-	-	-	23	16	70
Other feature	-	-	-	-	-	-	3	2	67	-	-	-	5	2	40	1	-	-	9	4	44
Feature voided	10	0	0	1	-	-	48	-	-	42	-	-	99	-	-	8	-	-	208	-	-
Total	12	2	17	1	-	-	341	289	85	319	170	53	1,728	796	46	-	-	-	2,463	1,304	53

Table A.4. Features identified in Locus C, by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

[illegible]

Table A.5. Features identified in Locus D, by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

Feature Type	502			503			504			505			506			507			Total		
		Excavated	Percent		Excavated	Percent		Excavated	Percent		Excavated	Percent		Excavated	Percent		Excavated	Percent		Excavated	Percent
	Total (n)	(n)	Excavated	Total (n)	(n)	Excavated	Total (n)	(n)	Excavated	Total (n)	(n)	Excavated	Total (n)	(n)	Excavated	Total (n)	(n)	Excavated	Total (n)	(n)	Excavated
Pithouse	3	3	100	-	-	-	10	10	100	-	-	-	-	-	-	-	-	-	13	13	100
Possible pithouse	-	-	-	-	-	-	10	2	20	-	-	-	-	-	-	-	-	-	10	2	20
Extramural surface	-	-	-	-	-	-	6	5	83	-	-	-	-	-	-	-	-	-	6	5	83
Bell-shaped pit	1	1	100	-	-	-	60	60	100	1	1	100	-	-	-	-	-	-	62	62	100
Large pit	-	-	-	-	-	-	27	19	70	1	1	100	-	-	-	-	-	-	28	20	71
Small pit	6	5	83	-	-	-	626	524	84	3	1	33	-	-	-	-	-	-	635	530	83
Roasting pit	1	1	100	-	-	-	282	269	95	1	1	100	-	-	-	-	-	-	284	271	95
Other pit	-	-	-	-	-	-	10	8	80	-	-	-	-	-	-	-	-	-	10	8	80
Inhumation	-	-	-	-	-	-	5	5	100	-	-	-	-	-	-	-	-	-	5	5	100
Cremation	-	-	-	-	-	-	1	1	100	-	-	-	-	-	-	-	-	-	1	1	100
Animal burial	-	-	-	-	-	-	1	1	100	-	-	-	-	-	-	-	-	-	1	1	100
Channel/Arroyo	-	-	-	-	-	-	1	1	100	3	1	33	-	-	-	-	-	-	4	2	50
Occupational debris	-	-	-	-	-	-	6	1	17	1	-	-	-	-	-	-	-	-	7	1	14
Other feature	-	-	-	-	-	-	5	3	60	-	-	-	-	-	-	1	1	100	6	4	67
Feature voided	2	-	-	-	-	-	59	-	-	1	-	-	-	-	-	-	-	-	62	-	-
Total	13	10	77	-	-	-	1,109	909	82	11	5	45	-	-	-	1	1	100	1,134	925	82

Table A.6. Features identified in Locus E, by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

[illegible]

Table A.7. Features identified in Locus F, by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

Feature Type	502			503			504			505			506			507			Total		
	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent
		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated
Pithouse	-	-	-	-	-	-	1	1	100	1	-	-	-	-	-	-	-	-	2	1	50
Possible pithouse	-	-	-	-	-	-	7	1	14	1	-	-	-	-	-	-	-	-	8	1	13
Extramural surface	1	1	100	-	-	-	2	-	-	5	3	60	-	-	-	-	-	-	8	4	50
Bell-shaped pit	-	-	-	-	-	-	5	1	20	16	10	63	2	2	100	-	-	-	23	13	57
Large pit	-	-	-	-	-	-	-	-	-	-	-	-	1	1	100	-	-	-	1	1	100
Small pit	2	2	100	-	-	-	115	89	77	140	85	61	49	21	43	-	-	-	306	197	64
Roasting pit	-	-	-	-	-	-	11	8	73	4	1	25	2	1	50	-	-	-	17	10	59
Other pit	-	-	-	-	-	-	1	1	100	6	6	100	-	-	-	-	-	-	7	7	100
Inhumation	-	-	-	-	-	-	1	1	100	-	-	-	-	-	-	-	-	-	1	1	100
Animal burial	-	-	-	-	-	-	1	1	100	1	1	100	1	1	100	-	-	-	3	3	100
Occupational debris	-	-	-	-	-	-	3	-	-	2	1	50	-	-	-	-	-	-	5	1	20
Other feature	-	-	-	-	-	-	-	-	-	1	1	100	3	-	-	-	-	-	4	1	25
Feature voided	1	-	-	-	-	-	9	-	-	22	-	-	4	-	-	-	-	-	36	-	-
Total	4	3	75	-	-	-	156	103	66	199	108	54	62	26	42	-	-	-	421	240	57

Table A.8. Features identified in Locus G, by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

Feature Type	502			503			504			505			506			507			Total		
	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent
		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated
Pithouse	-	-	-	-	-	-	1	-	-	1	1	100	-	-	-	-	-	-	2	1	50
Possible pithouse	-	-	-	-	-	-	2	-	-	1	-	-	6	-	-	-	-	-	9	-	-
Extramural surface	-	-	-	-	-	-	2	-	-	1	-	-	1	1	100	-	-	-	4	1	25
Bell-shaped pit	-	-	-	-	-	-	1	-	-	20	16	80	4	2	50	1	1	100	26	19	73
Large pit	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Small pit	2	1	50	-	-	-	10	2	20	94	84	89	17	3	18	-	-	-	123	90	73
Roasting pit	-	-	-	-	-	-	-	-	-	3	3	100	-	-	-	-	-	-	3	3	100
Other pit	-	-	-	-	-	-	-	-	-	2	2	100	-	-	-	-	-	-	2	2	100
Inhumation	-	-	-	-	-	-	-	-	-	2	2	100	-	-	-	-	-	-	2	2	100
Occupational debris	-	-	-	-	-	-	2	-	-	-	-	-	5	-	-	-	-	-	7	-	-
Other feature	-	-	-	-	-	-	3	1	33	1	1	100	-	-	-	-	-	-	4	2	50
Feature voided	-	-	-	-	-	-	1	-	-	14	-	-	4	-	-	-	-	-	19	-	-
Total	2	1	50	-	-	-	23	3	13	139	109	78	37	6	16	1	1	100	202	120	59

Table A.9. Features identified in Locus H, by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

Feature Type	502			503			504			505			506			507			Total		
	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent
		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated
Small pit	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Total	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-

Table A.10. Features identified in Locus I, by geomorphic stratum, Las Capas, AZ AA:12:111 (ASM).

Feature Type	502			503			504			505			506			507			Total		
	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent	Total (<i>n</i>)	Excavated	Percent
		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated		(<i>n</i>)	Excavated
Small pit	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-
Roasting pit	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Total	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	-	-

**SUPPLEMENTAL GROUND STONE DATA,
THE POND AREA OF LOCUS E, LAS CAPAS,
AZ AA:12:111 (ASM)**

*Gregory J. Whitney
Desert Archaeology, Inc.*

Table B.1. Specific attributes recorded for ground stone items recovered from the Pond Area, Locus E, Las Capas, AZ AA:12:111 (ASM).

[illegible]

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