

# TOTAH

## TIME AND THE RIVERS FLOWING ~ Excavations in the La Plata Valley

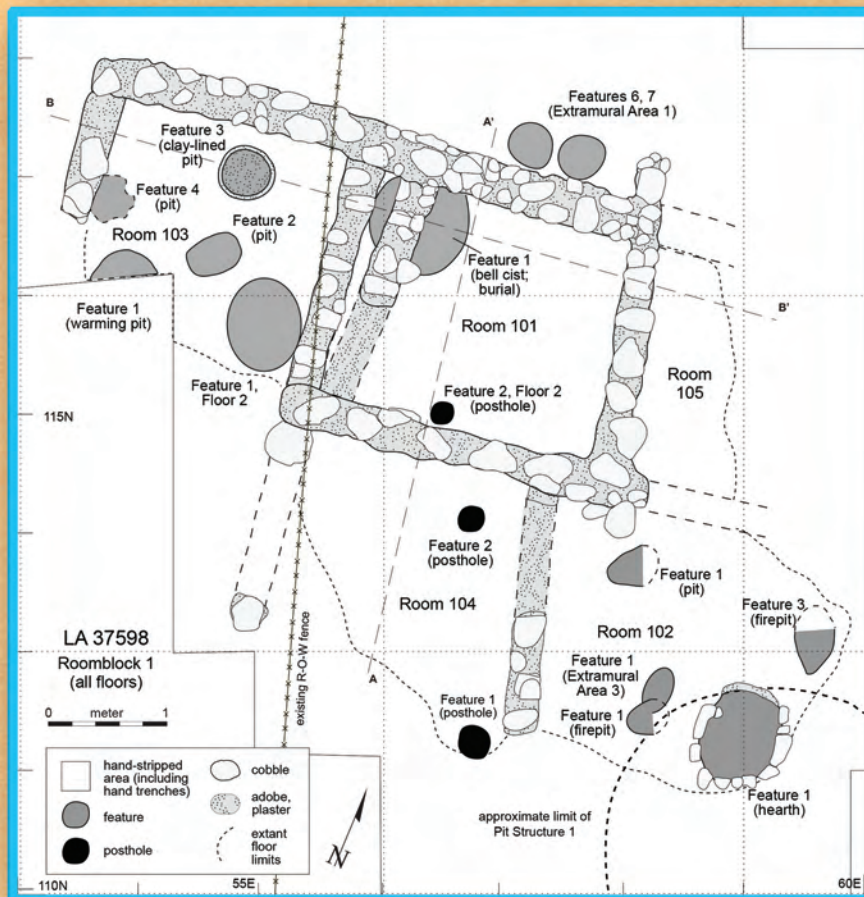
### Volume 1

### JACKSON LAKE COMMUNITY: RESULTS FROM 16 ANCESTRAL PUEBLO SITES, FROM TRANSITIONAL BASKETMAKER III TO LATE PUEBLO III

### Book Two

### Sites with Pueblo II and Pueblo III Components

H. Wolcott Toll





TOTAH  
*Time and the Rivers Flowing ~  
Excavations in the La Plata Valley*



**VOLUME 1**

**JACKSON LAKE COMMUNITY**

[CONTINUED]

~ **BOOK TWO** ~

**Sites (Part III)**

**PART III: SITES WITH PUEBLO II AND PUEBLO III COMPONENTS**

13	∞	LA 37592 (Kin Sin Fin).....	345
14	∞	LA 37593 (Thunder Maker Site).....	575
15	∞	LA 60749.....	703
16	∞	LA 37598 (Three Fingers Up, Three Toes Down Site).....	731
17	∞	LA 37591 (Runoff Ditch Pueblo).....	841



## FIGURES LIST

### VOLUME 1 [BOOK TWO]

#### 13. LA 37592 (Kin Sin Fin)

13.1. LA 37592, at start of excavation, Roomblock 1 rubble in foreground, view west.....	345
13.2a. LA 37592, at start of excavation (note minimal surface indication), view west.....	346
13.2b. LA 37592, site area map (adapted from OAS survey map, Toll and Hannaford 1997).....	347
13.3a. LA 37592, plan.....	348
13.3b. LA 37592, Roomblock 2 and Pit Structure 1 detail, plan.....	349
13.4. LA 37592, site overview from LA 60746 toward habitation on east side of NM 170.....	350
13.5. LA 37592, fan between LA 37592 and LA 60751, showing erosion, view northeast.....	350
13.6. LA 37592, drainage across the site, view southwest.....	351
13.7. LA 37592, site setting among fields near the La Plata River; LA 37592 is at lower left, view southeast.....	353
13.8 [OMITTED]	
13.9. LA 37592, surface collection area, distribution and density, ceramics.....	356
13.10a. LA 37592, surface collection area, distribution and density, lithics.....	357
13.10b. LA 37592, Extramural Areas 1–4 and Roomblock 2, features, plan.....	365
13.10c. LA 37592, BHT 1, continuation north from LA 60749, profile, view west.....	369
13.11. LA 37592, Extramural Areas 2 and 3, Segments 1–5, subroom area, plan.....	370
13.12–13.14 [OMITTED]	
13.15. LA 37592, Extramural Area 2, Segments 2 and 3, subroom area (Room 202), features, plan.....	371
13.16a. LA 37592, Extramural Area 2, Segment 2, Surface 8/subroom area (Room 202).....	373
13.16b. LA 37592, Extramural Area 2, Segment 3, subroom area (Room 202), profile.....	374
13.17. LA 37592, Extramural Area 3, Feature 1 (butting south wall of Room 203), view east.....	379
13.18. LA 37592, Extramural Area 3, Features 1 and 5, with approximate locations of basket load layers, plan and profile.....	380
13.19 [OMITTED]	
13.20. LA 37592, Extramural Area 3, Feature 5 (major storage cist).....	383
13.21a. LA 37592, Extramural Area 3, Feature 2 (fire pit), plan and profile.....	384
13.21b. LA 37592, Extramural Area 3, Feature 2 (fire pit; bottom right).....	384
13.22. LA 37592, Extramural Area 4, Feature 1 (roasting pit), fill.....	385
13.23. LA 37592, Extramural Area 4, Feature 1 (roasting pit).....	385
13.24. LA 37592, Roomblock 2, Rooms 201–203, Floor 1, plan.....	395
13.25. LA 37592, Roomblock 2, Room 201, Floor 1, view southeast.....	396
13.26a. LA 37592, Roomblock 2, Room 201, Floor 1, pit features, plan and profile.....	396
13.26b. LA 37592, Roomblock 2, overview Rooms 201–203, view southwest; Room 201, Features 2, 4, 5, 6, and 7 in foreground.....	397
13.27. LA 37592, Roomblock 2, Room 201, Floor 1, Feature 7 (Burial 2), two McElmo Black-on-white bowls.....	401
13.28a. LA 37592, Roomblock 2, Room 201, Floor 1, Feature 3 (vessel-lined cist).....	402
13.28b. LA 37592, Roomblock 2, Room 201, Floor 1, Feature 3 (vessel-lined cist), profile.....	402
13.28c. LA 37592, Roomblock 2, Rooms 201 and 202, Floor 2, plan.....	407
13.29. LA 37592, Roomblock 2, Rooms 201 and 202, Floor 3, plan.....	409
13.30. LA 37592, Roomblock 2, Room 201, Floor 3, view southeast.....	410
13.31 [OMITTED]	
13.32a. LA 37592, Roomblock 2, Room 202, Floor 1; showing walls and nature of floor.....	412
13.32b. LA 37592, Roomblock 2, Room 202, Floor 1, Feature 1 (hearth), view southwest.....	413
13.32c. LA 37592, Roomblock 2, Room 202, Floor 1, Feature 1 (hearth), view northeast.....	413
13.32d. LA 37592, Roomblock 2, Room 202, Features 1, 3, and 4; plan and profile.....	413
13.33. LA 37592, Room 202, Floor 2, western edge; showing phone line cutting through Feature 1.....	416
13.34. LA 37592, Room 202, Floor 2; showing east wall and Features 3–7 (postholes).....	416
13.35a. LA 37592, Roomblock 2, Room 203, Floor 1, plan.....	418
13.35b. LA 37592, Roomblock 2, Room 203, south wall, view north.....	419
13.36. LA 37592, Roomblock 2, Rooms 202–203, joining wall section.....	419
13.37. LA 37592, Roomblock 2, Room 203, Floor 1, masonry walls detail, view east.....	420
13.38. LA 37592, Roomblock 2, Room 203, east wall.....	420
13.39. LA 37592, Roomblock 2, Room 203 walls, view south.....	421
13.40 [OMITTED]	
13.41. LA 37592, Roomblock 2, Room 203, view north; Extramural Feature 1 (fire pit) in foreground.....	422



13.42–13.44 [OMITTED]	
13.45a. LA 37592, Pit Structure 1, Floor 1, plan.....	423
13.45b. LA 37592, Pit Structure 1, Floor 1; bipod shot showing point-provenienced artifact tags and extramural Feature 2, view northwest.....	424
13.46a. LA 37592, Pit Structure 1, midden base.....	425
13.46b. LA 37592, Pit Structure 1, excavation overview.....	425
13.46c. LA 37592, Pit Structure 1, excavation detail.....	426
13.46d. LA 37592, Pit Structure 1, hand trenches, plan.....	427
13.46e. LA 37592, Pit Structure 1, B–B' (N–S, 147E line) profile, view west; rectified.....	429
13.47 [OMITTED]	
13.48. LA 37592, Pit Structure 1, C–C' (E–W, 162N line) profile; composite, rectified.....	436
13.49 [OMITTED]	
13.50. LA 37592, Pit Structure 1, Layer 29, top, view southeast.....	438
13.51. LA 37592, Pit Structure 1, Layer 29, bottom, view southeast; shows Layer 35 rock.....	440
13.52. LA 37592, Pit Structure 1, Layer 6, awls in situ, view southeast.....	443
13.53 [OMITTED]	
13.54a. LA 37592, Pit Structure 1, deer scapulae (scoops) from Layers 23, 25, and 26.....	444
13.54b. LA 37592, Pit Structure 1, deer scapulae (scoops) from Layers 23, 25, and 26.....	445
13.55. LA 37592, Pit Structure 1, gray wolf humerus spatulate (or scraper) from Layer 21.....	446
13.56 [OMITTED]	
13.57. LA 37592, Pit Structure 1, near Burial 4, Cortez Black-on-white pitcher.....	447
13.58. LA 37592, Pit Structure 1, bowls, rim radius (counts by stratigraphic unit), box plot.....	453
13.59. LA 37592, Pit Structure 1, jars, rim radius (counts by stratigraphic unit), box plot.....	453
13.60. LA 37592, Pit Structure 1, Trash Pit layer, human remains (disarticulated) distribution, plan.....	463
13.61. LA 37592, Pit Structure 1, human remains (disarticulated); counts by quad and layer, histogram.....	466
13.62. LA 37592, Pit Structure 1, human remains (disarticulated and altered); counts by layer and alteration type, histogram.....	466
13.63 [OMITTED]	
13.64a. LA 37592, Pit Structure 1, Group 2, human remains, parietal.....	468
13.64b. LA 37592, Pit Structure 1, Group 2, human occipital.....	468
13.64c. LA 37592, Pit Structure 1, Midden Layer 1, Group 2, human remains, long-bone fragments.....	469
13.65. LA 37592, Pit Structure 1, Group 1, human remains in situ, view east.....	469
13.66. LA 37592, Pit Structure 1, human remains (disarticulated; counts by age and stratigraphic unit), histogram.....	472
13.67a. LA 37592, Pit Structure 1, A–A' (N–S, 146.5E line), architectural profile.....	481
13.67b. LA 37592, Pit Structure 1, Layer 23; thick plaster with sherd chinking, detail.....	482
13.67c. LA 37592, Pit Structure 1, Layer 23; thick plaster with sherd chinking, southwest quad.....	482
13.68 [OMITTED]	
13.69. LA 37592, Pit Structure 1, Floor 1, features and point-provenienced artifacts, plan.....	486
13.70. LA 37592, Pit Structure 1, Floor 1, view southeast.....	487
13.71. LA 37592, Pit Structure 1, Floor 1, view north.....	488
13.72a. LA 37592, Pit Structure 1, Floor 1, articulated turkey near Feature 1 (hearth) and Feature 4 (deflector).....	489
13.72b. LA 37592, Pit Structure 1, Floor 1, Feature 1 (hearth), plan and profile.....	490
13.73. LA 37592, Pit Structure 1, Floor 1, Feature 4 (deflector; foreground), view south to Feature 2 (vent tunnel) and Feature 3 (vent shaft).....	492
13.74. LA 37592, Pit Structure 1, Floor 1, Feature 4 (deflector), detail, view south to Feature 2(vent tunnel).....	493
13.75a. LA 37592, Pit Structure 1, Feature 4 (deflector), vertical cross-section detail.....	493
13.75b. LA 37592, Pit Structure 1, Feature 2 (vent tunnel), metate in situ.....	493
13.76. LA 37592, Pit Structure 1, Floor 1, Feature 6 (subfloor cist), plan and profiles.....	495
13.77. LA 37592, Pit Structure 1, Floor 1, Feature 9 (major off-chamber cist), profile.....	497
13.78. LA 37592, Pit Structure 1, Floor 1, Feature 9 (major off-chamber cist), detail.....	499
13.79. LA 37592, Pit Structure 1, Feature 9 (major off-chamber cist; center background), relative to ventilation system (on right), view east.....	499
13.80a. LA 37592, Pit Structure 1, Floor 1, Feature 8 (floor-level niche), deer spatulate in situ.....	501
13.80b. LA 37592, Pit Structure 1, Feature 8, deer spatulate (two views).....	502
13.81. LA 37592, Pit Structure 1, Floor 2, plan.....	503
13.82. LA 37592, Pit Structure 1, Floor 2, Feature 2 (hearth) as modified, and deflector.....	504
13.83 [OMITTED]	
13.84. LA 37592, Pit Structure 1, Feature 2, vent tunnel opening, metate removed.....	504
13.85. LA 37592, Pit Structure 1, Floor 2, sandstone slabs (potlids) set in floor near Features 3 through 7.....	506

13.86. LA 37592, Pit Structure 1, Floor 3, plan. ....	507
13.87. LA 37592, Pit Structure 1, Floor 3, overview, view southeast. ....	508
13.88. LA 37592, Pit Structure 1, Floor 3, sipapu complex. ....	509
13.89. Hearth complex comparison, plan: LA 37595 (Pit Structure 1, Floor 1; far right), LA 37592 (Pit Structure 1; Floor 3, left, and Floor 1, center). ....	510
13.90 [OMITTED]	
13.91a. LA 37592, two vessels from east of Pit Structure 1. Top: McElmo Black-on-white bowl (PIII) with organic paint, from Room 203 fill; bottom: mended McElmo Black-on-white bowl (PIII) from Burial 6. ....	514
13.91b. LA 37592, two vessels from east of Pit Structure 1. Left: gray ware pitcher (PII), from Extramural Area 2, Burial 7; right: Dolores Corrugated jar (PIII), from Burial 6. ....	515
13.92. LA 37592, Pit Structure 1, midden, Layer 7, McElmo Black-on-white bird effigy (early PIII). ....	521
13.93a [a-y] and 13.93b [z, aa-ii]. LA 37592, projectile point styles and types of retouch and materials. ....	532–533
13.93c. LA 37592, larger bifaces from the Pit Structure 1 midden. ....	533
13.94 [OMITTED]	
13.95. LA 37592, site-wide, two-hand manos, count by length, histogram. ....	535
13.96a. LA 37592, two-notch granitic axes from Room 201 fill, showing different degrees of shaping and use. ....	536
13.96b. LA 37592, heavily used and broken axes. ....	537
13.97a. LA 37592, shale pendants and manufacturing debris (all photographed in black-and-white) in stratigraphic groups, primarily from Pit Structure 1. ....	539
13.97b. LA 37592, burned shale pendant. ....	540
13.97c. LA 37592, top: sandstone, ground and shaped on all surfaces, from Pit Structure 1 fill; bottom: possible concretion with shaping and use wear. ....	540
13.97d. LA 37592, jet objects. ....	540
13.98a [a-i]. LA 37592, bone awls. a.-e.: Pit Structure 1, midden; f., g.: Pit Structure 1, sub-midden; h.: Pit Structure 1, Floor 1, Feature 9 (off-chamber cist); i.: Roomblock 2, Room 201, Floor 4. ....	544
13.98b. LA 37592, faunal beads. Top two: Pit Structure 1, midden Layer 5; third from top: Roomblock 2, subroom 202; bottom: Extramural Area 4, Level 5. ....	545
13.98c. LA 37592, Pit Structure 1, deer spatulate[s], two views; right: shows perforation. ....	545
13.99a. LA 37592, fuel type, weights in exterior and interior heating features; bar graph. ....	568
13.99b. LA 37592, weights of identified fuel wood (dominated by juniper from large fire features) by species; pie chart. ....	569
13.100. LA 37592, Pueblo III interior fire pits, fuel wood types, pie chart. ....	569
13.101. LA 37592, site-wide, pit size (counts by volume) for all pits, histogram. ....	573
13.102. LA 37592, site-wide, pit size (counts by volume) for pits less than 5 liters, histogram. ....	573
13.103. LA 37592, site-wide, ceramics, mineral and organic paint counts by grouped proveniences, bar chart. ....	574
<b>14. LA 37593 (Thunder Maker Site)</b>	
14.1a. LA 37593, site overview, view east, pre-excavation. ....	576
14.1b. LA 37593, water line trench and drainage area, pre-excavation. ....	576
14.2. LA 37593, site area map (adapted from OAS survey map, Toll and Hannaford 1997). ....	577
14.3. LA 37593, plan. ....	580
14.4. LA 37593, Backhoe Trench 1, profile, view west. ....	582
14.5. LA 37593, Roomblock 1, excavation. ....	583
14.6a. LA 37593, surface collection area, distribution and density, lithics. ....	593
14.6b. LA 37593, surface collection area, distribution and density, ceramics. ....	594
14.6c. LA 37593, surface collection area, distribution and density, human remains (bone). ....	595
14.7. LA 37593, Extramural Area 1, Feature 1 (overlying Feature 4), view southeast. ....	603
14.8. LA 37593, Extramural Area 1, Features 1 and 4, plan and profile. ....	604
14.9. LA 37593, Extramural Area 1, Feature 2 (major storage cist), plan and profile. ....	605
14.10. LA 37593, Extramural Area 1, Feature 2, Mummy Lake Gray jar (Vessel 7) in situ. ....	608
14.11. LA 37593, Extramural Area 1, Feature 2, Mummy Lake Gray jar (Vessel 7); right: selenite contents. ....	608
14.12a. LA 37593, Extramural Area 1, Feature 2, basket in situ; two views (left and right) and detail (center). ....	609
14.12b. LA 37593, Extramural Area 1, Feature 2, basket impression, detail. ....	609
14.13. LA 37593, Extramural Area 1, Feature 5, Burial 3, with Backhoe Trench 5, plan and profile. ....	611
14.14a. LA 37593, Extramural Area 1, Feature 7, Burials 1 and 2, with Backhoe Trench 1, plans and profile. ....	614
14.14b. LA 37593, Extramural Area 1, Feature 7, Burial 1, Mancos Black-on-white ladle (Vessel 8). ....	615
14.14c. LA 37593, Extramural Area 1, Feature 7, Burial 2, Dolores Corrugated jar (Vessel 5). ....	615
14.15. LA 37593, Roomblock 1, Rooms 101–103, Floor 1, plan. ....	618
14.16a. LA 37593, Roomblock 1, Rooms 101–103, Floor 2, plan. ....	623
14.16b. LA 37593, Roomblock 1, Rooms 101–103, Floor 3, plan. ....	625

14.17. LA 37593, Room 101, Floor 3, walls; view north.....	626
14.18. LA 37593, Room 102, view to west wall. ....	632
14.19 [OMITTED]	
14.20a. LA 37593, Room 103, Floor 1, axe.....	635
14.20b. LA 37593, Room 103, Layer 8, Floor 2, Features 3 and 4, view west. ....	636
14.21. LA 37593, Room 103, Floor 2, Feature 6, McElmo Black-on-white effigy vessel (early PIII). ....	636
14.22. LA 37593, Room 103, Floor 2, Feature 3, Dogoszhi Black-on-white bowl (Vessel 11).....	637
14.23. LA 37593, Room 103, Floor 2 [or/?] 3, Feature 2; bipod shot, view south. ....	639
14.24. LA 37593, Room 103, Floor 3, Feature 2, view to east wall.....	640
14.25. LA 37593, Room 103, south wall. ....	641
14.26. LA 37593, Room 103, north wall. ....	642
14.27. LA 37593, Roomblock 2, plan.....	645
14.28a. LA 37593, Pit Structure 1, plan. ....	647
14.28b. LA 37593, Pit Structure 1, Backhoe Trench 4, profile, view northeast. ....	648
14.29. LA 37593, Pit Structure 1, Layer 13, Levels 7 and 8, human remains, plan. ....	653
14.30. LA 37593, Pit Structure 1, Layer 13, Level 8, human remains (semiarticulated), view west.....	654
14.31. LA 37593, Pit Structure 1, Layer 13, Level 7, human remains (disarticulated), view southwest.....	654
14.32. LA 37593, Pit Structure 1, Floor 1, plan. ....	669
14.33. LA 37593, Pit Structure 1, Floor 1, Mancos Black-on-white olla (reconstructed) with corrugated neck. ....	674
14.34. LA 37593, Pit Structure 1, Floor 1, Feature 9 (major off-chamber cist).....	675
14.35. LA 37593, Pit Structure 1, Floor 1, Feature 9 (major off-chamber cist), axe. ....	676
14.36. LA 37593, Pit Structure 1, Floor 2, plan. ....	678
14.37. LA 37593, Pit Structure 1, Floor 2; bipod shot, view northwest. ....	679
14.38. LA 37593, Pit Structure 1, Floor 2, Feature 17 (pits within sipapu complex).....	680
14.39. LA 37593, Pit Structure 1, Floor 1, Feature 10, wall patch showing sherds.....	681
14.40 [a-i]. LA 37593, formal tools.....	693
<b>15. LA 60749</b>	
15.1. LA 60749, site area map (adapted from OAS survey map, Toll and Hannaford 1997).....	704
15.2. LA 60749, plan. ....	706
15.3. LA 60749, surface collection area, distribution and density, ceramics and lithics. ....	707
15.4. LA 60749, Extramural Area 1, early clearing near Pit Structure 1, view east to La Plata River. ....	708
15.5. LA 60749, Extramural Area 1, Feature 1, view south. ....	709
15.6a. LA 60749, Pit Structure 1, early excavation, view northeast.. ....	711
15.6b. LA 60749, Pit Structure 1, Test Trenches 1 and 2 and stripped area, plan.....	711
15.7. LA 60749, Pit Structure 1, Floor 1, plan. ....	712
15.8. LA 60749, Pit Structure 1, stratigraphy, showing burn layer and native substrate.....	713
15.9. LA 60749, Pit Structure 1, Floor 1, beams and jacal, detail, view east.....	714
15.10. LA 60749, Pit Structure 1, Floor 1, beam radii from jacal casts (counts by radius), bar chart.....	714
15.11. LA 60749, Extramural Area 3, hand trenches, profiles; A-A' (view south) and B-B' (view east).....	718
15.12. LA 60749, Extramural Area 3, Feature 1 (cist), profile showing surrounding soil.....	720
15.13. LA 60749, Extramural Area 3, Feature 2 (deposit), showing irregular shape; view west.....	721
15.14. LA 60749, Pit Structure 1 and Extramural Area 2, projectile points.....	726
<b>16. LA 37598 (Three Fingers Up, Three Toes Down Site)</b>	
16.1a. LA 37598, site area map (adapted from OAS survey map, Toll and Hannaford 1997). ....	733
16.1b. LA 37598, site overview, view southeast, pre-excavation. ....	734
16.2. LA 37598, plan. ....	735
16.3. LA 37598, surface collection area, distribution and density, ceramics and lithics. ....	737
16.4. LA 37598, Extramural Areas 1 and 3 (west of NM 170), detail: Roomblock 1 and Pit Structures 1 and 3, plan....	741
16.5. LA 37598, Extramural Areas 1 and 3, Roomblock 1, plan.....	744
16.6. LA 37598, Roomblock 1, Room 101, view southwest.....	745
16.7. LA 37598, Roomblock 1, Rooms 101, 103, 104; view north. ....	746
16.8. LA 37598, Roomblock 1, profiles; top: view west (Room 101, 104), bottom: view north (Room 101, 103, 105). ....	747
16.9. LA 37598, Room 101, Floor 1, plan.....	748
16.10 [a-d]. LA 37598, Roomblock 1, unusual ground stone tools. ....	751
16.11. LA 37598, Room 101, Floor 2, Features 1 (cist) and 2 (posthole).....	752
16.12. LA 37598, Room 102, Floor 1, plan.....	754
16.13. LA 37598, Room 102, Floor 2, plan.....	758



16.14. LA 37598, Room 103, Floor 1, plan.....	759
16.15. LA 37598, Room 103, Floor 2, plan.....	763
16.16. LA 37598, Room 104, Floor 1, plan.....	764
16.17. LA 37598, Room 105, Floor 1, plan.....	766
16.18. LA 37598, Roomblock 1, specialized short manos.....	770
16.19. LA 37598, Pit Structure 1, plan, and Feature 1 (cist tunnel) and Feature 2 (major storage cist), profile. ....	774
16.20. LA 37598, Pit Structure 1, profile, view west. ....	775
16.21. LA 37598, projectile points.....	775
16.22. LA 37598, Pit Structure 1, Features 3, 4, and 5 (hearth, ash pit, vent shaft); view southeast.....	780
16.23. LA 37598, Extramural Area 2 (east of NM 170), detail: Roomblock 2 and Pit Structure 2, with extramural Features 1 and 4 (cist with entry); plan.....	787
16.24a. LA 37598, Extramural Area 2, Features 1 and 4 (cist with entry), plan and profile, view east. ....	789
16.24b. LA 37598, Extramural Area 2, Features 1 and 4 (cist with entry), view east. ....	790
16.25. LA 37598, Roomblock 2, plan.....	795
16.26. LA 37598, Pit Structure 2, Floor 1, plan. ....	800
16.27. LA 37598, Pit Structure 2, view west. ....	801
16.28. LA 37598, Pit Structure 2, profile, view east. ....	802
16.29 [a-j]. LA 37598, Pit Structure 2, worked bone from the northern portion of the bench. ....	805
16.30 [a-e]. LA 37598, Pit Structure 2, worked bone.....	806
16.31. LA 37598, Pit Structure 2, Feature 23 (bench posthole).....	811
16.32. LA 37598, Pit Structure 2, Floor 1, Feature 5 (posthole) at the floor-wall juncture, showing how the post would have been slightly set into the wall.....	813
16.33. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1 (west), view west.....	814
16.34. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1 (west) and Panel 2 (east); field drawing. ....	815
16.35. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1, southern extent. ....	816
16.36. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1; field drawing, southern extent detail. ....	816
16.37. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1; field drawing, midpoint detail.....	817
16.38. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1, northern extent. ....	817
16.39. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 2.....	818
16.40. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 2; field drawing, southern extent figure detail.....	818
<b>17. LA 37591 (Runoff Ditch Pueblo)</b>	
17.1. LA 37591, site area map (adapted from OAS survey map, Toll and Hannaford 1997).....	842
17.2. LA 37591, site overview (foreground), view northeast, pre-excavation. LA 37591 features are located between the edge of the highway pavement and the drainage ditch berm next to the fence.....	843
17.3. LA 37591, view south, pre-excavation (site area runs from the fence to the highway).....	843
17.4. LA 37591, plan. ....	845
17.5. LA 37591, surface collection area, distribution and density, ceramics and lithics. ....	850
17.6. LA 37591, Pit Structure 1, Floor 1, plan and architectural profile (view west). ....	857
17.7. LA 37591, Pit Structure 1, profile (view west). ....	858
17.8. LA 37591, Pit Structure 1, Floor 1, Features 1 (hearth), 2 (sipapu), 3 (pit), 6 (deflector), and 8 (vent). ....	859
17.9. LA 37591, Pit Structure 1, Floor 1, Feature 8 (vent) opening, view southeast.....	865
17.10. LA 37591, projectile points.....	873

## TABLES LIST

### VOLUME 1 [BOOK TWO]

#### 13. LA 37592 (Kin Sin Fin)

13.1. LA 37592, Extramural Areas 1–4, proveniences by area.....	354
13.2. LA 37592, all significant proveniences, with relevant codes and stratigraphic and time period associations. ....	358
13.3. LA 37592, occupational event with stratigraphic and time period associations. ....	362
13.4. LA 37592, Extramural Areas 1–4 features by site context at initial observation. ....	363
13.5. LA 37592, Extramural Areas 1–4 features; summary table.....	366
13.6. LA 37592, Extramural Area 2, 161N–166N, stratigraphy.....	372
13.7. LA 37592, Extramural Areas 1–4 features, artifact counts by pottery ware and lithic and bone tool type. ....	377–378
13.8. LA 37592, Extramural Area 3, pollen, counts by type and provenience. ....	382
13.9. LA 37592, Extramural Areas 3 and 4, proximate to the south end of Pit Structure 1, plant remains, flotation full-sort results; taxon by feature, frequency and abundance per liter. ....	386
13.10. LA 37592, Extramural Areas 3 and 4, proximate to the south end of Pit Structure 1, wood charcoal, flotation and macrobotanical results; taxon by feature, counts and weights (g).....	387
13.11. LA 37592, Extramural Areas 1–4, pottery types, paint types, and vessel forms by area and time period; counts and percents.....	388–389
13.12. LA 37592, Extramural Areas 1–4, chipped stone tool and material types by area and time period; counts and percents.....	390
13.13. LA 37592, Extramural Areas 1–4, ground stone tool and material types by area and time period; counts and percents.....	391
13.14. LA 37592, Extramural Areas 1–4, faunal remains and bone tools by area and time period; counts and percents. ....	392
13.15. LA 37592, Roomblock 2, ground stone artifact and material types by room; counts and percents. ....	393
13.16. LA 37592, ground stone tools by major provenience; counts and percents. ....	394
13.17. LA 37592, Roomblock 2, Room 201, stratigraphy.....	398
13.18. LA 37592, Roomblock 2, Room 201, features; summary table. ....	399
13.19. LA 37592, Roomblock 2, Rooms 201–203, pottery types by room; counts and percents.....	400
13.20. LA 37592, Roomblock 2, Rooms 201–203, chipped stone tool and material types by room; counts and percents. ....	402
13.21. LA 37592, Pit Structure 1 and Roomblock 2, Rooms 201–203, chipped stone tool types by floor/floor fill context; counts and percents.....	403
13.22. LA 37592, Roomblock 2, Rooms 201–203, pottery types and vessel forms by floor/floor fill context; counts and percents.....	404–405
13.23. LA 37592, Room 201, Floor 1, point-provenienced artifacts; summary table.....	406
13.24. LA 37592, Room 201, Floor 2, point-provenienced artifacts (FS 189); summary table. ....	408
13.25. LA 37592, Roomblock 2, Rooms 201–203, artifacts in room features; counts by feature, floor, and type.....	411
13.26. LA 37592, Room 202, Floor 1, point-provenienced artifacts (FS 504–505). ....	413
13.27. LA 37592, Room 202, Floors 1–3, features; summary table. ....	415
13.28. LA 37592, Room 203, standing wall measurements.....	417
13.29. LA 37592, Rooms 201–203, correlation of room floors. ....	421
13.30. LA 37592, Pit Structure 1, excavated units; summary table.....	428
13.31. LA 37592, Pit Structure 1, layer and level designations, initial and revised. ....	431
13.32. LA 37592, Rooms 201–203 and Pit Structure 1 lower midden, pottery paint type by floor or layer context; counts and percents.....	432
13.33. LA 37592, Pit Structure 1, stratigraphy. ....	433–435
13.34. LA 37592, Pit Structure 1, midden (upper fill) plant remains, flotation full-sort results by layer and taxon; frequency and abundance per liter. ....	437
13.35. LA 37592, Pit Structure 1, Floor 1, plant remains, flotation scan results by floor or feature context and taxon; abundance per liter.....	440
13.36. LA 37592, Pit Structure 1, pollen, counts by type and provenience. ....	441–442
13.37. LA 37592, Pit Structure 1, cultural material type by stratigraphic unit; count totals and column percentages. ....	448
13.38. LA 37592, Pit Structure 1, pottery and paint type by stratigraphic unit; count totals and column percentages... ..	449
13.39. LA 37592, Pit Structure 1, pottery ware group by stratigraphic unit; counts and percents. ....	450
13.40. LA 37592, Pit Structure 1, vessel forms and ware groups, counts by stratigraphic context. ....	451
13.41. LA 37592, Pit Structure 1, vessel forms and ware groups, percents by stratigraphic context.....	452
13.42. LA 37592, Pit Structure 1, chipped stone tool and material types by stratigraphic context; count totals and column percentages. ....	454
13.43. LA 37592, Pit Structure 1, ground stone tool and material types, counts by stratigraphic context.....	455

13.44. LA 37592, faunal remains, taxon by major provenience; counts and percents.....	456–457
13.45. LA 37592, Pit Structure 1, faunal classes by stratigraphic unit; counts and percents. ....	458
13.46. LA 37592, Pit Structure 1, faunal element completeness by stratigraphic unit and class; counts and percents. ....	458
13.47. LA 37592, Pit Structure 1, major faunal classes by stratigraphic unit; counts and percents. ....	459
13.48. LA 37592, Pit Structure 1, turkey and bird elements by stratigraphic unit; counts and percents. ....	459
13.49. LA 37592, Pit Structure 1, bone tools, counts by type and stratigraphic unit.....	461
13.50. LA 37592, Pit Structure 1, bone awls, counts by type and stratigraphic unit. ....	462
13.51. LA 37592, Pit Structure 1, human remains (disarticulated), counts by bone type and stratigraphic unit. ....	464–465
13.52. LA 37592, Pit Structure 1, distribution of ceramics, lithics, faunal and human remains, by layer and quadrant; counts and percents. ....	467
13.53. LA 37592, Pit Structure 1, human remains (disarticulated), age and condition of mandibles. ....	468
13.54. LA 37592, Pit Structure 1, Layer 1, human remains (disarticulated) groups 1–3, by bone type and age; counts and percents.....	470–471
13.55. LA 37592, Pit Structure 1, human remains (disarticulated), by stratigraphic unit and age; counts and percents.....	472
13.56. LA 37592, Pit Structure 1, human remains (disarticulated), counts by bone alteration and stratigraphic unit....	473
13.57. LA 37592, Pit Structure 1, human remains (disarticulated), counts by cut mark and thermal alteration type. ....	473
13.58. LA 37592, Pit Structure 1, human remains (disarticulated), matched bone/fragment elements by location.....	474
13.59 [OMITTED]	
13.60. LA 37592, Pit Structure 1, cultural material counts by type and stratigraphic unit, with ratios of sherds to other cultural materials.....	476
13.61. LA 37592, Pit Structure 1, human remains (disarticulated) below Layer 4; counts by layer and bone type.....	477
13.62. LA 37592, Pit Structure 1, Floors 1–3, features; summary table. ....	483–485
13.63. LA 37592, Pit Structure 1, Floors 1–3, artifact counts by feature and cultural material category.....	500
13.64. LA 37592, major pottery types by major provenience; counts and percents.....	516
13.65. LA 37592, red and brown ware pottery types by major provenience; counts and percents.....	517
13.66. LA 37592, pottery types (all) and ware groups; counts, weights, and percents of each. ....	518–519
13.67. LA 37592, major vessel forms/ware by major provenience; counts and percents. ....	519
13.68. LA 37592, vessel forms (all) by ware group; counts and percents. ....	520
13.69. LA 37592, vessel forms (all) by major provenience; counts and percents.....	521
13.70. LA 37592, sherd modification by ware group; counts and percents. ....	522
13.71 [OMITTED]	
13.72. LA 37592, temper type by vessel form and ware group; counts and percents. ....	523
13.73. LA 37592, sherds, mean weights (g) by major provenience group. ....	523
13.74. LA 37592, Pit Structure 1, mean weight (g) and counts of sherd lots by layer.....	524
13.75. LA 37592, Pit Structure 1, mean weight (g) and counts of sherd lots by layer and ware group. ....	525
13.76. LA 37592, reconstructible ceramic vessels by pottery type and provenience, with sherd count and temper type. ..	526
13.77. LA 37592, chipped stone material type by major provenience; counts and percents.....	526
13.78. LA 37592, debitage, mean weight (g) and counts by major provenience.....	526
13.79. LA 37592, chipped stone tool types by major provenience; counts and percents.....	527
13.80. LA 37592, chipped stone artifacts by major provenience; tool and material type, weights (g), and context. ..	528–530
13.81. LA 37592, grouped chipped stone tool types by grouped material types. ....	534
13.82. LA 37592, flakes, mean weight (g) and counts by material type.....	535
13.83. LA 37592, projectile points, material type counts by major provenience. ....	535
13.84. LA 37592, Pit Structure 1, ground stone tool types by material type; counts and percents. ....	536
13.85. LA 37592, Pit Structure 1, ornaments, type counts by stratigraphic context.....	538
13.86. LA 37592, ornaments, types and material, counts by major provenience. ....	538
13.87. LA 37592, faunal remains, class by major provenience; counts and percents. ....	541
13.88. LA 37592, Pit Structure 1, cultural material types, counts by layer.....	542
13.89. LA 37592, bone tool types by major provenience; counts and percents. ....	543
13.90. LA 37592, bone tools (all) with faunal class, element, and completeness, by layer/level and provenience.....	546–549
13.91. LA 37592, Room 201, pollen counts by type and provenience.....	550
13.92. LA 37592, Extramural Area 3, pollen counts by type and provenience. ....	551
13.93. LA 37592, burials, pollen counts by type and provenience.....	552
13.94. LA 37592, pollen, counts by type. ....	553
13.95. LA 37592, Extramural Area 3, plant remains, flotation full-sort and scan results by taxon and feature; weights (g) and frequency and abundance per liter. ....	553
13.96. LA 37592, Extramural Area 3, wood charcoal, flotation results by taxon and feature; count/weight (g).....	554
13.97. LA 37592, Extramural Area 3, macrobotanical wood charcoal, weights (g) by taxon and feature. ....	554
13.98. LA 37592, Pit Structure 1, Floors 1–3, plant remains, flotation full-sort results by taxon and feature;	



frequency and abundance per liter. ....	555
13.99. LA 37592, Pit Structure 1, Floor 1, plant remains, flotation results by taxon and feature; abundance per liter....	556
13.100. LA 37592, Pit Structure 1, Floors 1–3, wood charcoal, flotation results by taxon and feature; count/weight (g).....	556
13.101. LA 37592, Pit Structure 1, Floors 1–3, macrobotanical wood charcoal, weights (g) by taxon and feature.....	557
13.102. LA 37592, Pit Structure 1, lower fill, macrobotanical wood charcoal, weights (g) by taxon and context.....	558
13.103. LA 37592, Extramural Areas 3 and 4 proximate to south end of Pit Structure 1, plant remains from features, flotation full-sort results by taxon; frequency and abundance per liter. ....	558
13.104. LA 37592, Pit Structure 1, midden in upper fill, plant remains, flotation full-sort results by taxon and layer; frequency and abundance per liter. ....	560
13.105. LA 37592, Pit Structure 1, midden in upper fill, wood charcoal, flotation results by taxon and layer; count/weight (g). ....	561
13.106. LA 37592, Room 201, plant remains, flotation scan results by taxon and floors/features; frequency and abundance per liter. ....	562
13.107. LA 37592, Rooms 201, 202, and 203, macrobotanical wood charcoal, weights (g) by taxon and floors/features.....	563
13.108. LA 37592, Rooms 201 and 202, plant remains, flotation full-sort results by feature/layer; frequency and abundance per liter. ....	564
13.109. LA 37592, Rooms 201 and 202, wood charcoal, flotation results by taxon and feature/layer; count/weight (g). ....	565
13.110. LA 37592, Extramural Area 2, plant remains from features, flotation full-sort and scan results by taxon and floor context; frequency and abundance per liter. ....	566
13.111. LA 37592, Extramural Area 2, wood charcoal, flotation results by taxon and feature/floor context; count/weight (g). ....	567
13.112. LA 37592, Extramural Area 2, macrobotanical wood charcoal, weights (g) by taxon and features.....	567
13.113. LA 37592, human skeletal remains (all), by burial provenience or stratigraphic context; summary table. ....	570
13.114. LA 37592, Room 201, plant remains, flotation full-sort and scan results by taxon and feature/floor context; frequency and abundance per liter. ....	571
13.115. LA 37592, feature types, counts by major provenience.....	572
13.116. LA 37592, feature types and counts with mean volumes (liters) of measured features. ....	572

#### 14. LA 37593 (Thunder Maker Site)

14.1. LA 37593, backhoe trenches and miscellaneous hand trenches; summary table. ....	581
14.2. LA 37593, Extramural Areas 1 and 2, features and fill by time period. ....	584
14.3. LA 37593, Extramural Areas 1 and 2, cultural materials from ground surface, counts by type. ....	585
14.4. LA 37593, pottery types by major provenience; counts and percents. ....	586–587
14.5. LA 37593, vessel form and paint type by major provenience; counts and percents. ....	588
14.6. LA 37593, chipped stone tool and material type by major provenience; counts and percents. ....	589
14.7. LA 37593, ground stone tool type by major provenience; counts and percents. ....	590
14.8. LA 37593, faunal assemblage, taxon by major provenience; counts and percents. ....	591
14.9. LA 37593, human remains, age and sex by major provenience; counts and percents. ....	592
14.10. LA 37593, Extramural Areas 1 and 2, features; summary table.....	596
14.11. LA 37593, Extramural Areas 1 and 2, pottery types by feature; counts and percents. ....	597
14.12. LA 37593, Extramural Areas 1 and 2, vessel forms by feature and ware group; counts and percents. ....	598
14.13. LA 37593, Extramural Areas 1 and 2, chipped stone tool types by feature; counts and percents. ....	599
14.14. LA 37593, Extramural Area 1, ground stone tool types by feature; counts and percents. ....	600
14.15. LA 37593, Extramural Area 1, faunal remains by feature; counts and percents.....	600
14.16. LA 37593, Burials 1–4, pottery types by burial; sherd counts and percents. ....	601
14.17. LA 37593, Burials 1–4, vessel forms by burial and ware group; sherd counts and percents.....	601
14.18. LA 37593, Burials 2–4, chipped stone material and tool type by burial; counts and percents. ....	602
14.19. LA 37593, ground stone tools associated with primary burials; summary table. ....	602
14.20. LA 37593, Burials 1–4, faunal remains, taxon by burial; counts and percents.....	603
14.21. LA 37593, whole vessels by sherd group and stratigraphic context; summary table.....	606–607
14.22. LA 37593, Roomblock 1, Room 101, pottery types, forms, and paint, counts by floors, features, and fill.....	619
14.23. LA 37593, Roomblock 1, Room 101, chipped stone tool and material by floors and fill; counts and percents. ....	620
14.24. LA 37593, Roomblock 1, Room 101, faunal remains, taxon by floor and fill; counts and percents. ....	620
14.25. LA 37593, Roomblock 1, Rooms 101–103, point-provenienced artifacts by floor; summary table. ....	622
14.26. LA 37593, Roomblock 1, features; summary table. ....	624
14.27. LA 37593, Roomblocks 1 and 2, pottery types by roomblock and room; counts and percents. ....	628
14.28. LA 37593, Roomblocks 1 and 2, vessel forms and paint types by roomblock and room; counts and percents. ....	629
14.29. LA 37593, Roomblocks 1 and 2, chipped stone material and types by roomblock and room; counts and percents. ....	630
14.30. LA 37593, Roomblocks 1 and 2, ground stone tool types by roomblock and room; counts and percents. ....	631

14.31. LA 37593, Roomblocks 1 and 2, faunal remains, taxon by roomblock and room; counts and percents.....	632
14.32. LA 37593, Room 103, pottery types, forms, and paint, counts by floors, features, and fill. ....	633
14.33. LA 37593, Room 103, chipped stone material and tool types, counts by floors, features, and fill. ....	634
14.34. LA 37593, Room 103, ground stone tool types, counts by floors, features, and fill. ....	634
14.35. LA 37593, Room 103, faunal remains, taxon by floors, features, and fill; counts and percents. ....	635
14.36. LA 37593, Pit Structure 1, pottery types by stratigraphic context; counts and percents. ....	649
14.37. LA 37593, Pit Structure 1, vessel forms and paint types by stratigraphic context; counts and percents. ....	650
14.38. LA 37593, Pit Structure 1, chipped stone tool and material types by stratigraphic context; counts and percents. ....	650
14.39. LA 37593, Pit Structure 1, ground stone tool types, counts by stratigraphic context. ....	651
14.40. LA 37593, Pit Structure 1, faunal remains, taxon by stratigraphic context; counts and percents. ....	651
14.41. LA 37593, excavation units defining human bone layer; summary table. ....	652
14.42. LA 37593, Pit Structure 1, human bone layer, counts by skeletal element and age. ....	658–660
14.43. LA 37593, Pit Structure 1, human bone layer, counts by skeletal element and completeness. ....	661–663
14.44. LA 37593, Pit Structure 1, human bone, counts by completeness and fill type. ....	664
14.45. LA 37593, Pit Structure 1, faunal and human remains, counts by presence of weathering. ....	664
14.46. LA 37593, Pit Structure 1, human bone layer, counts by processing type and thermal alteration. ....	664
14.47. LA 37593, Pit Structure 1, faunal remains in human bone layer, counts by skeletal element and completeness. ....	666
14.48. LA 37593, Pit Structure 1, Floor 1, features; summary table. ....	670
14.49. LA 37593, Pit Structure 1, Floors 1 and 2, pottery types, vessel forms, and paint type, counts by features/fill. ....	671
14.50. LA 37593, Pit Structure 1, Floor 1, chipped stone tool and material types, counts by features/fill. ....	672
14.51. LA 37593, Pit Structure 1, Floor 1, ground stone tools, counts by type and features/fill. ....	672
14.52. LA 37593, Pit Structure 1, Floors 1 and 2, faunal remains, counts by taxon and features/fill. ....	673
14.53. LA 37593, Pit Structure 1, Floor 2, features; summary table. ....	673
14.54. LA 37593, pottery types (all); counts, weights (g), and percents of each. ....	683–684
14.55. LA 37593, pottery types by vessel form; counts and percents. ....	685
14.56. LA 37593, pottery and paint types by time period; counts and percents. ....	686
14.57. LA 37593, pottery types, counts by temper type. ....	687
14.58. LA 37593, chipped stone tools by material type; counts and percents. ....	689
14.59a. LA 37593, projectile point material types, counts by point type and by major provenience. ....	690
14.59b. LA 37593, chipped stone tools by material type and weight (g) with percents. ....	691
14.60. LA 37593, chipped stone, tool and material types by time period; counts and percents. ....	692
14.61. LA 37593, ground stone tools by material type; counts and percents. ....	694
14.62. LA 37593, ground stone tools by time period; counts and percents. ....	695
14.63. LA 37593, ornaments, counts by type and major provenience. ....	695
14.64. LA 37593, faunal remains, taxon by time period; counts and percents. ....	696
14.65. LA 37593, bone tools, types by major provenience; summary table. ....	697
14.66. LA 37593, plant remains, flotation results by taxon, major provenience, and feature; frequency/abundance. ....	698
14.67. LA 37593, macrobotanical wood, weights (g) by taxon and major proveniences, floors/features. ....	699
14.68. LA 37593, Pit Structure 1, Floor 1, plant remain, flotation scan results by taxon and floor quadrants/ features; abundance per liter. ....	700
14.69. LA 37593, wood charcoal, flotation results by taxon and major proveniences, floors/features; count/weight (g)...	701
14.70. LA 37593, carbonized Zea mays remains; counts by major provenience and floors/features. ....	701
14.71. LA 37593, Roomblock 1, Rooms 101 and 103, plant remains, flotation scan results by taxon and floor/ surface; abundance per liter. ....	701
14.72. LA 37593, Extramural Areas 1 and 2, plant remains, flotation scan results by taxon and feature; abundance per liter. ....	702
<b>15. LA 60749</b>	
15.1. LA 60749, Extramural Area 1, 1 by 1 m test pits; units, artifacts, and auger depths. ....	709
15.2. LA 60749, Pit Structure 1, Floor 1, point-provenienced artifacts; summary table. ....	716
15.3. LA 60749, Extramural Area 2, 1 by 1 m test pits; units, artifact, and auger depths. ....	717
15.4. LA 60749, Extramural Area 3, 1 by 1 m test pits; units, artifact, and auger depths. ....	719
15.5. LA 60749, pottery types (all) by count and weight, with percents. ....	722
15.6. LA 60749, Extramural Areas 1–3 and Pit Structure 1, pottery and paint types by provenience; counts/percents. ....	723
15.7. LA 60749, Extramural Areas 1–3, pottery and paint types, counts by presence of disturbance. ....	724
15.8. LA 60749, Extramural Areas 1–3 and Pit Structure 1, vessel forms by ware and provenience; counts/percents. ....	725
15.9. LA 60749, Extramural Areas 1–3 and Pit Structure 1, chipped stone tool and material types by major provenience; counts and percents. ....	726
15.10. LA 60749, Extramural Areas 2, 3 and Pit Structure 1, ground stone tools, counts by type and provenience. ....	727

15.11. LA 60749, Extramural Areas 1, 3 and Pit Structure 1, faunal remains, taxa by provenience; counts/percents. ....	727
15.12. LA 60749, faunal elements, counts by taxon. ....	728
15.13. LA 60749, Extramural Areas 2, 3 and Pit Structure 1, plant remains, flotation scan results by taxon and floor/feature; abundance per liter. ....	728
15.14. LA 60749, Extramural Area 3 and Pit Structure 1, macrobotanical plant remains, taxon by layer/level; weight (g) and abundance. ....	729
15.15. LA 60749, Extramural Area 1 and Pit Structure 1, wood charcoal, flotation results by taxon and fill/layer count and weight (g). ....	729
<b>16. LA 37598 (Three Fingers Up, Three Toes Down Site)</b>	
16.1. LA 37598, proveniences and associated time periods. ....	736
16.2. LA 37598, Extramural Areas 1 and 2, backhoe trenches; summary table. ....	738
16.3. LA 37598, Extramural Area 1, test units; ceramics, chipped stone, and ground stone counts by unit and artifact type. ....	739
16.4. LA 37598, Extramural Area 1, Features 1–7; summary table. ....	742
16.5. LA 37598, Extramural Area 3, Feature 1; summary table. ....	743
16.6. LA 37598, Roomblock 1, Rooms 101–105, wall dimensions. ....	749
16.7. LA 37598, Room 101, features; summary table. ....	753
16.8. LA 37598, Room 102, Floors 1 and 2, features; summary table. ....	756
16.9. LA 37598, Rooms 101–104, plant remains, flotation results by taxon and feature; frequency/abundance per liter. ....	757
16.10. LA 37598, Room 103, Floors 1 and 2, features; summary table. ....	761
16.11. LA 37598, Room 104, Floor 1, features; summary table. ....	765
16.12. LA 37598, Roomblocks 1 and 2, pottery ware groups by room; counts and percents. ....	768
16.13. LA 37598, Roomblocks 1 and 2, vessel form by room; counts and percents. ....	768
16.14. LA 37598, Rooms 101, 104, and 105, chipped stone tools and material types, counts by fill and floor. ....	769
16.15. LA 37598, Rooms 102 and 103, chipped stone tools and material types, counts by fill and floor. ....	769
16.16. LA 37598, ground stone by room. ....	771
16.17. LA 37598, Rooms 101 and 103, plant remains, flotation scan results by taxon and floors/features; abundance per liter. ....	771
16.18. LA 37598, Rooms 101–103, wood charcoal flotation results, weight (g) by taxon and feature. ....	772
16.19. LA 37598, Pit Structure 1, Floor 1, features; summary table. ....	777
16.20. LA 37598, pollen, counts by taxon, floors/layers/features, and major provenience. ....	778–779
16.21 [OMITTED]	
16.22. LA 37598, Pit Structure 1, vessel form and paint type, counts by fill type. ....	781
16.23. LA 37598, Pit Structure 1, chipped stone tool and material types, counts by fill type. ....	782
16.24. LA 37598, Pit Structure 1, ground stone tool types, counts by fill type. ....	782
16.25. LA 37598, Pit Structure 1, faunal remains, taxa counts by fill type. ....	783
16.26. LA 37598, Pit Structure 1, plant remains, flotation results by taxon and feature/layer; frequency and abundance per liter. ....	784
16.27. LA 37598, Pit Structure 1, plant remains, flotation scan results by taxon and feature/layer; abundance per liter. ....	785
16.28. LA 37598, Pit Structure 1, wood charcoal flotation results, weight (g) by taxon and feature/layer. ....	785
16.29. LA 37598, Extramural Area 2, features; summary table. ....	788
16.30. LA 37598, Extramural Areas 1–3, plant remains, flotation results by taxon; frequency/abundance per liter. ....	793
16.31. LA 37598, Extramural Areas 1–3, wood charcoal flotation results, weight (g) by taxon and feature. ....	794
16.32. LA 37598, Roomblock 2, Rooms 201 and 202, wall dimensions. ....	796
16.33. LA 37598, Room 202, Floor 1, features; summary table. ....	798
16.34. LA 37598, Rooms 201 and 202, plant remains, flotation results by type; frequency and abundance per liter. ....	799
16.35. LA 37598, Pit Structure 2, Floor 1, point-provenienced artifacts; summary table. ....	804
16.36. LA 37598, Pit Structure 2, point-provenienced artifacts; summary table. ....	807–808
16.37. LA 37598, Pit Structure 2, Floor 1, bone tools and tool waste, counts by floor quadrant and bench location. ....	809
16.38. LA 37598, Pit Structure 2, modified bone, counts by fill type. ....	809
16.39. LA 37598, Pit Structure 2, ground stone tool types, counts by fill type. ....	809
16.40. LA 37598, Pit Structure 2, Floor 1, features; summary table. ....	810
16.41. LA 37598, Pit Structure 2, faunal taxa, counts by fill type. ....	811
16.42. LA 37598, Pit Structure 2, chipped stone tool and material types, counts by fill type. ....	820
16.43. LA 37598, Pit Structure 2, plant remains, flotation scan results by taxon and floor/feature; abundance per liter. ....	821
16.44. LA 37598, Pit Structure 2, Features 1 and 16, plant remains, flotation results by taxon; frequency and abundance per liter. ....	822
16.45. LA 37598, Pit Structure 2, Features 1 and 16, wood charcoal flotation results, weight (g) by taxon. ....	822



16.46. LA 37598, pottery types (all); count, weight (g), and percent. ....	824
16.47. LA 37598, pottery types by major provenience type; counts and percents. ....	825
16.48. LA 37598, pottery types by major provenience type; counts and percents. ....	826
16.49. LA 37598, temper type by major provenience; counts and percents. ....	827
16.50. LA 37598, pottery paint type and ware group by major provenience; counts and percents. ....	827
16.51. LA 37598, vessel form by ware group and major provenience; counts and percents. ....	828
16.52. LA 37598, chipped stone material and tool types; counts, weight (g), and percents. ....	829
16.53. LA 37598, chipped stone tool types, counts by material type. ....	829
16.54. LA 37598, chipped stone material and tool type by major provenience. ....	830
16.55. LA 37598, ground stone tool and primary ornament types; counts, weight (g), and percents. ....	831
16.56. LA 37598, ground stone tool and primary ornament types by major provenience; counts and percents. ....	832
16.57. LA 37598, ground stone tool and primary ornament types, counts by material type ....	833
16.58. LA 37598, ornament types, counts by major provenience. ....	833
16.59. LA 37598, faunal taxa by major provenience; counts and percents. ....	834
16.60. LA 37598, major faunal groups by major provenience; counts and percents. ....	834
16.61. LA 37598, faunal remains (modified) by major provenience; counts and percents. ....	835
16.62. LA 37598, human remains (disarticulated), counts by provenience and stratigraphic group. ....	835
16.63. LA 37598, faunal elements, counts by major provenience. ....	836–837
16.64. LA 37598, Extramural Areas 1 and 2 and Room 102, macrobotanical plant remains, weight (g) by taxon, time period, and feature. ....	837
 <b>17. LA 37591 (Runoff Ditch Pueblo)</b>	
17.1. LA 37591, ceramic assemblages, primary proveniences by time period; presence/absence. ....	848
17.2. LA 37591, pottery types, counts from Lancaster (1983) testing program. ....	849
17.3. LA 37591, ceramics and lithics, counts by surface collection grid. ....	850
17.4. LA 37591, pottery and paint types by extramural provenience (including surface collection); counts/percents. ....	851
17.5. LA 37591, chipped stone tool and material types by extramural provenience; counts/percents. ....	852
17.6. LA 37591, ground stone tool types, counts by provenience group. ....	852
17.7. LA 37591, faunal remains, counts by taxon and provenience group. ....	853
17.8. LA 37591, Extramural Area 1 (Features 1–4) and Pit Structure 1 (Feature 5), pottery, chipped stone, ground stone, and faunal remains, type counts by feature. ....	854
17.9. LA 37591, Extramural Area 1, Features 1, 3, and 4, pottery type counts by vessel form. ....	855
17.10. LA 37591, Extramural Features 1, 3, and 4, chipped stone tool type counts by material type. ....	856
17.11. LA 37591, Pit Structure 1, pottery and paint types by midden layers; counts and percents. ....	860
17.12. LA 37591, Pit Structure 1, chipped stone tool and material types by midden layers; counts and percents. ....	861
17.13. LA 37591, Pit Structure 1, pottery and paint types by lower fill proveniences; counts and percents. ....	862
17.14. LA 37591, Pit Structure 1, chipped stone tool and material types by lower fill proveniences; counts/percents. ....	862
17.15. LA 37591, Pit Structure 1, Floor 1, features; summary table. ....	864
17.16. LA 37591, pottery types (all), by count, weight (g), and percent. ....	867
17.17. LA 37591, pottery and paint types, counts by vessel form. ....	868
17.18. LA 37591, pottery types, counts by temper type. ....	869
17.19. LA 37591, vessel form by ware group, sherds with definitive time-period association compared to complete assemblage; counts and percents. ....	870
17.20. LA 37591, chipped stone material and tool types; counts, weight (g), and percents. ....	871
17.21. LA 37591, chipped stone tool types by material type; counts and percents. ....	872
17.22. LA 37591, chipped stone tool and material types by definitive time-period association compared to complete assemblage; counts and percents. ....	873
17.23. LA 37591, ground stone tool types by material type; counts and percents. ....	874
17.24. LA 37591, faunal remains, element types counts by taxon and major provenience. ....	875–879
17.25. LA 37591, faunal remains, counts by taxon and age. ....	879
17.26. LA 37591, faunal remains, burning extent counts by taxon, major provenience and stratigraphic context. ....	881
17.27. LA 37591, faunal remains (modified), modification type, counts by taxon, major provenience and stratigraphic context. ....	882
17.28. LA 37591, plant remains, flotation results by taxon and time period, major provenience and features. ....	883
17.29. LA 37591, plant remains, flotation scan results by taxon and major provenience/stratigraphic context. ....	884
17.30. LA 37591, Pit Structure 1, wood charcoal, flotation results by taxon and time period and feature/fill layer; counts and weight (g). ....	884
17.31. LA 37591, Pit Structure 1, carbonized Zea mays remains, counts by midden layer. ....	884
17.32. LA 37591, Pit Structure 1, Zea mays cob morphometrics (mm) by stratigraphic context. ....	885

## 13 ∞ LA 37592 (Kin Sin Fin)

H. Wolcott Toll

First recorded by Lancaster in 1981 (Lancaster 1982a:77–78), LA 37592 was unimposing from the surface (Figs. pf.1, 1.1, 13.1). A small, disturbed cobble mound lay just outside the right-of-way. Around the mound, surface artifacts were fairly abundant, but on the fans above the floodplain in the Jackson Lake Wildlife Area, structural remains and scattered artifacts were the norm. In our reevaluation of the sites of this highway segment (Toll and Hannaford 1997) we projected a couple of weeks work for a couple of crews (Figs. 13.2a, 13.2b). Lancaster's tests (1983:30–32) did indicate that artifacts were abundant, but this site proved

to be our initiation into how complex archaeology in the La Plata Valley can be. By the time OAS excavations—which took place from April 25 through October 7, 1988—were complete, we had determined that this site, with no visible structural remains inside the right-of-way, consisted of part of a remodeled roomblock built on top of an exterior occupation area or previous roomblock with at least five use-levels; a deep pit structure with storage pits adjunct to the floor, and three floors; a trash deposit over 1 m deep containing thousands of artifacts in the upper fill of the pit structure; four large, formal extramural fire pits; two large extramural storage



Figure 13.1. LA 37592, at start of excavation, Roomblock 1 rubble in foreground, view west.





Figure 13.2a. LA 37592, at start of excavation (note minimal surface indication), view west.

cists; eight burials; the periphery of the visible structure; and a burned level well below the Anasazi occupation (Figs. 13.3a, 13.3b).

In addition, recent human activity had been sufficient to considerably increase the difficulty of excavating the Anasazi remains. Two water lines and a telephone cable passed through the rooms (in spite of the fact that these lines were built on state property in the 1970s and 1980s); a second phone line cut through deposits west of the pit structure; and the highway no doubt passed through the periphery of the site but seems to have missed the main part of it. The right-of-way fence passed directly over the pit structure. While the fence caused some logistical and acrobatic problems and more than a few scratches and rips, its location undoubtedly preserved the pit structure and midden from far more serious damage from the water lines.

The recent disturbance, combined with the complexity of the prehistoric remains, meant that this site took a long time to dig. There were times when it seemed as though the excavation would never be complete, especially to Dave Phillips, then

the director of the Research Section (now OAS), but as well to our crew members, who, supervised by H. Wolcott Toll, included Roberta Bradley, Daryl Beasley, Peter Bullock, Cindy Bunker, Eric Dailey, Jimmy Fine, Kate Fuller, Chuck Hannaford, Janet Johnson, Steve Lent(z), Anthony Martinez, Rod North, Penny Whitten, Regge Wiseman, Leonard Yazzie, and Dorothy Zamora. Thus, with apologies to Kin Fin (a stabilization experiment built by Bill Finn) in Chaco Canyon, and shamelessly mixing Navajo and Spanish, I call this site Kin Sin Fin. If we had tried to dig everything associated with the remains in the right-of-way, we would have been there even longer than we were.

#### ENVIRONMENTAL AND ARCHAEOLOGICAL SETTING

LA 37592, at an elevation of 5,432 ft (1,657 m), was on an alluvial fan near the base of the relatively steep slope to the Pleistocene terrace above (Fig. 13.4). This slope is cut by many drainage channels, which vary widely in size, and dissection of the fan is also extensive (Fig. 13.5). The large drainage that was dammed to form



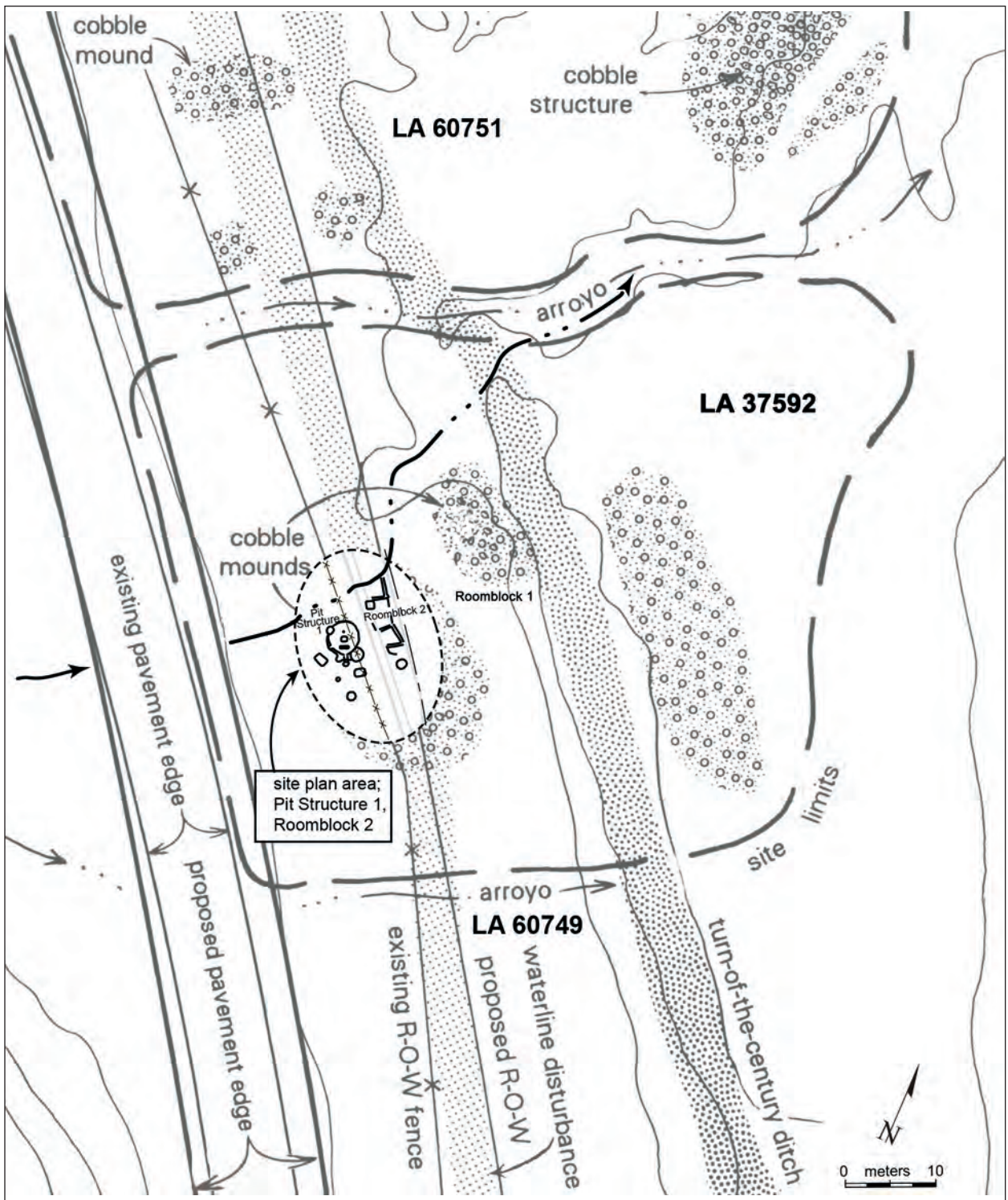


Figure 13.2b. LA 37592, site area map (adapted from OAS survey map, Toll and Hannaford 1997).

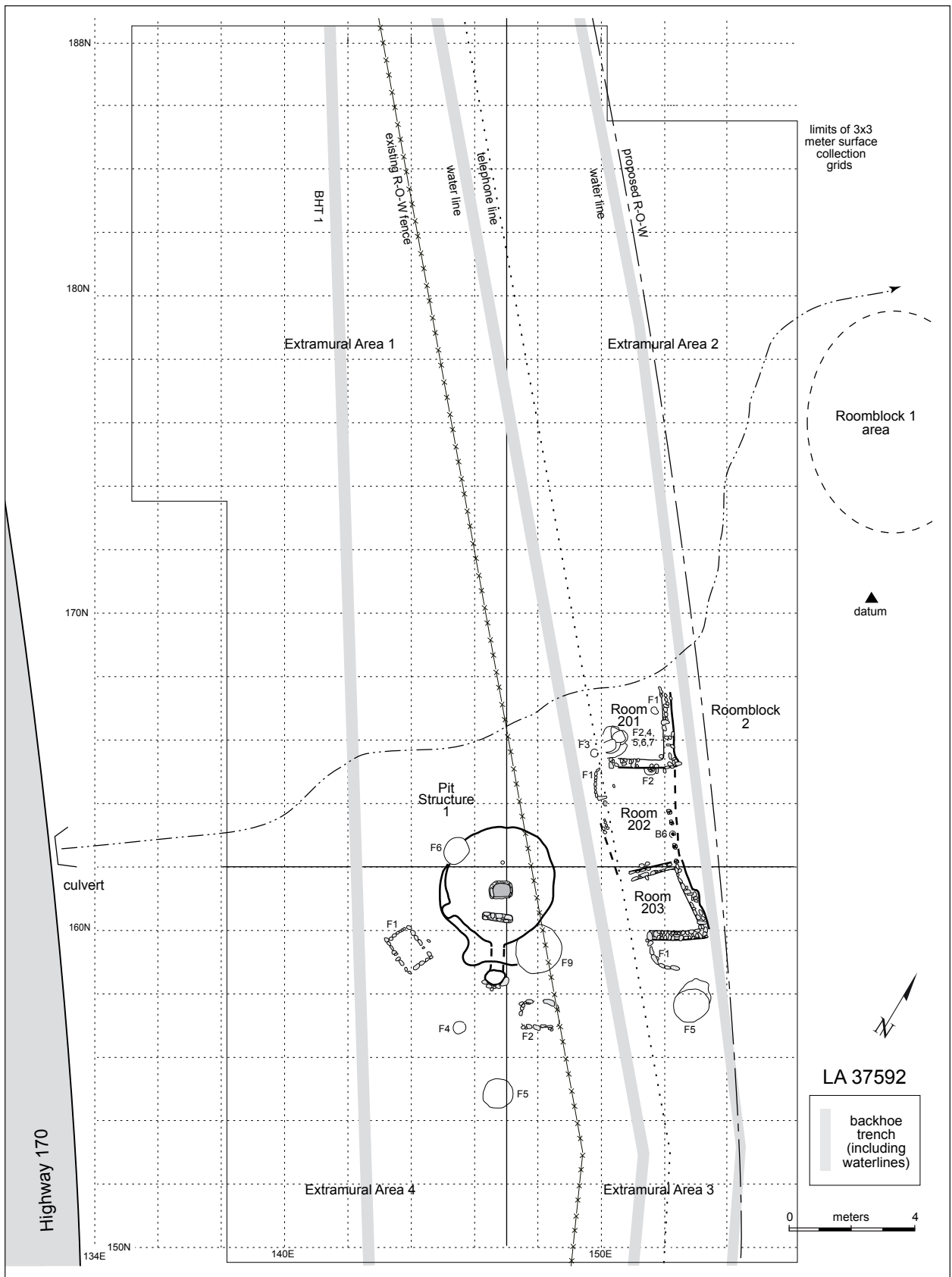


Figure 13.3a. LA 37592, plan.

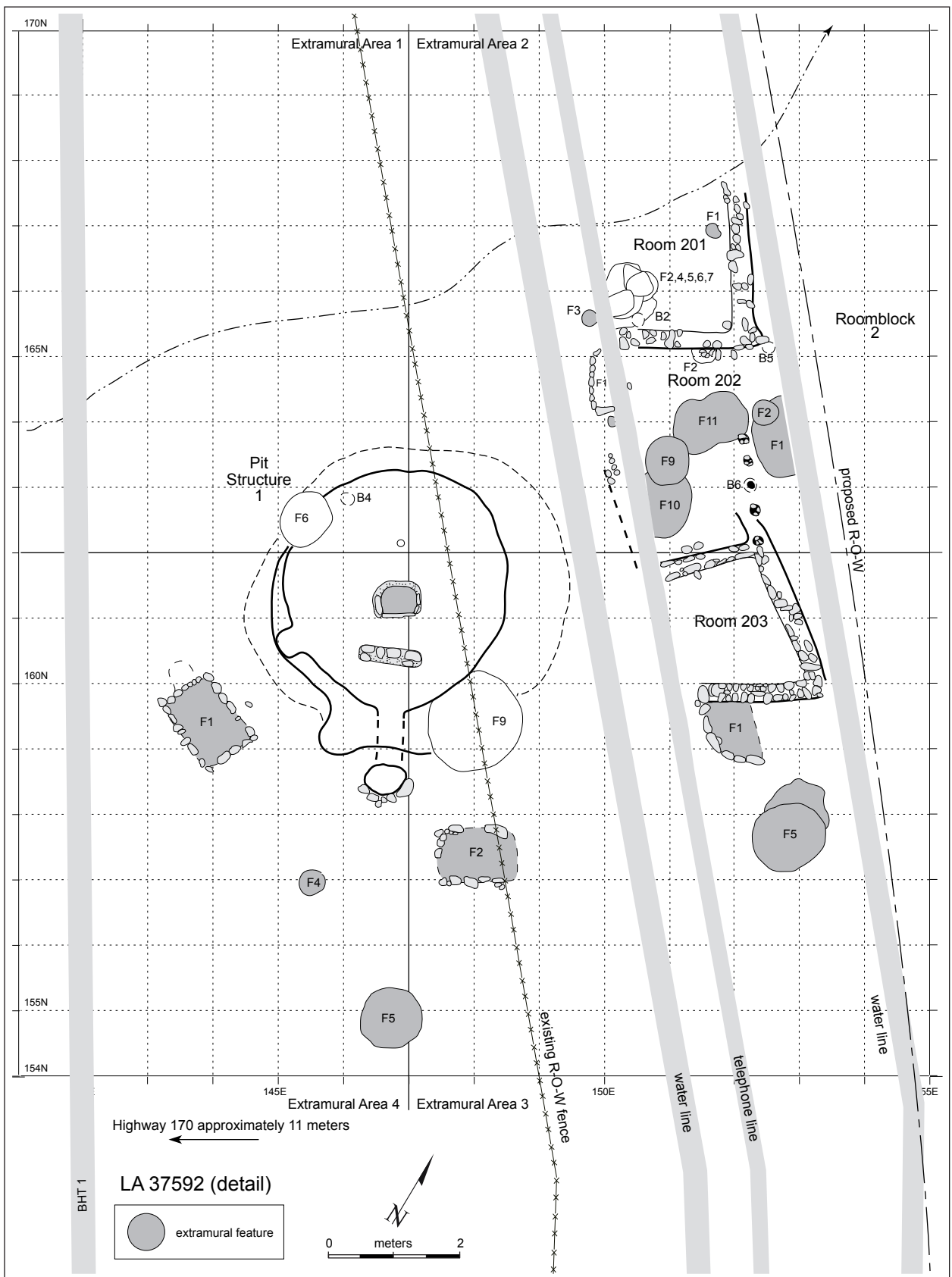


Figure 13.3b. LA 37592, Roomblock 2 and Pit Structure 1 detail, plan.





*Figure 13.4. LA 37592, site overview from LA 60746 toward habitation on east side of NM 170; shows drainage and fan.*



*Figure 13.5. LA 37592, fan between LA 37592 and LA 60751, showing erosion, view northeast.*



Jackson Lake probably made its way to the river south of the site and is the likely source of much of the fan on which the site rests. The head of this drainage is in the badlands on the west side of the valley, and before the dam the drainage must have carried a high silt load in big runoff events. A smaller but deeply entrenched drainage just north of the Jackson Lake drainage reaches the highway immediately opposite the site (Fig. 13.6). (The newly placed culvert is, in fact, aimed directly at the remains of the Roomblock 1 mound, in spite of the author's protests. This drainage would have contributed further material to the fan and modified its shape. A flood in this drainage also removed part of Roomblock 2, probably in prehistoric times [Fig. 13.2b]).

The sources of the site's substrate include runoff from the drainages and terrace, overbank deposits from the La Plata River, and eolian materials. Although there are channels in this fan filled with gravels and coarse sand, the majority of the fan is composed of fine sand, silts, and clays. This material consolidates into very hard soils highly suitable for construction of earthen pit structures. Cobbles are

the primary construction material of pueblos in the valley. Cobbles are available on the terraces adjacent to the site as well as in the riverbed and in gravel lenses in drainages from the terraces. In combination with the sticky fan soils as mortar, most wall materials were close at hand, even if the walls were not particularly weather-resistant or stable. Wood was unquestionably an integral part of the building strategy, but we recovered little evidence of what species were used or the sizes of beams. Juniper and piñon are visible today on the hills and mesas west of the river. Juniper was used for lintel elements at LA 37595 and roofing at LA 37600. Riverine species (*Populus*, probably cottonwood) were also present, and roofs at LA 50337 were mostly cottonwood covered by saltbush (Vierra 1993a:125; M. Toll 1993:266, 274, 278). Sources of large timbers were considerably more distant, but the buildings at this site would not have required large timbers.

The present location of the highway as it passes through Section 17 is virtually unchanged from that of the road shown on the 1881 General Land Office map. According to Alan Knight, then caretaker of the



Figure 13.6. LA 37592, drainage across the site, view southwest.

Jackson Lake Wildlife Area, the road was first paved in the 1940s, and since then highway work has modified the drainage patterns. It appears that the course of the drainage through LA 37592 was usually just a few meters to the northwest of Roomblock 1, and 5 to 10 m northwest of Pit Structure 1. Some time during or after the occupation of the roomblock, the north end of Room 201 was removed by flooding, demonstrating that drainage behavior below the terrace could be capricious and threatening, a condition the valley residents were very aware of. The location of structures close to side drainage courses is a repeated pattern in sites dug for the highway project. Indeed, if one wanted to build below the terrace but off of the floodplain, placement next to a drainage of some variety was probably unavoidable.

Anasazi use of the location was heavy, if episodic. Sites excavated during this project in the immediate vicinity of Kin Sin Fin include LA 60747, to the west (across NM 170) on the base of the terrace slope, and LA 60749, immediately adjacent to LA 37592 on the south. These two sites were on the same landform and were arbitrarily separated from LA 37592. Both are primarily artifact scatters, although LA 60749 did include a small Pueblo II–III jacal surface structure. The material at LA 60747 is likely to have been mostly surface wash from LA 60748, a small structure that overlooks LA 37592 from a bench on the terrace slope; and from LA 60746, a probable great kiva on top of a terrace promontory overlooking the whole Jackson Lake community; LA 60746 and LA 60748 were outside the project right-of-way. Immediately across the arroyo, north of LA 37592, was LA 60751, a Pueblo II sherd scatter superimposed on a Basketmaker III pit structure; and across the highway from LA 60751 was LA 37591, a Pueblo II–III pit structure and associated features. In spite of its proximity to LA 37594 and LA 60751, no Basketmaker III components were present at LA 37592, and only four of 33,000 sherds are recognizably of that age. All four were in redeposited contexts. Within the drainage separating LA 37592 from LA 60751, there are remains of Anasazi Pueblo II and Pueblo III structures and deposits that have been mostly removed by erosion of the fan.

There are so many components of so many different ages surrounding LA 37592 that it is certain that some were contemporaneous with portions of the LA 37592 occupation, and that inhabitants of noncontemporaneous components also used the site. LA 37594 and LA 37595, to the north, have

solidly dated Pueblo II components and may have overlapped with the earliest component at this site. LA 37591 is likely to have housed a contemporary neighbor to the west during the Pueblo III period.

Locations recorded and excavated during the highway project form only a small percentage of sites in the concentration of Anasazi features we consider to be the Jackson Lake community. LA 111902, a large, multiroom structure, is characterized by Pueblo III ceramics; we believe it was a great house (McKenna and Toll 1992). The edges of the lower terrace east and northeast of LA 37592 exhibit nearly continuous structures of varying, though mostly small, size stretching in a sinuous line around LA 37598. This portion of the valley is currently farmed on two levels: the level where most of the visible structures are; and the one below it, adjacent to the river floodplain. The upper level is irrigated by ditches originating within the community area near LA 37598 (the Pickering Ditch) and by water from Jackson Lake, which is fed by the Jackson Ditch. The Jackson Ditch leaves the La Plata River at the north edge of the area of the Barker Arroyo community. The primary modern crop in the community area is alfalfa. Although this part of the valley lacks a major tributary like those at other defined prehistoric communities, it does contain a considerable amount of arable land (Fig. 13.7).

Very little is known about the two probable public structures on either side of LA 37592. From the rare sherds on the surface at LA 60746 above LA 37592, it appears that it is Pueblo II in age, perhaps contemporaneous with the early component of LA 37592. The great house (LA 111902) appears to be later, contemporaneous with the later component of LA 37592. Both sites may, of course, have had longer periods of use than indicated by the surface sherds. In any case, LA 37592 is near the community's center of activity as defined by its architecture, and its full extent was eventually defined at 53 by 58 m (174 by 190 ft), or 3,074 sq m (33,090 sq ft).

## FIELD METHODS

The data collection phase of the La Plata Highway project was around a month old when excavation at this site began. During the excavation many field procedures and forms were refined and formalized. The results of this process are visible in the field manual prepared for the second season





Figure 13.7. LA 37592, site setting among fields near the La Plata River; LA 37592 is at lower left, view southeast.

of work and later revised (Appendix 5; Toll and Blinman 1990). Throughout all excavations, records were kept for each horizontal and vertical unit excavated and for each feature. Excavators were also required to summarize groups of units and to make maps. There was, of course, variability in how individuals completed records. The evolution of recording forms was a continuing effort to acquire the same categories of information from each unit of excavation. Given simple excavation unit shapes and regular progression of depth (especially in level, arbitrary depths), it is possible to closely estimate unit volumes with these records. Irregular units are more difficult, especially with less careful records.

The site baseline (150E; Fig. 13.3a) is an extension of the baseline established for LA 60749; readings at the site were taken in terms of magnetic north. The grid bearing is 341 to 161 degrees magnetic, or 328 to 148 degrees true north (13-degree declination). The right-of-way fence, parallel to the LA 60749 baseline, angled somewhat at the south

edge of LA 37592. The grid baseline at LA 37592 is thus not parallel to the right-of-way. The site datum was placed at 171N/159E on the grid, and all elevations were corrected to ground level at this location; as noted earlier, the datum elevation is 1,657 m (5,432 ft) above sea level. Elevation corrections made by the excavators were based on transit elevations from the site datum to subdatum points. Except during mapping, elevations were measured using line levels from subdatum points; as is always the case with these techniques, maintaining vertical control was subject to some error and inconsistency.

The surface collection grid starts on the 138E line on the west and the 150N line on the south, matching the surface grid. The areas over Roomblock 2 and the midden were identified as such in the surface material coding.

For analysis, the project area of the site was divided into four quadrants, the center point of which is 162N/147E, which falls within Pit Structure 1 (Table 13.1). This puts Roomblock 1 and Rooms 201

Table 13.1. LA 37592, Extramural Areas 1–4, proveniences by area.

Extramural Area 1	Extramural Area 2	Extramural Area 3	Extramural Area 4
186N/136E	171N/152E	161N/149E	161N/138E
175N/141E	171N/151E	157N/147E	161N/140E
164N/145E	168N/149E	157N/148E	161N/141E
165N/147E	168N/150E	156N/147E	161N/144E
165N/146E	168N/151E	153N/147E	157N/145E
Surface 162–186N/ 138–144E	166N/148E	Surface 150–159N/ 147–153E	158N/143E
–	165N/148E	–	158N/144E
–	162N/148E	–	156N/147E
–	162N/149E	–	155N/146E
–	Subroom 202	–	Surface 150–159N/ 138–144E
–	Surface 162–186N/ 147–152E	–	–

and 202 from Roomblock 2 in the northeast quad (Extramural Area 2), and Room 203 in the southeast quad (Extramural Area 3). Extramural Area 1 is the northwest quad, and Extramural Area 4 is the southwest quad. Given the division from LA 60749 and LA 60751, this means that Extramural Areas 1 and 2 are much larger than 3 and 4. Extramural Areas 1 and 2 are not equal in size, either, since the right-of-way is at an angle to the grid, making Extramural Area 1 the largest of the four.

Excavation was confined to the new right-of-way, which coincided with the 153E line in the area of structural remains. Preliminary definition of features was achieved by hand excavation, normally using 1 by 3 m trenches dug in 10 cm arbitrary levels. In contrast to sites subsequently excavated during the project, little use was made of initial exploratory backhoe trenches, with the exception of a long trench immediately adjacent to the highway pavement.

Most fill from excavation units was screened through 1/4-inch mesh, but some rapidly removed units were not screened. Unscreened contexts included deposits disturbed in modern times, and naturally deposited units for which a screened control block existed. All artifacts encountered during excavation were collected and protected with packaging when necessary. In addition to artifacts, we collected three primary types of samples: flotation,

pollen, and archaeomagnetic. Flotation and pollen samples were collected from features, floors, and stratigraphic units that had cultural significance. Flotation samples were given slight preference over pollen samples: in features with small volumes, flotation samples were collected first, and burned features were less likely to be pollen sampled because of pollen survival problems in those contexts. On the whole, however, the objective was to collect complementary pollen and flotation samples. Archaeomagnetic samples were collected whenever possible from sufficiently burned features, but sampling problems led to no results. In spite of our vigilant search for tree-ring samples, there were only about five, none of which provided a date. Generally we were not concerned about collecting radiocarbon samples except in contexts for which there was no cultural (especially ceramic) context; in all, we collected fewer than ten.

Cobbles are a significant portion of many La Plata deposits, and excavation crews were requested to keep counts by size as they proceeded (there was no blank on the form for this information, leaving its documentation somewhat to chance). In going back through the excavation records to recover volume and cobble information, it became apparent that it was not always fully available. To reach volume estimates, the area of the unit was multiplied by the mean depth of the unit. The mean depth could be determined by taking the differences between the four (usually) corner depths of successive strata and averaging them. In units where cobble counts were not kept by size, the conservative assumption was made that 20 percent of the rocks were 10–20 cm in maximum dimension, and the rest were less than 10 cm. This very likely underestimates the actual quantity of rock.

Because the Roomblock 2 area was severely disturbed, none of the rooms excavated in it were fully defined by walls. Room 202 had walls on the north and south, and a row of postholes along the east side, but the west side of the room had been destroyed by construction of the west water line and the east phone line. The southeast corner of Room 201 was intact, but the north wall and part of the room had been removed by a drainage, the northeast corner was intersected by both the drainage and the east water line, and the west side had suffered the same fate as the west side of Room 202. In Room 203 a suggestion of a west wall was present in a line

of cobbles, but a phone line had disorganized and shifted this wall as well.

After defining the room outlines, we used the room areas for excavation units above and below the room floors. Stratified use surfaces continued below the room floors, especially in the Room 202 area. There were, then, two proveniencing challenges in the Roomblock 2 area: where to stop calling the upper material “room material,” and how to deal with the numerous surfaces that antedate the rooms but were dug in room-sized units. Assuming that Rooms 201 and 202 were about the same size, it is very likely that their west walls were between 149 and 150E.

### SURFACE COLLECTION

Before excavation began, we collected all visible surface artifacts. Surface material was collected in 3 by 3 m units. Collection was performed by flopping a 3 by 3 m pipe square across the site surface and intensively examining and collecting materials within each square. The location of the square was controlled by stakes placed by transit and tape on the site baseline. Following the practice for all La Plata project sites, grids are identified by their southwest corners.

The grids with the highest densities of surface material were adjacent to the Roomblock 1 mound, from 162N to 180N (Figs. 13.9, 13.10a). This strip of grids was more or less on the new right-of-way line, and therefore fell outside the excavated area. Surface material was present in almost all grids on the east side of the excavated area, including over Roomblock 2. It became less common to the west, approaching the highway. Potsherds were the most common surface artifact ( $n = 279$ ) followed by chipped stone ( $n = 104$ ) and a single piece of ground stone; no perishable materials, including bone, were recovered from the site surface. Up to 35 sherds and up to 12 lithic artifacts were found in a 9 sq m unit.

One of the most prolific proveniences along the highway was the midden (trash pit) in the upper fill of Pit Structure 1. It is of considerable interest, then, that the surface collection over this feature gave virtually no indication that so many thousands of items were present only a few centimeters below the surface: the four 3 by 3 m grids that overlay the structure (159–162N/144–147E) contained nine sherds and two pieces of chipped stone. Far greater

quantities of surface material were present north of the midden, in the area west of Roomblock 1. The surface grids with the highest artifact counts were outside the right-of-way, and the nature of the underlying deposits in that area is unknown. Because of the location of the right-of-way fence, the pit structure and midden were virtually undisturbed and uneroded in recent times, important factors in the low occurrence of surface artifacts above them.

### TEMPORAL COMPONENTS

No datable tree-ring specimens were recovered from LA 37592, and none of the archaeomagnetic samples collected in 1988 had small enough errors to be reliable. Given the cost and the error factor in radiocarbon dating and the abundance of well-dated pottery, we employed carbon dating only in nonarchitectural contexts lacking artifactual dating. At LA 37592 we employed carbon dating only for a deep pre-Pueblo deposit at the east edge of the excavation. This burned area was exposed in only a small area and had no associated artifacts. The carbon present returned a date well before the Christian era. In the absence of absolute dates, temporal placement of the various components at this complicated site became something of an art form, especially when use-surfaces had little ceramic material associated with them. The stratigraphy suggests that a number of events at the site were fairly closely spaced in time, and even more dramatic events, such as the use of the pit structure, the removal of its roof, and the structure’s initial filling, all fit within one ceramic period. Based purely on ceramic occurrence, only 2 of 30 provenience groups or “components” were placed in the Mid Pueblo II bracket (Table 13.2; also see Appendix 5 for a comprehensive table of project provenience codes), and one of these was based on too small a sample to inspire much confidence in the placement. The rest of the ceramic assemblages are varying mixtures of Pueblo II and Pueblo III, with enough variation that several phases of occupation probably occurred. There is clear stratigraphic evidence for two temporally distinct occupations, but determining the number of intervening occupations is much more difficult.

The surface expression of the site’s two roomblocks was very different: Roomblock 1 was a definite mound, while Roomblock 2 was invisible from the surface. Since Roomblock 1 is outside



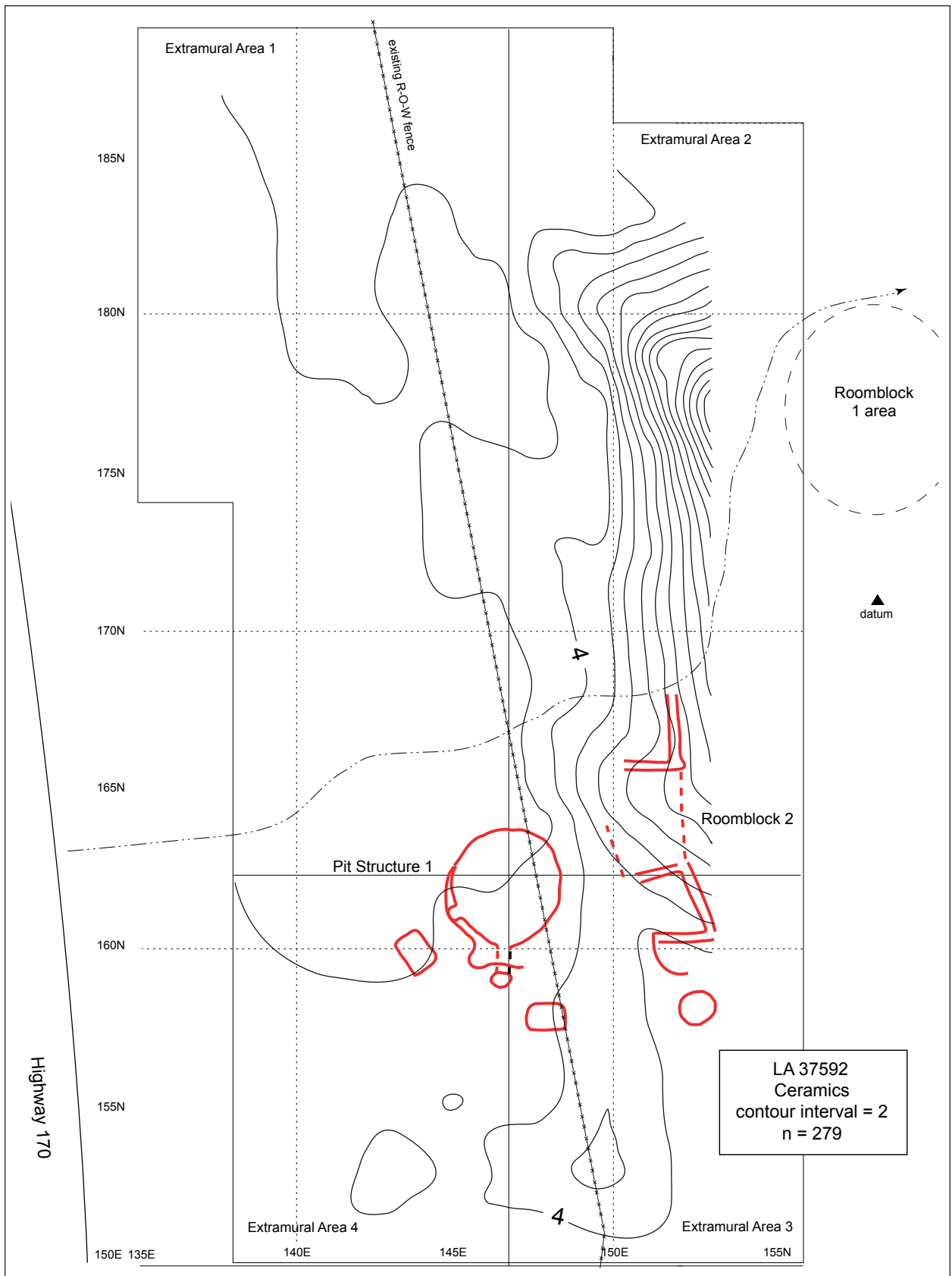


Figure 13.9. LA 37592, surface collection area, distribution and density, ceramics.

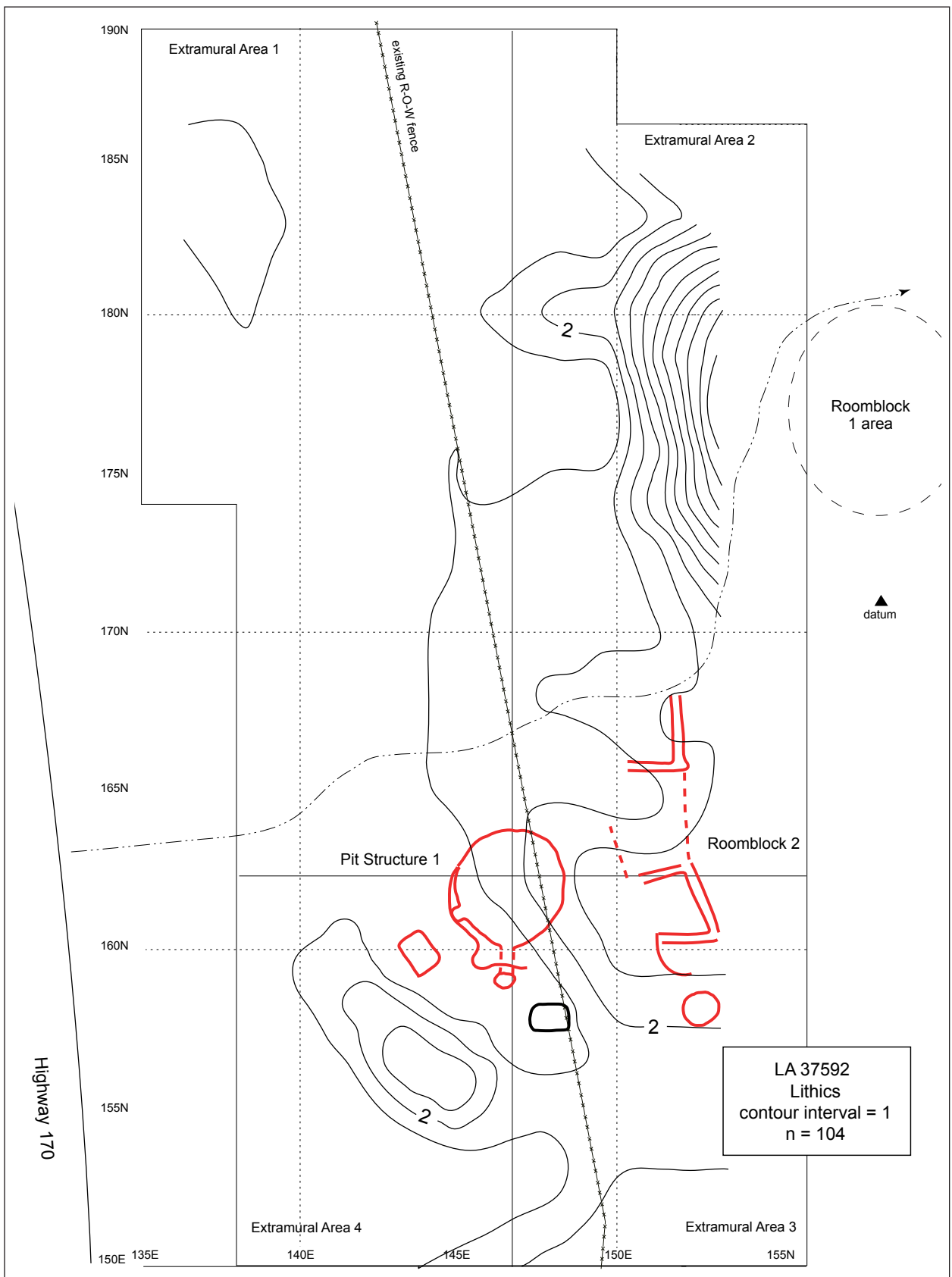


Figure 13.10a. LA 37592, surface collection area, distribution and density, lithics.

Table 13.2. LA 37592, all significant proveniences, with relevant codes and stratigraphic and time period associations.

Unit	Definition	Coding	Age
Historic disturbance	Areas affected by the major construction and other recent activity; majority of surface material.	PCN = 16 M = 1 TD = 2	mixed Pueblo II and III
Post occupational Anasazi fill beneath disturbance zone	Deposits containing no historic material, but clearly postdating Anasazi occupation of the site.	PCN = 15 M = 2 TD = 17	mixed Pueblo II and III
Roomblock 1	Excavations in the Roomblock 1 area. Most of the deposits are disturbed, and no complete features or structures were dug, but materials are likely to relate to this roomblock.	PCN = 14	primarily late Pueblo II, some Pueblo III mix
Roomblock 2 fill	Roomblock 2 Room 201 Room 202 Room 203 Testing	PCN = 13.0 PCN = 13.1 PCN = 13.2 PCN = 13.3 PCN= 13.4	Pueblo II–III mixture; Pueblo III is dominant
Roomblock 2 floors	Room 201 Room 202 Room 203	PCN = 12.1 PCN = 12.2 PCN = 12.3	Pueblo III (probably early with some Pueblo II contamination)
Trash fill of Pit Structure 1: "trash pit"	Midden filling the depression left by Pit Structure 1, Layers 1, 3–5, Layer 6 Levels 1–2 158N/147E	PCN = 10 TD = 30 CA = 11	Early to Mid Pueblo III, some Pueblo II mixture
Pit Structure 1, midden-fill transition	Remainder of Layer 6, Layer 7 Layer 8 (NW 1/4, 161/146 only) Layer 9 158N/147E, 161N144E only	PCN = 10.10 TD = 25 CA = 11	Early Pueblo III; some Pueblo II ceramics
Pit Structure 1, interface of midden and upper sloughed natural deposits	Layer 2 161N/145E, 158N/147E, SE 1/4	PCN = 10.20 TD = 17 CA = 11	–
Pit Structure 1, deposit extending east of structure	Layer 21, similar to midden.	PCN = 10.30	Pueblo III, some Pueblo II mixture
Fill of Pit Structure 1	Substantial unit of fill consisting of structural collapse and natural filling, but also containing some cultural activity.	PCN = 9 CA = 10	transitional Pueblo II–III, abundant organic paint
Pit Structure 1, off-chamber cist fill below Layer 29 cap; probably associated with Floor 1	Trashy fill, especially feature Layer 3.	PCN = 8.3 CA = 10	transitional Pueblo II–III
Pit Structure 1, construction debris	Roof dirt and fall, vent fill.	PCN = 8.2 CA = 10	transitional Pueblo II–III
Pit Structure 1, Floor 1 association	Final floor and floor fill below Layer 29.	PCN = 8.11 CA = 10	transitional Pueblo II–III
Pit Structure 1, Floor 2 association	Closely spaced predecessor to Floor 1.	PCN = 8.12 CA = 10	transitional Pueblo II–III
Pit Structure 1, Floor 3 association	Original floor; contains more features than succeeding floors.	PCN = 8.13 CA = 10	ceramics Pueblo II; small sample context transitional Pueblo II–III sample context
Extramural features associated with Pit Structure 1	Series of fire pits arranged around southern arc of pit structure.	PCN = 7	Pueblo II–III mixture; date based on pit structure association



Table 13.2 (continued)

Unit	Definition	Coding	Age
Datable sub–Roomblock 2 features	Burial 6.	PCN = 6	transitional Pueblo II–III
Surfaces beneath Roomblock 2	Complicated superimposition. May relate to prehistorically removed roomblock or filled cut.	PCN = 5	Early Pueblo III some Pueblo II mix; pre-Roomblock 2, contemporary with Pit Structure 1?
Features clearly placeable in Pueblo II	Unmixed assemblages with clear stratigraphic/ceramic placement; includes Burial 7.	PCN = 5.1 CA = 8	Pueblo II
Other extramural features	Materials associated with features not directly attributable to architectural elements.	PCN = 3	Pueblo II–III mix
Materials below extramural surfaces	Poorly understood deposits below multiple reuse surfaces.	PCN = 2	Pueblo II–III mix
Pre-Anasazi burn	No cultural materials are associated with this layer, but there is a burn which predates the Anasazi materials by 3,000 years.	PCN = 1	Archaic (2290–1930 BC) with some Pueblo III mix

PCN = principal component number. These numbers are site specific and apply to the deposit described. They are a means of grouping proveniences with a common characteristic.

M = mixture code. Rates the integrity of the deposit. 1 = severely mixed; 2 = some mixture, should be used cautiously; 3 = relatively unmixed; 4 = unmixed component most reliable composition. Since components contain multiple proveniences, they can contain a range of mixture states.

TD = type of deposit. Assigns source of deposit. For example, 30 indicates culturally deposited trash, 25 is a cultural deposit other than trash, and 10 indicates natural fill containing cultural material. As with M, several TD values can be present in a component.

CA = component age of deposits considered to have coherent ceramic assemblages allowing a confident ceramic date. CA 8 = Mid Pueblo II; CA 9 = Late Pueblo II; CA 10 = Early Pueblo III; CA 11 = Later Pueblo III.

Proveniences lacking CA codes were considered unreliable for temporal comparisons.

the right-of-way, we did very little excavation there. Wall bases and some rubble were present in Roomblock 2, but on the whole, more building material was present at Roomblock 1 than at Roomblock 2. Roomblock 2 was far more heavily impacted by construction of the two water lines than was Roomblock 1, affecting postoccupation expression through dispersal of building material. The pattern of differing mound sizes was also observed at some other sites (see below). Notions of tidiness and reuse of materials suggest that the most prominent mound should have been the last abandoned. The ceramic assemblages from the two roomblocks both contain mixtures of Pueblo II and Pueblo III types, predominated by Pueblo II types. However, the poor sample from Roomblock 1 (which should be the later of the two under these assumptions) is mostly lacking in Pueblo III types, while the Roomblock 2 assemblage contains small quantities of several Pueblo III gray

and white ware types, suggesting that Roomblock 1 was actually the earlier feature.

The excavated area of Kin Sin Fin is relatively small, and relating its parts spatially should be relatively easy. For example, the large heating features deployed around the south circumference of Pit Structure 1 seem clearly associated with the structure. The location of Roomblock 2, to the east of Pit Structure 1, and the trash deposit in the upper fill of the pit structure suggested to me that the occupation of the rooms was probably the source of the trash midden in the upper fill of the pit structure. There is some suggestion in the ceramic assemblage, however, that the fill and floor material from the rooms may date slightly earlier than the midden, though the white ware paint distributions (an important chronological indicator) between the two proveniences is very similar. In exploring this question with Dean Wilson, the project ceramic

analyst, he agreed that the two deposits could be contemporaneous, but the substantially higher percentage of Pueblo III white ware in the midden suggested that deposition continued in the midden after the room floors went out of use.

The fill of Roomblock 2 contains quantities of Pueblo III white ware intermediate in age to the room floors and the midden, which fits with abandonment of the rooms preceding final deposition in the midden. Temporal placements here have been handled as follows: The midden is clearly a Pueblo III deposit, although it does contain some Pueblo II materials. The room fill is considerably less well controlled; as noted, the overall complexion of the assemblage is later than that of the floors. To more accurately reflect the mixing of these deposits, however, they have been assigned to the Pueblo II and Pueblo III mix category. The most difficult areas of the site to understand are the complex layers in Extramural Area 2 underlying Room 202. The pottery from these deposits places them in the late Pueblo II to Early Pueblo III bracket of the rooms and the deposits in the pit structure below the midden, rather than earlier, as both their stratigraphic position and the proximity of Mid Pueblo II features to the west and the south would suggest. Although we looked for evidence of a deep subterranean feature in the area, we did not find it. Possible explanations for these deep, relatively late deposits include an undetected pit structure or large cist, or a natural feature such as an arroyo that was intentionally filled. Obviously these deposits predate the floors of Room 202, but the ceramics dictate that they be placed in the same time segment, which, along with the rooms themselves, predate the midden in the pit structure. Given the chance to do it over again, I would end the excavation of the Roomblock 2 area with a north-south backhoe trench for the full length to further explain this deposit. East-west trenches did reveal very deep cultural deposits, but they did not resolve this question.

In Pit Structure 1, only Floor 1 had a substantial number of sherds in association (FS 404, which includes the 10 cm of fill above the floor). The assemblage contains a mixture of Pueblo II and Pueblo III types, including Transitional Pueblo II-III and Early Pueblo III types, as well as a few Pueblo III types. Floor 1 was clearly capped by a layer of windblown silt, which we followed over most of the structure. The ceramic assemblage here therefore represents a

fairly discrete segment of time, though the dismantling of the roof could have caused some temporal mixture. The few sherds on Floors 2 and 3 are open to several interpretations. The sherds from Floor 2 are an unspecific mix of Pueblo II and Pueblo III types. Floor 2 is a resurfacing of Floor 1; there is no accumulation between floors (the two are separated by only 1 cm around the edges). Floor 3's small sample ( $n = 18$ ) looks more purely Pueblo II. This assemblage could fit into a sequence, then, with Floor 3, perhaps considerably earlier than Floor 2, or, equally likely, the sampling error is such that later sherds are not present. The latter is supported by the fact that Floors 2 and 3 are also closely spaced. The question remains, then, of how to date Floors 2 and 3. Because of the small separation between Floors 2 and 3 and the likelihood that the structure remained in use for no more than 30 years (Glennie as cited by Wilshusen 1988a; Wilshusen 1988b:674-675; Cameron 1990:155-161), I attribute the earliest floor in Pit Structure 1 to the Pueblo II-III transition period, as well.

Following the same logic, the structural debris that followed the roof dismantling has been placed in the same time span. Viewing it as an isolated ceramic assemblage, Wilson's ceramic analysis assessed this collection as primarily Late Pueblo II with some Pueblo III mixture. Given the context and the presence of only a few Mid to Late Pueblo III sherds, however, Wilson has no argument with placing this deposit in the Pueblo II-III transition, as well. The presence of the later sherds is to be expected given the overlying late, bioturbated trash deposit with an indefinite lower boundary.

The picture suggested by the ceramics, then, is this: earliest Anasazi occupation of the excavated area was probably at Roomblock 1 toward the end of Pueblo II (late A.D. 1000s), and it is likely that byproducts of living there were deposited in the area that later became occupied by Roomblock 2. A group of extramural features south of and partially under Roomblock 2 (fire pits and a large storage cist) has clearly Pueblo II ceramic assemblages. If the primary use of Roomblock 1 was in Pueblo II, these pits would have been part of that occupation. There is no question that some of the numerous, hard-to-date use-surfaces in this area also were contemporaneous with these features.

Following or overlapping the use of Roomblock 1, Pit Structure 1 was constructed around the time of

the transition from Pueblo II to Pueblo III, probably in the early 1100s. This structure was used for some time: the original floor of this structure was replaced twice. Associated with the use of Pit Structure 1 is a semicircle of fire pits around the south side of the structure, and part of the series of use-surfaces to the east of the pit structure. It is not possible to directly tie any of these surfaces with pit structure floors. The use is intensive enough to suggest that rooms were present here although we have no wall outlines dating to this time period at this site.

There is no stratigraphic evidence for a hiatus between the lower use-surfaces and those associated with the defined rooms. The dismantling of the Pit Structure 1 roof and the mostly natural filling of over half of the structure's large cavity took place right next to this area. Either occupation continued during this process, or subsequent construction erased traces of a break in occupation. Alternatively, we may not have been able to see the break — there is, after all, little depth of deposit representing the 700 years since Pueblo III here, and this break was probably less than 30 years. Within the latter AD 1100s, the area was once again occupied, and the rooms of Roomblock 2 were built. At this time deposition in the midden/Pit Structure 1 depression began.

Several variations are visible within the midden deposit. At the base of the trash deposit there is a marked increase in artifact frequency compared to the underlying layers. This initial midden deposit has been kept separate from the overlying midden based on smaller sherd size and absence of the gray color and soft texture characteristic of the main midden. This lowest component has been placed in the Early Pueblo III time bracket to separate it from the fill beneath and the overlying midden. The temporal separation between the initial midden deposit (Layers 6–9, PCN 10.10) and the main midden (Layers 1, 3, 4, 5, PCN 10) may well be very slight. Indeed, the time span from the structure floor to the top of the midden is hard to gauge. Ceramic dating of the deposit is complicated by the presence of Pueblo II and Pueblo III types and the difficulty of distinguishing between mixed Pueblo II and Pueblo III assemblages and deposits actually dating to Transitional Pueblo II–III. A hallmark of ceramics after around AD 1100 is a transition from the use of mineral paint to organic paint on black-on-white vessels; by the late 1100s, organic paint was nearly

the only variety in this area by 1200. There is progressively more organic paint in the component groups as one proceeds from the deepest deposits to the shallowest, again indicating that the elapsed time is more than a year or two. Most difficult of all to explain, and perhaps indicating that the filling of the structure was indeed very short, is the presence of a high percentage of organic-painted sherds including “Late Pueblo III” types in the trash deposit in the large off-chamber cist *beneath* the silt layer that seals off the floor. The types and the organic paint frequencies in the cist are anomalous to trends in overlying deposits. As will be discussed in the Pit Structure 1 description, this feature was subject to a catastrophic collapse, which contributed to mixed stratigraphy.

Stratigraphic units were identified within the main midden. These breaks, in combination with the large volume of the deposit, indicate that accumulation of the main midden took some time. The final deposits in this structure include a marked increase in the incidence of scattered human bone, which seems to signal a grim end of occupation at Kin Sin Fin. The bone in this location looks the most like bone processed for consumption of any deposit of disarticulated human bone found during this project. Finally the entire deposit is covered with historically disturbed natural deposits, which are remarkably low in prehistoric artifacts. Temporal associations are presented in Table 13.3.

## EXCAVATION RESULTS



### EXTRAMURAL AREAS

To analyze surface material and the materials from excavation units, LA 37592 was divided into four areas aligned to the site grid and centered in Pit Structure 1 (Figs. 13.3a, 13.3b). Each area contains a portion of the central site area, where there is a concentration of features and activity and, consequently, excavation. Use of the site area was especially heavy in the vicinity of Roomblock 2, east of the pit structure, in Extramural Areas 2 and 3. This activity is reflected in the number of surfaces defined, the number of features, and the artifact inventories. With this restructuring of the proveniences, feature numbers (which had been



Table 13.3. LA 37592, occupational event with stratigraphic and time period associations.

Event	Associations	Period
Archaic occupation	Deep deposit east of Room 202.	pre Pueblo
Earlier subroom surfaces	Large storage pit (Extramural Area 3, Feature 5); large fire pit (Extramural Area 3, Feature 1); possibly Roomblock 1, earlier surfaces (and rooms?) beneath Roomblock 2; Burial 7 (in storage pit).	Pueblo II
Pit Structure 1 use (Floors 1–3)	Extramural features around south edge of structure; subroom use-surfaces east of structure between rooms and Pueblo II surfaces (possible earlier rooms); Roomblock 1?	Pueblo II–III
Roomblock 2 use	Earlier midden fill.	Early Pueblo III
Roomblock 2 abandonment	Later midden fill.	Pueblo III

recorded by grid) were consolidated to a single numbering system (Table 13.4). The four areas are discussed below.

#### EXTRAMURAL AREA 1

This unit, the northwest portion of the site, covers the largest area of the four extramural areas but contains the fewest identified features (Figs. 13.3b, 13.10b; Tables 13.4, 13.5). The area slopes down to the north into the arroyo between LA 37592 and LA 60751 and is primarily old right-of-way highway shoulder. Surface material was relatively sparse, and there were no surface indications of features. Because of the size of the area, two systematically placed 1 by 3 m trenches were excavated (175N/141E and 186N/136E) in addition to excavations just north of Pit Structure 1 and of long Backhoe Trench 1, next to the highway. Backhoe Trench 1 began within LA 60749 and traversed the entire west edge of the excavation area of LA 37592 in Extramural Areas 4 and 1.

Backhoe Trench 1 was 57 m long. Neither face of the trench showed much in the way of cultural features, and both faces had rather homogeneous stratigraphy (Fig. 13.10c). The entire area has a 20–40 cm thick layer of mixed surface material containing sand, gravels, organic material, and a few cobbles. This material rests on top of the primary, premodern cultural layer, which is compact sand and silt with charcoal flecks. On the whole, this cultural layer is 40–50 cm thick, although it is missing in some areas and reaches 70 cm thick in others. It appears to fill an undulating surface; it has been cut by a few small channels and one larger one near the north end of the site (around 175N to 179N; Fig. 13.10c).

These drainage channels clearly represent runoff from the nearby terrace talus; they contain coarse sand, gravel, and cobbles. There are two apparent intrusions from the cultural layer into the underlying layer. Both of these consist of areas of denser charcoal; they are irregular in shape, and no increase in artifacts was noted by the profilers. One contains a possible piece of adobe. They do not appear to be formal features.

There are two primary natural layers beneath the general cultural layer. Both are mostly pale brown fine sand and silt, and they interdigitate. The primary distinctions between them are a subtle color difference and more abundant charcoal and caliche in one. Like the testing data and the distribution of features, the profiles suggest that the area along the west side of our excavations was used occasionally but peripheral to more intensive use.

#### EXTRAMURAL AREA 2

Most of Extramural Area 2 at LA 37592 is a gently sloping expanse from the roomblocks to the wash that divides this site from LA 60751 (Chapter 11, Vol. 1-Book 1, this report). The area does, however, include the space between Roomblocks 1 and 2 and part of an area of high artifact density between Roomblock 2 and Pit Structure 1. Also included in this area are the complex, pre-roomblock deposits beneath Room 202. During excavation the surfaces and features in this area were recorded in terms of the room, but in the coding and in the following text, they are treated as Extramural Area 2, since they clearly predate the room (Tables 13.4, 13.5). The subroom area does not correspond precisely to

Table 13.4. LA 37592, Extramural Areas 1–4 features by site context at initial observation.

Feature	Feature Type	Original Designation
<b>Extramural Area 1 (Northwest)</b>		
1	Wall segment west of Room 201.	165N/146E, Feature 1
<b>Extramural Area 2 (Northeast)</b>		
1	Fire pit east of Room 202; cut by east water line.	Room 202 (also 162N/152E) Floor 2, Feature 1
4	Disturbed feature cut by Room 202, Floor 1, Feature 1;	Room 202 Floor 4, Feature 2
5	Feature beneath southeast corner of Room 201; truncated by east water line; contains Burial 5 (partial); returned to Room 201 designation.	Room 201 Floor 2, Feature 1
6	Fire pit in area of superimposed fire pits beneath Room 202; associated with Floor 5.	Room 202 Floor 5, Feature 1
7	Cylindrical pit associated with Floor 4, excavated with Floor 6; possible posthole.	Room 202 Floor 4, Feature 3
8	Shallow depression.	Room 202 S½ Floor 6, Feature 1
9	Heavily oxidized pit intersected by later features and excavation procedures.	Room 202 S½ Floor 6, Feature 2
10	Large pit largely removed by Room 202 Floor 2 Feature 2.	Room 202 S½ Floor 6, Feature 3
11	Fire pit mostly removed by later features.	Room 202 N½ Floor 6, Feature 1
12	Deliberately plugged round feature; no materials.	Room 202 N½ Floor 6, Feature 2
13	Pit containing "cache" of lithic items and then sealed.	Room 202 N½ Floor 6, Feature 3
14	Shallow pit, possibly a fire pit.	S½ Room 202 Subfloor 6, Feature 1
15	Circular pit, possibly a posthole.	S½ Room 202 Layer 9 Level 2, Feature 1
16	Cobble-lined posthole, partially collapsed.	N½ Room 202 Floor 7, Feature 1
17	Pit containing gravel and oxidized slab.	N½ Room 202 Floor 8, Feature 1
18	Pit associated with Floor 9; this is probably a depositional artifact, rather than a feature.	Room 202 163N/151E Surface 9, Feature 1
19	Deep burn below Anasazi deposits.	163N/151E, Feature 1
20	Room 202 area, Subfloor 6, within Feature 14.	S½ Room 202 Subfloor 6, Feature 2
21	Below Room 202, Layer 7, Floor 5, near northwest corner of room, west of phone line.	Subroom 202 Layer 7 Floor 5, Feature 1
22	Below Room 202, Segment 3.	S½ Subroom 202 Floor 5, Feature 1
Segment 1	Room 202 area below Floor 3, the earliest room floor.	Room 202
Segment 2	North portion of Room 202, Subfloor 3.	N½ Room 202
Segment 3	South portion of Room 202, Subfloor 3.	S½ Room 202
Segment 4	Room 201 area below Floor 3; 165N/150–151E.	Room 201
<b>Extramural Area 3 (Southeast)</b>		
1	Large cobble-lined pit, burned. The south wall of Room 203 was built over this pit, and its east edge is cut by an undefined construction outside the right-of-way.	158N/ or 159N/151E, Feature 1
2	Large cobble-lined fire pit.	156N/147E, Feature 2

Table 13.4 (continued)

Feature	Feature Type	Original Designation
3	Unlined posthole in area southeast of Pit Structure 1.	156N/147E, Feature 1
4	Unlined posthole in area southeast of Pit Structure 1.	157N/148E, Feature 2
5	Large storage cist with intentional fill in basket loads; contains big horn skull.	158N/152E, Feature 5
6	Fire pit beneath Feature 1.	159N/152E or 151E, Feature 2
7	Fire pit beneath Features 1 and 6; coextensive with Feature 6 but deeper.	159N/152E, Feature 3
8	Irregular pit in the vicinity of large, cobble-lined Feature 1.	158N/152E, Feature 4
9	Large storage cist, surface of origin unknown (destroyed by water line); contains Burial 7.	161N/149E, Feature 1
10	Possible posthole in area southeast of Pit Structure 1.	157N/148E, Feature 1
11	Fire pit in Feature 1 area; may be part of Feature 1.	159N/153E, Feature 6
12	Roasting pit defined in backhoe trench profile.	156N/153E, Feature 7
Segment 5	Below Floor 1 of Room 203.	Room 203, Levels 5–6
<b>Extramural Area 4 (Southwest)</b>		
1	Large cobble-lined pit, burned; distinct burned fill and cobble layers.	158N/143E, Feature 1
2	Pit at north edge of Feature 1 dug in three levels.	158N/143E, Feature 2
3	Large unburned cist west of Pit Structure 1; contains human cranium, human innominate, and bird skeleton.	161N/138E, Feature 1
4	Small unlined fire pit south of Pit Structure 1, southeast of Feature 1.	157N/145E, Feature 1
5	Large circular fire pit found during backhoeing southeast of Pit 1 Structure vent.	155N/146E, Feature 1

the grid and has been designated Segment 1 (Fig. 13.11). Moreover, within the area contained within Room 202, several surfaces showed a break between the north and south portions and were treated as separate excavation units; these units have also been designated as segments of Extramural Area 2 (north half of room Segment 2, south half Segment 3; Fig. 13.15). The area below Room 201 is Segment 4, and the area below Room 203 is Segment 5, even though it is in Extramural Area 3 (Fig. 13.11).

Especially in areas in which there are visible breaks, such as between Segments 2 and 3 (Fig. 13.15), there is some possibility that earlier rooms were removed during the occupation of the site and that these surfaces were in fact intramural rather than extramural. A break between areas was noted on four consecutive surfaces (Floors 5–8). The location of this break varied some from surface to surface, “moving” gradually to the south, but all occurred within one horizontal meter. The Floor 5 break is the farthest north, and the Floor 8 break is the farthest south. The Floor 6 and 7 breaks are at

about the same location and almost parallel to the Floor 5 break. As discussed below, this break in the surfaces could also have resulted from a filled pit.

The deposits below the lowest surface defined in this area caused us a great deal of consternation. Cultural material was present to considerable depth, but its source was never determined (Table 13.6). Some of the material was surely introduced by rodents, but its depth and quantity were such that cultural disturbance must have taken place. The material here was dug nominally as a natural unit, but examination of the notes and sketches shows that several layers are included in “Layer” 9. These designations have been left in the coding and analysis. The steep sides and the changing location of the top edge of the deposit suggest a cut, and the jumbled nature of the deposits within it suggest intentional filling.

Excavators described the fill as “churned up” in their notes. The pottery found in this deposit indicates that it is later than the Pueblo II features in the southeast portion of the site, since high organic paint frequencies and Pueblo III types are present



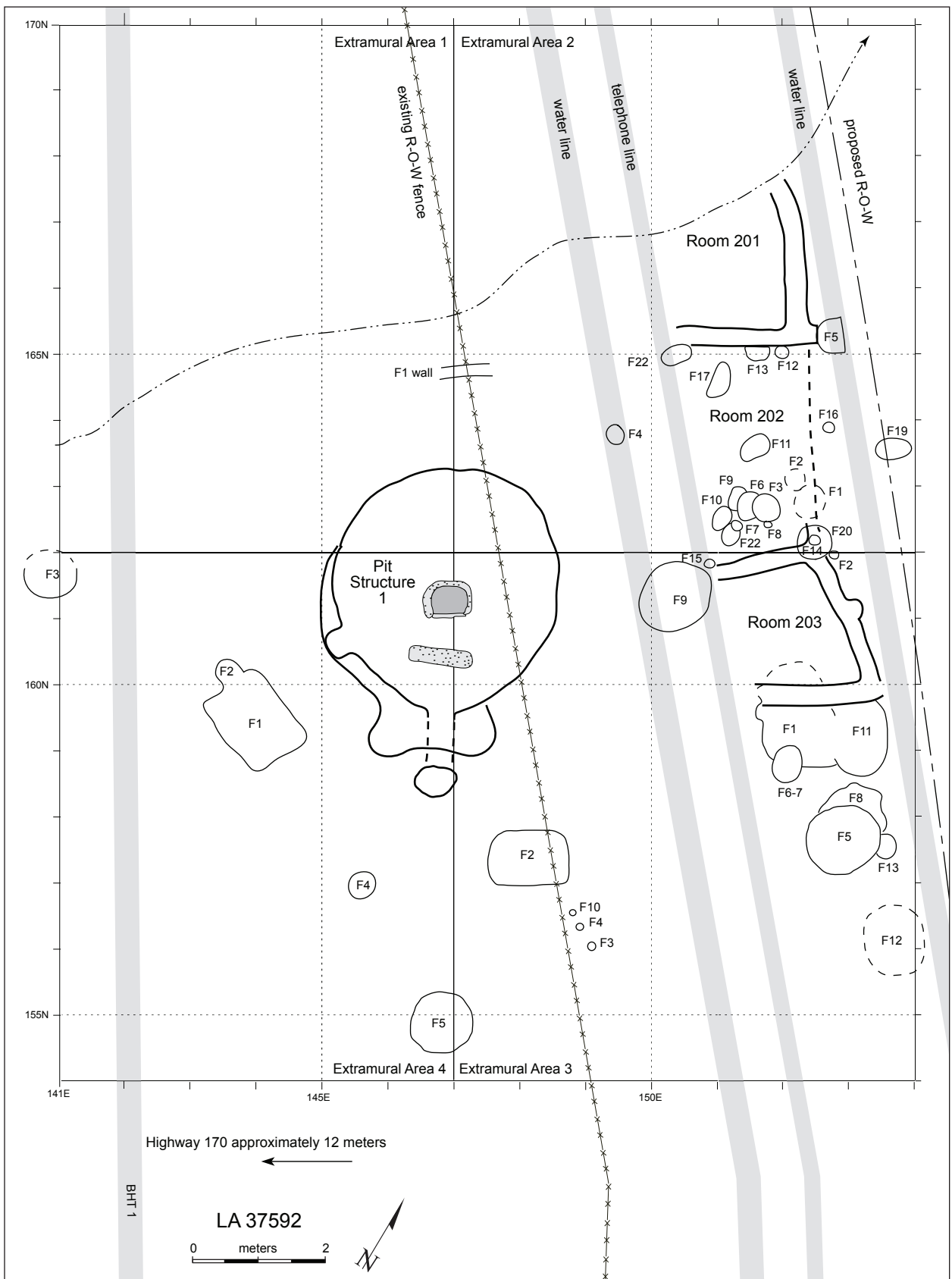


Figure 13.10b. LA 37592, Extramural Areas 1-4 and Roomblock 2, features, plan.

Table 13.5. LA 37592, Extramural Areas 1–4 features; summary table.

Feature	Location	FS	Shape Plan/Section Completeness	Construction Details	Use Details	Fill	Assigned Function	Volume (l)	Length/Width/Depth (cm)
<b>Extramural Area 1</b>									
1	165N/146E	701	rectangular solid	4–5 courses of masonry	–	–	wall; drainage, diversion?	–	30 wide
<b>Extramural Area 2</b>									
1	Surface 2 163N/152E	565–567	pit ovoid hemisphere/70%	unlined	closed, burned	eolian sand; ash, sand, charcoal mix	fire pit	32.8	73/45/10
2	Surface 2 162N/152E	568	pit cylinder/100%	unlined	open, unburned	sand, sparse charcoal	posthole?	4.2	22/22/11
3	Surface 4 163N/151E	562–564	pit ovoid hemisphere/50%		burned	3 layers: fine ash, oxidized sand, ash and chunks of charcoal	fire pit	–	82(partial)/64(partial)/12
4	Surface 4 163N/151E 164N/149E	574	pit unknown/10%?	unlined	burned	loose brown fill with charcoal and burned soil	fire pit	–	23/11(partial)/9
5	(see Room 201, Floor 2, Feature1)	–	–	–	–	–	–	–	–
6	Surface 5 Segment 2 163N/151E	–	pit hemisphere 50 percent	unlined	burned	sandy ash, gray ash, charcoal fragments	fire pit	–	84/65 (partial)
7	Surface 4 163N/150E	588	pit cylinder/100%	unlined	unburned	clean fill; loose and powdery on top, coarser at base	posthole?	4	19/19/14
8	Surface 6	593	pit hemisphere/100%	unlined shallow	unburned	platey brown fill	pot rest?	0.6	20/20/2
9	Surface 6	594	pit hemisphere/60%	unlined	heavily burned	gray ash, charcoal, burned bone, artifacts	fire pit	–	75/55 (partial)
10	Surface 6	595	pit unknown/10%	unlined	partially burned	platey soil with charcoal and caliche	pit	–	–
11	Surface 6	598	pit hemisphere?/ 10%	unlined	burned	charcoal and sand	fire pit	–	10 deep
12	Surface 6	–	pit hemisphere/100%	unlined shallow	unburned sealed	hard, clean plaster	pot rest	–	13/11/3
13	Surface 6	599	pit hemisphere/100%	unlined	sealed	flakes, core, hammerstone, scant matrix	pit caliche?	4.6	20/17/17

Table 13.5 (continued)

Feature	Location	FS	Shape Plan/Section Completeness	Construction Details	Use Details	Fill	Assigned Function	Volume (l)	Length/Width/Depth (cm)
14	Surface 6	-	pit hemisphere/80%	Cobble-lined? Beneath Rooms 202-203 wall	burned	crumbly fill with ash, charcoal, disturbed	fire pit	28.4	80/90/5
15	Layer 9 Level 2	-	pit cylinder/100%	unlined	unburned	mottled brown with charcoal and burned soil; soft	posthole?	5.0	23/23/12
16	Surface 7	-	pit cylinder/100%	cobble-lined	unburned	compact sand with charcoal flecks, organic	posthole?	6.4	17/17/28
17	Surface 8	-	pit irregular oblong/100%	unlined	unburned	clay and sand, some coarse sand, charcoal; slab	pit	-	86/43/9
18	Surface 9	-	not a feature	-	-	-	-	-	-
19	pre-Anasazi	-	surface irregular/?%	unlined	burned	sand clay mix, much charcoal	burn	-	72/65/17 (partial)
20	Surface 6	-	pit cylinder/100%	unlined	unburned, intruded into Feature 14	scant sandy fill with some charcoal flecks	posthole?	-	13/11/8
21	Surface 5	661	pit unknown/<20?%	mostly removed by phone line	burned	charcoal-stained soil	fire pit	-	-
22	Surface 5	-	pit rectangular	unlined	unburned	scant platy fill	shallow basin	-	35/30/?
<b>Extramural Area 3</b>									
1	159N/151E	626-633, 680	oval/hemisphere/70%	cobble-lined, superimposed by feature	burned	-	roasting pit	-	-
2	156N/147E	435-436, 439	rectangular solid/100%	cobble-lined	burned	2 layers: loose, fine, sandy with charcoal on more compact sandy fill with cobbles	roasting pit	248.4	120/90/23
3	156N/149E	425	cylinder/100%	unlined	unburned empty	sandy; includes charcoal and ash	posthole or pit	1.8	16/16/9
4	157N/148E	-	cylinder/100%	cobble-lined	unburned empty	soft sandy with charcoal, roots; 3 cobbles	posthole or pit	3.1	15/14/19
5	158N/152E	683-697	cist ovoid cone	unlined	unburned; lower deposits probably intentional	8 fill units defined, upper ones thought to be basket loads. Trash and construction fill. Charcoal lens at base.	major storage cist	922.9	124/95/98
6	159N/152E	641-644	hemisphere/60%	unlined	burned	-	fire pit	-	76/60/11
7	159N/152E	645	hemisphere	unlined	burned; directly under Feature 6	-	fire pit	-	76 long

Table 13.5 (continued)

Feature	Location	FS	Shape Plan/Section Completeness	Construction Details	Use Details	Fill	Assigned Function	Volume (l)	Length/Width/Depth (cm)
8	158N/152E	654	irregular/50%?	unlined	unburned but contains charcoal and burned soil	mottled; charcoal, oxidized soil, clay	pit	-	30/14/15
9	161N/149E	662	cylinder or cone/20%?	unlined	charcoal stained but unburned, contained Burial 7	-	storage	-	110/110/?
10	157N/149E	434	cylinder/100%	unlined	unburned empty	sandy with charcoal, many rootlets	posthole or pit	5.6	19/18/21
11	159N/153E	698	unknown/?%	unlined	burned; truncated	mottled, light brown; charcoal and burned soil throughout	fire pit	-	110/40/?
12	156N/153E	700	hemisphere/100%	unlined	burned	compact sandy fill with charcoal, clay, oxidized soil	fire pit	127.2	90/90/20
13	158N/153E	-	cylinder	unlined	unburned; cut by Feature 5	2 layers: sandy fill; upper layer has charcoal blocks	pit	-	45/45/28
<b>Extramural Area 4</b>									
1	158N/143E	95-98	pit rectangle/100%	cobble-lined	open burned; layer of cobbles	2 layers: soft sand with pebbles, charcoal separated from cobble and charcoal layer by lens of large charcoal	roasting pit, possible kiln	273.6	114/75/32
2	158N/143E	151-153	pit triangular/100%?	unlined	open burned, adjacent to Feature 1	brown sandy fill with charcoal; disturbed	-	43.5	46/43/44
3	161N/138E	137-138	cist, inverted cone/70%	unlined	closed unburned, probably intentionally filled	2 layers: fine sand with charcoal, compact fine sand, less charcoal, Burial B0.1	storage cist	-	50/80/78 (incomplete)
4	157N/145E	1048	pit hemisphere/100%	unlined	open burned	ash, charcoal, sand	fire pit	7.1	33/27/10
5	155N/146E	1029	pit hemisphere/100%	unlined	open burned; contains abundant charcoal	burned soil, large charcoal, sand, and ash	fire pit	112.9	89/85/19



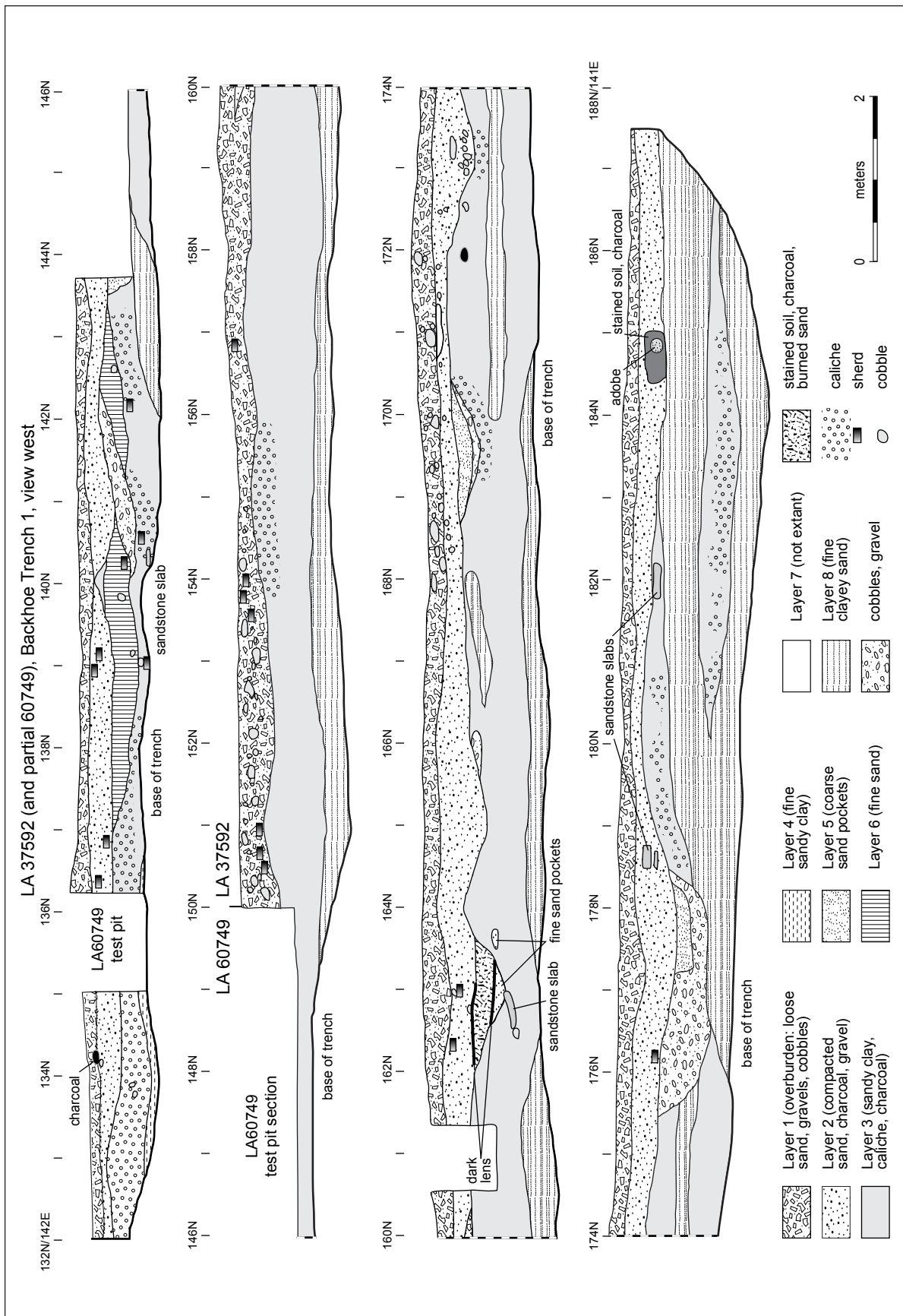


Figure 13.10c. LA 37592, BHT 1, continuation north from LA 60749, profile, view west.

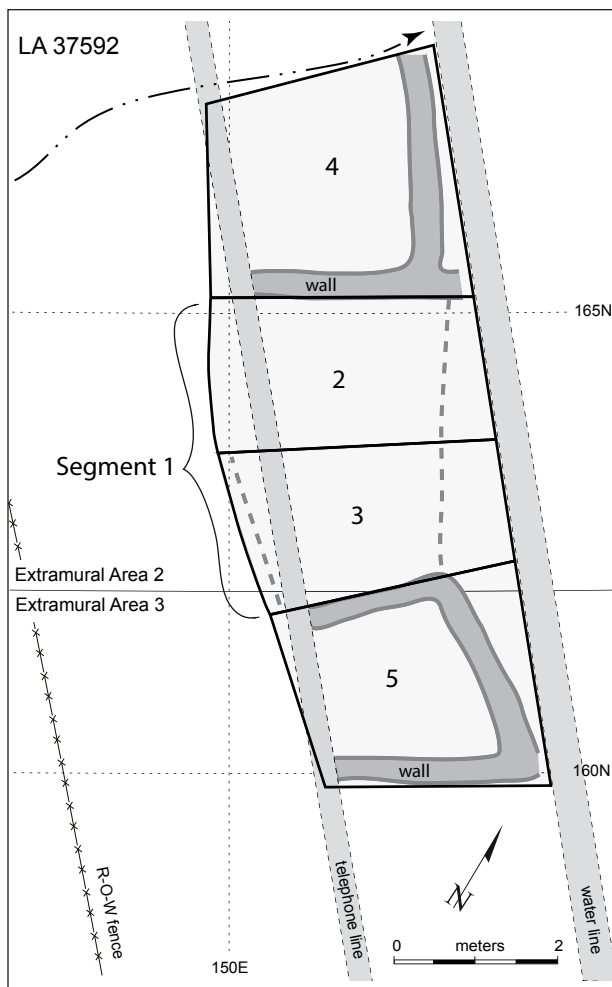


Figure 13.11. LA 37592, Extramural Areas 2 and 3, Segments 1-5, subroom area, plan.

to the bottom of the deposit. Whatever accounts for this filled depression, then, postdates the earlier occupation of the site. It may be that we failed to recognize a storage cist associated with the rooms. For whatever reason, there was an island of preserved Mid Pueblo II features in Extramural Area 3, underneath Room 203; and complex later deposits to the north, under Room 202.

Below Room 202, the breaks noted in Surfaces 4 through 8 probably relate to this cutting event; as noted above, the break “moved” to the south as the excavation got deeper (Fig. 13.16a). At the level of Surface 5, the excavator noted that the underlying “surface” seemed to slope to the south, as would be expected in a filled depression. Since it was not visible until the surface immediately underlying the lowest floor of the room was uncovered, it can be

assumed that it just predated the roomblock. The types present are close enough to those in the room that the fill could have been placed in the cyst (?) in order to build the room.

What, then, are the surfaces identified over the top of this deposit? They could have resulted from a number of circumstances:

1. They may have been actual use-surfaces. The presence of features on Surface 6 supports this possibility, although the features south of the break are rather minimal. If they were intentional surfaces, some architectural division of the area is likely to have been present.

2. They may have been the result of intentional filling, resulting from different materials being added to the fill of the pit in different ways, and perhaps being left exposed between filling events.

3. They may be the result of excavators expecting to find continuous or at least contiguous surfaces. The excavators noted differences and the poor quality of the surface, but they still assumed that both were in fact surfaces. The lowest “surface” was not identified at all within this possible pit.

The profile below this area is a difficult one, and the complexity is reflected in the obscurity of the notes (Fig. 13.16b). As I see it, there is a very deep pair of charcoal lenses that predate all Anasazi use of the site, deposited well before the Christian era. These are overlain by a large quantity of fill that contains alluvial components and perhaps large filling episodes, which, while possibly artificial, contain few cultural materials. These units extend up to the base of several intrusions that seem to originate from the sub-Floor 8 area beneath Room 202. Cultural activity at this level did not extend into the east end of the area (past around 152E), *except* for Burial 6. The west end, however, shows what is either a series of actions or one very complex one. At the base is the very definite ashy layer that extends south at least 2 m and east-west  $\pm 0.5$  m. I think there is fill above this layer that is also the result of activity, probably with some elapsed time. At the east side of this there is apparently a sizable (0.5-0.7 m across the top and  $\pm 0.4$  m deep) intrusive pit. In this small area, which contained several different units, the remains of a small construction were found (Layers 11-20). This deposit contained two partial manos, one partial ax, one complete ax, a projectile point, and about 100 sherds.

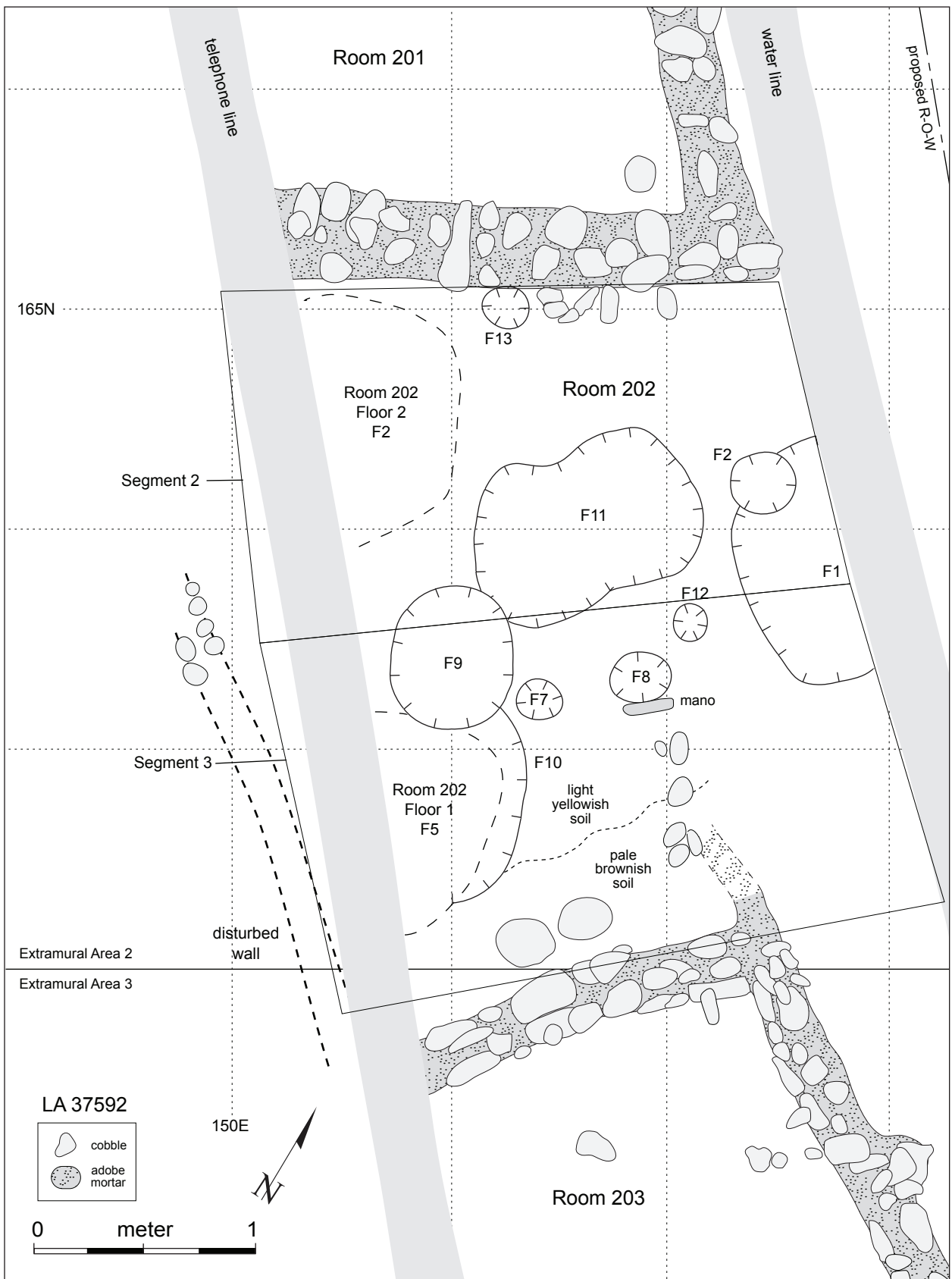


Figure 13.15. LA 37592, Extramural Area 2, Segments 2 and 3, subroom area (Room 202), features, plan.

Table 13.6. LA 37592, Extramural Area 2, 161N–166N, stratigraphy.

Layer	Type of Deposit	Description
Levels 1–3	natural, and natural and cultural mixed	Surface materials, including some modern artifacts. Includes some heavily disturbed deposits.
Level 4	natural and cultural mixed	Fill to Extramural Surface 1.
Level 99	mixed	West water line.
2	natural and cultural mixed	Defined only above Burial 7 and below the west water line. Mixed and laminated redeposited silt and clay. Relatively scarce artifacts.
4	natural and cultural mixed	In Segment 4 only; subfloor deposits containing a few artifacts which are probably intrusive. Ranges from crumbly to compact yellowish-brown fine sand, silt, and clay sterile substrate.
5	–	Room 202 fill to Floor 3.
6	cultural fill	Fill to Floor 4; segment 1 only. Compact sand with some charcoal, and an ashy area. As excavated this layer includes materials from both sides of the Segment 2–3 break.
7 north	cultural deposit	Fill to Floor 5; divided into north and south halves, which are said to be easily separated. North half thought to be intentional leveling material; sandy with some clay and little charcoal; fire-cracked rock.
7 south	–	Platy light brown fill with yellow brown on "surface."
8 north	cultural	Thin fill layer to Floor 6; clayey sand with sparse charcoal; sand more granular at contact with surface.
8 south	cultural	Loose brown soil with few charcoal flecks and more CaCO <sub>3</sub> than in the north part of the segment.
9 north	natural and cultural mixed	Fill to Surface 7; abundant rodent disturbance.
9, Levels 1–13	natural and cultural mixed	Subdivided into 13 levels beginning at the level of Surface 6, for a total depth of 1.3 m. Artifacts concentrated in the west end of unit (ca. 162N/150E), but present in the east as well. Most matrix described as clayey; includes some charcoal, some cobbles, some CaCO <sub>3</sub> . Includes laminated sandy soil and softer dark soil. Abundant rodent activity.
10	natural	Fill to Surface 8; Segment 2 only.
11	natural	Sandy unit with ash spot and possible burn; only in vicinity of 152E.
12	natural	More extensive unit toward east end of the excavation.
13	natural	–
14	cultural	–
15	–	–
17	–	Contains charcoal lenses and cobbles; possibly related to Layer 17.
20	cultural	Located only 162–163N/150–151E. Small pocket of soft clayey soil containing charcoal and a few artifacts, including 2 axes and 2 manos. Possibly a cache or a piece of a construction.
21	cultural	Thin gray lens near the base of these deposits.
22	cultural	Was called Layer 10 but is below Surface 8. Depths indicate that this is in the vicinity of Surface 8. Light-colored layer with charcoal flecks restricted to vicinity of 163N/150E. Suggested as possible construction debris. Includes rock and relatively abundant artifacts.

Given the nature of the fill and the other evidence, I am inclined to think that these deposits were intentional fill of a pit we never defined from the area east and south of Pit Structure 1, extending east to below the south end of Room 202. In attempting to define the portion adjacent to the pit structure, an excavator concluded that there was

a drainage channel, the sections of which indicate a sloping-sided cut in a hard, white soil. As noted above, this surface is prone to cutting, but this explanation requires a substantial cutting event between two occupations. Because of the west water line in particular, we cannot demonstrate that these two deposits were connected, but they do contain





Figure 13.16a. LA 37592, Extramural Area 2, Segment 2, Surface 8/subroom area (Room 202).

similar ceramics, and they do make a plausible drainage channel when connected (Fig. 13.2b).

Burial 6 was interred at the edge of this problematic area—fill to the east of the grave was noted to be very hard (a water line effect?), and quite soft to the west. The burial is formal, a flexed subadult (14–16 years old) accompanied by a McElmo Black-on-white bowl and a Dolores Corrugated jar. The east water line passed immediately adjacent to the burial; the relative shallowness of this interment combined with the nearby construction resulted in the bone's being very fragile and fragmentary. The burial pit was not detected until we excavated well below the room surfaces, beneath the apparent east wall of Room 202. The pit could be traced to Floor 8. There is, therefore, little doubt that the burial predates construction of the visible rooms, though again, it may have been within an earlier room when placed. The association of this burial with a McElmo vessel indicates an age of at least Transitional Pueblo II–III if not Pueblo III for this burial. Its location beneath the Room 202 wall confirms that the room was built later.

Burial 7 was a few meters west southwest of

Burial 6 and 70–80 cm deeper. The ceramics associated with Burial 6, however, indicate that it dates substantially later than Burial 7, in Early Pueblo III. The burial contexts seem to be quite different. Burial 7 was directly beneath the west water line, which removed all upper portions of the feature in which it was placed, although it left the burial itself undisturbed. It is clear that the burial was near the bottom of an oval-shaped pit. Given the depth of the burial and the shape and size of the base of the pit, it is likely that the burial was placed in a large storage pit, which is quite different from the placement of Burial 6 in a shallow pit, beneath a room floor or in a filled drainage or other cut. Large storage cists such as that suggested for Burial 7 are usually extramural; if it was, and it was contemporaneous with Pit Structure 1, the pit and the edge of the structure excavation would have been little more than 1 m apart. If the small ceramic sample is indicative, the pit pertains to the occupation that generated the other Pueblo II pit features in the southeast portion of our excavations; the pit was probably filled before the construction of Pit Structure 1.

Of the four extramural areas, Extramural Area

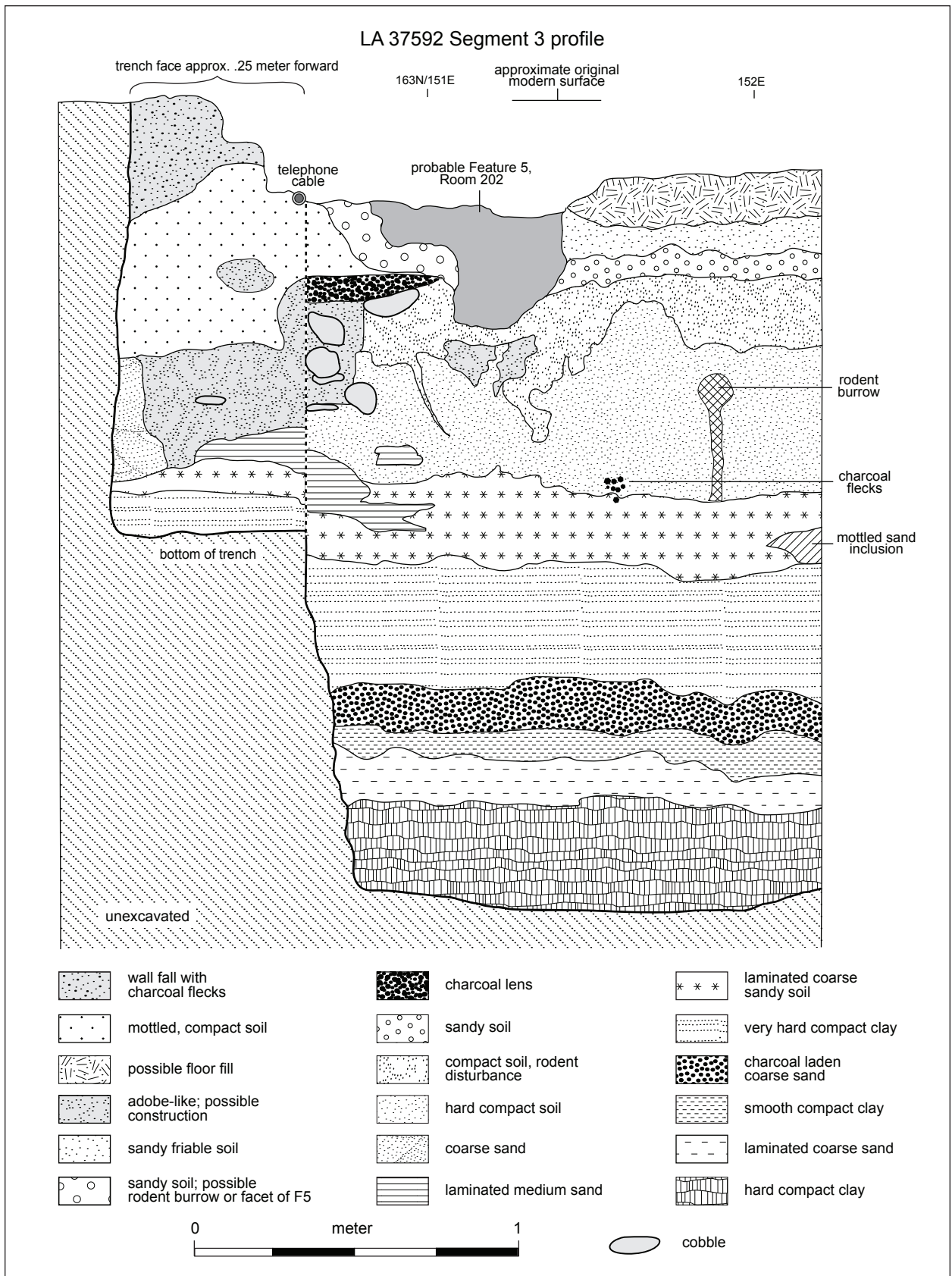


Figure 13.16b. LA 37592, Extramural Area 2, Segment 3, subroom area (Room 202), profile.

2 contained by far the most manos and axes, even though it contained fewer pieces of chipped stone than Extramural Area 3, immediately to the south. Although there are a number of complete manos in the collection, there are no whole metates, and no grinding areas were identified.

The irregular surface, which we found difficult to define and excavate, is visible in the modern surface. Within the drainage area immediately northeast of the architecture at this site, erosion has created soil pillars, overhanging cuts, and fissures, showing that these soil deposits are prone to irregularity.

The number of surfaces and the density of features sets Extramural Area 2 apart from other extramural areas at this site, none of which shows the same intensity of use (Fig. 13.3b). The complexity of the surfaces in the vicinity of the roomblock occupied us for a long time. Placing these surfaces in a sequence was difficult because of horizontal variation, small vertical separation, and prehistoric and modern modifications. The construction of the rooms probably had several effects. In the area of Room 202, the addition of a room with several floors led to the preservation of multiple surfaces below the room area in addition to the three surfaces associated with the room. East of the area covered by Room 202 we defined fewer surfaces, but some of the five surfaces below the lowest (third) room surface in Room 202 did extend outside the room area. Since the surfaces outside are partly contemporary with the rooms and partly earlier, there was a problem in defining relative placement in cases where stratigraphic overlap was not present.

In the area of Room 203, further surfaces were not found below the room floor, but two large extramural fire pits (Extramural Area 2 Feature 14 and Extramural Area 3 Feature 1) were visible at the level of the wall base. These features were probably somewhat cut down by the construction of the room. It may be that construction of Room 203 involved cutting through earlier surfaces, leaving the late floor as the only surface in the room area. The surfaces beneath Room 202 are numbered sequentially with the room floors, making the first pre-room surface number 4, *except* for a small area outside the room to the east, Surface 2.

A series of four superimposed fire pits on thinly separated, successive surfaces in Extramural Area 2 show a similarity in use of the space through time.

The most recent of the fire pits was associated with Floor 3 of Room 202, with the underlying features on Surfaces 4 (Extramural Area 2 Feature 3), 5 (Extramural Area 2 Feature 6), and 6 (Extramural Area 2 Feature 11). This consistency seems to strengthen the suggestion that the space had been enclosed rather than having been part of a plaza, though we cannot demonstrate that enclosure in the portion of the site that survived and which we excavated. Except for the last of these features, which was oval, these fire pits as defined were heart-shaped burned areas. These features are near the center of the area we defined as Room 202, offset somewhat toward the east side. This location and spacing raises a number of possibilities: the space was enclosed prior to Floor 3; the use of Floor 3 belongs in the same category as the earlier surfaces, rather than with Room 202; or Room 202 replaced a similar construction with little interruption of use over a period longer than that suggested by just two or three floors.

Including the superimposed fire pits, most of the identified surfaces have a major fire pit associated with them. These features are generally of a size that could have been interior. These surfaces were consistently rough and somewhat difficult to define: they were clearly not prepared floors, but few if any rooms excavated along the highway contained formal floors. In the absence of prepared floors, sequential uses may be difficult to distinguish, and uses are likely to be zones rather than discrete surfaces.

It is very difficult to gauge the length of use of these surfaces. It is likely that the lower ones were contemporary with the Pueblo II features nearby, but *which* lower ones is less clear. Mineral paint is more abundant among the very few sherds from these lowest levels, but organic paint is still present, which is unlike the Pueblo II features just to the south.

### *Surfaces and Features*

*Surface 2.* Only a small portion of Surface 2 was exposed and identified. It was at the same level as Floor 2 of Room 202, and contiguous with that floor, just to the east of the room, between the row of postholes defining the room and the edge of the east water line trench. The portion exposed contained two features. Feature 1 was an unlined, basin-shaped fire pit with ashy fill in the base and



sandier fill in the upper part of the feature, indicating that it stood open after falling into disuse. Feature 2 had little to suggest its use—it may have been a shallow posthole for a substantial post (22 cm diameter), or some other type of pit.

**Surface 4.** This surface was the first to show the color break between Segments 2 and 3, and the first that was felt to clearly underlie the Room 201–202 wall. At this level, the north area was described as reddish, the south as light brown. The excavator also noted that the surface rose somewhat in the vicinity of the walls; this suggests that a wall was present at the time of surface use, or that compaction from later use occurred.

**Surface 5.** The fill of Surface 5 is Layer 7 in both the north and south segments. The excavators continued to note differences between the two areas: the fill in the north area was sand of varying coarseness, some clay, and little charcoal; in the south the fill was described as platy and light brown. The northern part of the surface was described as ephemeral, the southern part as defined by fill separation and a color break, with a yellowish brown film on the surface. One excavator suggested that the fill to the surface was placed to level the area. Two features were defined with this surface: a fire pit in the series of remodeled fire pits (Feature 6), and a shallow basin (Feature 7) just south of the line dividing the segments.

**Surface 6.** This surface was complex in terms of the number of features and the variety of textures and consistencies. During excavation it was divided into north and south areas based on a texture change; within that, a further change was noted within the southern area (Segment 3; Fig. 13.15), but this material was not further subdivided. Within this 2.85 by 1.5 m area, portions of which were removed by the creation of later features and the telephone trench, five features were attributed to Surface 6, and two to Subfloor 6.

**Feature 13.** This was a small (20 cm in diameter) pit at the north end of the feature concentration (partly beneath the Room 201–202 wall; Fig. 13.10b). The excavator was certain that the pit had been intentionally sealed. Inside the pit was a substantial quantity of lithic artifacts, which the excavator interpreted as two cores with flakes from them, although the chipped stone analysis reports only a hammer-

stone and a core, both of quartzitic sandstone, and 34 flakes, most of which are also quartzitic sandstone (Table 13.7). There were six siltstone flakes, one of which is fairly large (52 g), which the excavator may have considered a core. The excavator counted many more artifacts (90 chipped stone, 1 gypsum, 1 corncob, 3 eggshell) than were reported in the lithic analysis. She noted that many of the flakes were very small, and these items may not have survived transport or may have been rejected from the analysis. Even with this reduced count, Feature 13 contains far more pieces of chipped stone than other features in this area. The excavator interpreted this feature as an offering or a cache; given the mundane nature of the material, it could also be the by-products of a short-term task, disposed of in a small pit.

**Features 8 and 12.** These two shallow but distinct basins, both pot rests, are on either side of the line dividing the area. Feature 8 had a mano embedded in the surface on the south side of the pit; one of the excavators suggested that it may have been part of a mealing complex in which the pot rest was used to catch ground meal.

**Surface 7.** Evidence for activity in this area continued to be found beneath Surface 6. The combination of rodent activity and the density of features on subsequent surfaces mean that remainders of this surface are patchy, and the question persists as to whether the division of the area reflects a prehistoric differentiation or an archaeological one. Because of a difference of up to 7 cm in vertical level in the two areas, the two parts are probably not contemporaneous.

The southern portion of the area contained the remains of a sizable, cobble-lined fire pit (Extramural Area 2 Feature 14), which appears to have been partially dismantled when Room 203 was built. This feature contained only 17 sherds, all of them consistent with a Pueblo II date (no organic paint on five black-on-white sherds). This means that Room 203 was built on top of at least two major fire pits, with a third not far to the south (Extramural Area 3 Features 1 and 5), all of which are early in the area's occupation.

At the end of work at the site, a backhoe trench was extended below the hand excavations. This trench clearly cut below Anasazi deposits, and



Table 13.7. LA 37592, Extramural Areas 1–4 features, artifact counts by pottery ware group and lithic and bone tool type.

Feature	Ceramics	Chipped Stone	Ground Stone	Fauna (Tools)	Other
<b>Extramural Area 1</b>					
1	12 gray 4 white	1 debitage 1 utilized 1 hammer	1 mano	mammal	–
	4 white	1 utilized hammer	–	–	–
<b>Extramural Area 2</b>					
1	2 gray 2 white 1 red	9 debitage	4 mammal (tool)	–	–
3	6 gray 7 gray	7 debitage	–	1 mammal 1 eggshell	–
4	7 gray	–	–	–	–
6	–	2 debitage	–	–	–
9	6 gray 2 white	4 debitage 1 utilized	–	17 mammal 3 bird (tool, waste)	–
10	3 gray	–	–	–	–
11	1 gray	1 debitage	–	mammal	–
13	–	34 debitage 1 core 1 utilized	–	2 eggshell	–
14	12 gray 5 white	15 debitage 1 core	–	10 mammal (waste)	–
15	1 gray	1 debitage	–	6 mammal	–
16	1 gray	2 debitage	–	–	–
17	–	2 debitage	–	11 mammal 8 bird	–
<b>Extramural Area 3</b>					
1	32 gray 15 white	26 debitage 1 core 2 utilized	1 slab 1 metate	8 mammal 4 bird 5 eggshell	–
2	101 gray 35 white 2 red	55 debitage 1 utilized	1 slab	3 mammal 1 bird 54 amphibian	–
5	212 gray 42 white	55 debitage 1 utilized	–	57 mammal 6 bird 44 amphibian (2 tools)	13, 14 pollen*
6	14 gray 6 white	15 debitage 1 core	1 slab	5 bird	–
7	1 gray 1 white	1 debitage	–	1 mammal	–
8	2 gray	7 debitage	–	6 mammal 1 eggshell	–
9	3 gray 3 white	5 debitage 1 utilized	–	7 mammal 24 bird	–
10	2 gray	–	–	–	–
11	12 gray 8 white	5 utilized 1 core	–	6 mammal 1 eggshell	–

Table 13.7 (continued)

Feature	Ceramics	Lithics	Ground Stone	Fauna (Tools)	Other
12	2 gray 3 white	2 debitage	1 slab	–	–
<b>Extramural Area 4</b>					
1	13 gray 1 white	9 debitage 3 utilized 1 hammer	–	4 mammal 1 bird	ornament
2	5 gray 8 white	2 debitage	–	–	–
3	29 gray 9 white 1 red	6 debitage 3 utilized 1 hammer	1 slab 1 mano	13 mammal 61 bird 105 reptile (preform)	–
5	13 gray 9 white	–	–	–	–

\* Pollen numbers are the number of genera in the sample.

it was here that we found a burned area (see pre-Pueblo discussion, below).

### EXTRAMURAL AREA 3

Extramural Area 3 was artificially bounded on the south by the 150N grid line, which separates LA 37592 and LA 60749 (Chapter 15, Vol. 1-Book 2, this report). Surface materials continue south of 150N, and a feature in the northern end of LA 60749 (Extramural Area 3 Feature 1) was closer to the main part of LA 37592 than it was to the structure at LA 60749. A 1 by 1 m test was excavated near the boundary (153N/147E). This pit contained mostly natural deposits, with a fair amount of intermixed cultural material but no features. There was an increase of cultural material, including charcoal, clumps of soil or adobe, and artifacts between 20 and 30 cm below the modern surface. The ceramics suggest the same mixture of Late Pueblo II and Early Pueblo III materials found elsewhere on the site; the proportion of organic-painted white wares is fairly high, suggesting a transitional date for this area.

There are several salient aspects of this area (Fig. 13.10b). Just south of the roomblock there is a very high density of features, including four burned features and a major, trash-filled storage cist. This concentration of features was used in the earlier (Pueblo II) component of occupation, prior to the

construction of Room 203. Several of these closely spaced features were probably sequential rather than contemporaneous, indicating prolonged use during the early component. This is of interest, since relatively few remains from this component are present in the main excavation area, where deposits tend to be later. Also of concern in the area east of Pit Structure 1 and below Roomblock 2 is the fact that cultural deposits extended considerably below defined surfaces, without the definition of any sub-surface features. The materials in this portion of the area seem to be later than those in the area of concentrated features. Of the four extramural areas, this one contained the most sherds and pieces of chipped stone, even though its area was smaller than Extramural Areas 1 and 2. This part of the site, then, saw concentrated activity for longer than the rest of the site.

### Cluster of Pueblo II features

Feature 1, a large cobble-lined burned pit, is a good example of the complexity of reuse in the area east of the pit structure. It appeared as a semicircular alignment of cobbles that stopped at the south wall of Room 203 (Figs. 13.3b, 13.10b, 13.17, 13.18). The cobbles in the alignment were burned, and the pit contained quantities of charcoal. The wall, however, was unburned, indicating that construction of the wall followed abandonment of the fire pit. This in-

terpretation was confirmed by a burned outline extending into the room from the intact portions of the feature outside of the room, showing that portions of the feature had been removed to build the room. Moreover, the east side of the feature had been removed by another construction episode, which also predated the wall. This activity may have been the construction of the storage cist (Feature 5; see below). Because of its location at the edge of the right-of-way and the presence of the east water line along the take line, we did not define the earlier activities. It is, of course, possible that remodeling removed architecture enclosing this feature, but its size is consistent with extramural fire pits rather than hearths. Excavation performed below the floor of Room 203 in an effort to define the portion of the feature inside the room has been assigned to Extramural Area 3 and numbered Segment 5 to distinguish it from Segments 1–4, immediately to the north in Extramural Area 2.

This fire pit contained only 47 sherds, 15 of which were white wares (Table 13.7). Among these sherds none has organic paint, and there are no

Pueblo III types, indicating that the feature dates to the Pueblo II component of the site. This ceramic assemblage and temporal placement fits well with the superimposition of Room 203, part of the Pueblo III roomblock. Also contained in Layer 1 of the feature was a small unburned piece of adobe with an impression of a large monocotyledonous stem, perhaps corn or cattail, with a fine piece of twine around it. This material supports the idea that jacal partitions were present in the area at the close of the use of this fire pit, although obviously such a small piece of adobe could have come from other features.

*Unlined fire pits.* Features 6 and 7, burned fire pits, were defined as exactly coextensive, but with Feature 6 superimposed on Feature 7. These two pits are in turn beneath the southwest edge of Feature 1. The position of this pit and the 22 ceramics in it indicate that they, too, are Pueblo II features.

Feature 11 was in the heavily used area between Features 1 and 5. Only the east side of the feature was visible, showing as a series of gray and orange soil, which may represent cobble im-



Figure 13.17. LA 37592, Extramural Area 3, Feature 1 (butting south wall of Room 203), view east.

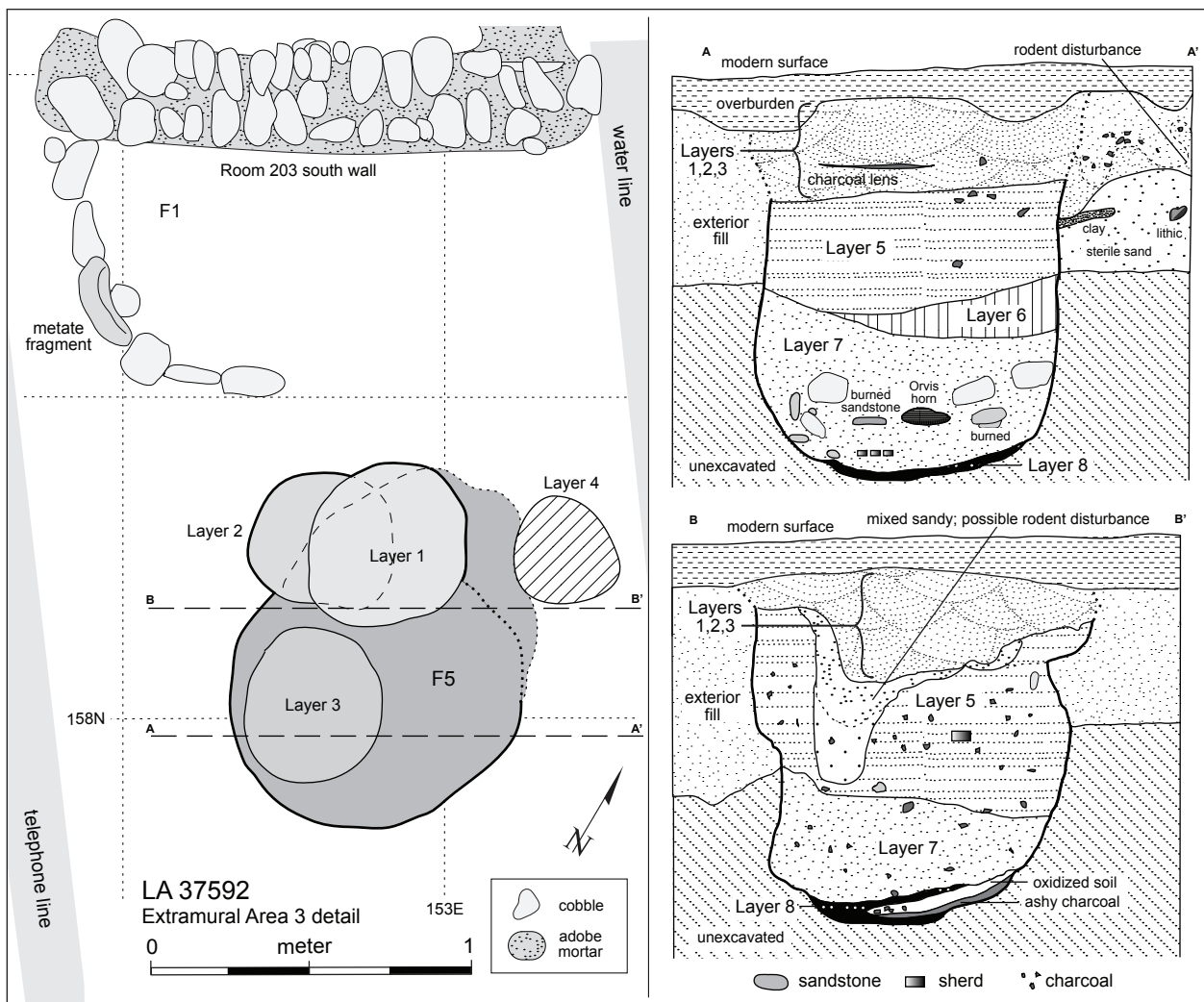


Figure 13.18. LA 37592, Extramural Area 3, Features 1 and 5, with approximate locations of basket load layers, plan and profile.

pressions that filled when the burned pit was dismantled, probably during construction of Feature 1. In the vicinity of this group of features, Feature 12, another unlined fire pit, was defined in the profile of Backhoe Trench 2. In profile this pit measured 90 cm in diameter and 18 cm deep. The base of the pit was burned reddish brown; the pit was filled with homogeneous ashy, sandy fill with some oxidized soil. No distinct ash or charcoal lenses were visible, suggesting that the contents were somehow stirred up at the completion of use.

**Storage cist (Feature 5).** This large storage cist was found with a backhoe trench paralleling the edge of the right-of-way. The cist was only about 30 cm southeast of Feature 1 and dates to the same

Pueblo II component (Fig. 13.3b, 13.10b, 13.18). Organic-painted sherds and Pueblo III types are absent among the 254 sherds (Table 13.7). There are several noteworthy things about this feature, including the placement of what we thought (preservation was poor) to be an entire bighorn ram skull near the bottom of the pit; the faunal analysis identified only fragments of horn. The excavator thought that the skull was present in the profile; it is likely that fragments of the skull were too disintegrated to be identified. No other *Ovis* remains were present in the feature. This genus was generally rare at the site: four other elements were found in the Pit Structure 1 midden, which is later than the deposits in the cist. Bighorn remains are rare in the project assemblage in general, as well. A few elements of deer, dog, and



bird were also present. Over 40 toad elements were found in Level 5 of this feature, probably an animal that burrowed into the feature, rather than one deposited by the human occupants of the site. Also noteworthy is that the fill was composed of at least eight units, which we interpreted as basketloads of intentional fill. The basketloads, visible in the upper fill of the feature, may have been used to level the surface after filling the cist (Fig. 13.18). Feature Layers 1–4 are small enough and distinct enough to be basketloads: around 45 by 45 by 12 cm. The lower fill, however, is in larger units and was harder to subdivide. Fill units are basically similar, differing in quantity of ash and charcoal, some quite clean (Layer 4), others quite ashy (Layer 2). It may also be that the units represent changes in fill source rather than just discrete container loads. The fill looks like a combination of trash and remodeling debris: it contains ash, charcoal, corncob fragments, burned soil, burned sandstone, burned and unburned cobbles, and artifacts. Two of the possible basketload units contained very high concentrations of *Zea* pollen, and one contained the only instance of agave pollen from the site (Table 13.8). It is possible that some of this material came from dismantling the adjacent fire pit (Feature 1).

The opening of the pit was an irregular oval; the irregularity may have resulted from subsequent disturbance in the area (Fig. 13.20). The proximity of this feature to Feature 1 suggests that the two would not have been in service at the same time, and the multiple activities in this area could have broken down the lip of the pit. Certainly these other activities made early definition of the pit difficult. Below around 40 cm beneath modern ground surface the pit has a more regular, hemispherical shape, but no evidence of prepared surfaces was observed. It may be that the cist was filled at the time of construction of the fire pit, although the edge of the fire pit was also damaged prehistorically, and both features may have been affected by still other modifications of the surface before construction of the roomblock.

**Storage cist (Feature 9).** This large storage cist was directly below the west water line, which precludes assigning it to a surface and determining its original depth (Fig. 13.10b). The base of the pit is coated with charcoal, though the pit itself does not seem to be burned. Resting on top of the charcoal is a thin silty alluvial deposit, on top of which Burial 7

was interred. It seems probable that this was a substantial storage pit that was abandoned, used for a burial, and then further filled.

**Pit (Feature 13).** This sizable unburned pit (45 cm across by 28 cm deep) was visible in the wall of Feature 5 (Fig. 13.10b). It contained compact sandy fill with charcoal flecks, its base defined by a lens of coarse sand.

**Fire pit (Feature 2).** This substantial cobble-lined fire pit was near the southeast edge of Pit Structure 1 (Figs. 13.10b, 13.21a, 13.21b). It was partially lined with cobbles, some of which were quite large. The two layers of the pit are separated by a partial charcoal lens, suggesting two episodes of use. The first episode is shown by a regular, oxidized base of the pit; fill to the original base of the pit contains some rock, probably from disintegration of the original pit. It is likely that the original pit was fully rock lined. This rocky layer is capped by the irregular charcoal lens, indicating that the second episode of use took place in the partially disintegrated feature. Over a hundred sherds were recovered from the feature, including a mixture of Pueblo II and Pueblo II–III types (Table 13.7). Organic pigment is somewhat more abundant than mineral pigment, indicating that use of the feature could easily have been associated with the use of nearby Pit Structure 1. Insufficient pottery is present to determine the temporal spacing of the two use-episodes. Fifty-four frog family elements, probably from a single individual, were present in the feature fill. Archaeomagnetic samples were taken.

**Pits (Features 3, 4, and 10).** This group of pits was east of the fire pits on the south side of Pit Structure 1. They are similar in size and shape to postholes but did not contain wood and did not clearly define an architectural feature. Only Feature 4 included any possible shims. The others showed as distinct gray areas on the surface with increasingly hard fill toward their bases.

### III-Defined Pueblo II–III Deposits

As with Pit Structure 1, the definition of the southeast edge of the pit structure was problematic. In retrospect it seems that these problems have two main causes: the collapse of a large off-chamber cist inside the structure, and the likely presence of materials deposited contemporary with or following the

Table 13.8. LA 37592, Extramural Area 3, pollen, counts by type and provenience.

Provenience	Families	Arboreal	N	Cheno-Am	N	Composite	N	Grasses	N	Domestic	N	Shrubs	N	Other	N
<b>EA 3, Floor 5, N 1/2, FS 578</b>	13	<i>Pinus</i> u	53	pollen	133	high spine	2	unknown	4	Zea	6	Artemisia	1	Ephedra	1
Pollen sum	219	<i>Juniperus</i>	1	anther	3	low spine	1					Sarcobatus	4		
Marker	25														
<b>EA 3, Floor 5, S 1/2, FS 590</b>	13	<i>Pinus</i> u	11	pollen	180	high spine	2	unknown	6	Zea	1	Artemisia	2	Eriogonum	1
Pollen sum	242	<i>Picea</i>	2									Sarcobatus	9	Platyopuntia	1
Marker	29													Cactaceae	1
														Liliaceae	1
														Cyperaceae	1
														Ephedra	2
<b>EA 3, cist, Layer 2, Feature 5, FS 684</b>	12	<i>Pinus</i> u	21	pollen	140	high spine	1	unknown	5	Zea	10	Artemisia	3	Cactaceae	3
Pollen sum	206	<i>Picea</i>	1	anther	3	low spine	1					Sarcobatus	4	Ephedra	4
Marker	76	<i>Populus</i>	1												
<b>EA 3, cist, Layer 5, Feature 5, FS 692</b>	14	<i>Pinus</i> u	29	pollen	154	high spine	1	unknown	4	Zea	7	Artemisia	2	Solanum	1
Pollen sum	225	<i>Juniperus</i>	6			low spine	3							Eriogonum	3
Marker	44													Agave	1
														Liliaceae	2
														Ephedra	5
														Unknown	1
<b>Pre-Anasazi, EA 3, FS 714</b>	15	<i>Pinus</i> hap	3	pollen	120	high spine	9	unknown	10	-	-	Artemisia	2	Eriogonum	1
Pollen sum	217	<i>Pinus</i> dip	2			low spine	1							Platyopuntia	1
Marker	96	<i>Pinus</i> u	41											Sphaeralcea	1
		<i>Juniperus</i>	1											Ephedra	6
		<i>Picea</i>	2												
		<i>Quercus</i>	2												

hap = haploid; dip = diploid; u = undifferentiated

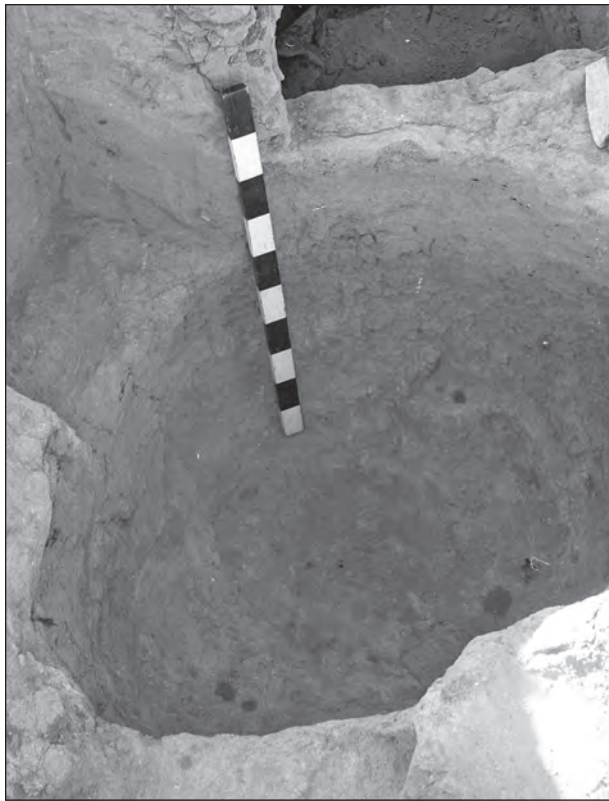


Figure 13.20. LA 37592, Extramural Area 3, Feature 5 (major storage cist).

use of the pit structure. Erosion of the pit structure hole as it filled probably further contributed to the confusion here. Several attempts were made to clarify these problems during excavation, none of which was really successful. Given the presence of a similar deposit in Segment 3 of Extramural Area 2, it seems possible that these two deposits may somehow have connected, but tracing that link was impossible because of the water line trench.

#### EXTRAMURAL AREA 4

Extramural Area 4 was south and west of Pit Structure 1 at LA 37592. It included burned features and one large extramural cist (Figs. 13.3b, 13.10b).

#### Fire pits

Although determination of precise contemporaneity is not possible, up to four large and one smaller extramural burned pits were placed around the south perimeter of Pit Structure 1. While all of these pits fit into the same general category, each is

distinctive. Extramural Area 4 Feature 1 and Extramural Area 3 Features 1 and 2 are cobble-lined, but the construction of each is somewhat different, and the fill of Extramural Area 4 Feature 1 is distinctive for a thick layer of burned cobbles in the bottom. Extramural Area 3 Feature 1 predates Room 203, and stratigraphically and ceramically it belongs with the Pueblo II features in the southeast portion of our excavation area. The symmetrical placement of Extramural Area 4 Feature 1 and Extramural Area 3 Feature 2 on either side of the pit structure vent shaft, and their rectangular, rock-lined shape and similar size, make it very likely that they were a contemporaneous pair.

Even these two very similar pits are different in several respects. The masonry of Extramural Area 4 Feature 1 is much more formal, consisting of a course of upright cobbles resting on the base of the pit with a single course of cobbles lying flat at and below the level of the use surface. The entire pit was lined, and the masonry was quite carefully executed. Extramural Area 3 Feature 2, on the other hand, was much less carefully constructed and used rock of much more variable size (Figs. 13.21a, 13.21b). The east end of this pit, in fact, was difficult to define; this difficulty may be the result of prehistoric removal of cobbles.

**Roasting pit (Feature 1).** This large roasting pit was dug into the probable use surface associated with Pit Structure 1, or possibly with the midden in the partially filled Pit Structure 1 depression. The sides are rock-lined, with a single course of flat-lying cobbles at and slightly above the level of the surface, and upright cobbles extending to the base of the pit (Figs. 13.22, 13.23). The upright cobbles range from 14 to 26 cm in standing height. The bottom of the pit is smoothed but otherwise unprepared sandy native soil; it is compact and burned bright red orange. The large quantity of rock in this feature makes it quite clear that it was intentionally placed, presumably for heating. The rock fill layer extended to around the top of the upright cobble course in the walls (Fig. 13.22). The sandy Layer 1 fill is probably postuse fill. Fairly high temperatures are indicated by the degree of burning and the fact that a number of both structural and fill cobbles are fire cracked. The volume of 274 liters places this feature squarely among other roasting pits recorded by the project; indeed, this is a “classic” example of

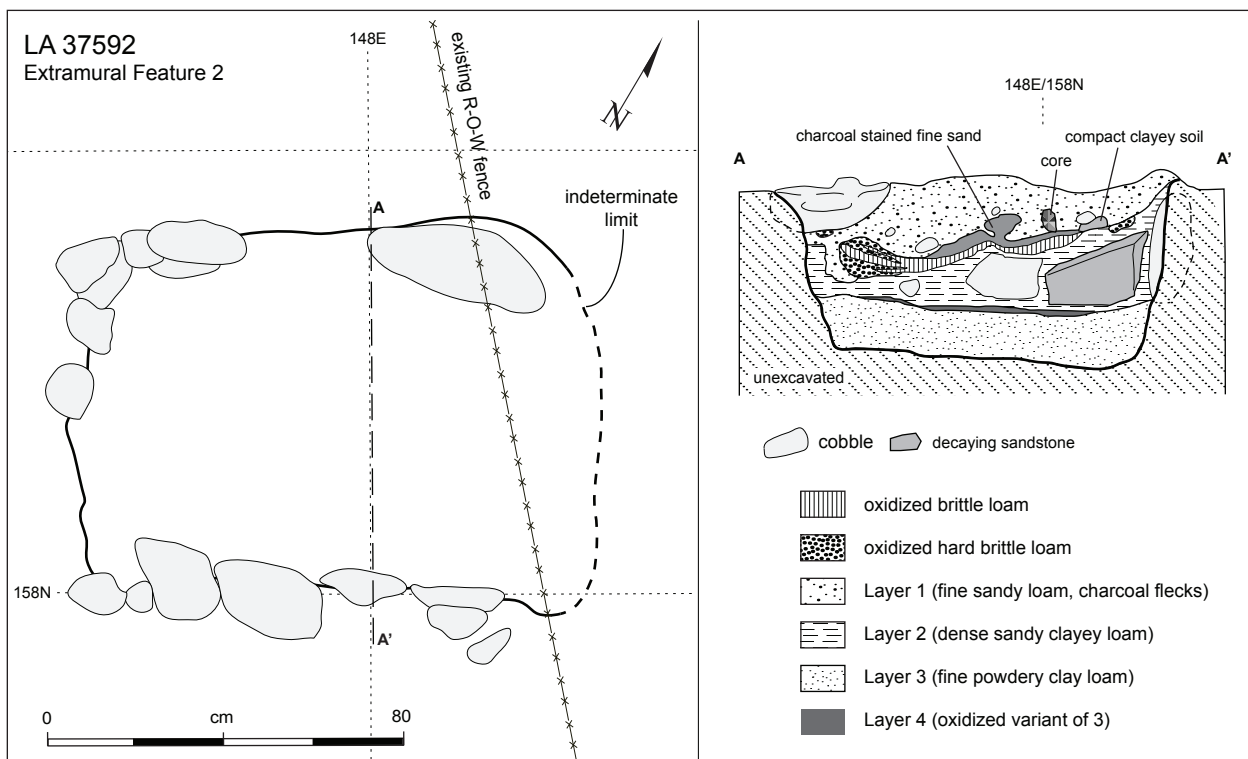


Figure 13.21a. LA 37592, Extramural Area 3, Feature 2 (fire pit), plan and profile.



Figure 13.21b. LA 37592, Extramural Area 3, Feature 2 (fire pit; bottom right).

a roasting pit. The botanical remains in this feature provide little clue to its function. The fuelwood was primarily juniper with some piñon; only weed seeds were recovered, and no corn parts or other economic species (Tables 13.9, 13.10).

A gap in the north rock lining extends into a pit or disturbed area outside the formal roasting pit. While it could be that this gap was intentional, perhaps to improve the draft, it may represent disturbance from rodents or be somehow related to the phone line trench that slightly misaligned the northwest corner of the main pit. The contents of this adjacent pit were recorded as Feature 2.

The shape and fill of Feature 1 open the possibility that it was a pottery kiln. The size—75 cm wide by 114 long and 32 cm deep—and rock-lined construction are consistent with identified kilns, including those at LA 61848 and LA 61888, in the upper La Plata Valley (Brown et al. 1991:271, 359, 466; see also Purcell 1993; Brisbin 1996; Fuller 1984; Swink 2004:279–301). Fill to these features usually includes rock for “kiln furniture,” a dense layer of charcoal, and a layer of cover dirt necessary for reduction of the pottery. This feature does contain a layer of burned soil and chunky charcoal on top



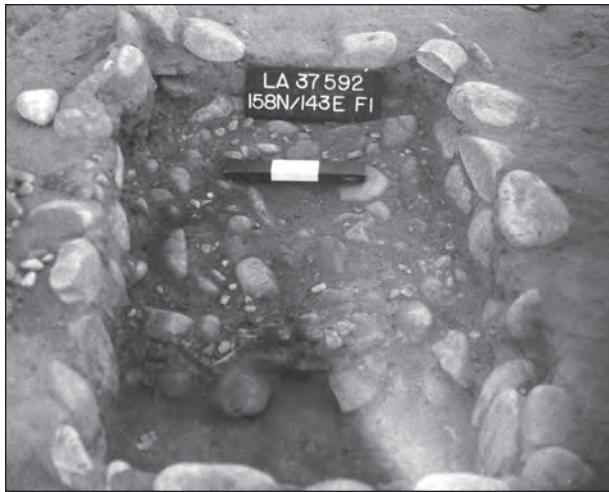


Figure 13.22. LA 37592, Extramural Area 4, Feature 1 (roasting pit), fill.

of that. The quantity of rock seems excessive for kiln furniture, and there were no cover sherds or “wasters.” The floor of the feature is also oxidized (oxidation would not occur in a successful reduction firing). Thus, while there are only suggestions that this feature was a kiln, there is reason to think that

it was. A possible flue makes Feature 1 especially interesting. Very little pottery was found in it: 13 of the 14 sherds are gray ware, all from jars (Table 13.7). Some of the features from the La Plata Mine were also mostly devoid of artifacts (Brown et al. 1991:265).

Many of the best-known, clearest examples of kilns are very large and are located away from habitations, presumably to be near abundant fuel and in well-ventilated locations. Eric Blinman (personal communication) suggests that the large kilns were part of the Late Pueblo III fears of fuel exhaustion around habitations and the perception of safety in numbers when firing away from habitations. He suggests that earlier firing loci were likely smaller and located within habitation sites, like this one.

*Large fire pit (Feature 5).* Lacking rock lining, Feature 5 is unlike Feature 1 and Extramural Area 3 Feature 2. It is, however on about the same level, south of the pit structure, and very regular in its construction. Its size (85 cm across) and apparently careful construction suggest that it was more than a casual extramural fire, but its preparation and intensity of use are both less than that of the rock-



Figure 13.23. LA 37592, Extramural Area 4, Feature 1 (roasting pit).

Table 13.9. LA 37592, Extramural Areas 3 and 4, proximate to the south end of Pit Structure 1, plant remains, flotation full-sort results; taxon by feature, frequency and abundance per liter.

Extramural Area Feature	EA 3		EA 4		
	2	1	4	5	
	Large Rock-lined Roasting Pit	Possible Kiln	Fire Pit	Large Fire Pit	
FS	439	97 98	366	1029	
<b>Cultural</b>					
Annuals:					
<i>Chenopodium</i>	–	2.0	4.0	–	1.0
<i>Cycloloma</i>	6.0	–	–	–	1.0
Cultivars:					
<i>Zea mays</i>	–	–	–	+ cupule	+ cupule
Perennials:					
<i>Juniperus</i>	++ twig	–	–	–	–
<b>Noncultural</b>					
Annuals:					
<i>Amaranthus</i>	–	–	–	20.6	–
<i>Chenopodium</i>	–	–	–	6.1	–
<i>Cycloloma</i>	4.0	–	–	–	–
<i>Euphorbia</i>	–	–	36.0	2.4	–
<i>Portulaca</i>	2.0	–	2.0	0.6	–
Other:					
Paperveraceae	–	–	–	–	1.0
<i>Physalis</i>	–	–	–	0.6	–
<i>Sphaeralcea</i>	1.0	–	–	–	–
Unidentifiable	–	–	–	11.5	–
Perennials:					
<i>Juniperus</i>	–	–	–	+ mc	–

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = 1–10/liter; ++ = 11– 25/liter; mc = male cone

lined features. It is similar to Feature 1 in containing much charcoal, but unlike it in the absence of rock. The upper fill contains much burned soil; beneath that are layers of heavy charcoal, ash, and sand. Wood species include juniper, sage, and a trace of greasewood. Corn cupules and burned goosefoot and spurge seeds are present in the sample from the feature (Table 13.9).

**Small fire pit (Feature 4).** A small (about 30 cm diameter), unlined fire pit was between the two larger cobble-lined features south of the pit structure. It was apparently dug from the same surface as the larger pits but contained no materials to place it chronologically. Corn cupules were present, along with a variety of unburned weed seeds. The variety of botanical materials from this smaller pit is greater than in its two larger neighbors, although much of this variety may be contaminants.

**Major storage cist (Feature 3).** A pit around 80 cm in diameter and at least 75 cm deep was found 4–5 m west of Pit Structure 1. The feature was filled primarily with compact fine sand and silt with some charcoal and a few cobbles. The cranium, femora, and a portion of a pelvis of a 4- to 6-year-old child were found at three depths within this feature (cranium 16 cm, femora 40–48 cm, and pelvis fragment 62 cm). Although these remains are technically disarticulated and were not assigned a burial number in the field, they were analyzed with the burials and named Burial B0.1. The northern one-third of this feature was not excavated, and it is possible that more of this individual was present; the disposition of the elements, however, show that it was disarticulated when deposited. The compact, homogeneous nature of the fill in this feature and the disposition of these remains suggests that it may contain material redeposited during prehistoric ex-

Table 13.10. LA 37592, Extramural Areas 3 and 4, proximate to the south end of Pit Structure 1, wood charcoal, flotation and macrobotanical results; taxon by feature, counts and weights (g).

Sample Type	Flotation				Macrobotanical		Total	
Extramural Area	EA 3	EA 4			Weight (g)	Col.%		
Feature	2 Large Rock-lined Roasting Pit	1 Possible Kiln		5 Large Fire Pit				
FS	439	97	98	1029	97	103		
Context		Upper Fill, Layer 1	Layer 2		Upper Fill, Layer 1	Layer 2, Level 4		
<b>Cultural</b>								
Conifers:								
<i>Juniperus</i>	16/.50	18/.70	20/1.10	12/.20	7.00	–	9.50	65%
<i>Pinus edulis</i>	–	2/.30	–	–	3.83	–	4.13	28%
Nonconifers:								
<i>Artemisia</i>	3/.30	–	–	6/.10	–	–	0.40	3%
<i>Chyrsothamnus</i>	1/.01	–	–	–	–	–	0.01	<1%
<i>Sarcobatus</i>	–	–	–	1/.01	–	–	0.01	<1%
Unknown nonconifer	–	–	–	1/.01	–	–	1.01	<1%
<b>Possibly Cultural</b>								
Conifers:								
<i>Juniperus</i>	–	–	–	–	–	0.62 u	0.62	4%
<b>Total</b>	20/.81	20/1.00	20/1.10	20/.32	10.83	0.62	14.68	100%

u = uncharred

cavation elsewhere on the site. A mandible from an individual of similar age was found in the midden a few meters east of this pit, but the dental attrition on the mandible was different from that on the maxilla, and it was concluded that the two were probably from different individuals. Although the sample is small (nine white ware sherds), there are fewer carbon-painted sherds than mineral-painted sherds, suggesting that the pit was filled before the midden was deposited (Table 13.7). The relative frequency of mineral-painted sherds is similar to that from the floor of Pit Structure 1, which, along with its location, suggests that this cist was contemporaneous with the pit structure.

#### *Material Culture, Extramural Areas 1–4*

The occurrence of extramural cultural materials at LA37592 reflects the numbers of extramural features: Extramural Area 3 contained the largest collections of most materials, followed by Extramural Areas 2, 4, and 1 (Tables 13.7, 13.11, 13.12, 13.13, 13.14; in the tables, the Pueblo II materials in Extramural Area 3 are split from the general materials from the

area). The wrinkles in this pattern are in ground stone, which is most abundant in Extramural Area 2, northeast of Pit Structure 1, and more common in Extramural Area 1 than in Extramural Area 4. Extramural Areas 1 and 2, north of the pit structure, were the location of rooms—those known in Roomblocks 1 and 2, and probably others removed by flooding and modern construction. Half of the 12 axes and hoes from the site came from Extramural Area 2, and another one-third came from rooms, strongly localizing this tool type on the site (Tables 13.13, 13.15, 13.16). The clearest ceramic pattern is the concentration of mineral paint and Pueblo II types in the Pueblo II feature complex in Extramural Area 3. Occurrence of major categories is otherwise quite consistent, and the overall is similar to the site assemblage. The extramural areas contain somewhat more utilized debitage than the whole assemblage, but formal tools are not more numerous; on the whole, tool and material percentages in the extramural areas match the overall percentages quite well. The Pueblo II proveniences also stand out for the chipped stone material distribution—chert and quartzitic sandstone are more common

Table 13.11. LA 37592, Extramural Areas 1–4, pottery types, paint types, and vessel forms by area and time period; counts and percents.

	EA 1		EA 2		EA 3		Pueblo II		EA 4		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Pottery Type</b>												
Pueblo II corrugated	3	0.3%	6	0.3%	5	0.2%	3	0.9%	1	0.1%	<b>18</b>	<b>0.2%</b>
Pueblo II–III corrugated	4	0.4%	11	0.5%	14	0.5%	1	0.3%	3	0.2%	<b>33</b>	<b>0.4%</b>
Pueblo III corrugated	1	0.1%	2	0.1%	1	0.0%	–	–	2	0.1%	<b>6</b>	<b>0.1%</b>
Plain gray	233	25.0%	386	16.9%	460	17.2%	25	7.1%	230	14.3%	<b>1334</b>	<b>17.0%</b>
Corrugated gray	424	45.4%	1208	52.9%	1438	53.8%	245	70.0%	986	61.2%	<b>4301</b>	<b>54.8%</b>
Mud ware	–	–	3	0.1%	–	–	–	–	–	–	<b>3</b>	<b>0.0%</b>
Red Mesa–style black-on-white	–	–	–	–	–	–	–	–	1	0.1%	<b>1</b>	<b>0.0%</b>
Pueblo II black-on-white	40	4.3%	112	4.9%	94	3.5%	27	7.7%	59	3.7%	<b>332</b>	<b>4.2%</b>
Sosi–style black-on-white	–	–	–	–	2	0.1%	–	–	–	–	<b>2</b>	<b>0.0%</b>
Dogoszhi–style black-on-white	6	0.6%	40	1.8%	22	0.8%	7	2.0%	7	0.4%	<b>82</b>	<b>1.0%</b>
Chaco–style black-on-white	–	–	1	0.0%	–	–	–	–	–	–	<b>1</b>	<b>0.0%</b>
Early Pueblo III black-on-white	–	–	10	0.4%	–	–	–	–	5	0.3%	<b>15</b>	<b>0.2%</b>
Late Pueblo III black-on-white	1	0.1%	2	0.1%	1	0.0%	–	–	4	0.2%	<b>8</b>	<b>0.1%</b>
Pueblo II–III black-on-white	81	8.7%	231	10.1%	298	11.1%	3	0.9%	135	8.4%	<b>748</b>	<b>9.5%</b>
Pueblo III black-on-white	13	1.4%	18	0.8%	28	1.0%	1	0.3%	16	1.0%	<b>76</b>	<b>1.0%</b>
Painted black-on-white	1	0.1%	–	–	–	–	–	–	–	–	<b>1</b>	<b>0.0%</b>
Polished white	114	12.2%	230	10.1%	277	10.4%	37	10.6%	150	9.3%	<b>808</b>	<b>10.3%</b>
Polished black-on-white	5	0.5%	7	0.3%	9	0.3%	–	–	3	0.2%	<b>24</b>	<b>0.3%</b>
Transitional Pueblo III black-on-white	–	–	1	0.0%	11	0.4%	–	–	4	0.2%	<b>16</b>	<b>0.2%</b>
Squiggle hachure black-on-white	3	0.3%	3	0.1%	3	0.1%	–	–	1	0.1%	<b>10</b>	<b>0.1%</b>
Mesa Verde indeterminate red	1	0.1%	3	0.1%	2	0.1%	–	–	1	0.1%	<b>7</b>	<b>0.1%</b>
Mesa Verde Deadmans Black-on-red	1	0.1%	2	0.1%	1	0.0%	1	0.3%	1	0.1%	<b>6</b>	<b>0.1%</b>
Mesa Verde plain red	–	–	–	–	3	0.1%	–	–	–	–	<b>3</b>	<b>0.0%</b>
Mesa Verde Black-on-red	–	–	–	–	3	0.1%	–	–	–	–	<b>3</b>	<b>0.0%</b>
Cibola indeterminate red ware	–	–	4	0.2%	–	–	–	–	1	0.1%	<b>5</b>	<b>0.1%</b>
Cibola Wingate Black-on-red	2	0.2%	1	0.0%	2	0.1%	–	–	2	0.1%	<b>7</b>	<b>0.1%</b>



Table 13.11 (continued)

	EA 1		EA 2		EA 3		Pueblo II		EA 4		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Kayenta Tsegi Orange	–	–	2	0.1%	–	–	–	–	–	–	2	0.0%
Kayenta Tsegi Red-on-orange	–	–	–	–	1	0.0%	–	–	–	–	1	0.0%
<b>Total</b>	<b>933</b>	<b>100.0%</b>	<b>2283</b>	<b>100.0%</b>	<b>2675</b>	<b>100.0%</b>	<b>350</b>	<b>100.0%</b>	<b>1612</b>	<b>100.0%</b>	<b>7853</b>	<b>100.0%</b>
<b>Paint Type</b>												
None	114	43.2%	231	35.2%	281	37.7%	36	48.0%	153	39.7%	815	38.3%
Organic	89	33.7%	242	36.8%	320	43.0%	3	4.0%	143	37.1%	797	37.5%
Mineral	61	23.1%	184	28.0%	144	19.3%	36	48.0%	89	23.1%	514	24.2%
<b>Total</b>	<b>264</b>	<b>100.0%</b>	<b>657</b>	<b>100.0%</b>	<b>745</b>	<b>100.0%</b>	<b>75</b>	<b>100.0%</b>	<b>385</b>	<b>100.0%</b>	<b>2126</b>	<b>100.0%</b>
<b>Vessel Form</b>												
Gray bowl	3	0.3%	1	0.0%	1	0.0%	–	–	–	–	5	0.1%
White bowl	148	15.9%	377	16.5%	423	15.8%	37	10.6%	207	12.8%	1192	15.2%
Red bowl	4	0.4%	6	0.3%	7	0.3%	1	0.3%	4	0.2%	22	0.3%
Gray jar	661	70.8%	1614	70.7%	1910	71.4%	274	78.3%	1222	75.8%	5681	72.3%
Decorated jar	112	12.0%	268	11.7%	304	11.4%	37	10.6%	168	10.4%	889	11.3%
Ladle	2	0.2%	10	0.4%	16	0.6%	1	0.3%	5	0.3%	34	0.4%
Specialized	–	–	–	–	1	0.0%	–	–	–	–	1	0.0%
Effigies	1	0.1%	–	–	1	0.0%	–	–	–	–	2	0.0%
Miniatures	–	–	–	–	4	0.1%	–	–	–	–	4	0.1%
Indeterminate	2	0.2%	7	0.3%	8	0.3%	–	–	6	0.4%	23	0.3%
<b>Total</b>	<b>933</b>	<b>100.0%</b>	<b>2283</b>	<b>100.0%</b>	<b>2675</b>	<b>100.0%</b>	<b>350</b>	<b>100.0%</b>	<b>1612</b>	<b>100.0%</b>	<b>7853</b>	<b>100.0%</b>

N = count

in the Pueblo II complex than in the other areas; silicified wood is less abundant, and chalcedony is missing in the Pueblo II proveniences (Table 13.12).

#### REUSE OF BUILDING MATERIAL AT LA 37592

The two roomblocks at LA 37592 follow a pattern seen at several other sites along the highway, such as LA 37599 and LA 37605 (Vols. 3–4, this report). Roomblock 1 is clearly visible from the surface as a mound of debris. The adjacent Roomblock 2, however, had been razed to the level of a few lower courses, with very little building debris in evidence. The razed roomblocks are in areas of extreme modern disturbance, which may have left them invisible, but the absence of building materials in each of these cases suggests that materials for later roomblocks—presumably those still visible as mounds—were taken from earlier ones. At LA 37592 an additional contributor to the difference in surface manifestation is likely to be that Roomblock 2 incorporated some pole and mud construction,

which contained much less rock than a masonry wall (see Room 202, below).

This reuse of an apparently abundant building material has several possible explanations. Cobbles do occur by the millions in the La Plata Valley, but suitable building material was not necessarily right where it was needed. On the fans, where most of the sites we excavated were built, naturally occurring cobbles are mostly absent in site areas. Larger cobbles are available in three main locations: the terrace tops, large drainage beds, and the river bed. Geomorphologist Yehouda Enzel pointed out that cobbles on terrace slopes decrease in size from top to bottom, indicating that terrace weathering has not been sufficiently forceful to relocate larger cobbles at the terrace bases. Some cobbles in sites (especially at LA 37599) were observed to have calcium carbonate matrix adhering to them, indicating that they had been dug up, rather than merely collected from the surface. In all, then, acquiring cobbles was a labor investment, and it probably saved labor to reuse cobbles from abandoned structures. Such

Table 13.12. LA 37592, Extramural Areas 1–4, chipped stone tool and material types by area and time period; counts and percents.

	EA 1		EA 2		EA 3		Pueblo II		EA 4		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Artifact Type</b>												
Debitage	174	76.3%	799	86.8%	934	87.6%	107	92.2%	409	79.9%	2423	85.2%
Core	2	0.9%	29	3.1%	23	2.2%	3	2.6%	11	2.1%	68	2.4%
Biface	–	–	1	0.1%	–	–	–	–	–	–	1	0.0%
Retouched, utilizeddebitage	40	17.5%	79	8.6%	95	8.9%	6	5.2%	75	14.6%	295	10.4%
Retouched, utilized core	2	0.9%	1	0.1%	2	0.2%	–	–	3	0.6%	8	0.3%
Drill	–	–	2	0.2%	1	0.1%	–	–	1	0.2%	4	0.1%
Notch	1	0.4%	–	–	1	0.1%	–	–	1	0.2%	3	0.1%
Bifacial knife, scraper	–	–	1	0.1%	–	–	–	–	–	–	1	0.0%
Projectile point	–	–	2	0.2%	2	0.2%	–	–	1	0.2%	5	0.2%
Hammerstone	8	3.5%	7	0.8%	8	0.8%	–	–	9	1.8%	32	1.1%
Chopper, plane	1	0.4%	–	–	–	–	–	–	2	0.4%	3	0.1%
<b>Total</b>	<b>228</b>	<b>100.0%</b>	<b>921</b>	<b>100.0%</b>	<b>1066</b>	<b>100.0%</b>	<b>116</b>	<b>100.0%</b>	<b>512</b>	<b>100.0%</b>	<b>2843</b>	<b>100.0%</b>
<b>Material Type</b>												
Chert	102	44.7%	422	45.8%	497	46.6%	59	50.9%	265	51.8%	1345	47.3%
Chalcedony	9	3.9%	16	1.7%	15	1.4%	–	–	9	1.8%	49	1.7%
Silicified wood	22	9.6%	70	7.6%	106	9.9%	4	3.4%	55	10.7%	257	9.0%
Quartzite	16	7.0%	20	2.2%	28	2.6%	3	2.6%	23	4.5%	90	3.2%
Quartzitic sandstone	10	4.4%	96	10.4%	83	7.8%	14	12.1%	26	5.1%	229	8.1%
Obsidian	–	–	1	0.1%	–	–	–	–	–	–	1	0.0%
Igneous	–	–	8	0.9%	11	1.0%	3	2.6%	1	0.2%	23	0.8%
Rhyolite	–	–	2	0.2%	2	0.2%	–	–	1	0.2%	5	0.2%
Sandstone	–	–	2	0.2%	3	0.3%	–	–	1	0.2%	6	0.2%
Siltstone	69	30.3%	284	30.8%	321	30.1%	33	28.4%	131	25.6%	838	29.5%
<b>Total</b>	<b>228</b>	<b>100.0%</b>	<b>921</b>	<b>100.0%</b>	<b>1066</b>	<b>100.0%</b>	<b>116</b>	<b>100.0%</b>	<b>512</b>	<b>100.0%</b>	<b>2843</b>	<b>100.0%</b>

reuse would have the secondary benefit of removing debris and obstacles from the habitation area.

### ROOMBLOCK 1

Roomblock 1 is outside the proposed right-of-way, and we know very little about it. Most of what we do know is based on Lancaster’s tests in 1982, which consisted of two trenches measuring 2 by 3 and 2 by 1 m (Figs. 13.2b, 13.3a; Lancaster 1983:30–32). One of Lancaster’s tests more directly on the roomblock showed extramural hearths 10–20 cm below the surface and indicated that the roomblock did not continue to the west. The second unit in the mound,

east of the first, revealed that intact walls are present. Early in our work at Kin Sin Fin, we also dug two contiguous 1 by 3 m trenches west of the mound. About half of the western of these two units was disturbed by the east water line, and there is recent material in the south end of the eastern one, 0.5 m below the surface. Which roomblock the material in these two units relates to is uncertain. The trenches are about midway between the structures as they are imperfectly known, but the north end of Roomblock 2 was truncated by flooding.

Our excavations about 4 m west of the mound produced more ambiguous results. These trenches were taken to a depth of about 80 cm below the surface. Cobbles were found to around 60 cm, and

Table 13.13. LA 37592, Extramural Areas 1–4, ground stone tool and material types by area and time period; counts and percents.

	EA 1		EA 2		EA 3		Pueblo II		EA 4		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Artifact Type</b>												
Shaped slab	3	25.0%	2	11.8%	3	37.5%	2	66.7%	3	27.3%	13	25.5%
Jar cover	1	8.3%	–	–	–	–	–	–	–	–	1	2.0%
Mano	4	33.3%	1	5.9%	2	25.0%	–	–	3	27.3%	10	19.6%
One-hand mano	–	–	1	5.9%	–	–	–	–	–	–	1	2.0%
Two-hand mano	2	16.7%	4	23.5%	–	–	–	–	3	27.3%	9	17.6%
Two-hand trough mano	–	–	1	5.9%	1	12.5%	–	–	–	–	2	3.9%
Two-hand slab mano	1	8.3%	1	5.9%	–	–	–	–	–	–	2	3.9%
Trough metate	–	–	–	–	1	12.5%	–	–	1	9.1%	2	3.9%
Slab metate	–	–	1	5.9%	–	–	1	33.3%	–	–	2	3.9%
Notched maul	–	–	1	5.9%	–	–	–	–	–	–	1	2.0%
Two-notch axe	–	–	2	11.8%	–	–	–	–	–	–	2	3.9%
Full-grooved axe	–	–	1	5.9%	–	–	–	–	–	–	1	2.0%
Notched hoe	–	–	1	5.9%	–	–	–	–	–	–	1	2.0%
Tchamahia	1	8.3%	–	–	–	–	–	–	–	–	1	2.0%
Ornament	–	–	–	–	–	–	–	–	1	9.1%	1	2.0%
Pendant	–	–	1	5.9%	1	12.5%	–	–	–	–	2	3.9%
<b>Total</b>	<b>12</b>	<b>100.0%</b>	<b>17</b>	<b>100.0%</b>	<b>8</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>11</b>	<b>100.0%</b>	<b>51</b>	<b>100.0%</b>
<b>Material Type</b>												
Igneous	–	–	1	5.9%	–	–	–	–	–	–	1	2.0%
Granite	2	16.7%	3	17.6%	–	–	1	33.3%	–	–	6	11.8%
Sandstone	8	66.7%	7	41.2%	6	75.0%	1	33.3%	10	90.9%	32	62.7%
Siltstone	2	16.7%	2	11.8%	–	–	–	–	1	9.1%	5	9.8%
Shale	–	–	1	5.9%	2	25.0%	–	–	–	–	3	5.9%
Quartzitic sandstone	–	–	3	17.6%	–	–	1	33.3%	–	–	4	7.8%
<b>Total</b>	<b>12</b>	<b>100.0%</b>	<b>17</b>	<b>100.0%</b>	<b>8</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>11</b>	<b>100.0%</b>	<b>51</b>	<b>100.0%</b>

there was some thought that they could represent a wall. It was, however, unlikely to have been a wall. Coupled with the interruption by the water line, the location outside the right-of-way led us to abandon further excavation in this area. The fill showed a steady decrease of artifacts to the base of the excavation, and the lowermost level was deemed sterile. The fill in this area was very hard and showed no internal differentiation. No consensus was reached on what this deposit represents. It is quite possible that the majority of this excavation area was affected by water line trenching. The homogeneity

of the fill along the 152E line was unusual and suggested postdepositional mixing of Anasazi deposits with the silty material of which the fan is composed. More differentiation was evident along the 153E line, where a disturbance zone 20–50 cm thick rested on strata described as hard clay with few rocks, and laminated waterlain deposits on top of sterile. The single “course” alignment was at the base of the disturbance zone, and cultural materials were within the “hard clay.” An isolated human cranium was at the level of the laminated deposits.

The indeterminate and heavily disturbed

Table 13.14. LA 37592, Extramural Areas 1–4, faunal remains and bone tools by area and time period; counts and percents.

	EA 1		EA 2		EA 3		Pueblo II		EA 4		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Faunal Remains</b>												
Prairie dog	–	–	4	0.9%	–	–	–	–	–	–	4	0.3%
Rock squirrel	–	–	7	1.5%	–	–	–	–	–	–	7	0.6%
Small squirrel	–	–	3	0.7%	1	0.3%	–	–	–	–	4	0.3%
Pocket gopher	–	–	1	0.2%	–	–	–	–	–	–	1	0.1%
Ord's kangaroo rat	–	–	104	23.0%	–	–	–	–	–	–	104	8.2%
Mouse	–	–	6	1.3%	–	–	1	0.6%	–	–	7	0.6%
Northern grasshopper mouse	–	–	1	0.2%	–	–	–	–	–	–	1	0.1%
Wood rat	–	–	3	0.7%	20	5.7%	–	–	–	–	23	1.8%
Rodent	–	–	1	0.2%	–	–	–	–	–	–	1	0.1%
Cottontail	–	–	33	7.3%	38	10.8%	2	1.2%	5	1.8%	78	6.2%
Jackrabbit	2	8.3%	13	2.9%	10	2.8%	1	0.6%	2	0.7%	28	2.2%
Rabbit	–	–	1	0.2%	–	–	–	–	–	–	1	0.1%
Dog, coyote, wolf	–	–	–	–	1	0.3%	2	1.2%	–	–	3	0.2%
Dog, coyote, fox, wolf	–	–	–	–	2	0.6%	–	–	–	–	2	0.2%
Deer	2	8.3%	7	1.5%	10	2.8%	2	1.2%	9	3.2%	30	2.4%
Big-horned sheep	–	–	–	–	–	–	35	21.6%	–	–	35	2.8%
Artiodactyl	–	–	1	0.2%	3	0.9%	4	2.5%	–	–	8	0.6%
Mammal	–	–	60	13.3%	31	8.8%	11	6.8%	14	5.1%	116	9.2%
Small mammal	6	25.0%	88	19.5%	60	17.1%	11	6.8%	31	11.2%	196	15.5%
Medium-large mammal	–	–	11	2.4%	17	4.8%	5	3.1%	18	6.5%	51	4.0%
Large mammal	9	37.5%	31	6.9%	54	15.4%	5	3.1%	22	7.9%	121	9.6%
Quail	–	–	3	0.7%	1	0.3%	–	–	1	0.4%	5	0.4%
Turkey	1	4.2%	45	10.0%	27	7.7%	5	3.1%	30	10.8%	108	8.5%
Bird	4	16.7%	23	5.1%	22	6.3%	34	21.0%	39	14.1%	122	9.6%
Nonvenomous snake	–	–	–	–	–	–	–	–	105	37.9%	105	8.3%
Rattlesnake	–	–	6	1.3%	–	–	–	–	–	–	6	0.5%
Toad and frog	–	–	–	–	54	15.4%	44	27.2%	–	–	98	7.7%
Marine or freshwater shell	–	–	–	–	–	–	–	–	1	0.4%	1	0.1%
<b>Total</b>	<b>24</b>	<b>100.0%</b>	<b>452</b>	<b>100.0%</b>	<b>351</b>	<b>100.0%</b>	<b>162</b>	<b>100.0%</b>	<b>277</b>	<b>100.0%</b>	<b>1266</b>	<b>100.0%</b>
<b>Bone Tools</b>												
Longitudinal waste	–	–	1	14.3%	–	–	–	–	–	–	1	4.2%
Waste (polished, striae)	–	–	2	28.6%	2	25.0%	–	–	–	–	4	16.7%
Indeterminate preform	–	–	–	–	–	–	–	–	3	50.0%	3	12.5%
Bone tube	1	100.0%	1	14.3%	–	–	–	–	–	–	2	8.3%
Shell bead	–	–	–	–	–	–	–	–	1	16.7%	1	4.2%
Bone bead fragment	–	–	–	–	2	25.0%	–	–	–	–	2	8.3%
Indeterminate tool fragment	–	–	–	–	1	12.5%	2	100.0%	1	16.7%	4	16.7%
Indeterminate point awl fragment	–	–	1	14.3%	1	12.5%	–	–	–	–	2	8.3%
Fine-point awl	–	–	–	–	1	12.5%	–	–	–	–	1	4.2%
Coarse-point awl	–	–	1	14.3%	–	–	–	–	–	–	1	4.2%
Medium-point awl	–	–	–	–	–	–	–	–	1	16.7%	1	4.2%
Spatulate fragment	–	–	–	–	1	12.5%	–	–	–	–	1	4.2%
Complex tool	–	–	1	14.3%	–	–	–	–	–	–	1	4.2%
<b>Total</b>	<b>1</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>8</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>6</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>

N = count



Table 13.15. LA 37592, Roomblock 2, ground stone artifact and material types by room; counts and percents.

	Roomblock 2		Room 201		Room 202		Room 203		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Artifact Type</b>										
Plaster polishing stone	–	–	–	–	1	3.7%	–	–	1	1.9%
Shaped slab	–	–	–	–	–	–	1	25.0%	1	1.9%
Lapidary stone	–	–	1	5.3%	1	3.7%	–	–	2	3.8%
Mano	–	–	5	26.3%	7	25.9%	1	25.0%	13	25.0%
Two-hand mano	–	–	5	26.3%	9	33.3%	1	25.0%	15	28.8%
Two-hand slab mano	1	50.0%	–	–	2	7.4%	–	–	3	5.8%
Metate	–	–	1	5.3%	–	–	–	–	1	1.9%
Trough metate	–	–	–	–	1	3.7%	–	–	1	1.9%
Slab metate	1	50.0%	1	5.3%	2	7.4%	–	–	4	7.7%
Two-notch axe	–	–	3	15.8%	–	–	–	–	3	5.8%
3/4-grooved axe	–	–	–	–	–	–	1	25.0%	1	1.9%
Tchamahia	–	–	–	–	1	3.7%	–	–	1	1.9%
Paint stone	–	–	1	5.3%	–	–	–	–	1	1.9%
Ornament	–	–	1	5.3%	2	7.4%	–	–	3	5.8%
Pendant	–	–	1	5.3%	1	3.7%	–	–	2	3.8%
<b>Total</b>	<b>2</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>	<b>27</b>	<b>100.0%</b>	<b>4</b>	<b>100.0%</b>	<b>52</b>	<b>100.0%</b>
<b>Material Type</b>										
Silicified wood	–	–	–	–	1	3.7%	–	–	1	1.9%
Igneous	–	–	1	5.3%	1	3.7%	1	25.0%	3	5.8%
Granite	1	50.0%	3	15.8%	2	7.4%	–	–	6	11.5%
Sandstone	1	50.0%	10	52.6%	15	55.6%	2	50.0%	28	53.8%
Siltstone	–	–	2	10.5%	1	3.7%	1	25.0%	4	7.7%
Shale	–	–	2	10.5%	2	7.4%	–	–	4	7.7%
Quartzitic sandstone	–	–	–	–	5	18.5%	–	–	5	9.6%
Malachite	–	–	1	5.3%	–	–	–	–	1	1.9%
<b>Total</b>	<b>2</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>	<b>27</b>	<b>100.0%</b>	<b>4</b>	<b>100.0%</b>	<b>52</b>	<b>100.0%</b>

nature of the materials from around Roomblock 1 makes their placement in temporal components difficult. Pottery from the 1982 testing and from our excavations in the vicinity of the cobble mound suggest that they date from the Pueblo II-III transition, but there is not a large sample, and, again, many of the artifacts are not in secure contexts. The testing project recovered a complete chalcedony projectile point from the modern ground surface of Roomblock 1, which is described in the projectile point analysis.

## ROOMBLOCK 2

Three Roomblock 2 rooms were excavated, numbered 201–203. None of these three rooms was fully enclosed by walls, portions of the structure of all three having been lost to various agencies, including a phone line, both water lines, and a flood (Figs. 13.3a, 13.3b, 13.24). Room 203 was also different from the other two rooms in that only a single surface was identified within its walls, while the other two had a succession of surfaces asso-

Table 13.16. LA 37592, ground stone tools by major provenience; counts and percents.

	Pit Structure 1 Midden		Pit Structure 1		Rooms		Pueblo II Extramural		Other Extramural		Other		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Indeterminate fragment	7	5.3%	–	–	–	–	–	–	–	–	–	–	7	2.4%
Pottery polishing stone	1	0.8%	–	–	–	–	–	–	–	–	–	–	1	0.3%
Plaster polishing stone	–	–	2	3.7%	1	2.0%	–	–	–	–	–	–	3	1.0%
Abrading stone	2	1.5%	–	–	–	–	–	–	–	–	–	–	2	0.7%
Shaped slab	36	27.5%	9	16.7%	1	2.0%	2	66.7%	11	22.9%	–	–	59	19.9%
Jar cover	2	1.5%	2	3.7%	–	–	–	–	1	2.1%	–	–	5	1.7%
Anvil	1	0.8%	–	–	–	–	–	–	–	–	–	–	1	0.3%
Lapidary stone	1	0.8%	1	1.9%	2	4.0%	–	–	–	–	–	–	4	1.4%
Bowl or basin	1	0.8%	–	–	–	–	–	–	–	–	–	–	1	0.3%
Mano	31	23.7%	12	22.2%	13	26.0%	–	–	10	20.8%	2	20.0%	68	23.0%
One-hand mano	–	–	2	3.7%	–	–	–	–	1	2.1%	–	–	3	1.0%
Two-hand mano	8	6.1%	10	18.5%	15	30.0%	–	–	9	18.8%	2	20.0%	44	14.9%
Two-hand trough mano	2	1.5%	–	–	–	–	–	–	2	4.2%	–	–	4	1.4%
Two-hand slab mano	–	–	4	7.4%	2	4.0%	–	–	2	4.2%	2	20.0%	10	3.4%
Metate	3	2.3%	2	3.7%	1	2.0%	–	–	–	–	–	–	6	2.0%
Trough metate	–	–	1	1.9%	1	2.0%	–	–	2	4.2%	1	10.0%	5	1.7%
Slab metate	1	0.8%	2	3.7%	3	6.0%	1	33.3%	1	2.1%	1	10.0%	9	3.0%
Notched maul	–	–	1	1.9%	–	–	–	–	1	2.1%	–	–	2	0.7%
Two-notch axe	2	1.5%	1	1.9%	3	6.0%	–	–	2	4.2%	1	10.0%	9	3.0%
3/4-grooved axe	–	–	–	–	1	2.0%	–	–	–	–	–	–	1	0.3%
Full-grooved axe	1	0.8%	–	–	–	–	–	–	1	2.1%	–	–	2	0.7%
Notched hoe	–	–	–	–	–	–	–	–	1	2.1%	–	–	1	0.3%
Tchamahia	4	3.1%	–	–	1	2.0%	–	–	1	2.1%	–	–	6	2.0%
Paint stone	–	–	–	–	1	2.0%	–	–	–	–	–	–	1	0.3%
Ornament	18	13.7%	2	3.7%	3	6.0%	–	–	1	2.1%	1	10.0%	25	8.4%
Pendant	10	7.6%	3	5.6%	2	4.0%	–	–	2	4.2%	–	–	17	5.7%
<b>Total</b>	<b>131</b>	<b>100.0%</b>	<b>54</b>	<b>100.0%</b>	<b>50</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>48</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>296</b>	<b>100.0%</b>

N = count

ciated with the rooms as well as predating them. The identified floor in Room 203 is around 15 cm deeper than the top floors in Rooms 201 and 202 and rests directly on earlier features, indicating that construction of the Room 203 floor probably cut down through some earlier surfaces.

### Room 201

Room 201 was truncated on the north by a flooding event, on the west by a phone line, and on the east by a water line (Fig. 13.24). The remaining walls contained no evidence of doorways, so the method of access is unknown. Only the south wall permits discussion of the construction of the room. This wall was a substantial construction, still standing four courses high, and mostly two cobbles thick (Fig.

13.25). The surviving portion of the wall was 2.10 m long, ranging from 0.36 to 0.39 m thick. A substantial quantity of cobbles rested on and near the floor of the room, indicating that much of the room height was masonry.

In spite of the various sources of disturbance, the 2.8 by 2.2 m remaining area contained a large number of cultural features. Many of these features were in a complex of five pits in Floor 1 near the south wall (Figs. 13.25, 13.26a, 13.26b). Floors in rooms excavated by the project were often difficult to define because of the lack of formal preparation, but at least the uppermost floor in Room 201 was quite distinct; earlier uses of the room were present, and there was some ambiguity in defining the earlier floors. The excavators finally concluded that three floors were present. Floors 1 and 3 showed the

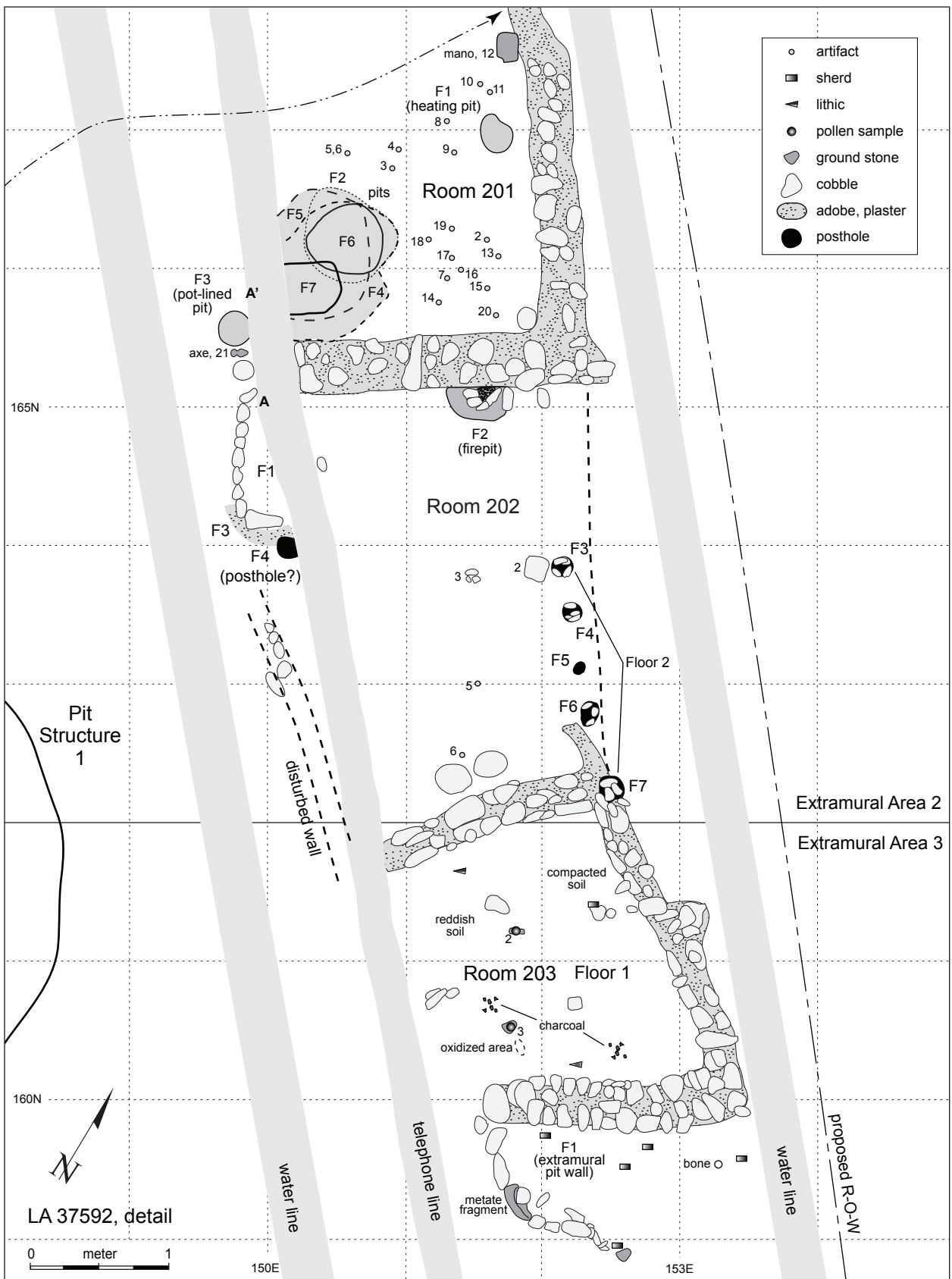


Figure 13.24. LA 37592, Roomblock 2, Rooms 201-203, Floor 1, plan.



Figure 13.25. LA 37592, Roomblock 2, Room 201, Floor 1, view southeast.

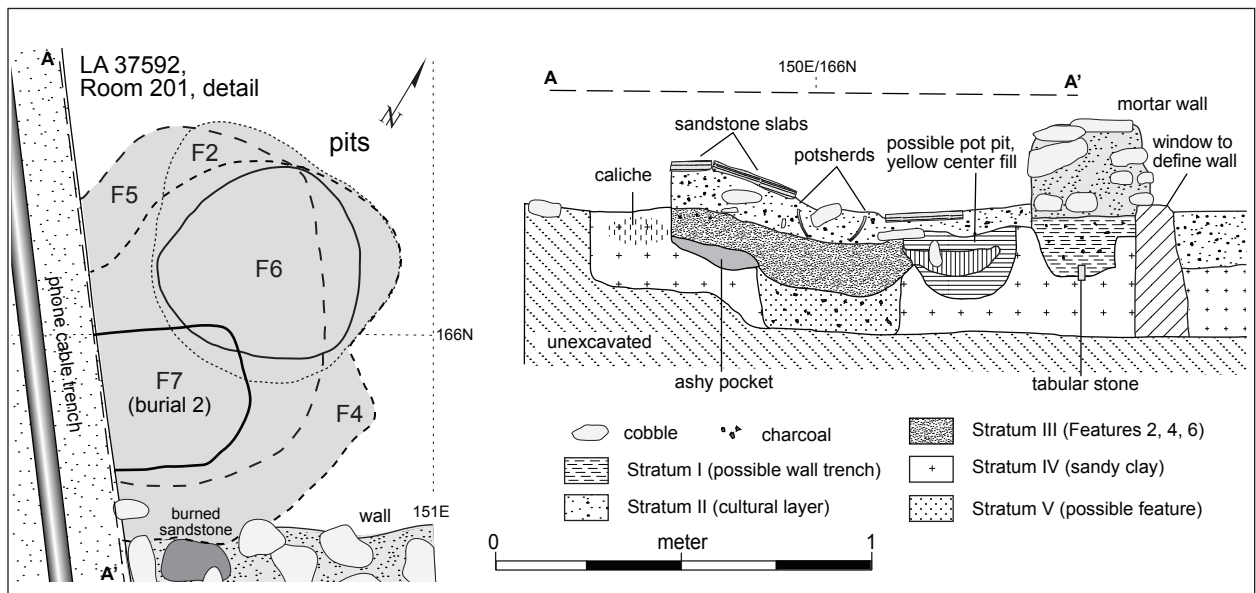


Figure 13.26a. LA 37592, Roomblock 2, Room 201, Floor 1, pit features, plan and profile.





Figure 13.26b. LA 37592, Roomblock 2, overview Rooms 201–203, view southwest; Room 201, Features 2, 4, 5, 6, and 7 in foreground.

most activity or, perhaps, longest uses. Floor 1 and Floor 3 each had an associated child burial.

No profile was prepared for this room. The fill had been removed by utility trenches and definition trenches. The majority of the intact portion of the room was dug in two north–south 1 by 3 m trenches, which originated on the 165N grid line, just south of the south wall. Once the wall was defined, the contents of the units were confined to the inside of the room. The upper levels had some backdirt mixed in from phone line trenching on the west side of the room and perhaps from the water line on the east side. Initially the south end of the area was characterized by large numbers (over 300 from two 10 cm levels in 1 by 2 m portions of adjacent grids) of jumbled cobbles of varying size from disintegration of the wall. There was a maximum of 37 cm of fill above the first floor in the room, with around 30 cm the average. The matrix around the cobbles is hard, probably because of high mortar content. The upper fill was looser than the fill closer to the floor, perhaps because it included soil from the trenches (Table 13.17).

### Floor 1

The intact portion of Floor 1 in Room 201 was a well-defined, probably prepared, packed-earth surface with seven floor features, including a set of five superimposed floor features (Table 13.18) and up to 21 floor artifacts (the association of at least one of these items with the floor was questionable). The floor artifacts were concentrated in the southeast corner of the room but were also scattered on much of the rest of the remaining portion of the room. These artifacts are primarily sherds that seem to come from a few vessels, including gray ware jars and black-on-white bowls. There is some dispersion of pieces of individual vessels across the floor, and only portions of the vessels were present (Table 13.19). There was also an axe (the item of somewhat dubious association with the floor) and a pendant fragment.

Five sequential, partially overlapping pits were placed in the southwest corner of the room. Probably the latest pit in the complex is Feature 7, the grave containing Burial 2. Feature 7 is inside Features 4 and 5, and cuts Features 2 and 6. Burial

Table 13.17. LA 37592, Roomblock 2, Room 201, stratigraphy.

Layer	Type of Deposit	Description
Levels 1–3	Natural and cultural deposits	Fill from ground surface to Floor 1. Mixture of eolian deposits, masonry debris, and artifacts.
1	Floor 1 material: intact structural element	Fill to Floor 2.3–6 cm of platy material, some with thin layer of sand at the base (on Floor 2). Rodent disturbance in vicinity of Floor 1 features.
2	Floor 2 material	Yellowish brown (10YR 5/4) compact, sandy, thin layer (maximum 4 cm). Looser by south wall.
3	Intentional fill to level Floors 1 and 2	Charcoal flecks, mottled oxidized soil, artifacts. Does not cover entire intact floor; absent in the northeast portion of surviving floor.
4	Natural with some cultural material, and sterile eolian–alluvial	Subfloor 3, dug in 5 levels and an auger test. Artifacts only from immediately around intrusive features. Crumbly yellowish-brown silty or clayey sand increasing in compaction with depth.
North end of room	Natural with significant number of artifacts	Alluvial/flood deposits. Sand, silt, gravel, cobbles, sandstone, and decayed vegetal material.

2 is a 3- to 6-year-old child. The burial is relatively complete, although one of the telephone lines removed part of one hand. Two McElmo Black-on-white bowls accompanied this burial. These bowls are 13 and 19 cm in diameter and carry the same basic design, organized around an open-centered, six-pointed star, the points of which are at the bowl rim; each has a ticked rim, with four groups of ticks equally spaced around the rim (Fig. 13.27). The larger of the two bowls is fairly heavily worn, while the smaller shows no wear at all. The larger bowl has been decorated with parallel lines, the smaller with solid triangles and flagged lines. The similarity of design and difference in wear suggests that the smaller bowl may have been made for the burial. Also present in association with this burial was one of just a few occurrences of *Nicotiana* at the site (most were in Pit Structure 1, especially Floor 3, Feature 18). The four features preceding the grave appear to be two pairs of similar pits: Features 4 and 5 are similar in size and shape and are unburned, with Feature 4 offset slightly to the south of Feature 5. Features 2 and 6 are smaller than 4 and 5 and are burned (Feature 6 appears to have been a replacement hearth for Feature 2). Features 4 and

5 contain ash and charcoal, perhaps because they were receptacles for hearth contents or perhaps from digging through the hearths during creation of the pits. The sequence of these features seems to have originated with a hearth (Feature 2), which was remodeled (Feature 6), which was replaced by the first larger, irregular pit (Feature 5). Feature 5 was then remodeled into Feature 4, moving the edge of the pit next to the wall. Finally, after all the preceding features were filled, Feature 7 was dug for Burial 2.

Although the exact location of the southwest corner of Room 201 is unknown, Feature 3, a vessel-lined cist, was probably very near it (Figs. 13.24, 13.28a, 13.28b). Feature 3 is only about 25 cm from Features 2 and 4–7 pit complex. The survival of the subfloor vessel was miraculous: it was exactly between the phone line and water line trenches. Other than cracking, the only damage was the removal of one sherd from the west side by the water line.

Feature 1, a small heating pit, was next to the east wall. Its volume was lower than that of the hearths in the southwest corner. It could have been used at the same time as one of the hearths, or it may have replaced the hearths when the southwest corner was converted to a storage area.

Table 13.18. LA 37592, Roomblock 2, Room 201, features; summary table.

Feature	Shape (Plan/ Section)	Percent Complete	Construction Details	Use Details	Fill	Assigned Function	Volume (l)	Length/ Width/ Depth (cm)
<b>Floor 1</b>								
1	pit, kidney hemisphere	100%	unlined open	lightly oxidized	sand/silt/clay with ash and charcoal	heating pit	2.3	23/20/6
2	pit, hemisphere	<20%	unlined open	burned	ash and charcoal largely removed by later pits	hearth	40.1	58/55/16
3	cist, sphere	>80%	vessel-lined open	unburned	Pit: ashy soil with charcoal. Pot: sandy with charcoal, rodent and bird bone, burned sandstone	storage	32.5	33/33/38
4	pit, hemisphere irregular	<40%	unlined open	unburned	sandy; charcoal flecks	trash?	78.7	70/65/22
5	pit, sphere segment	<50%	unlined open	unburned	ash and charcoal; darker ash at base	ash pit	?	88/560?/9
6	pit, hemisphere	20%	unlined open	burned	gray ash, charcoal	hearth	21.7	48/48/12
7	pit, oval cylinder	>80%	unlined filled	unburned	sandy with charcoal and oxidized soil	grave (Burial 2)	42.1	53/45/42
<b>Floor 2</b>								
1*	pit, oval? basin?	50%	unlined? beneath southeast corner and Floor 1	unburned; contains Burial 5	stained sand, charcoal; clean lens of clay or silt overlies burned earlier stratum	roasting? storage? grave?	171.8	84/51**/31
<b>Floor 3</b>								
1	cist, sphere	100%	vessel-lined sealed by floors	unburned	Pit: brown sand. Pot: burial, sandy fill with charcoal, burned soil, and sandstone	storage; infant (Burial 3)	41.4	40/40/33
2	pit, oblong basin	100%	clay-lined floor sealed	unburned	sandy with oxidized soil	?	5.3	36/22/8
3	pit, hemisphere	60%	unlined sealed	burned	ashy, large charcoal; Feature 5	fire pit	48	65/55/17
4	pit, hemisphere	100%	unlined floor sealed	unburned	compact, yellowish, clean	ash pit?	3.4	20/15/14
5	pit, hemisphere	100%	unlined floor sealed	unburned in Feature 3 fill	compact sand and ash	pit	6.4	25/25/13
6	pit, hemisphere	<60%	rough unlined floor sealed	unburned	hard yellow brown sandstone, CaCO <sub>3</sub> , little charcoal	?	32.1	54/54/14

\* extends into area east of room

\*\* estimated 85–100 cm

Table 13.19. LA 37592, Roomblock 2, Rooms 201–203, pottery types by room; counts and percents.

	Room 201		Room 202		Room 203		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Plain rim	1	0.1%	–	–	–	–	1	0.0%
Pueblo II corrugated	1	0.1%	4	0.4%	–	–	5	0.2%
Pueblo II-III corrugated	8	0.7%	3	0.3%	–	–	11	0.4%
Pueblo III corrugated	1	0.1%	–	–	1	0.2%	2	0.1%
Plain gray	355	29.5%	364	36.8%	103	25.2%	822	31.6%
Corrugated gray	576	47.8%	348	35.2%	169	41.3%	1093	42.0%
Mud ware	–	–	1	0.1%	–	–	1	0.0%
Pueblo II black-on-white	8	0.7%	40	4.0%	11	2.7%	59	2.3%
Dogoszhi-style black-on-white	14	1.2%	5	0.5%	1	0.2%	20	0.8%
Early Pueblo III black-on-white	7	0.6%	1	0.1%	–	–	8	0.3%
Late Pueblo III black-on-white	–	–	–	–	1	0.2%	1	0.0%
Pueblo II–III black-on-white	132	11.0%	103	10.4%	55	13.4%	290	11.1%
Pueblo III black-on-white	12	1.0%	15	1.5%	4	1.0%	31	1.2%
Polished white	81	6.7%	102	10.3%	59	14.4%	242	9.3%
Polished black-on-white	2	0.2%	1	0.1%	1	0.2%	4	0.2%
Squiggle hachure black-on-white	1	0.1%	2	0.2%	1	0.2%	4	0.2%
Mesa Verde Plain Red	2	0.2%	–	–	–	–	2	0.1%
Cibola indeterminate red ware	2	0.2%	–	–	–	–	2	0.1%
Wingate Black-on-red	1	0.1%	–	–	3	0.7%	4	0.2%
Reserve Smudged	–	–	1	0.1%	–	–	1	0.0%
Smudged brown	1	0.1%	–	–	–	–	1	0.0%
<b>Total</b>	<b>1205</b>	<b>100.0%</b>	<b>990</b>	<b>100.0%</b>	<b>409</b>	<b>100.0%</b>	<b>2604</b>	<b>100.0%</b>
<b>% of total</b>		<b>46.3%</b>		<b>38.0%</b>		<b>15.7%</b>		<b>100.0%</b>

The ground stone assemblage from Room 201 is relatively large and includes some tool types that are especially well represented (Table 13.15). Three two-notched axes were found in Room 201 contexts, accounting for 25 percent of all axes at the site, as compared to the 1.4 percent (203 of 14,047) of all chipped stone or 6.4 percent (19 of 297) of all ground stone. These axes were all found in the vicinity of the southwest corner of the room, with one by the wall on Floor 1 (FS 175). This is the only hafted tool in the entire project found in a context indicating that it was in use at the time of deposition, rather than having been discarded. The other two axes were in deposits disturbed by the phone line, but their proximity to the room suggests that they came from that area. It could be that a cache of axes had been placed in the room corner, or that some axe-related activity (construction?) had been carried out by some of the last users of the room. Other ground stone items that occurred in unexpected frequencies in the room include a paint stone (the only one at the site) and a lapidary stone (one of three). The lapidary stone was in association with Floor 1. Ten manos were in the room, somewhat more than the ground stone

frequency would predict, but it is likely that some of these tools were incorporated in wall construction. Three of the manos are associated with Floor 1, but the shallowness of the fill and the absence of other grinding evidence mean that even these may derive from construction, rather than use.

As compared to the noteworthy occurrence of ground stone in this room, the chipped stone is quite unremarkable. A few cores and hammerstones are present, and of course some debitage, but none occurs in remarkable quantities. There are 28 retouched or utilized edges, which is above the number expected based on the number of pieces of chipped stone (Table 13.20). In terms of numbers of utilized flakes associated with floors, this room has substantially higher percentages than other structure floors at this site (Table 13.21). Combined with the features and the ground stone, the assemblage indicates that this was a living space.

The ceramic type assemblages from the fill of all three rooms are similar, and also unremarkable (Table 13.19). Floor 1 of Room 201 is notable, however, for the presence of a relatively large number of sherds in the floor fill, including mostly





Figure 13.27. LA 37592, Roomblock 2, Room 201, Floor 1, Feature 7 (Burial 2), two McElmo Black-on-white bowls; note the similar layouts – the top bowl seems to be used and the bottom one produced to imitate it. The inset shows each from above.



Figure 13.28a. LA 37592, Roomblock 2, Room 201, Floor 1, Feature 3 (vessel-lined cist).

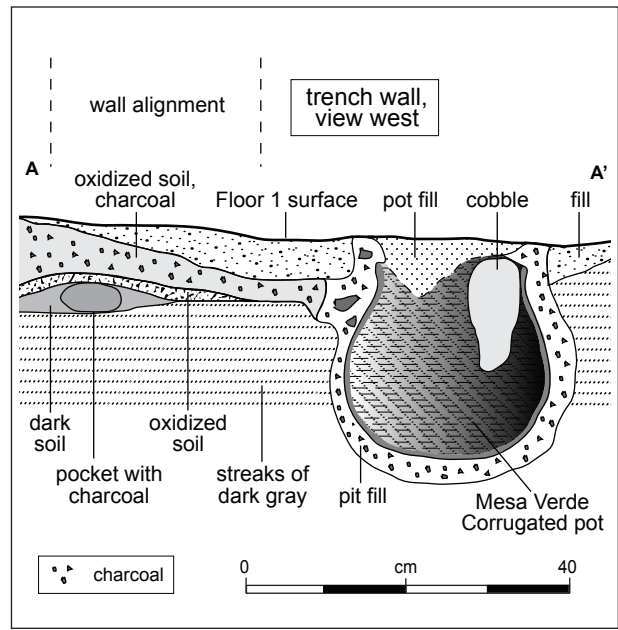


Figure 13.28b. LA 37592, Roomblock 2, Room 201, Floor 1, Feature 3 (vessel-lined cist), profile.

Table 13.20. LA 37592, Roomblock 2, Rooms 201–203, chipped stone tool and material types by room; counts and percents.

	Roomblock 2		Room 201		Room 202		Room 203		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Tool Type</b>										
Debitage	38	74.5%	175	84.1%	263	79.0%	104	72.7%	580	78.9%
Core	3	5.9%	4	1.9%	12	3.6%	2	1.4%	21	2.9%
Retouched, utilized debitage	9	17.6%	26	12.5%	42	12.6%	30	21.0%	107	14.6%
Retouched, utilized core	–	–	–	–	4	1.2%	2	1.4%	6	0.8%
Graver	–	–	–	–	–	–	1	0.7%	1	0.1%
Projectile point	–	–	–	–	1	0.3%	1	0.7%	2	0.3%
Hammerstone	1	2.0%	3	1.4%	9	2.7%	2	1.4%	15	2.0%
Chopper, plane	–	–	–	–	2	0.6%	1	0.7%	3	0.4%
<b>Total</b>	<b>51</b>	<b>100.0%</b>	<b>208</b>	<b>100.0%</b>	<b>333</b>	<b>100.0%</b>	<b>143</b>	<b>100.0%</b>	<b>735</b>	<b>100.0%</b>
<b>Material Type</b>										
Chert	26	51.0%	88	42.3%	172	51.7%	63	44.1%	349	47.5%
Chalcedony	–	–	3	1.4%	7	2.1%	1	0.7%	11	1.5%
Silicified wood	2	3.9%	19	9.1%	19	5.7%	13	9.1%	53	7.2%
Quartzite	1	2.0%	10	4.8%	14	4.2%	9	6.3%	34	4.6%
Quartzitic sandstone	7	13.7%	25	12.0%	24	7.2%	7	4.9%	63	8.6%
Igneous	–	–	–	–	2	0.6%	1	0.7%	3	0.4%
Rhyolite	–	–	2	1.0%	3	0.9%	1	0.7%	6	0.8%
Siltstone	15	29.4%	60	28.8%	91	27.3%	48	33.6%	214	29.1%
Other	–	–	1	0.5%	1	0.3%	–	–	2	0.3%
<b>Total</b>	<b>51</b>	<b>100.0%</b>	<b>208</b>	<b>100.0%</b>	<b>333</b>	<b>100.0%</b>	<b>143</b>	<b>100.0%</b>	<b>735</b>	<b>100.0%</b>

Table 13.21. LA 37592, Pit Structure 1 and Roomblock 2, Rooms 201–203, chipped stone tool types by floor/floor fill context; counts and percents.

	Floor 1		Floor 2		Floor 3		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Pit Structure 1</b>								
Debitage	203	87.5%	24	100.0%	15	75.0%	<b>242</b>	<b>87.7%</b>
Core	11	4.7%	–	–	–	–	<b>11</b>	<b>4.0%</b>
Retouched, utilized debitage	9	3.9%	–	–	4	20.0%	<b>13</b>	<b>4.7%</b>
Projectile point	1	0.4%	–	–	–	–	<b>1</b>	<b>0.4%</b>
Hammerstone	6	2.6%	–	–	1	5.0%	<b>7</b>	<b>2.5%</b>
Hammerstone flake	2	0.9%	–	–	–	–	<b>2</b>	<b>0.7%</b>
<b>Total</b>	<b>232</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>20</b>	<b>100.0%</b>	<b>276</b>	<b>100.0%</b>
<b>Room 201</b>								
Debitage	43	81.1%	18	85.7%	28	96.6%	<b>89</b>	<b>86.4%</b>
Core	–	–	1	4.8%	–	–	<b>1</b>	<b>1.0%</b>
Retouched, utilized debitage	8	15.1%	2	9.5%	–	–	<b>10</b>	<b>9.7%</b>
Hammerstone	2	3.8%	–	–	1	3.4%	<b>3</b>	<b>2.9%</b>
<b>Total</b>	<b>53</b>	<b>100.0%</b>	<b>21</b>	<b>100.0%</b>	<b>29</b>	<b>100.0%</b>	<b>103</b>	<b>100.0%</b>
<b>Room 202</b>								
Debitage	55	78.6%	41	93.2%	39	97.5%	<b>135</b>	<b>87.7%</b>
Core	3	4.3%	3	6.8%	–	–	<b>6</b>	<b>3.9%</b>
Retouched, utilized debitage	3	4.3%	–	–	1	2.5%	<b>4</b>	<b>2.6%</b>
Retouched, utilized core	2	2.9%	–	–	–	–	<b>2</b>	<b>1.3%</b>
Hammerstone	4	5.7%	–	–	–	–	<b>4</b>	<b>2.6%</b>
Hammerstone flake	1	1.4%	–	–	–	–	<b>1</b>	<b>0.6%</b>
Chopper, plane	2	2.9%	–	–	–	–	<b>2</b>	<b>1.3%</b>
<b>Total</b>	<b>70</b>	<b>100.0%</b>	<b>44</b>	<b>100.0%</b>	<b>40</b>	<b>100.0%</b>	<b>154</b>	<b>100.0%</b>
<b>Room 203</b>								
Debitage	9	75.0%	–	–	–	–	<b>9</b>	<b>75.0%</b>
Retouched, utilized debitage	3	25.0%	–	–	–	–	<b>3</b>	<b>25.0%</b>
<b>Total</b>	<b>12</b>	<b>100.0%</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>12</b>	<b>100.0%</b>
<b>Table Total</b>	<b>367</b>	<b>100.0%</b>	<b>89</b>	<b>100.0%</b>	<b>89</b>	<b>100.0%</b>	<b>545</b>	<b>100.0%</b>

utility sherds, but also a variety of white ware types, primarily of Early Pueblo III age. Combined with the large number of floor features in the room, then, Room 201 appears to have been used for a number of activities that did not include either corn grinding or lithic tool manufacture. Substantial storage took place during the final stage of use, as evidenced by a series of floor pits and a subfloor vessel. This storage appears to have taken place in combination with other activities involving heating (Table 13.18).

Among the floor contact and fill artifacts are several oxidized, carbon-painted, white ware bowl sherds. Fragments of this hatchured bowl were re-

covered from at least three proveniences: Floor 1 contact in two grids, and as floor sherds from the disturbed area of Floor 2. The rooms are characterized by a high frequency of plain gray sherds relative to other parts of the site. Room 201 also has more than expected corrugated ware, in part because of the restorable subfloor vessels associated with Floors 1 and 3. The majority of materials from the rooms are from above the first floors, and the first floors have the most associated material (Tables 13.19, 13.22).

Point-provenienced artifacts from Floor 1, Room 201, are shown in Table 13.23. PP 21 is west of

Table 13.22. LA 37592, Roomblock 2, Rooms 201–203, pottery types and vessel forms by floor/floor fill context; counts and percents.

	Room 201		Room 202		Room 203		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Floor 1</b>								
Pueblo II corrugated	1	0.3%	–	–	–	–	1	0.1%
Pueblo II–III corrugated	6	1.7%	–	–	–	–	6	0.9%
Pueblo III corrugated	1	0.3%	–	–	–	–	1	0.1%
Plain gray	93	25.6%	146	49.8%	15	31.9%	254	36.1%
Corrugated gray	186	51.2%	70	23.9%	18	38.3%	274	39.0%
Pueblo II black-on-white	1	0.3%	10	3.4%	1	2.1%	12	1.7%
Dogoszhi-style black-on-white	8	2.2%	–	–	–	–	8	1.1%
Early Pueblo III black-on-white	6	1.7%	–	–	–	–	6	0.9%
Pueblo II–III black-on-white	32	8.8%	39	13.3%	10	21.3%	81	11.5%
Pueblo III black-on-white	1	0.3%	3	1.0%	–	–	4	0.6%
Polished white	25	6.9%	25	8.5%	3	6.4%	53	7.5%
Mesa Verde plain red	2	0.6%	–	–	–	–	2	0.3%
Cibola indeterminate red ware	1	0.3%	–	–	–	–	1	0.1%
<b>Total</b>	<b>363</b>	<b>100.0%</b>	<b>293</b>	<b>100.0%</b>	<b>47</b>	<b>100.0%</b>	<b>703</b>	<b>100.0%</b>
White bowl	53	14.6%	54	18.4%	8	17.0%	115	16.4%
Red bowl	1	0.3%	–	–	–	–	1	0.1%
Gray jar	287	79.1%	216	73.7%	33	70.2%	536	76.2%
Decorated jar	20	5.5%	22	7.5%	5	10.6%	47	6.7%
Ladle	1	0.3%	1	0.3%	1	2.1%	3	0.4%
Indeterminate	1	0.3%	–	–	–	–	1	0.1%
<b>Total</b>	<b>363</b>	<b>100.0%</b>	<b>293</b>	<b>100.0%</b>	<b>47</b>	<b>100.0%</b>	<b>703</b>	<b>100.0%</b>
<b>Floor 2</b>								
Plain gray	11	20.8%	27	27.8%	–	–	38	25.3%
Corrugated gray	20	37.7%	44	45.4%	–	–	64	42.7%
Pueblo II black-on-white	1	1.9%	3	3.1%	–	–	4	2.7%
Dogoszhi-style black-on-white	3	5.7%	–	–	–	–	3	2.0%
Pueblo II–III black-on-white	9	17.0%	11	11.3%	–	–	20	13.3%
Pueblo III black-on-white	5	9.4%	–	–	–	–	5	3.3%
Polished white	3	5.7%	12	12.4%	–	–	15	10.0%
Squiggle hachure black-on-white	1	1.9%	–	–	–	–	1	0.7%
<b>Total</b>	<b>53</b>	<b>100.0%</b>	<b>97</b>	<b>100.0%</b>			<b>150</b>	<b>100.0%</b>



Table 13.22 (continued)

	Room 201		Room 202		Room 203		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
White bowl	20	37.7%	8	8.2%	–	–	28	18.7%
Gray jar	31	58.5%	71	73.2%	–	–	102	68.0%
Decorated jar	2	3.8%	18	18.6%	–	–	20	13.3%
<b>Total</b>	<b>53</b>	<b>100.0%</b>	<b>97</b>	<b>100.0%</b>	<b>–</b>	<b>–</b>	<b>150</b>	<b>100.0%</b>
<b>Floor 3</b>								
Plain rim	1	0.4%	–	–	–	–	1	0.3%
Plain gray	30	11.5%	15	37.5%	–	–	45	15.0%
Corrugated gray	216	83.1%	11	27.5%	–	–	227	75.7%
Pueblo II black-on-white	1	0.4%	1	2.5%	–	–	2	0.7%
Dogoszhi-style black-on-white	1	0.4%	–	–	–	–	1	0.3%
Pueblo II–III black-on-white	5	1.9%	9	22.5%	–	–	14	4.7%
Polished white	6	2.3%	4	10.0%	–	–	10	3.3%
<b>Total</b>	<b>260</b>	<b>100.0%</b>	<b>40</b>	<b>100.0%</b>	<b>–</b>	<b>–</b>	<b>300</b>	<b>100.0%</b>
White bowl	6	2.3%	6	15.0%	–	–	12	4.0%
Gray jar	247	95.0%	26	65.0%	–	–	273	91.0%
Decorated jar	7	2.7%	7	17.5%	–	–	14	4.7%
Ladle	–	–	1	2.5%	–	–	1	0.3%
<b>Total</b>	<b>260</b>	<b>100.0%</b>	<b>40</b>	<b>100.0%</b>	<b>–</b>	<b>–</b>	<b>300</b>	<b>100.0%</b>

where the phone line cut the room; it is presumably close to where the southwest corner of the room was, and immediately adjacent to a subfloor vessel (Feature 3).

## Floor 2

Considerable definition and redefinition went into Floor 2 in Room 201 (Fig. 13.28c). A surface was noted below Floor 1, but at first no features were identified, and there were questions about the influence of alluvial action in the north part of the room and rodent activity in the south part. Floor 2 was not defined for the entire expanse of the remaining room. It was oxidized and confidently traceable in the southeast corner of the room, where there was also a thin coating of sand on top of the surface. In this area the floor surface was mottled dark and light gray, with some spots of oxidation. The floor became impossible to follow in the north near the flood damage and to the southwest because of the Floor 1 pit complex.

Upon exploring a pit beneath the southeast corner of the room, the excavators concluded that this pit most probably originated at the level of

Floor 2, and that the pit was certainly no earlier than that floor. The rather complete superimposition of the wall on this feature led me to conclude that attribution of the feature to the room was incorrect, but the combination of the presence of a few Late Pueblo III sherds in the fill of the feature with the field conclusion convinced me to place the feature with the room. I continue to suspect that another room was present east of Room 201, in which case the feature containing Burial 5 quite likely was in that room. We were precluded from determining the presence of such a room by a combination of the water line and the location of the right-of-way, but whether or not it was present, stratigraphic and ceramic evidence indicate that the pit and the burial were late in the occupation of the site. With the exception of this problematic feature, Floor 2 had no associated features (Table 13.18).

In addition to the other complicating factors in this location, there are indications that the grave (Feature 1) had a complex history. The excavator reported finding burned corn cobs and ash adjacent to the pit (some of these were exposed by a heavy rain rather than by excavation) and suggested that

Table 13.23. LA 37592, Room 201, Floor 1, point-provenienced artifacts; summary table.

PP	Item	Elevation (m)	
		167/158E Datum	Site Datum
<b>165N/150E (FS 173)</b>			
1	3 pieces black-on-white bowl	-0.16	0.07
2	corrugated sherd	-0.17	0.06
3	black-on-white sherd	-0.13	0.10
4	corrugated vessel	-0.09	0.14
5	2 corrugated sherds	-0.12	0.11
6	2 black-on-white and 2 corrugated sherds	-0.12	0.11
<b>165N/151E (FS 170 North End)</b>			
7	plain white ware	-0.16	0.07
8	2 gray ware sherds	-0.13	0.10
9	ground stone fragment	-0.12	0.11
10	black-on-white sherd	-0.12	0.11
11	7 corrugated sherds	-0.12	0.11
12	mano	-0.14	0.09
<b>165N/151E (FS 169 South End)</b>			
13	McElmo Black-on-white bowl rim	–	–
14	black-on-white sherd, oxidized	–	–
15	plain white ware bowl sherd	–	–
16	plain white ware bowl sherd	–	–
17	2 plain white ware bowl sherds	–	–
18	plain gray sherd	–	–
19	gray ware rim sherd	–	–
20	burned shale pendant	-0.23	0.00
<b>165N/149E (FS 175)</b>			
21	axe	-0.26	-0.03

the first use of the space was as a roasting pit. This collection of corncobs provided a sample of 14 measurable cobs, as discussed in the botanical analysis overview. Before placement of the burial, a layer of clean, whitish clay was deposited over a thin layer of burned soil and a few artifacts. Whether this clean layer was intentionally placed as a lining or was sloughage from the pit walls is unclear. The fill around the burial was charcoal-stained sand with considerable large charcoal content. It is possible that the feature may have served as a storage facility before it was used for a grave.

The absence of features on Floor 2 except for a burial pit and the scarcity of associated artifacts suggest that the room may have gone through a period of changed function from the apparently heavy use of Floors 1 and 3. It may be that the room was first a living room, then a storage room, and then once again a living room. If Burial 5 is cor-

rectly associated with Floor 2, each of the floors in the room was used for a burial, first for an infant (Floor 3), then for an adult, and finally for a child. In the cases of Floors 1 and 2, the burials were late in the use of the floor. No sealing of the vessel containing Burial 3 (Floor 3, Feature 1) was noted, so that it seems likely that the floor was covered over soon after the burial. Interestingly, although the percentage of utilized debitage (9.5 percent) is less than that for Floor 1, it is still above that found in Room 202 or the pit structure (Table 13.21). Both Burials 2 and 5 have tobacco seeds associated with them; the other place where this species was found was in Pit Structure 1 floor features and the midden. The midden recovery of tobacco was from Layer 3, which contained Burial 1, although the spatial association was not close.

Point-provenienced artifacts from Floor 2, Room 201, are shown in Table 13.24. A concentration

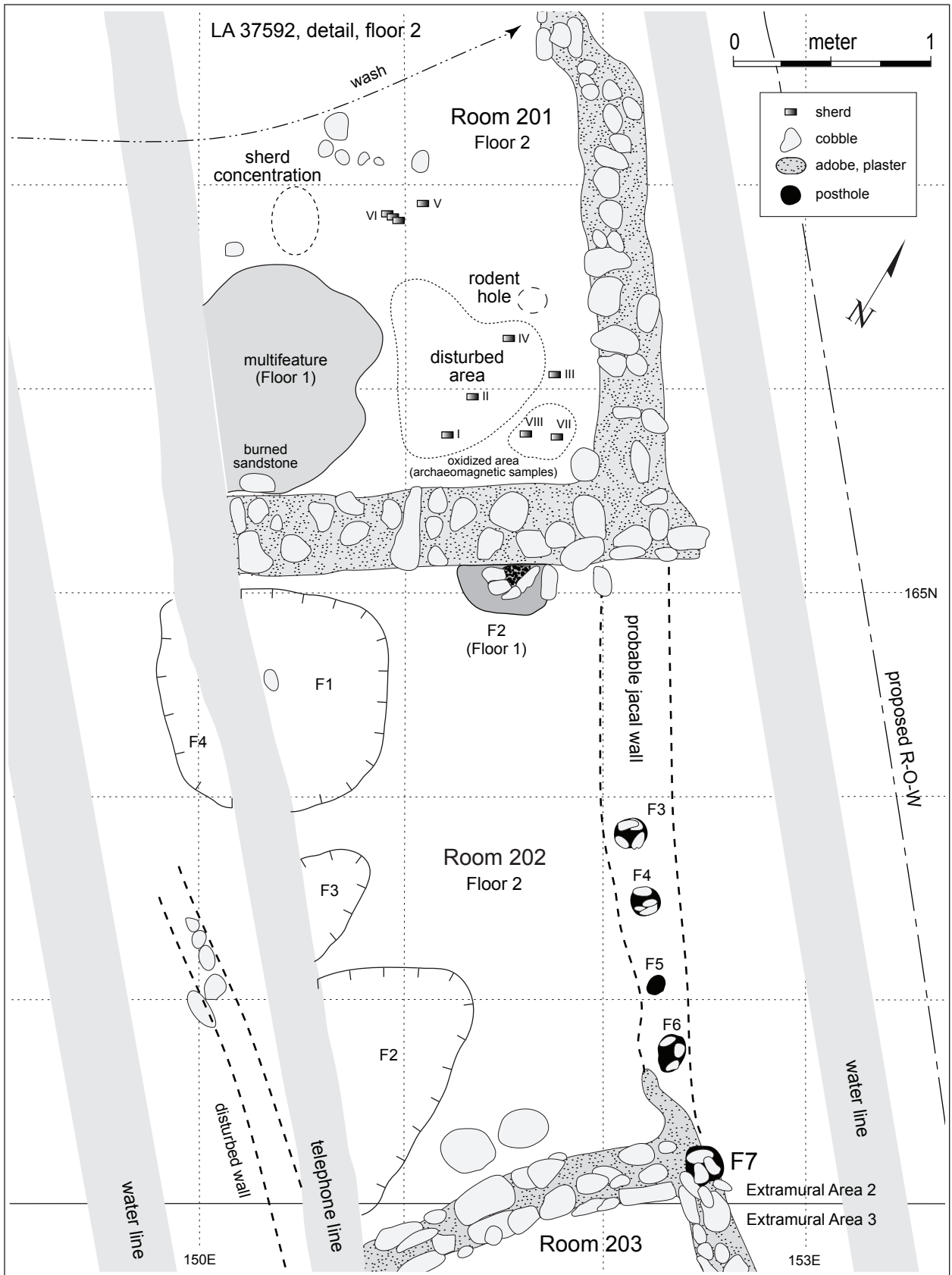


Figure 13.28c. LA 37592, Roomblock 2, Rooms 201 and 202, Floor 2, plan.

of five corrugated sherds was also noted from this provenience at a depth of -0.13 to -0.14 m.

### Floor 3

In extent, ease of definition, and association with features, Room 201's Floor 3 is more like its Floor 1 than its Floor 2 (Fig. 13.29). Six features were identified within the 1.8 by 2.0 m remaining area of the room. These features were all sealed by succeeding floors but did not seem to have been individually closed. The portion of the floor that remains contains no major heating features and one disused heating pit. Enough of the floor is missing that such features could have been present, but they were not visible at the time of excavation. A storage vessel and miscellaneous pits indicate that during the use of this floor, Room 201 was a habitation room (Fig. 13.30).

The fill of this floor consisted of two units. Layer 3 was identified as an intentional fill layer containing abundant artifacts; Layer 2 is cleaner and sandier (Layer 2 contained 39 sherds, while Layer 3 contained 221). Layer 2 may also have been placed as preparation for Floor 2, but Layer 3 is clearly a cultural deposit (Table 13.17). Where present, the floor was charcoal and ash-stained and easily traceable.

A cist lined with a large corrugated subfloor jar (Feature 1) was in the southeast corner of the room, somewhat closer to the east wall on Floor 3. This cist contained a second child burial (Burial 3), a term or preterm infant. Fill around the outside of the vessel was noted to be little packed, perhaps contributing to the fragmentation of the pot. In addition to the burial, the vessel contained sherds, charcoal, and oxidized soil and sandstone (Table 13.25). The location of this vessel in the corner of the room is anal-

ogous to that of Feature 3 in the southwest corner of the room on Floor 1 (Figs. 13.24, 13.29).

A cluster of three unlined floor pits (Features 3, 5, and 6) was between the subfloor vessel and the south wall. Features 5 and 6 both slightly undercut the wall. Feature 5 (the smallest) was in the fill of Feature 3, and Feature 6 cut the edge of Feature 3. These relationships establish Feature 3 as the earliest pit but leave the relationship between Features 5 and 6 unclear. Only Feature 3 showed signs of having been burned, with an oxidized rind on the north and east sides, and dark ashy sand in the base of the pit. The location and size of this feature suggest that it was more likely to have been a small heating pit than a main hearth. Feature 5 contained a compact sand and ash mixture but was unburned. Feature 6 contained charcoal-flecked sand and a large piece of sandstone. Feature 2 was an oddly shaped, oblong pit that the excavator noted was clearly lined with a 2 cm thick coat of clay that distinguished it from the intentional fill below the floor. Feature 4 was mostly removed by the phone line; it appears to have been an ash-filled pit next to the south wall of the room but separate from the cluster of pits in the southeast corner.

The artifacts from Floor 3 consisted of five corrugated sherds and a siltstone flake with <50 percent cortex (FS 192, elevation -0.22 to -0.24 m).

### Subfloor tests

Two subfloor tests were placed within the limits of Room 201. The first was 40 cm north of and parallel to the south wall. It was excavated to a depth of 50 cm below Floor 3. Some cultural material was found in the uppermost level of this test, but only in the vicinity of where features had cut below floor level

Table 13.24. LA 37592, Room 201, Floor 2, point-provenienced artifacts (FS 189); summary table.

PP	Item	Elevation (m)	
		167N/158E Datum	Site Datum
1	burned tabular sandstone	-0.20	0.03
2	3 oxidized hachured white ware bowl sherds	-0.18	0.05
3	burned sandstone (fits with PP 1)	-0.19	0.04
4	gray ware rim sherd	-0.19	0.04
5	black-on-white sherd (may match PP 6)	-0.14	0.09
6	6 black-on-white hachured bowl sherds	-0.14	0.09
7	flake (missing from analysis)	-0.18	0.05
8	5 sherds	-0.18	0.05



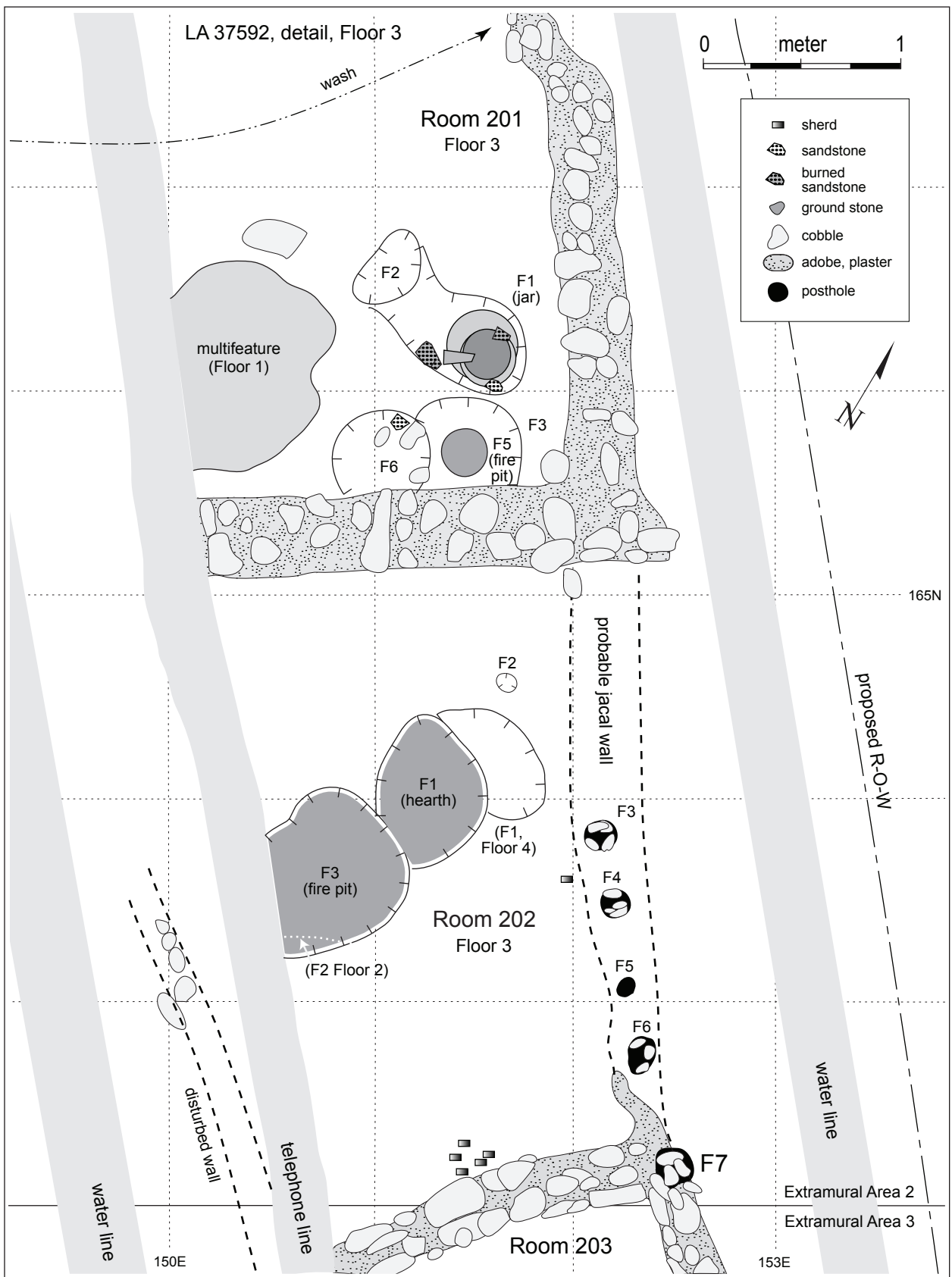


Figure 13.29. LA 37592, Roomblock 2, Rooms 201 and 202, Floor 3, plan.



Figure 13.30. LA 37592, Roomblock 2, Room 201, Floor 3, view southeast.

or where the floor had been leveled with fill. Otherwise, only culturally sterile, fine-grained fan deposits were encountered. The second trench was placed in the vicinity of the flood channel truncating the north end of the room. A clear alluvial-colluvial unit containing gravel, cobbles, and coarse sand rested above the same sterile sandy deposit beneath the room. Although this unit was unscreened, over 100 sherds and some other artifacts were recovered, further supporting the idea that a flood in this channel removed portions of cultural features.

### *Room 202*

Room 202 is defined by the south wall of Room 201, the north wall of Room 203, and a row of five postholes along the east side of the room area (Fig. 13.24). The postholes were covered by a mixture of melted adobe and small cobbles, suggesting that the posts had supported a wattle and daub wall. The small amount of material present, however, indicates that the wall was either largely organic—jacal—or that the east side of the room was mostly open. Cobbles in the vicinity of the phone line

trench along the west side of the room suggest that a cobble masonry construction closed the west side of the room. As is true of much of the roomblock, the quantity of cobbles was small enough that a combination of cobble and other materials seems likely for the walls, rather than full-height cobble walls—unless, of course, cobbles were taken for use somewhere else.

During excavation the row of postholes along the east edge of what we consider to be Room 202 was assigned to a grid provenience and Floor 2. The alignment of these postholes with the masonry wall stub at the northeast corner of Room 202 and the northeast corner of Room 203 makes it very likely that the posts formed an east wall. The presence of such a wall is further indicated by adobe melt and small rock associated with the postholes. The southernmost posthole is contiguous with the masonry north wall of Room 203, just outside that room's northeast corner. These postholes are therefore considered to be Room 202 features. The probable jacal wall, then, could have formed the east edge of a room (as assumed here), or it could have been a partition within a room, or it could have partially

Table 13.25. LA 37592, Roomblock 2, Rooms 201–203, artifacts in room features; counts by feature, floor, and type.

Feature	Ceramics	Lithics	Ground Stone	Fauna	Other
<b>Room 201 Floor 1</b>					
2	4 gray	5 debitage	1 mano	1 mammal	–
	1 white				
3	107 gray	1 debitage	1 mano	31 mammal	8 pollen*
		1 utilized	1 lapidary	4 bird	
4	37 gray	5 debitage	–	5 mammal	–
	20 white	1 hammer			
5	1 gray	2 debitage	–	30 mammal	–
	2 white			12 bird	
6	1 white	1 debitage	–	2 mammal	–
7	5 gray	3 debitage	–	13 mammal	–
<b>Room 201 Floor 2</b>					
1	2 gray	15 debitage	–	2 mammal	–
	6 white	2 utilized		(1 tool)	
		1 core			
<b>Room 201 Floor 3</b>					
1	155 gray	2 debitage	1 mano	2 mammal	–
	1 white			39 eggshell	
2	–	2 debitage	–	1 mammal	–
				(awl)	
3	2 gray	3 debitage	–	9 eggshell	17 pollen*
	2 white				
6	1 gray	1 debitage	–	–	–
<b>Room 202 Floor 1</b>					
1	4 gray	5 debitage	–	4 bird	1 ornament
	3 white				
2	–	–	–	1 eggshell	–
4	–	–	–	15 eggshell	–
<b>Room 202 Floor 2</b>					
1	5 gray	6 debitage	–	3 mammal	–
	5 white	1 core		1 bird	
				(1 polished)	
2	21 gray	13 debitage	2 manos	–	–
	10 white	1 core			
3	1 gray	1 debitage	–	–	–
5	2 gray				
	1 white				
6	3 gray	1 debitage	–	–	–
	1 white				
8	–	–	–	1 mammal	–
				1 eggshell	
<b>Room 202 Floor 3</b>					
1	8 gray	19 debitage	–	2 mammal	–
	5 white	1 utilized		1 bird	
3	12 gray	14 debitage	–	1 mammal	–
	8 white			1 bird	
				(1 indeterminate modification)	
<b>Room 203 Floor 1 (no features)</b>					

Ground stone artifacts are mostly fragments. \* number of genera in sample

closed a ramada-like space. The postholes are quite regularly spaced, from 34 to 41 cm apart on center. At the north end of the row, however, there is a gap of about 1.1 m between the northernmost posthole and the masonry Room 202/203 wall. This gap could have been an entryway, or again, it may indicate a ramada rather than a closed room. This gap is the only remaining evidence for a possible door to the room.

East of the row of postholes both the edge of the new right-of-way and the eastern water line confined the area we studied. The wall at the northeast corner of Room 202 looks as though it probably continued east past the room corner, but it was truncated by the water line. Since we lack sufficient evidence to call this an area a room, however, this area is considered here and in the coding to be part of Extramural Area 2.

Further complication in this vicinity is a pit that extends from Room 201 to the area east of the room (also potentially a room). Though it was first noted inside Room 201, the majority of the feature as excavated is outside the room. The stratigraphy indicates that the pit was associated with Floor 2 of Room 201, but its subwall location and extension into the ad-

acent area suggest that it was more likely to have been placed before construction of Room 201.

### Floor 1

This Room 202 floor surface was gray and hard, although somewhat irregular (Fig. 13.32a). Clearing it revealed multiple, closely spaced surfaces. These attributes indicate that the floor was probably not heavily prepared, although it was heavily used. All of the features were at the north end of the room, next to the Room 201/202 wall, mostly clustered around the hearth (Feature 1) in the northwest corner (Fig. 13.24). Room 202 appears to have had two hearths (Features 1 and 2) associated with Floor 1, although the phone-line trench casts some doubt on the association of the feature in the northwest corner. Point-provenienced artifacts from Floor 1, Room 202 (FS 504 and 505), are shown in Table 13.26.

A hearth in the northwest corner (Feature 1) was cobble-lined and relatively large (long axis around 0.9 m and 19 cm deep; Figs. 13.32b, 13.32c, 13.32d). The cobble lining of the feature was placed inside an earlier, unlined fire pit (Feature 3; Fig. 13.32d). The later pit was constructed by placing a large cobble at



Figure 13.32a. LA 37592, Roomblock 2, Room 202, Floor 1; showing walls and nature of floor.



either end of the desired pit and then using mud to cement smaller cobbles along the west edge of the earlier pit. The southern cobbles had two large fractures on them; these were placed facing down, which made its seating more solid than it would have been otherwise. The fill of this hearth was homogeneous ashy sand with charcoal fragments. Sequential uses were not apparent.

Table 13.26. LA 37592, Room 202, Floor 1, point-provenienced artifacts (FS 504–505).

PP	Item
1	4 sooted gray sherds (Feature 2 fill)
2	1 large Pueblo II–III bowl sherd
3	3 sherds, same vessel as PP 2
4	11 sooted gray ware sherds in 33 by 57 cm area
5	Pueblo II–III sherd from small bowl
6	white ware jar sherd



Figure 13.32b. LA 37592, Roomblock 2, Room 202, Floor 1, Feature 1 (hearth), view southwest.



Figure 13.32c. LA 37592, Roomblock 2, Room 202, Floor 1, Feature 1 (hearth), view northeast.

In the northeast corner of the room was a much smaller fire pit built against the wall (Feature 2). Although the feature was heavily burned, its shallow basin contained only a thin layer of ash on the bottom, indicating that it had been cleaned out not long before its last use.

## Floor 2

The fill between Floors 1 and 2 in Room 202 was relatively complicated, having been excavated in four layers (1–4) (Fig. 13.28c). These layers did not all extend across the whole room, and all were within a vertical space of 3–9 cm. The uppermost, Layer 1, was the Floor 1 material, which did not rest on Floor 2. Layers 2 and 3 appeared to be intentional fill units used to level Floor 1. Layer 2 may represent two or more basketloads of material, since it was lobed in plan. One lobe contained sandstone spalls; the other did not. The spalls are likely to have been chinking from a razed wall; they are thin (0.4 to 0.8 cm), unworked, and small (up to 6 cm long). Layer 4 was found only along the east side of the room, associated with the row of postholes used to define the

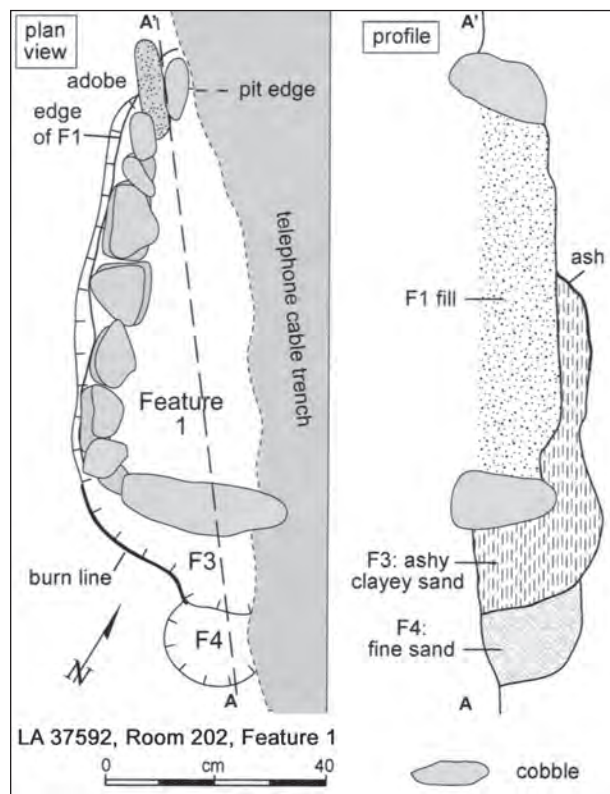


Figure 13.32d. LA 37592, Roomblock 2, Room 202, Features 1, 3, and 4; plan and profile.

room. This layer was clayey and contained small rocks, probably the result of the disintegration of a jacal wall. Since the remains of the wall rested on Floor 2, it is likely that the shape of the room changed when the use of Floor 2 ended. Such a construction event would suggest that the two large, irregular pits (Features 1 and 2) were borrow pits (Table 13.27). A sandy lens on Floor 2 suggests a brief period of abandonment of the room between the use of Floors 1 and 2.

The floor rose to meet the north and south defining walls. The surface was well defined, if somewhat irregular; it was also fragile, and broke down under traffic and weather. While this floor was in use the room's function was quite different from that during the use of Floor 1. Whereas Floor 1 had two heating facilities, Floor 2 had none. This picture may have been affected by the two large pits—if the pits were constructed at the end of the floor's use, their construction probably removed some of the room's earlier features.

Two large, unlined, unburned Pits (Features 1 and 2) were first visible on Floor 1, but were partially covered by that floor. The features were therefore associated with Floor 2 (Figs. 13.28c, 13.33). The fill of these features may relate to the remodeling event between Floors 1 and 2. These features were defined largely by fill, although portions of the pit edges were clear. Both were somewhat irregular, basin-shaped pits of uncertain function: they could have been for storage, or they may have been borrow pits for mud for construction. Feature 1 contained mostly building debris, including adobe impressions, clay, fire-cracked rock, and a few cobbles. Feature 2 contained a substantial number of cobbles, some of which projected to the level of Floor 1; these randomly placed rocks were probably part of the intentional fill of the feature. Both would have been against the west wall of the room had this area not been disturbed by the telephone line (Fig. 13.33).

Five postholes, Features 3–7, were aligned along the east side of the room (Figs. 13.28c, 13.34). They were generally similar, but there were small differences among them in the use of cobble "lining," or shimming, and in dimensions. They ranged from 17 to 28 cm deep (mean 24.3) and from 7 to 13 cm in diameter. The excavator observed that three of the holes had compact soil in the upper fill; in the absence of evidence for posts, she concluded that all of the posts in this wall but one had been removed pre-

historically, and at least three of the postholes had been plugged.

A sixth posthole (Feature 9) was not in the east wall alignment but in the fill of Feature 1. It was similar to Floor 1 Feature 4, a possible posthole, and it was possible that these two features may have been part of some construction of posts on the west side of the room, although it should have been evident on the later floor. It is conceivable that it was missed in the confusion caused by the informal floors, the phone line, and the numerous features.

### Floor 3

Floors 2 and 3 were nearly the same level for much of the room, although there a patch near the center of the room was placed to level Floor 2 (Fig. 13.29). The two floors were separated by only 2 cm of fill in the north end of the room. The shallow fill peeled away from Floor 3 easily. This flooring material covered a hearth (Feature 1) that cut through several earlier features thought to predate the room. This earliest room floor had two, sequentially used fire pits near the middle of the room and a pit adjacent to the heating features (Table 13.27). Both of the heating features contained a substantial amount of debitage (20 pieces in Feature 1 and 14 in Feature 3).

Assuming that the row of posts defined this space, the hearth (Feature 1) was off-center in the room, about 80 cm from the north wall, 25 cm from the post alignment, and 110 cm from the posited west wall (Fig. 13.29). The feature was more or less basin-shaped, although rodent activity and underlying features resulted in its being somewhat irregular in outline. Four different fill units were defined in this feature. In addition to being obscured by Floor 2, the fill of the feature included 8 cm of mixed ash and sand; a lens of 3–4 cm of ash and charcoal resting on a sand lens, part of which was visibly oxidized and part of which was clean and unburned; and a second ash and charcoal unit resting on the base of the feature. The sand lens suggests either a period of disuse or a remodel. Five pieces of debitage were present in the feature.

A fire pit, Feature 3, was apparently basin-shaped, but disturbance of its west side made its shape somewhat unclear (Fig. 13.29). Other than being a scooped-out spot, it lacks formal preparation. This feature, more nearly central to the room than Feature 1, replaced Feature 1, as seen by a small overlap between the northeast of Feature 3 and the

Table 13.27. LA 37592, Room 202, Floors 1–3, features; summary table.

Feature	Shape	Construction Details	Use Details	Fill	Assigned Function	Volume (l)	Length/Width/Depth (cm)
<b>Floor 1</b>							
1	rectangular pit	cobble-lined, open	burned	gray ash, some charcoal brown	hearth	35.9	partial
2	oval pit	plaster floor, against wall	burned	fill on top of thin layer of ash	fire pit	4.7	–
3	oblong pit	unlined	burned	soft ashy fill; mostly contains Feature 1	fire pit	–	–
4	cylindrical pit	unlined	unburned	compact silty sand and much charcoal	pit, posthole?	9.3	–
<b>Floor 2</b>							
1	oblong pit	unlined	unburned	below room Layer 2, cobbles, pieces of wall or floor, adobe impressions, large charcoal, and sand	storage or borrow pit	264	110/100/24
2	irregular pit	unlined	unburned	25 cobbles, man, light brown homogeneous fine-grained matrix	storage or borrow pit	63	106/66/18
3	cylinder pit	cobble-lined	unburned	compact, light sand changes to darker, looser sand near base; sparse charcoal	posthole	2.1	13/12/12
4	cylinder pit	cobble-lined	unburned	very compact clayey sand to looser sand 6 cm from base; sparse charcoal	posthole	0.9	7/7/24
5	cylinder pit	possibly cobble-lined	unburned	sand, rotted post	posthole	3.2	12/12/28
6	cylinder pit	cobble-lined	unburned	compact sand, rare charcoal	posthole	1.4	8/8/28
7	cylinder pit	cobble-lined	unburned	compact and softer sand with clay, sparse charcoal	posthole	0.8	6/7/25
8	irregular pit	unlined	partially burned	soft sand with ash and charcoal	pit	none	33/26/13
9	hemisphere pit	unlined	unburned	compact sandy ash with small fragments of unburned wood	posthole	0.9	13/13/7
<b>Floor 3</b>							
1	hemisphere pit	unlined	burned	4 layers; ash and sand, ash and charcoal, clean sand, and ash and charcoal	first hearth on floor	52.3	63/66/16
2	cylindrical pit	unlined	unburned	sand with charcoal flecks	pit, posthole?	0.3	7/8/7
3	oval pit	unlined, intrudes into Feature 1	burned	2 layers: ash and charcoal, oxidized soil	second hearth on floor	25.3	67/60/8 (approx.)





Figure 13.33. LA 37592, Room 202, Floor 2, western edge; showing phone line cutting through Feature 1.

southwest of Feature 1. The 6 cm of ashy fill and 2 cm of oxidized sand suggest that this feature was used several times, but not for a prolonged time.

A small, cylindrical pit, Feature 2, was 8–10 cm north of the earlier fire pit (Feature 1) (Fig. 13.29). The excavator felt it was a posthole, but it contained only sand and charcoal flecks, had no associated postholes, and was quite small. It was near the Floor 2 posthole alignment but differed from those features both in size and depth, and it lacked cobble shims. If the Floor 2 postholes connected to the wall stub at the northeast corner of the room, this pit was somewhat out of line. It seems likely, therefore, that it was an isolated floor pit rather than a posthole.

### Construction

As noted above, the west wall of Room 202 was disturbed by the phone line trench (Figs. 13.24, 13.33). Though the trencher had eliminated visible coursing, a deposit of cobbles seemed very likely to have been the remains of the base of the wall. If this assumption is correct, the west wall was built of fairly large cobbles (many greater than 20 cm in maximum dimension) and included a number of pieces of ground stone. The east wall of this room was formed by a row of five posts (Figs. 13.24, 13.28c, 13.29, 13.34). During excavation,



Figure 13.34. LA 37592, Room 202, Floor 2; showing east wall and Features 3–7 (postholes).



Table 13.28. LA 37592, Room 203, standing wall measurements.

Wall	Courses		Width (m)	Thickness (m)	
	Minimum	Maximum		Minimum	Maximum
North	3	4	1.65e	0.30	–
East	–	1*	2.02	0.20	–
South	4	6	1.65e	0.36	0.40 (3 courses)
West (partial)	0	1	1.66e	unknown	–

\* includes row of upright cobbles

e = estimate

this wall first appeared as an area of hard adobe incorporating a number of small cobbles. Though mostly amorphous, this material formed an elongated low rise that we were hard put to explain but loath to remove. When we did remove it, we found five cobble-shimmed postholes, only one containing rotted wood (again, no date!). The adobe and small rock unit, then, was probably once part of some jacal construction, though no casts or vegetal materials were observed in the adobe. The size and depth of the postholes indicate that the posts were quite small. Table 13.28 includes the measurements of Room 202's south wall (Room 203's north wall); the surviving portion of the north wall was 2.10 m long and between 0.36 and 0.39 m thick (see Room 201 discussion above).

### Subroom Area

The Room 202 area turned out to be extremely complex beneath the room floors (Figs. 13.15, 13.16a). Three floors were assigned to the room, and Floors 4–5 were occupational surfaces that we assume to have been extramural. Beginning with Floor 6, something happened that caused a fairly distinct differentiation in surfaces between the north and south portions of the room area, and the materials from these two areas were kept separate. The distinction was maintained through Floor 8, though the apparent break was south of where it was in the overlying strata). The nature and cause of this difference in the surface was not determined. Possibilities include: (1) the presence of some ephemeral structure such as a windbreak or ramada, which altered use of parts of the surface without leaving another archaeological trace; (2) a difference in level, which caused pooling in one area (probably the south, which was generally

clayier and had fewer features). The fact that the change seems to move south with deeper excavation (as Layer 10/Floor 8) tends to support this reading.

A complex series of floors pertaining to use preceding that of the final rooms was also present at LA 37605. The deposits underlying Room 202 are discussed above, under Extramural Area 2.

### Room 203

Room 203 was a small (around 3 sq m), trapezoidal room, the walls of which included many kinds of masonry (Figs. 13.24, 13.35a). It was superimposed on features from earlier occupations, and, although only a single floor was defined within its confines, it appears to date to the same time period as Rooms 201 and 202. The unusual shape of Room 203 suggests that it was made to fit into a space delimited by other features, but the confines of the right-of-way and utility placements once again preclude knowing what those prehistoric constraints were. The walls were of insufficient height to preserve evidence for doors, although the south wall was high enough that a doorway in that wall is unlikely to have been present (Table 13.28).

The south wall of Room 203 is comparable in construction to the south wall of Room 201. Though relatively well built and of high rock content, exposure of this wall without maintenance for just a couple of months during excavation showed how quickly cobble walls will become unstable (Fig. 13.35b). The wall between Rooms 202 and 203 was sectioned (Fig. 13.36) and the contents counted. This piece of wall, measuring 80 by 20 by 30 cm, contained 45 pieces of stone: 23 cobbles 6 by 6–12 cm; 11

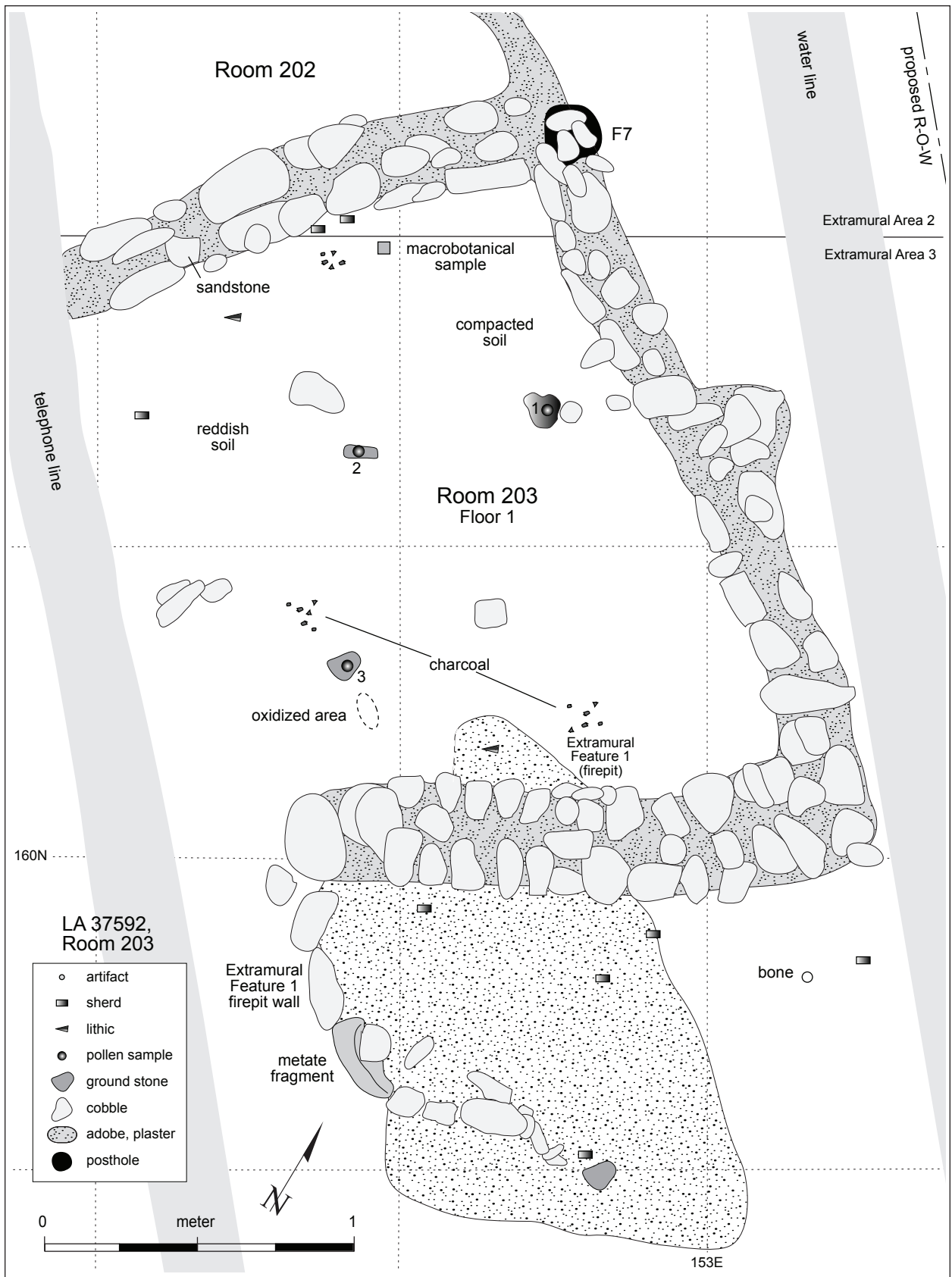


Figure 13.35a. LA 37592, Roomblock 2, Room 203, Floor 1, plan.



Figure 13.35b. LA 37592, Roomblock 2, Room 203, south wall, view north.

cobbles 10 by 16 cm; 3 cobbles 20 by 14 cm; 4 cobbles 9 by 13 cm; 3 cobbles 4 by 10 cm; and 1 tabular sandstone 18 by 26 cm. The rock was held in place by a nearly equal volume of mortar. The accretionary nature of the room is evident in the mixture of masonry styles in its walls (Fig. 13.37). In the span of around 5 linear meters of three walls, there were at least four kinds of masonry. The south wall was a well-built cobble wall two to three courses thick. The south end of the east wall consisted of a row of upright cobbles, while the north end of the same wall was of poorly laid, flat-lying cobbles (Fig. 13.38). The portion of the wall where the two styles meet could even be slumpage of adjacent wall into an opening in the wall. The north wall also has both an upright (on the east) element and a flat-coursed element, so that the wall varied in thickness. The north wall contained more mortar and was less well constructed than the south wall. The west wall was pushed out of line by the phone line, but what remained was a row of cobbles that were larger than those used in the east and north walls (Fig. 13.39). No features pertaining to the room floor were defined (although features antedating the room were visible in the floor).



Figure 13.36. LA 37592, Roomblock 2, Rooms 202–203, joining wall section.





Figure 13.37. LA 37592, Roomblock 2, Room 203, Floor 1, masonry walls detail, view east.



Figure 13.38. LA 37592, Roomblock 2, Room 203, east wall.





Figure 13.39. LA 37592, Roomblock 2, Room 203 walls, view south.

### Floor 1

As in the other rooms, the floor was defined more by the bases of the walls and the termination of the fill than by a prepared surface. The fill immediately on top of the floor appeared to be primarily adobe melt from the walls. A large fire pit underneath the south wall (Extramural Area 3 Feature 1) showed through the floor at the south edge of the room (Figs. 13.35a, 13.41).

Several artifacts were found on or near the floor of this room. During room definition, an axe was found near the east wall, and two pieces of a carbon-painted Mancos Black-on-white bowl (representing about 60 percent of the bowl) were plotted in the northeast quadrant of the room. These artifacts were around 20 cm below datum, while the floor as cleared was 27 to 30 cm below datum. A corncob was also noted in the fill of the room near the floor. On the floor itself, three sherds and two lithics were mapped.

The point-provenienced artifacts from Floor 1, Room 203 (FS 537, 539, 545), are sherds from a bowl (Vessel 4), sherds from Vessel 4 and a black-on-white jar, and a pollen sample.

A number of occupation phases are indicated by the complex series of use-surfaces encountered in the area of the rooms. Table 13.29 links those surfaces insofar as possible. It is likely that the uppermost floor in the three rooms was contemporaneous, but the prior uses of the room spaces was more variable. Room 202, between Rooms 201 and 203, included a deeper deposit than either of the adjacent rooms. This was perhaps most likely to be a filled channel, but a manmade excavation cannot be discounted.

Table 13.29. LA 37592, Rooms 201–203, correlation of room floors.

Room 201	Room 202 North	Room 202 South	Room 203
Floors 1, 2	Floors 1–3	Same as north	Floor 1? sketchy
	–	–	none
Floor 3	Surfaces 4–5 (subroom)	–	–
Sterile	Surfaces 6–8	–	–



Figure 13.41. LA 37592, Roomblock 2, Room 203, view north; Extramural Feature 1 (fire pit) in foreground.

### PIT STRUCTURE 1

The dimensions of Pit Structure 1 were as follows: north–south 3.62 m, east–west 3.40 m, bench height 0.67 m, bench width 0.38–1.03 m, floor area 9.68 m, maximum height 2.04 m (Figs. 13.3a, , 13.3b, 13.45a, 13.45b).

This was the first deep pit structure that we excavated during the highway project, and, as such, it was a learning experience. It also had a very complex fill and use-history, furthering the learning experience. The structure was circular, around 4 m in diameter, and the latest floor was about 3.3 m below the present ground surface. The structure's alignment is very nearly true north: the axis through the vent, hearth, and sipapu on the latest floor was 358 degrees true north. After a period of use that included three remodelings of the floor, the structure was abandoned, and apparently the roof was removed as part of the abandonment. Absence of the roof led to disintegration of the walls and filling of the lower 1.5 m of the pit. After it had partially filled, the depression left by Pit Structure 1 became a

trash pit, eventually accumulating a dense midden up to 1.5 m thick, which filled the remaining pit nearly to the ground surface. The final filling of the depression was by wind and water, resulting in a continuous, level modern surface with few artifacts.

The norm among Anasazi pit structures is that an associated roomblock is north or west of the pit structure (Hayes and Lancaster 1975:5; Truell 1986:157). At this site, however, the only excavated rooms are east of the pit structure. Examination of the area immediately north of the structure revealed a use-surface but nothing that could be termed the vestige of a roomblock.

There are several possible explanations for this apparent deviation from the norm. It may be that the rooms were located to the east, although the ceramic indications are that the excavated room floors were somewhat later than the pit structure floor. It seems more likely that the associated rooms were somehow removed, but where did they go? A combination of forces may have been at work. The northern portion of the northernmost room (Room 201) was removed by flooding, and rooms north



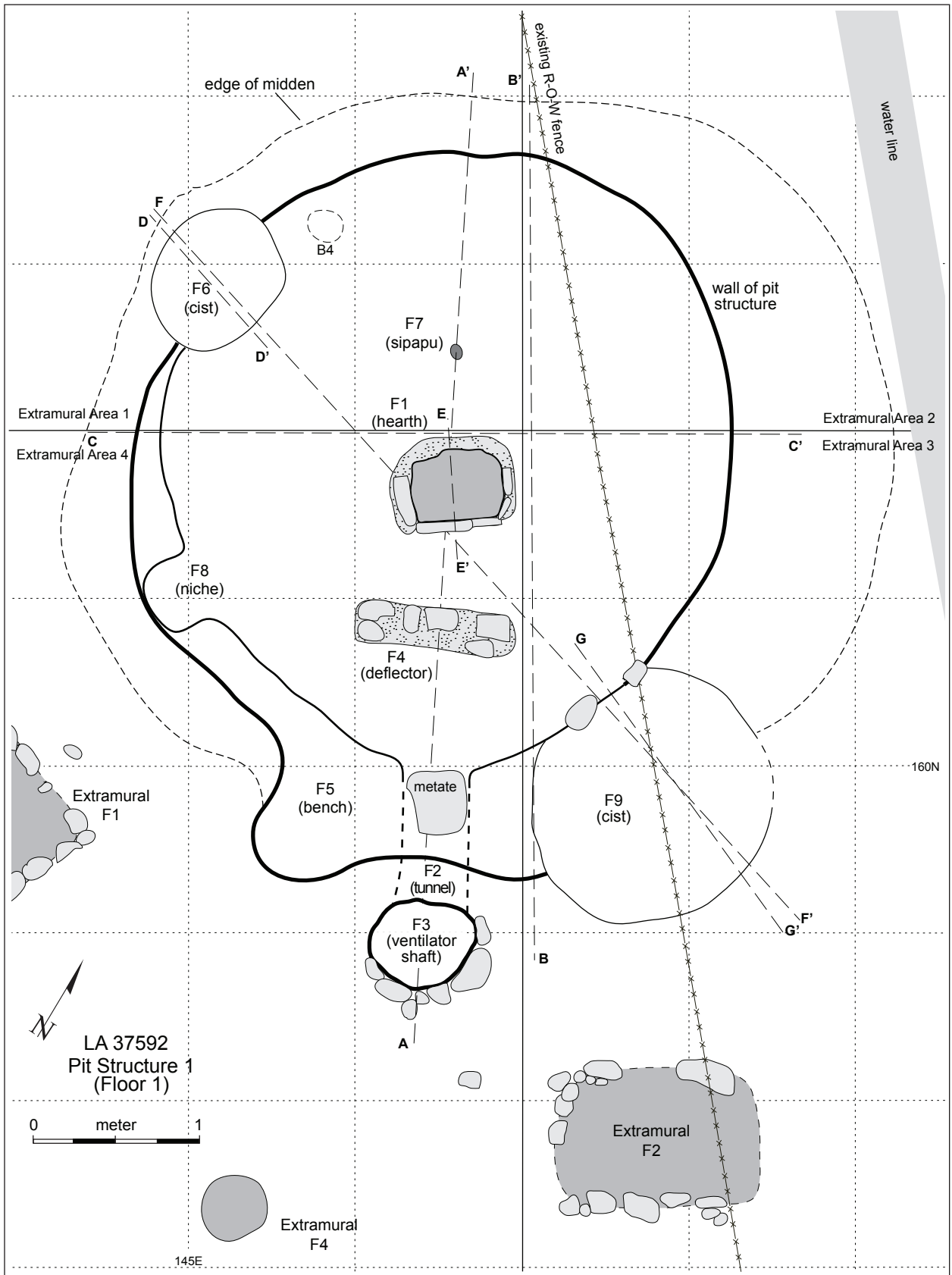


Figure 13.45a. LA 37592, Pit Structure 1, Floor 1, plan.



Figure 13.45b. LA 37592, Pit Structure 1, Floor 1; bipod shot showing point-provenienced artifact tags and extramural Feature 2, view northwest.

of the pit structure would have been in the path of the same arroyo. Thus, rooms may have been removed by the same flood, or the area may have been avoided as a building location. The arroyo that damaged Room 201 seems relatively small, and it seems unlikely that flooding could have entirely removed a cobble roomblock, although the damage to Room 201 demonstrates considerable dispersive power. The rooms also may have been largely jacal, making them especially susceptible to eradication by flooding.

In combination with road construction and shoulder maintenance it is quite conceivable that recognizable, post-flooding vestiges of a roomblock were removed within the right-of-way. There is no doubt that some of the complex use-history in the area of Roomblock 2 was contemporaneous with use of Pit Structure 1, probably immediately before

the use of the most recent rooms, and perhaps early in the use of these rooms. Other than large fire pits, however, there is little record of the surface architecture that went with Pit Structure 1.

#### EXCAVATION

Pit Structure 1 and its midden were found entirely with hand trenches, and the entire midden deposit was removed by hand (Figs. 13.45a, 13.45b, 13.46a, 13.46b, 13.46c, 13.46d). Because of the density of material and the absence of a backhoe trench revealing the actual depth of the structure, the feature was termed a trash pit before tests indicated that the midden deposit rested on top of further disturbance. The trash deposit and the pit structure clearly belong to different use-components at the site, but since the two features occupied the same horizontal space, all deposits were coded as Pit Structure 1.

The sequence of excavation of the deposits in Pit Structure 1 is specified in Table 13.30. A number of grid units were dug in the vicinity of the roomblocks, west of the pit structure, and south and southwest of the structure before its presence became suspected; neither the surface material nor Lancaster's (1983) tests indicated its presence. Initially the intent was to examine the relationship between the possible burial at 161N/138E and the roasting pit between 158N and 161N at 143E. Since Roomblock 2 is in the vicinity of 161N/150E, a hand-dug trench was cut across the site along the 161N line.

The excavation of the trash deposit was carried out by up to three two-person crews and followed a progression of strategies. As noted, there was no indication of the midden on the surface. It was encountered by expansion of hand-dug trenches west of the Structure 2 area identified by Lancaster (1983), our Roomblock 2. The first excavation into the deposit was conducted in 10 cm levels to a depth of about 1.2 m (the surface in this area was about 20 cm above site datum). This trench provided enough information about stratigraphy to dig two further definitional trenches in layers. (Our convention, following Chaco Project practice and as detailed in the preface to this report, was to designate arbitrary stratigraphic units as "levels" and natural stratigraphic units as "layers.") One of these (161N/145E) resulted in a telephone booth-style pit, which showed that cultural deposits continued well below





Figure 13.46a. LA 37592, Pit Structure 1, midden base.



Figure 13.46b. LA 37592, Pit Structure 1, excavation overview.



Figure 13.46c. LA 37592, Pit Structure 1, excavation detail.

the trash deposit. The layers defined in this trench were correlated as nearly as possible to those in a north-south trench in the southeast quadrant (the first to reach the level of the floor of Pit Structure 1) of the deposit (158N/147E). Correlation was not perfect, however; Layers 6 and 7 were probably the same thing in these two areas, and Layers 2 and 8 did not occur in both units. Depth measurements were taken for each stratigraphic unit, but the irregularity of the topography of the deposit make final resolution of discrepancies difficult. The fill remaining after trench excavation was removed in the “quads” left by the trenches.

The trash deposit was oval at the surface (4.1 m east-west and 5.0 m north-south). A lobate extension to the southwest increased the diameter to 5.6 m. Since the hole forming the structure was very nearly round, this distortion presumably resulted from the process of structural collapse, although the presence of the vent and the slight southern recess increase the north-south dimension of the structure. The southeast side of the structure suffered a greater degree of collapse than the rest of the walls, further contributing to the out-of-round shape of the midden. The base of the deposit was a fairly regular,

steep-sided saucer shape (Fig. 13.46e), giving the deposit a range in depth from 0.28 m to 1.25 m along the 148E grid line, although the edges of the deposit probably feathered out where the shape of the pit allowed it. Precisely calculating the volume of such a shape is difficult. As a cylinder 4.1 m in diameter and 1.25 m high, the volume is 16.5 cu m, similar to the sum of 16.9 cu m from provenience units with more precisely calculated volumes.

The quadrants left by the trenches (Fig. 13.46d) were rather unequal in size. The southeast quad was the smallest (2.22 m north-south by 1.29 m east-west, with an irregular southeast edge), and the southwest the largest (2.60 north-south by 2.10 east-west, with an arced southwest edge). For analytical purposes, the 161N line was used to divide the structure into north and south halves and the 147E line to divide the east and west halves. Replacing the trenches in their respective quads helps balance the sizes of the quads some, but the southwest and northwest quads are bigger than the eastern quads. Excavation of the quads proceeded in such a way as to make these analytical divisions possible, except that some of the northeast quad was excavated to include the area as far south as 160N due to early



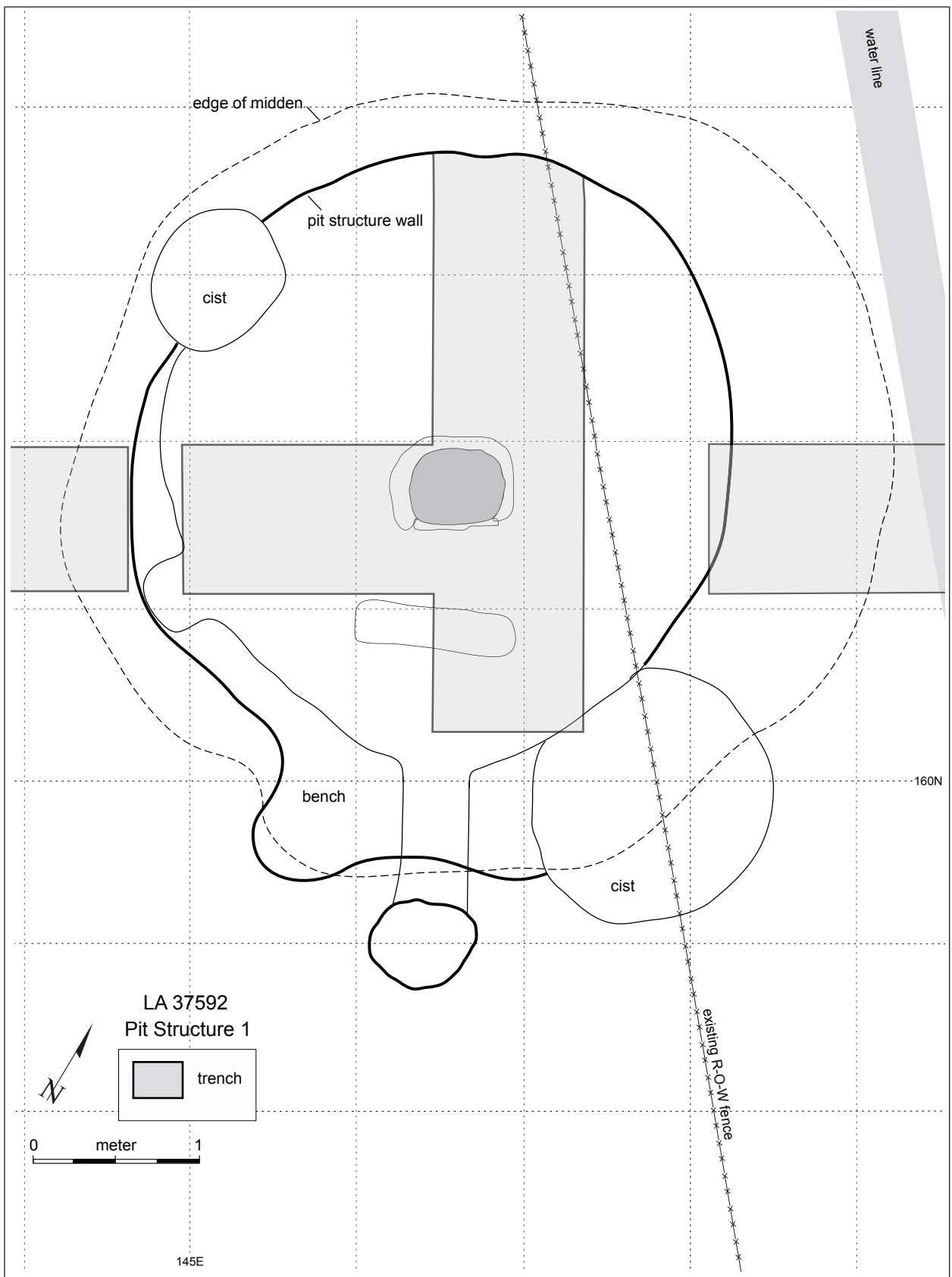


Figure 13.46d. LA 37592, Pit Structure 1, hand trenches, plan.

Table 13.30. LA 37592, Pit Structure 1, excavated units; summary table.

Unit	Size (m) (N-S x E-W)	Dug In	Base (cm bsd)	Dates of Excavation (1988)
161N/148E (NE 1/4)	1 x 3	Levels 1–2	3	5/1–5/5
161N/147E (NE 1/4)	3 x 1	Levels 1–10	98	5/9–5/12
161N/149E (NE 1/4)	1 x 2	Levels 1–7 in 0–60 cm of west end of unit only	84	5/10–5/16
161N/146E (NW 1/4)	1 x 1	Layers and levels:	203	5/13–6/1
		Trash: 1.01 to 7		
		Pit structure: 9, 8, 11, 12, 23.02	251	5/13–6/9
158N/147E (SE 1/4)	3 x 1	Levels 1–3. Layers and levels:		
		Midden: 1.04 to 7.02		
		Pit structure fill: 7.03 to 16.05		
161N/147E (NE 1/4)	3 x 1	Layers and levels: 4.01 to 6.01	104	6/13
158N/145E (SW 1/4)	2 x 3	Backhoe (Level 1), Level 2	9	6/15
158N/146E (SW 1/4)	3 x 1	Backhoe (Level 1), Level 2	11	6/16
159N/144E (SW 1/4)	2 x 1	Level 2	8	6/17
161N/144E (NW 1/4)	1 x 1.5	Levels 5–8 west edge, outside trash deposit	65	6/13–6/15
161N/144E (NW 1/4)	1 x 1.5	Layers 17–20	100+	6/15–6/16
162N/144E (NW 1/4)	1 x 3	Level 2, stripping	7	6/20
163N/144E (NW 1/4)	1 x 3	Level 2, stripping	7	6/17
Northwest quad, midden	–	Layers 1, 3–5, 8	99	6/23–6/24
Northeast quad, midden	1.5 x 2.5	Layers 1, 3–5	113	6/21–6/24
Southeast quad, midden	–	Layers 1–5	124	6/20–6/23
Southwest quad, midden	–	Layers 1, 3–5	93	6/20–6/22
Northwest quad, pit structure	1.45 x 2.20	Layers 6, 7 by backhoe and hand	189	6/28–6/29
Fill, pit structure, northwest quad	1.45 x 2.20	Layers 16, 22, 23, 26, 27, 28	219	7/11–7/25
Northeast quad, structure	1.27 x 1.39	Layers 14, 16, 22, 23, 25, 26, 28, 32	223	6/29–7/26
Southeast quad, structure	2.40 x 1.2	Layers 7, 15, 17, 20, 21, 24, 25, 30, 31, 32, 34	222	7/18–7/26
Southwest quad, structure	2.00 x 2.04	Layers 14, 16, 22, 23, 27, 28	212	–
Northwest quad, floor	x 1.80	Layers 29, 35 (Floor 1), Layer 37 (Floor 2), Layer 38 (Floor 3)	240	7/27, 7/29
Northeast quad, floor	x 1.60	Layers 29, 34, 35 (Floor 1), Layer 37 (Floor 2), Layer 38 (Floor 3)	237	7/27–29
Southeast quad, floor	1.78 x 1.60	Layers 29, 33, 34, 35, 36 (Floor 1), Layer 37 (Floor 2), Layer 38 (Floor 3)	236	7/28–29, 8/5, 8/23
Southwest quad, floor	1.78 x 1.80	Layers 29, 35, 36 (Floor 1), Layer 37 (Floor 2), Layer 38 (Floor 3)	237	–
Backhoe Trench 4	–	South edge	–	9/13
Backhoe Trench 5	–	West edge	–	9/13
Backhoe Trench 6	10 m	North exterior	–	9/14

trench placement. In spite of efforts to coordinate stratigraphic units, there were some differences in layer definition; these problems were exacerbated by the fact that layers were differently distributed in the various trenches. The layer beneath the ashy, artifact-laden trash layers is one area in which there were discrepancies. The primary trash layers were 3–5; Layer 1 was the mixed terminal (i.e., up-

permost) deposit, and Layer 2 was exterior to the trash deposit. The trench in the southeast quadrant (158N/147E) defined Layers 6 and 7, resting on one another and in turn on Layer 9, while in the smaller trench in the northwest quadrant (161N/146E), only Layer 6 was defined, resting on Layer 9. While digging, the excavators realized that the unit designated Layer 7 in the southeast was the same unit



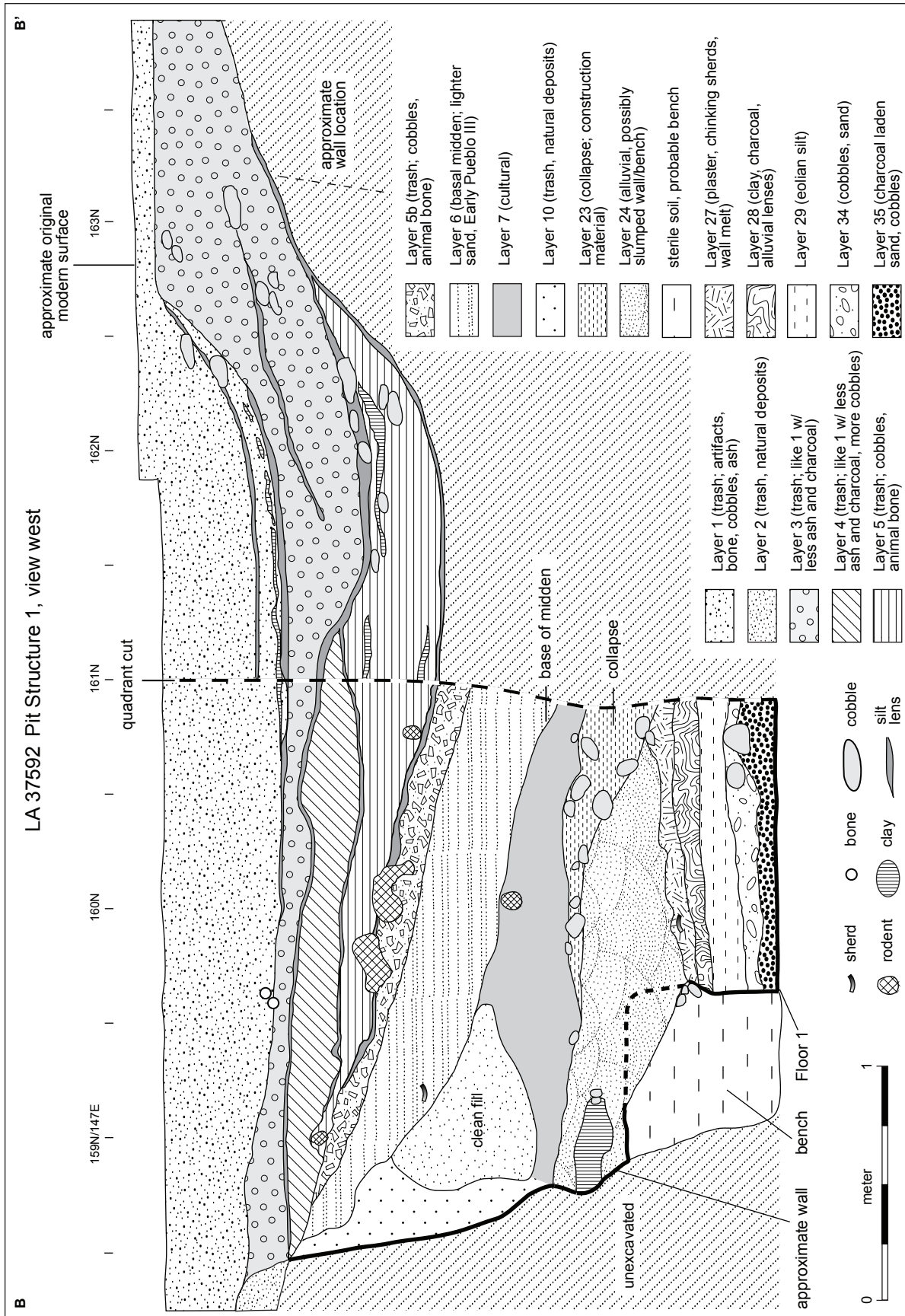


Figure 13.46e. LA 37592, Pit Structure 1, B-B' (N-S, 147E line) profile, view west; rectified, with some layers approximated.

as Layer 6 in the northwest, and thus the southwest Layer 7 designations have been changed to Layer 6. The Layer 6 excavated in the northeast quad was sufficiently similar to these units to be left as Layer 6.

This leaves a problem of fitting the Layer 6 in the southeast quadrant (158N/147E) into the overall scheme. Layer 6 was excavated in four levels, for a total of around 40 cm in thickness. The description of Layer 6 indicates that it was ashy, trashy, and contained clay lenses, a description that makes it similar to Layer 5. Layer 5 in the northwest was excavated in four levels to a maximum depth of 106 cm bsd, while in the southeast it was excavated in two levels to 69–104 cm bsd. The Layer 6 units in the southeast were therefore changed to levels in Layer 5, increasing the maximum depth of Layer 5 to 120 cm bsd. The northeast quad of the structure also contained Layers 5, 6, and 7, but there are some discrepancies in depths recorded for these apparently sequential layers.

The deposits in the early trenches were assigned layer numbers as excavation proceeded. This is a difficult way to determine stratigraphy, especially in a complex deposit such as the fill of Pit Structure 1, and especially “by committee,” with several different crews. Upon reviewing notes, depths, and profiles, it became clear that several numbers were assigned to more than one stratigraphic unit. By using the type of deposit, the general part of the pit structure, the depth, and the layer descriptions, a number of the early layer assignments were changed to match later layer assignments. This is not an ideal procedure, but it improves on the clearly incongruous layer labels that existed at the end of fieldwork. These adjustments are mostly in the submidden natural and collapse strata and have little impact on material culture provenience. All of these adjustments are listed in Table 13.31. Since the fill to the structure below the trash deposit was largely natural and contained far fewer artifacts than the midden, we decided to remove as much as possible with the backhoe to focus our efforts on the occupation surfaces of the structure, relying on the hand-dug trenches for controlled samples of these units. This strategy means that a number of stratigraphic units are represented only in the hand-excavated trenches, and not by quad excavations, although, as above, some of these unique numbers were changed to match quad units. Counts among

layers are not, therefore, directly comparable. Layers are also not in strict numerical sequence, so that a higher number does not always indicate a deeper layer.

## STRATIGRAPHY

At LA 37592, Pit Structure 1 fill above the floors was divided into several components: disturbed surface materials, the main midden, mixed materials surrounding the midden, materials that seemed to be transitional to structural fill, a deeper unit similar to the midden, and the submidden structural collapse and other nontrash fill of the structure. To determine the temporal relationship of these units, relative frequencies of mineral and organic paints on white wares were compared. In concert with its late position and as a basis for its late date, the main midden deposit is very high in organic paint (87 percent of white wares with paint, around 60 percent of all white wares; Table 13.32), more than in any of the adjacent units. Next in frequency is Layer 2, which is natural materials intermixed with midden materials; the higher frequency of mineral paint indicates that some other mixture is also present, although the complexion of the layer is much like the midden. The two submidden units thought to be transitional are similar in paint distributions, and a third of the painted white ware from the structural unit is mineral-painted.

### *Midden in Upper Pit Structure 1 or Trash Pit Fill*

The midden deposits were characterized by intermixture of large quantities of ash, bone, and artifacts and lenses containing greater quantities of sand and silt (Table 13.33; Figs. 13.46e, 13.48). In addition, there are layers containing substantial quantities of cobbles. It is likely that the deposit took some time to accumulate and represents refuse from daily activity, rubble from remodeling events, and episodes of natural deposition or placement of mostly natural materials (from digging pits elsewhere on the site, perhaps) in the pit. Within the fill, the quantity of artifacts is highly variable. Near the edges, artifact frequency was less, probably because the sides of the depression left by Pit Structure 1 continued to slough, adding sandy fill with little cultural material. Lenses of coarser sand at various levels in the fill probably represent

Table 13.31. LA 37592, Pit Structure 1, layer and level designations, initial and revised.

Excavated As	Maximum Depth (cm)	Characteristics	Final Designation
158N/147E Layer 6 Level 1–4	120	Ashy soil with lumps of yellow and reddish "clay", as well as lenses of clay. Slopes up to south edge of unit.	158N/147E Layer 5 Levels 3–6
158N/147E Layer 7 Levels 1–2	135	Mottled orange and brown sand, lots of charcoal flecks, high artifact content, correlated to 161N/146E Layer 6 in the field.	158N/147E Layer 6 Levels 1–2; coded with midden component.
158N/147E Layer 7 Levels 3–6	166	Sandy, less mottling and flecking, some cobbles, fewer artifacts than Levels 1 and 2.	158N/147E Layer 6 Levels 3–6; coded with transition.
161N/147E Layer 6 Level 1	104	Charcoal lens, ashy, trashy, only one end of unit, high artifact content, late ceramic types.	161N/147E Layer 5 Level 2 midden component.
Northeast quad, midden Layer 6	105	Silty, ashy, lots of cobbles and artifacts; earlier ceramic types.	unchanged (transition component)
Northeast quadrant, Layer 7	139	Gray brown sandy with charcoal flecks, cobbles, dark and ash lenses.	unchanged (transition component)
Southeast quad, Layer 7	152	Small area on top of cobbles near mid line of structure.	unchanged (transition component)
160N/146E Layer 11	180, 182	No rock; brown and gray fine sand, some charcoal	Layer 22
160N/146E Layer 12 Level 1	187	Large number of cobbles in small area; matrix described as alluvial and heavily mottled with charcoal.	Layer 23
161N/146E Layer 13 Levels 1 and 2	194, 203	High cobble content in variable alluvial lenses, with charcoal and fine sand.	Layer 23
158N/147E Layer 13 Level 1	226 corrected	Described as tan silty unit resting on cobbles.	158N/147E Layer 29
158N/147E Layer 13 Level 2	231	Just above floor, contains cobbles and ash.	158N/147E Layer 34
158N/147E Layer 13 Level 3	250 (below Floor 1, correct to 235)	Area in base of trench exposing Floor 1.	158N/147E Layer 35
159N/147E Layer 14 Levels 1–4	175, 201, 207, 211	Definition of south wall largely natural, low artifact content. Layer 14 in southwest and northeast quads left.	159N/147E Layer 24 Levels 1–4
159N/147E Layer 15	190, 194, 198, 207	Primarily light clay with red mottling; burned surface; few artifacts. Layer 15 in southeast quad left.	Layer 25
159N/147E Layer 16 Levels 1–3	220, 228, 234	At or on Floor 1 level. Mostly clean mottled clayey material but some ash and charcoal; rests on and includes cobbles. Includes some ash and charcoal, few artifacts. Layer 16 in northwest, northeast, southwest quads left.	Layer 31
159N/147E Layer 16 Levels 4–5	246, 250	Mottled gray and brown clay; probably natural wall material collapse.	upper fill in Floor 1 Feature 9 major off-chamber cist: Feature Level 1

Table 13.32. LA 37592, Rooms 201–203 and Pit Structure 1 lower midden, pottery paint type by floor or layer context; counts and percents.

Paint Type	Rooms Floor 1		Midden Layers 6–7		Midden Layers 3–5		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
None	53	32.3%	129	32.0%	866	30.3%	<b>1048</b>	<b>30.6%</b>
Organic	91	55.5%	198	49.1%	1706	59.6%	<b>1995</b>	<b>58.2%</b>
Mineral	20	12.2%	76	18.9%	290	10.1%	<b>386</b>	<b>11.3%</b>
<b>Total</b>	<b>164</b>	<b>100.0%</b>	<b>403</b>	<b>100.0%</b>	<b>2862</b>	<b>100.0%</b>	<b>3429</b>	<b>100.0%</b>

alluvial filling events during large rainstorms. In the center of the deposit, the fill was relatively soft, and rodent burrows were abundant. The base of the trash deposit shows the concavity of the pit structure depression clearly, and all of the layers dip toward the center of the structure. The presence of an extensive charcoal lens suggests that the depression may have been burned at about the time trash deposition started. This charcoal lens and the distribution of artifacts has been used to define the bottom of the trash.

The top layer of the midden is complex and intriguing. As noted, there was no surface indication of the midden: few artifacts, no color change noted, and no depression. The top of Layer 1, then, was mostly natural deposits. Levels 1 and 2, arbitrary 10 cm units removed in various trenches in the preliminary definition phase at and just below the modern ground surface, were described as tan and silty, grading into deposits containing more ash and charcoal and increasing numbers of artifacts. An area with a number of large cobbles was also noted. Some historic artifacts associated with the fence and the highway were noted, as were rodent and ant disturbance. With the exception of the rodents, these intrusions were neither major nor deep. By 20 cm below the modern surface, dense concentrations of artifacts and other materials were being recovered. A lens of light, fine silt that was not continuous across the entire structure depression was encountered at the transition to the deposit, with higher artifact content. Some portions of this transition layer are described as soft and ashy, others as harder and having more clay and sand. The excavators defined five layers within the trash deposit (Layers 1, 3, 4, 5, and 6), indicating that changes in types of deposition occurred and that deposition was probably not continuous. Since the deposit probably represents accumulation of household disposals, the larger units,

which were defined, must actually comprise smaller deposits. The layer breaks visible to excavators thus probably represent periods without deposition. The presence of ash lenses, especially in basal Layers 6 and 7, indicates this sort of small, frequent dumping. These layers appear to represent the beginning of the use of the depression for trash, and the earliest trash layers. The early layers may thus show these small dumping episodes more distinctly than the overlying units. The change to larger quantities of ash and mostly broken artifacts indicates that this pit had become the main disposal location, perhaps with reoccupation of the site after a period of less use.

Layers 3, 4, and 5 contain much charcoal and dark soil. These layers presumably represent similar dumping patterns, although sherd ratios and percentages of materials show that each has its own character. Layer 5 contains more material and greater quantities of fauna and ground stone; Layers 3 and 4 are the most alike. Since they probably resulted from multiple small episodes, and because of the similarity of the source, it is not surprising that their definition varied across space. There is an area with numerous bones in it in the southern portion of the deposit (FS 227, 229, 326, 327) that seems in most respects similar, but which crosscuts one layer boundary (Layers 1 and 3). This suggests that layer boundaries may be rather irregular or may even represent something other than temporal breaks in deposition. Since these units were excavated on the profile “model” of stratigraphy—that is, extensive units bounded by continuous lines—collection units may crosscut deposition units to some unknown and undeterminable degree. Obviously, the excavators were doing their best to avoid such crosscutting, and its occurrence should be minor, but it is highly likely to have occurred. In profiling Layer 5, excavators noted that the layer was sandier toward the



Table 13.33. LA 37592, Pit Structure 1, stratigraphy.

Layer	Type of Deposit	Description
Surface	surface	Sparse grasses and shrubs; few surface artifacts. Fence passes across structure; other recent disturbance adjacent; some modern artifacts (four 3 x 3 grids).
1	trash	Brown-gray, ashy, fine sandy layer with large quantities of artifacts and bone, and majority of human bone. Some chunks of consolidated natural fill are present, as are a few cobbles and some burned sandstone. Tends to be sandier toward pit edges and in upper portions. Rodent disturbance relatively high. Upper boundary disturbed and merged with surface material; light, clayey lens at base. All quads and 2 trenches, includes arbitrary levels 2–4.
2	trash and natural deposits mixed	Sandy unit exterior to trash deposit in the upper part of the depression. High artifact content in some areas. Probably represents mixture of eroding pit sides with trash. Abuts some midden layers (3, 4). Contains less ash and material than Layer 1. Trashier in southeast quad; ceramic match noted with Layer 4 in southeast quad. Mainly southeast and northwest quads.
3	trash	Similar to Layer 1 with variability of ash and charcoal concentration. Mostly underlies Layer 1. Sherds are largest average size of any midden unit. Identified in all quads.
4	trash	Variable in ash and charcoal content, as well as in compaction. Increased cobble content. Light-colored clay lens forms base. Identified in all quads.
5	trash	Cobbles at edge of deposit. As excavated, more artifacts and cobbles in some quads than in others; southwest especially high in both. Mottled gray and dark brown sandy fill with abundant charcoal, ash, and artifacts (sherds are large). This layer contains more animal bone than any other. Sandier toward west edge, some parts described as powdery. Some fire-cracked rock and burned sandstone. All quads.
6	trash	Basal midden deposit; lighter in color, compact sandy layer containing charcoal and some "clay". Profilers note finer texture toward base of layer. Sherds are smaller but still abundant, and lithics are abundant. Coded as Early Pueblo III to distinguish from main midden. Mostly rests on Layer 9. Collected from northeast, southeast, and northwest quads.
7	cultural	Just below midden deposit, perhaps initial trash deposits. Identified in northeast and southeast quads. Many cobbles coded construction
8	natural	Within Layer 5; probably analogous to Layer 2 (pit erosion). Sandy lens representing deposition at the west edge of the pit probably deriving both from drifting sand and disintegration of the side of the pit. Northwest quad only.
9	cultural and natural mix	Cobbles, low artifacts, different depths (155 vs. 175 cm). Possible earth-wall slumpage, contains some artifacts. Only in southeast and northwest quads (161N/146E and 158N/147E).
10	natural	Adjacent to lower midden, few artifacts; analogous to lower Layer 2. Only identified in southeast quad (159N/147E).
11	construction material	Gray sandy material with abundant cobbles and relatively few artifacts. Southeast and northwest quads only.
12	construction	Many cobbles and much charcoal. Only in northwest quad (161N/145E).
13	natural	Unit of fine sandy lenses between midden and floor, Only in northwest quad (161N/145E).
14	natural	Natural deposit, some cobbles. Rests on burned surface in northeast and southwest quads.
15	natural	Rests on Layer 29 in the south center and on 24 and 25 in the southeast quad. Mottled clayey fill with few artifacts but some burned lenses noted in central area, which may be sooted wall surfaces.
16	cultural	Clumps of brown sandy material. Rests on burned surface. Not identified in the northwest quad.
17	trash and natural deposits mixed	East side of structure only, noted in field to be similar to Layer 2: compact orange-brown sand with few charcoal flecks but a significant number of artifacts. Layer 17 is deeper than Layer 2, but materials are included with Layer 2 in tables.

Table 13.33 (continued)

Layer	Type of Deposit	Description
18	natural	Single provenience at west edge of pit resting on ashy lens over a meter above floor (northwest quad); little cultural material, probably more wall erosion byproduct.
19	natural	Sloping ledge near southwest edge of the structure's wall. Ash and sand lens containing no ceramics. Southwest quad (161N/145E) only.
20	natural	Red clay containing much charcoal southwest, less southeast. Structure filling artifacts; identified in southeast and southwest quads.
21	cultural	Sandy fill with charcoal and high artifact content. Identified only at the east edge of the structure, possibly extends outside of structure but may be due to cist (Floor 1, Feature 9) collapse.
22	natural	Finely laminated eolian sand with charcoal flecks and some cobbles, few artifacts. Mud-cracked clay/silt lens at base. Between Layers 11 and 13, west side, also identified northeast.
23	construction material	This layer is about half cobbles and half matrix. It includes two large flat rocks, charcoal, and bits of unburned wood; also contains pieces of wall plaster with corrugated sherd chinking on the south side of the structure (Fig. [33].R7fr15). Present in all quads as one of the major cobble units around 0.5 m above Floor 1; over 400 cobbles counted.
24	natural, alluvial	Present only in the southeast portion of the structure. "Swirly" sandy laminations in silty matrix. Low artifact content, abuts several other southeast quad layers. Shape suggests it may be part of intact bench; if not, layer is likely to be slumped pieces of natural wall or bench. Primarily against south wall.
25	construction, wall fall	Increased artifact and charcoal content compared to Layer 24, which is adjacent, not superimposed. Burned surfaces indicate that this is probably fallen earthen wall. Rests under Layers 23 and 26; east and southeast only.
26	natural alluvial	Rests under Layer 23 in north and northwest, on 25 at east edge. Thin layer of many fine laminations of clay and sand filling low spot. Contains portion of an articulated turkey.
27	construction, wall fall, and melt	Underlies Layer 23; sloping unit resting against lower bench in southwest and northwest quads and not extending into the center of the structure. Abuts and is partly contemporaneous with Layer 26. Reaches thicknesses of 0.5 m. Patches of intact wall plaster with sherd chinking present, but "white clay" natural wall material and alluvial-looking wall melt also present.
28	construction mixed with alluvial lenses	Matrix is cracked, lumpy clay with some sooted faces on chunks as well as some charcoal in the clay and some alluvial lamination. Cobble area in southwest quad, fewer rocks in northwest. Identified in southwest and northwest quads only, but similar in composition and depth to Layer 27. Sole artifact is a corner-notched projectile point.
29	natural, probably eolian	Homogeneous, massive light tan silt containing no artifacts and little or no charcoal. This layer is around 15 cm thick, seals the floor, and was deposited shortly after structure abandonment. It is present in Floor 1 and Feature 9 and the vent tunnel, resting on fill in both. Recorded as containing rocks in some quads; this probably results from the layer resting on high cobble units rather than from actually containing rock. All quads.
30	cultural	Loose, coarse brown sand with charcoal flecks, rests within a concavity in Layer 33 and against Layer 32 on the north, beneath Layer 31; southeast quad only.
31	roof dirt	Thin layer of coarse brown sandy material; abutting Layer 29, but much coarser texture; also abuts Layers 24 and 32. Underlies Layer 25 and rests <i>on top</i> of Layer 30. In southeast quad only.
32	structural and natural collapse	Coarse mottled sand with numerous cobbles and few artifacts. Next to the bottom layer in heaped materials near east wall below Layer 29 and on top of Layer 34. Similar to Layer 34. Southeast and northeast quads.
33	Floor 1 fill, structural	Wall fall and gray clay. Southeast edge defined by cobbles in Layer 34. May be low-cobble-content portion of Layer 34. Defined only in southeast quadrant in small area near structure midpoint.
34	Floor 1 fill, structural	Coarse sandy soil with very high cobble content from early structural slumping; rests on Layers 33, 35, and Floor 1. Defined only in northeast and southeast.

Table 13.33 (continued)

Layer	Type of Deposit	Description
35	Floor 1 fill, roof material	Sandy, clayey fill containing many cobbles; dark ash and charcoal lens in contact with Floor 1. Most of the cobbles do not rest on the floor. Fairly thin layer, less than 10 cm thick. Defined in all quads.
36	construction	Cobble concentration coarse sandy matrix around the deflector; probably largely from vent shaft collapse. Southwest and southeast floor quads only. Differs from Layer 35 based on sandiness and ash content.
37	Floor 2 fill/ Floor 1 construction	Floor 1 plaster, variable thickness, patching and covering Floor 2. In some areas less than 1 cm thick, thickest around hearth. Few artifacts. Defined in all quads.
38	Floor 3 fill/ Floor 2 construction	Primarily Floor 2 plaster, with some sandy leveling material within features. All quads.

edges of the deposit and trashier toward its center. This observation fits with the idea that filling of the pit structure depression was a combined process of erosion of the pit walls and deposition of trash.

The base of the midden was not defined as a clear break from underlying deposits. Layer 6, the lowest trash layer, contained distinctively high quantities of sherds, though the excavators noted the sherds were small, and the mean weight of sherds in Layer 6 is less than for Layers 3–5. After the midden layers had been removed, the surface was quite irregular, accounting for some of the difficulty separating layers (Fig. 13.46a). Layer 6 was subdivided into multiple 10 cm levels, and the upper levels contained more artifacts than the lower ones. It is best viewed as transitional between midden and pit structure fill, a point emphasized by the sherd size and the higher incidence of mineral paint than in the main midden (Table 13.32). Layer 6 rested on Layer 7, which contained a large cobble deposit in the northeast quadrant and a mineral-painted white ware occurrence similar to Layer 6. At the base of Layer 7, a burned layer was present, as well as a drop in ceramic frequency. A flotation sample from Layer 6 in the northwest quarter (161N/144E) contained a remarkable quantity and variety of seeds, including burned amaranth, groundcherry, and corn and piñon parts (Table 13.34), further indicating that materials from this level are likely to represent early use of the depression as a trash disposal area. In attempting temporal placement of Layers 6 and 7, an interesting pattern was observed in the ceramic assemblage. Although the assemblage indicated an Early Pueblo III date (substantial quantities of McElmo Black-on-white, some Mancos, a

scattering of Mesa Verde Black-on-white), around 50 percent of the white wares in both Layers 6 and 7 have organic paint, while white wares in Layers 3–5 (the clearest trash layers) are all around 60 percent. Unpainted wares are 25–35 percent of the totals, and mineral-painted white ware pottery makes up around 20 percent of Layers 6 and 7 as opposed to around 10 percent of the Layers 3–5 decorated ware (Table 13.32). These distributions suggest that deposition took place over a period of perhaps 10 years (Dean Wilson, personal communication), and that Layers 6 and 7 are very similar in age. In spite of this apparent difference in age, no stratigraphic indication of a break in deposition between Layers 6–7 and Layer 5 was observed. The burning at the base of Layer 7 may have been the initial phase of using the Pit Structure 1 depression for trash.

### *Submidden*

Just below the Pit Structure 1 midden there are a number of layers that represent filling of the cavity after removal of the roof and after collapse of what masonry elements were present in the structure. Some of these layers are eolian and alluvial, some contain traces of the structure walls, and some contain larger pieces of undisturbed native soil that slumped into the structure as the earthen walls eroded. During the effort to identify the edges of the structure above where its walls were still intact, there were frequent references to “white clay.” This very light-colored, very fine-grained material contained no artifacts and no charcoal, and was readily distinguished from the redder and usually stained soils in the fill of the structure. This material was

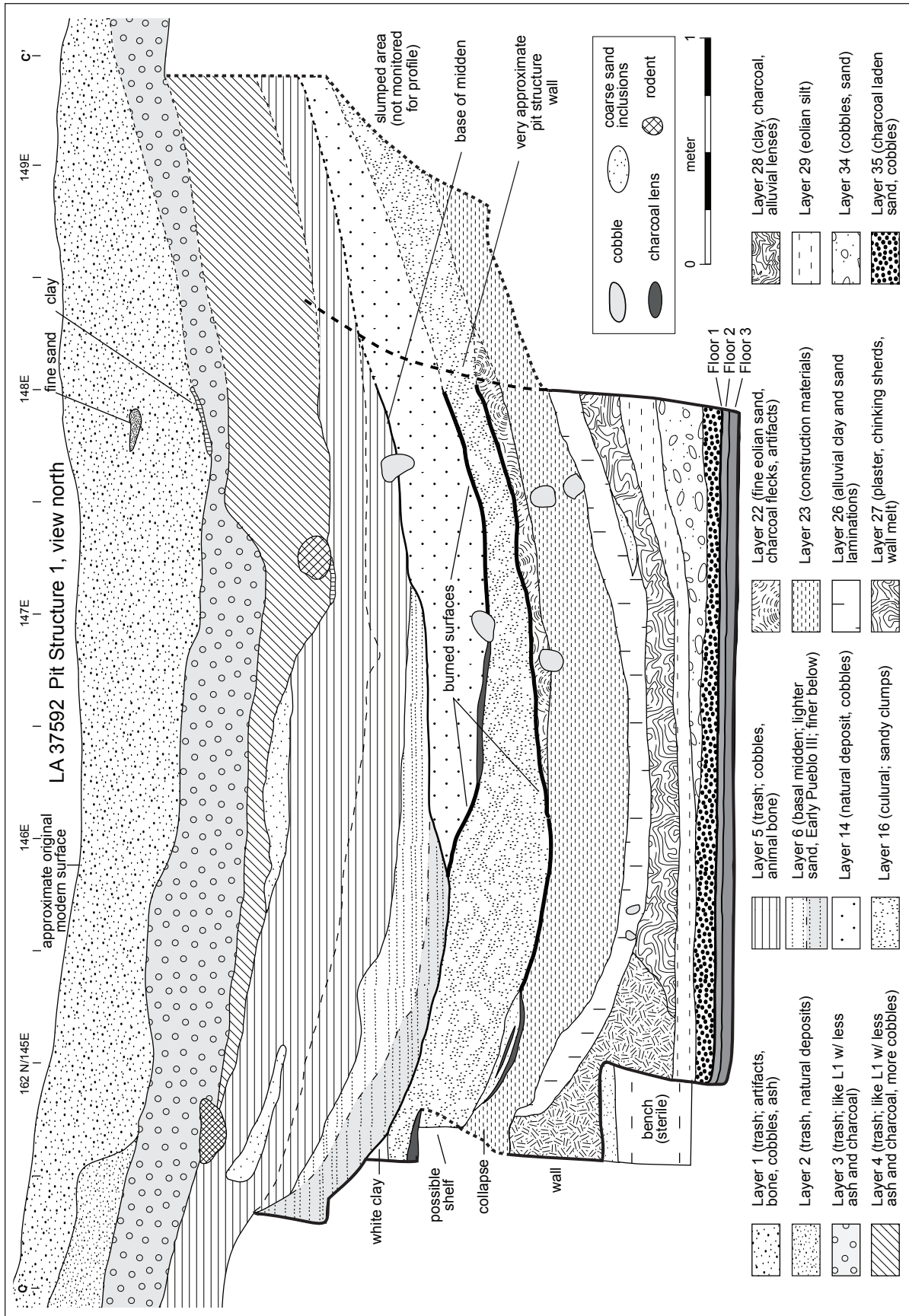


Figure 13.48. LA 37592, Pit Structure 1, C-C' (E-W, 162N line) profile; composite, rectified, with some layers approximated.



Table 13.34. LA 37592, Pit Structure 1, midden (upper fill) plant remains, flotation full-sort results by layer and taxon; frequency and abundance per liter.

Midden Deposit	Initial Deposit	Main Deposit				
		235 Layer 5	241 Layer 3	296 Layer 4	321 Layer 1 NW 1/4	322 Layer 3 NW1/4
FS	247 Layer 6					
<b>Cultural</b>						
Annuals:						
<i>Amaranthus</i>	18.5	–	–	–	–	–
<i>Chenopodium</i>	–	–	4.0	–	–	–
<i>Portulaca</i>	14.8	66.0	–	–	–	–
Cultivars:						
<i>Zea mays</i>	+ cupule, 1.5 kernel	+ cupule, 2.0 kernel	+ cupule	–	+ cupule	+ cupule
Grasses:						
<i>Oryzopsis</i>	–	2.0	1.0	–	0.9	–
Other:						
<i>Physalis</i>	7.4	–	–	–	–	–
<i>Sphaeralcea</i>	–	4.0	–	–	–	–
Unidentifiable	11.1	–	–	–	–	–
Perennials:						
<i>Echinocereus</i>	3.7	–	–	–	–	–
<i>Juniperus</i>	+ twig	–	–	–	–	+ twig
<i>Pinus</i>	+ bark	–	–	–	–	–
<i>Pinus edulis</i>	+ conescale, +nutshell	–	–	–	–	–
<i>Platyopuntia</i>	0.7	–	–	–	–	–
<b>Possibly Cultural</b>						
Annuals:						
<i>Nicotiana attenuata</i>	–	–	16.0	0.6	–	–
<b>Noncultural</b>						
Annuals:						
<i>Amaranthus</i>	–	20.0	–	–	–	–
<i>Chenopodium</i>	7.4	68.0	104.0	1.9	2.6	20.0
<i>Descurainia</i>	7.4	–	–	–	–	–
<i>Euphorbia</i>	11.1	16.0	12.0	0.6	0.4	1.5
<i>Lappula</i>	–	–	–	0.6	–	–
<i>Mentzelia albicaulis</i>	–	12.0	12.0	–	–	1.5
<i>Monolepis</i>	7.4	–	40.0	–	–	–
<i>Portulaca</i>	11.1	–	34.0	–	0.4	–
Perennials:						
<i>Echinocereus</i>	–	–	–	–	–	0.8
<i>Platyopuntia</i>	0.4	–	–	–	–	–
Grasses:						
Gramineae	–	2.0	–	–	–	–
<i>Oryzopsis</i>	–	2.0	–	–	2.1	–
Other:						
Boraginaceae	–	24.0	–	–	–	–
Compositae	1.5	–	–	–	–	–
<i>Physalis</i>	–	4.0	–	–	–	–
<i>Sphaeralcea</i>	–	4.0	–	–	–	0.8

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = 1–10/liter

much more abundant near the edges of the structure excavation, and we interpreted it as undisturbed native silts and clays, either in situ or slumped. An example of this type of deposit is Layer 27.

No trace of organic roofing material was present in Pit Structure 1, and the presence of a homogeneous silt stratum across the whole structure near the floor (Layer 29) suggests that the roof was removed at the time of abandonment. Although several stratigraphic units contain cobbles in the fill and near the floor (such as Layer 35, immediately under Layer 29 (Fig. 13.50), we also did not identify any units that we thought represented inorganic roofing material, such as “roof dirt” (Table 13.33). Based on subsequently excavated structures similar to Pit Structure 1 and the excellent condition of the uppermost floor, it is very likely that filling began immediately with removal of the roof, and that some of that fill was roof dirt. A number of layers just above Floor 1 contained substantial amounts of rock; this construction material probably represents roof collapse or removal. Thus, in characterizing layers for analysis, Layers 30, 31, 32, 34, 33, and 36

were coded as roof material, although it is likely that these layers also contained construction materials not strictly demonstrable as being from the roof. It should be noted that roofing material in pit structures at LA 37593 and LA 37595, for example, did *not* contain large quantities of cobbles, so this characterization could be in error. Nonetheless, this layer of construction material near the floor does provide a logical basis for dividing the fill.

These layers are below the silt unit (Layer 29), which is clearly a natural deposit, almost certainly deposited after the roof was gone (Fig. 13.50). In most of the structure this massive eolian layer was removed separately from the underlying, cobble-laden floor fill layer (Layer 34), but in the northeast part of the structure the layer contained cobbles, indicating that the walls were probably disintegrating while the silt was being deposited. The fine material in this layer could have derived from the denuded surface surrounding the pueblo, blown into the structure by strong winds. Layer 29 thus makes a good marker between the “upper fill” and the roof fall. Layer 29 samples contain no cultural

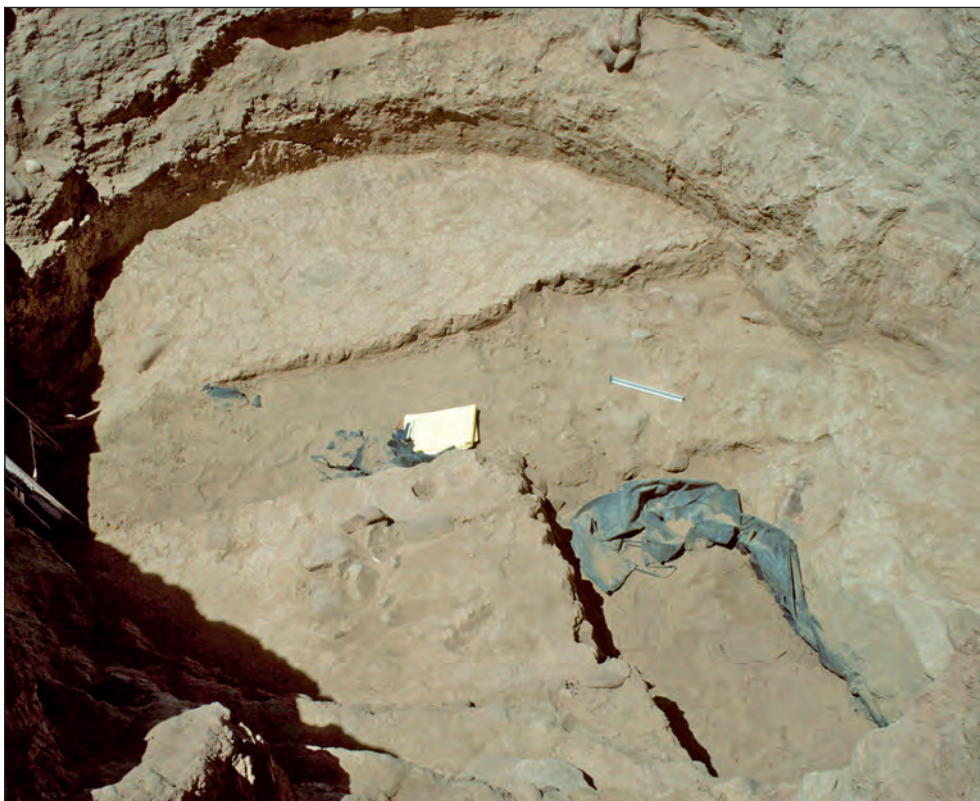


Figure 13.50. LA 37592, Pit Structure 1, Layer 29, top, view southeast.

botanical material (Table 13.35), further suggesting a period of little activity at the site during early filling of Pit Structure 1. Layer 35, the primary fill layer to Floor 1, probably contains or is completely made up of roof material, although it contains a lot of rock (Fig. 13.51). Oak pollen is relatively rare in the site's pollen results, but two of the floor quads contained that genus, suggesting that oak may have been incorporated in the structure's roof; no macrobotanical oak remains were recovered at the site. Usually high frequencies of pine pollen were also present, but there are few other clues as to the makeup and construction of the roof (Table 13.36).

The Layer 29 silt is homogeneous, very clean, and lacks any observable internal structure—excavating it was like carving chalk. It was widely and quite evenly distributed, suggesting that the roof was substantially breached or gone (Fig. 13.51). It was present in the ventilator tunnel, but it rested on varying amounts of fill: in the northeast and east parts of the structure, it was very near the floor and intermingled with cobbles, but toward the south it rested on increasing depths of fill, much of which was rock. In the large subfloor cist at the southeast of the structure (Floor 1 Feature 9), this layer rests on up to 80 cm of fill—trash near the feature floor, and materials from collapse and other filling above the trash. Layer 29 contained more than the average number of pollen genera (14; average is 11.8). With the possible exception of the highest cactus pollen concentration at the site, the pollen spectrum is composed of species that would have been in the vicinity (pine, willow, greasewood, ephedra, chenopods, and composites) and contained no cultigen pollen.

The removal of the roof led to the disintegration of the largely earthen walls of the structure. The fill of the pit below the midden is thus characterized by units that resulted from sloughing of the walls, sometimes in fairly large chunks. This material is interspersed with layers resulting from masonry collapses and from washing adjacent deposits containing cultural material. Different parts of the structure walls disintegrated in different ways. On the north and west sides, the walls of the pit were close to vertical with little outward flare at the top. On the south, around the vent shaft, the slope of the pit wall was more gradual. On the southeast was the greatest erosion and flare. This resulted, I think, from the collapse of the large off-chamber cist (see

below) and from the nature of the extramural matrix in this area. There was a disturbed area—possibly a filled channel—outside the structure that probably made the east wall less stable than the other walls. Perhaps contributing even further to instability in the area was a large extramural cist (Extramural Area 3 Feature 9, containing Burial 7) about 1 m east of the pit structure. This feature may have been filled at the time of Pit Structure 1 construction, but its presence would have weakened the integrity of the soil. Since the water line removed the upper part of the extramural cist, this scenario is speculative, but certainly enough soil disturbance had occurred to cause structural weaknesses, especially in features that relied so heavily on unreinforced soil walls.

Deposits along the east to southeast arc of the structure were much more complicated than those around the rest of the pit. A number of layers were recorded only in this area, including Layers 15, 21, and 33–34 (Fig. 13.48). I attribute this to the effects of the collapse of the large off-chamber cist and subsequent erosion down the side of the pit caused by the undercutting of the collapse. The strata into which the east side of the structure was cut include charcoal flecks in most layers, including strata that clearly predate the structure. Some of this charcoal indicates Anasazi disturbance of the soil, which was obvious in cases such as Layer 21 but much less clear where the charcoal was rare and other materials were absent. Although charcoal is an extremely useful indicator of cultural disturbance, it can also occur as natural background scatter.

In addition, evidence of use during this natural filling is present: Burial 4 was placed in the fill; a cache of seven sharp, large-mammal bone tools was deposited (Layer 6, Level 6, very low in the transitional layer between midden and natural filling); and a few burn events took place. The tools—four fine-point awls and three “pins”—were placed in a shallow depression in the ashy layer with the shafts parallel and the points in the same direction (Fig. 13.52).

The submidden deposits were clearly not trash, and only in rare instances could they be considered *de facto* refuse. Some were largely natural materials deposited through natural forces of erosion, but they are in the deposit because of the human action of digging the pit. Except in those cases where large quantities of rock indicate collapse of a masonry el-

Table 13.35. LA 37592, Pit Structure 1, Floor 1, plant remains, flotation scan results by floor or feature context and taxon; abundance per liter.

Feature	Eolian Layer 29, Deposited After Roof Removal	Floor 1				1 Hearth			7 Sipapu	8 Niche at Floor Level
FS	413 NW 1/4	414 SE 1/4	415 NE 1/4	416 NW 1/4	438 SW 1/4	446 Layer 1	448 Layer 2	450 Layer 4 (Base)	460	462
<b>Cultural</b>										
Cultivars:										
<i>Zea mays</i>	-	-	-	-	-	+ kernel	+ cupule	+ cupule	-	-
<b>Noncultural</b>										
Annuals:										
<i>Amaranthus</i>	-	++	+++	++	++	+	-	-	++	++
<i>Chenopodium</i>	+	+	+	+	+	+	+	+	-	++
<i>Euphorbia</i>	+	+	-	-	+	+	-	-	+	-
<i>Portulaca</i>	+	-	-	-	-	-	-	-	-	-
Grasses:										
<i>Oryzopsis</i>	-	-	-	-	-	+	-	-	-	-
Other:										
<i>Mentzelia</i>	+	-	-	-	-	-	-	-	-	-
Paperveraceae	-	-	-	-	-	-	-	-	-	+++
<i>Physalis</i>	+	+	+	+	+	-	-	-	-	+
Sphaeralcea	+	+	+	+	+	-	-	-	+	+

+ = 1–10/liter; ++ = 11– 25/liter; +++ = 25–100/liter



Figure 13.51. LA 37592, Pit Structure 1, Layer 29, bottom, view southeast; shows Layer 35 rock.



Table 13.36. LA 37592, Pit Structure 1, pollen, counts by type and provenience.

Provenience	Families	Arboreal	N	Cheno-Am	N	Composite	N	Grasses	N	Domesticate	N	Shrubs	N	Other	N
<b>Midden Layer 3, NW 241</b>	10	<i>Pinus</i> hap	1	pollen	108	high spine	11	unknown	7	<i>Zea</i>	4	–	–	Cactaceae	1
Pollen sum	213	<i>Pinus</i> u	18	anther	4	low spine	16							<i>Ephedra</i>	3
Marker	61	<i>Juniperus</i>	1												
<b>Midden Layer 3, NW 322</b>	12	<i>Pinus</i> u	27	pollen	161	high spine	7	unknown	7	<i>Zea</i>	10	<i>Sarcobatus</i>	2	<i>Polygonum</i>	1
Pollen sum	204	<i>Juniperus</i>	4	anther	7	low spine	5					<i>Artemisia</i>	2	Cactaceae	1
Marker	30													<i>Ephedra</i>	7
<b>Midden Layer 4 NW 296</b>	12	<i>Pinus</i> u	17	pollen	171	high spine	2	unknown	7	<i>Zea</i>	4	<i>Sarcobatus</i>	1	<i>Platypuntia</i>	1
Pollen sum	238			anther	8	low spine	3					<i>Artemisia</i>	2	Cactaceae	1
Marker	60														
<b>Midden Layer 5 SE 235</b>	10	<i>Pinus</i> u	26	pollen	147	high spine	6	unknown	11	<i>Zea</i>	4	<i>Artemisia</i>	2	<i>Ephedra</i>	1
Pollen sum	217	<i>Juniperus</i>	1	anther	3	low spine	3							Unknown	1
Marker	55														
<b>Floor Fill Layer 29 NW 413</b>	10	<i>Pinus</i> u	28	pollen	130	high spine	6	unknown	6	–	–	<i>Salix</i>	1	Cactaceae	3
Pollen sum	204			anther	1							<i>Sarcobatus</i>	4	<i>Ephedra</i>	4
Marker	43											<i>Artemisia</i>	1	Onagraceae	1
<b>Floor 1 L35 SE 414</b>	12	<i>Pinus</i> u	32	pollen	136	high spine	5	unknown	6	<i>Zea</i>	3	<i>Salix</i>	1	Cyperaceae	1
Pollen sum	220	<i>Quercus</i>	1	anther	1	low spine	3					<i>Artemisia</i>	4	<i>Ephedra</i>	3
Marker	43											<i>Sarcobatus</i>	3	Unknown	3
<b>Floor 1 L35 NE 415</b>	11	<i>Pinus</i> u	12	pollen	121	high spine	9	unknown	5	<i>Zea</i>	1	<i>Artemisia</i>	4	<i>Eriogonum</i>	4
Pollen sum	206	<i>Juniperus</i>	3			low spine	6			<i>Fabaceae</i>	1			<i>Ephedra</i>	1
Marker	95														
<b>Floor 1 L35 NW 416</b>	12	<i>Pinus</i> u	32	pollen	126	high spine	6	unknown	11	–	–	<i>Artemisia</i>	3	<i>Solanum</i>	1
Pollen sum	226	<i>Juniperus</i>	3	anther	1	low spine	10							Rosaceae	2
Marker	71	<i>Quercus</i>	1											<i>Eriogonum</i>	1
<b>Floor 1 L35 SW 438</b>	14	<i>Pinus</i> hap	1	pollen	116	high spine	9	unknown	10	<i>Zea</i>	2	<i>Artemisia</i>	12	<i>Solanum</i>	3
Pollen sum	230	<i>Pinus</i> u	23	anther	2	low spine	6			<i>Fabaceae</i>	1			<i>Eriogonum</i>	2
Marker	50													<i>Brassica</i>	1
<b>Floor 1 Sipapu F7 460</b>	13	<i>Pinus</i> u	13	pollen	129	high spine	6	unknown	8	–	–	<i>Sarcobatus</i>	2	Cyperaceae	1
Pollen Sum	219	<i>Juniperus</i>	5	anther	1	low spine	3					<i>Artemisia</i>	2	Liguliflorae	2
Marker	55													Cyperaceae	1
														<i>Typha</i>	1
														<i>Ephedra</i>	1
														Unknown	1

Table 13.36 (continued)

Provenience	Families	Arboreal	Cheno-Am	N	Composite	N	Grasses	N	Domesticated	N	Shrubs	N	Other	N
<b>Floor 1 Niche F8 462</b>	17	<i>Pinus</i> u	6 pollen	58	high spine	1	unknown	1	<i>Cucurbita</i>	1	<i>Sarcobatus</i>	3	<i>Solanum</i>	2
Pollen sum	104	<i>Juniperus</i>	1 anther	4	low spine	3			<i>Zea</i>	2			<i>Platypuntia</i>	1
Marker	53	<i>Picea</i>	1										<i>Ephedra</i>	2
		<i>Juglans</i>	1										Unknown	2
		<i>Populus</i>	1											
<b>Floor 1 off chamber F9 1027</b>	14	<i>Pinus</i> u	15 pollen	92	high spine	10	unknown	10	<i>Zea</i>	7	<i>Salix</i>	2	<i>Solanum</i>	5
Pollen sum	201	<i>Populus</i>	2		low spine	9					<i>Artemisia</i>	11	Rosaceae	2
Marker	97												<i>Eriogonum</i>	4
													<i>Brassica</i>	2
													<i>Typha</i>	1
													Unknown	5
<b>Floor 3 L 38 SW 474</b>	9	<i>Pinus</i> dip	1 pollen	10	high spine	2	unknown	1	–	–	<i>Artemisia</i>	1	<i>Eriogonum</i>	1
Pollen sum	23	<i>Pinus</i> u	2		low spine	1							Unknown	1
Marker	53													
<b>Floor 3 L 38 SW 485</b>	7	<i>Pinus</i> u	14 pollen	164	high spine	1	unknown	12	–	–	<i>Artemisia</i>	3	<i>Ephedra</i>	2
Pollen sum	210		anther	1	low spine	1								
Marker	31													
<b>Floor 3 L 38 SE 489</b>	9	<i>Pinus</i> u	32 pollen	138	high spine	2	unknown	10	<i>Zea</i>	1	<i>Artemisia</i>	3	<i>Eriogonum</i>	1
Pollen sum	203		anther	3									Cactaceae	1
Marker	110												<i>Ephedra</i>	3

hap = haploid; dip = diploid; u = undifferentiated

ement, these deposits have been characterized as human deposits in the computer file. Strata in which very few artifacts were present have been termed natural with cultural material.

The fill contains a relatively high frequency of bone tools in excellent states of preservation. Notable examples are five deer scapulae showing wear on the vertebral border and notching of the scapular spine. In all, eight of these tools were found (Figs. 13.54a, 13.54b). Additional examples were from the midden and upper fill of the structure, and one example was from the large off-chamber cist associated with Floor 1. The wear on them suggests that they were used as scoops; they are probably not durable enough to have been hoes, especially in the hard local soils. Their use as rasps as in modern Pueblo practice (Lange 1959:492–493) should also be considered. Modern scapula rasps and rattles are often painted, but these examples retain no traces of paint. They were in Layers 23 (three scapulae) and Layers 25 and 26 (one in each layer) of the northeast quad, 1.6 to 1.9 m below site datum (which is slightly below the ground surface of the pit structure). Layers 23 and 25 represent structural collapse, and Layer 26 is described as alluvial. Layers 25 and 26 contain only moderate quantities of other artifacts. Morris (1939: Plate 111f) recovered a scapula tool from Morris 41, which he called a scraper. The scapulae from the northeast quadrant were in an area less

than 1.5 m across and within a vertical distance of 30 cm. Layers 25 and 26 were thin, and the three layers were contiguous (there is no Layer 24 in this area, and Layer 23 rested on both Layer 26 and Layer 25, with Layer 25 occurring only on the east side of the structure). Two of the scapulae in Layer 23 were lying in a low spot only 12 cm apart, and the third in this layer was 30 cm away. The spatial concentration of this tool type in this structure is intriguing in that the stratigraphic context suggests that whatever activity it represents lasted for some time, presumably at least for several episodes of use, unless the layers represent different episodes of roof collapse. Even if the five examples from the fill came from a single use-context on the roof, this tool type does occur in some other contexts in this structure (midden and large off-chamber cist), but it was not found in any of the rest of the project excavations. This tool type was clearly in use on more than one occasion, but the span of that use could have been short enough for all to have belonged to one individual. The occurrence of this group of large, unusual tools in this location suggests that the layers in which they occurred were deposited close together in time, and they may represent a particular interlude at this site, perhaps immediately at the end of the structure's use or one between permanent occupations. Detailed study of the wear on these items could provide a better idea of their function.

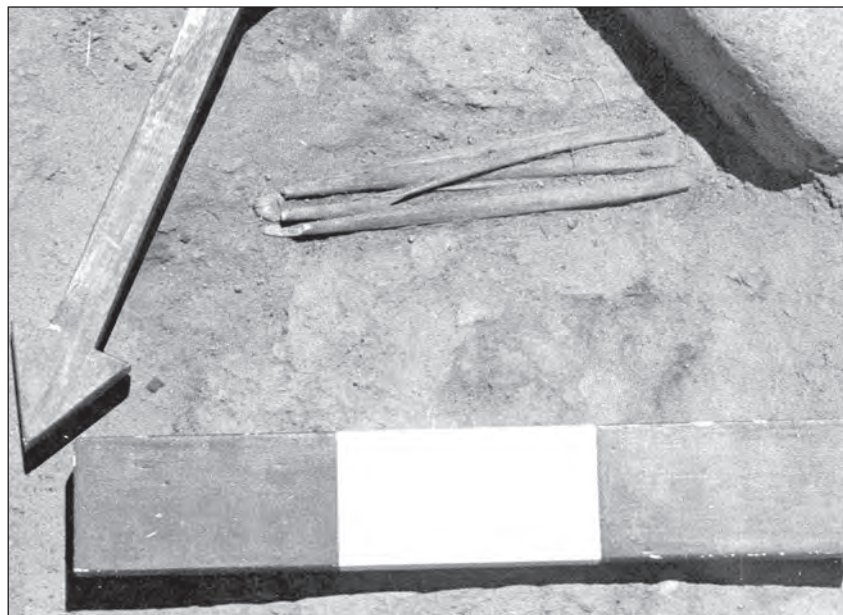


Figure 13.52. LA 37592, Pit Structure 1, Layer 6, awls in situ, view southeast.

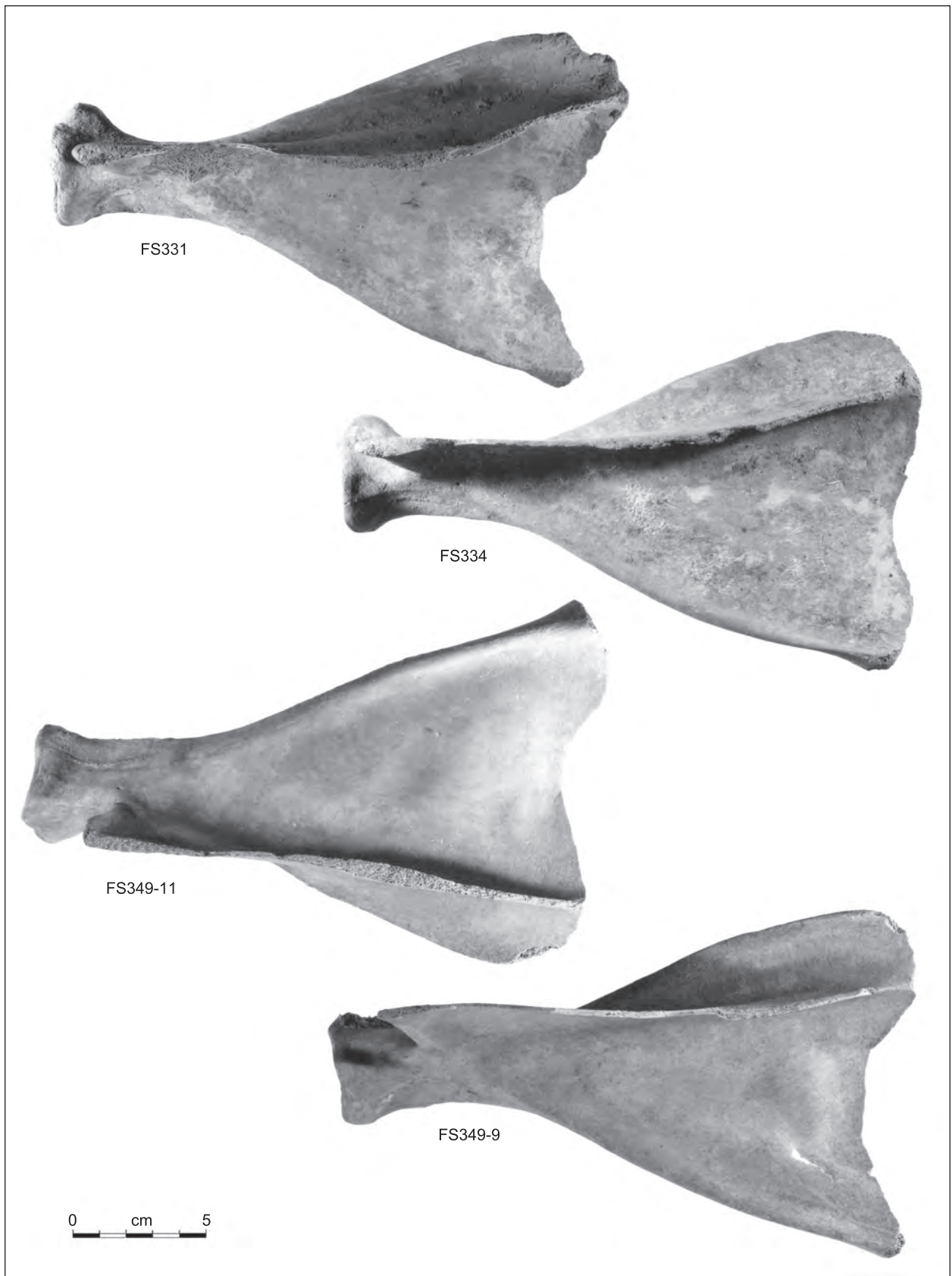


Figure 13.54a. LA 37592, Pit Structure 1, deer scapulae (scoops) from Layers 23, 25, and 26.



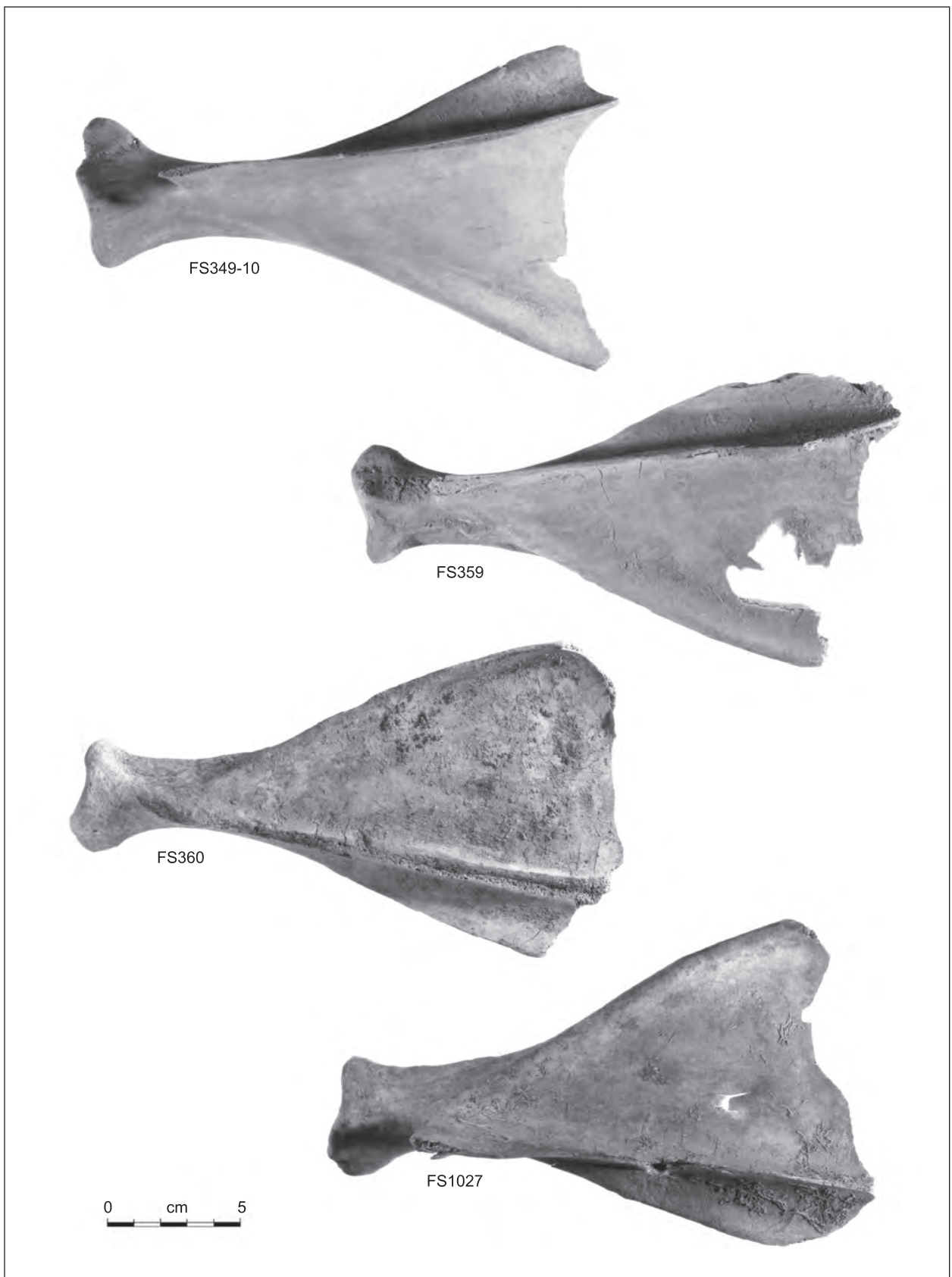


Figure 13.54b. LA 37592, Pit Structure 1, deer scapulae (scoops) from Layers 23, 25, and 26.

Other bone tools from the structure include another deer scapula, this one unmodified, found in contact with Floor 1 (Layer 36), and the cache of bone awls noted above in Layer 6. The condition of these bones indicates that filling must have been relatively rapid during the deposition of these layers. In addition to the scapula tools, Layer 26 contained a substantial portion (87 elements) of an articulated turkey skeleton, which may have been deposited as part of structure deconsecration. In addition to this bird, another nearly complete turkey was lying on Floor 1 just west of the hearth, presumably also deposited for in a deconsecration ritual. If these placements took place as part of the same ceremony, the deposition of Layers 26, 35, and 36 must have been nearly simultaneous, presumably at the time of dismantling the roof. Another unusual item from Layer 26 is a spatulate or scraper made from the humerus of a gray wolf (Fig. 13.55). Wolf elements are extremely rare in the project faunal assemblage, and this is a complete tool.

Burial 4 was exposed by the backhoe during removal of deposits between the base of the midden and the fill above the floor. Only the upper portion of the burial was excavated by hand. It had clearly been placed near the edge of the excavation for the structure, presumably after the structure had partially filled. During backhoeing a largely intact white ware pitcher was recovered from very near Burial 4. It seems very likely that this vessel was as-

sociated with the burial, but we did not observe the association in situ. This vessel is unusual for several reasons. Typologically it seems to fit between Cortez Black-on-white and Mancos Black-on-white—or, as Hayes (Hayes and Lancaster 1975:130) would have it, “Cortancos,” which makes it early for this deposit (it is Mancos in the analysis). The rim is heavily worn, and there is what appears to be an old hole in the side, so it may have been a holdover or an heirloom. The decoration is also intriguing. The panel around the neck of the pitcher is fairly neatly painted with a continuous, rectilinear, squiggle hatched design. This design is left unfinished at the handle, and there are at least two places where the band design was changed. Appended to the bottom of the hatchure panel is a series of solid-painted curvilinear and rectilinear interlocking scrolls. These were almost certainly painted by a different painter: the brush work is much less regular, and there is very little symmetry. It looks like a child’s work added to an adult’s (Fig. 13.57).

#### *Floor Fill*

The dismantling and early collapse of Pit Structure 1 accounts for most of the material resting on and immediately above its latest floor. Layers 33, 34, 35, and 36 contained quantities of cobbles, especially around the south side of the structure. In sheer numbers of cobbles, the northwest quad contained



Figure 13.55. LA 37592, Pit Structure 1, gray wolf humerus spatulate (or scraper) from Layer 21.

the fewest (around 26); the quantity increased from the northeast to the southeast to the southwest, where there were over 260. This indicates that to the northwest the structure was primarily native earth, but that the east side used more masonry, as did the vent shaft area.

#### ARTIFACTS AND ECOFACTS IN PIT STRUCTURE 1

With the exception of the disarticulated human bone (described in detail below), the fill of Pit Structure 1 was divided as follows for purposes of presenting material occurrence:

- Disturbed and surface materials were placed in one group including all initial levels from exploratory units (all Level 1) and surface materials. Some materials called Layer 1 in the field are also included in this group.
- Each midden layer is presented separately. These units therefore retain a greater level of detail than the rest of the units, but these units also contain the greatest quantity of material. Moreover, there

was clearly some change in the nature of the deposits between Layers 3–5 and Layer 1, and at the very minimum, Layer 1 must be kept separate.

- There are several units that represent the natural collapse of the pit combined with the midden materials, such as Layers 2 and 8. This group is referred to as “circum midden.”
- Below-the-midden deposits were placed in three basic categories: construction, cultural, and mostly natural. These categories were preserved in the material breakdowns.
- There are several possible ways to divide or group the units below the silty layer capping the deposits near the floor (Layer 29). Separating the individual floors and floor fill layers results in very small samples in even the most numerous categories. Instead of the maximum division, then, the maximum grouping has been used. This means that this group contains by far the most proveniences, since all three floors, each with a number of features, plus layers excavated in structure quadrants, are within the group. Temporally, if not behaviorally, this group makes sense.

#### Cultural Material in the Midden

**Ceramics.** Pottery is the most abundant artifact class in every Pit Structure 1 midden layer, occurring in a ratio of about 2:1 to the second most abundant class, chipped stone (Tables 13.37, 13.38). On the whole, the ceramic types in the midden reflect its late date relative to the rest of the site. The midden contained 56 percent of the pottery from the site but 75–80 percent of the site’s late painted types; 85 percent of the painted pottery in the midden has organic paint. Earlier types – mostly Pueblo II, and a few sherds (less than 3 percent of the total structure count) of even earlier types – occur in the midden in substantial quantities. These early types were certainly not produced during the deposition span of the midden and probably result from older vessels being used up and discarded, from redeposition of materials from earlier components during construction, and from natural redeposition of earlier sherds. The units from below the midden are consistently higher in mineral-painted sherds than the midden layers themselves, again indicating some elapsed time between structure use and midden deposition.

Midden-layer average sherd weights range

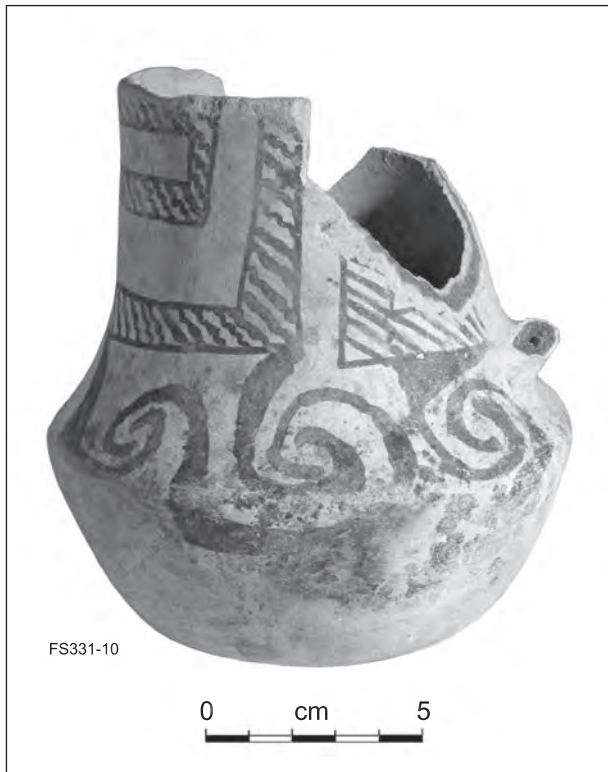


Figure 13.57. LA 37592, Pit Structure 1, near Burial 4, Cortez Black-on-white pitcher; note asymmetrical design, unfinished portions, and design corrections.

Table 13.37. LA 37592, Pit Structure 1, cultural material type by stratigraphic unit; count totals and column percentages.

Unit	Sherds	Chipped Stone	Ground Stone	Fauna	Human Remains
Layer 1	21.7	23.3	14.0	9.2	78.5
Layer 3	15.5	14.0	10.0	12.6	11.7
Layer 4	14.4	17.2	11.3	15.5	3.7
Layer 5	19.5	20.6	23.3	25.8	1.2
Natural fill	9.6	5.8	15.3	6.7	0.2
Construction fill	5.8	2.9	8.7	2.9	2.7
Floors	2.6	1.9	11.2	11.7	0.2
<b>Total</b>	<b>20795</b>	<b>9638</b>	<b>150</b>	<b>4854</b>	<b>410</b>

from 6.7 to 7.2 g, while the overall average is 6.4 g. The larger size in the midden probably results from deposition sooner after vessel breakage than in sherds that are in other deposits and less exposure to subsequent breakage in loci of greater activity. The average weight of sherds from Layer 1 is 5.4 g, again indicating that while it contains trash, it is qualitatively different from the underlying, earlier-deposited midden layers.

Not many gray ware rim sherds were recorded: only 159 of 15,577 plain and corrugated gray ware sherds from the entire structure were placed into gray ware types based on rim form. Typological placement of corrugated gray wares relies on being able to observe the rim fillet in relation to the vessel body. There is a regular trend toward greater rim fillet flare from Pueblo II to Pueblo III (see, e.g., Toll et al. 1997:245–256), and survival of this portion of the vessel is rare compared to the numbers of corrugated body sherds. The most common type is Pueblo II–III, followed by Pueblo III. These types do not follow the stratigraphic expectation as well as the white ware types, since the Pueblo III sherds are similar in relative abundance below the midden as well as within it. Pueblo II–III Corrugated predominates in the midden but also occurs in high frequency in the natural deposits below the midden (Table 13.39). These units are also high in other earlier types, suggesting that materials from collapse and filling of the structure may be earlier than the deposits associated with the floor.

Vessel form frequencies in the midden show that Layer 1 is below the number expected in bowls and ladles, compensated for by gray jars; Layer 5 is the reverse (Tables 13.40, 13.41). Jar and bowl sizes (as indicated by radii) are similar from layer to layer,

although the range of size is greater for both vessel types in Layer 1 (Figs. 13.58, 13.59).

White Mountain Redware is by far the most abundant red pottery in the structure assemblage, with Tsegi Orange second, and San Juan Red the least frequent, with only 10 sherds. Most of the White Mountain Redware sherds were found in midden Layers 4 and 5; red wares are underrepresented in Layer 1. The distribution of Mogollon Brown sherds is similar to the red wares, although the total number of Mogollon Brown sherds is only 26.

**Chipped Stone.** Out of 10,464 pieces of chipped stone in Pit Structure 1, 77 percent (8,089) were recovered from the midden layers (Table 13.42). This is 57 percent of the chipped stone from the entire site. Debitage constitutes 87.3 percent ( $n = 7,065$ ) of the midden lithics, while projectile points (74 percent, or 23 of 31 in the structure) and hammerstones (52 percent, or 60 in the midden of 116 in the structure) are less proportionally represented (Table 13.42). Other small, presumably disposable tools such as utilizeddebitage, drills, and notches are present in quantities nearly proportional to overall counts (80 percent or more of each class) for the structure. Chert and siltstone account for over three-fourths of any stratigraphic unit in the pit structure. Chert is somewhat more abundant than usual in the midden layers and in floor contexts (below Layer 29), and siltstone less. Quartzitic sandstone and sandstone are more common in construction layers, where tools of these materials have been recycled into building material and or were used in the process of construction. The similarity of the forms and materials between floor-related materials and the midden layers suggests that the midden represents



Table 13.38. LA 37592, Pit Structure 1, pottery and paint type by stratigraphic unit; count totals and column percentages.

	Surface	Layer 1	Layer 3	Layer 4	Layer 5	Other Midden	Circum-midden	Natural	Cultural	Construction	Vent	Cist	Layer 29	Total
<b>Ceramic Type</b>														
Mud ware	–	0.0	0.2	0.3	0.1	0.2	0.7	0.1	0.2	0.1	–	–	0.2	0.2
Pueblo II–III corrugated	0.4	0.5	0.4	0.4	0.5	0.4	0.8	1.3	2.0	0.3	–	–	0.9	0.5
Pueblo III corrugated	0.1	0.0	0.3	0.1	0.2	0.2	0.3	0.2	0.4	0.2	–	–	0.7	0.2
Plain gray	16.6	15.6	13.8	156.0	19.1	15.0	18.9	15.8	13.4	17.3	14.6	5.1	26.7	16.4
Corrugated	48.3	57.9	54.3	53.0	44.7	58.7	49.9	12.5	56.9	6.3	63.5	2.6	6.7	52.6
Basketmaker III–Pueblo I white	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Pueblo II, Sosi style	3.1	1.6	1.8	2.2	1.4	2.1	2.8	4.0	4.9	2.2	0.6	1.8	2.0	2.2
Pueblo II, Dogoszhi style	0.7	0.3	0.5	0.6	0.5	0.7	0.5	1.5	0.9	0.5	0.4	–	2.5	0.6
Early PIII black-on-white	1.0	0.8	1.2	1.3	1.7	2.1	1.5	0.5	0.9	1.2	0.9	–	1.1	1.2
Late PIII black-on-white	0.3	0.5	0.3	0.4	0.8	0.3	0.1	0.3	0.4	0.2	–	–	–	0.4
Pueblo II–III black-on-white	15.5	13.2	14.2	11.4	14.0	6.9	9.8	12.7	11.5	11.1	2.5	28.4	11.0	12.6
Polished white	12.5	9.3	12.3	13.4	15.3	13.0	14.4	12.6	10.0	8.1	1.0	9.2	14.3	12.3
San Juan Red	0.0	0.0	0.1	–	0.1	0.1	–	0.1	0.4	–	–	–	–	0.1
White Mountain Red	0.9	0.1	0.5	0.9	1.1	0.1	–	0.4	–	0.5	0.4	–	–	0.5
Tsegi	0.3	0.0	0.0	0.3	0.2	0.1	–	0.1	–	0.1	0.4	–	–	0.1
Mogollon brown	0.1	–	–	0.3	0.3	–	0.3	0.1	–	0.3	–	–	–	0.1
<b>Total</b>	<b>923</b>	<b>4502</b>	<b>3210</b>	<b>2989</b>	<b>4070</b>	<b>1391</b>	<b>745</b>	<b>1971</b>	<b>529</b>	<b>1221</b>	<b>233</b>	<b>109</b>	<b>446</b>	<b>22,339</b>
<b>Pigment Type</b>														
None	26.6	29.0	30.6	27.2	31.1	35.0	27.6	27.0	27.9	31.1	46.0	23.3	41.3	29.8
Organic	58.1	62.7	59.9	62.9	60.3	51.9	56.7	53.7	48.7	50.5	28.0	65.1	37.7	58.3
Mineral	15.3	8.3	9.5	9.9	8.6	13.2	15.7	19.3	23.4	18.3	26.0	11.6	21.0	11.8
<b>Total</b>	<b>308</b>	<b>1163</b>	<b>983</b>	<b>886</b>	<b>1384</b>	<b>349</b>	<b>217</b>	<b>627</b>	<b>154</b>	<b>289</b>	<b>50</b>	<b>43</b>	<b>138</b>	<b>6591</b>

Table 13.39. LA 37592, Pit Structure 1, pottery ware group by stratigraphic unit; counts and percents.

	Gray Ware		White Ware		Red Ware		Brown Ware		Total Count
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	
Surface	604	65.4%	304	32.9%	14	1.5%	1	0.1%	<b>923</b>
Midden Layer 1	3332	74.0%	1160	25.8%	10	0.2%	–	–	<b>4502</b>
Midden Layer 3	2214	69.0%	977	30.4%	19	0.6%	–	–	<b>3210</b>
Midden Layer 4	2076	69.5%	876	29.3%	29	1.0%	8	0.3%	<b>2989</b>
Midden Layer 5	2628	64.6%	1374	33.8%	57	1.4%	11	0.3%	<b>4070</b>
Other midden	1038	74.7%	348	25.0%	4	0.3%	–	–	<b>1390</b>
Circum midden	605	71.6%	238	28.2%	–	–	2	0.2%	<b>845</b>
Natural fill	1256	67.1%	603	32.2%	10	0.5%	2	0.1%	<b>1871</b>
Cultural fill	375	70.9%	152	28.7%	2	0.4%	–	–	<b>529</b>
Constructional fill	925	75.8%	285	23.3%	7	0.6%	4	0.3%	<b>1221</b>
Vent	182	78.1%	49	21.0%	2	0.9%	–	–	<b>233</b>
Cist	66	60.6%	43	39.4%	–	–	–	–	<b>109</b>
Sub Layer 29	308	69.1%	138	30.9%	–	–	–	–	<b>446</b>
<b>Total</b>	<b>15609</b>	<b>69.9%</b>	<b>6547</b>	<b>29.3%</b>	<b>154</b>	<b>0.7%</b>	<b>28</b>	<b>0.1%</b>	<b>22338</b>

by-products of daily activity rather than of any other activity or a specialized deposit.

**Ground Stone.** In comparison with the great quantities of other materials, ground stone seems rare, with only 144 pieces. Although the midden accounts for more than half of the ground stone from the provenience, ground stone is more abundant relative to other material categories in the sub-midden units because of its use in masonry and the presence of collapsed masonry below the midden. Manos and shaped slabs constitute three quarters of the specimens (Table 13.43), with metate fragments, axes, jar covers, and tchamahia fragments rounding out the assemblage.

**Ornaments.** Tabular fragments of burnt or red-dog shale (sometimes called argillite) were abundant in the midden fill. Most have been ground on the faces and/or edges, and many have drill holes in various stages of completion. Other ornament materials are uncommon: there are two pieces of jet in the assemblage, and a drilled (but not ground) sherd. The abundance of burned shale, especially when compared to sites in Chaco (e.g., McKenna 1984, Mathien 1987), the quantity of fragmentary pieces, and the presence of some scored pieces suggest strongly that shale ornaments were being made at this site during the deposition of the midden. Actual workshop locations were not encountered in use surface excavations, but an especially large number of projectile points that have

drill tips were present at this site, and at least three tiny drills were found, further suggesting that ornament making took place at LA 37592.

**Faunal Remains.** The midden contained 60 percent of all faunal material recovered from the site (Table 13.44). The midden deposits in Pit Structure 1 contained 66 percent of the faunal bone counts from the structure (Table 13.45); including the large off-chamber cist, another 21 percent of the faunal material was in association with the uppermost floor. The faunal material suggests several things about the nature of the midden and changes within it. Bone counts are very nearly evenly split between mammal and bird bone in the structure as a whole. As discussed in detail below, Layer 1 of the midden stands apart from other parts of the pit structure in its high frequency of human bone. This terminal deposit also differs from other midden layers in having substantially more large-mammal bone than the other midden layers. The Layer 1 large-mammal cell contributes more to the chi-square for the faunal table than any other, further setting Layer 1 apart from the other midden layers. Layer 1 has the lowest percent of complete bone and the highest percentage of elements less than 25 percent present (Table 13.46). Layer 1 undoubtedly had the longest exposure at the surface of any of the midden layers, which would have contributed to bone fragmentation, although the condition of bone in this layer is generally very sound. Given that this layer

Table 13.40. LA 37592, Pit Structure 1, vessel forms and ware groups, counts by stratigraphic context.

	Surface	Layer 1	Layer 3	Layer 4	Layer 5	Other Midden	Circum-midden	Natural	Cultural	Construction	Vent	Cist	Layer 29	Total Count
<b>Vessel Form</b>														
Gray bowl	-	1	-	2	5	1	4	-	-	1	-	-	-	14
White bowl	181	643	544	483	823	199	123	399	84	188	26	39	80	3812
Red bowl	10	6	19	27	53	3	1	10	1	6	2	-	-	138
Brown bowl	-	-	-	8	11	-	1	2	-	4	-	-	-	26
Gray jar	603	3322	2209	2056	2604	1031	520	1334	375	919	181	66	308	15528
Decorated jar	121	482	382	341	458	141	88	183	63	87	22	4	58	2430
Ladle	6	39	44	49	76	9	4	36	6	7	2	-	-	278
Specialized	-	3	-	2	2	-	-	-	-	-	-	-	-	7
Effigies	-	1	3	-	1	1	-	2	-	1	-	-	-	9
Miniatures	-	1	3	12	20	2	2	1	-	5	-	-	-	46
Indeterminate	2	4	6	9	17	4	2	4	-	3	-	-	-	51
<b>Total</b>	<b>923</b>	<b>4502</b>	<b>3210</b>	<b>2989</b>	<b>4070</b>	<b>1391</b>	<b>745</b>	<b>1971</b>	<b>529</b>	<b>1221</b>	<b>233</b>	<b>109</b>	<b>446</b>	<b>22339</b>
<b>Ware</b>														
Gray ware	604	3332	2214	2076	2628	1038	526	1335	375	925	182	66	308	15609
White ware	304	1160	977	876	1374	349	217	624	152	285	49	43	138	6548
Red ware	14	10	19	29	57	4	1	10	2	7	2	-	-	155
Brown, smudge ware	1	-	-	8	11	-	1	2	-	4	-	-	-	27
<b>Total</b>	<b>923</b>	<b>4502</b>	<b>3210</b>	<b>2989</b>	<b>4070</b>	<b>1391</b>	<b>745</b>	<b>1971</b>	<b>529</b>	<b>1221</b>	<b>233</b>	<b>109</b>	<b>446</b>	<b>22339</b>

Table 13.41. LA 37592, Pit Structure 1, vessel forms and ware groups, percents by stratigraphic context.

	Surface	Layer 1	Layer 3	Layer 4	Layer 5	Other Mid-den	Circum-midden	Nat-ural	Cul-tural	Con-struc-tion	Vent	Cist	Layer 29	Total
<b>Vessel Form</b>														
Gray bowl	–	0.0	–	0.1	0.1	0.1	0.5	–	–	0.1	–	–	–	<b>0.1</b>
White bowl	19.6	14.3	16.9	16.2	20.2	14.3	16.5	20.2	15.9	15.4	11.2	35.8	17.9	<b>17.1</b>
Red bowl	1.1	0.1	0.6	0.9	1.3	0.2	0.1	0.5	0.2	0.5	0.9	–	–	<b>0.6</b>
Brown bowl	–	–	–	0.3	0.3	–	0.1	0.1	–	0.3	–	–	–	<b>0.1</b>
Gray jar	65.3	73.8	68.8	68.8	64.0	74.1	69.8	67.7	70.9	75.3	77.7	60.6	69.1	<b>69.5</b>
Decorated jar	13.1	10.7	11.9	11.4	11.3	10.1	11.8	9.3	11.9	7.1	9.4	3.7	13.0	<b>10.9</b>
Ladle	0.7	0.9	1.4	1.6	1.9	0.6	0.5	1.8	1.1	0.6	0.9	–	–	<b>1.2</b>
Specialized	–	0.1	–	0.1	0.0	–	–	–	–	–	–	–	–	<b>0.0</b>
Effigies	–	0.0	0.1	–	0.0	0.1	–	0.1	–	0.1	–	–	–	<b>0.0</b>
Miniatures	–	0.0	0.1	0.4	0.5	0.1	0.3	0.1	–	0.4	–	–	–	<b>0.2</b>
Indeter-minate	0.2	0.1	0.2	0.3	0.4	0.3	0.3	0.2	–	0.2	–	–	–	<b>0.2</b>
<b>Ware</b>														
Gray ware	65.4	74.0	69	69.5	64.6	74.6	70.6	67.7	70.9	75.8	78.1	60.6	69.1	<b>69.9</b>
White ware	32.9	25.8	30.4	29.3	33.8	25.1	29.1	31.7	28.7	23.3	21	39.4	30.9	<b>29.3</b>
Red ware	1.5	0.2	0.6	1.0	1.4	0.3	0.1	0.5	0.4	0.6	0.9	–	–	<b>0.7</b>
Brown, smudged ware	0.1	–	–	0.3	0.3	–	0.1	0.1	–	0.3	–	–	–	<b>0.1</b>
<b>Total count</b>	<b>923</b>	<b>4502</b>	<b>3210</b>	<b>2989</b>	<b>4070</b>	<b>1391</b>	<b>745</b>	<b>1971</b>	<b>529</b>	<b>1221</b>	<b>233</b>	<b>109</b>	<b>446</b>	<b>22,339</b>

is low in all other major faunal groups, it may be that some of the “large-mammal” component is also human bone, and reassessment of some identifications shows this to be the case. While Layer 1 still looked “trashy,” its contents differentiated it from Layers 3, 4, and 5.

Layers 3 and 4 are similar in faunal distribution and quantity, although Layer 4 has more diverse species composition (Table 13.47). Layer 5 contained the largest quantities of all major taxa (large mammal, all rabbits, deer, and turkey) and more elements than any other single stratigraphic unit. It also contained the very rare taxon *Antilocapra* (antelope) and *Ovis* (bighorn), which were identified at few other sites (the main counts of bighorn are from the fragmented horn cores from just east of Pit Structure 1; see Extramural Area 2 Feature 5, above). Bighorn elements were also identified in Layer 3, and an antelope element was identified in Layer 8. As seen in Table 13.37, materials were fairly similar in abundance in Layers 1 and 5, but Layer 5 con-

tained more faunal bone and ground stone, while Layer 1 contained more pottery and chipped stone.

The layers between the midden and the fill just above Floor 1 show distinctly fewer faunal remains than the midden and the floor (Tables 13.30, 13.45), and a large part of the fauna from constructional layers is a single rattlesnake. The lower count is also in part due to the deposits not having been screened, but also to decreased deposition of faunal and other waste. The bone counts jump up again near the floor, this time due in large part to several whole turkeys and much turkey bone in the major off-chamber cist. Deposition of whole birds is very different from the disarticulated and fragmented remains in the midden. Bone counts from the lowermost layers have higher bird/turkey percentages than any other deposits in Pit Structure 1.

The site as a whole is remarkable for its high frequency of turkey elements. The distribution of bird species includes a smattering of rare species such as dove, goose, owl, and jays. A great number



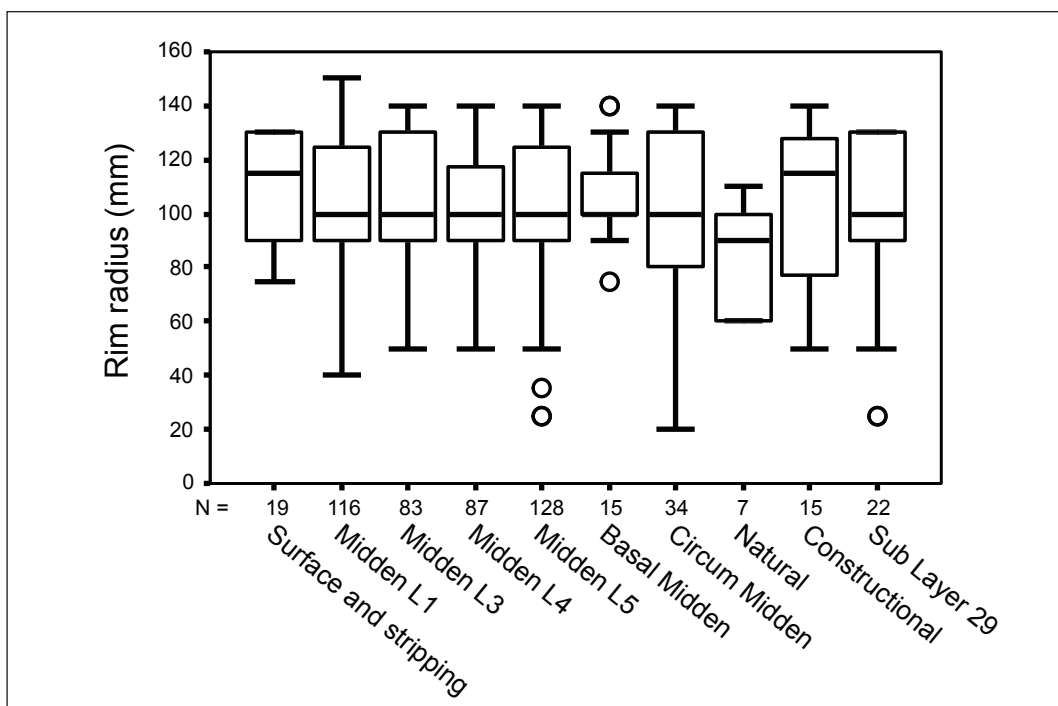


Figure 13.58. LA 37592, Pit Structure 1, bowls, rim radius (counts by stratigraphic unit), box plot.

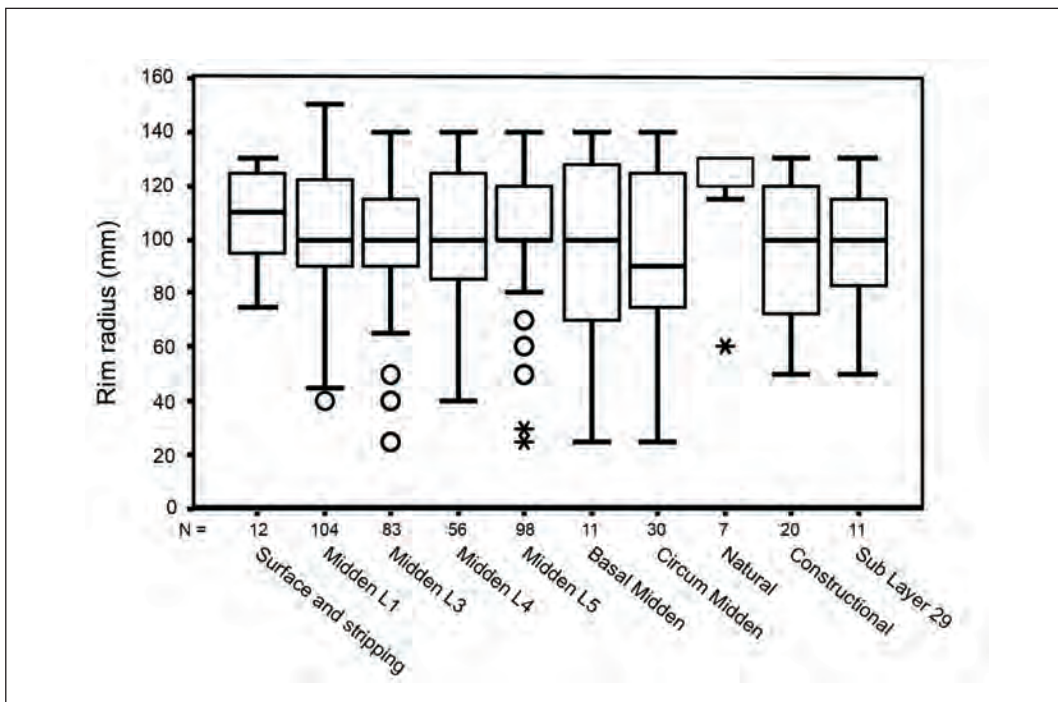


Figure 13.59. LA 37592, Pit Structure 1, jars, rim radius (counts by stratigraphic unit), box plot.

Table 13.42. LA 37592, Pit Structure 1, clipped stone tool and material types by stratigraphic context; count totals and column percentages.

	Surface	Layer 1	Layer 3	Layer 4	Layer 5	Other Midden	Circum-midden	Natural	Cultural	Construction	Vent	Cist	Layer 29	Total
<b>Artifact Type</b>														
Debitage	82.9	88.3	87.5	88.7	85.6	85.4	92.4	86.8	89.1	80.2	81.4	94.5	84.1	87.2
Core	5.5	2.3	2.6	2.7	4.2	2.8	2.0	4.3	4.0	4.2	2.9	-	6.0	3.1
Uniface	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
Retouched, utilized debitage	8.6	6.9	7.8	6.9	7.7	8.3	3.8	4.3	4.6	9.0	11.4	4.4	4.9	7.0
Retouched, utilized core	0.7	0.5	0.4	0.2	0.4	0.7	0.2	0.3	-	-	1.4	-	-	0.4
Drill	-	0.1	0.1	0.1	0.2	0.6	-	-	0.3	-	-	-	-	0.1
Graver	-	-	-	0.1	-	-	-	-	-	-	-	-	-	0.0
Notch	0.3	0.3	0.1	0.1	0.1	0.3	-	0.3	-	-	-	-	-	0.2
Denticulate	-	-	-	-	0.1	-	-	-	-	-	-	-	-	0.0
Bifacial knife, scraper	-	-	-	-	0.1	-	0.2	0.1	-	-	-	-	-	0.0
Projectile point	-	0.3	0.5	0.2	0.3	0.3	0.7	-	0.7	0.3	1.4	1.1	-	0.3
Hammerstone	1.4	0.8	0.6	0.7	0.9	1.1	0.2	3.6	0.7	4.9	1.4	-	3.8	1.1
Hammerstone flake	0.7	0.5	0.3	0.2	0.4	0.4	0.4	-	0.3	1.0	-	-	1.1	0.4
Chopper, plane	-	0.1	0.1	0.2	0.3	0.1	-	0.4	0.3	0.3	-	-	-	0.2
<b>Material Type</b>														
Chert	47.6	52.0	56.8	52.5	54.8	44.3	47.5	43.3	49.0	47.9	50	47.3	57.7	51.7
Chalcedony	0.7	2.8	1.3	1.7	1.3	1.1	3.1	1.1	3.0	1.0	2.9	1.1	0.5	1.8
Silicified wood	6.2	7.9	5.2	6.1	4.7	10	9.0	9.2	8.3	5.9	10	4.4	2.2	6.7
Quartzite	3.1	3.7	2	2.2	3.6	4.6	5.2	3.4	0.3	2.1	-	2.2	3.8	3.1
Quartzitic sandstone	1.4	5.6	6.4	6.1	6.3	8.3	2.9	7.0	7.0	10.1	7.1	5.5	9.9	6.2
Obsidian	0.3	-	0.1	0.1	-	-	-	-	0.3	-	-	-	-	0.0
Igneous	-	0.1	0.2	0.2	0.2	0.6	0.2	0.7	0.3	0.7	-	-	-	0.2
Rhyolite	-	0.4	0.1	0.2	0.4	0.3	0.2	0.3	-	0.3	-	-	0.5	0.3
Sandstone	1.4	0.4	0.2	0.1	-	0.1	0.4	1.3	0.3	1.0	1.4	-	-	0.3
Siltstone	39.4	27.0	27.9	30.9	28.8	30.7	31.4	33.7	31.5	30.9	28.6	39.6	25.3	29.7
Other	-	-	-	0.1	-	-	-	-	-	-	-	-	-	0.0
<b>Total count</b>	<b>292</b>	<b>2249</b>	<b>1332</b>	<b>1809</b>	<b>1988</b>	<b>711</b>	<b>446</b>	<b>704</b>	<b>302</b>	<b>288</b>	<b>70</b>	<b>91</b>	<b>182</b>	<b>10,464</b>

Table 13.43. LA 37592, Pit Structure 1, ground stone tool and material types, counts by stratigraphic context.

	Sur- face	Layer 1	Layer 3	Layer 4	Layer 5	Other Mid- den	Circum- midden	Nat- ural	Cult- ural	Con- struc- tion	Vent	Cist	Layer 29	Total
<b>Artifact Type</b>														
Indeterminate fragment	-	-	-	1	4	1	-	-	-	1	-	-	-	7
Pottery polishing stone	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Plaster polishing stone	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Abrading stone	-	1	-	-	1	-	-	-	-	-	-	-	-	2
Shaped slab	-	6	5	4	17	2	-	6	-	4	-	-	1	45
Jar cover	-	1	-	-	-	1	-	-	-	-	-	-	2	4
Anvil	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Lapidary stone	-	1	-	-	-	-	-	-	-	-	-	1	-	2
Bowl or basin	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Mano	-	5	5	8	8	2	1	6	-	4	-	2	2	43
One-hand mano	-	-	-	-	-	-	-	2	-	-	-	-	-	2
Two-hand mano	1	2	2	1	1	1	-	5	-	2	-	1	1	17
Two-hand trough mano	-	1	-	-	1	-	-	-	-	-	-	-	-	2
Two-hand slab mano	-	-	-	-	-	-	-	1	-	1	-	-	1	3
Metate	-	1	1	-	1	-	-	1	1	-	-	-	-	5
Trough metate	-	-	-	-	-	-	-	-	-	-	1	-	1	2
Slab metate	-	1	-	-	-	-	-	-	-	-	-	-	2	3
Notched maul	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Two-notch axe	1	-	-	1	1	-	-	-	-	1	-	-	-	4
Full-grooved axe	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Tchamahia	-	2	1	-	-	1	-	-	-	-	-	-	-	4
Ornament	1	2	-	2	7	-	-	8	-	1	-	-	-	21
Pendant	-	3	1	4	2	-	-	2	-	-	-	-	1	13
<b>Total</b>	<b>3</b>	<b>26</b>	<b>15</b>	<b>23</b>	<b>45</b>	<b>8</b>	<b>1</b>	<b>31</b>	<b>1</b>	<b>14</b>	<b>1</b>	<b>4</b>	<b>14</b>	<b>186</b>
<b>Material Type</b>														
Igneous	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Granite	-	-	-	-	-	-	1	3	-	-	-	3	3	11
Sandstone	1	16	12	12	34	5	-	16	1	12	1	1	8	119
Siltstone	1	4	2	2	2	-	-	-	-	1	-	-	-	12
Mudstone	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Shale	1	6	1	4	8	1	-	10	-	1	-	-	1	33
Quartzitic sandstone	-	-	-	1	-	2	-	2	-	-	-	-	2	7
Jet	-	-	-	2	-	-	-	-	-	-	-	-	-	2
<b>Total</b>	<b>3</b>	<b>26</b>	<b>15</b>	<b>23</b>	<b>45</b>	<b>8</b>	<b>1</b>	<b>31</b>	<b>1</b>	<b>14</b>	<b>1</b>	<b>4</b>	<b>14</b>	<b>186</b>

Table 13.44. LA 37592, faunal remains, taxon by major provenience; counts and percents.

	Pit Structure 1 Midden		Pit Structure 1		Rooms		Pueblo II Extramural Areas		Other Extramural		Other		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Prairie dog	39	0.7%	-	-	4	1.7%	-	-	4	0.4%	-	-	47	0.5%
Rock squirrel	9	0.2%	2	0.1%	1	0.4%	-	-	7	0.6%	-	-	19	0.2%
Small squirrel	14	0.2%	2	0.1%	1	0.4%	-	-	4	0.4%	-	-	21	0.2%
Pocket gopher	21	0.4%	3	0.1%	1	0.4%	-	-	1	0.1%	-	-	26	0.3%
Ord's kangaroo rat	-	-	-	-	-	-	-	-	104	9.4%	-	-	104	1.1%
Mouse	-	-	2	0.1%	-	-	1	0.6%	6	0.5%	-	-	9	0.1%
Northern grasshopper mouse	-	-	1	0.0%	1	0.4%	-	-	1	0.1%	-	-	3	0.0%
Woodrat	21	0.4%	3	0.1%	1	0.4%	-	-	23	2.1%	-	-	48	0.5%
Rodent	-	-	-	-	-	-	-	-	1	0.1%	-	-	1	0.0%
Cottontail	355	6.3%	41	1.9%	29	12.0%	2	1.2%	76	6.9%	7	7.7%	510	5.4%
Jackrabbit	188	3.3%	53	2.5%	19	7.9%	1	0.6%	27	2.4%	5	5.5%	293	3.1%
Rabbit	-	-	-	-	-	-	-	-	1	0.1%	-	-	1	0.0%
Raccoon	-	-	1	0.0%	-	-	-	-	-	-	-	-	1	0.0%
Bobcat	-	-	1	0.0%	-	-	-	-	-	-	-	-	1	0.0%
Gray fox	1	0.0%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Dog	2	0.0%	-	-	-	-	-	-	-	-	-	-	2	0.0%
Gray wolf	-	-	1	0.0%	-	-	-	-	-	-	-	-	1	0.0%
Dog, coyote, wolf	18	0.3%	4	0.2%	-	-	2	1.2%	1	0.1%	-	-	25	0.3%
Dog, coyote, fox, wolf	-	-	-	-	-	-	-	-	2	0.2%	-	-	2	0.0%
Deer	203	3.6%	53	2.5%	10	4.1%	2	1.2%	28	2.5%	6	6.6%	302	3.2%
Pronghorn	2	0.0%	-	-	-	-	-	-	-	-	-	-	2	0.0%
Big-horned sheep	4	0.1%	-	-	-	-	35	21.6%	-	-	-	-	39	0.4%
Artiodactyl	72	1.3%	5	0.2%	-	-	4	2.5%	4	0.4%	1	1.1%	86	0.9%
Medium artiodactyl	2	0.0%	-	-	-	-	-	-	-	-	1	1.1%	3	0.0%
Mammal	361	6.4%	37	1.7%	4	1.7%	11	6.8%	105	9.5%	2	2.2%	520	5.5%
Small mammal	1343	23.9%	123	5.7%	82	34.0%	11	6.8%	185	16.8%	25	27.5%	1769	18.9%
Medium-large mammal	140	2.5%	42	2.0%	22	9.1%	5	3.1%	46	4.2%	2	2.2%	257	2.7%
Large mammal	526	9.3%	55	2.6%	26	10.8%	5	3.1%	116	10.5%	20	22.0%	748	8.0%
Canada goose	1	0.0%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Waterfowl	1	0.0%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Quail	2	0.0%	-	-	-	-	-	-	5	0.5%	-	-	7	0.1%
Quail, partridge	1	0.0%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Mourning dove	2	0.0%	2	0.1%	-	-	-	-	-	-	-	-	4	0.0%
Jay, magpie, crow	4	0.1%	2	0.1%	-	-	-	-	-	-	-	-	6	0.1%
Great horned owl	1	0.0%	3	0.1%	-	-	-	-	-	-	-	-	4	0.0%



Table 13.44 (continued)

	Pit Structure 1 Midden		Pit Structure 1		Rooms		Pueblo II Extramural Areas		Other Extramural		Other		Total	
Turkey	1139	20.2%	871	40.5%	18	7.5%	5	3.1%	103	9.3%	15	16.5%	2151	22.9%
Bird	1149	20.4%	272	12.6%	22	9.1%	34	21.0%	88	8.0%	7	7.7%	1572	16.8%
Box turtle	2	0.0%	-	-	-	-	-	-	-	-	-	-	2	0.0%
Nonvenomous snake	-	-	-	-	-	-	-	-	105	9.5%	-	-	105	1.1%
Rattlesnake	-	-	508	23.6%	-	-	-	-	6	0.5%	-	-	514	5.5%
Toad and frog	5	0.1%	63	2.9%	-	-	44	27.2%	54	4.9%	-	-	166	1.8%
Fish	-	-	1	0.0%	-	-	-	-	-	-	-	-	1	0.0%
Sucker	-	-	1	0.0%	-	-	-	-	-	-	-	-	1	0.0%
Bigmouth carpsucker	-	-	1	0.0%	-	-	-	-	-	-	-	-	1	0.0%
Marine/ freshwater shell	-	-	-	-	-	-	-	-	1	0.1%	-	-	1	0.0%
<b>Total</b>	<b>5628</b>	<b>100.0%</b>	<b>2153</b>	<b>100.0%</b>	<b>241</b>	<b>100.0%</b>	<b>162</b>	<b>100.0%</b>	<b>1104</b>	<b>100.0%</b>	<b>91</b>	<b>100.0%</b>	<b>9379</b>	<b>100.0%</b>
<b>% of site</b>	<b>5628</b>	<b>60.0%</b>	<b>2153</b>	<b>23.0%</b>	<b>241</b>	<b>2.6%</b>	<b>162</b>	<b>1.7%</b>	<b>1104</b>	<b>11.8%</b>	<b>91</b>	<b>1.0%</b>	<b>9379</b>	<b>100.0%</b>

of elements were identified as turkey, and a similar number of elements were identified only as bird (Tables 13.44, 13.48). Based on the occurrence of turkey bone, it is highly probable that the bird bone is nearly all turkey bone as well. In discussing faunal remains, I combined the unspecified bird bone with the turkey bone. This is likely to misclassify a few elements, but so few that the error is acceptable. Combined bird and turkey bone from the primary midden layers – Layers 1, 3, 4, and 5 – are listed in Table 13.48. In all of these layers the frequency of identified turkey (as opposed to combined bird and turkey) is less than the statistically expected frequency, most markedly in Layer 1. Layers 3, 4, and 5 are all above or about the expected for occurrence of “bird” (Aves). This may be the result of heavy processing of bone in a midden deposit, making it difficult to identify the species. Importantly, Layer 1 is below expected in Aves bone, as well. The expected values are influenced by the presence of articulated birds near the floor.

Substantial numbers of turkey and bird elements were recovered from near the floor. Bone counts for the layers just above Floor 1 are high compared to the structure as a whole, in contrast to the ceramic and lithic counts. The faunal remains from the floor fill are qualitatively different from those in the midden layers: they come primarily from articulated birds, while articulated elements were rare or absent in the midden. The turkeys represented in the early postabandonment contexts were almost certainly ceremonial placements, while those in the midden had probably been used for food. Within Layer 5, a couple of fragmentary turkey long bones displayed red pigment (probably ochre). One pigmented area was on the exterior of a tarsometatarsus, the other on the interior of a small unidentified element fragment. Nancy Akins (personal communication, 2002) noted that red pigment was present on some long turkey long bones from Pueblo Alto, in Chaco. The specimen from the LA 37592 midden is the only recorded example of such pigmentation from the La Plata Highway project.

The fill in the large off-chamber cist (Floor 1 Feature 9) was trashy and contained numerous bird elements, especially beaks and heads. Of 308 turkey and bird bone elements from the portion excavated, 71 are complete, and there are at least six individuals represented based on left ulnae and radii. Although large mammals are infrequent in the cist’s

Table 13.45. LA 37592, Pit Structure 1, faunal classes by stratigraphic unit; counts and percents.

	Mammalia		Aves		Reptilia		Amphibia		Fish		Total	
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Total %
Surface and stripping	15	51.7%	14	48.3%	1.7%	0.1%	–	–	–	–	29	100.0%
Midden Layer 1	554	70.1%	236	29.9%	–	–	–	–	–	–	790	100.0%
Midden Layer 3	490	49.9%	490	49.9%	–	–	1	0.1%	–	–	981	100.0%
Midden Layer 4	627	53.5%	541	46.2%	2	0.2%	1	0.1%	–	–	1171	100.0%
Midden Layer 5	1182	61.6%	738	38.4%	–	–	–	–	–	–	1920	100.0%
Basal midden	133	64.9%	72	35.1%	–	–	–	–	–	–	205	100.0%
Circum midden	277	59.6%	185	39.8%	–	–	3	0.6%	–	–	465	100.0%
Natural	29	13.4%	126	58.3%	–	–	61	28.2%	–	–	216	100.0%
Constructional	119	15.6%	138	18.1%	505	66.3%	–	–	–	–	762	100.0%
Sub Layer 29	270	24.0%	847	75.3%	3	0.3%	2	0.2%	3	0.3%	1125	100.0%
<b>Total</b>	<b>3696</b>	<b>48.2%</b>	<b>3387</b>	<b>44.2%</b>	<b>510</b>	<b>6.7%</b>	<b>68</b>	<b>0.9%</b>	<b>3</b>	<b>0.0%</b>	<b>7664</b>	<b>100.0%</b>

Eggshell not included.

Table 13.46. LA 37592, Pit Structure 1, faunal element completeness by stratigraphic unit and class; counts and percents.

	Complete		>75% Present		50–75% Present		25–50% Present		<25% Present		Total
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	
<b>Stratum</b>											
Surface	4	12.90%	5	16.10%	4	12.90%	9	29.00%	9	29.00%	31
Midden Layer 1	31	12.30%	17	6.70%	17	6.70%	34	13.50%	153	60.70%	252
Midden Layer 3	76	28.00%	34	12.50%	36	13.30%	58	21.40%	67	24.70%	271
Midden Layer 4	91	19.70%	53	11.50%	36	7.80%	85	18.40%	196	42.50%	461
Midden Layer 5	222	28.20%	87	11.10%	77	9.80%	139	17.70%	261	33.20%	786
Other midden	41	22.30%	26	14.10%	17	9.20%	31	16.80%	69	37.50%	184
Circum midden	15	19.00%	14	17.70%	9	11.40%	12	15.20%	29	36.70%	79
Natural fill	55	30.10%	37	20.20%	22	12.00%	17	9.30%	52	28.40%	183
Cultural fill	35	52.20%	5	7.50%	6	9.00%	9	13.40%	12	17.90%	67
Constructional fill	20	21.30%	22	23.40%	16	17.00%	19	20.20%	17	18.10%	94
Vent	–	–	2	28.60%	1	14.30%	2	28.60%	2	28.60%	7
Cist	71	23.10%	80	26.00%	28	9.10%	41	13.30%	88	28.60%	308
Sub Layer 29	85	25.40%	60	17.90%	26	7.80%	25	7.50%	139	41.50%	335
<b>Total</b>	<b>746</b>	<b>24.40%</b>	<b>442</b>	<b>14.50%</b>	<b>295</b>	<b>9.60%</b>	<b>481</b>	<b>15.70%</b>	<b>1094</b>	<b>35.80%</b>	<b>3058</b>
<b>Class</b>											
Cottontails	68	17.2%	81	20.5%	74	18.7%	104	26.3%	68	17.2%	395
Jackrabbits	31	12.9%	45	18.7%	43	17.8%	62	25.7%	60	24.9%	241
Deer	73	28.7%	32	12.6%	20	7.9%	43	16.9%	86	33.9%	254
Large mammal	5	1.6%	3	1.0%	1	0.3%	21	6.8%	280	90.3%	310
Turkey	571	31.5%	284	15.7%	154	8.5%	264	14.6%	537	29.7%	1810
<b>Total</b>	<b>748</b>	<b>24.9%</b>	<b>445</b>	<b>14.8%</b>	<b>292</b>	<b>9.7%</b>	<b>494</b>	<b>16.4%</b>	<b>1031</b>	<b>34.3%</b>	<b>3010</b>

Table 13.47. LA 37592, Pit Structure 1, major faunal classes by stratigraphic unit; counts and percents.

	Cottontail		Jackrabbit		Deer		Large Mammal		Turkey		Total	
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Col. %
Surface	2	5.7%	5	14.3%	5	14.3%	8	22.9%	15	42.9%	35	0.9%
Midden Layer 1	33	11.7%	12	4.3%	12	4.3%	121	43.1%	103	36.7%	281	7.5%
Midden Layer 3	52	14.1%	16	4.3%	10	2.7%	48	13.0%	244	65.9%	370	9.9%
Midden Layer 4	69	13.6%	37	7.3%	23	4.5%	97	19.1%	281	55.4%	507	13.6%
Midden Layer 5	130	13.5%	74	7.7%	124	12.9%	233	24.2%	403	41.8%	964	25.9%
Other midden	28	11.9%	18	7.6%	25	10.6%	57	24.2%	108	45.8%	236	6.3%
Circum midden	10	10.1%	8	8.1%	3	3.0%	28	28.3%	50	50.5%	99	2.7%
Natural fill	7	2.9%	22	9.2%	20	8.4%	30	12.6%	159	66.8%	238	6.4%
Cultural fill	22	20.8%	8	7.5%	3	2.8%	10	9.4%	63	59.4%	106	2.8%
Constructional fill	13	12.3%	26	24.5%	14	13.2%	10	9.4%	43	40.6%	106	2.8%
Vent	4	50.0%	–	–	–	–	4	50.0%	–	–	8	0.2%
Cist	24	6.7%	12	3.3%	11	3.1%	14	3.9%	298	83.0%	359	9.6%
Sub Layer 29	8	1.9%	8	1.9%	10	2.4%	11	2.7%	378	91.1%	415	11.1%
<b>Total</b>	<b>402</b>	<b>10.8%</b>	<b>246</b>	<b>6.6%</b>	<b>260</b>	<b>7.0%</b>	<b>671</b>	<b>18.0%</b>	<b>2145</b>	<b>57.6%</b>	<b>3724</b>	<b>100.0%</b>

Table 13.48. LA 37592, Pit Structure 1, turkey and bird elements by stratigraphic unit; counts and percents.

	Turkey		Bird		Total	
	Count	Row %	Count	Row %	Count	Col. %
Surface	15	68.2%	7	31.8%	22	0.6%
Midden Layer 1	92	45.8%	109	54.2%	201	5.8%
Midden Layer 3	223	47.3%	248	52.7%	471	13.6%
Midden Layer 4	259	48.4%	276	51.6%	535	15.5%
Midden Layer 5	384	52.2%	351	47.8%	735	21.3%
Other midden	106	53.8%	91	46.2%	197	5.7%
Circum midden	49	60.5%	32	39.5%	81	2.3%
Natural fill	158	71.2%	64	28.8%	222	6.4%
Cultural fill	63	74.1%	22	25.9%	85	2.5%
Constructional fill	43	55.1%	35	44.9%	78	2.3%
Cist	255	88.5%	33	11.5%	288	8.3%
Sub Layer 29	376	70.1%	160	29.9%	536	15.5%
<b>Total</b>	<b>2023</b>	<b>58.6%</b>	<b>1428</b>	<b>41.4%</b>	<b>3451</b>	<b>100.0%</b>

faunal assemblage, it otherwise reflects a species mix similar to that of the structure as a whole, with turkey around 69 percent. Articulated elements were not noted. It seems, then, that the fill of the cist was more like the midden than it was like the floor assemblage of the pit structure.

Recognizable bone tools are concentrated in the midden, but the submidden deposits in the pit structure contain more bone tools than would be expected based on the overall occurrence of tools or unprocessed bone (Table 13.49). Especially noteworthy in this regard are spatulates, scoops, and fine-point awls, all of which occurred in the roof and floor fill deposits in greater than expected fre-

quencies. A cache of bone awls was found in Layer 6 at the base of the midden (Table 13.50; Fig. 13.52). Two jackrabbit tibia tinklers were recovered from the structure, one from the midden and one from the submidden fill. Tibia tinklers are sometimes thought to have formed a sound-making fringe to garments, but on our project, more often than not, they were found singly, and only in two instances in groups of four and five. These bones have been drilled for hanging, but the extent to which they “tinkled” is questionable. The functions of spatulates and scoops are not known, but hide scraping is a likely function for the spatulates. The tools recovered differ in stoutness and width of working

edge. Pit Structure 1 stands out for its concentration of these tool types.

**Human Remains.** The midden in Pit Structure 1 contained 14.9 percent of the disarticulated human bone in the project collections; LA 37593 accounts for 60.7 percent, and LA 65030 for 11.0 percent. No other site collection accounts for more than 5 percent. The counts here do not match those found in Martin et al. (2001:133–146) because of the inclusion of 105 cases and the elimination of 2 others in an analysis subsequent to the compilation of that report. Disarticulated human bone from this site accounts for 65.8 percent of all burned human bone and 55.3 percent of the altered human bone. A considerably smaller percentage (9.2) of the bone altered by animals came from this site. Nearly all of the disarticulated human bone from the site was associated with the upper fill of Pit Structure 1 (Fig. 13.60; Table 13.51).

Pit Structure 1 contained 95.7 percent of the 538 disarticulated human elements at the site, with 3.5 percent in extramural features and 0.8 percent in the roomblocks. Within the pit structure, 94.9 percent of the elements were in midden layers, and 78.6 percent within Layer 1 (90.3 percent from Layers 1 and 3). At the very least, eight individuals are represented by the remains, although assumptions about division of the sample could increase this estimate considerably. If, for example, each stratigraphic unit was considered discrete, the count would rise to nearly 30. Realistically, the total number of individuals in the midden is at least 12. The distribution of disarticulated human bone in the Pit Structure 1 cavity illustrates the questions raised by the layer boundaries defined during excavation. Although Layers 1 and 2 (above 20 cm bsd, attributable to Layer 1) contain 80 percent of the disarticulated human remains, elements occur in low frequencies at considerably greater depth (up to 2.3 m bsd). Layers 3 and 4 also contained substantial numbers of scattered human remains (9.5 percent and 3.9 percent, respectively, of the 515 elements identified in the structure (Fig. 13.61). Elements and alterations to them are discussed in detail in Martin et al. (2001:133–143).

If most of the disarticulated human skeletal material in the midden represents a single, short episode of deposition, the implications for events at the site are considerably different than if disarticulated remains were deposited over a period

of time, including in major trash strata. While not every piece of bone was piece-plotted, specific locations were recorded for a number of individual bones and a number of clusters of bone. Like the counts of material for spatial/stratigraphic units, the piece plots show concentrations of human bone. We became aware that piece-plotting of bone was in order during the excavation of the second and third trenches in the deposit (160N/145E and 157N/147E), where we encountered two of the most concentrated human bone deposits. These trenches and concentrations form the northern and eastern boundaries of the area of highest concentration (Figs. 13.60, 13.62; Table 13.51). The criteria for plotting bone were not as consistent or as comprehensive as we could wish; they were based in part on recognition of possible human remains (identification skill was variable among the excavators) and on locating larger or modified bone of any species. Comparing the horizontal distributions of plotted human bone with nonhuman bone and ceramics shows that the nonhuman bone is more generally spread and on the whole deeper than the human bone (Table 13.52). This suggests that the faunal remains were the result of general trash disposal, while the disarticulated human remains were probably part of an event much more localized in both time and space. The ceramics are quite evenly distributed among the quads, ranging from 23 to 29 percent per quad, while over half of the human bone was in Layer 1 of the southwest quad. In contrast, the northeast quad contained only 5 percent of the human bone, but 22 percent of the fauna and 23 percent of the pottery. The less than even distribution of nonhuman bone (18 to 30 percent per quad) suggests that there may be some preservation factors in effect within the midden, but deposition rather than preservation was primary in explaining the human bone distribution.

Presence of modified bone in more than one field-identified stratigraphic unit (Fig. 13.62) suggests a more complex depositional history. This suggestion is supported by the fact that two parts of the same mandible were found in Layer 1 Level 4 and in Layer 3; both of these items were point-provenanced. The specimens were very close horizontally, about 60 cm apart, and the depths were within 20 cm of each other (the Layer 3 specimen, removed with the southwest quad, is actually shallower than the “Layer 1” specimen, removed in an early trench).



Table 13.49. LA 37592, Pit Structure 1, bone tools, counts by type and stratigraphic unit.

	Surface	Midden Layer 1	Midden Layer 3	Midden Layer 4	Midden Layer 5	Other Midden	Circum-midden	Natural	Cultural	Construction Fill	Floor 1	Floor 2	Total
Waste	-	-	-	1	-	-	-	-	-	-	-	-	1
Preform, indeterminate	-	-	-	-	-	-	-	-	-	-	1	-	1
Bone tube	-	-	-	1	2	1	1	-	-	-	-	-	5
Bone tube bead	1	-	1	1	1	-	1	-	-	-	-	-	5
Bone bead fragment	-	-	-	-	-	2	-	-	1	-	-	-	3
Tibia tinkler	-	-	-	1	-	-	-	-	1	-	-	-	2
Indeterminate fragment	-	1	3	4	5	1	-	-	-	-	-	-	14
Indeterminate, complete	-	-	-	-	1	-	-	-	-	-	-	-	1
Awl fragment	-	2	2	1	-	-	1	-	1	-	1	-	8
Awl, fine point	-	-	2	2	2	4	-	2	-	1	1	2	16
Awl, coarse point	-	1	1	2	4	-	-	-	-	-	1	-	9
Pin	-	-	-	-	-	3	-	-	-	-	-	-	3
Splinter awl	-	-	2	2	-	-	-	-	-	-	-	-	4
Simple awl, medium point	-	-	-	2	1	2	-	2	-	3	1	1	12
Complex awl	-	-	-	-	1	-	-	-	-	-	-	-	1
Spatulate	-	-	-	-	-	-	-	1	-	-	3	-	4
Complex tool	-	-	-	1	-	-	-	-	-	-	-	-	1
Scoop	-	1	-	-	-	-	-	2	-	4	1	-	8
<b>Total</b>	<b>1</b>	<b>5</b>	<b>11</b>	<b>18</b>	<b>17</b>	<b>13</b>	<b>3</b>	<b>7</b>	<b>3</b>	<b>8</b>	<b>9</b>	<b>3</b>	<b>98</b>

Table 13.50. LA 37592, Pit Structure 1, bone awls, counts by type and stratigraphic unit.

Layer	Awl, Fine Point	Awl, Coarse Point	Splinter Awl	Simple Awl, Medium Point	Complex Awl	Total
1	–	1	–	–	–	1
3	2	1	1	–	–	4
4	2	2	2	1	–	7
5	1	3	–	1	1	6
6	4	–	–	2	–	6
7	1	–	–	–	–	1
23	–	–	–	1	–	1
27	–	–	–	1	–	1
29	–	–	–	1	–	1
Floor 1	1	1	–	1	–	3
Floor 2	1	–	–	1	–	2
<b>Total</b>	<b>12</b>	<b>8</b>	<b>3</b>	<b>9</b>	<b>1</b>	<b>33</b>

It is significant that weathering on these two specimens is different—the piece from Layer 1 shows very little weathering, but the piece from Layer 3 quite clearly spent some time exposed, since there is substantial checking along the buccal surface (Table 13.53). Within the group of human bone found in a pile with the weathered portion of the mandible, there is further variability of weathering: most elements appear to have spent very little time exposed, but a few are somewhat weathered. This situation could have resulted from several processes: a bone deposit could have been partially buried, causing weathering of exposed elements; bones from different contexts could have been redeposited; or an element such as a mandible could have been partially exposed and then broken (perhaps stepped on or kicked), with one part displaced 0.5 m.

An important question concerning all of the trash strata is the length of time represented by these deposits. It is also a difficult question. The clear concentration of this material in the upper part of the deposit toward the southwest edge of the depression restricts the amount of time it took to accumulate, but the depth range of over 60 cm for the entire structure suggests that it was unlikely to have been a single event. Redeposition and disturbance almost certainly contributed to some of the vertical dispersion of this bone, as did deposition on a sloping surface of the structure depression. Nevertheless, that bone had clearly been placed in intentional piles indicates that at least portions of the deposit were intact. Based on the distribution of altered bone and of all disarticulated bone, it appears that there was one major event

involving altered bone, and that this event occurred at or near the end of deposition in the midden in the pit structure. This deposit took place either with other normal midden materials or directly on top of them. Through processes such as erosion and rodent activity, some materials from this deposit were ultimately moved later to be recovered from deeper in the midden deposit or from somewhat scattered horizontal locations.

Complicating reconstruction of the distribution of these materials is the likelihood that some human bone was deposited in the midden prior to the final, largest episode of deposition. Bone in this earlier deposit probably lacked the types of alteration visible in the latest deposit and was much less abundant. There were, then, probably two types of deposition within the midden: incidental inclusion of occasional human bone fragments encountered in the process of site modifications, and a more ominous event in which perimortem modification of a number of human bodies took place.

If deposition of these disarticulated elements took place over a period of time, or if they were redeposited from elsewhere, weathering would have resulted. After the natural decomposition of the structure and the trash filling of the depression, all of which probably took decades, only a few centimeters of soil accumulation took place over the pit structure in several hundred years. Given this long presence near the ground surface, weathering of bone is likely. Weathering of animal bone in Layer 1 is more frequent (15 percent) than in any other stratum containing substantial bone counts. Weath-

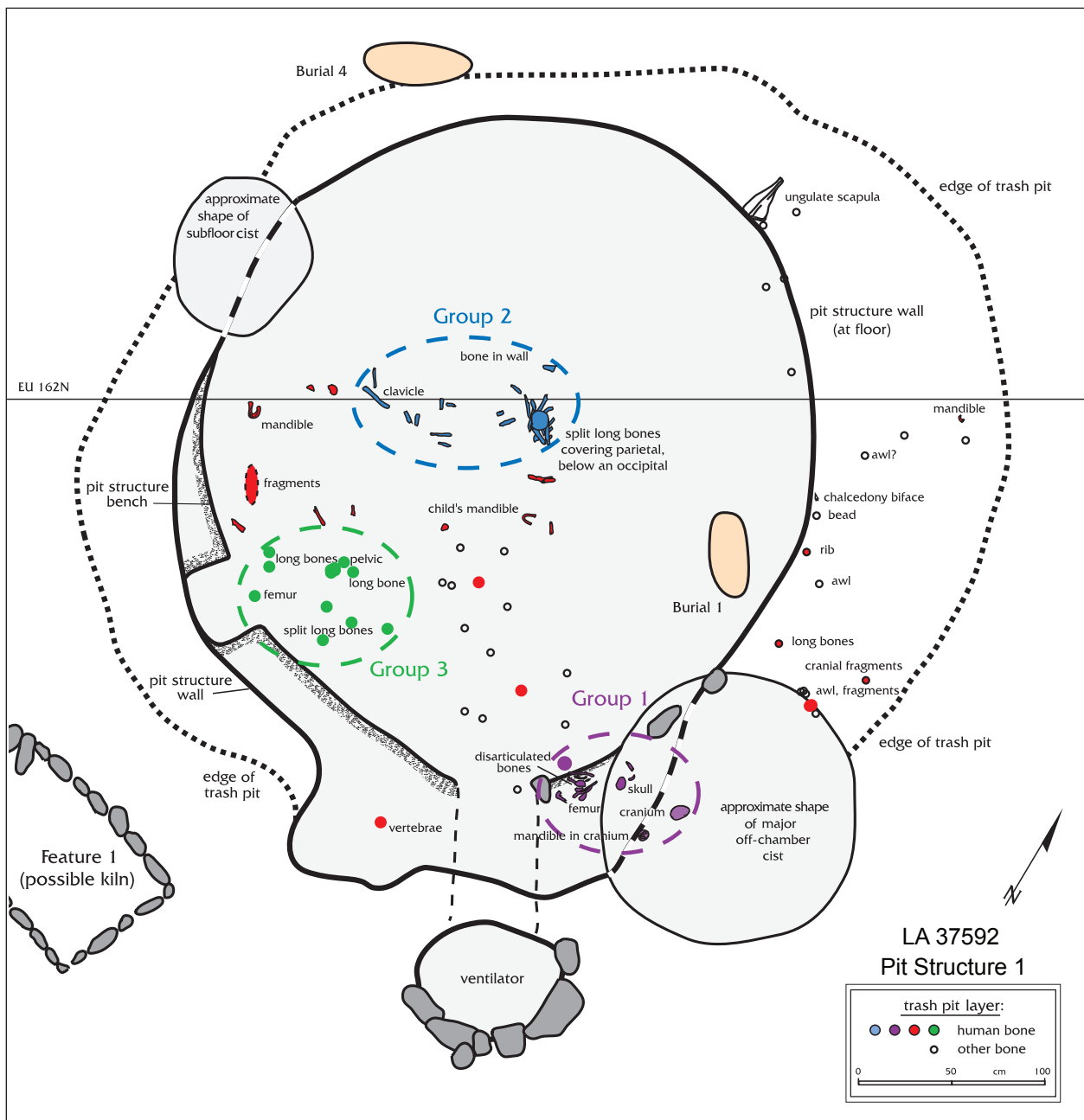


Figure 13.60. LA 37592, Pit Structure 1, Trash Pit layer, human remains (disarticulated) distribution, plan.

ering in human bone is also more frequent than the overall occurrence in animal bone, but less than the occurrence in animal bone in Layer 1 (10.7 percent). These weathering data suggest that even though the disarticulated remains are at the top of the midden deposit, the majority were not exposed for long, and the time of accumulation of the disarticulated bone was fairly short.

The sizable quantity of human bone in the latest stratum (Layer 1) in the midden (Fig. 13.61) comes from several individuals and occurred in recognizable concentrations (Fig. 13.60). In one location, a dozen fractured long-bone fragments had been placed on a parietal from one individual, with the occipital from another individual placed on top of the pile (Figs. 13.60, 13.64a, 13.64b, 13.64c, 13.65;

Table 13.51. LA 37592, Pit Structure 1, human remains (disarticulated), counts by bone type and stratigraphic unit.

	Surface	Midden				Basal Mid-den Layer	Circum-midden	Natural	Construc-tion	Sub Layer 29	Total
		Layer 1	Layer 3	Layer 4	Layer 5						
Indeterminate	-	9	1	-	-	-	-	-	-	-	10
Long-bone fragment	-	115	2	-	-	-	5	-	-	-	122
Plate, blade fragment	-	19	2	-	-	-	-	-	7	-	28
Cancellous tissue	-	18	-	-	-	-	-	-	-	-	18
Cranial fragment	-	32	6	1	1	-	-	-	-	1	41
Cranial complex	-	4	1	-	-	-	1	-	-	-	6
Cranial vault	-	-	1	-	-	-	-	-	-	-	1
Occipital	-	3	-	-	-	-	-	-	-	-	3
Basioccipital	-	-	-	1	-	-	-	-	-	-	1
Sphenoid	-	1	1	1	-	-	-	-	-	-	3
Parietal	-	8	-	2	1	-	1	-	2	-	14
Parietal and occipital	-	1	-	-	-	-	-	-	-	-	1
Ossicle, wormian	-	-	-	1	-	-	-	-	-	-	1
Temporal region	-	3	-	-	-	-	-	-	-	-	3
Temporal	-	2	-	2	-	-	-	-	-	-	4
Zygomatic	-	1	-	-	-	-	-	-	-	-	1
Auditory meatus	-	1	-	-	-	-	-	-	-	-	1
Frontal	-	1	1	-	-	-	-	-	-	-	2
Orbital region	-	1	1	1	-	-	-	-	-	-	3
Malar	-	-	1	-	-	-	-	-	-	-	1
Maxillary region	-	2	-	-	-	-	-	-	-	-	2
Maxilla	-	2	-	-	-	-	-	-	-	-	2
Styloid process	-	1	-	-	-	-	-	-	-	-	1
Mandible	-	3	2	1	-	-	-	-	2	-	8
Ascending ramus	-	-	1	-	-	-	-	-	-	-	1
Upper deciduous incisor	-	1	-	1	-	-	1	-	-	-	3
Lateral upper permanent incisor	-	-	1	-	-	-	-	-	-	-	1
Lateral lower permanent incisor	-	2	-	-	-	-	-	-	-	-	2
Lower deciduous canine	-	-	-	-	1	-	-	-	-	-	1
Upper permanent canine	-	1	-	-	-	-	-	-	-	-	1
Premolar	-	-	-	1	-	-	-	-	-	-	1
Permanent molar	-	-	-	1	-	-	-	-	-	-	1
Second permanent molar	-	-	-	1	-	-	-	-	-	-	1
Atlas (C1)	-	2	1	-	-	1	-	-	-	-	4
Axis, (C2)	-	1	1	-	-	-	-	-	-	-	2
Cervical vertebra	-	3	1	-	-	-	-	1	-	-	5
Thoracic vertebra	-	3	1	-	-	-	-	-	-	-	4
Sacral vertebra	-	1	-	-	-	-	-	-	-	-	1
Sacrum	-	3	-	-	-	-	-	-	-	-	3
Rib	-	23	10	2	-	-	-	-	-	-	35
Clavicle	-	2	1	-	-	-	-	-	-	-	3
Scapula	-	4	-	-	-	-	-	-	-	-	4



Table 13.51 (continued)

	Surface	Midden				Basal Mid-den Layer	Circum-midden	Natural	Construc-tion	Sub Layer 29	Total
		Layer 1	Layer 3	Layer 4	Layer 5						
Ischium	–	1	–	–	–	–	–	–	–	–	1
Ilium, acetabulum	–	1	–	–	–	–	–	–	–	–	1
Humerus	1	15	2	–	–	–	1	–	–	–	19
Radius	–	11	1	–	–	–	–	–	–	–	12
Ulna	–	9	2	–	–	–	–	–	–	–	11
Metacarpal	–	10	–	–	–	–	–	–	–	–	10
Metacarpal 1	–	2	–	1	–	–	–	–	–	–	3
Metacarpal 3	–	1	–	–	–	–	–	–	–	–	1
Metacarpal 4	1	1	–	–	–	–	–	–	–	–	2
Phalanx (manus)	–	1	–	–	–	–	–	–	–	–	1
First phalanx (manus)	–	5	–	–	1	–	1	–	–	–	7
Second phalanx (manus)	–	2	–	–	–	–	2	–	–	–	4
Third phalanx (manus)	–	1	–	–	1	–	–	–	–	–	2
Femur	–	31	1	–	–	–	2	–	–	–	34
Patella	–	2	–	–	–	–	–	–	–	–	2
Tibia	–	26	4	2	–	–	–	–	–	–	32
Fibula	–	11	1	–	1	–	–	–	–	–	13
Talus	–	1	–	–	–	–	–	–	–	–	1
Calcaneus	–	2	1	–	–	–	–	–	–	–	3
Metatarsal	–	–	1	–	–	–	–	–	–	–	1
Metatarsal 1	–	1	–	–	–	–	–	–	–	–	1
First phalanx (pes)	–	1	–	–	–	–	–	–	–	–	1
Metapodial	–	2	–	1	–	–	–	–	–	–	3
<b>Total</b>	<b>2</b>	<b>410</b>	<b>49</b>	<b>20</b>	<b>6</b>	<b>1</b>	<b>14</b>	<b>1</b>	<b>11</b>	<b>1</b>	<b>515</b>

Table 13.54). Piece-plots suggest that there were three concentrations of bone: Group 1 (Fig. 13.65), toward the south center (ca. 159N/147E); Group 2, near the center (161N/146E); and Group 3, toward the west side just south of the midline (160N/145E) (Table 13.54). These three areas were adjacent to one another, and the quantity of bone is such that they may have in fact been continuous, though there is no doubt that piles of fragments were present (Fig. 13.60). These three groups of bone each contained elements from both subadults and adults, from both cranial and postcranial portions of the skeleton, and elements that show some processing. Groups 1 and 2 also contain elements with thermal alteration, although Group 3 does not.

It is also probably significant that the horizontal distribution of disarticulated bone in Layers 3 and 4 was different from that in Layer 1 (Fig. 13.62). While

four-fifths of the bone in Layer 1 occurred in the southwest and northwest quads with little from the northeast quad, the majority of the disarticulated bone in Layers 3 and 4 is from the northeast and southeast quads. The lack of point locations within the early 1 by 3 m trench at 161N/147E is evident in the distribution map, but in spite of large quantities of bone collected from the levels in that trench, there were only 15 human bones, 10 of which are from a level 10–18 cm below datum, which is within Layer 1. The effects of differential layer identification must again be recognized, but this distribution does suggest that these bones were deposited in separate events.

The distribution of age groups among the remains is also different between the lower layers and Layer 1 (Fig. 13.66; Table 13.55). Over half of the elements from very young children are from below

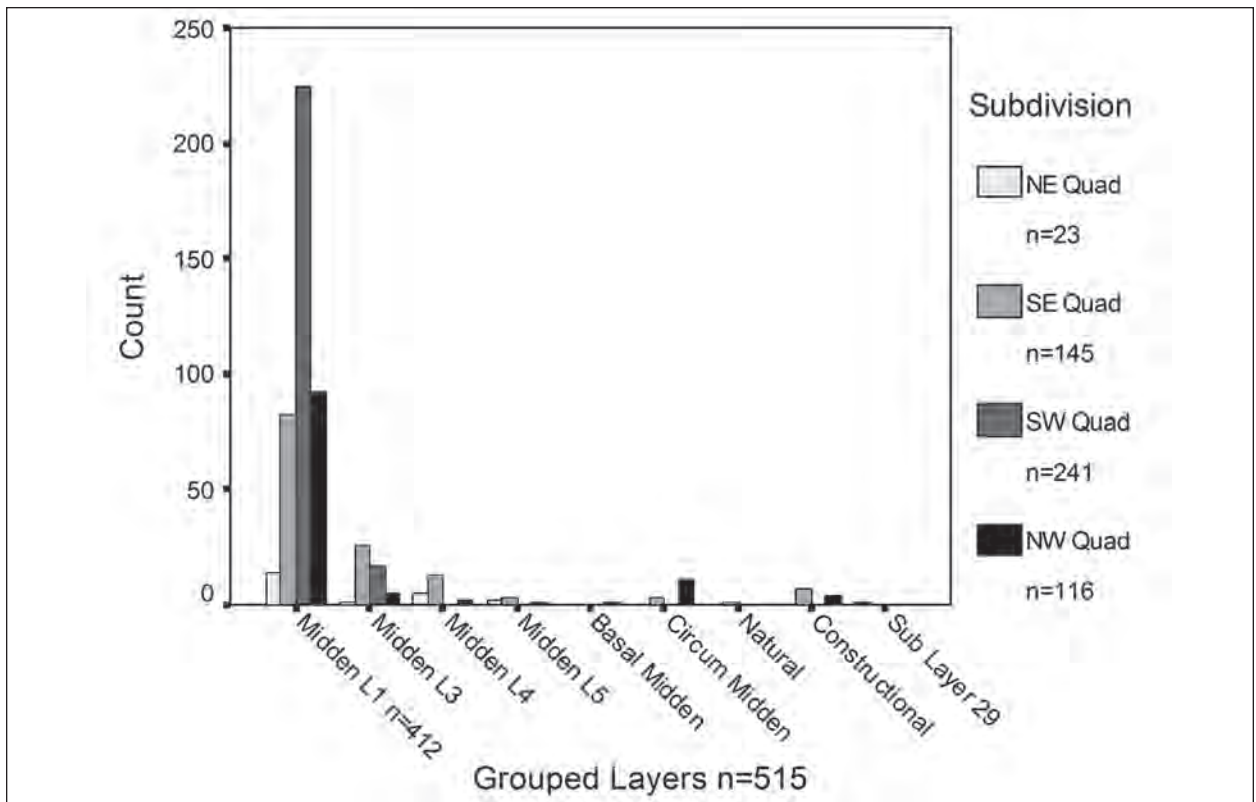


Figure 13.61. LA 37592, Pit Structure 1, human remains (disarticulated); counts by quad and layer, histogram.

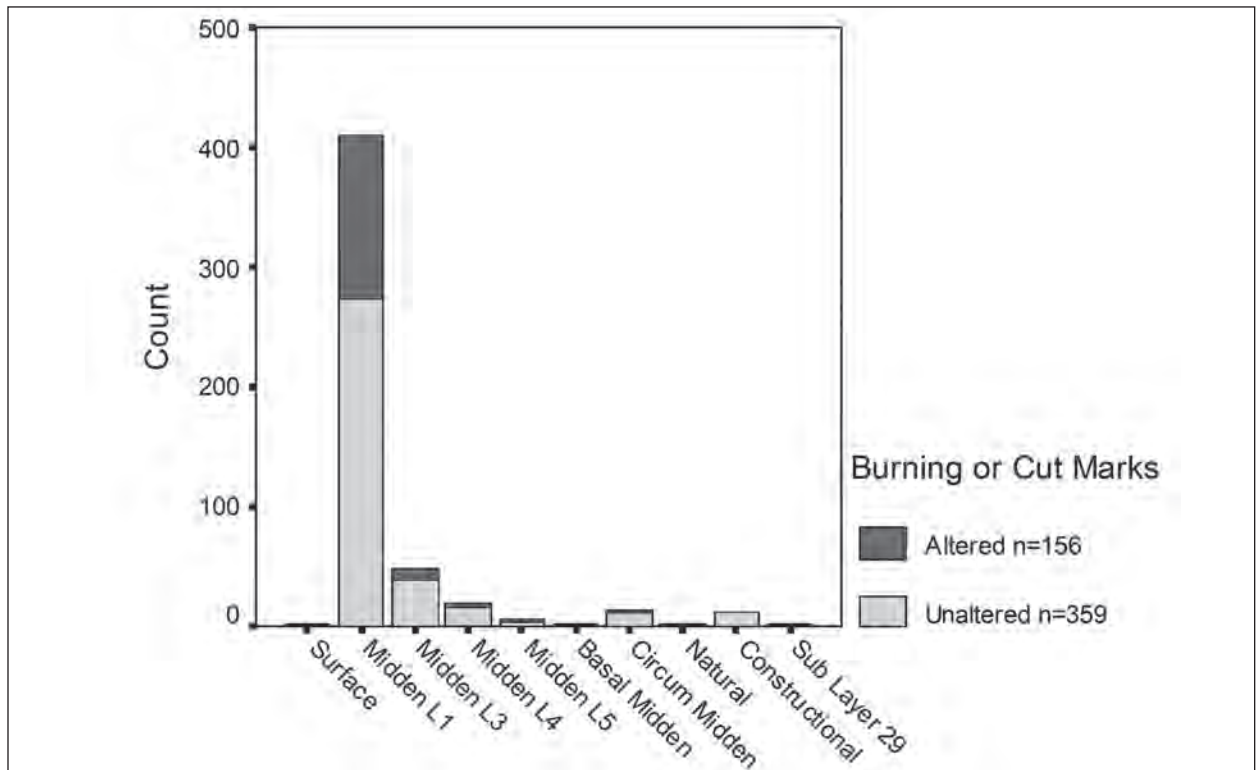


Figure 13.62. LA 37592, Pit Structure 1, human remains (disarticulated and altered); counts by layer and alteration type, histogram.

Table 13.52. LA 37592, Pit Structure 1, distribution of ceramics, lithics, faunal and human remains, by layer and quadrant; counts and percents.

	Northeast Quad		Southeast Quad		Southwest Quad		Northwest Quad		Total	
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Col. %
<b>Ceramics</b>										
Surface and stripping	74	17.0%	62	14.3%	53	12.2%	246	56.6%	<b>435</b>	<b>2.1%</b>
Midden Layer 1	1356	24.2%	2196	39.1%	1045	18.6%	1015	18.1%	<b>5612</b>	<b>27.3%</b>
Midden Layer 3	690	21.4%	548	17.0%	1147	35.6%	839	26.0%	<b>3224</b>	<b>15.7%</b>
Midden Layer 4	964	31.8%	727	23.9%	491	16.2%	854	28.1%	<b>3036</b>	<b>14.8%</b>
Midden Layer 5	1084	26.6%	702	17.2%	1058	26.0%	1226	30.1%	<b>4070</b>	<b>19.8%</b>
Basal midden	227	25.1%	444	49.1%	–	–	234	25.9%	<b>905</b>	<b>4.4%</b>
Circum midden	350	24.6%	588	41.3%	–	–	485	34.1%	<b>1423</b>	<b>6.9%</b>
Natural	47	24.7%	122	64.2%	6	3.2%	15	7.9%	<b>190</b>	<b>0.9%</b>
Constructional	194	15.6%	512	41.1%	377	30.3%	163	13.1%	<b>1246</b>	<b>6.1%</b>
Sub Layer 29	57	13.5%	203	48.2%	134	31.8%	27	6.4%	<b>421</b>	<b>2.0%</b>
<b>Total</b>	<b>5043</b>	<b>24.5%</b>	<b>6104</b>	<b>29.7%</b>	<b>4311</b>	<b>21.0%</b>	<b>5104</b>	<b>24.8%</b>	<b>20562</b>	<b>100.0%</b>
<b>Lithics</b>										
Surface and stripping	34	29.1%	27	23.1%	9	7.7%	47	40.2%	<b>117</b>	<b>1.2%</b>
Midden Layer 1	978	35.0%	988	35.4%	432	15.5%	393	14.1%	<b>2791</b>	<b>28.1%</b>
Midden Layer 3	126	9.3%	302	22.4%	535	39.6%	388	28.7%	<b>1351</b>	<b>13.6%</b>
Midden Layer 4	698	38.4%	570	31.4%	127	7.0%	421	23.2%	<b>1816</b>	<b>18.3%</b>
Midden Layer 5	675	34.0%	513	25.8%	358	18.0%	442	22.2%	<b>1988</b>	<b>20.0%</b>
Basal midden	126	25.0%	247	48.9%	–	–	132	26.1%	<b>505</b>	<b>5.1%</b>
Circum midden	127	18.3%	392	56.4%	–	–	176	25.3%	<b>695</b>	<b>7.0%</b>
Natural	9	10.1%	74	83.1%	1	1.1%	5	5.6%	<b>89</b>	<b>0.9%</b>
Constructional	53	12.6%	303	72.0%	23	5.5%	42	10.0%	<b>421</b>	<b>4.2%</b>
Sub Layer 29	14	9.2%	77	50.7%	37	24.3%	24	15.8%	<b>152</b>	<b>1.5%</b>
<b>Total</b>	<b>2840</b>	<b>28.6%</b>	<b>3493</b>	<b>35.2%</b>	<b>1522</b>	<b>15.3%</b>	<b>2070</b>	<b>0.2%</b>	<b>9925</b>	<b>100.0%</b>
<b>Animal Bone</b>										
Surface and stripping	6	20.7%	–	–	–	–	23	79.3%	<b>29</b>	<b>0.4%</b>
Midden Layer 1	206	26.3%	231	29.5%	177	22.6%	169	21.6%	<b>783</b>	<b>10.8%</b>
Midden Layer 3	225	23.1%	196	20.1%	361	37.1%	192	19.7%	<b>974</b>	<b>13.5%</b>
Midden Layer 4	301	25.7%	228	19.5%	230	19.6%	412	35.2%	<b>1171</b>	<b>16.2%</b>
Midden Layer 5	468	24.4%	293	15.3%	402	20.9%	757	39.4%	<b>1920</b>	<b>26.5%</b>
Basal midden	69	33.7%	66	32.2%	–	–	70	34.1%	<b>205</b>	<b>2.8%</b>
Circum midden	85	19.0%	154	34.4%	–	–	209	46.7%	<b>448</b>	<b>6.2%</b>
Natural	12	5.6%	21	9.7%	2	0.9%	181	83.8%	<b>216</b>	<b>3.0%</b>
Constructional	85	11.2%	626	82.3%	8	1.1%	42	5.5%	<b>761</b>	<b>10.5%</b>
Sub Layer 29	10	1.4%	253	34.5%	452	61.6%	19	2.6%	<b>734</b>	<b>10.1%</b>
<b>Total</b>	<b>1467</b>	<b>20.3%</b>	<b>2068</b>	<b>28.6%</b>	<b>1632</b>	<b>22.5%</b>	<b>2074</b>	<b>28.6%</b>	<b>7241</b>	<b>100.0%</b>
<b>Human Bone</b>										
Surface and stripping	–	–	–	–	–	–	2	100.0%	<b>2</b>	<b>0.4%</b>
Midden Layer 1	14	3.4%	82	20.0%	224	54.6%	90	22.0%	<b>410</b>	<b>79.6%</b>
Midden Layer 3	1	2.0%	26	53.1%	17	34.7%	5	10.2%	<b>49</b>	<b>9.5%</b>
Midden Layer 4	5	25.0%	13	65.0%	–	–	2	10.0%	<b>20</b>	<b>3.9%</b>
Midden Layer 5	2	33.3%	3	50.0%	–	–	1	16.7%	<b>6</b>	<b>1.2%</b>
Basal midden	–	–	–	–	–	–	1	100.0%	<b>1</b>	<b>0.2%</b>
Circum midden	–	–	3	21.4%	–	–	11	78.6%	<b>14</b>	<b>2.7%</b>
Natural	–	–	1	100.0%	–	–	–	–	<b>1</b>	<b>0.2%</b>
Constructional	–	–	7	63.6%	–	–	4	36.4%	<b>11</b>	<b>2.1%</b>
Sub Layer 29	1	100.0%	–	–	–	–	–	–	<b>1</b>	<b>0.2%</b>
<b>Total</b>	<b>23</b>	<b>4.5%</b>	<b>135</b>	<b>26.2%</b>	<b>241</b>	<b>46.8%</b>	<b>116</b>	<b>22.5%</b>	<b>515</b>	<b>100.0%</b>

Vent area not included.

Table 13.53. LA 37592, Pit Structure 1, human remains (disarticulated), age and condition of mandibles.

Layer	Age	Side	Completeness	Alteration	Weathering	Sex
1 SW	mature	left	<25%	graded thermal	none	indeterminate
1 SE	juvenile	left	50–75%	peeling	eroded, scored, pitted	indeterminate
1 NE	mature	axial	50–75%	none	eroded, scored, pitted	male
3 SW	fetal	right	<25% ramus	none	none	–
3 NW	juvenile	right	50–75%	peeling	weathered	indeterminate
3 NW	juvenile	axial	>75%	impact fracture, light thermal	none	indeterminate
4 SE	mature	axial	<25%	none	weathered	indeterminate
23 NW	mature	left	<25%	none	weathered	indeterminate

Layer 1, and more than a quarter of the older juvenile elements are from deeper in the deposit. Alteration of neonate bone is absent; among juvenile bone, about one in four is altered—somewhat less than among mature elements, of which one in three is broken and or burned. Younger ages and less alteration characterize the infrequent bone below Layer 1.

Layers 1 and 3 had piece-plotted clusters with the same horizontal coordinates and depths of 10 and 23 cm below datum. Examination of these two

groups shows that both contained bones from at least one young individual and one adult. The condition of the bone is generally similar between the two groups, exhibiting little weathering; modified elements are present in both groups. The separation of these clusters into two layers is almost certainly a layer definition problem. It is very likely that this bone was put into a depression in the midden surface, an intrusion from Layer 1 into Layer 3, and that this informal hollow was not recognizable

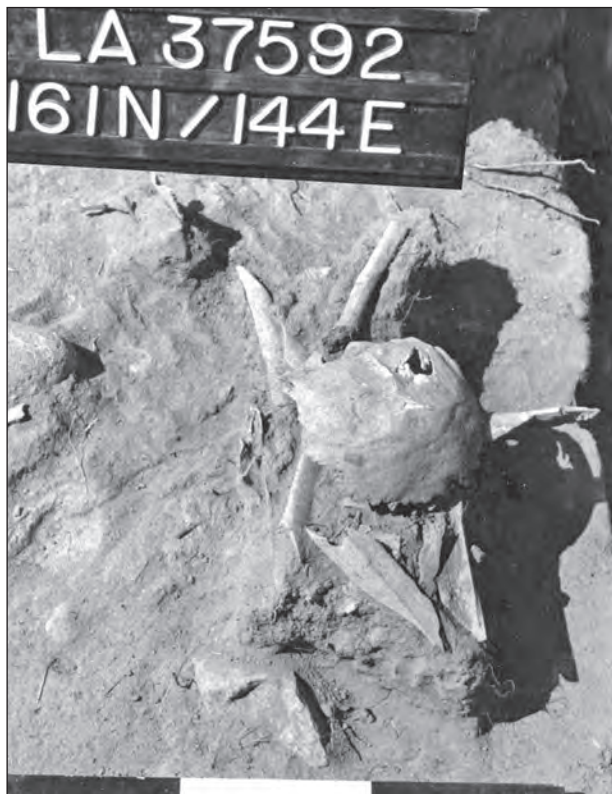


Figure 13.64a. LA 37592, Pit Structure 1, Group 2, human remains, parietal.

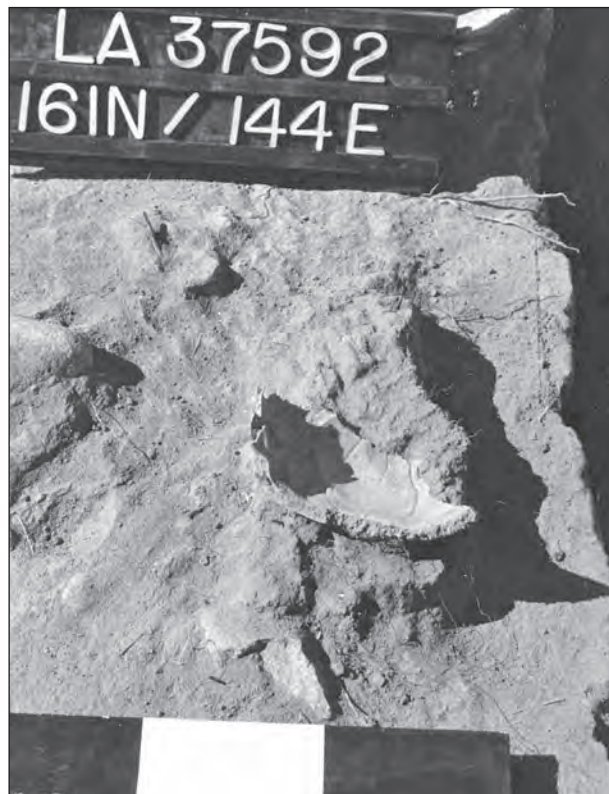


Figure 13.64b. LA 37592, Pit Structure 1, Group 2, human occipital.



during excavation. If this is correct, even more of the total and altered human remains were in Layer 1 than in Layer 3. This group was at the west edge of the southern cluster of remains.

The materials shown in the northwest quad in the tables and graphs were mostly from the second cluster, identified from piece-plots. This cluster was just north of the midline, near the center of the depression. This group contained the intentionally stacked cranial and split long-bone elements mentioned previously. Nearly all disarticulated human bone showing human alteration, such as cut marks, abrasion, or burning, occurred in Layer 1 (Table 13.56, Fig. 13.62). Layer 1 contained 79 percent of the remains but 87 percent of the altered bone. There is a scattering of altered bone in Layers 3 and 4, but only a small number of impacts and abrasions in Layer 3 occur in greater frequency than in Layer 4.

The horizontal distribution of disarticulated remains is also uneven. Over half (53 percent) of the elements are in the southwest quadrant of the structure, and only 5 percent were found in the northeast quad. The northwest and southeast quad-

rants are about equal (19 and 23 percent). Again, however, 72 percent of altered bone is from the southwest quad, 18 percent from the northwest quad, and only 10 percent is from the east half of the deposit. Sequential layers in the same quadrants (which circumvent the cross-excavation unit layer identification problem) show that quantities of disarticulated human bone vary vertically and horizontally.

The vertical distribution of altered bone in this provenience strongly suggests that there may be more than one process involved in the deposition of disarticulated human bone: the lower frequencies of bone, particularly altered bone, in the lower parts of the deposit could have come from redeposition of burials disturbed by construction and other activities on the site. The bone in the upper part of the deposit probably resulted from more direct manipulation of human remains close to time of death.



Figure 13.64c. LA 37592, Pit Structure 1, Midden Layer 1, Group 2, human remains, long-bone fragments.



Figure 13.65. LA 37592, Pit Structure 1, Group 1, human remains in situ, view east.

Table 13.54. LA 37592, Pit Structure 1, Layer 1, human remains (disarticulated) groups 1-3, by bone type and age; counts and percents.

	Group 1		Group 2		Group 3		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Indeterminate</b>								
Femur	–	–	–	–	1	1.1%	1	0.4%
<b>Total</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>1</b>	<b>1.1%</b>	<b>1</b>	<b>0.4%</b>
<b>Fetal, Neonate</b>								
Cranial fragment	–	–	4	5.1%	–	–	4	1.4%
Rib	1	0.9%	–	–	–	–	1	0.4%
<b>Total</b>	<b>1</b>	<b>0.9%</b>	<b>4</b>	<b>5.1%</b>	<b>–</b>	<b>–</b>	<b>5</b>	<b>1.8%</b>
<b>Juvenile</b>								
Long-bone fragment	–	–	–	–	3	3.4%	3	1.1%
Cranial fragment	–	–	3	3.8%	–	–	3	1.1%
Occipital	–	–	1	1.3%	–	–	1	0.4%
Temporal	1	0.9%	–	–	–	–	1	0.4%
Frontal	2	1.8%	–	–	–	–	2	0.7%
Maxillary region	–	–	–	–	1	1.1%	1	0.4%
Maxilla	2	1.8%	–	–	–	–	2	0.7%
Mandible	2	1.8%	–	–	–	–	2	0.7%
Cervical vertebra	1	0.9%	–	–	–	–	1	0.4%
Thoracic vertebra	–	–	–	–	3	3.4%	3	1.1%
Rib	4	3.5%	–	–	1	1.1%	5	1.8%
Clavicle	1	0.9%	–	–	–	–	1	0.4%
Humerus	2	1.8%	–	–	3	3.4%	5	1.8%
Radius	1	0.9%	1	1.3%	1	1.1%	3	1.1%
Ulna	2	1.8%	–	–	1	1.1%	3	1.1%
Metacarpal 3	1	0.9%	–	–	–	–	1	0.4%
Femur	1	0.9%	–	–	–	–	1	0.4%
Tibia	2	1.8%	–	–	1	1.1%	3	1.1%
Fibula	1	0.9%	–	–	–	–	1	0.4%
Metapodial	1	0.9%	–	–	–	–	1	0.4%
<b>Total</b>	<b>24</b>	<b>21.2%</b>	<b>5</b>	<b>6.3%</b>	<b>14</b>	<b>15.9%</b>	<b>43</b>	<b>15.4%</b>
<b>Immature</b>								
Indeterminate fragment	–	–	–	–	–	–	–	–
Long-bone fragment	1	0.9%	–	–	1	1.1%	2	0.7%
Sphenoid	1	0.9%	–	–	–	–	1	0.4%
Ulna	–	–	–	–	2	2.3%	2	0.7%
Metacarpal	3	2.7%	–	–	–	–	3	1.1%
<b>Total</b>	<b>5</b>	<b>4.4%</b>	<b>–</b>	<b>–</b>	<b>3</b>	<b>3.4%</b>	<b>8</b>	<b>2.9%</b>
<b>Mature, Young</b>								
Parietal	–	–	1	1.3%	–	–	1	0.4%
Metacarpal	–	–	1	1.3%	–	–	1	0.4%
Metacarpal 4	–	–	1	1.3%	–	–	1	0.4%
First phalanx manus	–	–	3.8	4.8%	–	–	3	1.1%
Second phalanx manus	–	–	1	1.3%	–	–	1	0.4%
Femur	–	–	1	1.3%	–	–	1	0.4%

Table 13.54 (continued)

	Group 1		Group 2		Group 3		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Tibia	–	–	3	3.8%	–	–	3	1.1%
Fibula	1	0.9%	–	–	–	–	1	0.4%
Metatarsal 1	–	–	1	1.3%	–	–	1	0.4%
<b>Total</b>	<b>1</b>	<b>0.9%</b>	<b>12</b>	<b>15.2%</b>	<b>–</b>	<b>–</b>	<b>13</b>	<b>4.6%</b>
<b>Mature</b>								
Long-bone fragment	37	32.7%	16	20.3%	21	23.9%	74	26.4%
Plate, blade fragment	2	1.8%	5	6.3%	–	–	7	2.5%
Cancellous tissue	5	4.4%	–	–	–	–	5	1.8%
Cranial fragment	8	7.1%	11	13.9%	–	–	19	6.8%
Occipital	–	–	2	2.5%	–	–	2	0.7%
Parietal	1	0.9%	1	1.3%	–	–	2	0.7%
Parietal and occipital	–	–	1	1.3%	–	–	1	0.4%
Temporal	1	0.9%	–	–	–	–	1	0.4%
Styloid process	–	–	1	1.3%	–	–	1	0.4%
Mandible	1	0.9%	–	–	–	–	1	0.4%
Atlas (C1)	1	0.9%	–	–	–	–	1	0.4%
Axis, (C2)	1	0.9%	–	–	–	–	1	0.4%
Cervical vertebra	1	0.9%	–	–	–	–	1	0.4%
Sacrum	1	0.9%	–	–	–	–	1	0.4%
Rib	6	5.3%	3	3.8%	1	1.1%	10	3.6%
Clavicle	–	–	–	–	2	2.3%	2	0.7%
Ilium, acetabulum	–	–	–	–	1	1.1%	1	0.4%
Humerus	3	2.7%	1	1.3%	2	2.3%	6	2.1%
Radius	2	1.8%	3	3.8%	3	3.4%	8	2.9%
Ulna	2	1.8%	–	–	–	–	2	0.7%
Metacarpal	–	–	1	1.3%	3	3.4%	4	1.4%
First phalanx (manus)	–	–	1	1.3%	–	–	1	0.4%
Femur	4	3.5%	6	7.6%	18	20.5%	28	10.0%
Patella	–	–	–	–	1	1.1%	1	0.4%
Tibia	5	4.4%	4	5.1%	9	10.2%	18	6.4%
Fibula	1	0.9%	2	2.5%	6	6.8%	9	3.2%
Talus	–	–	–	–	1	1.1%	1	0.4%
Calcaneus	–	–	–	–	1	1.1%	1	0.4%
First phalanx (pes)	–	–	–	–	1	1.1%	1	0.4%
<b>Total</b>	<b>82</b>	<b>72.6%</b>	<b>58</b>	<b>73.4%</b>	<b>70</b>	<b>79.5%</b>	<b>210</b>	<b>75.0%</b>
<b>Table total</b>	<b>113</b>	<b>100.0%</b>	<b>79</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>280</b>	<b>100.0%</b>

The presence of cut marks, burning, and splitting, and of intentional heaps of bone, indicate processing of human remains (Tables 13.56, 13.57). In his very detailed, microscopic analysis of human remains from La Plata and Chaco, Pérez (2006:170–172) found ten examples of “definitive cutmarks.” Eight of these cases are from LA 37592 and two from LA 37593. Within the identifiable groups, Group 2 (Table 13.54; Fig. 13.60) contains all five of the cranial bones with definitive cutmarks, and Group 3 contains the element with the most cutmarks ( $n = 14$ )—a clavicle—while a humerus in Group 3, but

also Layer 3, exhibits nine cutmarks at its distal end (Pérez 2006:177–178).

The intent of this processing is, of course, not directly determinable, but were these remains of another species, there would be little question that the remains indicated food processing. As discussed below, it is also possible that this processing was for some other purpose, but the presence of processing is incontrovertible. The horizontal variability in distribution may indicate that more than one depositional process accounted for these remains even within the upper layer of the structure.

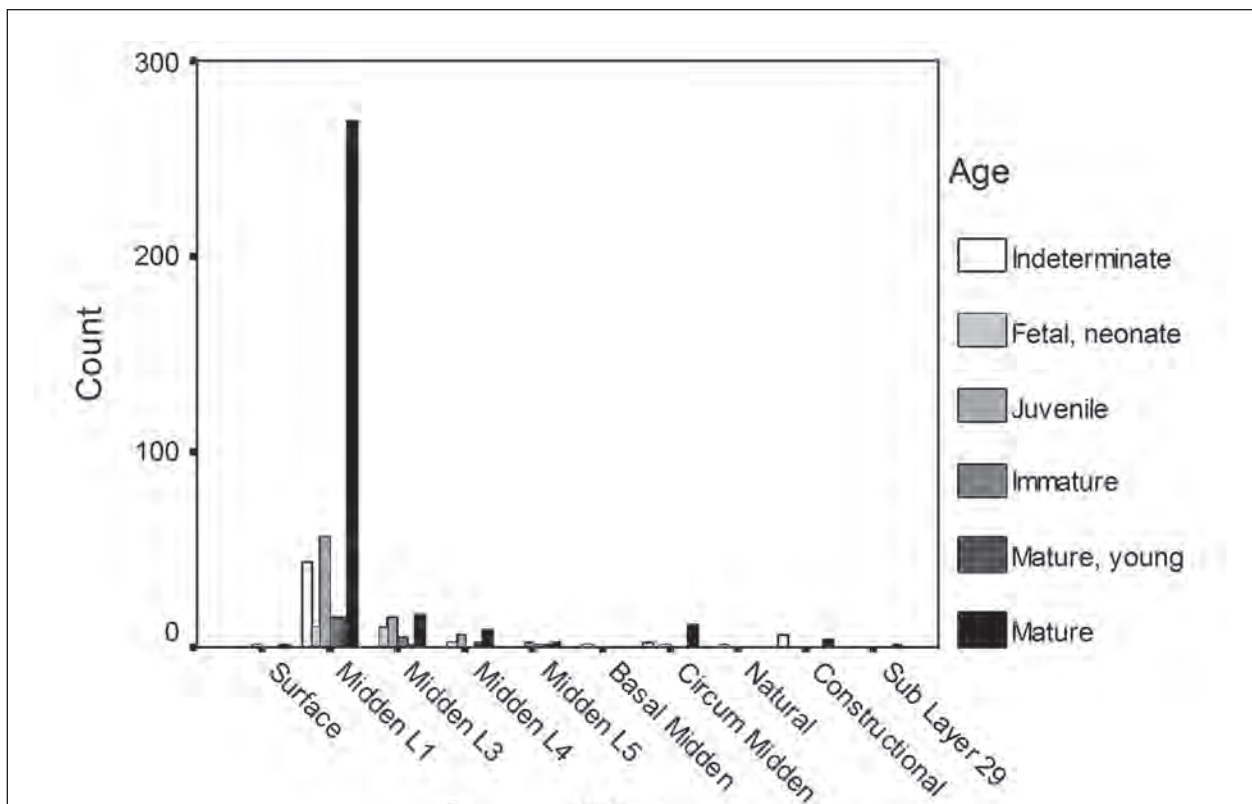


Figure 13.66. LA 37592, Pit Structure 1, human remains (disarticulated; counts by age and stratigraphic unit [n = 515]), histogram.

Table 13.55. LA 37592, Pit Structure 1, human remains (disarticulated), by stratigraphic unit and age; counts and percents.

	Fetal, Neonate		Juvenile		Immature		Mature, Young		Mature		Total
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	
Surface and stripping	–	–	1	50.0%	–	–	–	–	1	50.0%	<b>2</b>
Midden Layer 1	10	2.7%	57	15.6%	15	4.1%	15	4.1%	269	73.5%	<b>366</b>
Midden Layer 3	10	20.4%	16	32.7%	5	10.2%	1	2.0%	17	34.7%	<b>49</b>
Midden Layer 4	3	15.0%	6	30.0%	–	–	2	10.0%	9	45.0%	<b>20</b>
Midden Layer 5	–	–	2	33.3%	1	16.7%	1	16.7%	2	33.3%	<b>6</b>
Basal midden	1	100.0%	–	–	–	–	–	–	–	–	<b>1</b>
Circum midden	–	–	1	8.3%	–	–	–	–	11	91.7%	<b>12</b>
Natural	1	100.0%	–	–	–	–	–	–	–	–	<b>1</b>
Constructional	–	–	–	–	–	–	–	–	4	100.0%	<b>4</b>
Sub Layer 29	–	–	–	–	–	–	–	–	1	100.0%	<b>1</b>
<b>Total</b>	<b>25</b>	<b>5.4%</b>	<b>83</b>	<b>18.0%</b>	<b>21</b>	<b>4.5%</b>	<b>19</b>	<b>4.1%</b>	<b>314</b>	<b>68.0%</b>	<b>462</b>
Project burials <sup>1</sup>	15	22.4%	14	20.9%	–	–	11	16.4%	27	40.3%	<b>67</b>
Pit Structure 1 individuals <sup>2</sup>	3	25.0%	4	33.3%	1	8.3%	–	–	4	33.3%	<b>12</b>

Fifty-three elements were of indeterminate age.

<sup>1</sup> Martin et al. 2001:61

<sup>2</sup> Martin et al. 2001:176



Table 13.56. LA 37592, Pit Structure 1, human remains (disarticulated), counts by bone alteration type and stratigraphic unit.

	Midden Layer 1	Midden Layer 3	Midden Layer 4	Midden Layer 5	Basal Mid-den Layer	Circum-midden	Natural	Construc-tion	Sub Layer 29	Total
None	295	38	17	5	.. 1	12	1	11	1	381
Transverse cuts	2	–	–	–	–	–	–	–	–	2
Longitudinal cuts	1	–	–	–	–	–	–	–	–	1
Midshaft oblique cuts	–	–	–	1	–	–	–	–	–	1
Distal oblique cuts	1	–	–	–	–	–	–	–	–	1
Longitudinal split	15	–	–	–	–	–	–	–	–	15
Split	–	1	–	–	–	–	–	–	–	1
Impact	10	2	1	–	–	–	–	–	–	13
Proximal end impact	5	–	–	–	–	–	–	–	–	5
Midshaft impact	22	1	–	–	–	1	–	–	–	24
Distal end impact	1	1	–	–	–	–	–	–	–	2
Impact notch	2	1	–	–	–	1	–	–	–	4
Midshaft spiral	43	3	1	–	–	–	–	–	–	47
Spiral	1	–	–	–	–	–	–	–	–	1
Abrasion	1	1	–	–	–	–	–	–	–	2
Surface abrasion	1	–	–	–	–	–	–	–	–	1
Peeling	10	1	1	–	–	–	–	–	–	12
Drilled	2	–	–	–	–	–	–	–	–	2
<b>Total</b>	<b>412</b>	<b>49</b>	<b>20</b>	<b>6</b>	<b>1</b>	<b>14</b>	<b>1</b>	<b>11</b>	<b>1</b>	<b>515</b>
<b>Percent of total</b>	<b>80.0%</b>	<b>9.5%</b>	<b>3.9%</b>	<b>1.2%</b>	<b>0.2%</b>	<b>2.7%</b>	<b>0.2%</b>	<b>2.1%</b>	<b>0.2%</b>	<b>100.0%</b>
<b>Alterations</b>	117	11	3	1	–	–	2	–	–	134
<b>Percent of total</b>	<b>87.3%</b>	<b>8.2%</b>	<b>2.2%</b>	<b>0.7%</b>	<b>–</b>	<b>–</b>	<b>1.5%</b>	<b>–</b>	<b>–</b>	<b>100.0%</b>

Table 13.57. LA 37592, Pit Structure 1, human remains (disarticulated), counts by cut mark and thermal alteration type.

	Thermal Alteration					Total
	None	Light	Graded	Heavy	Calcined	
None	233	7	5	3	1	249
Transverse cuts	1	1	–	–	–	2
Longitudinal cuts	–	–	1	–	–	1
Midshaft oblique cuts	–	1	–	–	–	1
Distal end oblique cuts	1	–	–	–	–	1
Longitudinal split	14	–	–	1	–	15
Split	1	–	–	–	–	1
Impact	12	1	–	–	–	13
Proximal end impact	1	1	3	–	–	5
Midshaft impact	22	–	2	–	–	24
Distal end impact	2	–	–	–	–	2
Impact notch	4	–	–	–	–	4
Midshaft spiral	34	9	4	–	–	47
Spiral	1	–	–	–	–	1
Abrasion	1	1	–	–	–	2
Edge and surface	1	–	–	–	–	1
Peeling	10	2	–	–	–	12
Drilled	1	1	–	–	–	2
<b>Total</b>	<b>339</b>	<b>24</b>	<b>15</b>	<b>4</b>	<b>1</b>	<b>383</b>

Within the pit structure, less than 5 percent of the disarticulated remains were sexed, and all but one of these were thought to be male. All processed male elements were found in the pit structure, so it is possible that all of these elements came from a single individual. Although only three elements from the whole site were identified as female, two show alteration, one from within the pit structure, and one from Extramural Area 2. In all, 28 broken or abraded bones also show some sort of thermal alteration. Within the 50 specimens showing some thermal alteration, 1 is calcined, 5 are heavily burned, and most are only lightly burned (Table 13.57).

The nature of the deposition of this material has important implications for events at the site and in the valley. Given the vertical distribution of materials, it is likely that more than one process or event was involved, but the considerable postdepositional movement of materials complicates understanding the deposits. Some cross-provenience matching of elements from the same individual was possible

(Table 13.58). These matches give clues about the nature of the deposition, the nature of the stratigraphic units, and the degree of postdepositional disturbance (Fig. 13.60).

Match 9 shows the greatest separation of elements, with the maxilla outside the pit structure area at around 156N/148E, 4 cm above site datum, and the mandible at about 161.7N/149.2E, at 14 cm below site datum—about 5.9 m apart. These elements were matched on the basis of dental occlusion and condition; there is also matching dental breakage on both jaws, suggesting a blow to the face while the jaws were still articulated.

Match 1 consists of small fragments of a heavily weathered mandible. The other small fragments of human bone in Layer 23 are in similar condition. The bone in Layer 4 includes unweathered bone in addition to the probable match with Layer 23. There is no question that Layer 23 was deposited well before Layer 4; the most economical explanation is that these small pieces of bone were dis-

Table 13.58. LA 37592, Pit Structure 1, human remains (disarticulated), matched bone/fragment elements by location.

Match	Element	Location (FS/Lot)	Matches With	Location (FS/Lot)	Separation (horizontal/vertical) (m)
1	mandible fragment	SE 1/4 Layer 4	mandible fragment, probable match	NW 1/4 Layer 23	1.5–5.0
		FS 307-4		FS 351-2	0.8–1.7
2	humerus fragment	158N/147E 1 x 3 Level 2	humerus fragment	161N/145E 1 x 1 Layer 1	0.0–3.0
		FS 315-25		Levels 2–3	0.08
3	temporal	158N/147E 1 x 3 (SE 1/4)	parietal/ occipital	158N/147E (SE 1/4) Layer 3	0.0–0.2
		Layer 1 Level 5		Level 1	0.0–0.26
4	radius, humerus	SW 1/4 Layer 3	ulna	SW 1/4 Layer 1	0.0–2.0
		FS 327-1, 7		FS 326-9	0.0–0.4
5	mandible	161N/145E 1 x 1 Layer 3	premolar, probable match	158N/147E (SE 1/4) Layer 5	0.3–2.3
		Level 1		Level 1	0.4–0.5
6	mandible fragment	SW 1/4 Layer 3	mandible fragment	158N/147E (SE 1/4) Layer 1	0.2–2.2
		FS 327-9		Level 4	0.0–0.2
7	right tibia	158N/147E (SE 1/4) 1 x 3	tibia fragment	SW 1/4 Layer 1	0.0–2.0
		Level 2		FS 326-12	0.0–0.4
8	left tibia	158N/147E (SE 1/4) 1 x 3	tibia fragment	SW 1/4 Layer 4	0.0–2.0
		Level 2		FS 328-4	0.1–0.7
9	mandible	161N/149E 1 x 2 Level 2	maxilla, orbit, probable match	156N/147E (SE 1/4) 1 x 3	5.9
		FS 114 PP		Levels 1–2	0.18
				FS 423	

placed by rodents. Layer 23 is characterized by high cobble content, so that rodent activity in this layer is perhaps less likely than in the midden layers. It may also be that portions of the same disturbed burial went through two different deposition trajectories. The most important aspect of this bone is its very different condition from the other bone in Layer 4, which emphasizes the fact that bone from different sources is present in the midden layers.

Only two burned human bone fragments at this site did not occur within deposits attributed to the pit structure. One, from a disturbed context just east of the structure, stands a reasonable chance of having come from the main bone deposit in the structure. The second was found 3–4 m west of the structure, between a large cist containing a human cranium and the structure. This fragment was from near the surface and could be from either of the two proveniences; the high frequency of bone in the upper pit structure fill makes the pit structure the probable source of this fragment, as well.

Although there is a fairly large quantity of human bone in this deposit, the mixture of human and nonhuman bone makes it different from the Mancos Canyon deposit described by White (1992:4, 114, 337) and Nickens (1974, 1975), which contained little mixture of nonhuman bone. The bone in the largest Mancos Canyon deposit (Burial 8; see White 1992:59) was also more abundant and more concentrated than the deposit in Pit Structure 1, although some photographs of the Mancos deposits seem comparable to the Layer 1 deposit in Pit Structure 1 (e.g., White 1992:57–58, figs. 3.14, 3.16) in being isolated concentrations of a number of elements but not a dense “bone bed,” like some of the other Mancos deposits. The association of disarticulated human bone and animal bone in this deposit is of two sorts: nonhuman bone occurs in the clusters of bone, and the general deposit contains both human and nonhuman bone. We cannot know how many (if any) of the human remains were deposited with other bone types as opposed to on top of a midden that already contained nonhuman bone. As noted in the discussion of faunal distributions, in spite of high frequencies of other materials such as flaked stone and pottery, Layer 1 contains the lowest percent of *nonhuman* bone of all the main midden layers. Thus, while the presence of nonhuman bone makes this layer apparently different from the Mancos Canyon de-

posits, Layer 1 is more like the Mancos remains than the remainder of the midden.

Malville (1989:6) reports longitudinally split long bones similar to these from the Yellow Jacket area in southwestern Colorado (see also Turner and Morris 1970:323–324). A number of clusters of bone in Pit Structure 1 were collected separately (Table 13.54; Fig. 13.60). Two of these clusters from the southwest quad of the pit contained both human bone and nonhuman bone, including birds, rabbits, and various sizes of other mammals. Ogilvie and Hilton (1993:122–125) describe extensive perimortem bone modification in a similar but perhaps slightly earlier temporal (Late Pueblo II) context, also from pit structure fill, although closer to the floor. This site, southwest of Chaco Canyon, includes a pit structure with disarticulated remains of 12 individuals on the bench and floor (Herrmann 1993:29–32).

Our only means of trying to evaluate the differences among midden layers is through quantities and types of cultural materials recovered. In retrospect, had we known that these questions would arise, we might have taken more soil samples or used some other strategy that may or may not have been useful. In looking at quantities of materials (Table 13.37), it must be recognized that the total volume of units included within Layer 1 equals around 7.5 cu m, while each of the other main midden layers are from 2.6 to 3.0 cu m. Thus, while the quantities of material in Layer 1 are the largest in some categories (ceramics, lithics), the material densities in the underlying layers are greater. In terms of density and even absolute quantity of ground stone, Layer 5 contains the most material per unit volume. Ratios of sherds to other materials compensate for the differences in volume among Layers 1, 3, 4, and 5. Table 13.60 shows ratios of sherds to other artifact category counts by grouped stratigraphic units in the pit structure. The trash strata are listed individually, while other layers are put into deposit type groups. This table makes it evident that Layer 1 is by no means only a human bone deposit. This layer (which here includes upper fill units of appropriate depth) contains more sherds than any other stratigraphic unit. While numbers of sherds and other materials vary widely within the structure, the ratios of sherds to other materials are generally similar to the other layers for lithics, ground stone, fauna, and cobbles. Only the human bone ratio stands out significantly at 11 sherds per element (remembering

again that this unit has more sherds than any other), compared to 150 to 678 in other layers. Layer 3, the most similar to Layer 1, has 71 sherds per human element. Within circum midden, the other unit with a lower sherd to human bone ratio, Layer 25 (with eight sherds per element), was identified only in the east half of the structure and is a washed unit, probably composed mostly of wall fall. It rests beneath a major structural collapse unit (Layer 23) and is probably not related to the materials in Layer 1. There are only seven “plate blade” elements here (that is, flat bones: cranial—which is most likely—scapular, or pelvic) here, and none shows modification. With the exception of Layer 25, then, the next ratio where human elements even occur is 71 sherds per element, and the ratio values go up markedly from there. In sum, Layer 1 contains all materials in amounts similar to other layers, except that the quantity of disarticulated human bone is dramatically higher, as is the occurrence of modification of that bone.

Not all of the disarticulated human bone found in Layer 1 came from perimortem disarticulation. Burial 1, the unaccompanied interment of a 2 1/2-year-old child found in Layer 3, Level 2, was largely intact but was missing the bones of the left arm. These elements were among the disarticulated human bone in Layer 1, Level 4, of the same exca-

vation unit as the burial. Since the base depth of the burial was 43 cm bsd, and the base depth of Layer 1, Level 4, was 28 cm bsd, there was a vertical displacement of 15 to 25 cm of these elements. The atlas vertebra from this burial was also displaced, having been recovered from the northeast quadrant of the midden in Layer 3. The base of Layer 3 varies in depth from 38 to 52 cm, well within the depth range of the burial; five bones were piece-plotted from this level, one field-identified as an “animal vertebra.” All of this bone was at 27–32 cm bsd. If the atlas was in fact the “animal vertebra,” the lateral displacement of the atlas was about 1 m. The agency most likely responsible for this displacement of these small elements is rodent tunneling, although some displacement by roots was also observed in this burial.

Burial 4, a 6–9 month old infant, was placed at the north edge of the pit structure at a depth of 70 cm below site datum. It was clearly below the midden deposit. The burial was only partially recovered, but this is due to its discovery with the backhoe and, probably, to the age of the individual. Its location and depth suggest that it is unlikely that elements from Burial 4 are among those found in the midden.

As can be seen in Table 13.61, the disarticulated remains below Layer 4 are primarily small elements, and with the exception of the tooth, the cervical ver-

Table 13.60. LA 37592, Pit Structure 1, cultural material counts by type and stratigraphic unit, with ratios of sherds to other cultural materials.

	Sherds (N)	Chipped Stone (N)	Sherds: Chipped Stone	Ground Stone (N)	Sherds: Ground Stone	Fauna (N)	Sherds: Fauna	Human Bone (N)	Sherds: Human Bone	Cobbles (N)	Sherds: Cobbles
Surface	923	294	3.1	3	307.7	53	17.4	2	461.5	33	28.0
Midden Layer 1	4502	2249	2.0	26	173.2	698	6.4	407	11.1	237	19.0
Midden Layer 3	3210	1332	2.4	15	214.0	949	3.4	45	71.3	145	22.1
Midden Layer 4	2989	1809	1.7	23	130.0	1168	2.6	20	149.5	179	16.7
Midden Layer 5	4070	1988	2.0	45	90.4	1920	2.1	6	678.3	156	26.1
Other midden	1391	711	2.0	8	173.9	474	2.9	5	278.2	47	29.6
Circum midden	745	458	1.6	1	745.0	198	3.8	14	53.2	19	39.2
Natural fill	1971	680	2.9	31	63.6	430	4.6	4	492.8	259	7.6
Cultural fill	529	302	1.8	1	529.0	167	3.2	–	–	53	10.0
Constructional fill	1221	243	5.0	14	87.2	685	1.8	11.0	111.0	632	1.9
Vent	233	–	–	1	233.0	26	9.0	–	–	–	–
Cist	109	–	–	4	27.3	421	0.3	–	–	–	–
Sub Layer 29	446	398	1.1	14	31.9	666	0.7	1.0	446.0	556	0.8
<b>Total</b>	<b>22,339</b>	<b>10,464</b>	<b>2.1</b>	<b>186</b>	<b>120.1</b>	<b>7855</b>	<b>2.8</b>	<b>515</b>	<b>–</b>	<b>2385</b>	<b>9.4</b>

N = count



tebra, and the phalanges, all are less than 25 percent present. Given the amount of rodent disturbance in the deposit, some of these lower elements are likely to be present because of washing through burrows or rodent transport, although some scattered human remains are to be expected in a deposit this size.

The disarticulated bone from Pit Structure 1, LA 37592, is incompletely presented in Turner and Turner (1999:311–314), who made a cursory examination of the assemblage. In addition to their incomplete reporting (291 versus 538 elements), we disagree with a number of aspects of their study. They estimate seven individuals; we estimate at least eight. They report only one provenience, whereas there were many containing elements; they attribute all human bone to the floor, but all was from the fill and none from the floor. They claim to have been unable to observe pot polish because of bone cleanliness; the bone had been cleaned, and, more importantly, pot polish was not an attribute they searched for at the time of their analysis in 1992. It is a concept popularized by White's (1992) book of that year, and an attribute not appearing on the Turners' worksheets. As discussed below and in Martin et al. (2001), cannibalism is one interpretation of the remains, but far from the only one (see also McGuire and Van Dyke 2008; and Walker 2008, which include LA 37592). Other problems with the Turners' approach and interpretation are enumerated in Nichols and Crown (2008). In her critical examination of disarticulated human bone from all

the La Plata Highway collections, Akins (Martin et al. 2001:193–195) concluded that the combination of alteration and disposition of human bone at this site most nearly supports an interpretation of perimortem, intentional processing of human remains. There are several possible contexts for such behavior. Cannibalism has been suggested at a number of contemporaneous sites (see White 1992; Turner 1989, 1993; Turner and Turner 1999), and the kind of alteration seen in this human bone would unquestionably be interpreted as food processing were the bone not human. The bone is human, however, and there is no doubt that the people who processed it knew it was. Punishment and eradication of witches (Darling 1993), raiding, warfare, internal strife, or even ritual processing could all have produced these remains (see Bullock 1991; Martin et al. 2001, Chapter 7; Larsen 1997:136). The excavated portions of the site do not include architecture contemporaneous with the processed remains, and therefore we do not know if site destruction took place. Ceramics suggest that the rooms are slightly earlier than the midden, but the two could be contemporaneous. If so, evidence for site destruction is *not* present in Roomblock 2. Martin et al. (2001) conclude that the disarticulated individuals show no biological differences from the valley population as represented by formal burials.

Around 12 individuals are represented in the altered bone. Ages include infants (three individuals), young children (two to four individuals), a teenager,

Table 13.61. LA 37592, Pit Structure 1, human remains (disarticulated) below Layer 4; itemized counts by layer and bone type.

Layer	Total Pieces	Elements
5 midden	5	2 cranial fragments, 1 deciduous premolar, 1 rib, 1 phalanx
6 midden	3	1 cervical vertebra (atlas), 2 sacral vertebrae, all fragments
10 midden edge	1	1 cervical vertebra fragment
17 midden edge	2	1 long bone fragment, 1 parietal fragment
23 structural debris	4	2 parietal fragments, 2 mandible fragments
25 wall fall (associated with Layer 23)	7	7 plate-blade fragments
34	1	1 cranial fragment
<b>Total</b>	<b>23</b>	All elements less than 50% complete except those in Layer 5

and up to four adults. Among the adults, both male and female adult elements are present. Compared to the project, burial age profile elements (rather than individuals) identifiable as coming from younger individuals (neonate, juvenile, and immature) are proportionally underrepresented in Layer 1 (Table 13.55; Fig. 13.66), the unit that contains evidence for perimortem processing. However, all ages and both sexes are present in that final deposit, although so few elements can be sexed that this is of little meaning. It appears, then, that the last residents of this site, possibly an entire family, were subjected to a violent demise. The age and sex distribution is reminiscent of that at Hopi (Turner and Morris 1970:320), and the nearby Mancos Canyon assemblage also includes all ages and sexes (White 1992:90–93), although both of these assemblages contain many more individuals. The involvement of this range of ages and sexes surely tells us something about the event, but it does not elucidate the motivation or social context for it (see Martin et al. 2001).

On the whole, disarticulated remains from the La Plata Highway project, within which there are more individuals represented (at least 80) than there are represented by burials (67), are similar in age profile to the burials. Among the 12 identifiable individuals from the LA 37592 disarticulated remains, however, children are overrepresented compared to the rest of the population, and adults and teenagers are underrepresented (Table 13.55).

In a discussion of disarticulated remains from La Quemada in northwest Mexico, Nelson et al. (1992) concluded that the most likely explanation for the remains of a similar number of individuals found in a temple is secondary burial of revered individuals. The distribution of that assemblage is quite different from that at LA 37592. At La Quemada there was no evidence of processing of bone, vertebrae and hand and feet bones are not present, and like elements were found in groups lying on the floor. None of these attributes apply at LA 37592.

Darling (1998) argued that historical patterns show that violence associated with execution and disposal of witches is a much more likely explanation for such findings than cannibalism. As he noted, however, cannibalism is associated with witchcraft in Pueblo stories, so that dichotomizing witchcraft and cannibalism is not realistic.

Similarities at LA 37592 to patterns proposed by Darling include the following: The dispersion

of ages and sexes, and the presence of burning correspond to expectations developed by Darling (1998:13; see also Walker 1998; Ogilvie and Hilton 2000). In addition to the mixture of ages and sexes, the disposition of the remains is similar to other cases cited by Darling; it is also similar to cases cited by others as evidence of cannibalism.

Differences from the patterns suggested by Darling (1998:13–14) include: Witch dismemberment was most likely to have taken place in kivas, on the floors, and he cites several examples of kivas that appear to have been destroyed as part of the disposition of possible witches. The deposit in Pit Structure 1 is in the uppermost fill of this “kiva,” and the structure was not burned. Deposition of the bone followed many other deposition processes: roof dismantling, natural disintegration of the structure and filling, trash deposition with little human bone, and burials. Darling suggests that an assemblage of artifacts associated with dismemberment may be associated with the broken and burned skeletal remains, specifically mentioning large biface blades, axes, mauls, and hammerstones. Axes and mauls are absent from Layer 1; there are 28 hammerstones in the layer, but this occurrence is less than statistically expected based on overall occurrence of hammerstones in the structure. Darling’s (1993:74) suggested pattern of metates on top of disarticulated remains, as in two cases in Colorado, is not present at LA 37592. He also suggests that bone tubes, ceramic vessels, and bone awls may be associated with witch execution ritual. No complete vessels were found in the midden; whereas Layer 1 contained 9.2 percent of the faunal elements in the structure, it contained only 6.5 percent of the modified nonhuman bone. There are three awl fragments from the layer and no complete ones (the link between awls and witch removal seems very tenuous, anyway). It has been suggested that some “awls” were in fact daggers, based on the location of bone “daggers” in chest cavities from a Basketmaker II massacre in a cave in a tributary to Cottonwood Wash in southeast Utah (Hurst and Turner 1993:158–170, especially p. 164). In Pit Structure 1 only one sharp bone tool occurred in Layer 1 (Table 13.50). Moreover, most of awls from the structure are too small to have been lethal weapons. Of those measured, only four are more than 20 cm long, and over half of the awls (which is probably what these tools are, rather

than daggers) are turkey bone. The few longer examples, from Layer 6, are deer bone.

Schlanger (Toll and Schlanger 1998) noted the return to this kind of pit structure for formal burial, showing clearly that structure locations retain some of their preabandonment significance. Burial in the upper fill of pit structures was also encountered at LA 37601, LA 37595, LA 37599, LA 65030, and Burials 1 and 4 at LA 37592. There was a large deposit of human bone in Pit Structure 1 at LA 37593, which we interpret as redeposition of burials from elsewhere on the site (see Martin et al. 2001), but once again in a filling pit structure. The placement of the disarticulated human remains in the upper fill of the LA 37592 Pit Structure 1 “kiva” *could*, then, be a variant on this pattern. The condition of the bone and the absence of burial goods are more similar to the Ram Mesa case (Ogilvie and Hilton 1993; Herrmann 1993) and probably resulted from violent events of one kind or another.

#### Human Remains and the Midden Layers

Clearly the presence of disarticulated bone in Layer 1 sets it apart as a deposit. In terms of appearance and texture, it was similar to Layers 3, 4, and 5, but the question persists whether it is distinctive in other ways from the earlier part of the midden, and the question is reiterated because it is the terminal layer in the midden. That is, can we see any changes that presage the abandonment of the midden and perhaps the site, or did deposition stop here because the pit was full and a new location was needed? The human bone seems reason enough for site abandonment, but can we discern others?

There are far fewer disarticulated human remains in midden Layers 3–5 and the other midden-associated deposits than in Layer 1 (Tables 13.51, 13.61). Further, the remains in those layers lack any evidence of intentional modification (Table 13.56). We cannot assume that the layers are completely discrete—mixture across layers has been demonstrated. If they *were* completely separate, there would have been multiple individuals represented in each layer. Without very sophisticated analysis such as DNA analysis of individual specimens, we cannot know whether these are some of the same individuals present in Layer 1.

**Pollen.** Four midden-layer pollen samples were analyzed (two from Layer 3, and one each from Layers 4 and 5). These samples contained average

to slightly above average numbers of genera, with relatively high pollen counts. In addition to the nearly ubiquitous pine, grass, composite, and chenopod groups, all four of these samples contained substantial concentrations of corn pollen, especially Layer 3, indicating the importance of maize to subsistence and that food and household waste made up the midden. Cactus pollen occurred much less often at the site, but it was found in three of the four midden samples analyzed (Table 13.36).

#### **PIT STRUCTURE 1 ARCHITECTURE: DEFINING THE STRUCTURE BELOW THE MIDDEN**

The removal of the roof from this native earth and cobble masonry structure had a profound impact on its preservation, and natural disintegration seems to have been relatively severe, especially as compared to similarly built, but the more rapidly filled and better preserved Pit Structure 2 at LA 37598 (Chapter 16, Vol. 1-Book 2, this report), for example. We had difficulty defining the edges of much of LA 37592 Pit Structure 1 until we had excavated to within about 0.5 m of the floor. The southeast portion of the wall adjacent to the end of the definable bench/vent complex, however, remained elusive and problematic, and this area was always the most difficult to define. There is little doubt that these problems resulted from the collapse of a major off-chamber storage cist in this area. The southeast area was not excavated in such a way as to demonstrate this, but it is my opinion that this collapse resulted in an irregular surface prior to deposition of the trash in the midden. This accounts for our finding irregular pockets of artifact-rich deposits in this area, along with a larger number of identified layers than in other parts of the structure, and the areas in which undisturbed fill appeared to overhang cultural deposits. Also indicating the irregularity were layers removed within the structure extending east of the structure. The ceramic composition of these layers is very similar to that of the midden.

This area was explored both from the pit structure and from the adjacent surface. Initially it seemed likely that the structure was built inside an earlier one, but we could never locate the suspected earlier structure. I am thus left with the somewhat tenuous suggestion of filling of an irregular depression created by a combination of erosion of the Pit Structure 1 pit and the collapse of the storage feature. There was a

substantial trash deposit on the floor of the feature, indicating that the feature was abandoned before it collapsed. There was little trash on the last floor of the pit structure, again suggesting different abandonment modes for the cist and the structure. The collapse of the storage feature might have occasioned abandonment of the structure, but this is unclear.

Because of the collapse of most of the upper part of the structure, we know relatively little about the bench or the roof support system. The bench was preserved around the vent shaft in the south part of the structure, and partially on the west edge, but there was no trace of it around the north and east sides. Even a trench cutting the north wall showed no remnants of a bench. Wall definition was especially difficult on the southeast to east sides because of the collapse of the large off-chamber cist. There is a possibility that there was no bench on those sides. And there is a vague possibility that there was an above-bench feature in the problem area. A profile of a slot cut in the east wall of the structure shows several layers of culturally clean fill resting on top of a unit with abundant artifacts and charcoal (designated Pit Structure 1 Layer 21). The profile of the cut shows that Layer 21 was about 40 cm thick and extended into the structure chamber; the excavator could not find a break between the portion outside the structure and inside. The ceramics in this deposit include Mesa Verde Black-on-white and other late white wares, and exhibit a high percentage of organic paint, all of which indicates that the deposit dates to the same general time period as the midden. The lower part of Layer 21 in the profile contained a piece of natural fill surrounded by cultural fill; this natural fill could have sloughed from the wall, but overall the section of the layer is rectangular and remains similar in thickness going away from the structure. It is possible, then, that there was an opening in the upper wall at the time the midden was being deposited and that midden materials extended into the opening. What the opening represented is unclear. It could have been a tunnel, or it could have been caused by wall collapse. In both the quantity of artifacts and the types of ceramics, Layer 21 is similar to the midden layers.

No pilasters were preserved, but there were concentrations of cobbles in the fill near the floor. The largest of these probably resulted from the collapse of the vent shaft, which we know from its lower half to have been a cobble cylinder. Another cobble con-

struction collapsed into the east side of the structure (Fig. 13.51). There was some disagreement on what this concentration represented: it quite possibly could have come from a pilaster, but the apparent lack of pilasters at other likely locations make that suggestion less likely. Problems in definition of the east edge also caused speculation that a retaining wall may have been necessary on the southeast arc. As noted above, we attributed some of the definition problems to collapse of the off-chamber cist (Feature 9), but problems resulting from that event may have been compounded by the presence of an earlier irregularity in the surface.

Even though cobble rubble in the fill indicates the use of masonry in the construction of this pit structure, and cobble masonry is preserved in the ventilator shaft and tunnel, and in the deflector, the primary construction of this pit structure was native earth (Fig. 13.67a). Plaster with sherd chinking was used in parts of the interior. Intact pieces of this plaster were found in the fill in the south half of the structure, suggesting that the face of the vent shaft may have been covered in this way (Figs. 13.67b, 13.67c). Whether the chinking served to reduce cracking in muddy plaster or was purely decorative is unknown. Morris (1919:165, Plate 34b) found similar plaster chinked with spalls and sherds at a small cliff dwelling in the Mancos drainage.

### *Floors*

For excavation of the floor deposits in Pit Structure 1, the structure quadrants were redefined in order to make four nearly equal units dividing the floor along the structure's north-south axis as defined by the vent system and a line perpendicular to that axis at the midpoint between the edges of the floor. The lower fill of Pit Structure 1 reflects the disintegration of the structure's walls after removal of the roof as well as materials from and on the roof. The condition of Floor 1 was very good, which suggests that filling took place quite rapidly after the roof was removed.

The three floors cleared in this structure were closely spaced, and all indications are that they were refurbishments of floors of the same structure space rather than floors that correspond to a modification of the structure itself (Fig. 13.67a). The fire pit and the deflector appear to have remained in the same location for all floors; the fire pit, however, was



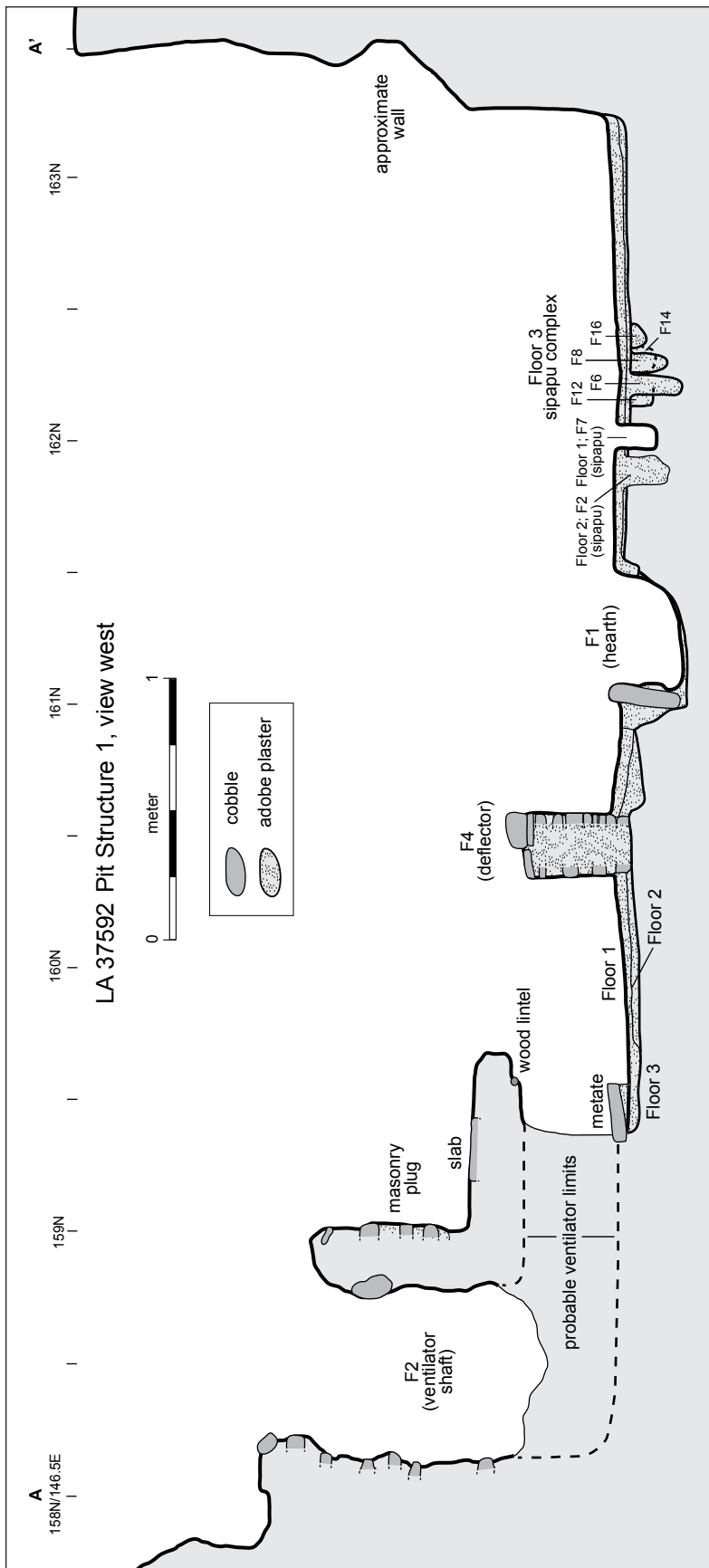


Figure 13.67a. LA 37592, Pit Structure 1, A-A' (N-S, 146.5E line), architectural profile.



Figure 13.67b. LA 37592, Pit Structure 1, Layer 23; thick plaster with sherd chinking, detail.

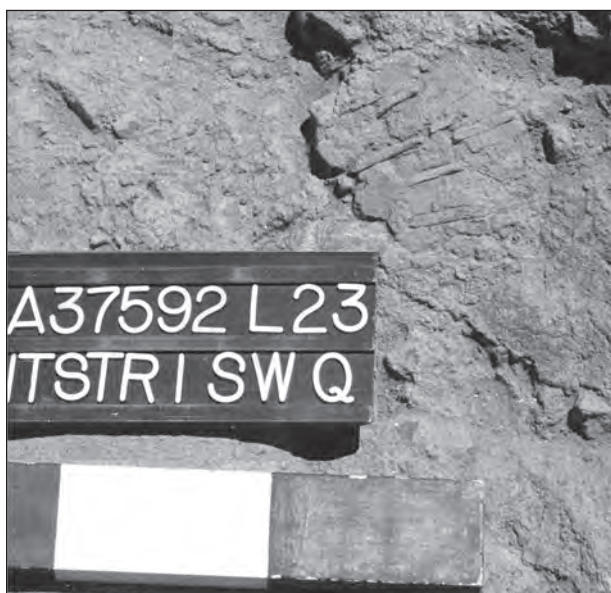


Figure 13.67c. LA 37592, Pit Structure 1, Layer 23, SW quad; note thick plaster with sherd chinking (upper right).

modified for each floor. Judging from the number of features (Table 13.62), it seems that Floor 3, the original floor, was probably in use the longest—a total of 19 features were dug for Floor 3, 9 for Floor 1, and 10 for Floor 2. The count for Floor 1 is especially low, since it includes several structural features very likely to have been used with the earlier floors: two large cists, ventilation system features, a floor niche, and what little survived of the bench.

### Floor 1

As noted, the latest floor in Pit Structure 1 was the simplest of the three (Figs. 13.45a, 13.45b, 13.69). The floor surface was smooth and hard and easily defined. It had a definite black cast to it, suggesting use, but probably not burning of the structure (Figs. 13.70, 13.71).

The elevation of Floor 1 was from 2.37 to 2.39 m below datum. It was lowest in the southeast quadrant, and 2.34–2.36 m below datum south of the deflector. A list of the point-provenienced floor artifacts (FS 444) follows (Fig. 13.69): northeast quadrant, turkey femur, plain gray sherd, white flake with cortex, small gray chert flake, mottled chert flake, everted gray ware rim (Pueblo III), sherd (not in floor artifact collection), slab metate measuring 24.1 by 23.2 by 18.9 cm (18.5 kg); northwest quadrant, black-on-white bowl sherd, siltstone core with cortex, gray chert core, plain gray jar sherd, tan chert core, heavily used small hammerstone (quartzitic sandstone), siltstone flake, granite (andesite?) plaster polishing stone fragment, red quartzite pebble (light hammerstone use?), siltstone flake with cortex, white ware jar handle, large gray chert flake with cortex, Pueblo II–III black-on-white bowl sherd; southeast quadrant, corrugated jar sherd; southwest quadrant, corrugated jar sherd, two white ware jar sherds, two corrugated sherds, corrugated jar sherd, Dogoszhi-style bowl sherd (mineral paint), plain gray ware sherd, four corrugated sherds, oxidized

Table 13.62. LA 37592, Pit Structure 1, Floors 1–3, features; summary table.

Feature	Shape	Percent Complete	Construction Details	Use Details	Fill	Assigned Function	Vol. (l)	Length/Width/Depth (cm)
<b>Floor 1</b>								
1	pit, subrectangular (D) solid	100%	Cobble, slab, and adobe lined.	burned; deconsecrated at abandonment	7 layers: structure Layer 35.	hearth	82.4	49/58/29
2	rectangular solid	100%	Masonry sides, wood lintels, plaster floor.	open remodeled	Natural filling, structure layers.	vent tunnel	–	38h/34w 155 to back of shaft
3	ovoid cylinder	60%	Cobble-masonry lined.	open vent for all 3 floors	Natural filling, structural collapse.	vent shaft	–	64/55 at least 21 m deep
4	rectangular solid	80–90%	Cobble and sandstone double-coursed masonry; plastered.	deflector for all 3 floors	Rests on Floor 3; Floors 1 and 2 plastered against deflector	deflector	92.0	24–30th/ 39–49h
5	crescent?	50%?	Plastered earth; masonry around vent.	open	–	bench	–	63–67h
6	large spherical cist	100%	Covered with stick and adobe roof, unlined.	closed but accessible	4 layers: floor and cist cover, ashy layer at back, clayey layer on top of mounded wall fall.	storage cist	294	98/70/53
7	cylinder	100%	Unlined.	open unburned	Sandy fill with minor ash and charcoal content.	sipapu	1.3	9.5/11.5/16
8	rectangular solid	100%	Some masonry around mouth, but apparently no lintel.	open at abandonment	Largely filled by silt layer in structure (Layer 29). Floor has mixture of sand, gravel, and artifacts. Bone spatula on feature floor.	wall niche	13.3	35/30/31
9	cylindrical/truncated cone	80%?	Plastered; mostly excavated into natural deposits; entry not preserved.	open? unburned	Contains substantial amount of collapsed wall on top of silt layer on top of further collapse; trash unit near feature floor.	large off-chamber cist	2298	156/150/125
<b>Floor 2</b>								
1	rectangular	–	Clay-lined.	open burned	Remodeled version of Floor 1 hearth; only fill behind slabs.	hearth	49.0	72/68/10

Table 13.62 (continued)

Feature	Shape	Percent Complete	Construction Details	Use Details	Fill	Assigned Function	Vol. (l)	Length/Width/Depth (cm)
2	oval, truncated cone	-	Unlined; possible superimposition.	open unburned	Sandy silt with charcoal flecks; dark lens noted.	sipapu	1.8	13/10/17
3	pit, ovoid cylinder	100%	Clay-lined; replaced Feature 4?	open unburned; paired with Feature 6?	Tan medium to fine silty sand.	pit; altar support?	3.0	14/13/21
4	pit, cylinder	20%	Unlined.	closed; removed by Feature 3; paired with Feature 7?	Fine sand and silt.	pit; altar support?	1.2 est.	10/10/15
5	pit	-	Unlined.	open	Medium sand and silt.	shallow pit	1.0	18/18/4
6	pit, cylinder	-	Unlined.	open paired with Feature 3?	More charcoal than adjacent pits.	pit; altar support?	0.4	11/10/5
7	pit, hemisphere	-	Unlined.	closed paired with Feature 4?	Medium sand with silt and some charcoal flecks.	pit; altar support?	0.2	9/6/5
8	pit, cylinder	-	Unlined.	open unburned	Medium to coarse sand.	pit	0.4	10/9/5
9	pit, cylinder	100%	Clay-lined.	open inside niche	2 cm of jumbled clay, charcoal, and sand resting on ashy sand.	pit	1.2	13/12/10
10	pit, hemisphere	-	Unlined.	closed unburned	Clay, sand, and charcoal.	pit, pot rest?	0.3	11/10/3
<b>Floor 3</b>								
1	pit, ovoid hemisphere	-	Clay- and plaster-lined.	open burned	Fill removed by remodeling.	hearth	49.5	76/69/12
2	pit, hemisphere	-	Bark-lined.	open unburned	Fill is floor plaster, bark, and 2-7 cm ash, sand, and charcoal.	ash pit	9.8	54/37/6
3	pit, cylinder	-	Unlined.	open unburned	Medium sand.	pit	0.3	12/11/3
4	pit, cylinder	-	Unlined, uneven base.	open unburned; superimposed by Floor 2, Features 3 and 4	Homogeneous: sand with clay bits.	pit	5.4	20/19/18
5	pit, cylinder	-	Unlined.	open unburned	Silty sand with some charcoal flecks.	pit	0.9	14/13/6
6	pit, cylinder, sloping base	100%	Unlined.	open unburned	Medium sand with flecks of charcoal; lighter than surrounding soil.	sipapu	0.9	10/7/21
7	pit, oblique cylinder	100%	Plastered? Slants.	open unburned; next to deflector	Sand with small charcoal flecks.	pit	0.8	11/9/10
8	pit, irregular cylinder	-	Unlined.	open unburned	Sand with charcoal and bits of clay.	sipapu	1.3	10/10/16
9	ovoid hemisphere	100%	Unlined, adjacent to cobble.	open unburned	Lump of gray clay surrounded by gritty sand.	pit	1.7	23/23/4



Table 13.62 (continued)

Feature	Shape	Percent Complete	Construction Details	Use Details	Fill	Assigned Function	Vol. (l)	Length/Width/Depth (cm)
10	pit irregular	100%	Unlined.	closed unburned	Clayey sand with chunks of light tan clay near middle; fine charcoal flecks.	pit	6.5	33-37/28/7
11	pit cylinder	100%	Unlined, uneven base.	open unburned	Sandy with charcoal flecks.	pit	4	16/15/21
12	pit, ovoid cylinder	60%	Unlined.	closed unburned, cut by later sipapus	Sandy with charcoal flecks.	sipapu	1.8	20/14/8
13 (no FS)	pit, ovoid cylinder	70%	Unlined.	closed unburned cut by Features 6 and 8	Fine silty sand, some flecks of charcoal	sipapu	0.5	8/6/12
14	pit, ovoid cylinder	70%	Unlined.	closed, cut by Features 8, 12	Hard clayey soil with charcoal flecks.	sipapu	1.9	20/15/8
15	pit, trapezoid	100%	Clay floor with inset cobble.	open unburned	Two layers: pink sand with ash, clay, charcoal; clay layer.	pit	15	47/24-40/11
16	pit, cylinder?	40%	Unlined; first sipapu in cluster.	closed unburned, cut by later sipapus	Medium grained, gritty sand with charcoal flecks	sipapu?	-	11/6/10
17	cist, irregular oval	90%	Unlined.	open	Gritty sand with charcoal; more charcoal near base	pit	34.2	48/31/23
18	cist, sphere	100%	Unlined.	closed partially burned	5 layers: plaster plug; silt, ash, charcoal; ash, clay, silt; much charcoal, burned coarser sand; mixed ash and clay, charcoal.	ash receptacle	11.1	23/22/28
19	cist, cylinder	70%	Unlined.	closed unburned; cuts Feature 17	Gritty sand with bits of clay and charcoal.	pit	1.6	12/9/18

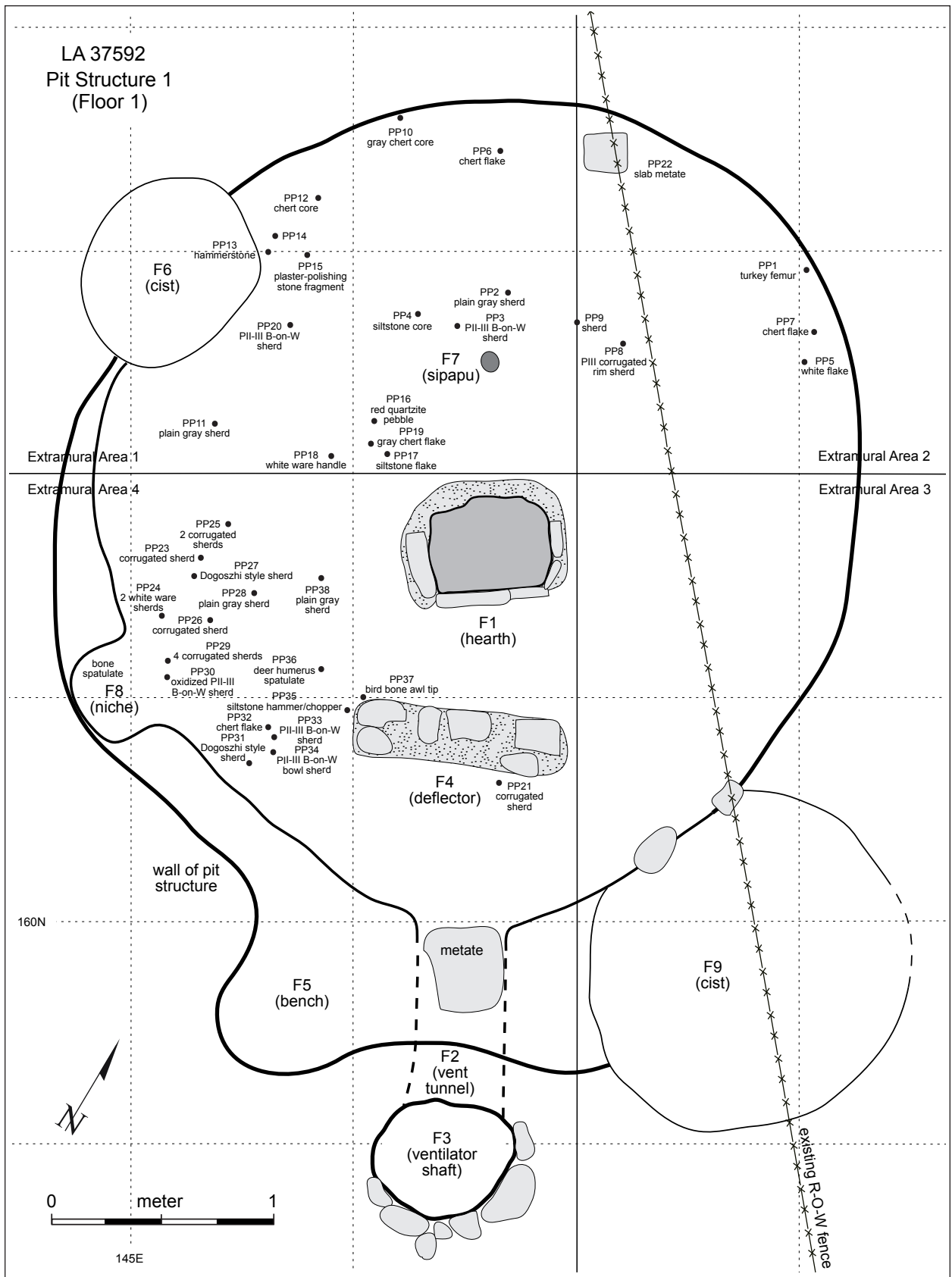


Figure 13.69. LA 37592, Pit Structure 1, Floor 1, features and point-provenienced artifacts, plan.



Figure 13.70. LA 37592, Pit Structure 1, Floor 1, view southeast.

Pueblo II-III black-on-white bowl sherd, Dogoszhi-style jar sherd (mineral paint), gray chert flake with cortex, Pueblo II-III black-on-white jar sherd, Pueblo II-III black-on-white bowl sherd, siltstone core-hammer-chopper, deer humerus spatulate, bird bone awl tip, plain gray jar sherd; Feature 8, spatulate bone; Layer 36 floor contact, southwest quad (FS 442), unmodified deer scapula.

The sherds found on the floor are all small, and none approaches a whole vessel (Fig. 13.69). Given the relatively late date of the floor, it is surprising that four point-provenienced sherds are plain gray ware. Two fragments of vessels with hatchured designs in mineral paint are also present on the floor, but there was also a piece of a late (Pueblo III) corrugated gray ware rim. A large, nearly cubical, very thick (18.9 cm) slab metate was on the floor near the north wall. This tool appears to be complete, but it is relatively short (24.1 cm), so it seems unlikely to have been a standard corn-grinding implement. It was not set in place, nor was there any form of catch basin; it weighs 18.5 kg and would have stayed in place for grinding smaller items, though not perhaps for full-scale corn grinding. No other grinding tools were

found on the floor, although eight manos were in the floor fill. The four complete manos were all found in feature fills (the vent system, large off-chamber cist, and the bench), well removed from the metate, and not spatially related to it. The metate does not seem likely to have come from collapsed masonry and probably was used for grinding in the structure. *What* was ground is unknown.

A total of 67 pieces of chipped stone were associated with the floor either in contact with it or in floor fill. Although these items occurred by far most frequently in the northwest quadrant, there is little deviation from the expected in either material type (mostly chert and siltstone) or artifact type (mostly debitage and cores). Other than two retouched or utilized flakes, there were no formal lithic tools associated with the floor.

Of five humerus scrapers or spatulates from this site, three are in association with Floor 1, and four awls with varying tips complete the floor's bone tool assemblage. These tool types were not found in association with one another; many of the awls are from the fill of the large off-chamber cist. Pollen types that were uncommon at the site but found in





Figure 13.71. LA 37592, Pit Structure 1, Floor 1, view north.

floor fill quads include *Quercus*, Fabaceae (which may include beans), and Cyperaceae (sedges). *Zea* pollen was present in three of the four quads. Oak pollen on the floor could have resulted from the use of oak in the structure roof (Table 13.36).

Two articulated turkeys were found near Floor 1 of this structure. One was in the lower fill in Layer 26, and the other was resting just west of the hearth

with the head and neck resting on the floor, and the body perhaps slightly above the floor (Fig. 13.72a). Placement of whole turkeys in vents and on pit structure floors in the vicinity of the vent and the hearth at the time of structure closure has been reported fairly often, and may represent an act of de-consecration of the house (Gillespie 1976:67; Truell 1986:225–227; Hill 2000).



### *Features (Floor 1)*

**Bench/southern recess (Feature 5).** The bench was defined only in the vicinity of the vent shaft (Fig. 13.45a, 13.69). In that area it had a smooth, well-plastered surface that sloped up to the structure walls. Around the vent tunnel opening some masonry was used, but the probable absence of masonry, the extensive erosion of the upper walls, and the collapse of the large off-chamber cist precluded survival of the bench in the eastern and northern portions of the structure (if it ever existed in those areas). We thought it was visible in the profile at the west side of the structure (Backhoe Trench 5), but extensive searching and a second trench (Backhoe Trench 6) did not reveal any trace of it on the north side of the structure. In spite of its invisibility, a bench probably encircled the entire structure at 65–70 cm above the floor when the structure was intact. This is somewhat lower than the earthen benches at LA 37595 Pit Structure 1 (which was also difficult to define) and LA 37598 Pit Structure 2 (which was in beautiful condition), but they are likely to have been similar.

The “recess” was formed by a wide place on the bench with a lobe extending behind the plane of the front of the masonry vent shaft. The east side of the recess collapsed into the large off-chamber cist and was not observable. Presumably, the recess was symmetrical around the vent shaft, and the bench extended over the entrance to the off-chamber cist. The construction of the vent shaft within the main chamber hole rather than as a separate shaft led to this modified, reduced recess.

**Hearth (Feature 1).** The Floor 1 iteration of this hearth exhibits three building techniques. Along the south side a single, large sandstone slab was placed in order to be slightly above floor level; this slab is out of parallel with the base of the deflector (over the distance of 0.5 m, the southwest corner of the fire pit is 49 cm from the deflector, while the southeast corner is 60 cm away; Fig. 13.45a). The east and west sides of the hearth are respectively lined with cobbles and another sandstone slab, and the north side is an adobe plaster-lined arc (Fig. 13.72b). The overall shape of the feature, then, was a slightly ital-



Figure 13.72a. LA 37592, Pit Structure 1, Floor 1, articulated turkey near Feature 1 (hearth) and Feature 4 (deflector).

icized "D." All of the Floor 1 hearth construction was placed within the Floor 2 fire pit, which was plaster lined.

Even the sandstone slabs in the Floor 1 version seem to have been from different sources. The smaller, blockier rock on the west side was gray green, while the unburned portions of the long south slab were yellow brown. All of the rock work was very firmly cemented into place, with the top of the south slab canted slightly toward the center of the pit. Plaster lining was present on the lower part of the long south slab, and there were two notches in the plaster, one at the southeast corner of the feature, and one 10 cm west of it on the face of the south slab. The south slab was friable, medium-grained sandstone burned to a maroon to black color with white specks. This slab was 52 cm long, but it had cracked in situ where it changed abruptly from around 3 cm to 7 cm thick. The top of the slab had been shaped by chipping. The top of the west side sandstone slab may also have been

shaped somewhat, and the face to the fire may have been slightly ground. The northern of the two cobbles on the east side of the pit had one modified edge.

Seven layers were defined in the fill of the fire pit (Fig. 13.72b). The upper fill was structure Layer 35, which rests in a smooth, shallow basin of the top hearth fill layer. The topmost hearth fill gave the appearance of having been finished, though it may have gained this shape through compaction by the fill of the structure. The smooth upper surface of the feature fill was *not* burned. In addition to the fact that a complete turkey was resting on the upper fill of the hearth (Fig. 13.72a), the smoothed, closed fire pit suggest that feature—and probably the structure—had been ceremonially “closed” at abandonment. In coding the features and floor of the structure, only the Floor 1 hearth was designated as having been ritually closed. Another common location for de-sanctification materials, the base of the vent shaft, was not reached by our excavations.

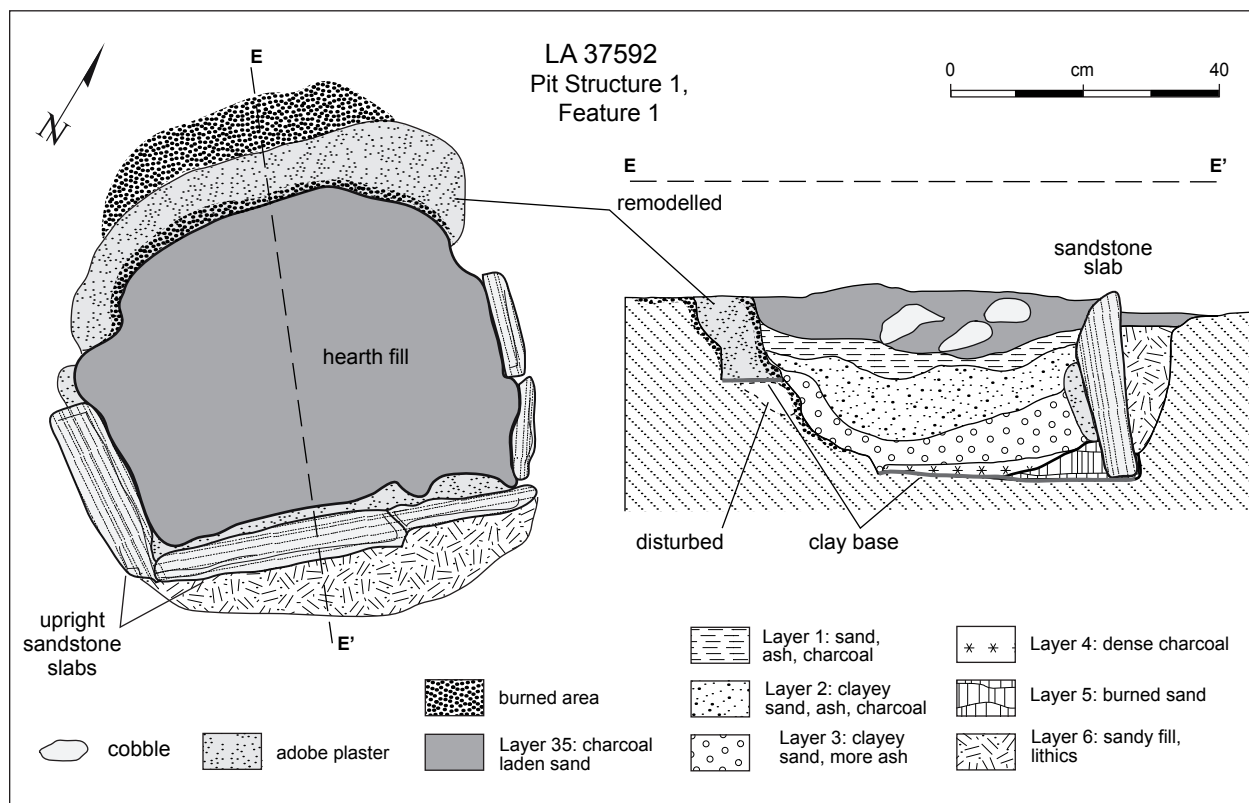


Figure 13.72b. LA 37592, Pit Structure 1, Floor 1, Feature 1 (hearth), plan and profile.

### Feature 1 Layers:

Structure Layer 35. The base of Layer 35 within the hearth was smooth and gray, but not burned. This surface had a prepared look to it, but some of that appearance could have resulted from compression by the fill. In addition to the head and neck elements of the turkey, isolated elements of a rattlesnake, a toad, and a scrub jay were in the upper hearth fill; all of these animals are rare species in the site assemblage.

Layer 1. The top layer was fine sand containing ash, charcoal, pebbles, and chunks of unburned material. At the east side of the feature, the layer feathered to very thin deposit, but it was up to 7 cm thick elsewhere. The west half of the layer was screened through 1/4-inch mesh, and the east half through 1/8-inch mesh.

Layer 2. This layer was lenticular in section, ranging from 2 to 12 cm thick; it consisted of clayey sand with pockets of gray ash, white ash, charcoal, and burned clayey soil. The overall color of the layer was tan to gray. Small to tiny flakes were present, as well as some very small pieces of calcined bone.

Layer 3. This layer was similar in texture to Layer 2, but ashier, and contained more burned soil, as well as small pieces of brownish sandstone or ochre. It also contained some flakes and burned bone.

Layer 4. This layer was a thin layer of dense charcoal at the base of the center and northern portions of the pit; the top interdigitated with Layer 3. The charcoal was mostly from twigs rather than larger fuel.

Layer 5. This unit was pure, burned, red-orange sand mounded against the south slab of the pit, possibly placed to hold slab during remodeling.

Layers 2-6. These layers were removed as a single unit in the west half of the feature, but separately in the east half. Layers 4 and 5 were completely collected, and Layers 2, 3, and 6 were screened through 1/8-inch mesh.

Layer 6. This layer consisted of sandy unburned fill; it contained six flakes in a relatively small volume. Although the lithics were visually unusual, material frequencies and types place them within the normal range for the site. This fill was probably also placed to hold up the south side slab.

Most of the lithics we judged to be either *de facto* refuse or in a use context; they were found in the fill of this hearth.

*Ventilation system (Features 2, 3, 4, 7).* Most of the surviving masonry in Pit Structure 1 related to the ventilation system (Figs. 13.45a, 13.70, 13.71, 13.73, 13.74, 13.75a). The ventilator shaft (Feature 3) was an open-sided cylinder constructed of cobbles above the bench level. The open side of the cylinder was closed from the chamber by means of an adobe and masonry plug. Since the articulation of the plug with the shaft was apparently mostly fill, it may be that much of the dividing wall was mortar rather than stone masonry. A number of angled cobbles adhered to the south side of the plug, inside the shaft; they appeared to be out of place, but if so, the plug was very thin—only 20–22 cm thick. The shaft protruded into the chamber, so that there was bench surface behind the plane of the plug on the west side of the shaft. A small amount of reddish plaster remained on the chamber side of the plug. A similar bench-vent shaft configuration is visible in a pit structure at Yellowjacket (Lange et al. 1986:iv).

Although the tunnel (Feature 2) was not completely excavated and dissected, the exposed portion indicated that its sides below the bench were straight on the west and south sides. The wall below the shaft portion was separated from the base of the shaft masonry by a band of 17 to 25 cm of hard soil, indicating that this feature, too, relied in part on the consistency of the native soil. The opening of the tunnel was the same as that apparently used for the earlier floors, but it had been remodeled for Floor 1. As remodeled, the opening was a slightly irregular rectangle, 38 cm high and 34 cm wide. The top of the tunnel was formed by a small (less than 2 cm diameter), now-rotted stick lintel; a few rocks were used on the sides of the opening, especially on the west. Although not fully exposed, the roof of the vent was probably formed by parallel sticks laid across a trench; plastered-over sticks were visible at the opening, and there was a depression in the bench suggesting collapse of this roofing between the base of the vent shaft and the tunnel opening. The opening had been reduced with the addition of Floor 1 by tightly fitting and plastering a substantial portion of a shallow trough metate into the floor of the tunnel mouth along with some cobbles (Fig. 13.75b). The tunnel floor was further raised by putting 4–6 cm of adobe or plaster on top of the metate.

Fill in the tunnel indicated rapid filling. The base of the silt layer (Structure Layer 29, feature





Figure 13.73. LA 37592, Pit Structure 1, Floor 1, Feature 4 (deflector; foreground), view south to Feature 2 (vent tunnel) and Feature 3 (vent shaft).

Layer 3) was 21–27 cm above the level of Floor 1 inside the vent. The silt layer was 7–8 cm thick in the tunnel, thicker than in much of the structure, suggesting that the vent system may have been a primary source of this material during the filling of the structure as a whole. Below the silt was a second medium-grained and coarser sandy alluvial layer (Feature Layer 4) that may have come from erosion cutting a channel into the top of the underlying layer (Feature Layer 5). Layer 5 fills the bottom of the tunnel and was composed of mottled soil with bits of clay, charcoal, and burned soil, as well as cobbles. This layer probably represents early slumpage of

the ventilator structure. Above the Layer 29/Layer 5 silt is a grayish clay-silt layer with bits of charcoal, sand, and pebbles (feature Layer 2), on top of which was thin, fine reddish layer (feature Layer 1). Both of these units were doubtless the result of alluvial filling of the remaining cavity.

The deflector (Feature 4), 78 cm from the vent opening, was a freestanding masonry construction that appeared to have served during the use of all three floors. It sits on Floor 3, and Floors 1 and 2 were built up against it. It is probable that a course or two were missing from the top of the feature, but the surviving construction was 24 to 30 cm wide, 92 cm long, and 39 cm above Floor 1 (maximum height above Floor 3 was 49 cm). The construction was basically double-coursed and about five courses high, although the heavy use of mortar and variable cobble size makes the coursing dimensions variable (Fig. 13.74). Most of the rock in the deflector was cobbles, but there was a sandstone block at the upper northeast corner. The highest point on top of the deflector was 1.93 m below site datum, while the highest point at the top of the vent tunnel was 1.95 m below datum, indicating that the entire opening would have been screened by the deflector (Fig. 13.75a).

**Sipapu (Feature 7).** This feature was identified as a sipapu strictly on the basis of its location. It was a straight-sided pit 45 cm north of the north side of the Floor 1 hearth. The upper 5 to 9 cm of the feature was clearly identifiable; it was smooth and gray, and probably plastered. Below the clearly plastered upper area, the sides of the pit were less distinct. The base of the feature was defined by a hard, probably natural stratum and the cessation of charcoal flecks. The clean-looking fill contained 13 genera of pollen, including *Typha* (cattail), found elsewhere in the structure only in the large off-chamber cist. The abundance of pollen in the feature supports its identification as a sipapu.

**Large subfloor cist (Feature 6).** During excavation of the northwest quad of the structure a low spot next to the wall was apparent in Layers 27, 28, and 29 above the floor. After Floor 1 was cleared, there was a depression in the floor surface at the base of the wall in the northwest portion of the chamber (Fig. 13.45). As part of the excavation of the Floor 1 features, we excavated this depression. The feature turned out to be a sizable chamber that undercut the





Figure 13.74. LA 37592, Pit Structure 1, Floor 1, Feature 4 (deflector), detail, view south to Feature 2 (vent tunnel).



Figure 13.75a. LA 37592, Feature 4 (deflector), vertical cross-section detail.



Figure 13.75b. LA 37592, Pit Structure 1, Feature 2 (vent tunnel) opening with metate in situ, as exposed in course of excavation between Floors 1 and 2; surface in foreground is Floor 2.

wall (Fig. 13.76). The depressed appearance of the floor resulted from the sag and partial collapse of the feature's roof. The roof was made up of 1–5 cm diameter sticks arranged in a slightly fanned pattern. The sticks were covered with bark laid across the sticks followed by clay or plaster. Four roofing stick specimens were collected; all have been identified as juniper. Especially given its uses elsewhere, it seems likely that the bark component of the roof was also juniper. Plan maps of phases of excavation indicate that the stick and bark construction extended past the edges of the cist itself onto the chamber floor. A cobble and mortar construction was placed in the wall above the feature, perhaps as part of access to the feature or, more likely, in order to hold the wall in place above the feature, as a means of reconstructing the wall base after digging and covering the feature. The ashy matrix of this wall unit was similar to that found in feature Layer 4. The stick construction extended back under the wall and the cobble fill.

The back of the cist undercut the wall of the main chamber of the structure by about 45 cm. The front (chamber) side of the feature was vertical, while the back, undercut side angled down at about 45 degrees. It was subrectangular in plan with the long axis running along the base of the wall. Based on reassembly of the field sketches, the wood elements forming the top of the cover mostly ran straight across the cist, although some were angled at the corner of the cist, and there were sticks along the long axis of the cist, presumably for the cross members to rest on. The longest stick, placed near the center of the cist, measured 83 cm. Bark rested on top of the sticks, presumably as means of keeping dirt and plaster on top of the feature cover. The pattern formed by the crosspieces suggests that there was an opening in the front middle to left side of the cover, created by a space between crosspieces. The opening so formed was about 26 cm wide by the wall to 38 cm wide toward the center of the structure. The heap of wall fall on the floor of the feature and the absence of cover material underneath this heap indicate that the feature was open when the structure was dismantled and collapsing. Alluvial washing and sagging of the cover completed the filling of the feature.

There is some suggestion that Floor 2 may have extended over this feature, which would place its use and construction with either Floor 2 or 3.

During the use of Floor 1 the feature would have been a covered cavity, which may or may not have been accessible. At the time of excavation, the feature's roofing did not cover the entire opening of the cist. The gap might, of course, have been the result of the way in which the feature collapsed, but it is at least as likely that the feature was also accessible from Floor 1.

Prompted by the high frequency of turkey remains at this and other La Plata sites, Mick-O'Hara (1994) suggested that a feature such as this could have been used for keeping turkey poults, which are prone to mishap. While an interesting idea, there is little stratigraphic or other evidence in this feature to support this idea. The floor of the feature was marked by a slight increase in sherds at the base of Layer 2, but no discolored or other organic deposit was noted on the floor, and eggshell and juvenile turkey remains were absent from all layers. In top to bottom order, the layers were as follows:

Layer 1. This top layer was silty and included Floor 2 and sticks and bark supporting the floor over the cist. It contained only one piece of ground stone and no other artifacts.

Layer 4. This ashy unit, containing abundant charcoal and some sherds, was found at the back of the feature, mostly in the undercut portion. Layer 4 rested on Layer 3, with sherds present at the contact between them. The layer may have been structure and/or feature roofing material, or it may have been trash.

Layer 3. Layer 3 was dark "clay" overlying the mound of wall fall (Layer 2); no artifacts were present.

Layer 2. This layer was made up of wall fall. It was mounded in the center of the cist. Its composition was pieces of wall plaster, chunks of sterile grayish silt from just outside the structure, and reddish brown silt. Some sherds and lithics were present.

*Major off-chamber cist (Feature 9).* This was the first example we excavated of this important but little-documented class of feature, and it caused us a good deal of trouble in definition, both of Pit Structure 1 and the feature itself. Large, undercut features with relatively small openings, such features present a difficult problem for safe excavation and full definition, especially since they are below the level of already deep floors (the floor of this

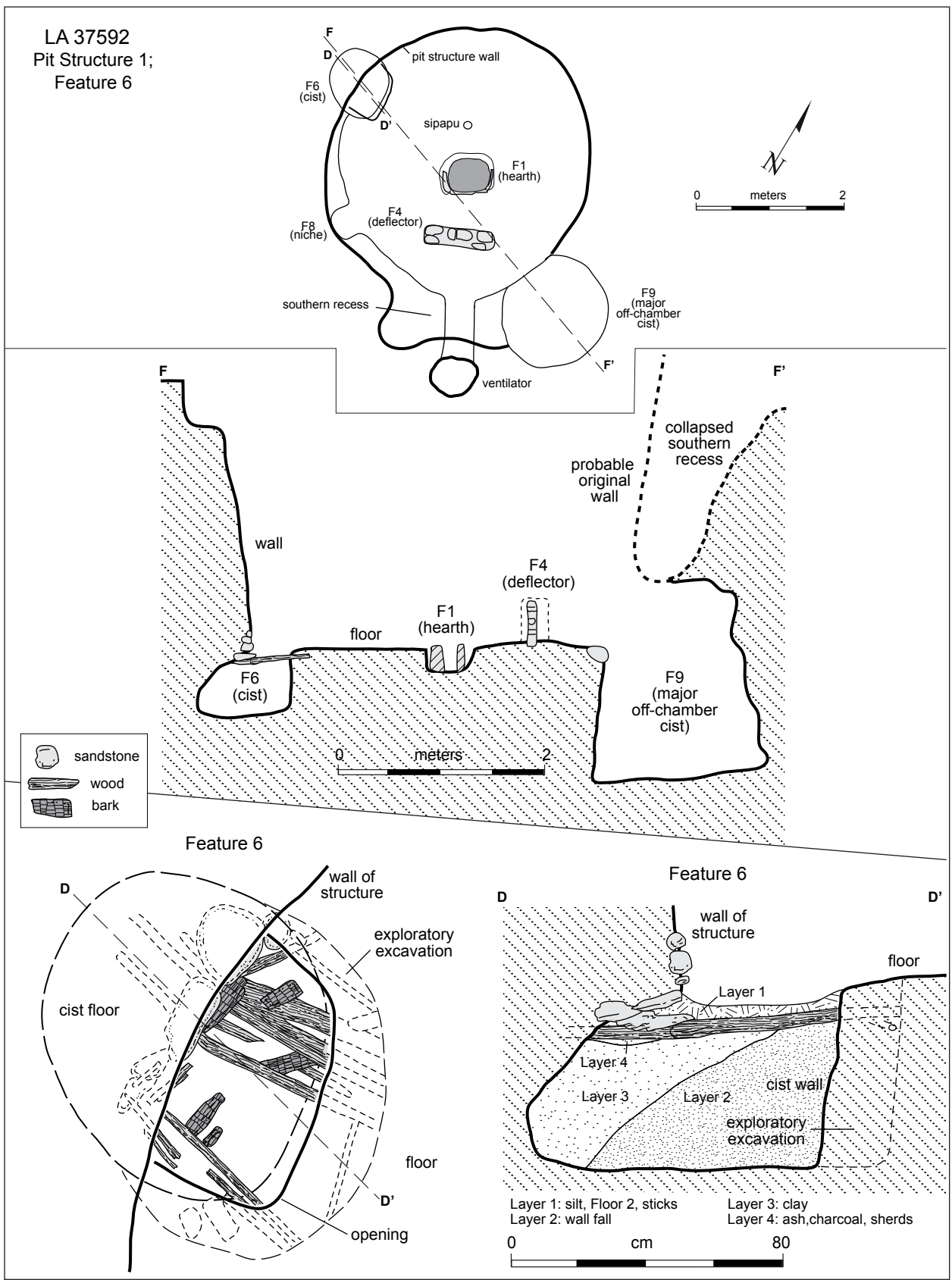


Figure 13.76. LA 37592, Pit Structure 1, Floor 1, Feature 6 (subfloor cist), plan and profiles.



feature was 3.78 m below ground surface). Surrounding features and access allowing, the best approach to such features is probably to remove the overlying soil with a backhoe to the level of the top of the feature and proceed with hand excavation from there. Largely by default, this method was used for this feature, though its late discovery precluded the feature's full excavation. We had been aware of disturbed deposits in the area of the feature from the earliest trenches in the pit structure, but not until the structure excavations were finished did we extend a backhoe trench to the south in this area.

A 0.5 by 1.2 m hand trench was excavated starting inside the structure extending south. The backhoe trench (Backhoe Trench 4) and the hand trench showed several units of fill in the cist. The feature layers were capped by the silt layer that also covered the bottom of the pit structure (Layer 29; Fig. 13.77). The silt layer looks to have been poured over mounded deposits in the feature, accumulating between the feature walls and the early feature fill. The presence of Layer 29 in the feature clearly links the filling of the feature and the main chamber of the structure, and suggests that the feature probably collapsed before the roof was removed, though the feature might have collapsed at the time the roof was removed. Above these layers of feature fill there was over 1 m of largely natural deposits that slumped to fill the feature, continuing the process of filling. The slumping process is quite evident in the profile, since chunks of soil containing natural laminae are visible at severe angles to the horizontal. These collapsed pieces of soil were in a brown sandy matrix with charcoal flecks; this matrix was probably generated by the collapse, as well. In assigning materials to the feature, the silt layer was used to separate feature materials from general pit structure materials. The layers inside the feature contained additional naturally laminated soil that has been plastered; these were probably collapsed portions of the pit structure bench. Within the feature the silt layer was about 3.06 m below site datum; therefore, feature Layers 2-4 and trench Levels 7-13 were designated as part of the feature. Levels 1-6 began at a depth of 2.46 m below site datum and extended to 3.06 m. They contained a mixture of churned natural and cultural deposits, and some undisturbed subfloor materials. While the deposits attributed to the feature contain a fairly large number of artifacts, those above it contained relatively few.

#### Feature 9 Layers:

Layer 29 (was feature Layer 1). This massive light tan eolian silt layer capped cultural deposits in the cist and was identified over much of the structure's floor. At the south edge of the feature, below the entrance from the chamber, the layer was about 50 cm below the chamber floor and 80 cm above the feature floor. The layer was at its thinnest in the feature here, about 2 cm thick; in the profile this layer can be seen to fill the space between the wall of the feature and the main fill unit of the feature. Toward the back (south) edge of the feature, this layer increased in thickness, reaching nearly 20 cm, by far the thickest part of this layer anywhere in the structure. Near the back of the feature, the eolian layer was only about 30 cm from the floor, showing quite clearly that the feature filled from the chamber side, and that a large hollow had collected the wind-blown material toward the back.

Layer 2. This layer was sandy and silty, with some charcoal and chunks of soil showing laminations and plaster coating, which almost certainly fell from the bench. This was the largest unit from the feature, around 50 cm thick. It also contained much the largest material assemblage (Levels 8-11 in the test trench correspond well to Layer 2 and are included with it in tabulations). The assemblage includes 273 turkey elements and 35 Aves elements, which are likely to be turkey. These elements are almost all from mature birds and are evenly distributed between right and left sides; a wide variety of elements is present, suggesting that most of around four birds were present. In all, four beaks were present (three in this layer) and many vertebrae, but these elements do not appear to have been in articulation in the deposit. Layer 2 is the only unit in this feature containing processed elements, which are mostly breaks, as well as a few cuts. Over 90 percent are unprocessed. About a third show discoloration, indicating possible heating.

Layer 3. This layer was a dark, ashy soil with high artifact content. It was quite clearly trash, located near the floor of the feature. This deposit, mounded near the center of the feature, represents the initial trash deposition in the feature. The layer was at most 10 cm thick, and the excavated volume was fairly small. The assemblage contains 26 turkey elements.

Layer 4. Layer 4 was a thin, sandy layer on the floor of feature.



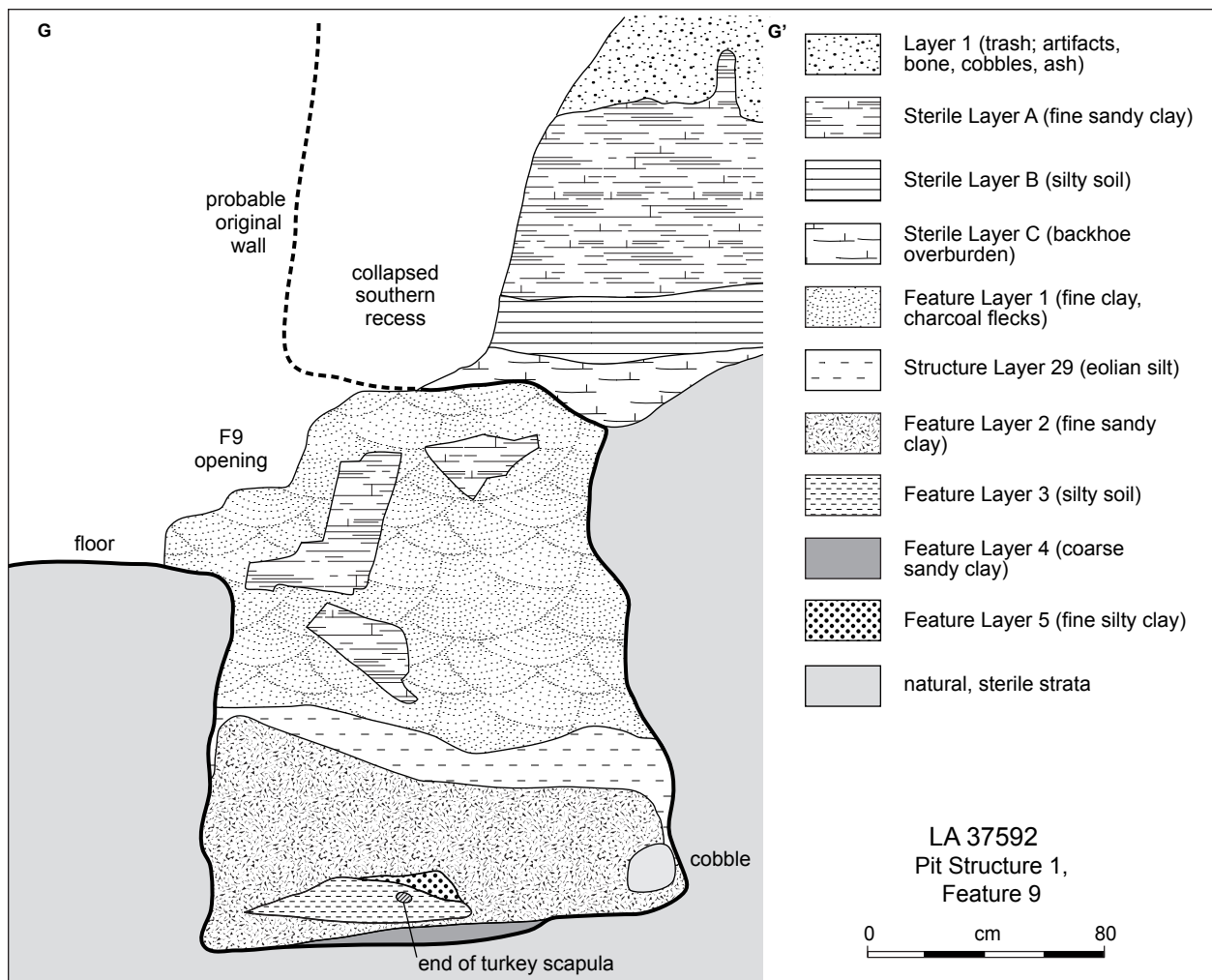


Figure 13.77. LA 37592, Pit Structure 1, Floor 1, Feature 9 (major off-chamber cist), profile.

Feature 9, a very large subfloor cist, was apparently entered through an opening in the bench in the southeast portion of Pit Structure 1, somewhat east of the vent tunnel opening. It is virtually certain that the entry collapsed, causing a great deal of trouble in the definition of the structure's southeast edge and wall, and the bench throughout excavation of the structure. It was first indicated in one of the initial trenches by an area that clearly extended below the level of Floor 1. Further indications of its presence were that the floor was low in the southeast.

Because excavation of this feature took place during the close-down phase of work on the site, it was not fully excavated. A trench was extended from the main chamber to the southeast on the assumption that the disturbance in this area repre-

sented an earlier structure. A profile trench was excavated in 10 cm levels, and then overburden was removed by the backhoe. Subsequently a portion was excavated in natural layers; the southeast portion of the feature was not cleared. While samples were collected from the trench levels, only the trash layer on the floor of the cist was discretely sampled.

The surviving portions of the cist indicate that it was cut 1.3 m vertically from the edge of the structure floor. In plan it was a regular, slightly oval cylinder (Figs. 13.45a, 13.78, 13.79). The pit belled slightly on the structure side and was supported by the strength of the undisturbed natural deposits. Other than some cobbles at the edge of the structure floor, the cist appears to have incorporated very little masonry. The row of cobbles at the

lip of the feature's entrance probably kept the edge of the pit from crumbling caused by people going in and out of the feature. The wall of the feature away from the structure was more irregular than the structure-side wall, but, especially higher in the feature, some of the irregularity may have resulted from the collapse of the feature. The upper portion of the feature inside the structure was lost, but the presence of pieces of fill that are plastered and show laminated sand at odd angles of repose strongly suggests that the opening was cut through an earthen bench. It seems almost necessary that there would have been an opening through the top of the bench for removing fill (even with such an opening, digging this pit would have been close, difficult work). This opening could have been closed with wooden lintels; the only evidence for this type of construction was a burned log lying parallel to the structure floor slightly below the level of the floor. A similar feature with such a closure was found in Pit Structure 1 at LA 37600.

This feature is attributed to Floor 1, but all three floors dipped in the southeast part of the structure, strongly suggesting that the feature existed throughout the use of the structure. Indeed, the trash fill on the floor of the feature indicates that it had gone out of use as a storage facility during the use of Floor 1, if not before.

The ceramics from this cist have an anomalously high frequency of organic paint—the percentage is very similar to that of the main midden, far above the cist, and the percentage is much higher than that of the lower fill of the structure and the floor association. Because any other explanation requires extraordinary means of filling this feature, I assume this difference is the result of a sampling error, but that explanation is not extremely satisfying. The similarity of the type assemblage to that in the midden, and the presence of these late ceramics sealed under Layer 29, are an important clue that the time between disuse of the structure and deposition of the midden was relatively short. These materials also support the temporal placement of the floors near the Pueblo II-III transition.

Especially considering that the entire cist was not excavated, this feature stands out for having contained a large quantity of artifacts and ecofacts. Not only is the feature large, but Layer 3 is a middenlike deposit containing large quantities

of sherds, chipped stone, and animal bone (Table 13.63). *Zea* pollen is present in Layer 3 in a concentration similar to those in the main Pit Structure 1 midden units (Table 13.36).

The trashy layer (feature Layer 3) at the base of the cist is tied to several other stratigraphic units within Pit Structure 1 by the presence of a deer scapula tool, of which eight were found in this structure and nowhere else on the project (Fig. 13.77). Other layers in which these implements were found were one in the upper midden, and several in probable roof material contexts (Layers 23, 25, 26).

Along with the covered cist in the northwest portion of the floor (Feature 6), this large off-chamber cist provided Pit Structure 1 with a large interior storage volume. Although the features demonstrate storage capacity of over 2,500 liters (mostly in Feature 9), we have little direct evidence of what was actually being stored since the fill to both features is structural debris and trash rather than primary deposits. As noted above, Mick-O'Hara (1993, 1994) suggested that these features could have been connected to turkey raising. Turkey remains are strongly associated with the floor of the structure and the fill of the cist. Fully articulated birds were associated with the structure floor. In the cist the quantity of turkey is indeed notable, since turkey elements outnumber sherds in Layers 2 and 3, a rare occurrence in any project context (in the midden, sherds outnumber faunal elements from two to six to one). The turkey elements were, however, most likely in either abandonment or immediately postabandonment contexts, making the link to turkey husbandry dubious. On the other hand, the frequency of turkey elements does indicate an association with that taxon.

In addition to the dominant turkey remains, a variety of other species are represented: elements of deer, jackrabbit, and cottontail are present in substantial numbers, and various small mammals are also present. This feature contained the only fish elements recovered from the site. Two of the three fish elements are from the sucker family; presumably this sort of fish would have been available in one of the local rivers; the elements come from a portion of the fill that included collapsed natural sediments (Layer 2). Also present in the cist is an a bobcat scapula, the only element of this species identified in the entire project.

Several pit structures excavated by the project



Figure 13.78. LA 37592, Pit Structure 1, Floor 1, Feature 9 (major off-chamber cist), detail; southeast quarter not excavated.



Figure 13.79. LA 37592, Pit Structure 1, Feature 9 (major off-chamber cist; center background), relative to ventilation system (on right), view east.

Table 13.63. LA 37592, Pit Structure 1, Floors 1–3, artifact counts by feature and cultural material category.

Feature	Ceramics	Lithics	Ground Stone	Fauna	Other
<b>Floor 1</b>					
Feature 1 (hearth)	9 gray	36 debitage	–	31 mammal	–
	5 white	1 utilized		53 bird	
				3 reptile	
Feature 2 (vent tunnel)	3 gray	1 debitage	1 mano	2 mammal	–
	1 white		1 trough metate	2 bird	
Feature 3 (vent shaft)	43 gray	8 debitage	1 mano	2 mammal	–
	15 white			1 bird	
Feature 5 (bench)	17 gray	11 debitage	1 mano	2 bird	pendant
	4 white	1 core			
		1 utilized			
Feature 6 (cist)	73 gray	3 debitage	1 polisher	–	–
	28 white		1 slab metate		
Feature 8 (niche)	2 gray	1 debitage	–	3 mammal	18 pollen*
				1 bird	squash, corn, etc.
				spatulate	
Feature 9 (off-chamber cist)	98 gray	94 debitage	5 manos	134 mammal	15 pollen*
	44 white	1 core	1 lap stone	367 bird	
		6 utilized		3 fish	
		2 points		43 eggshell	
		1 hammer		scoop, spatulate	
				3 awls, coarse, medium point	
			1 indeterminate blank		
<b>Floor 2</b>					
Feature 1 (hearth)	3 gray	11 debitage	–	16 mammal	–
				3 bird	
				8 eggshell	
				2 awls	
Feature 2 (sipapu)	–	–	–	2 mammal	–
Feature 9 (pit)	1 gray	–	–	–	–
<b>Floor 3</b>					
Feature 1 (hearth)	2 gray	2 debitage	1 mano	–	–
		1 utilized			
Feature 2 (ash pit)	–	–	–	8 mammal	–
				1 bird	
				awl	
Feature 3 (pit)	2 gray	–	–	–	–
	2 white				
Feature 6 (sipapu)	–	1 debitage	–	2 mammal	–
Feature 11 (pit)	1 gray	–	–	–	–
Feature 12 (sipapu)	–	–	–	1 mammal	1 ornament
Feature 14 (sipapu)	–	–	–	25 mammal	–
Feature 15 (pit)	1 gray	1 debitage	–	25 bird	–
		1 utilized			
Feature 17 (pit)	5 gray	1 debitage	–	–	–
	4 white				
Feature 18 (ash receptacle)	–	2 debitage	–	–	–

Most ground stone is fragmentary.

\* Pollen numbers are the number of genera in the sample.



had pairs of cists similar to Features 6 and 9 in Pit Structure 1: a larger-volume cist completely removed from the structure chamber, and a smaller one that is partly cut into the floor and partly into the wall. Other such pairs include LA 37595, Pit Structure 1, Features 2 and 13; and LA 37600, Pit Structure 1, Features 16 and 20. Cists big enough for a man to enter are known from project sites LA 37593 and LA 65030; and from Morris 41, Building XVI (Morris 1939:Plate 96).

**Floor-level wall niche (Feature 8).** This feature was cut into the base of the structure wall, and Floor 1 extended into the niche (Fig. 13.45a). The sides of the niche were plastered, as were the corners of the opening. The top of the niche opening exhibited no lintel, but cracking of the wall after the fill was removed makes it likely that the niche had some sort of lintel during use. Masonry was used to construct the left (south) and back sides of the niche; the right front was formed by a 12 cm thick adobe wall, but the back right corner was less well defined and appeared to be fill. These extra retaining features suggest that there was some need to shore up the deposits behind the niche. A section through the top of the niche showed that the portion of the bench into which the feature was dug was composed of natural strata, with a plaster facing above the feature opening. It seems likely, then, that the niche was constructed by making a hole larger than the niche in the structure's earth wall and then reducing the hole to the desired size using masonry, adobe, and a lintel. This sequence accounts for the presence of fill outside the constructed confines of the feature. The lintel was probably wood; we recovered no trace of it.

Most of the niche was filled with units recognizable from the fill of the structure. The top 5 cm of the niche were filled with the crumbly brown clay of structure Layer 28, and most of the niche (18 cm) was filled with the homogeneous silt of Layer 29, with several cobbles at the base of the layer. Immediately on the floor was a 3 to 4 cm thick layer of sand, gravel, and artifacts. A well-made deer humerus spatulate scraper was left in situ on the floor of the niche (Figs. 13.80a, 13.80b). Surprisingly, Layer 3 of this feature had the largest number of genera in its pollen sample of any on the site, with an unusual assortment of pollen types, including several genera not found elsewhere on the site: *Cucurbita*, *Ulmus*

(elm), *Juglans* (walnut), and several found in only a few other proveniences: cactus, *Populus*, *Picea*, and *Solanum*. Corn pollen and pollen of more common genera were also present. The presence of *Ulmus* suggests mixing or contamination of the sample, in spite of its location over 2 m below the present ground surface, but the unusual collection of pollen types calls attention to this open feature.

## Floor 2

The fill between Floors 1 and 2 in Pit Structure 1 consisted entirely of Floor 1 material (Layer 37): there was no other intentional filling. Modifications to the hearth and to the vent opening occurred with the replacement of Floor 2 (Figs. 13.75b, 13.81, 13.82, 13.84). Floor 2 was a less regular surface than Floor 1. Whereas Floor 1 was sooty and dark, Floor 2 was grayish, and the area around the hearth was slightly pink. In terms of features and floor artifacts, the Floor 2 surface was also simple. In all, then, the impression given by Floor 2 is that it was used only for a short time, although it looked more "worn out"



Figure 13.80a. LA 37592, Pit Structure 1, Floor 1, Feature 8 (floor-level niche), deer spatulate in situ.



Figure 13.80b. LA 37592, Pit Structure 1, Feature 8, deer spatulate (two views).

than Floor 1. Some of this appearance may have resulted from flooding of the structure after our excavation of Floor 1.

The opening of the vent tunnel is an excellent example of the frequently necessary adjustments to these sophisticated systems. As noted above, modifications were made to the Floor 1 version of the vent opening (Fig 13.75b). The predecessor to that redesign was visible at Floor 2, where a depression was excavated below floor level (Fig. 13.84). At Floor 1 this area was raised with a metate fragment and plaster.

The most unusual aspect of the floor is a complex of pits in the northeast quadrant associated with two slabs set in the floor. As discussed below, there is some possibility that this group of pits was associated with an altar; recovered evidence for activity on this floor was concentrated in the northeast. Floor artifacts are small and represent incidental refuse that was not cleared away at the time of remodeling. Given the paucity of floor materials, it is notable that there were three awls associated with the floor.

The elevation of Floor 2 was 2.38–2.42 m below site datum, lowest in the southwest, with an anomaly at the southeast edge of 2.46 m below

datum. Point-provenienced artifacts (FS 475; Fig. 13.81) included a microflake and a plain gray jar sherd (northwest quadrant); a mammal long-bone awl (PP 900 in faunal file), a hard gray sandstone pot lid (Lot 1, 12.2 cm), and a shaped pot lid (Lot 2, 8.6 cm) in the northeast quadrant; bone in the southeast quadrant; and two siltstone flakes and rodent bone (southwest quadrant).

#### *Features (Floor 2)*

**Hearth (Feature 1).** This feature was apparently remodeled with the emplacement of Floor 1 over Floor 2 (Figs. 13.45a, 13.81). The remodeling removed considerable portions of the feature. The Floor 1 fire pit (Floor 1 Feature 1) was slab-lined on the west, south, and east sides, and placement of the slabs removed most of the burned surfaces on those sides, although some remained on the southwest corner (Figs. 13.70, 13.71, 13.72b). The situation was further confused by the fact that this same location was also used as a fire pit for Floor 3, but the burn for that earliest use was distinguishable on the west and north sides of the feature.

During use with Floor 2, the fire pit, an adobe-lined feature, was probably rectangular with rounded corners (Fig. 13.82). It is likely that this

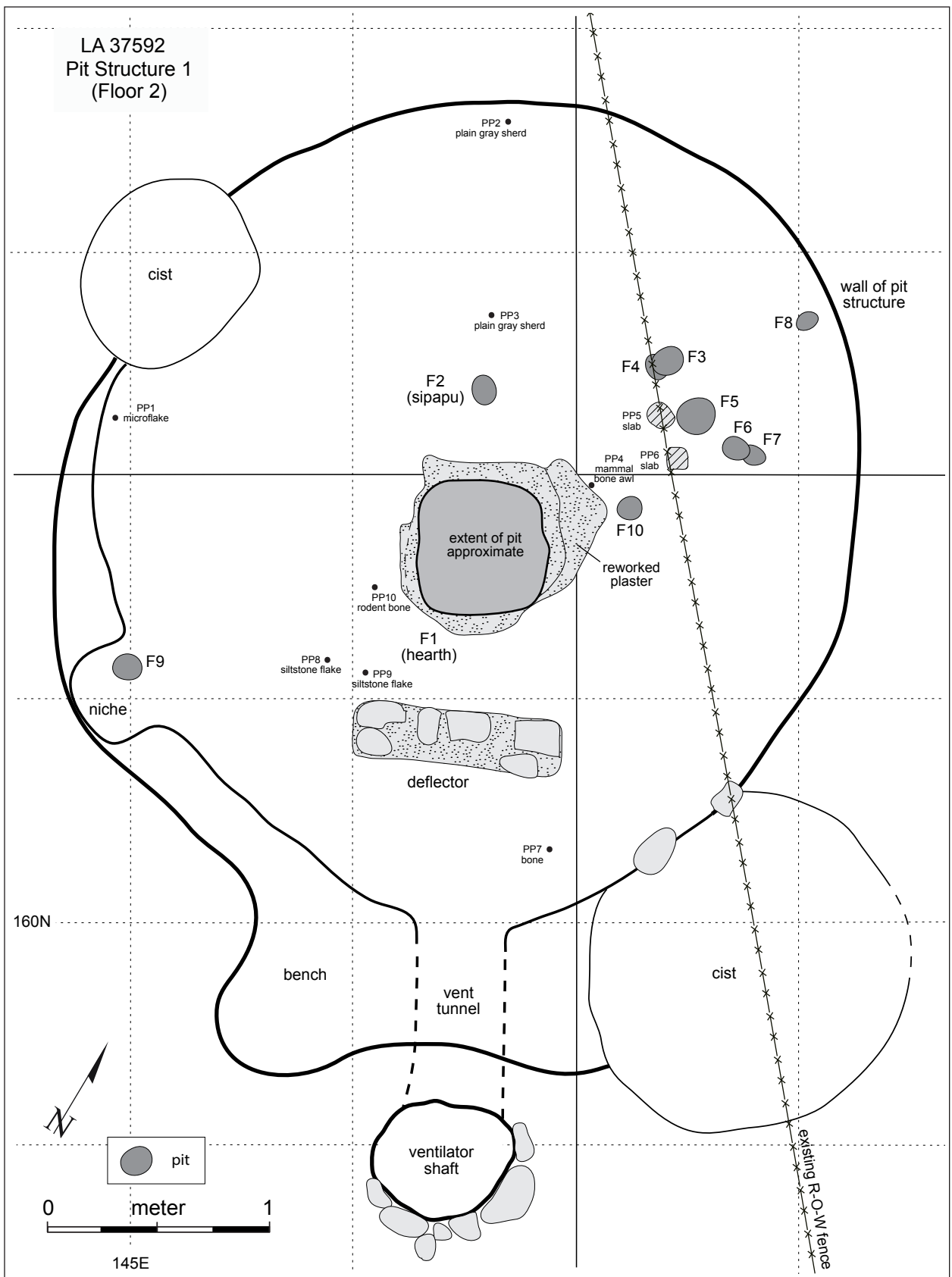


Figure 13.81. LA 37592, Pit Structure 1, Floor 2, plan.





Figure 13.82. LA 37592, Pit Structure 1, Floor 2, Feature 2 (hearth) as modified, and deflector.



Figure 13.84. LA 37592, Pit Structure 1, Floor 2, vent tunnel opening (metate removed); shows lintel and floor depression, and fill sequence inside the tunnel (note thick silt, Layer 29).

pit was considerably shallower than the Floor 1 fire pit, judging from the contour of the south side burn, but, again, the cutting of the deeper Floor 1 pit makes this conjectural. Assuming that the pit was shallower during its use with Floor 2, the Floor 2 and 3 versions of the pit had a considerably lower volume than the Floor 1 pit, even though the area of each was larger than that of the Floor 1 version.

On the east side of the pit there was a charcoal, sand, and clay unit extending up to 14 cm from the burn; this layer was designated feature Layer 2. No burn was apparent behind the fill, suggesting that this pit may have been dug large and then shaped with fill. Layer 2 rested in a saucer-shaped cut in Floor 2 and the silty material beneath it. This cut tapered from 5 cm deep by the hearth to where it merged with the floor, 21 cm from the fire pit. Removal of Layer 2 revealed a 2–4 cm thick crumbly clay lining on the east and north sides of the fire pit. In the north half of Layer 2 there was an intact fine-point turkey-bone awl. Another awl in the fire pit and one on Floor 2, in combination with the small number of artifacts associated with the floor, give



Floor 2 a high relative occurrence of awls. This floor has the most awls of any in the structure, but, as usual, the great preponderance of awls from the site was from the midden.

*Sipapu (Feature 2).* The pit of an irregular, oval pit (13 and 10 cm axes), Feature 2, narrowed to 5 cm in diameter toward its base (Fig. 13.81). A dark lens was noted toward the bottom. This could be where the pit intersected Floor 3, or perhaps it was the intersection of the pit with the dark clayey natural strata beneath the earliest floor. Although it was not noted in the field, the photo suggests that its irregular shape could have resulted from its having been superimposed on an earlier pit. As emphasized by the remodeling of the sipapu on Floor 3, adjustments to sipapus were common.

*Pits northeast of the hearth (Features 3–7).* Features on Floor 2 were heavily concentrated in the northeast quadrant. Five pits, Features 3–7, were found 60–90 cm northeast of the hearth (Fig. 13.81). These pits were filled with sand, and two were superimposed on two others. These superimposed pits can be seen as pairs, 35–50 cm apart. Their placement and pairing are reminiscent of altar supports discussed by Wilshusen (1989:95–96) in earlier pit structures, although in the example shown by Wilshusen, the posts are over 1 m apart. Since the floor was remodeled, no associated vessels or abandonment burning would be expected. The absence of similar paired holes in the preceding and succeeding floors suggests the changing use of the structure or the questionable validity of the idea that these pits were associated with an altar. The two sets of holes are also dissimilar in depth: the northwest set (Features 3–4) were 10 and 21 cm deep, respectively, while the southeast set (Features 6–7) were only 5 cm deep. As Wilshusen points out, holes that are only 5 cm deep could not support a large post construction; as he also points out, altar installations are likely to have been temporary, so that two superimposed sets in the same location makes sense, even in this probably short-lived floor. Ethnographically recorded examples employ ridges of sand and basal slats to help support the altar (Vivian et al. 1978:37–45). It is possible, although perhaps less likely, that these pits may supported a loom.

Between the pairs of superimposed pits was another pit (Feature 5). This pit was only 4 cm deep but was 18 cm in diameter and thus might have

been a pot rest or a basin under the proposed altar. It is not possible to surmise whether this pit was in use at the same time as the paired pits.

Two flat, shaped sandstone slabs were set into the floor surface within this concentration of pits. At the time of excavation, these smooth, pleasing-to-the-touch artifacts were seated in the floor plaster (Figs. 13.81, 13.85). The two disks were shaped by chipping and grinding; they are 8.6 and 12.2 cm in diameter and were recorded in the analysis as pot lids. One of the excavators noted that the floor had suffered from having been wet and that these artifacts could have been pushed into the surface at that time. My opinion is that they were imbedded when Floor 2 was plastered over. In either case, this part of the floor contained a concentration of evidence for activity in the structure, including a possible reused altar complex and possibly associated ground stone, and a small bone awl. Also in the northeast quadrant but near the structure wall and around 0.5 m from the cluster of pits was another shallow (5 cm deep) pit (Feature 8).

### Floor 3

Floor 3 was the first floor used with Pit Structure 1. It was also the most complex in terms of features, of which there were 18 (Figs. 13.86, 13.87). Based on the number of features, the amount of remodeling, and the worn appearance of the floor as indicators of amount of use, Floor 3 was also the longest exposed and most heavily used of the floors. Because it was a remodeled floor, however, very few artifacts were left in situ: there were only four point-provenienced floor artifacts. Floors 2 and 3 were separated by 3–5 cm of charcoal-flecked sandy plaster.

The elevation of Floor 3 ranged from 2.40 m in the northwest to 2.45 in the southeast, with a low spot at 2.49 m at the southeast edge, caused by the off-chamber cist (Floor 1 Feature 9). Point-provenienced artifacts (FS 490; Fig. 13.86) included an unfired sherd, a retouched/utilized chert flake, a quartzite flake, a plain gray jar sherd, and wood, uncollected (southeast quad); a retouched/utilized siltstone flake (southwest quadrant); and a hammerstone (northwest quadrant?).

### Features (Floor 3)

*Hearth (Feature 1).* Since the hearth remained in the same location for each floor, much of the earliest version was gone. The location of the ear-



Figure 13.85. LA 37592, Pit Structure 1, Floor 2, sandstone slabs (potlids) set in floor near Features 3 through 7, view south.

liest north edge was marked by a burn line, which was somewhat outside the hearth as excavated for Floor 3, indicating that Floor 3's hearth, too, was remodeled (Fig. 13.86, 13.87).

**Ash pits (Features 2, 18).** Although the later floors of this structure did not have features we identified as ash pits, Floor 3 had two (Fig. 13.86). Feature 2 was in the traditional location for such a feature, between the hearth and the deflector (see Bullard 1962:159–162; Truell 1986:208). The feature consisted of an oval depression in the floor; the maximum depth during use was only about 7 cm, but there were several centimeters of intentional fill above the ash deposit, including some clean sand and two layers of Floor 2 plaster. A depth of 2–7 cm of sand, ash, and large charcoal was in the pit when it was floored over. The base of the pit was clearly defined by six strips of bark, probably juniper. This feature was very close to the mean dimensions reported by Truell (1986:208)—this one was 54 by 37 by 6 cm deep, while her mean size was 51 by 36 by 8 cm deep.

The second ash receptacle (Feature 18) was a constricted-neck feature southwest of the hearth and adjacent to the other ash pit. It was a much different shape, 28 cm deep, with an orifice of only 14 cm; morphologically, therefore, it was not an ash pit, although it did function as one. This pit was sealed with floor plaster, and, especially since it undercut the bark-lined ash pit, it seems likely that it preceded it. It contained five distinguishable layers, each of which was likely to have come from the hearth, containing various mixtures of charcoal, ash, burned sand, and other fill. Although there was at least one lens of burned sand between layers, the constricted orifice of the pit makes much burning inside the pit seem unlikely; it may be that hot fire-pit contents dumped into the pit caused some oxidation after they were deposited. The flotation samples from the bottom two layers contained considerable numbers of *Nicotiana* (tobacco) seeds, especially feature Layer 5. These seeds are unburned, but accidental introduction into this feature is unlikely. A single *Nicotiana* seed was recovered from the other ash pit (Feature 2) on this floor as well.

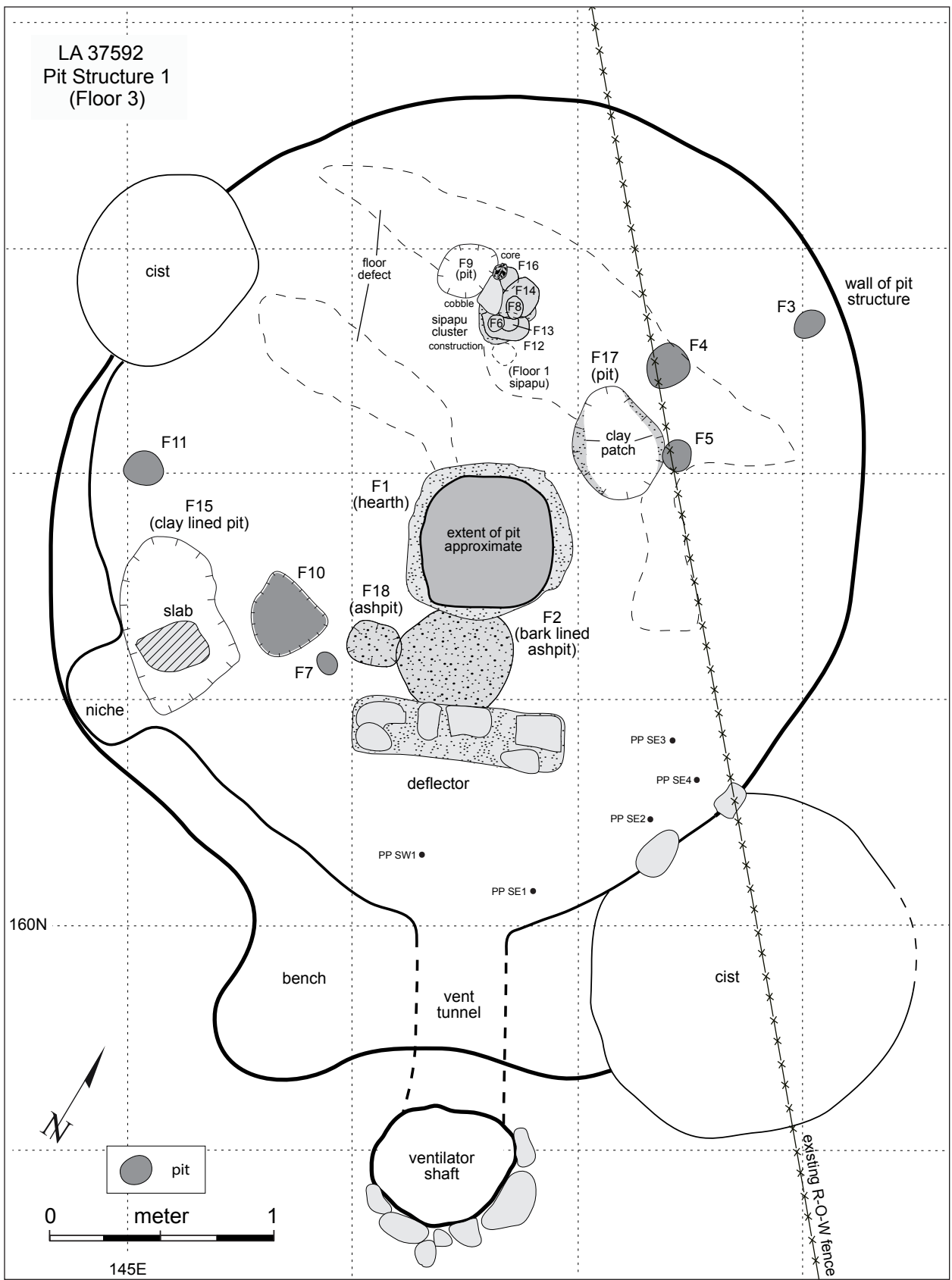


Figure 13.86. LA 37592, Pit Structure 1, Floor 3, plan.





Figure 13.87. LA 37592, Pit Structure 1, Floor 3, overview, view southeast.

Given the sequence of feature excavation, cross-contamination of the flotation samples from these features is unlikely, especially given the depth of the seeds in Feature 18. Presence of tobacco in both of the ash pits further links them functionally. The only other proveniences at the site containing this taxon are a few seeds in the upper Pit Structure 1 midden (Layers 3 and 4) and in a pit in Room 201 containing Burial 2.

This pairing of a traditional shallow ash pit and a second deeper, narrower one under its northwest corner is repeated quite exactly in LA 37595 Pit Structure 1 Floor 1 (Chapter 12, Vol. 1-Book 1, this report).

**Sipapu complex (Features 6, 8, 9, 12-14, and perhaps 16).** North of the hearth and in alignment with the vent and the hearth was a cluster of 5 or 6 sipapu-sized pits (Features 6, 8, 12-14, and perhaps 16) and a sixth larger pit adjacent to two small cobbles in the floor (Figs. 13.86, 13.88). While this

does not correspond to Wilshusen's (1989:100) description of a "complex sipapu," it certainly qualifies as a sipapu complex. Calling these pits "sipapus" is based solely on their location. Each was an unlined, more or less cylindrical pit. This group of superimposed pits was 2 cm south of the pit designated the sipapu on Floor 1. The fill to each was a variant on a mixture of fine charcoal flecks and sand. They lack distinctive indications of what their functions were. The construction sequence of these features can only be partially determined. Feature 6, Feature 8, or possibly both were open during the last use of the floor. Both of these features cut Feature 13, which was within Feature 12, which in turn appears to have cut Feature 14, which cut Feature 16. A likely construction sequence, then, is Features 16, 14, 12, 13, 8, 6 (or 6, 8), earliest to latest.

**Large shallow pits (Features 10, 15, 17).** All three of these Floor 3 features were somewhat ir-



regular in shape, and each was large relative to its depth. Features 10 and 15 were near each other in the southwest quadrant of the floor and similar in depth. Feature 15 had a flat, 20 by 23 cm cobble set in the base and did not seem to have been surfaced over. Feature 10 was empty and seemed to have been floored over with Floor 3. There is little indication of the functions of these two features; they may have been floor-construction artifacts. Feature 17 was considerably deeper (23 cm as opposed to 6–7 cm for Features 10 and 15) and had a constricted orifice.

*Other floor pits (Features 3, 4, 5, 7, 11, 19).* These pits were all round in plan and contained basically similar fill. Features 3–5 and 19 were in the northeast quadrant of the floor, and two were in the vicinity of the possible altar features on Floor 2. No similar patterns of superimposition or pairing are evident on this floor, however.

### PIT STRUCTURE 1: INTERPRETATION

The size and layout of Pit Structure 1 suggest that it was constructed and used by a fairly small group. Wilshusen (1989) suggests that pit structures with roofed vaults are likely to have been community-related, and that such features show a significant tendency to have been burned at abandonment. Pit Structure 1 lacked a roofed vault and was not burned, although it was clearly dismantled shortly after it went out of use, and turkeys on the floor were probably part of an abandonment ritual. If our interpretation of pits north of the hearth as simple sipapus is correct, along with all the assumptions pertaining to that identification, further ritual overtones are indicated for the structure. This interpretation is further supported by the possibility that an altar was present in the northeast quadrant of Floor 2.

The three floors of the structure suggest a progression of ritual use. The earliest floor contained a large number of sipapus, which presumably represent some combination of sipapu complex and

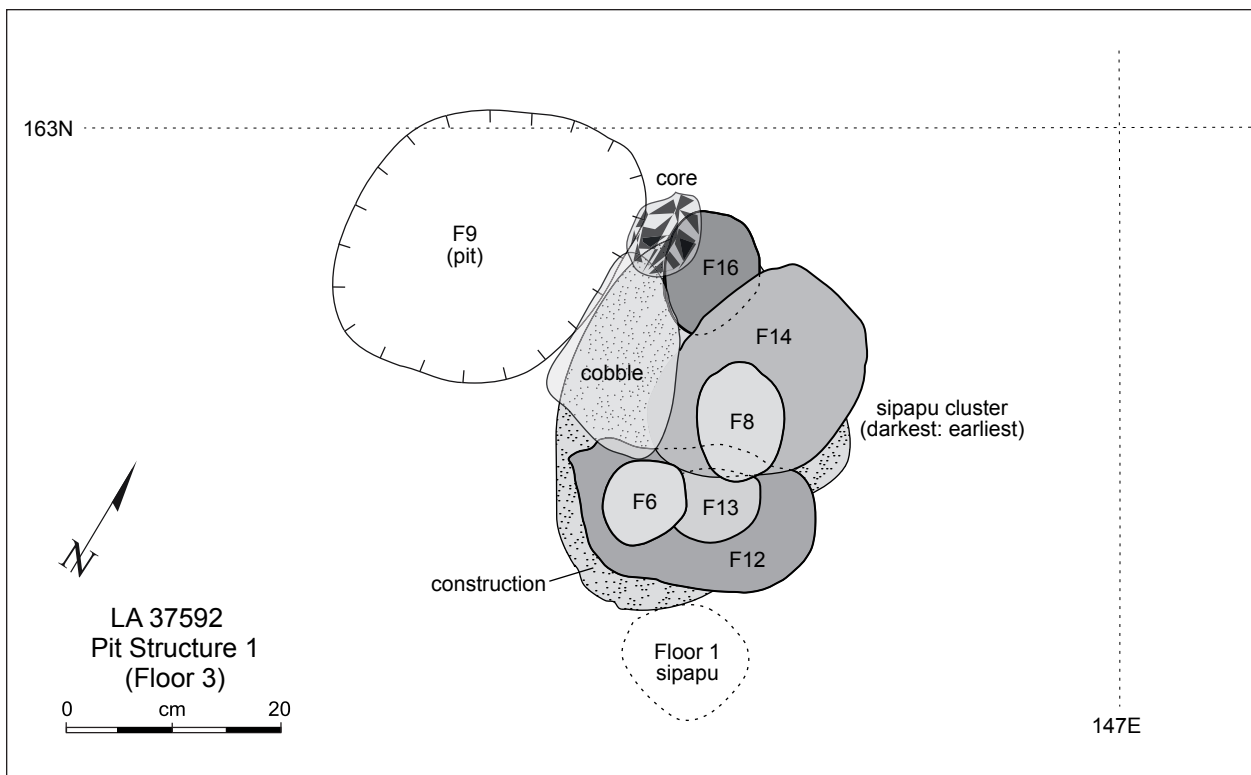


Figure 13.88. LA 37592, Pit Structure 1, Floor 3, sipapu complex.

modification and replacement of sipapus. The succeeding floor, which showed less evidence of use, had a series of pits that could have supported an altar, and the latest floor had only a single, simple sipapu. Taken at face value, this progression suggests a declining ritual role for the structure during its use-life. However, the fact that turkeys were used to ritually close the structure and the presence of burials in its fill suggest that the structure retained significance throughout and beyond its use-life. The time span required for this apparent progression is unknown, but it was probably within the 30-year use-life suggested for structures (Cameron 1990). Since the ceramics on the earliest floor are typologically earlier than those on the latest floor, the span can be estimated to be from the end of the 1000s to 1130.

On the other hand, the size of the structure and the presence of two storage facilities indicate a domestic function. The similarities between Pit Structure 1 at LA 37595 and this structure are uncanny, although this structure was probably 30 to 40 years later than that at LA 37595. Similarities include the out-of-parallel hearth-deflector placement, ash pit type and placement (Fig. 13.89), bench configuration, occurrence of both a large off-chamber cist and a large cist, and deconsecration of the structures. The proximity of these sites makes

sequential use of these locations by the same group or even family seem highly likely. These two structures may tell us, then, something about the scale of movement in time and space by inhabitants of this community.

#### STRATIGRAPHY OUTSIDE PIT STRUCTURE 1

In the struggle to define the exact limits of the Pit Structure 1 excavation, considerable time was spent examining the stratigraphy of the deposits outside the structure. The alluvial nature of the fan was clearly visible in these deposits: they are layered and consist of varying amounts of silts, sands, and clays. Although we frequently used the presence of charcoal as an indicator of cultural deposits, there were several charcoal-containing layers that clearly predate Anasazi occupation of the area. This charcoal could have come from natural fires, or perhaps from human burning activity, but we found no associations with artifacts (see section on deep burn, below). Deeper in the exposed sections, the layers were thinner and more variable, suggesting that the fan was more active longer ago, or that there are some riverine deposits lower in the fan. The upper, thicker (up to 1 m), more massive layers suggest a period of depositional stability just prior

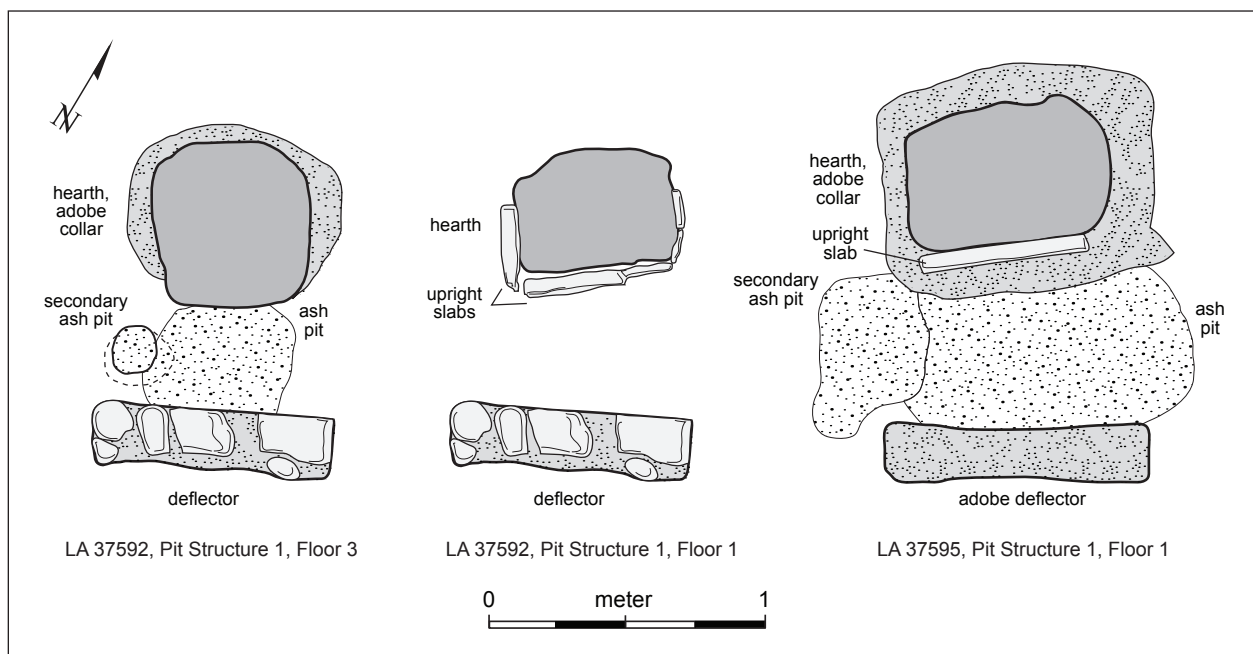


Figure 13.89. Hearth complex comparison, plan: LA 37595 (Pit Structure 1, Floor 1; far right), LA 37592 (Pit Structure 1; Floor 3, left, and Floor 1, center).

to Anasazi settlement. All of these deposits are fine grained enough and contain enough clays and silts to form a solid matrix into which to dig pit structures.

#### EXTRAMURAL USE AREAS PREDATING ROOMBLOCK 2

The repetitive use of the Roomblock 2 area was a primary reason this site earned the name Kin Sin Fin. Eight surfaces were identified, and further cultural deposits were present below the lowest surface. During excavation we retained the room-unit proveniences for much of the work done in this area. Since this is to some extent misleading, the pre-Roomblock 2 surfaces have been changed over to "extramural areas" in the provenience file and in the discussion here. The surface numbering continues from that of Room 202, in which we identified three floors.

Beneath all defined surfaces in a trench below the south end of Room 202, deposits containing charcoal, some cobbles, and some artifacts were found. Initially it seemed likely that these deposits represented fill to another pit structure, but this did not prove to be the case. A similar deep deposit was present southeast of Pit Structure 1. While stratigraphic profiles of this deposit show that it has sloping edges, they do not provide a clear indication of what caused the slope. It seems likely that these deposits were naturally deposited in a natural irregularity in the surface, though some human leveling is also likely to have occurred. The materials from these poorly understood deposits were placed in a separate component group. Understanding these deposits is further complicated by the presence of substantial rodent activity.

Another problematic area is a strip between the posthole row defining the east side of Room 202 and the water line to the east. This strip was less than 1 m wide; its east edge was defined by the edge of the right-of-way, which, in turn, fell within the east water line trench. It is possible that the upper surfaces here were part of a room, since the wall separating Rooms 201 and 202 continued east of the northeast corner of Room 202, and the post wall defining the east side of the room could have been the west wall of the room. Partial fire pits and other features were present in this area. Because of the water line disturbance and our inability to excavate on the other side of that construction, we have very little basis for attributing this

strip to another room. With the caveat that it may have been interior, therefore, this area has also been assigned to Extramural Area 2.

Deep mechanical trenching below Roomblock 2 revealed a reddened stratum that contained what appeared to be charcoal. The presence of a burn level considerably before the Anasazi occupation of the site was of considerable interest in that it might relate to Basketmaker or even Archaic presence in this location. An area of 0.65 sq m was cleared to expose this level in plan; the feature was designated Extramural Area 2 Feature 19 (Table 13.5). No artifacts of any kind were encountered in the excavation of this area.

Analysis of samples from this deep level revealed that even though substantial quantities of dirt were floated, the amount of charcoal present was so small that standard carbon-14 dating was not possible, partly because some of the flecks in the soil were coal rather than charcoal. An accelerator date, however, was obtained. The sample (Beta-36021ETH-6954) yielded a radiocarbon age of 3695 ± 60, giving a 95-percent probability that the sample dates between 2290 and 1910 BC (with atmospheric calibration; Appendix 4), placing this feature well within the Archaic. Although it is inevitable that human use of the valley took place during the long span prior to its Pueblo occupation, we encountered little other evidence in the highway project. Diagnostic Archaic projectile points were recovered at a number of the sites, and extensive evidence of Archaic occupation is present south of the San Juan, but, perhaps because of the density of Pueblo occupation in the highway corridor, this burn was one of few direct evidences of the Archaic.

The pollen sample from the surface contained no evidence for cultigens and somewhat higher-than-usual concentrations of some arboreal pollen (including *Quercus* and *Picea*) and lower concentrations of cheno-am than the majority of samples from unambiguous cultural contexts. These frequencies tentatively suggest a moister environment lacking agricultural disturbance.

A similar burn, at a depth around 40 cm less than the one exposed in plan, was recorded in profile 1 m or so to the southwest. This burned area also rested in a low spot about 1 m across. Some ceramics and lithics (FS 668) were recovered in the excavation of this area, but the association with the burn was not definite, and considerable disturbance was present

in the area from which they came. It seems likely that this burn covered a substantial area, and it may have been associated with a shallow drainage system.

Charcoal was also found over 2 m below the surface at adjacent LA 60752. That burn dates to between 1400 and 1020 BC, later than the dates from the burn at LA 37592, but also well before Basket-maker II. Artifacts were also absent in the LA 60752 deposit. Archaic-period burning took place multiple times, perhaps natural, or from human agency, or a combination of the two. Some of the charcoal recovered may have been in old drainage channels, but the apparently burned soil at LA 37592 indicates that the fire took place in this later-occupied location.



#### LA 37592: MATERIAL CULTURE

LA 37592 produced one of the largest site collections of artifacts, bone, and samples during the two and half years of excavation on the La Plata Highway. Although a number of other sites excavated by the project had more architectural and other features, the complete excavation of the midden in Pit Structure 1 resulted in large collections of all categories of material. For example, based on a volume of 16.5 cu m and a sherd count of 15,246 from the midden layers, the density of sherds is 924 per cu m. This is a very high density compared to sherd densities in Chaco Canyon, where sherd densities in Pueblo II-III trash deposits run from 176 to 893 per cubic meter (McKenna and Toll 1991:201). The quantities of material in this one midden at this fairly small site are an indication of how much trash is possible at such sites and suggests that our own society does not have a monopoly on being a throw-away culture. It also indicates how few other major middens were encountered during the project.

To present occurrence data for major material categories, the site has been divided into six major provenience groups:

1. The midden in Pit Structure 1. This includes all the main midden layers plus some layers that resulted from mixture of midden and collapsed pit

walls. This group, by far the largest, is comprised primarily of Pueblo III material.

2. Lower fill and floors of Pit Structure 1 (Transitional Pueblo II-III).

3. Fill and floors of Roomblock 2 (Pueblo III).

4. Materials from extramural areas that contain predominantly Pueblo II ceramics; this is by far the smallest group.

5. Extramural materials that are less clearly dated and are likely to be later, or mixed.

6. "Other" proveniences, including the area of Roomblock 1 (not excavated) and disturbed materials near the surface of Pit Structure 1.

These divisions were chosen because they have some spatial and temporal integrity, and because there are few enough of them for compressed data presentation. They obviously subsume a great deal of detail, but selected detail is presented elsewhere in this report, and all detail is available in the tables. The groups include some proveniences that are mixed; the primary purpose of these tables is to show total inventories of material recovered and analyzed.

#### *Ceramic Artifacts*

Type distributions and paint distributions both show that the midden in upper Pit Structure 1 is the latest, largest deposit. The ratio of carbon-painted to mineral-painted white ware sherds is nearly six to one. The roomblock assemblage ratio is around four to one. This ratio reflects both the relatively late occupation of Roomblock 2 and the likelihood of some mixture of deposits from different parts of the occupation. Mixture played a varying role in the lower Pit Structure 1 deposits, the grouped extramural deposits, and the catchall "other" categories, where the carbon-mineral ratio is around two to one. The terminal floor of the pit structure has relatively late dates but was obviously still earlier than the midden. Although erosion of earlier deposits would have added some earlier materials to the fill of the structure, the mixture there was probably not great. The extramural area group draws from a variety of generally shallow proveniences, some of which were undoubtedly mixed; on the whole, proveniences in this group were less mixed, but often the small samples of ceramics in these proveniences made them more difficult to place



individually in temporal slots. The “other” group contains proveniences that were disturbed and otherwise problematic. Three-quarters of the sherds in “other” were from extramural areas, almost all from deposits judged to be mixed, and none from features. Finally, there is a small group, primarily from two extramural features at the east edge of our excavations, which are shown by their ceramic contents and stratigraphic position to be from the earliest Pueblo occupation of this area. Mixture there was minimal, but these features showed clearly that mixture was always a possibility at this site. The carbon-mineral paint ratio in these features is dramatically lower than in other parts of the site: .03 to 1.

In selecting proveniences showing little ceramic mixture, we included proveniences from the midden, the lower pit structure, and the Pueblo II features in east Extramural Area 3. This conservative selection process resulted in the inclusion of almost exactly one-third of the sherds from the site. The three groups show a very clear diachronic trend from the low organic paint content of the earlier extramural features to the high organic paint content of the later midden, with the lower pit structure in between.

*Types.* Even at the level of major proveniences, the various temporal components at LA 37592 are visible in the type distributions (Figs. 13.27, 13.91a, 13.91b; Table 13.64). Thus, the Pueblo III types are concentrated in the midden and less frequent in the submidden parts of the pit structure, while Pueblo II types are clearly visible in the earlier extramural component in the southeast portion of the site.

Corrugated and plain gray wares form 70 percent of the assemblage and are fairly equally distributed among the major proveniences. Plain gray is more abundant in the rooms than elsewhere, but the overall gray ware occurrence is similar because of less abundant corrugated gray there. Perhaps surprisingly, the highest percentage of corrugated and lowest percentage of plain are in the Pueblo II extramural features. Elevated percentages of plain gray pottery occur in the Pit Structure 1 sample compared to the other major proveniences, suggesting an increased production of plain gray pottery late in the valley sequence.

More red wares were recovered from this site than from any other—LA 37592 accounted for 13.5

percent of all project ceramics, but 19.6 percent of all red ware. These red wares are dominated by Cibola series White Mountain Redware; sherd frequencies from this series at this site are well above the expected for the project: 42 percent of all project Cibola red wares are from this site, most often Wingate Black-on-red. The occurrence of White Mountain sherds reflects the relatively late date of the midden, but St. Johns Polychrome is absent, and St. Johns Black-on-red is scarce, again suggesting a terminal date for the midden of around AD 1200. Mesa Verde red wares, the most abundant red ware in the project assemblage, are relatively scarce. Within the site assemblage, the Mesa Verde red wares occur much more often in extramural contexts, while the White Mountain materials occur primarily in the midden (Table 13.65). In spite of their higher frequency at LA 37592, red wares make up only 0.59 percent of the site assemblage (Table 13.66). Tsegi Orange wares are also present, but they are even less abundant than Mesa Verde red wares.

Mogollon types (brown wares) occur in very small quantities at most La Plata sites, constituting only 0.04 percent of the total project sample. At LA 37592, Mogollon types are more abundant, but they are still only 0.08 percent of the total site ceramic assemblage; nearly all of these sherds were recovered from the midden. Sherds from this one site constitute nearly one-third of all the Mogollon series ceramics from the project.

*Forms.* In the total project sample, five form categories account for 98.5 percent of the whole: bowl rim, bowl body, necked jar, jar body, and cooking/storage rim (Tables 13.67, 13.68). The total of these forms is 98.4 percent at this site, although the frequency of bowl bodies is a percent higher and the jar bodies a percent lower than those in the total sample. Within the major provenience groups, the midden has larger percentages of bowls and ladle sherds compensated by smaller than expected frequencies of jar sherds. The relatively small sample from the Pueblo II extramural component is heavily dominated by jar sherds. Ladles are the most common form among less common shapes, but they make up only 1 percent of the total assemblage. As with bowls, ladles are more common in the midden than in other proveniences. There is a substantial occurrence of gourd dippers even in the midden, but most ladle sherds are likely to be from the handle

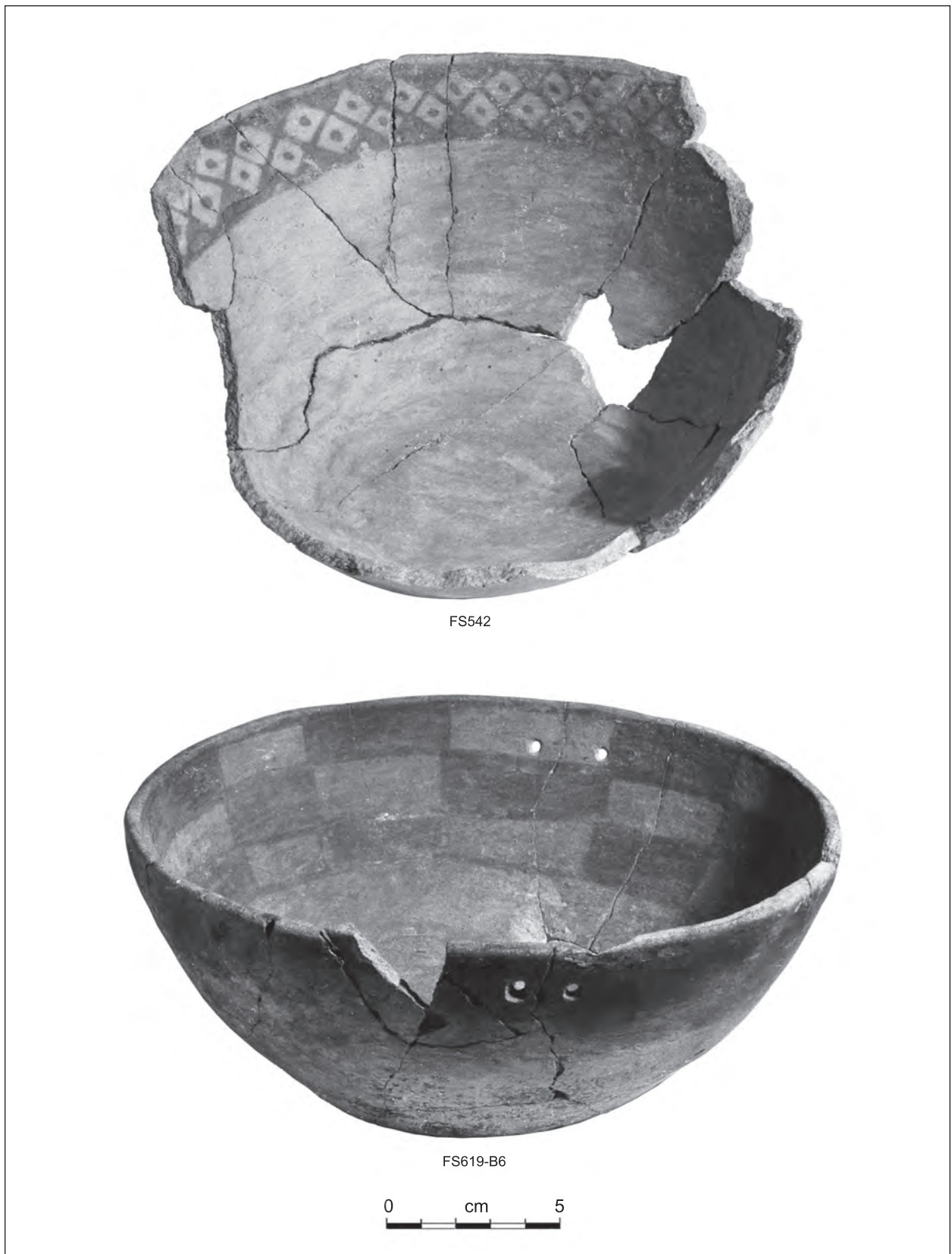


Figure 13.91a. LA 37592, two vessels from east of Pit Structure 1. Top: McElmo Black-on-white bowl (PIII) with organic paint, from Room 203 fill; bottom: mended McElmo Black-on-white bowl (PIII) from Burial 6, in same vicinity as top bowl.



Figure 13.91b. LA 37592, two vessels from east of Pit Structure 1. Left: gray ware pitcher (PII), from Extramural Area 2, Burial 7; right: Dolores Corrugated jar (PIII), from Burial 6.

and bowl variety due to the late dates of the site. Red and brown wares occur mostly as bowls, with a few jars of each ware also present.

This site has a relative abundance of unusual forms: 32.8 percent of all project effigies, miniatures, and other unusual forms come from this site, but only 13.5 percent of all project ceramics do (Tables 13.68, 13.69). Some of this of course results from the very large sample at LA 37592, which increases the possibility that unusual items will be present. Still, LA 65030 (Vols. 3–4, this report), which has a larger sample than LA 37592, has a similar number of unusual form sherds; most of the LA 65030 cases are from mugs, and only 19 are miniature and effigy sherds. Surprisingly, there is only one mug sherd at LA 37592, though it is fairly likely that the handle with the T-shaped opening came from a mug as well. It may be that the deposits at LA 37592 are not quite late enough to contain many mugs, although the presence of one mug sherd and the general date of other pottery in the midden argue against that

explanation. It could also be that the contexts excavated at this site did not include those in which this specialized form was used (Bradley 1996). As at other La Plata Highway sites, pitchers are rare (a total of seven white ware pitcher sherds and one gray ware) at LA 37592.

Unusual forms that occur in large quantities at LA 37592 relative to the overall ceramic assemblage include effigies and miniatures (Table 13.68). A highly simplified minimum vessel analytical procedure for these rare forms, which considers sherds of the same type and form in the same provenience to be a single vessel, suggests that there are 10 miniature jars, 13 miniature bowls, and 9 effigies. Other unusual forms occur only as one to four possibly individual vessels. Most of the effigies are categorized as “indeterminate,” but they include a portion of a bird-shaped, organic-painted vessel (Layer 7 of the midden, Reconstructible Vessel 1), with a head and a small compartment with a hole drilled into it at the front end of the vessel, which is the bird’s breast



Table 13.64. LA 37592, major pottery types by major provenience; counts and percents.

	Pit Structure 1 Midden		Pit Structure 1		Rooms		Pueblo II Extramural		Other Extramural		Other		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Mud ware	30	0.2%	4	0.1%	1	0.0%	-	-	3	0.0%	-	-	38	0.1%
Pueblo II-III corrugated	88	0.5%	27	0.9%	16	0.6%	4	1.1%	47	0.6%	8	0.5%	190	0.6%
Pueblo III corrugated	34	0.2%	5	0.2%	2	0.1%	-	-	6	0.1%	3	0.2%	50	0.1%
Plain gray	2916	16.0%	581	19.3%	823	31.6%	25	7.1%	1309	17.4%	272	16.1%	5926	17.8%
Corrugated	9640	52.9%	1541	51.1%	1093	42.0%	245	70.0%	4056	54.1%	832	49.3%	17407	52.1%
Basketmaker III-Pueblo I white	2	0.0%	-	-	-	-	-	-	-	-	-	-	2	0.0%
Pueblo II Sosi style	339	1.9%	108	3.6%	59	2.3%	27	7.7%	308	4.1%	61	3.6%	902	2.7%
Pueblo II Dogoszhi style	99	0.5%	35	1.2%	24	0.9%	7	2.0%	86	1.1%	10	0.6%	261	0.8%
Early Pueblo III black-on-white	236	1.3%	22	0.7%	8	0.3%	-	-	31	0.4%	13	0.8%	310	0.9%
Late Pueblo III black-on-white	88	0.5%	5	0.2%	1	0.0%	-	-	8	0.1%	11	0.7%	113	0.3%
Pueblo II-III black-on-white	2332	12.8%	330	10.9%	290	11.1%	3	0.9%	746	9.9%	227	13.4%	3928	11.8%
Polished white	2257	12.4%	349	11.6%	277	10.6%	38	10.9%	870	11.6%	235	13.9%	4026	12.1%
San Juan Red	10	0.1%	2	0.1%	2	0.1%	1	0.3%	18	0.2%	3	0.2%	36	0.1%
White Mountain Red	103	0.6%	6	0.2%	6	0.2%	-	-	12	0.2%	9	0.5%	136	0.4%
Tsegi	16	0.1%	1	0.0%	-	-	-	-	3	0.0%	4	0.2%	24	0.1%
Mogollon brown	26	0.1%	1	0.0%	2	0.1%	-	-	-	-	1	0.1%	30	0.1%
<b>Total</b>	<b>18,216</b>	<b>100.0%</b>	<b>3017</b>	<b>100.0%</b>	<b>2604</b>	<b>100.0%</b>	<b>350</b>	<b>100.0%</b>	<b>7503</b>	<b>100.0%</b>	<b>1689</b>	<b>100.0%</b>	<b>33,379</b>	<b>100.0%</b>

(Fig. 13.92). A solid foot effigy encircled by painted stripes came from the upper midden; it is ground both on the bottom and at the presumed break from the leg. This reworking is a common feature of effigy feet in Chaco Canyon, where a significant number have been found. A single "figurine" was recovered from the provenience containing the disarticulated and stacked human bone. This item, an incomplete, unidentifiable mudware with a single pointed appendage, is of unknown association with the bone. The mud contains rounded quartz grains. A tiny, well-shaped bird foot, also mudware, was also recovered from Layer 3 of the midden. Most of the effigies were recovered from refuse contexts.

In the project sample there were eight specimens of double-flare bowls; three of them are from LA 37592. Two of these came from the fill of Pit Structure 1 and were spatially close to each other, and one came from Extramural Area 3.

One percent of the sherds show some sort of modification (Table 13.70). White ware sherds were modified far more often than gray or red wares. Repair holes and other drilled holes account for 50 percent of the modifications, and beveled edges from grinding or scraping account for another 29 percent. Given the decorative qualities of red wares and their scarcity (i.e., curiosity value), I find it surprising that so few red wares are worked. The midden of course dominates the modified sherd types, but there is some patterning to the occurrence of a few types of modification. Sherds with drilled holes are more numerous than expected in both the pit structure floor assemblage and in extramural contexts. Perhaps these are locations where heavily used vessels are most likely to have finally failed.

*Tempers.* Temper was identified for 3,209 sherds, 9.6 percent of the total site ceramic collection. The same six most abundant tempers in the whole project sample are the most abundant at LA 37592, as well. At this site, in order of abundance, these tempers are igneous, sherd, igneous and sherd, quartz sand, quartz sand and sherd, and igneous and sand. These six tempers account for 97.4 percent of the temper sample, and igneous alone accounts for 77 percent (Table 13.72). Compared to the overall project temper sample, this site has a markedly lower percentage of igneous-and-sherd temper and slightly higher percentages of the other major tempers.



Table 13.65. LA 37592, red and brown ware pottery types by major provenience; counts and percents.

	Pit Structure 1 Midden		Pit Structure 1		Rooms		Pueblo II Extramural		Other Extramural		Other		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Mesa Verde series	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeterminate red	3	1.9%	-	-	-	-	-	-	7	21.2%	-	-	10	4.4%
Deadmans Black-on-red	4	2.6%	2	20.0%	-	-	1	100.0%	5	15.2%	2	11.8%	14	6.2%
Plain red	2	1.3%	-	-	2	20.0%	-	-	3	9.1%	1	5.9%	8	3.5%
Black-on-red	1	0.6%	-	-	-	-	-	-	3	9.1%	-	-	4	1.8%
White Mountain Series	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeterminate red ware	60	38.7%	1	10.0%	2	20.0%	-	-	5	15.2%	5	29.4%	73	32.3%
Puerco Black-on-red	13	8.4%	-	-	-	-	-	-	-	-	4	23.5%	17	7.5%
Wingate Black-on-red	28	18.1%	5	50.0%	4	40.0%	-	-	7	21.2%	-	-	44	19.5%
St. Johns Black-on-red	2	1.3%	-	-	-	-	-	-	-	-	-	-	2	0.9%
Tsegi series	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medicine Black-on-orange	1	0.6%	-	-	-	-	-	-	-	-	-	-	1	0.4%
Tusayan Polychrome	1	0.6%	-	-	-	-	-	-	-	-	-	-	1	0.4%
Citadel Polychrome	3	1.9%	-	-	-	-	-	-	-	-	-	-	3	1.3%
Tsegi Orange	8	5.2%	1	10.0%	-	-	-	-	2	6.1%	4	23.5%	15	6.6%
Tsegi Red-on-orange	-	-	-	-	-	-	-	-	1	3.0%	-	-	1	0.4%
Tsegi Black-on-orange	2	1.3%	-	-	-	-	-	-	-	-	-	-	2	0.9%
Plain black-on-red	1	0.6%	-	-	-	-	-	-	-	-	-	-	1	0.4%
Mogollon Brown series	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Smudged	1	0.6%	-	-	1	10.0%	-	-	-	-	-	-	2	0.9%
Smudged brown	25	16.1%	1	10.0%	1	10.0%	-	-	-	-	1	5.9%	28	12.4%
<b>Total</b>	<b>155</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>33</b>	<b>100.0%</b>	<b>17</b>	<b>100.0%</b>	<b>226</b>	<b>100.0%</b>

Table 13.66. LA 37592, pottery types (all) and ware groups; counts, weights, and percents of each.

	Count	Col. %	Weight (g)	Col. %
<b>Type</b>				
Plain rim	2	0.0%	3.0	0.0%
Pueblo II corrugated	38	0.1%	362.0	0.2%
Pueblo II-III corrugated	125	0.4%	1820.0	0.9%
Pueblo III corrugated	43	0.1%	889.0	0.4%
Plain gray	5634	16.9%	30010.0	14.9%
Corrugated gray	16040	48.1%	82465.0	41.0%
Mud ware	37	0.1%	140.0	0.1%
Incised corrugated	2	0.0%	21.0	0.0%
Basketmaker III black-on-white	2	0.0%	8.0	0.0%
Red Mesa-style black-on-white	4	0.0%	26.0	0.0%
Pueblo II black-on-white	823	2.5%	5361.0	2.7%
Sosi-style black-on-white	3	0.0%	76.0	0.0%
Dogoszhi-style black-on-white	188	0.6%	1235.0	0.6%
Chaco-style black-on-white	3	0.0%	14.0	0.0%
Early Pueblo III black-on-white	13	0.0%	301.0	0.1%
Late Pueblo III black-on-white	36	0.1%	918.0	0.5%
Pueblo II-III black-on-white	3708	11.1%	21709.0	10.8%
Pueblo III black-on-white	550	1.6%	7179.0	3.6%
Painted black-on-white	3	0.0%	9.0	0.0%
Polished white	2911	8.7%	17353.0	8.6%
Polished black-on-white	95	0.3%	497.0	0.2%
Transitional Pueblo III black-on-white	28	0.1%	366.0	0.2%
Squiggle hachure black-on-white	38	0.1%	355.0	0.2%
Mancos Corrugated	5	0.0%	65.0	0.0%
Dolores Corrugated	22	0.1%	607.0	0.3%
Mesa Verde Corrugated	6	0.0%	110.0	0.1%
Mesa Verde Plain Gray	276	0.8%	1620.0	0.8%
Mesa Verde Corrugated Gray	1338	4.0%	9984.0	5.0%
Mesa Verde Mudware	1	0.0%	2.0	0.0%
Cortez Black-on-white	4	0.0%	31.0	0.0%
Mancos Black-on-white	54	0.2%	420.0	0.2%
Mancos Black-on-white, Black Mesa	2	0.0%	20.0	0.0%
Mancos Black-on-white, Sosi	5	0.0%	89.0	0.0%
Mancos Black-on-white, Dogoszhi	19	0.1%	212.0	0.1%
McElmo Black-on-white	184	0.6%	4585.0	2.3%
Mesa Verde Black-on-white	76	0.2%	1504.0	0.7%
Mesa Verde Pueblo II-Pueblo III black-on-white	190	0.6%	1839.0	0.9%
Mesa Verde Pueblo III black-on-white	268	0.8%	3676.0	1.8%
Mesa Verde Polished White	159	0.5%	2013.0	1.0%
Mesa Verde Polished Black-on-white	10	0.0%	46.0	0.0%
Mesa Verde transitional Pueblo III black-on-white	73	0.2%	807.0	0.4%
Mancos Black-on-white (squiggle hachure)	8	0.0%	0.0	0.0%
Mesa Verde indeterminate red	10	0.0%	25.0	0.0%
Deadmans Black-on-red	14	0.0%	83.0	0.0%
Mesa Verde Plain Red	8	0.0%	22.0	0.0%
Mesa Verde Black-on-red	4	0.0%	15.0	0.0%
Cibola Corrugated Gray	2	0.0%	16.0	0.0%
Puerco Black-on-white	2	0.0%	5.0	0.0%
Chaco, McElmo Black-on-white	1	0.0%	7.0	0.0%
Cibola Pueblo II-III black-on-white	2	0.0%	23.0	0.0%
Cibola indeterminate red ware	73	0.2%	422.0	0.2%
Cibola Puerco Black-on-red	17	0.1%	192.0	0.1%

Table 13.66 (continued)

	Count	Col. %	Weight (g)	Col. %
Wingate Black-on-red	44	0.1%	619.0	0.3%
St. Johns Black-on-red	2	0.0%	29.0	0.0%
Chuska Plain Gray	1	0.0%	12.0	0.0%
Chuska Corrugated Gray	2	0.0%	7.0	0.0%
Nava Black-on-white	1	0.0%	26.0	0.0%
Chuska Pueblo II-III black-on-white	2	0.0%	3.0	0.0%
Chuska Polished White	1	0.0%	1.0	0.0%
Black Mesa Black-on-white	1	0.0%	5.0	0.0%
Sosi Black-on-white	2	0.0%	24.0	0.0%
Medicine Black-on-orange	1	0.0%	1.0	0.0%
Tusayan Polychrome	1	0.0%	16.0	0.0%
Citadel Polychrome	3	0.0%	5.0	0.0%
Tsegi Orange	15	0.0%	67.0	0.0%
Tsegi Red-on-orange	1	0.0%	6.0	0.0%
Tsegi Black-on-orange	2	0.0%	17.0	0.0%
Kayenta Plain Black-on-red	1	0.0%	1.0	0.0%
Reserve Smudged	2	0.0%	3.0	0.0%
Mogollon Smudge Brown	28	0.1%	179.0	0.1%
Plain gray	13	0.0%	29.0	0.0%
Corrugated gray	24	0.1%	91.0	0.0%
Pueblo II black-on-white	9	0.0%	53.0	0.0%
Early Pueblo III black-on-white	5	0.0%	67.0	0.0%
Late Pueblo III black-on-white	2	0.0%	33.0	0.0%
Pueblo II-III black-on-white	16	0.0%	67.0	0.0%
Pueblo III black-on-white	5	0.0%	63.0	0.0%
Polished white	35	0.1%	238.0	0.1%
Transitional Pueblo III black-on-white	1	0.0%	7.0	0.0%
<b>Total</b>	<b>33379</b>	<b>100.0%</b>	<b>201276.0</b>	<b>100.0%</b>
<b>Ware</b>				
Gray ware	23611	70.7%	128253.0	63.7%
White ware	9542	28.6%	71321.0	35.4%
Red ware	196	0.6%	1520.0	0.8%
Brown, smudge ware	30	0.1%	182.0	0.1%
<b>Total</b>	<b>33379</b>	<b>100.0%</b>	<b>201276.0</b>	<b>100.0%</b>

Table 13.67. LA 37592, major vessel forms/ware by major provenience; counts and percents.

Ware/ Form	Pit Structure 1 Midden		Pit Structure 1		Rooms		PII Extramural Areas		Other Extramural		Other		Total	
	n =	%	n =	%	n =	%	n =	%	n =	%	n =	%	n =	%
Gray bowl	13	0.1	1	0.0	–	–	–	–	5	0.1	–	–	19	.1
White bowl	3051	16.7	559	18.5	436	16.7	37	10.6	1155	15.4	322	19.1	5560	16.7
Red bowl	119	0.7	7	0.2	5	0.2	1	0.3	21	0.3	12	0.7	165	.5
Brown bowl	25	0.1	1	0.0	2	0.1	–	–	–	–	–	–	28	.1
Gray jar	12636	69.4	2151	71.3	1933	74.2	274	78.3	5407	72.1	1113	65.9	23514	70.4
White jar	2011	11.1	260	8.6	213	8.2	37	10.6	841	11.2	222	13.1	3584	10.7
Red jar	10	0.1	2	0.1	1	0.0	–	–	11	0.1	4	0.2	28	.1
Brown jar	–	–	–	–	–	–	–	–	–	–	1	0.1	1	.0
Ladle	252	1.4	18	0.6	9	0.3	1	0.3	33	0.4	11	0.7	324	1.0
Specialized*	10	0.1	4	0.1	–	–	1	0.3	1	0.0	–	–	16	.0
Effigies	8	0.0	1	0.0	–	–	–	–	2	0.0	–	–	11	.0
Miniatures	40	0.2	6	0.2	–	–	–	–	4	0.1	–	–	50	.1
Indeterminate	42	0.2	7	0.2	5	0.2	–	–	23	0.3	4	0.2	81	.2
<b>Total</b>	<b>18217</b>	<b>100.0</b>	<b>3017</b>	<b>100.0</b>	<b>2604</b>	<b>100.0</b>	<b>350</b>	<b>100.0</b>	<b>7503</b>	<b>100.0</b>	<b>1689</b>	<b>100.0</b>	<b>33380</b>	<b>100.0</b>

Table 13.68. LA 37592, vessel forms (all) by ware group; counts and percents.

Vessel Form	Gray Ware		White Ware		Red Ware		Brown, Smudged Ware		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Indeterminate	11	0.0%	59	0.6%	2	1.0%	–	–	72	0.2%
Bowl rim	14	0.1%	1166	12.2%	42	21.4%	5	16.7%	1227	3.7%
Bowl body	5	0.0%	4390	46.0%	122	62.2%	24	80.0%	4541	13.6%
Seed jar rim	2	0.0%	6	0.1%	–	–	–	–	8	0.0%
Olla rim	5	0.0%	45	0.5%	–	–	–	–	50	0.1%
Olla neck	–	–	1	0.0%	–	–	–	–	1	0.0%
Cooking, storage rim	1042	4.4%	59	0.6%	–	–	–	–	1101	3.3%
Necked jar body	2144	9.1%	238	2.5%	1	0.5%	–	–	2383	7.1%
Pitcher	1	0.0%	7	0.1%	–	–	–	–	8	0.0%
Mug	–	–	1	0.0%	–	–	–	–	1	0.0%
Canteen	1	0.0%	3	0.0%	–	–	–	–	4	0.0%
Jar body	20,321	86.1%	3235	33.9%	27	13.8%	1	3.3%	23,584	70.7%
Bowl or jar body	1	0.0%	6	0.1%	2	1.0%	–	–	9	0.0%
Ladle	1	0.0%	19	0.2%	–	–	–	–	20	0.1%
Ladle bowl	2	0.0%	112	1.2%	–	–	–	–	114	0.3%
Ladle handle	12	0.1%	144	1.5%	–	–	–	–	156	0.5%
Open gourd dipper	–	–	34	0.4%	–	–	–	–	34	0.1%
Bird effigy	1	0.0%	3	0.0%	–	–	–	–	4	0.0%
Indeterminate effigy	–	–	5	0.1%	–	–	–	–	5	0.0%
Figurine	1	0.0%	–	–	–	–	–	–	1	0.0%
Miniature bowl	18	0.1%	2	0.0%	–	–	–	–	20	0.1%
Miniature necked jar	–	–	1	0.0%	–	–	–	–	1	0.0%
Miniature other form	4	0.0%	–	–	–	–	–	–	4	0.0%
Miniature jar body	23	0.1%	2	0.0%	–	–	–	–	25	0.1%
Keyhole handle	1	0.0%	1	0.0%	–	–	–	–	2	0.0%
Double-flared bowl	–	–	3	0.0%	–	–	–	–	3	0.0%
T-shaped object	1	0.0%	–	–	–	–	–	–	1	0.0%
<b>Total</b>	<b>23,611</b>	<b>100.0%</b>	<b>9542</b>	<b>100.0%</b>	<b>196</b>	<b>100.0%</b>	<b>30</b>	<b>100.0%</b>	<b>33,379</b>	<b>100.0%</b>

There is a greater variety of tempers in the white wares than in the gray wares. The variety in white wares stems mostly from the greater use of sherd and sand in combination with igneous temper, as well as a higher occurrence of sherds with only sherd temper. The temper identifications are not a random sample but have been used to help with ceramic type identifications.

Trachybasalt temper (or trachyte) is remarkable for its near absence at this site: only seven sherds were identified as having this temper. From the mid-1000s to the early 1100s in Chaco Canyon, this temper accounts for 20 to 32 percent of total assemblages, and more in the gray wares (McKenna and Toll 1991:203; Toll and McKenna 1987:194), whereas it is found in only 0.2 percent of the temper sample at this site.

*Deposition.* Sherd size can be used as an indicator of deposition history: if sherds are large, it is likely that there were few stages between vessel breakage and deposition, with little exposure to trampling or redeposition. As can be seen in Tables 13.73, 13.74, and 13.75, the largest average sherd sizes were recovered from the early extramural features and in the Pit Structure 1 midden, and, predictably, the smallest were from general extramural areas, where sherds were exposed to surface processes such as trampling and freezing and thawing. The midden sherds include the smaller sherds of Layers 6 and 7, which were also probably exposed in a surface context longer than those in the main midden. Even with Layers 6 and 7, the midden sherds are still on average larger than sherds from other contexts. The large size of the sherds in the



Table 13.69. LA 37592, vessel forms (all) by major provenience; counts and percents.

Form	Pit Structure 1, Midden		Pit Structure 1		Rooms		Pueblo II Extramural		Other Extramural		Other		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Seed jar rim	3	0.9%	–	–	–	–	1	33.3%	3	4.8%	1	5.6%	8	1.7%
Olla rim	20	6.0%	6	17.1%	–	–	–	–	18	29.0%	6	33.3%	50	10.8%
Olla neck	1	0.3%	–	–	–	–	–	–	–	–	–	–	1	0.2%
Pitcher	3	0.9%	4	11.4%	–	–	1	33.3%	–	–	–	–	8	1.7%
Mug	1	0.3%	–	–	–	–	–	–	–	–	–	–	1	0.2%
Canteen	3	0.9%	–	–	–	–	–	–	1	1.6%	–	–	4	0.9%
Ladle	14	4.2%	1	2.9%	–	–	1	33.3%	4	6.5%	–	–	20	4.3%
Ladle bowl	84	25.1%	7	20.0%	5	55.6%	–	–	15	24.2%	3	16.7%	114	24.7%
Ladle handle	125	37.3%	9	25.7%	4	44.4%	–	–	10	16.1%	8	44.4%	156	33.8%
Open gourd dipper	29	8.7%	1	2.9%	–	–	–	–	4	6.5%	–	–	34	7.4%
Bird effigy	4	1.2%	–	–	–	–	–	–	–	–	–	–	4	0.9%
Indeterminate effigy	2	0.6%	1	2.9%	–	–	–	–	2	3.2%	–	–	5	1.1%
Figurine	1	0.3%	–	–	–	–	–	–	–	–	–	–	1	0.2%
Miniature bowl	20	6.0%	–	–	–	–	–	–	–	–	–	–	20	4.3%
Miniature necked jar	1	0.3%	–	–	–	–	–	–	–	–	–	–	1	0.2%
Miniature other form	2	0.6%	–	–	–	–	–	–	2	3.2%	–	–	4	0.9%
Miniature jar body	17	5.1%	6	17.1%	–	–	–	–	2	3.2%	–	–	25	5.4%
Keyhole handle	2	0.6%	–	–	–	–	–	–	–	–	–	–	2	0.4%
Double-flared bowl	2	0.6%	–	–	–	–	–	–	1	1.6%	–	–	3	0.6%
T-shaped object	1	0.3%	–	–	–	–	–	–	–	–	–	–	1	0.2%
<b>Total</b>	<b>335</b>	<b>100.0%</b>	<b>35</b>	<b>100.0%</b>	<b>9</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>62</b>	<b>100.0%</b>	<b>18</b>	<b>100.0%</b>	<b>462</b>	<b>100.0%</b>



Figure 13.92. LA 37592, Pit Structure 1, midden, Layer 7, McElmo Black-on-white bird effigy (early PIII).

Table 13.70. LA 37592, sherd modification by ware group; counts and percents.

Modification	Gray Ware		White Ware		Red Ware		Brown, Smudged Ware		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Repair hole	5	8.8%	53	19.2%	–	–	–	–	58	17.3%
Suspension hole	4	7.0%	3	1.1%	–	–	–	–	7	2.1%
Drilled hole	13	22.8%	72	26.1%	–	–	–	–	85	25.3%
Drill hole start	2	3.5%	3	1.1%	–	–	–	–	5	1.5%
Olla into seed jar	–	–	2	0.7%	–	–	–	–	2	0.6%
Reshaped rim	–	–	32	11.6%	–	–	–	–	32	9.5%
Unifacially chipped	–	–	2	0.7%	–	–	–	–	2	0.6%
Scoop	3	5.3%	1	0.4%	–	–	–	–	4	1.2%
Pendant	–	–	1	0.4%	1	50.0%	–	–	2	0.6%
Abraded form	2	3.5%	9	3.3%	–	–	–	–	11	3.3%
Chipped form	2	3.5%	3	1.1%	–	–	–	–	5	1.5%
Abraded handle	–	–	2	0.7%	–	–	–	–	2	0.6%
Abraded stub	–	–	3	1.1%	–	–	–	–	3	0.9%
Truncated edge	–	–	11	4.0%	–	–	–	–	11	3.3%
Rounded edge	8	14.0%	17	6.2%	–	–	–	–	25	7.4%
Inner bevel	7	12.3%	13	4.7%	–	–	–	–	20	6.0%
Outer bevel	5	8.8%	28	10.1%	1	50.0%	1	100.0%	35	10.4%
Multiple bevel	5	8.8%	13	4.7%	–	–	–	–	18	5.4%
Chipped edge	–	–	4	1.4%	–	–	–	–	4	1.2%
Hole and bevel	–	–	1	0.4%	–	–	–	–	1	0.3%
Reshaped ladle handle	–	–	1	0.4%	–	–	–	–	1	0.3%
Drill hole and start	–	–	1	0.4%	–	–	–	–	1	0.3%
Bowl into ladle	–	–	1	0.4%	–	–	–	–	1	0.3%
Pottery scraper	1	1.8%	–	–	–	–	–	–	1	0.3%
<b>Total</b>	<b>57</b>	<b>100.0%</b>	<b>276</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>336</b>	<b>100.0%</b>

early extramural features suggests that the fill there was directly deposited trash, a finding in keeping with the apparent basket loads found in the large cist in the southeast area (Extramural Area 3 Feature 5). This provenience also contained the most variably sized sherds, perhaps because the sample is somewhat small.

In all, 12 reconstructible vessels were recovered from this site, half of which were associated with burials (Table 13.76). The vessels not associated with burials were mostly reconstructed from larger numbers of sherds from secondary contexts, rather than locations of use. Exceptions to these contexts are the broken jar on the Room 201 floor and the vessel lining of a storage pit in the same room. Such pit-lining vessels are were probably recycled cooking vessels that were no longer functional for cooking.

### Chipped Stone Artifacts

*Material types.* There are few remarkable occurrences of chipped stone material in the provenience distributions (Tables 13.77, 13.78, 13.79) at LA 37592. In descending order, four materials—chert, siltstone, silicified wood, and quartzitic sandstone—account for 94 percent of the chipped stone. Sixty-five percent of the chipped stone was recovered from the midden, which is comparable to quantities of other artifacts. Preferences for chalcedony and silicified wood for formal tools are apparent, and hammerstones are more likely to have been made of quartzite, quartzitic sandstone, or siltstone. Chopper planes show a marked selection bias for siltstone. There are only five pieces of obsidian in the entire collection of 14,000 pieces of chipped stone; three of these are projectile point fragments, and the others retouch flakes. These five pieces of obsidian were the only ones recovered from the Jackson Lake area. Three were from

Table 13.72. LA 37592, temper type by vessel form and ware group; counts and percents.

	Bowl		Jar		Special		Ladle		Miniature/ Effigy		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Gray Ware</b>												
None	2	33.3%	1	0.1%	–	–	–	–	1	50.0%	4	0.2%
Igneous	4	66.7%	1606	95.3%	1	100.0%	–	–	1	50.0%	1612	95.0%
Igneous and sand	–	–	9	0.5%	–	–	–	–	–	–	9	0.5%
Sherd	–	–	2	0.1%	–	–	2	100.0%	–	–	4	0.2%
Igneous and sherd	–	–	6	0.4%	–	–	–	–	–	–	6	0.4%
Igneous, sand, sherd	–	–	2	0.1%	–	–	–	–	–	–	2	0.1%
Quartz sand	–	–	56	3.3%	–	–	–	–	–	–	56	3.3%
Quartz sand, sherd	–	–	1	0.1%	–	–	–	–	–	–	1	0.1%
Trachybasalt	–	–	2	0.1%	–	–	–	–	–	–	2	0.1%
Trachybasalt, sherd	–	–	1	0.1%	–	–	–	–	–	–	1	0.1%
<b>Subtotal</b>	6	100.0%	1686	100.0%	1	100.0%	2	100.0%	2	100.0%	1697	100.0%
<b>White Ware</b>												
Igneous	625	65.4%	162	62.3%	1	16.7%	29	46.8%	–	–	817	63.6%
Igneous and sand	87	9.1%	2	0.8%	–	–	11	17.7%	–	–	100	7.8%
Fine sandstone	4	0.4%	–	–	–	–	–	–	–	–	4	0.3%
Sherd	58	6.1%	45	17.3%	–	–	6	9.7%	–	–	109	8.5%
Igneous and sherd	106	11.1%	14	5.4%	4	66.7%	9	14.5%	2	100.0%	135	10.5%
Igneous, sand, sherd	27	2.8%	4	1.5%	–	–	5	8.1%	–	–	36	2.8%
Quartz sand	29	3.0%	17	6.5%	–	–	2	3.2%	–	–	48	3.7%
Quartz sand, sherd	17	1.8%	14	5.4%	1	16.7%	–	–	–	–	32	2.5%
Trachybasalt	1	0.1%	1	0.4%	–	–	–	–	–	–	2	0.2%
Trachybasalt, sherd	1	0.1%	1	0.4%	–	–	–	–	–	–	2	0.2%
<b>Subtotal</b>	955	100.0%	260	100.0%	6	100.0%	62	100.0%	2	100.0%	1285	100.0%
<b>Red Ware</b>												
Igneous	15	9.1%	17	60.7%	–	–	–	–	–	–	32	16.7%
Igneous and sand	1	0.6%	–	–	–	–	–	–	–	–	1	0.5%
Sherd	61	37.2%	–	–	–	–	–	–	–	–	61	31.8%
Igneous and sherd	1	0.6%	1	3.6%	–	–	–	–	–	–	2	1.0%
Quartz and sherd	1	0.6%	–	–	–	–	–	–	–	–	1	0.5%
Quartz sand	16	9.8%	4	14.3%	–	–	–	–	–	–	20	10.4%
Quartz sand, sherd	69	42.1%	6	21.4%	–	–	–	–	–	–	75	39.1%
<b>Subtotal</b>	164	100.0%	28	100.0%	–	–	–	–	–	–	192	100.0%
<b>Brown, Smudged Ware</b>												
Quartz sand	1	0.1%	–	–	–	–	–	–	–	–	1	0.0%
Mogollon tuff	28	2.4%	1	0.1%	–	–	–	–	–	–	29	0.9%
<b>Subtotal</b>	29	2.5%	1	0.1%	–	–	–	–	–	–	30	0.9%
<b>Total</b>	<b>1154</b>	<b>100.0%</b>	<b>1975</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>64</b>	<b>100.0%</b>	<b>4</b>	<b>100.0%</b>	<b>3204</b>	<b>100.0%</b>

Table 13.73. LA 37592, sherds, mean weights (g) by major provenience group.

	Pit Structure Midden	Pit Structure 1	Rooms	Pueblo II Extramural	Extramural	Other	All
Mean weight	9.3	8.6	7.1	12.4	5.8	7.3	7.9
Standard deviation	11.9	19.8	22.9	44.2	6.7	7.4	14.3
Number of lots	3146	855	685	109	2105	419	7319

Weight calculated as lot weight divided by lot count.

Table 13.74. LA 37592, Pit Structure 1, mean weight (g) and counts of sherd lots by layer.

Layer	Mean Wt (g)	Count	Standard Deviation	Median	Minimum	Maximum
1	7.6580	798	9.75447	4.6702	0.02	117.00
2	6.0433	201	6.90864	3.8750	1.00	40.00
3	9.6639	560	11.58521	6.0000	0.50	102.00
4	10.2173	555	13.0286	6.4286	0.25	121.00
5	10.0582	747	12.11807	6.5000	0.50	119.00
6	8.5946	182	14.28642	4.5164	1.00	101.00
7	14.2849	73	19.76837	6.7857	0.67	101.00
8	7.9154	44	7.69027	5.1667	1.00	31.00
9	9.2024	23	6.98871	7.0000	1.00	28.00
10	5.9178	32	8.60818	3.5556	1.00	43.33
11	5.9583	30	4.07108	4.9167	1.00	14.00
14	6.2706	10	4.81994	5.1667	1.00	17.00
15	1.9167	3	0.38188	2.0000	1.50	2.25
16	3.1398	46	2.49417	2.7500	0.67	11.00
18	8.0000	1	–	8.0000	8.00	8.00
20	6.2778	3	1.25093	7.0000	4.83	7.00
21	7.1437	60	9.71645	4.7500	1.00	66.00
22	6.2500	8	5.94619	3.0000	2.00	19.00
23	8.3076	64	11.07313	5.4700	0.12	62.00
24	9.3571	7	9.41061	9.0000	2.00	29.00
25	4.7403	22	2.9836	3.8500	1.00	12.00
26	13.3648	20	18.49074	7.5000	1.00	81.00
27	4.7816	15	4.44292	3.5000	1.00	19.00
28	7.8320	11	6.2317	5.6522	1.00	21.00
29	9.6709	33	10.17229	7.0000	1.00	44.00
30	2.0000	1	–	2.0000	2.00	2.00
31	6.0400	10	5.85134	4.0000	1.00	18.00
32	3.0000	5	1.22474	3.0000	1.00	4.00
33	2.0000	4	1.1547	2.0000	1.00	3.00
34	6.6691	25	8.60504	4.0000	1.00	44.00
35	7.5704	61	6.53838	5.8000	1.00	30.00
36	7.5902	14	5.65745	5.9091	1.00	19.00
37	2.2500	4	0.95743	2.5000	1.00	3.00
38	1.6667	3	1.1547	1.0000	1.00	3.00
Floor 1	6.4186	141	5.64034	4.0000	0.50	26.00
Floor 2	4.1250	4	2.59406	4.5000	1.00	6.50
Floor 3	6.0762	7	8.85165	3.3333	1.20	26.00
<b>Total</b>	<b>8.7551</b>	<b>4014</b>	<b>11.14761</b>	<b>5.4388</b>	<b>0.02</b>	<b>121.00</b>

Calculated as lot weight divided by lot count.

midden layers, one from near Roomblock 1, and one from below the midden in the pit structure. Four of the pieces are Valle Grande obsidian; the fifth is El Rechuelos (sometimes called Polvadera). The source of both of these materials is the Valles Caldera in the Jemez Mountains.

Within the raw material categories—siltstone, chert, silicified wood, and chalcedony—there is a great variety of colors and types. In the analysis of color and other material attributes, 250 lithic ma-

terial categories were recorded. Among cherts, white, light tan or buff, light gray, yellow brown, cream with yellow cortex, and mottled dark and light gray are the most abundant (each constitutes 2 percent or more of the total sample). Black and green siltstones are the most common colors, and silicified wood is most often yellow brown. Although a useful indicator of variability, color recording was discontinued after completion of the Jackson Lake lithic analysis.



Table 13.75. LA 37592, Pit Structure 1, mean weight (g) and counts of sherd lots by layer and ware group.

Ware	Mean Wt (g)	Count	Standard Deviation	Median	Minimum	Maximum
<b>Layer 1.00</b>						
Gray ware	7.3942	220	10.10911	5.0000	0.02	117.00
White ware	8.2306	427	9.46211	4.8750	0.67	59.00
Red ware	2.3889	9	2.02759	1.0000	1.00	6.00
<b>Total</b>	<b>7.8699</b>	<b>656</b>	<b>9.6448</b>	<b>4.9117</b>	<b>0.02</b>	<b>117.00</b>
<b>Layer 3.00</b>						
Gray ware	8.6178	176	11.6441	5.3609	1.00	102.00
White ware	10.3501	334	11.5035	6.0367	0.67	74.00
Red ware	13.2105	19	17.18067	7.0000	1.00	69.00
<b>Total</b>	<b>9.8765</b>	<b>529</b>	<b>11.81226</b>	<b>6.0000</b>	<b>0.67</b>	<b>102.00</b>
<b>Layer 4.00</b>						
Gray ware	8.1735	160	8.67496	6.0000	1.00	67.00
White ware	11.4149	352	14.81064	7.0000	0.25	121.00
Red ware	10.2391	23	11.58356	9.0000	0.50	54.00
Brown smudged ware	2.15	4	1.35031	2.0000	1.00	3.60
<b>Total</b>	<b>10.3338</b>	<b>539</b>	<b>13.17192</b>	<b>6.5000</b>	<b>0.25</b>	<b>121.00</b>
<b>Layer 5.00</b>						
Gray ware	8.271	212	8.00962	6.0000	0.55	53.00
White ware	10.7715	500	13.21222	7.0000	1.00	119.00
Red ware	10.0399	29	15.66982	5.0000	0.50	83.00
Brown smudged ware	13.8472	6	14.22814	6.6667	1.00	33.00
<b>Total</b>	<b>10.0582</b>	<b>747</b>	<b>12.11807</b>	<b>6.5000</b>	<b>0.50</b>	<b>119.00</b>
<b>Layer 6.00</b>						
Gray ware	4.8288	15	1.96025	4.4590	2.00	8.67
White ware	6.8155	29	4.98715	6.4000	1.00	24.00
Red ware	4	1	–	4.0000	4.00	4.00
<b>Total</b>	<b>6.0907</b>	<b>45</b>	<b>4.24718</b>	<b>5.0000</b>	<b>1.00</b>	<b>24.00</b>
<b>Layer 7.00</b>						
Gray ware	17.1402	6	29.37517	5.3438	3.00	77.00
White ware	15.7773	11	28.81997	4.0000	1.80	99.00
<b>Total</b>	<b>16.2583</b>	<b>17</b>	<b>28.09317</b>	<b>4.6875</b>	<b>1.80</b>	<b>99.00</b>
<b>Total</b>						
Gray ware	<b>8.0771</b>	<b>790</b>	<b>9.86878</b>	<b>5.5000</b>	<b>0.02</b>	<b>117.00</b>
white ware	<b>10.1309</b>	<b>1653</b>	<b>12.50477</b>	<b>6.0000</b>	<b>0.25</b>	<b>121.00</b>
Red ware	<b>9.9155</b>	<b>81</b>	<b>14.10992</b>	<b>5.0000</b>	<b>0.50</b>	<b>83.00</b>
Brown smudged ware	<b>9.1683</b>	<b>10</b>	<b>12.22952</b>	<b>4.1750</b>	<b>1.00</b>	<b>33.00</b>
<b>Total</b>	<b>9.4799</b>	<b>2534</b>	<b>11.83366</b>	<b>6.0000</b>	<b>0.02</b>	<b>121.00</b>

Identifiable exotic lithic materials include Washington Pass chert (12 pieces), possible Pedernal chert (4), obsidian (5, all Jemez), Chinle silicified wood (20), and green Brushy Basin chert (8). The Washington Pass pieces are mostly small core flakes, and only five of the pieces exhibit use or retouch; all weigh 3 g or less. Over 120 pieces of chert were labeled as Alibates chert, a distinctive material type

from Texas, but colleagues who know the material were of the firm opinion that this material is not Alibates chert. The material in question is a creamy yellow, with some phenocrysts, and a much darker yellow-brown cortex than is typical of Alibates.

Siltstone and chert frequencies, the two most common materials, remain fairly constant through time, with slightly more chert later. Both the midden

Table 13.76. LA 37592, reconstructible ceramic vessels by pottery type and provenience, with sherd count and temper type.

Vessel	Type	Form	Pieces	Weight (g)	Temper	Provenience
1	Pueblo II–III black-on-white	bird effigy	1	55.0	igneous and sherd	Pit Structure 1, Layer 1
2	McElmo Black-on-white	bowl rim and body	46	1127.0	igneous	Pit Structure 1
3	Mancos Black-on-white	bowl rim	2	251.0	–	EA 3, Feature 9, Burial 7
4	Mancos Black-on-white, organic	bowl rim	20	355.0	igneous	Room 203, Level 2
5	McElmo Black-on-white	bowl	1	269.0	igneous	Room 201, Burial 1
6	McElmo Black-on-white	bowl	1	517.0	igneous	Room 201, Burial 2
7	corrugated gray	pitcher	1	428.0	igneous	EA 3, Feature 9, Burial 7
8	Dolores Corrugated	jar	12	490.0	igneous	EA 2, Layer 9, Burial 6
9	Dolores Corrugated	jar	75	1560.0	igneous	Room 201, Floor 1, Burial 3
10	Mancos Black-on-white squiggle	pitcher	4	344.0	igneous and sherd	Pit Structure 1 fill, Burial 4 (?)
11	corrugated gray	necked jar	98	1223.0	igneous	Room 201, Floor 3
12	McElmo Black-on-white	bowl	9	428.0	igneous	EA 2, Layer 9, Burial 6

Table 13.77. LA 37592, chipped stone material type by major provenience; counts and percents.

	Pit Structure 1 Midden		Pit Structure 1		Rooms		Pueblo II Extramural		Other Extramural		Other		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Chert	4854	52.4%	388	45.4%	323	47.2%	59	50.9%	1286	47.2%	192	48.2%	<b>7102</b>	<b>50.6%</b>
Chalcedony	172	1.9%	9	1.1%	11	1.6%	–	–	49	1.8%	3	0.8%	<b>244</b>	<b>1.7%</b>
Silicified wood	619	6.7%	62	7.3%	51	7.5%	4	3.4%	253	9.3%	22	5.5%	<b>1011</b>	<b>7.2%</b>
Quartzite	289	3.1%	27	3.2%	33	4.8%	3	2.6%	87	3.2%	10	2.5%	<b>449</b>	<b>3.2%</b>
Quartzitic sandstone	565	6.1%	78	9.1%	56	8.2%	14	12.1%	215	7.9%	15	3.8%	<b>943</b>	<b>6.7%</b>
Obsidian	3	0.0%	–	–	–	–	–	–	1	0.0%	1	0.3%	<b>5</b>	<b>0.0%</b>
Igneous	22	0.2%	3	0.4%	3	0.4%	3	2.6%	20	0.7%	–	–	<b>51</b>	<b>0.4%</b>
Rhyolite	24	0.3%	4	0.5%	6	0.9%	–	–	5	0.2%	–	–	<b>39</b>	<b>0.3%</b>
Sandstone	22	0.2%	7	0.8%	–	–	–	–	6	0.2%	5	1.3%	<b>40</b>	<b>0.3%</b>
Siltstone	2698	29.1%	277	32.4%	199	29.1%	33	28.4%	805	29.5%	150	37.7%	<b>4162</b>	<b>29.6%</b>
Other	1	0.0%	–	–	2	0.3%	–	–	–	–	–	–	<b>3</b>	<b>0.0%</b>
<b>Total</b>	<b>9269</b>	<b>100.0%</b>	<b>855</b>	<b>100.0%</b>	<b>684</b>	<b>100.0%</b>	<b>116</b>	<b>100.0%</b>	<b>2727</b>	<b>100.0%</b>	<b>398</b>	<b>100.0%</b>	<b>14,049</b>	<b>100.0%</b>

Table 13.78. LA 37592, debitage, mean weight (g) and counts by major provenience.

	Mean (g)	Count	Standard Deviation	Median	Minimum	Maximum
Pit Structure 1 midden	7.12	8799	12.905	2.00	1	186
Pit Structure 1	9.83	745	18.452	3.00	1	260
Rooms	6.53	640	11.833	2.00	1	145
Pueblo II extramural areas	6.1	113	12.389	2.00	1	110
Other extramural areas	7.37	2605	15.895	2.00	1	275
Other	9.28	361	12.903	4.00	1	101
<b>Total</b>	<b>7.35</b>	<b>13263</b>	<b>13.866</b>	<b>2.00</b>	<b>1</b>	<b>275</b>

Table 13.79. LA 37592, chipped stone tool types by major provenience; counts and percents.

	Pit Structure 1 Midden		Pit Structure 1		Rooms		Pueblo II Extramural		Other Extramural		Other		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
	Debitage	8164	88.1%	679	79.4%	542	79.2%	107	92.2%	2316	84.9%	323	81.2%	12131
Core	260	2.8%	52	6.1%	18	2.6%	3	2.6%	65	2.4%	21	5.3%	419	3.0%
Uniface	1	0.0%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Biface	-	-	-	-	-	-	-	-	1	0.0%	-	-	1	0.0%
Retouched, utilized debitage	635	6.9%	66	7.7%	98	14.3%	6	5.2%	289	10.6%	38	9.5%	1132	8.1%
Retouched, utilized core	35	0.4%	2	0.2%	6	0.9%	-	-	8	0.3%	3	0.8%	54	0.4%
Drill	13	0.1%	-	-	-	-	-	-	4	0.1%	-	-	17	0.1%
Graver	1	0.0%	-	-	1	0.1%	-	-	-	-	-	-	2	0.0%
Notch	13	0.1%	2	0.2%	-	-	-	-	3	0.1%	1	0.3%	19	0.1%
Denticulate	1	0.0%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Bifacial knife, scraper	4	0.0%	-	-	-	-	-	-	1	0.0%	-	-	5	0.0%
Projectile point	26	0.3%	4	0.5%	2	0.3%	-	-	5	0.2%	1	0.3%	38	0.3%
Hammerstone	71	0.8%	40	4.7%	10	1.5%	-	-	16	0.6%	6	1.5%	143	1.0%
Hammerstone flake	32	0.3%	6	0.7%	4	0.6%	-	-	16	0.6%	3	0.8%	61	0.4%
Chopper, plane	13	0.1%	4	0.5%	3	0.4%	-	-	3	0.1%	2	0.5%	25	0.2%
<b>Total</b>	<b>9269</b>	<b>100.0%</b>	<b>855</b>	<b>100.0%</b>	<b>684</b>	<b>100.0%</b>	<b>116</b>	<b>100.0%</b>	<b>2727</b>	<b>100.0%</b>	<b>398</b>	<b>100.0%</b>	<b>14049</b>	<b>100.0%</b>

and the pit structure are characterized by relatively high chert and debitage frequencies, as opposed to less debitage and more siltstone and quartzite in the rooms. The rooms and the midden are fairly similar, while the lower pit structure fill is somewhat distinctive. Compared to other sites with substantial samples, LA 37592 has smaller mean (8.28 g) and median (3 g) debitage weight. The overall mean is 9.85 g, and the overall median is 3 g.

Complete siltstone and quartzite (including quartzitic sandstone) flakes have a greater average size, but the two material groups are not significantly different. Siltstone and chert flake weights, however, are significantly different. Silicified wood flakes are considerably smaller than the other main materials. In monitoring the size of whole flakes among major provenience categories, flake sizes are larger in most materials in the submidden pit structure fill and smaller in the roomblocks.

*Tools.* Unmodified debitage constitutes over 86 percent of all the chipped stone, utilized or retouched debitage accounts for another 8 percent, and cores for 3 percent. Formal tool types are therefore infrequent, with only hammerstones (not exactly a formal tool category, either) reaching more than 1 percent (Table 13.80). Items that occur in substantially greater frequencies than expected include utilized debitage in the rooms and in “other” contexts, hammerstones and cores in nonmidden contexts in Pit Structure 1, and fewer than expected pieces of utilized debitage in the midden (Table 13.79).

In all, 38 projectile points were recovered, 30 of them from the pit structure, and all but 5 of those associated with the midden (Figs. 13.93a, 13.93b). Materials used for projectile points are split among chert, chalcedony, and silicified wood, with three obsidian specimens and one of siltstone. As compared to the overall material type distribution, siltstone is greatly underrepresented among the points, and chalcedony, silicified wood, and obsidian are overrepresented, indicating a preference for these materials for projectile points.

Two of the obsidian points have both tip and base missing. The midsections are very close in size, and both are broken at the same angles at base and tip. They were probably side-notched. The third obsidian point was made on a small, thin flake with one face only partially retouched. It, too, was side-notched and appears to have broken below the

Table 13.80. LA 37592, chipped stone artifacts (all) by major provenience; tool and material type, weights (g), and stratigraphic context.

FS No.	Tool Type	Material	Weight (gm)	Portion	Layer/ Level*	Context
<b>Pit Structure 1 Midden</b>						
155	notch	chert	4.0	proximal fragment	0.01	mixed
302	bifacial knife, scraper	chert	14.0	–	0.02	mixed
314	chopper, plane	rhyolite	377.0	–	0.02	mixed
316	projectile point	chert	6.0	–	0.02	mixed
316	drill	silicified wood	3.0	whole	0.02	mixed
319	projectile point	chert	1.0	–	0.02	mixed
320	notch	silicified wood	6.0	lateral fragment	0.02	mixed
205	notch	chert	4.0	whole	0.03	mixed and trashed
226	notch	siltstone	6.0	whole	0.03	mixed and trashed
206	chopper, plane	siltstone	90.0	–	0.04	midden
206	projectile point	silicified wood	9.0	complete	0.04	midden
207	projectile point	silicified wood	2.0	complete	0.05	midden
208	chopper, plane	siltstone	21.0	whole	0.06	midden
209	projectile point	silicified wood	1.0	tang, tip missing	0.07	midden
209	drill	chert	21.0	whole	0.07	midden
209	drill	chert	7.0	whole	0.07	midden
210	projectile point	quartzite	1.0	whole	0.08	midden
210	drill	siltstone	4.0	whole	0.08	midden
321	notch	chert	17.0	proximal fragment	1	midden
326	notch	silicified wood	4.0	proximal fragment	1	midden
326	notch	chert	1.0	whole	1	midden
334	notch	siltstone	18.0	whole	1	midden
334	drill	chert	1.0	whole	1	midden
217	projectile point	chert	1.0	whole	1.03	midden
227	projectile point	silicified wood	1.0	complete	1.04	midden
227	projectile point	chalcedony	1.0	complete	1.04	midden
305	projectile point	quartzite	4.0	complete	2	circum midden
368	projectile point	chalcedony	1.0	midsection	2	circum midden
306	projectile point	obsidian	1.0	tip	3	midden
327	uniface	chert	60.0	whole	3	midden
327	projectile point	chalcedony	1.0	complete	3	midden
327	drill	chert	2.0	lateral fragment	3	midden
327	notch	chert	5.0	whole	3	midden
335	projectile point	chert	1.0	tang, tip missing	3	midden
335	projectile point	silicified wood	1.0	complete	3	midden
335	projectile point	silicified wood	1.0	tang, tip missing	3	midden
230	projectile point	silicified wood	1.0	base missing	3.01	midden
243	projectile point	silicified wood	2.0	complete	3.03	midden
243	chopper, plane	quartzitic sandstone	42.0	–	3.03	midden
328	notch	silicified wood	12.0	–	4	midden
233	chopper, plane	siltstone	113.0	–	4.01	midden
233	chopper, plane	siltstone	178.0	–	4.01	midden
233	notch	siltstone	3.0	distal fragment	4.01	midden
233	graver	chert	1.0	medial fragment	4.01	midden
244	projectile point	chalcedony	1.0	midsection	4.01	midden
325	projectile point	chert	1.0	base missing	5	midden
325	chopper, plane	siltstone	100.0	–	5	midden
325	denticulate	siltstone	12.0	whole	5	midden
329	bifacial knife, scraper	silicified wood	1.0	–	5	midden
329	chopper, plane	siltstone	73.0	whole	5	midden
329	bifacial knife, scraper	quartzite	76.0	–	5	midden
329	chopper, plane	chert	50.0	–	5	midden



Table 13.80 (continued)

FS No.	Tool Type	Material	Weight (gm)	Portion	Layer/ Level*	Context
329	drill	silicified wood	8.0	proximal fragment	5	midden
337	drill	chert	4.0	whole	5	midden
337	notch	silicified wood	2.0	whole	5	midden
245	projectile point	chert	1.0	complete	5.01	midden
246	chopper, plane	siltstone	104.0	–	5.02	midden
298	projectile point	silicified wood	1.0	complete	5.02	midden
247	projectile point	silicified wood	1.0	complete	5.03	midden
238	chopper, plane	siltstone	446.0	–	5.04	midden
356	drill	silicified wood	1.0	–	6	basal midden
356	notch	silicified wood	7.0	proximal fragment	6	basal midden
356	notch	chert	15.0	distal fragment	6	basal midden
257	chopper, plane	siltstone	1?	proximal fragment	6.01	basal midden
257	drill	chert	3.0	whole	6.01	basal midden
257	drill	silicified wood	3.0	lateral fragment	6.01	basal midden
257	projectile point	silicified wood	14.0	tang, tip missing	6.01	basal midden
<b>Pit Structure 1</b>						
339	drill	chalcedony	2.0	–	7	circum midden
357	chopper, plane	siltstone	94.0	whole	7	circum midden
324	projectile point	chert	1.0	complete	8	cultural, not trash
340	projectile point	chalcedony	1.0	complete	17	cultural, not trash
340	bifacial knife, scraper	chert	1.0	–	17	cultural, not trash
342	projectile point	obsidian	1.0	midsection	21	cultural, not trash
352	drill	chalcedony	2.0	whole	21	cultural, not trash
271	chopper, plane	siltstone	394.0	–	25	construction
331	chopper, plane	siltstone	174.0	–	–	northwest quad fill
331	chopper, plane	siltstone	49.0	whole	–	northwest quad fill
331	notch	chert	16.0	whole	–	northwest quad fill
347	projectile point	silicified wood	1.0	complete	16	cultural, not trash
354	chopper, plane	siltstone	293.0	–	–	southwest quad
359	notch	silicified wood	3.0	–	26	northeast natural
375	projectile point	silicified wood	0.4	base missing	28	construction
1016	projectile point	chalcedony	1.0	complete	0.05	off-chamber cist Feature 9
1019	projectile point	chalcedony	1.0	complete	1	off-chamber cist Feature 9
<b>Rooms</b>						
76	projectile point	silicified wood	1.0	–	0.01	Room 203
80	chopper, plane	siltstone	197.0	–	0.03	Room 202 Floor 1
80	chopper, plane	siltstone	402.0	–	0.03	Room 202 Floor 2
83	projectile point	chert	1.0	tip	0.03	Room 202
92	chopper, plane	siltstone	232.0	proximal fragment	0.02	Room 203
727	graver	chert	11.0	proximal fragment	0.01	Room 203
<b>Extramural Areas</b>						
129	notch	chert	16.0	whole	0.02	Extramural Area 1
704	chopper, plane	chert	31.0	whole	–	Extramural Area 2
48	bifacial knife, scraper	silicified wood	2.0	whole	–	Extramural Area 2
64	drill	chert	5.0	whole	0.01	Extramural Area 2
68	projectile point	obsidian	1.0	base missing	0.05	Extramural Area 2
580	biface	chalcedony	1.0	–	7	Extramural Area 2
640	drill	silicified wood	1.0	–	9.1	Extramural Area 2
677	projectile point	silicified wood	2.0	complete	12	Extramural Area 2
728	projectile point	silicified wood	1.0	base missing	0.02	Extramural Area 3
403	projectile point	chalcedony	1.0	complete	0.08	Extramural Area 3
669	drill	chert	1.0	proximal fragment	0.08	Extramural Area 3
723	notch	chert	18.0	proximal fragment	–	Extramural Area 3

Table 13.80 (continued)

FS No.	Tool Type	Material	Weight (gm)	Portion	Layer/Level*	Context
119	notch	siltstone	22.0	whole	0.01	Extramural Area 4
366	drill	chalcedony	2.0	proximal fragment	0.02	Extramural Area 4
107	projectile point	silicified wood	1.0	tang, tip missing	0.04	Extramural Area 4
126	chopper, plane	quartzite	62.0	–	0.05	Extramural Area 4
127	chopper, plane	chert	23.0	whole	0.06	Extramural Area 4
<b>Other Proveniences</b>						
155	notch	chert	4.0	proximal fragment	0.01	–
368	projectile point	chalcedony	1.0	–	2	–
711	chopper, plane	siltstone	71.0	whole	–	–
1045	chopper, plane	siltstone	240.0	–	–	–

\* Layer/level key: Integers are layer numbers; decimals are levels (6.01 = Layer 6 Level 1)

notches, although it may have broken and then been renotched, leaving mere whiskers of obsidian at the base.

A number of the projectile points from the midden are retouched flakes of the same yellow-brown silicified wood (Figs. 13.93a, 13.93b). Most of these points retain the ventral surface of the flake. Some are perfunctorily retouched, and some are more carefully worked, though still retaining unchanged features of the flake. All are side-notched, but there is some variability in base shape and size (Figs. 13.93a, 13.93b). The banded yellow-brown (dark butterscotch) material from which these points were made was also used to make several other bifacial tools found in the midden. The tip of a point of the same material made in the same fashion was also recovered from LA 37598 (Chapter 16, Vol. 1-Book 2, this report). When made into “knives” or large bifaces (Fig. 13.93c), the workmanship with this material is much finer, showing that it was amenable to careful work. Silicified wood appears as utilized debitage much more often than its numerical rate of occurrence, primarily as debitage (Tables 13.81, 13.82).

The points recovered from outside Pit Structure 1 were rather evenly distributed around the site (Table 13.83): four were in room fill or sub-room contexts, two were in the pit structure vicinity, and one was from near Roomblock 1. None was found in a primary context. Most (22 of 37) of the points are side-notched, a few are triangular and stemmed, and one is corner-notched. In addition to the highly expedient points-on-flakes, there are a number of very

consistent, symmetrical, side-notched points with square bases; many of these are from yellow-brown silicified wood, but there are also points of this style made from other cherts, and one made from a piece of Narbona Pass chert. The single corner-notched point, an earlier, Late Archaic style (probably En Medio), was found in Layer 5 of the midden and is therefore likely to have been an heirloom.

Siltstone and quartzite were preferred for heavy tools such as hammerstones and choppers. That the chipped stone industry was primarily local is seen quite nicely in the close correspondence between core material and general material percentages (Table 13.81).

Fourteen drills were recovered from this site, a relatively high number compared to other sites. Ten of these tools were from the pit structure, and most were from the midden, fairly evenly distributed in all but Layer 4. This suggests that the activity connected to this tool type took place regularly at the site through the late occupation of the site. The presence of substantial amounts of broken red shale pendants suggests that ornaments were made at this site, and drills would have been part of that process. Drills were also part of the production of artifacts from perishable materials.

In searching for functional differences among proveniences and meaningful assemblages of chipped stone, materials from structure floors and floor fill were tabulated separately (Table 13.21). Two things are evident from this table, especially with the inclusion of floor fill: the uppermost floor tends to have many more lithics associated with it,

and all assemblages are mostly debitage. The upper floors usually have about 5 percent cores, hammerstones, and utilized flakes as parts of their assemblages. The Room 201 assemblage stands apart from the other floors in having much higher percentages of utilized debitage on both Floors 1 and 2.

### *Ground Stone Artifacts*

In view of the counts for other artifact categories, the ground stone counts at LA 37592 seem downright small. The entire ground stone analysis includes 297 items, of which 43 are ornaments (Table 13.16). This seemingly small number probably relates to the types of major architecture that were excavated. Compared to other material categories, the percentage of ground stone artifacts in the overall site count that came from the midden is small, only about 44 percent. Far higher percentages were recovered from the lower pit structure and the rooms. Some of this pattern results from the common practice of incorporating discarded ground stone into masonry, a form of disposal particular to ground stone. The small quantity of ground stone may also be partly attributed to the scarcity of masonry excavated here. No formal grinding features were identified at this site, although a large specialized metate was found near the floor of Pit Structure 1.

Ground stone tools are primarily manos of various types and ground slabs, with far fewer metate fragments, axes, and other tools. Only about 20 percent of 247 ground stone tools have complete width, length, and thickness dimensions. Manos constitute over half of the ground stone, but only 18 percent of them are complete. None of the complete specimens were found in a deposit considered to be trash (such as the midden). This again suggests that exhausted manos went into construction rather than into trash. Two-handed manos with complete lengths are modally around 200 mm long, like the mano sample from the entire project. The distribution of whole mano lengths at LA 37592 is very nearly normal, with a standard deviation of only 22 mm (Fig. 13.95).

Eighteen of 21 metate fragments are sandstone; the other three are quartzitic sandstone, "granite," and siltstone (Table 13.84). Only two metates retain all three dimensions, while 15 have only a complete thickness dimension. The two complete metates are

somewhat unusual: one is a thick square slab metate from the floor of Pit Structure 1; the other is made of siltstone and was incorporated into a wall of Room 202. The Pit Structure 1 metate is shorter than normal corn-grinding metates and may have been used for some purpose other than milling corn. Although this site has the second largest collection of sherds or lithics in the project assemblage, five other sites produced larger numbers of complete metates.

Especially compared to Chaco Canyon sites, axes are relatively abundant at La Plata sites, as represented at LA 37592 (Figs. 13.96a, 13.96b). Axes broken in production are also present at many of the sites, indicating that this tool type was being made at these sites. In spite of its large collection, however, axes broken during production are absent from the LA 37592 assemblage—axes are much more often complete than other ground stone tools at this site. Hafted tools such as axes and hoes were mostly recovered from the rooms and Extramural Area 2, the northeast area. These items were probably being kept in the rooms; they do not seem to have been in disposal contexts. Larralde and Schlanger (1995) suggest that a supply of this tool type was probably curated, possibly because of the intensive effort required to manufacture them and to maintain the hafts.

Six tchamahia fragments were recovered from the site—four from the pit structure midden, one from Room 202, and one from north of the midden. The only possible by-product of tchamahia manufacture in the project assemblage was recovered from basal deposits of the Pit Structure 1 midden. This metamorphic siltstone fragment (showing as shale in Table 13.84) appears to be a manufacturing reject (Larralde and Schlanger 1995:14).

Perhaps because of the largely fragmentary nature of ground stone tools at this site, there was a relatively low incidence of multiple uses recorded on the tools. No tool in the analysis has third or fourth uses recorded, and only about a third (118 of 297) have second uses. Two-thirds of the second uses are varieties of mano use.

### *Ornaments*

The ornament category includes ground stone, ceramic, animal bone, and shell items (Tables 13.85, 13.86). Two-thirds of the LA 37592 ornament assemblage of 54 items are red shale. Over half of the shale is manufacturing debris, probably mostly



Figure 13.93a [a-y; left] and 13.93b [z, aa-ii; right]; SEE full caption on facing page.



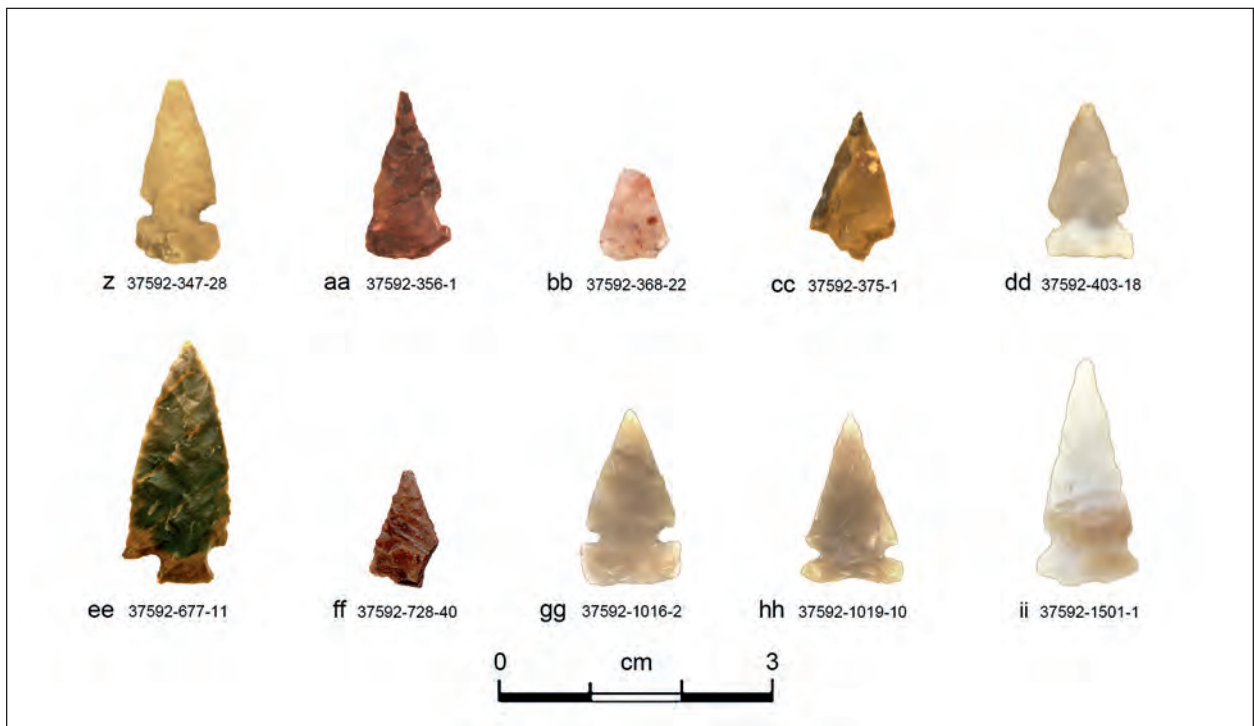


Figure 13.93a [a–y; left] and 13.93b [z, aa–ii; right]. LA 37592, projectile point styles and types of retouch and materials: Yellow-brown silicified wood (c, d, e, k, m, n, w, aa, ee); Narbona Pass chert (g); drill tip (d, k, n, x, y, aa, ff); expedient (d, e, f, k, n, t, v, x, aa); early Pueblo III (hh); late Pueblo III (d, g, i, k, l, m, n, q, v, w, gg); heirloom En Medio (p); obsidian (a, o, y). Points b and ii were found in rooms; a, c, f, g, dd, ee, and ff in extramural areas; and the remainder in Pit Structure 1 midden and fill.

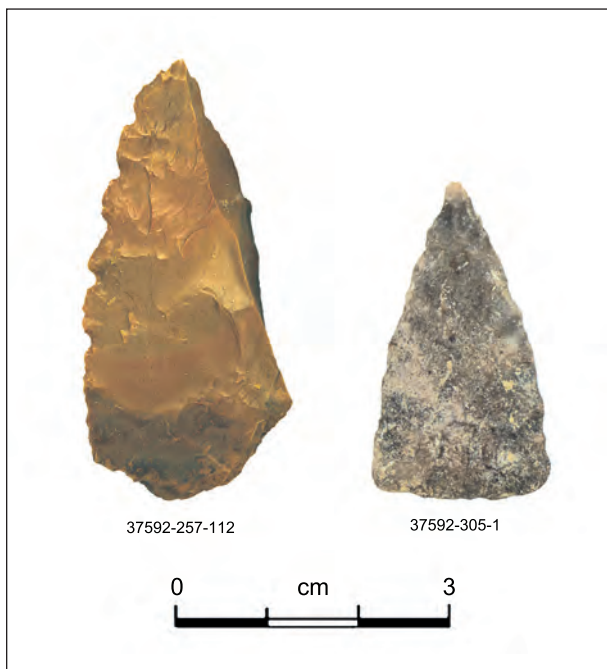


Figure 13.93c. LA 37592, larger bifaces from the Pit Structure 1 midden: (left) yellow-brown silicified wood denticulate, Layer 6; (right) quartzite knife tip, Layer 2.

from making pendants, but also perhaps from making beads. There are 15 recognizable pendants or pendant blanks, but no beads, although three fragments are possible shale bead manufacture debris (Figs. 13.97a, 13.97b, 13.97c, 13.97d). Shale manufacturing debris was found in all site contexts, suggesting that shale ornaments were being made on this site. Like most materials, they are concentrated in the midden. Several forms are discernible: starbursts, round and trapezoidal pendants drilled at the upper edge, and larger ring forms. Of the 25 pieces, perhaps 3 are complete or nearly complete, further suggesting that what was recovered is primarily debris or later breakage. Second in frequency to shale ornaments are bone objects. Only two pieces of jet and one shell were recovered from the site. Turquoise was absent, and shell scarce, although an *Olivella* bead was recovered.

Relatively little jet was recovered from La Plata Highway sites, but one of the more unusual artifacts came from LA 37592. An object triangular (in plan), curved (in section), and having two carefully

Table 13.81. LA 37592, grouped chipped stone tool types by grouped material types.

	Chert		Chalcedony		Silicified Wood		Quartzite		Igneous		Sandstone		Siltstone		Total	
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Col. %
Debitage	6196	51.1%	200	1.6%	751	6.2%	1228	10.1%	80	0.7%	37	0.3%	3636	30.0%	12128	86.3%
Core	266	56.2%	5	1.1%	27	5.7%	31	6.6%	2	0.4%	1	0.2%	141	29.8%	473	3.4%
Retouched debitage	538	47.5%	25	2.2%	198	17.5%	92	8.1%	5	0.4%	1	0.1%	273	24.1%	1132	8.1%
Hammerstone	43	30.1%	1	0.7%	1	0.7%	26	18.2%	4	2.8%	1	0.7%	67	46.9%	143	1.0%
Hammerstone flake	26	42.6%	1	1.6%	4	6.6%	10	16.4%	-	-	-	-	20	32.8%	61	0.4%
Formal tools	11	24.4%	9	20.0%	19	42.2%	3	6.7%	3	6.7%	-	-	-	-	45	0.3%
Drills/gravers	19	48.7%	3	7.7%	11	28.2%	-	-	-	-	-	-	6	15.4%	39	0.3%
Large tools	3	12.0%	-	-	-	-	2	8.0%	1	4.0%	-	-	19	76.0%	25	0.2%
<b>Total</b>	<b>7102</b>	<b>50.6%</b>	<b>244</b>	<b>1.7%</b>	<b>1011</b>	<b>7.2%</b>	<b>1392</b>	<b>9.9%</b>	<b>95</b>	<b>0.7%</b>	<b>40</b>	<b>0.3%</b>	<b>4162</b>	<b>29.6%</b>	<b>14046</b>	<b>100.0%</b>

ground faces was recovered from Layer 4 of the midden (Fig. 13.97d). One edge is ground square, and the other two are not ground; there is a hole with some wear drilled through the piece. As Eric Blinman points out, an object of this shape made of clay would automatically be called a piece of a bowl. The “rim” portion of this putative jet bowl is indeed the correct shape for a bowl of the Pueblo III period. Wallace’s reconstruction indicates that the bowl would have had a 16 cm diameter, which would indeed be an impressive jet object. No other fragments of this possible bowl were recovered, and there would have been quite a few if a bowl that size broke into pieces the size of this one. Presumably, then, the original object broke elsewhere, and this souvenir of that impressive object was cherished as a pendant.

### Faunal Remains

In all, 9,777 faunal elements were analyzed from LA 37592; of these, 9,495 are bone elements, and the remainder consist primarily of eggshell. Of the bone elements, 51.6 percent are mammal, 40.0 percent bird, and the remainder reptiles, amphibians, and fish (Tables 13.44, 13.87). Nearly all of the reptile and amphibian elements are animals that probably died on the site in noncultural contexts. For example, 81 percent of the reptile elements are from a single rattlesnake in a rubble fill layer in Pit Structure 1, and 17 percent are from a nonvenomous snake in an Extramural Area 4 cist (Feature 3). Most of the amphibian elements fall in three conjoinable groups.

Of the mammal elements, 69 percent are identified as mammal or small/ medium/large mammal, and 30 percent are identified to the family level or finer. The “small mammal” group is the largest single category. Among the identified mammals, cottontails are the most frequent (10 percent of mammals), followed by jackrabbits (6 percent), deer (5 percent), kangaroo rats (2 percent), ground squirrels and gophers (1.5 percent), pack rats (1 percent), and prairie dogs (0.9 percent). Obviously, some of the burrowing mammals probably introduced their own remains to deposits (in the process of making other associations less clear for the archaeologists). All carnivores make up only 0.7 percent, including some unusual entries such as wolf and bobcat. Canid (dog or coyote) elements are relatively scarce, constituting only 0.5 percent, with no dog burials. The single wolf el-

Table 13.82. LA 37592, flakes, mean weight (g) and counts by material type.

Material Type	Mean (g)	Count	Standard Deviation	Median	Minimum	Maximum
Chert	6.41	6734	10.603	2.00	1	200
Chalcedony	1.95	225	2.666	1.00	1	28
Silicified wood	4.81	949	8.276	2.00	1	115
Quartzite	10.74	416	21.617	3.00	1	275
Quartzitic sandstone	9.53	904	18.232	3.00	1	244
Obsidian	1.00	2	–	1.00	1	1
Igneous	6.73	45	8.250	4.00	1	46
Rhyolite	11.13	38	16.730	5.00	1	92
Sandstone	14.03	38	22.765	5.50	1	110
Siltstone	8.93	3909	17.228	3.00	1	260
Other	1.00	3	–	1.00	1	1
<b>Total</b>	<b>7.35</b>	<b>13263</b>	<b>13.866</b>	<b>2.00</b>	<b>1</b>	<b>275</b>

Table 13.83. LA 37592, projectile points, material type counts by major provenience.

Material Type	Study Unit				Total
	Surface Room	Roomblock	Pit Structure	Extramural Area	
Chert-undifferentiated	1	–	6	–	7
Chert-Narbona pass	–	–	1	–	1
Chalcedony	–	–	7	2	9
Silicified wood-undifferentiated	1	1	3	–	5
Silicified wood-y/b jasper	–	–	11	3	14
Obsidian-undifferentiated	–	–	2	1	3
Quartzite-undifferentiated	–	–	2	–	2
<b>Total</b>	<b>2</b>	<b>1</b>	<b>32</b>	<b>6</b>	<b>41</b>

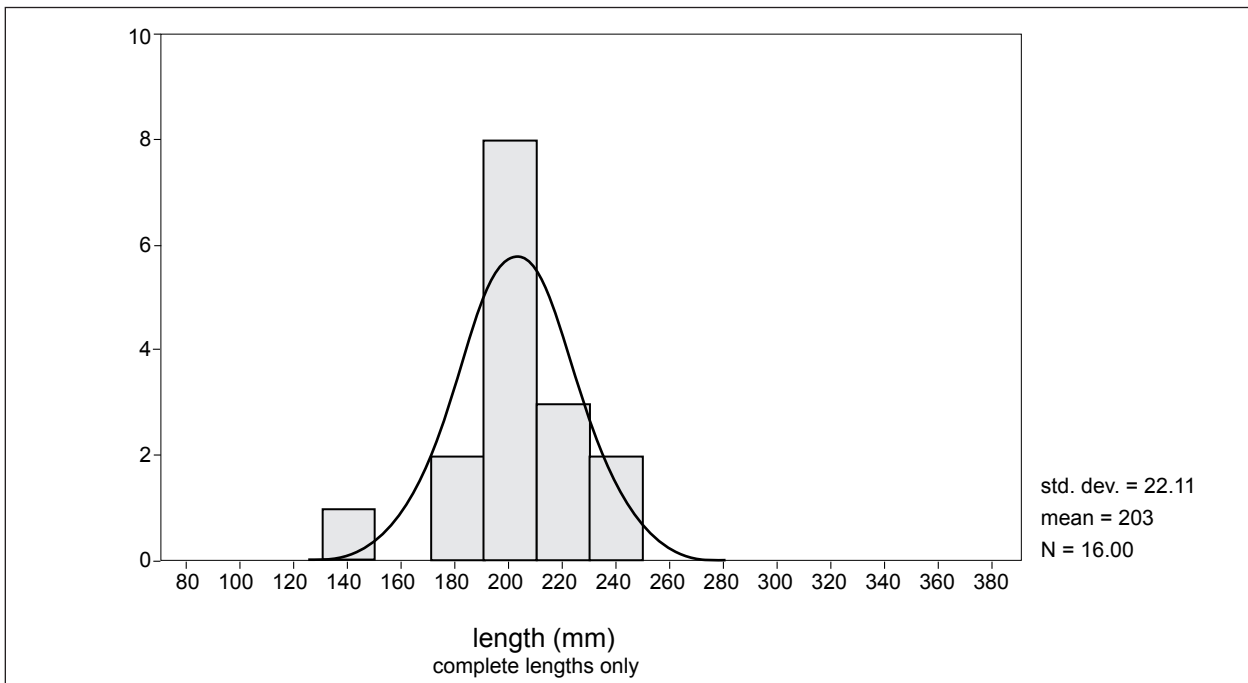


Figure 13.95. LA 37592, site-wide, two-hand manos, count by length, histogram.

Table 13.84. LA 37592, ground stone tool types by material type; counts and percents.

	Igneous		Granite		Sandstone		Siltstone		Shale		Quartzitic Sandstone		Total
	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	
Indeterminate fragment	–	–	–	–	7	100.0%	–	–	–	–	–	–	7
Pottery polishing stone	–	–	–	–	1	100.0%	–	–	–	–	–	–	1
Plaster polishing stone	1	33.3%	2	66.7%	–	–	–	–	–	–	–	–	3
Abrading stone	–	–	–	–	1	50.0%	1	50.0%	–	–	–	–	2
Shaped slab	–	–	2	3.4%	53	89.8%	2	3.4%	1	1.7%	1	1.7%	59
Jar cover	–	–	–	–	5	100.0%	–	–	–	–	–	–	5
Anvil	–	–	–	–	1	100.0%	–	–	–	–	–	–	1
Lapidary stone	1	25.0%	1	25.0%	1	25.0%	–	–	–	–	1	25.0%	4
Mano	1	1.5%	10	14.7%	48	70.6%	6	8.8%	1	1.5%	2	2.9%	68
One-hand mano	–	–	–	–	2	66.7%	–	–	–	–	1	33.3%	3
Two-hand mano	1	2.3%	4	9.1%	35	79.5%	–	–	–	–	4	9.1%	44
Two-hand trough mano	–	–	–	–	3	75.0%	–	–	–	–	1	25.0%	4
Two-hand slab mano	–	–	1	10.0%	5	50.0%	–	–	–	–	4	40.0%	10
Metate	–	–	1	16.7%	5	83.3%	–	–	–	–	–	–	6
Trough metate	–	–	–	–	5	100.0%	–	–	–	–	–	–	5
Slab metate	–	–	–	–	8	88.9%	–	–	–	–	1	11.1%	9
Notched maul	1	50.0%	–	–	–	–	–	–	–	–	1	50.0%	2
Two-notch axe	–	–	2	22.2%	2	22.2%	5	55.6%	–	–	–	–	9
Three-fourths grooved axe	1	100.0%	–	–	–	–	–	–	–	–	–	–	1
Full-grooved axe	–	–	–	–	–	–	2	100.0%	–	–	–	–	2
Notched hoe	–	–	1	100.0%	–	–	–	–	–	–	–	–	1
Tchamahia	–	–	–	–	–	–	5	83.3%	1	16.7%	–	–	6
Ornament	–	–	–	–	1	4.2%	1	4.2%	22	91.7%	–	–	24
Pendant	–	–	–	–	–	–	–	–	15	100.0%	–	–	15
<b>Total</b>	<b>6</b>	<b>2.1%</b>	<b>24</b>	<b>8.2%</b>	<b>183</b>	<b>62.9%</b>	<b>22</b>	<b>7.6%</b>	<b>40</b>	<b>13.7%</b>	<b>16</b>	<b>5.5%</b>	<b>291</b>

N = count

One silicified wood, 1 mudstone, 2 jet, and 1 malachite ornament are not shown.



Figure 13.96a. LA 35792, two-notch granitic axes from Room 201 fill, showing different degrees of shaping and use.



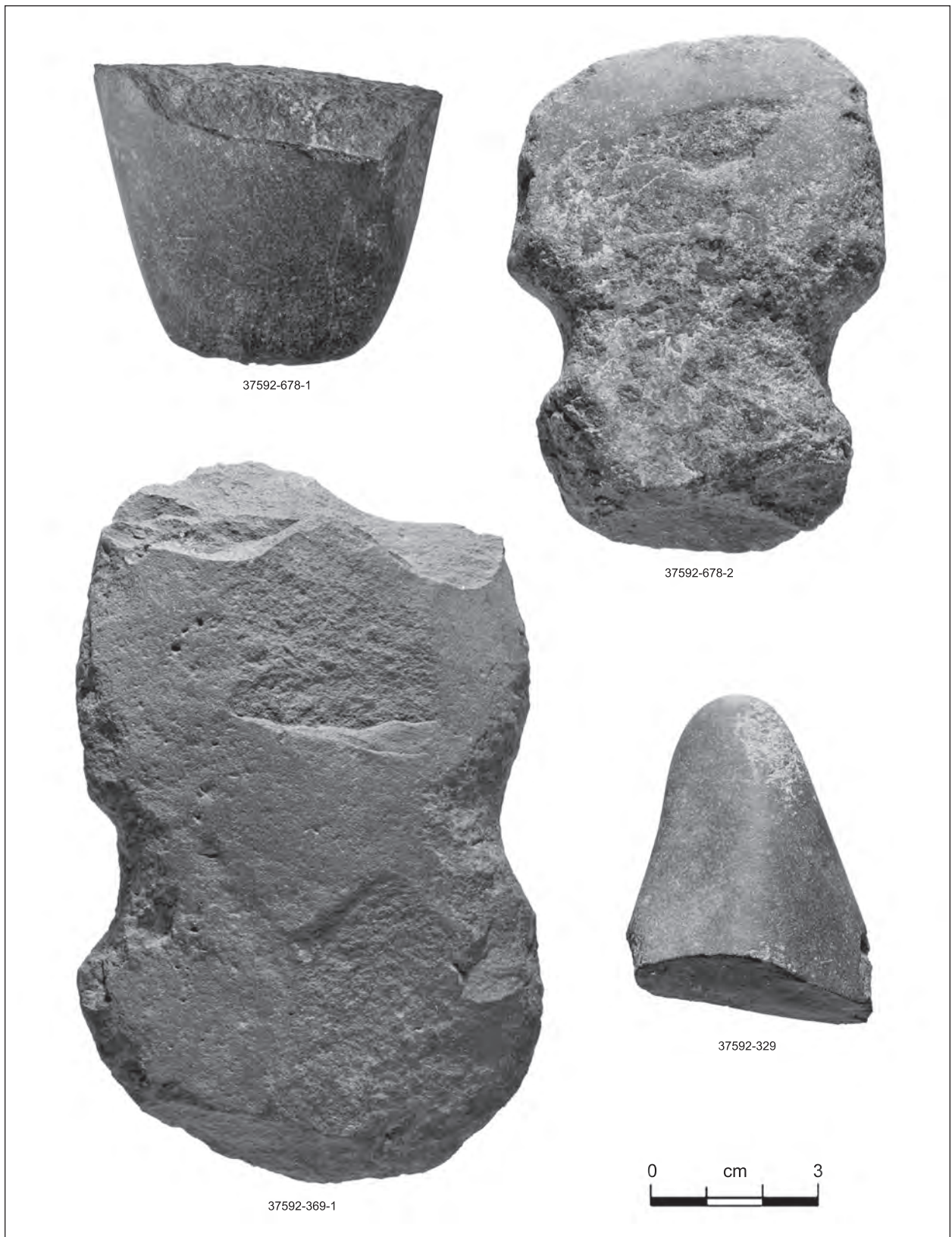


Figure 13.96b. LA 37592, heavily used and broken axes. Clockwise from top left: siltstone axe (poll end), from Extramural Area 2, Layer 20; two-notch granitic axe, from Extramural Area 2, Layer 20; siltstone two-notch axe from Pit Structure 1 midden, Layer 3; siltstone axe (poll end), from Pit Structure 1 midden, Layer 5.

Table 13.85. LA 37592, Pit Structure 1, ornaments, type counts by stratigraphic context.

	Pendant Blank	Bone Bead Tube	Tinkler	Manufacturing Debris	Bead	Fragment	Pendant	Total
Surface	–	1	–	1	–	–	–	2
Midden Layer 1	–	–	–	1	–	1	4	6
Midden Layer 3	–	1	–	–	–	–	3	4
Midden Layer 4	1	1	1	1	–	–	4	8
Midden Layer 5	2	1	–	4	–	1	–	8
Other midden	–	2	–	1	–	–	–	3
Circum midden	–	1	–	–	–	–	–	1
Natural fill	–	–	–	3	3	–	2	8
Cultural fill	–	1	1	–	–	–	–	2
Constructional fill	–	–	–	1	–	–	–	1
Sub Layer 29	–	–	–	1	–	–	–	1
<b>Total</b>	<b>3</b>	<b>8</b>	<b>2</b>	<b>13</b>	<b>3</b>	<b>2</b>	<b>13</b>	<b>44</b>

Table 13.86. LA 37592, ornaments, types and material, counts by major provenience.

Ornament Type	Material	Midden	Pit Structure 1	Rooms	Extramural Areas	Other	Total
Pendant blank	sandstone	1	–	–	–	–	1
	red shale	2	–	1	–	–	3
	jet	–	–	1	–	–	1
Bone bead tube	small mammal	3	–	–	1	–	4
	Aves	1	–	–	1	–	2
	<i>Meleagris gallopavo</i>	3	–	–	–	1	4
Tinkler	<i>Lepus californicus</i>	1	1	–	–	–	2
Manufacturing debris	red shale	9	3	2	1	1	16
Possible bead debris	red shale	3	–	–	–	–	3
Fragment	red shale	2	–	–	–	–	2
	red shale	8	2	1	1	–	12
Pendant	jet	1	–	–	–	–	1
	Pueblo II–III black-on-white	1	–	–	–	–	1
	Mesa Verde black-on-red	1	–	–	–	–	1
Other object	sandstone	–	1	–	–	–	1
Other bead	<i>Olivella dama</i>	–	–	–	1	–	1
<b>Total</b>		<b>36</b>	<b>7</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>55</b>
<b>% of total</b>		<b>65.5%</b>	<b>12.7%</b>	<b>9.1%</b>	<b>9.1%</b>	<b>3.6%</b>	<b>100.0%</b>

ement was fashioned into a spatulate scraper. The bobcat scapula (from the major off-chamber cist in Pit Structure 1) is the only element of this species from the entire project, and the only other wolf elements are from the fill of LA 37595 Pit Structure 4 (Chapter 12, Vol. 1-Book 1, this report), a nearby Pueblo II context. Other animal elements occurring in very small quantities come from bighorn sheep, antelope, gray fox, raccoon, and mice. Deer, rabbit, large mammal, and turkey remains are also discussed in the section on Pit Structure 1 (Table 13.47).

The largest group identified to the species level consists of 2,153 turkey elements, which make up 22.7 percent of the faunal elements at the site. About half of this material was from the Pit Structure 1 midden. In addition to bone elements are 252 pieces of eggshell identified microscopically as turkey eggshell. The distribution of eggshell is remarkable in that nearly half was from the rooms, constituting nearly all the “turkey remains” from the rooms (Table 13.44). This occurrence of eggshell in rooms, far beyond expectation based on other faunal ele-

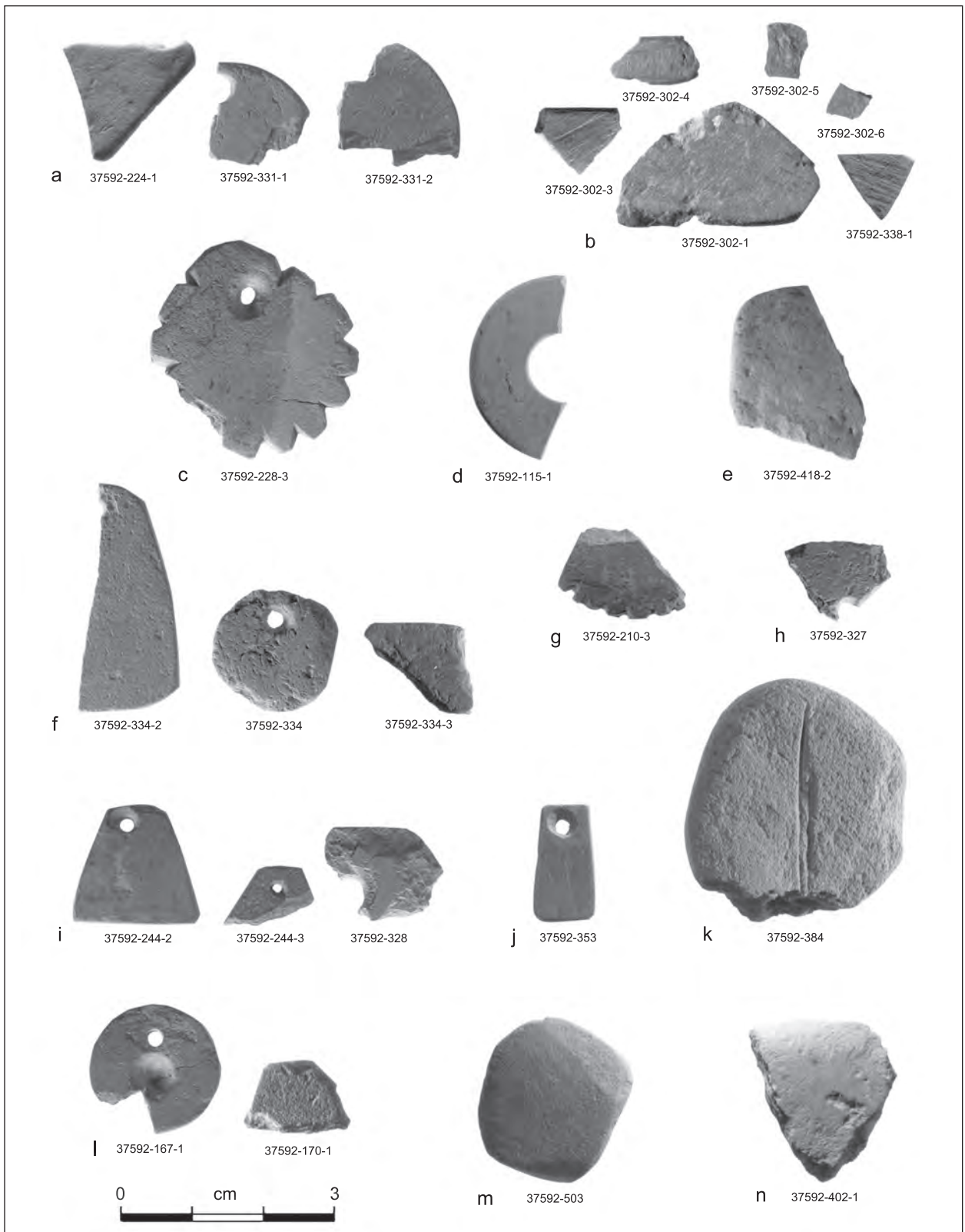


Figure 13.97a. LA 37592, shale pendants and manufacturing debris (all photographed in black-and-white) in stratigraphic groups, primarily from Pit Structure 1: (a, b) pit structure levels from the surface and initial levels through (c-f) midden Layer 1, to (g-i) lower midden to (j, k) sub midden layers; also shown are shale artifacts from (l, m) rooms and (n) extramural proveniences.





Figure 13.97b. LA 37592, burned shale pendant, shaped on all sides, from Extramural Area 2.



Figure 13.97c. LA 37592, top: sandstone, ground and shaped on all surfaces, from Pit Structure 1 fill; bottom: possible concretion with shaping and use wear.



Figure 13.97d. LA 37592, jet objects; left: ground and shaped jet from Room 202, Floor 1; right: drilled fragment from a probable jet bowl, as modified to form a pendant it is highly polished on all unbroken surfaces.

ments, is very similar to a pattern noted by Windes (1993:499–501) in Chaco Canyon. There, eggshell occurs far less in pit structures than in other contexts, suggesting to Windes that there may have been active avoidance of pit structures for disposal of egg-

shell. In other project sites, on the other hand, most eggshell does occur in pit structures, and a bit less than half of the eggshell from this site was from the pit structure. The majority of the eggshell from the pit structure was from the midden, although a few fragments were from the floor. Without the eggshell, turkey elements make up 23 percent of the total faunal assemblage. Since turkey far outnumbers all other identified birds (only 31 of 2,184 bird bone elements identified to genus are *not* turkey), it is highly likely that most of the 1,568 elements identified only as Aves are turkey, meaning that around 39 percent of the faunal assemblage by element count is turkey. Eggshell occurs in small quantities, scattered in extramural proveniences as well (19 pieces in six features and four other proveniences).



Table 13.87. LA 37592, faunal remains, class by major provenience; counts and percents.

	Pit Structure 1 Midden		Pit Structure 1		Rooms		Pueblo II Extramural		Other Extramural		Other		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Vertebrate</b>														
Mammalia	3321	59.0%	429	19.9%	201	83.4%	79	48.8%	742	67.3%	69	75.8%	<b>4841</b>	<b>51.6%</b>
Aves	2300	40.9%	1150	53.4%	40	16.6%	39	24.1%	196	17.8%	22	24.2%	<b>3747</b>	<b>40.0%</b>
Reptilia	2	0.0%	508	23.6%	–	–	–	–	111	10.1%	–	–	<b>621</b>	<b>6.6%</b>
Amphibia	5	0.1%	63	2.9%	–	–	44	27.2%	54	4.9%	–	–	<b>166</b>	<b>1.8%</b>
Fish	–	–	3	0.1%	–	–	–	–	–	–	–	–	<b>3</b>	<b>0.0%</b>
<b>Invertebrate</b>														
	–	–	–	–	–	–	–	–	1	0.1%	–	–	<b>1</b>	<b>0.0%</b>
<b>Total</b>	<b>5628</b>	<b>100.0%</b>	<b>2153</b>	<b>100.0%</b>	<b>241</b>	<b>100.0%</b>	<b>162</b>	<b>100.0%</b>	<b>1103</b>	<b>100.0%</b>	<b>91</b>	<b>100.0%</b>	<b>9379</b>	<b>100.0%</b>

N = count  
Eggshell is not included.

Nearly whole turkeys account for a substantial number of the turkey elements found outside the midden and one individual identified in the midden. There were two or three large portions of turkeys near the floor of Pit Structure 1 (Fig. 13.72a), probably placed during structure closure, leading to the highest relative frequency of turkey elements in the submidden proveniences (Tables 13.44, 13.45, 13.47). Turkey bone was present in all provenience types including the Pueblo II extramural features but in amounts in the 15 to 25 percent range (counting turkey bone only, excluding eggshell), instead of 40 percent or more in some pit structure contexts.

Bird elements that are not turkey occur in frequencies of 1 to 4 bones per identified group. Most are from the midden, but a few are from elsewhere. They constitute an interesting bird list, but they are too few to attribute much economic importance to their occurrence. Possible food birds include Canada goose, duck, grouse, quail (four types), and mourning dove. Most of these would have been available locally either as migrants or as residents. Birds that could have been used for feathers include purple martin, jays, thrushes, and crows/jays. Again, most of these species could have been obtained locally. McKusick (1981:53, 56), in discussing purple martin elements at Gran Quivira, suggests that that species was more likely to have been collected in the mountains than around Gran

Quivira. This behavior may also apply to La Plata, although Hubbard (1978:51) notes that historically, purple martins are casual to occasional visitors near Farmington.

Curiously, the large bird sample from the entire site contains only a single raptor element, a red-tailed hawk sternum. Two great horned owl wing elements were found in Layer 27 of Pit Structure 1, the only two elements of this species. As documented by McKusick, special use of wing elements is suggested by owl wing-element occurrence in other contexts (McKusick 1981:53–54; Creel and McKusick 1994:518; see also Akins 1987:606–607). In spite of its sample size, no identifiable bird species other than turkey was present in Layer 1 of the midden, the location of most of the disarticulated human bone. Layer 1 is also characterized by more highly fragmented bone than other layers in the pit structure (Table 13.46).

A correspondence analysis based on major faunal groups and grouped Pit Structure 1 stratigraphic units (Fig. 13.48a; Table 13.88) shows that the “normal” midden layers (3, 4, and 5) fall near the middle of the plot, which is where deposits drawing from a general sample (rather from specific activities) tend to fall in other plots. Layer 1, containing much disarticulated human bone, is isolated in the lower corner of the plot, largely because of its high large-mammal content. The major off-chamber cist and Floor 1 plot are both high in turkey and low

Table 13.88. LA 37592, Pit Structure 1, cultural material types, counts by layer.

Layer	Ceramic	Lithic	Ground Stone	Faunal	Human Bone	Rock	Character
1	6168	2945	35	919	323	203	midden
2	860	485	2	212	6	19	midden
3	3332	1390	17	1003	49	145	midden
4	3044	1673	24	1197	15	177	midden
5	4055	1987	45	1940	5	140	midden
6	906	505	7	204	1	35	early midden
7	483	171	6	130	0	19	cultural
8	187	66	0	142	0	12	natural
9	62	25	2	8	0	2	natural
10	95	59	4	16	1	—	natural
11	66	14	1	23	0	0	construction
12	20	4	0	5	0	34	construction
13	12	4	0	2	0	60	natural
14	58	20	0	12	0	0	natural
15	23	7	2	2	0	0	natural
16	178	40	1	55	0	0	natural
18–20	11	7	0	6	0	4	natural
21	281	231	0	96	0	14	natural
22	12	6	0	4	0	9	cultural
23	280	52	3	539	4	428	construction collapse*
24–25	56	25	1	11	7	21	cultural and natural
26	55	9	0	186	0	39	natural
27	239	8	1	11	0	22	wall fall
28	39	9	0	2	0	31	construction
29	77	14	3	7	0	150	natural caps floor fill
30–32	11	4	0	2	0	17	cultural and natural
33	5	0	0	3	0	0	floor fill structural
34	53	13	2	8	1	257	floor fill structural
35	160	47	3	330	0	144	floor fill, roof
Floor 1	355	177	14	534	0	—	floor
36	42	10	0	191	0	155	construction
37	7	10	0	3	0	—	floor fill
Floor 2	5	14	2	34	0	—	floor
38	4	7	0	2	0	—	floor fill
Floor 3	14	13	0	62	0	—	floor

\* includes post abandonment snake

in large mammal. The same analysis shows that jackrabbit, cottontail, and deer have similar distributions, while turkey and large mammal are quite different and widely separated.

Bone tool distribution across LA 37592 is shown in Table 13.89. Even though there was a cache of awls in the fill of Pit Structure 1, awls occurred at the expected frequency in the site as a whole (Fig. 13.98a [a–i]). Faunal beads were represented in the midden layers of Pit Structure 1 and elsewhere on the site (Fig. 13.98b). All four complete deer spatulates from the site were found in submidden pit

structure contexts, including one that was the only artifact in a floor-level niche (Figs. 13.80a, 13.98c); one spatulate fragment was found in “other” proveniences. The concentration of spatulates around the pit structure suggests that the task for which they were used—perhaps hide preparation—took place mostly at that structure, either within it, as indicated by the spatulate in the floor niche, or perhaps on its roof, as suggested by the ones near the floor. As discussed, the pit structure contained all eight project examples of ungulate (all deer) scapula “scoops” (Table 13.90; Figs. 13.54a, 13.54b).

## Botanical Remains

**Pollen samples.** Nearly 200 pollen samples were collected during excavation of LA 37592. Of these, 31 pollen samples were analyzed, and 37 families were recorded (Tables 13.36, 13.91, 13.92, 13.93, 13.94). The average number of families in the samples was 10.6, ranging from as few as 4 in samples from burial vessels to as many as 17 in a niche (Feature 8) in Pit Structure 1. All pollen samples contained cheno-am and pine pollen. Asteraceae (high and low spine composites) and Poaceae (grasses) pollen were in over 90 percent of the samples. Other arboreal families include juniper, fir, spruce, oak, poplar (cottonwood or aspen), walnut, and elm. Juniper is present in half of the samples, but the other families are represented by only a grain or two of

pollen each. Corn pollen was present in 58 percent of the samples. Squash pollen was in only one sample. Like the rare faunal species, several pollen types occur rarely but provide interesting suggestions of food gathering and processing. These include pollen of agave, walnut, and cattail.

**Flotation samples.** Over 225 flotation samples were collected at LA 37592.

Occupied intermittently from the eleventh to the fourteenth centuries (and perhaps much earlier as well), LA 37592 includes two roomblocks and a deep pit structure with associated extramural features. The earliest evidence of human activity comes from a very deep pre-Anasazi deposit (Feature 19) at the base of cultural deposits in Extramural Area 2, which is in turn underneath Roomblock 2. A flotation

Table 13.89. LA 37592, bone tool types by major provenience; counts and percents.

	Pit Structure 1 Midden		Pit Structure 1		Rooms		Pueblo II Extramural		Other Extramural		Other		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Modification	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Longitudinal waste	–	–	–	–	–	–	–	–	1	4.8%	–	–	1	0.6%
Broken waste	6	6.3%	–	–	–	–	–	–	–	–	–	–	6	3.8%
Waste	3	3.2%	1	3.3%	–	–	–	–	–	–	–	–	4	2.6%
Pigment	1	1.1%	–	–	–	–	–	–	–	–	–	–	1	0.6%
Waste	10	10.5%	2	6.7%	1	14.3%	–	–	4	19.0%	–	–	17	10.9%
Indeterminate preform	–	–	1	3.3%	–	–	–	–	2	9.5%	–	–	3	1.9%
Perforated and ground	1	1.1%	–	–	–	–	–	–	–	–	–	–	1	0.6%
Bone tube	6	6.3%	–	–	1	14.3%	–	–	2	9.5%	–	–	9	5.8%
Shell bead	–	–	–	–	–	–	–	–	1	4.8%	–	–	1	0.6%
Bone tube bead	4	4.2%	–	–	–	–	–	–	–	–	1	100.0%	5	3.2%
Bone bead fragment	3	3.2%	–	–	–	–	–	–	2	9.5%	–	–	5	3.2%
Tinkler	1	1.1%	1	3.3%	–	–	–	–	–	–	–	–	2	1.3%
Indeterminate tool fragment	16	16.8%	–	–	2	28.6%	2	100.0%	2	9.5%	–	–	22	14.1%
Complete indeterminate tool	1	1.1%	–	–	–	–	–	–	–	–	–	–	1	0.6%
Indeterminate point awl fragment	7	7.4%	2	6.7%	1	14.3%	–	–	2	9.5%	–	–	12	7.7%
Fine-point awl	12	12.6%	5	16.7%	–	–	–	–	1	4.8%	–	–	18	11.5%
Coarse-point awl	8	8.4%	2	6.7%	1	14.3%	–	–	1	4.8%	–	–	12	7.7%
Pin	3	3.2%	–	–	–	–	–	–	–	–	–	–	3	1.9%
Splinter awl	4	4.2%	–	–	–	–	–	–	–	–	–	–	4	2.6%
Medium-point awl	6	6.3%	5	16.7%	1	14.3%	–	–	1	4.8%	–	–	13	8.3%
Complex awl	1	1.1%	–	–	–	–	–	–	–	–	–	–	1	0.6%
Spatulate	–	–	4	13.3%	–	–	–	–	–	–	–	–	4	2.6%
Spatulate fragment	–	–	–	–	–	–	–	–	1	4.8%	–	–	1	0.6%
Complex tool	1	1.1%	–	–	–	–	–	–	1	4.8%	–	–	2	1.3%
Scoop	1	1.1%	7	23.3%	–	–	–	–	–	–	–	–	8	5.1%
<b>Total</b>	<b>95</b>	<b>100.0%</b>	<b>30</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>21</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>156</b>	<b>100.0%</b>



Figure 13.98a [a-i]. LA 37592, bone awls. a.-e.: Pit Structure 1, midden; f., g.: Pit Structure 1, sub-midden; h.: Pit Structure 1, Floor 1, Feature 9 (off-chamber cist); i.: Roomblock 2, Room 201, Floor 4.



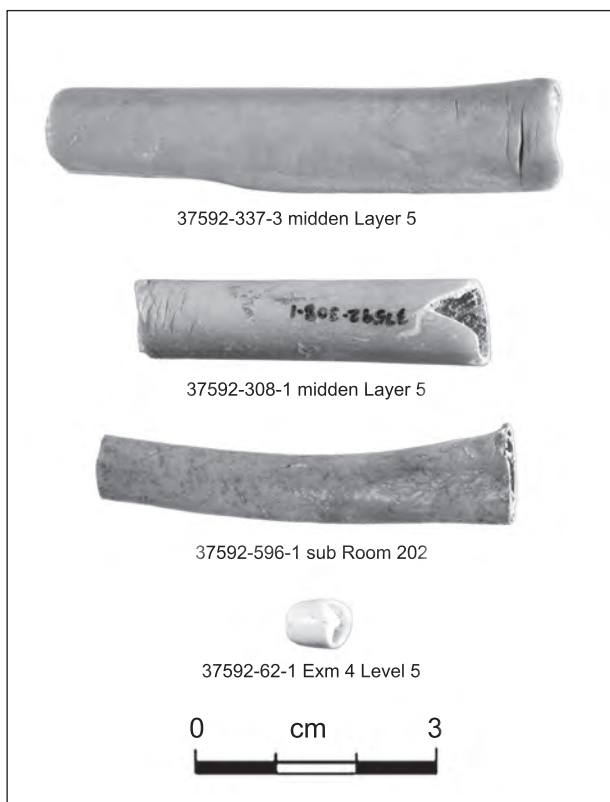


Figure 13.98b. LA 37592, faunal beads. Top two: Pit Structure 1, midden Layer 5; third from top: Roomblock 2, subroom 202; bottom: Extramural Area 4, Level 5.

sample from this deep burn area produced burned goosefoot seeds, together with small amounts of conifer and an unknown wood. These remains could represent debris in the soil burned during a catastrophic fire, or they may be pre-Anasazi subsistence debris present in the soil at the time.

Extramural Area 3, peripheral to Roomblock 1

outside the right-of-way just to the northwest, was tested in 1982 (Lancaster 1983) and again by OAS in 1988. Keeping in mind that only a small ceramic sample was available from testing, it may be that Roomblock 1 was the earliest Puebloan component at the site. Extramural Features 5 and 6, south of and partially under Roomblock 2, were probably in use during the occupation of Roomblock 1.

Feature 1, a large cobble-lined burned pit in Extramural Area 3 (Table 13.95), may postdate the Roomblock 1 occupation. Carbonized purslane seeds and juniper leaflets were identified in this probable roasting pit. The few charred juniper leaflets likely relate to juniper branches used as fuel (juniper contributed 89 percent of fuel remnants: Tables 13.96, 13.97). Charred purslane seeds may derive from purslane greens used as pit lining or roasted as food. The feature, closely resembling the size and configuration of two large, rectangular roasting pits on either side of the pit structure vent, could have been in use at the same time, and possibly during the occupation of the pit structure. Layered fill in a large cist (Feature 5) was interpreted as basketloads of trash, and indeed, there are small differences in plant remains from one layer to the next. A charred hedgehog cactus seed was identified in Layer 1, corn cupules in Layers 2 and 6, and juniper twigs and seeds in Layer 2, and Layers 5 and 7 lacked cultural plant remains altogether (Table 13.95). These differences could reflect a variety of fill sources, or different cleaning episodes tied to changing uses of the adjacent burned pit. Feature 6, a fire pit beneath Feature 1, contained juniper twigs, corn cupules, and pigweed seeds; both wild and domesticated foods were probably pro-



Figure 13.98c. LA 37592, Pit Structure 1, deer spatulate[s], two views; right: shows perforation.

Table 13.90. LA 37592, bone tools (all) with faunal class, element, and completeness, by layer/level and provenience.

FS No.	Modification	Common Name	Element	Completeness	Unit	Sub*	Layer/Level**	Floor	Feature Type	Feature No.
<b>Rooms</b>										
164	indeterminate tool fragment	large mammal	long-bone fragment	diaphysis, <25%	201	91	0.02	-	-	-
164	medium-point awl	deer	metatarsal	diaphysis, <25%	201	91	0.02	-	-	-
585	indeterminate tool fragment	large mammal	metapodial	indeterminate	201	79	2.00	2	pit	1
198	coarse-point awl	deer	metatarsal	diaphysis, 25-50%	201	2	3.00	3	pit	2
560	indeterminate-point awl fragment	large mammal	long-bone fragment	<25%	202	-	3.00	3	hearth	3
<b>Pit Structure 1 Midden</b>										
330	fine-point awl	turkey	tibiotarsus	50-75%	1	19	-	-	-	-
333	fine-point awl	turkey	tarsometatarsus	50-75%	1	21	-	-	-	-
330	medium-point awl	large mammal	rib	indeterminate	1	19	-	-	-	-
331	scoop	deer	scapula	>75%	1	21	-	-	-	-
301	bone tube bead	turkey	ulna	<25%	1	92	.01	-	-	-
316	indeterminate tool fragment	large mammal	long-bone fragment	indeterminate	1	19	.02	-	-	-
320	indeterminate-point awl fragment	mammal	indeterminate fragment	indeterminate	1	21	.02	-	-	-
205	coarse-point awl	deer	metatarsal	diaphysis, <25%	1	91	.03	-	-	-
207	coarse-point awl	large mammal	long-bone fragment	diaphysis, <25%	1	91	.05	-	-	-
210	indeterminate tool fragment	small mammal	indeterminate	indeterminate	1	91	.08	-	-	-
210	coarse-point awl	bird	ossified tendon	<25%	1	91	.08	-	-	-
211	indeterminate tool fragment	large mammal	plate, blade fragment	indeterminate	1	81	.09	-	-	-
334	scoop	deer	scapula	complete	1	15	1.00	-	-	-
219	indeterminate-point awl fragment	deer	metacarpal	<25%	1	81	1.04	-	-	-
305	bone tube bead	small mammal	long-bone fragment	diaphysis, <25%	1	17	2.00	-	-	-
305	indeterminate-point awl fragment	small mammal	long-bone fragment	<25%	1	17	2.00	-	-	-
327	indeterminate tool fragment	medium mammal	indeterminate fragment	indeterminate	1	19	3.00	-	-	-
322	indeterminate-point awl fragment	small mammal	long-bone fragment	indeterminate	1	21	3.00	-	-	-
327	indeterminate-point awl fragment	small mammal	long-bone fragment	indeterminate	1	19	3.00	-	-	-
327	fine-point awl	large mammal	long-bone fragment	indeterminate	1	19	3.00	-	-	-
335	coarse-point awl	small mammal	long-bone fragment	indeterminate	1	15	3.00	-	-	-
327	splinter awl	bird	long-bone fragment	indeterminate	1	19	3.00	-	-	-
327	splinter awl	small mammal	long-bone fragment	indeterminate	1	19	3.00	-	-	-
232	indeterminate tool fragment	large mammal	long-bone fragment	indeterminate	1	91	3.02	-	-	-
242	indeterminate tool fragment	bighorn sheep	humerus	25-50%	1	90	3.02	-	-	-
243	bone tube bead	turkey	tibiotarsus	diaphysis, <25%	1	90	3.03	-	-	-
243	fine-point awl	turkey	tibiotarsus	diaphysis, <25%	1	90	3.03	-	-	-
243	fine-point awl	turkey	humerus	25-50%	1	90	3.03	-	-	-
328	bone tube bead	turkey	tibiotarsus	<25%	1	19	4.00	-	-	-

Table 13.90 (continued)

FS No.	Modification	Common Name	Element	Completeness	Unit	Sub*	Layer/ Level**	Floor	Feature Type	Feature No.
307	indeterminate tool fragment	large mammal	long-bone fragment	indeterminate	1	17	4.00	-	-	-
328	indeterminate tool fragment	medium mammal	rib	<25%	1	19	4.00	-	-	-
307	indeterminate-point awl fragment	small mammal	long-bone fragment	indeterminate	1	17	4.00	-	-	-
328	indeterminate-point awl fragment	medium mammal	long-bone fragment	<25%	1	19	4.00	-	-	-
307	fine-point awl	small mammal	long-bone fragment	<25%	1	17	4.00	-	-	-
336	coarse-point awl	large mammal	long-bone fragment	indeterminate	1	15	4.00	-	-	-
307	splinter awl	turkey	tibiotarsus	25-50%	1	17	4.00	-	-	-
323	splinter awl	turkey	long-bone fragment	indeterminate	1	21	4.00	-	-	-
328	medium-point awl	mammal	long-bone fragment	indeterminate	1	19	4.00	-	-	-
328	medium-point awl	small mammal	long-bone fragment	<25%	1	19	4.00	-	-	-
244	flinker	jackrabbit	tibia	<25%	1	90	4.01	-	-	-
233	indeterminate tool fragment	large mammal	long-bone fragment	indeterminate	1	91	4.01	-	-	-
233	indeterminate tool fragment	large mammal	long-bone fragment	indeterminate	1	91	4.01	-	-	-
244	indeterminate tool fragment	jackrabbit	tibia	diaphysis, <25%	1	90	4.01	-	-	-
244	fine-point awl	turkey	tibiotarsus	25-50%	1	90	4.01	-	-	-
244	complex tool	large mammal	rib	<25%	1	90	4.01	-	-	-
337	bone tube bead	turkey	tibiotarsus	25-50%	1	15	5.00	-	-	-
337	indeterminate tool fragment	large mammal	metapodial	indeterminate	1	15	5.00	-	-	-
329	fine-point awl	small mammal	indeterminate fragment	<25%	1	19	5.00	-	-	-
337	coarse-point awl	large mammal	metapodial	indeterminate	1	15	5.00	-	-	-
329	complex awl	large mammal	indeterminate fragment	<25%	1	19	5.00	-	-	-
235	fine-point awl	small mammal	long-bone fragment, epiphysis missing	complete	1	80	5.01	-	-	-
245	coarse-point awl	artiodactyl	tibia	diaphysis, <25%	1	90	5.01	-	-	-
236	indeterminate tool fragment	medium mammal	long-bone fragment	<25%	1	80	5.02	-	-	-
246	indeterminate tool fragment	bird	long-bone fragment	indeterminate	1	90	5.02	-	-	-
246	coarse-point awl	turkey	tarsometatarsus	50-75%	1	90	5.02	-	-	-
246	medium-point awl	bird	long-bone fragment	indeterminate	1	90	5.02	-	-	-
238	indeterminate tool fragment	large mammal	long-bone fragment	indeterminate	1	91	5.04	-	-	-
238	complete indeterminate tool	turkey	scapula	50-75%	1	91	5.04	-	-	-
356	medium-point awl	small mammal	long-bone fragment	indeterminate	1	15	6.00	-	-	-
258	medium-point awl	turkey	tibiotarsus	<25%	1	91	6.02	-	-	-
261	bone bead fragment	bird	long-bone fragment	diaphysis only	1	91	6.05	-	-	-
<b>Tool Cache</b>										
262	fine-point awl	deer	metatarsal	25-50%	1	91	6.06	-	-	-
262	fine-point awl	deer	metatarsal	<25%	1	91	6.06	-	-	-
262	fine-point awl	large mammal	long-bone fragment	<25%	1	91	6.06	-	-	-
262	fine-point awl	large mammal	long-bone fragment	<25%	1	91	6.06	-	-	-
262	pin	large mammal	long-bone fragment	<25%	1	91	6.06	-	-	-
262	pin	large mammal	long-bone fragment	<25%	1	91	6.06	-	-	-

Table 13.90 (continued)

FS No.	Modification	Common Name	Element	Completeness	Unit	Sub*	Layer/ Level**	Floor	Feature Type	Feature No.
262	pin	large mammal	long-bone fragment	<25%	1	91	6.06	-	-	-
339	bone bead fragment	small mammal	long-bone fragment	indeterminate	1	17	7.00	-	-	-
357	Fine point awl	turkey	radius	25-50%	1	15	7.00	-	-	-
357	medium-point awl	small mammal	long-bone fragment	indeterminate	1	15	7.00	-	-	-
324	indeterminate tool fragment	large mammal	long-bone fragment	indeterminate	1	21	8.00	-	-	-
<b>Pit Structure 1 Sub Midden</b>										
346	tinkler	jackrabbit	tibia	>75%	1	15	14.00	-	-	-
347	indeterminate-point awl fragment	jackrabbit	tibia	50-75%	1	15	16.00	-	-	-
352	bone bead fragment	small mammal	long-bone fragment	indeterminate	1	17	21.00	-	-	-
355	medium-point awl	deer	metapodial	25-50%	1	19	23.00	-	-	-
349	scoop	deer	scapula	>75%	1	15	23.00	-	-	-
349	scoop	deer	scapula	>75%	1	15	23.00	-	-	-
349	scoop	deer	scapula	>75%	1	15	23.00	-	-	-
360	scoop	deer	scapula	complete	1	15	25.00	-	-	-
359	spatulate	gray wolf	humerus	50-75%	1	15	26.00	-	-	-
359	scoop	deer	scapula	>75%	1	15	26.00	-	-	-
382	medium-point awl	small mammal	long-bone fragment	indeterminate	1	21	27.00	-	-	-
275	medium-point awl	large mammal	long-bone fragment	<25%	1	80	29.00	-	-	-
<b>Pit Structure 1 Floors</b>										
Floor 1										
1022	indeterminate-point awl fragment	deer	tibia	<25%	1	80	1.00	1	m cist	9
444	fine-point awl	bird	long-bone fragment	25-50%	1	2	1.00	1	-	-
1023	coarse-point awl	large mammal	long-bone fragment	<25%	1	80	1.00	1	m cist	9
1020	medium-point awl	small mammal	long-bone fragment	<25%	1	80	1.00	1	m cist	10
444	spatulate	deer	femur	50-75%	1	2	1.00	1	-	-
462	spatulate	deer	humerus	>75%	1	-	1.00	-	niche	8
1023	spatulate	deer	humerus	50-75%	1	80	1.00	-	m cist	9
Floor 2										
1027	scoop	mule deer	scapula	>75%	1	-	1.00	1	m cist	9
476	fine-point awl	mammal	long-bone fragment	<25%	1	-	2.00	2	hearth	1
487	fine-point awl	turkey	tarsometatarsus	<25%	1	21	2.00	2	hearth	1
475	coarse-point awl	large mammal	long-bone fragment	<25%	1	-	2.00	2	-	-
<b>Extramural Areas</b>										
EA 2:										
580	coarse-point awl	large mammal	long-bone fragment	<25%	2	79	7.00	5	-	-
594	indeterminate-point awl fragment	large mammal	long-bone fragment	<25%	2	79	6.00	6	fire pit	9
594	complex tool	turkey	tibiotarsus	<25%	2	79	6.00	6	fire pit	9
EA 3:										
410	indeterminate tool fragment	deer	scapula	25-50%	3	90	-	-	-	-



Table 13.90 (continued)

FS No.	Modification	Common Name	Element	Completeness	Unit	Sub*	Layer/Level**	Floor	Feature Type	Feature No.
636	bone bead fragment	bird	long-bone fragment	<25%	3	80	.01	-	-	-
429	spatulate fragment	large mammal	long-bone fragment	<25%	3	91	.02	-	-	-
88	indeterminate-point awl fragment	deer	metatarsal	<25%	3	81	.03	-	-	-
719	fine-point awl	mammal	long-bone fragment	indeterminate	3	71	.03	-	-	-
685	indeterminate tool fragment	large mammal	long-bone fragment	indeterminate	3	80	.05	-	st cist	5
696	indeterminate tool fragment	large mammal	plate, blade fragment	indeterminate	3	80	.06	-	st cist	5
405	bone bead fragment	small mammal	long-bone fragment	indeterminate	3	90	.09	-	-	-
EA 4:										
366	medium-point awl	cottontail	tibia	25-50%	4	90	.02	-	-	-
111	indeterminate tool fragment	deer	metacarpal	<25%	4	81	.04	-	-	-
62	shell bead	shell	gastropod shell	50-75%	4	91	.05	-	-	-

m cist = major off-chamber cist; st cist = large storage cist

\*"Sub" value key: 2 = whole units; 15 = NE; 17 = SE; 19 = SW; 21 = NW; 71 = waterline; 79 = test; 80 = odd grid; 81 = 1 x 1; 90 = 1 x 2; 91 = 1 x 3; 92 = 1 x 4

\*\* Layer/level key: Integers are layer numbers; decimals are levels (6.01 = Layer 6 Level 1).

cessed in the feature, and juniper twigs were likely used for tinder. Juniper was by far the most common wood in both flotation and macrobotanical samples from Extramural Area 3 (Tables 13.96, 13.97), with traces of sagebrush, saltbush, cottonwood/willow, and greasewood.

The pit structure was built around the time of the transition from Pueblo II to Pueblo III, in the early 1100s. Corn was the most consistently recovered taxon in all levels of Pit Structure 1 (Table 13.98). On Floor 1, the floor quadrants contained no cultural plant remains, but all layers of the fire pit contained corn (Table 13.99). There was evidence for intentional closing of this feature at abandonment, and it is reasonable to assume that corn processing was a major function of the feature. Large numbers of unburned tobacco seeds identified in a Floor 3 ash pit indicate that this important ceremonial plant was used at the site (Table 13.98). The wood charcoal assemblage was widely dominated by juniper, with small amounts of piñon, sagebrush, saltbush, rabbitbrush, wild cherry, cottonwood/willow, and unknown nonconifer (Tables 13.100, 13.101, 13.102). The most diverse wood sample was found in the off-chamber cist. In floor fill samples, juniper is also dominant, but saltbush is absent. In the hearth, there is more saltbush and sage charcoal than juniper, indicating shrubby woods were prominent components of fuel. Perhaps juniper is largely present as roofing material. Roofing elements of the large subfloor cist (Feature 6), for instance, are juniper. A large quantity of unburned juniper (100.10 g) was also identified in Layer 1 of this feature. The vent shaft, which had a support roof of "parallel sticks," contained unburned undetermined conifer that could be juniper. The opening of the off-chamber cist may have been closed with wooden lintels; juniper was also identified from this feature (Table 13.101). Richard Holloway tentatively linked oak pollen identified on the floor of the pit structure to oak roof elements. However, no wood or other macrobotanical oak remains were recovered from anywhere in the site.

In Extramural Areas 3 and 4, a semicircle of fire pits around the south side of Pit Structure 1 were probably in use at the same time. These thermal features show some sequestering of plant remains along possible functional lines. Low-frequency weedy annual seeds were common to both fire pits and roasting pits (Table 13.103), but corn remains

Table 13.91. LA 37592, Room 201, pollen counts by type and provenience.

Provenience	Families	Arboreal	N Cheno- am	N	Composite	N	Grasses	N	Domes- ticate	N	Shrubs	N	Other	N
<b>Room 201, Floor 1, FS 170</b>	9	<i>Pinus</i>	6 pollen	42	high-spine	4	unknown	9			<i>Sarcobatus</i>	6	<i>Eriogonum</i>	2
Pollen sum	84	<i>Picea</i>	2		low-spine	2							Cactaceae	2
Marker	60													
<b>Room 201, Floor 1, Feature 3, below pot, FS 179</b>	8	<i>Pinus</i> hap	4 pollen	18	high-spine	3								
Pollen sum	78	<i>Pinus</i> dip	6		low-spine	2					<i>Artemisia</i>	1		
		<i>Pinus</i> u	43											
		<i>Abies</i>	1											
<b>Room 201, Floor 2, FS 189</b>	14	<i>Pinus</i> hap	1 pollen	207	high-spine	2	unknown	11			<i>Artemisia</i>	1	<i>Ephedra</i>	1
Pollen sum	271	<i>Pinus</i> dip	1 anther	16	low-spine	3							<i>Solanum</i>	2
		<i>Pinus</i> u	5										Roseaceae	1
		<i>Juniperus</i>	1										Onagraceae	1
													<i>Eriogonum</i>	2
<b>Room 201, Floor 3, Layer 2, FS 190</b>	13	<i>Pinus</i> dip	2 pollen	136	high-spine	5	unknown	10			<i>Sarcobatus</i>	3	Liguliflorae	1
Pollen sum	233	<i>Pinus</i> u	30 anther	1	low-spine	6					<i>Artemisia</i>	1	<i>Ephedra</i>	3
Marker	36													
<b>Room 201, Floor 3, Feature 3, FS 199</b>	15	<i>Pinus</i> u	5 pollen	51	high-spine	2	unknown	2			<i>Sarcobatus</i>	1	<i>Portulaca</i>	1
Pollen sum	91	<i>Juniperus</i>	3 anther	2	low-spine	2					<i>Artemisia</i>	2	<i>Eriogonum</i>	3
		<i>Quercus</i>	1										<i>Platyopuntia</i>	1
													Cactaceae	3
													<i>Sphaeralcea</i>	1

hap = haploid; dip = diploid; u = undifferentiated

Table 13.92. LA 37592, Extramural Area 3, pollen counts by type and provenience.

Provenience	Families	Arboreal	N	Cheno- am	N	Composite	N	Grasses	N	Domesti- cate	N	Shrubs	N	Other	N
<b>EA 3, Floor 5, N 1/2, FS 578</b>	13	<i>Pinus</i> u	53	pollen	133	high spine	2	unknown	4	Zea	6	Artemisia	1	Ephedra	1
Pollen sum	219	<i>Juniperus</i>	1	anther	3	low spine	1					Sarcobatus	4		
Marker	25														
<b>EA 3, Floor 5, S 1/2, FS 590</b>	13	<i>Pinus</i> u	11	pollen	180	high spine	2	unknown	6	Zea	1	Artemisia	2	Eriogonum	1
Pollen sum	242	<i>Picea</i>	2									Sarcobatus	9	Platypuntia	1
Marker	29													Cactaceae	1
														Liliaceae	1
														Cyperaceae	1
														Ephedra	2
<b>EA 3, cist, Layer 2, Feature 5, FS 684</b>	12	<i>Pinus</i> u	21	pollen	140	high spine	1	unknown	5	Zea	10	Artemisia	3	Cactaceae	3
Pollen sum	206	<i>Picea</i>	1	anther	3	low spine	1					Sarcobatus	4	Ephedra	4
Marker	76	<i>Populus</i>	1												
<b>EA 3, cist, Layer 5, Feature 5, FS 692</b>	14	<i>Pinus</i> u	29	pollen	154	high spine	1	unknown	4	Zea	7	Artemisia	2	Solanum	1
Pollen sum	225	<i>Juniperus</i>	6			low spine	3							Eriogonum	3
Marker	44													Agave	1
														Liliaceae	2
														Ephedra	5
														Unknown	1
<b>Pre-Anasazi, EA 3, FS 714</b>	15	<i>Pinus</i> hap	3	pollen	120	high spine	9	unknown	10			Artemisia	2	Eriogonum	1
Pollen sum	217	<i>Pinus</i> dip	2			low spine	1							Platypuntia	1
Marker	96	<i>Juniperus</i>	41											Sphaeralcea	1
		<i>Picea</i>	1											Ephedra	6
		<i>Quercus</i>	2												

hap = haploid; dip = diploid; u = undifferentiated

Table 13.93. LA 37592, burials, pollen counts by type and provenience.

Provenience	Families	Arboreal	N Cheno-Am	N	Composite	N	Grasses	Domestic	N Shrubs	N	Other	N
Burial 2, Room 201 scan, FS 184	14	<i>Pinus</i> hap	13 pollen	115	high spine	2	9	<i>Zea</i>	2	24	<i>Eriogonum</i>	1
Pollen sum	237	<i>Pinus</i> dip	1 anther	6	low spine	3				2	Cyperaceae	1
Marker	54	<i>Pinus</i> u	33								<i>Ephedra</i>	3
		<i>Juniperus</i>	9									
		<i>Quercus</i>	3									
Burial 2, Vessel 1, FS 185	4	<i>Pinus</i> u	4 pollen	12	low spine	3	1					
Pollen sum	28											
Marker	50											
Burial 2, Vessel 2, FS 186	4	<i>Pinus</i> u	7 pollen	18	high spine	2	1					
Pollen sum	32											
Marker	51											
Burial 6, bowl, FS 620	6	<i>Pinus</i> u	6 pollen	20	high spine	2	1				Liguliflorae	1
Pollen sum	34				low spine	2						
Marker	50											
Burial 7, abdomen, FS 662	10	<i>Pinus</i> u	16 pollen	148	high spine	4	5			1	Rosaceae	1
Pollen sum	220		anther	5	low spine	8				3	<i>Eriogonum</i>	1
Marker	54										<i>Brassica</i>	2
Burial 7, Vessel, FS 662	5	<i>Pinus</i> u	5 pollen	14	high spine	5					<i>Solanum</i>	1
Pollen sum	28										<i>Platyopuntia</i>	1
Marker	51											

hap = haploid; dip = diploid; u = undifferentiated



Table 13.94. LA 37592, pollen, counts by type.

Arboreal	N	Cheno-Am	N	Composite	N	Grasses	Domestic	N	Shrubs	N	Other	N
<i>Pinus</i> hap	23	pollen	3315	high spine	129	190	<i>Cucurbita</i>	1	<i>Salix</i>	5	<i>Solanum</i>	15
<i>Pinus</i> dip	13	anther	72	low spine	106	–	<i>Zea</i>	70	<i>Artemisia</i>	67	Rosaceae	6
<i>Pinus</i> u	612	–	–	–	–	–	–	–	<i>Sarcobatus</i>	69	Onagraceae	2
<i>Juniperus</i>	53	–	–	–	–	–	–	–	–	–	<i>Polygonum</i>	1
<i>Abies</i>	1	–	–	–	–	–	–	–	–	–	<i>Portulaca</i>	1
<i>Quercus</i>	10	–	–	–	–	–	–	–	–	–	<i>Eriogonum</i>	27
<i>Juglans</i>	1	–	–	–	–	–	–	–	–	–	Brassicaceae	6
<i>Ulmus</i>	1	–	–	–	–	–	–	–	–	–	Fabaceae	2
<i>Populus</i>	4	–	–	–	–	–	–	–	–	–	<i>Agave</i>	1
											Liliaceae	3
											Liguliflorae	4
											<i>Platyopuntia</i>	6
											Cactaceae	16
											Cyperaceae	5
											<i>Typha</i>	2
											Unknown	14
											Indeterminate	505

hap = haploid; dip = diploid; u = undifferentiated

Table 13.95. LA 37592, Extramural Area 3, plant remains, flotation full-sort and scan results by taxon and feature; weights (g) and frequency and abundance per liter.

Feature	Full-Sort				Scan		
	1 Rock-lined Roasting Pit	5 Large Cist		6 Base of Fire Pit	5 Large Cist		
FS	626	684	692	643	683	693	694
Layer		Layer 2	Layer 5	Layer 3	Layer 1	Layer 6	Layer 7
<b>Cultural</b>							
Annuals:							
<i>Amaranthus</i>	–	–	–	2.0	–	–	–
<i>Portulaca</i>	11.0	–	–	–	–	–	–
Cultivars:							
<i>Zea mays</i>	–	+ cupule	–	+ cupule	–	+ cupule	–
Other:							
Unidentifiable	4.0	–	–	–	–	–	–
Perennials:							
<i>Echinocereus</i>	–	–	–	–	+	–	–
<i>Juniperus</i>	+ leaflet	1.0, + twig	–	+ twig	–	–	–
<b>Noncultural</b>							
Annuals:							
<i>Chenopodium</i>	52.0	12.0	2.0	–	+	–	+
<i>Descurainia</i>	7.0	–	–	–	–	–	–
<i>Euphorbia</i>	–	–	–	4.0	–	–	++
<i>Monolepis</i>	1.0	–	–	8.0	+	–	–
<i>Portulaca</i>	2.0	4.0	–	54.0	+	+	–

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = 1–10/liter; ++ = 11–25/liter

Table 13.96. LA 37592, Extramural Area 3, wood charcoal, flotation results by taxon and feature; count/weight (g).

Feature	1	5	6	Total	
	Rock-lined Roasting Pit	Large Cist	Base of Fire Pit	Weight (g)	%
FS	626	684	643		
Context		Layer 2	Layer 3		
Conifers:					
<i>Juniperus</i>	11/.30	16/.40	20/.70	1.40	82%
Nonconifers:					
<i>Artemisia</i>	–	3/.10	–	0.10	6%
<i>Atriplex</i>	6/.10	–	–	0.10	6%
Salicaceae	–	1/.01	–	0.01	<1%
<i>Sarcobatus</i>	3/.10	–	–	0.10	6%
<b>Total</b>	<b>20/.50</b>	<b>20/.51</b>	<b>20/.70</b>	<b>1.71</b>	<b>100%</b>

Table 13.97. LA 37592, Extramural Area 3, macrobotanical wood charcoal, weights (g) by taxon and feature.

Feature	1 Roasting Pit			7 Fire Pit	5 Major Storage Cist			Total	
	626	632	633	645	688	689	691	Weight (g)	Col. %
Provenience	Layer 1 Level 1	Layer 3, E 1/2	Layer 3, W 1/2		Level 2	Level 3	Level 5		
<b>Cultural</b>									
Conifers:									
<i>Juniperus</i>	6.64	4.78	4.98	12.47	4.06	1.00	11.51	45.44	92%
<i>Pinus edulis</i>	–	–	–	–	0.47	–	–	0.47	1%
Nonconifers:									
<i>Artemisia</i>	0.42	–	–	–	0.25	–	–	0.67	1%
<i>Atriplex</i>	0.38	–	–	–	–	–	2.34	2.72	6%
<b>Total</b>	<b>7.44</b>	<b>4.78</b>	<b>4.98</b>	<b>12.47</b>	<b>4.78</b>	<b>1.00</b>	<b>13.85</b>	<b>49.3</b>	<b>100%</b>

were found only in the fire pits. Given the widespread survival of corn debris in any context of corn manipulation, it is unlikely that the roasting pits were used to process corn. Cupules found in the fire pits are probably evidence for use of cobs as fuel rather than processing residue. Juniper was the most common wood identified in the two roasting pits and the large fire pit (Table 13.10).

Trash deposition in the upper fill of Pit Structure 1 probably began around the late AD 1100s, when the rooms of Roomblock 2 were built. Layer 6 represents the earliest trash deposit and was likely associated with the initial early Pueblo III occupation of Roomblock 2. This sample yielded the richest array of taxa from the midden, including pigweed, purslane, hedgehog cactus, piñon, prickly pear cactus, groundcherry, and corn (Table 13.104). This considerable di-

versity could be due to a preservation anomaly or may indicate greater breadth in diet during the initial occupation phase of Roomblock 2. Goosefoot, ricegrass, and unburned tobacco seeds were not identified in the early deposits but were recovered from later Layers 3, 4, and 5. Wood use was more consistent over time. Juniper was the dominant charcoal type by weight, followed by saltbush (Table 13.105).

Room 201 contained a number of overlapping features used primarily or secondarily for burials. Unburned tobacco seeds in a vessel found with Burial 2, and in the Burial 5 pit, suggest that tobacco may have been part of burial offerings (Table 13.106). Corn was recovered from inside another Burial 2 vessel, as well as from Burial 5, from the burial pit in Floor 3, and from an oxidized pit under the south wall of the room. Corn cupules were most

Table 13.98. LA 37592, Pit Structure 1, Floors 1–3, plant remains, flotation full-sort results by taxon and feature; frequency and abundance per liter.

Floor No.	1		2	3		
Feature No.	1 Hearth	9 Major Off-chamber Cist	1 Hearth	2 Bark-lined Ash Pit	18 Ash Pit	
FS No.	449	1027	476	491	1009	1010
Context	Floor Contact Layer 3	Floor Fill Layer 3	Lower Fill Layer 4		Lower Fill Layer 4	Floor Fill Layer 5
<b>Cultural</b>						
Annuals:						
<i>Amaranthus</i>	–	–	–	–	7	–
<i>Chenopodium</i>	–	–	–	–	3	3
Cultivars:						
<i>Zea mays</i>	+ cupule, 1.0 kernel	+ cupule	+ cupule, 1.2 kernel	+ cupule	++ cupule, +++ glume	+ cupule, + glume
Grasses:						
<i>Oryzopsis</i>	–	–	–	1.0	–	–
Other:						
<i>Oenothera</i>	–	–	1.2	–	–	–
Unidentifiable	–	–	–	–	11.0	–
Perennials:						
<i>Atriplex</i>	–	–	–	–	–	+ leaf
<i>Juniperus</i>	–	–	+ twig	–	–	–
<b>Possibly Cultural</b>						
Annuals:						
<i>Nicotiana attenuata</i>	–	–	–	2.0	38.0	164.0
<i>Portulaca</i>	–	–	–	144.0	–	–
<b>Noncultural</b>						
Annuals:						
<i>Amaranthus</i>	–	34.0	57.6	20.0	–	11.0
<i>Chenopodium</i>	–	10.0	4.7	26.0	10.0	17.0
<i>Cycloloma</i>	–	16.0	–	2.0	–	–
<i>Euphorbia</i>	–	–	2.4	24.0	2.0	5.0
<i>Mentzelia albicaulis</i>	–	–	1.2	–	–	–
<i>Portulaca</i>	–	20.0	3.5	120.0	2.0	78.0
Other:						
<i>Oenothera</i>	–	–	1.2	–	–	–
<i>Physalis</i>	–	–	2.4	2.0	–	–
<i>Sphaeralcea</i>	–	–	–	–	–	2.0
Unidentifiable	–	–	–	–	1.0	–
Perennials:						
<i>Echinocereus</i>	–	–	1.0	–	–	–
<i>Scirpus</i>	–	–	1.2	–	–	–

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = 1–10/liter; ++ = 11– 25/liter; +++ = 25–100/liter

abundant in Feature 1, Floor 2, and probably represent residue from roasting corn (or cobs used as fuel) before the feature's reuse as a burial pit. The only flotation sample from Room 201 with a sufficient charcoal sample was from Feature 1, primarily

juniper with traces of saltbush and sagebrush. Macrobotanical wood on Floor 1 consisted of sagebrush and cottonwood/willow (Table 13.107). Juniper and sagebrush wood were identified in the Feature 3 pit sunk in the floor.

Table 13.99. LA 37592, Pit Structure 1, Floor 1, plant remains, flotation scan results by taxon and feature; abundance per liter.

Feature	Eolian Layer Deposited after Roof Removal	Floor 1				1 Fire Pit			7 Sipapu	8 Niche at Floor
		414	415	416	438	446	448	450	460	462
FS	413	414	415	416	438	446	448	450	460	462
Context	NW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	Layer 1	Layer 2	Layer 4, Base		
<b>Cultural</b>										
Cultivars:										
<i>Zea mays</i>	-	-	-	-	-	+ kernel	+ cupule	+ cupule	-	-
<b>Noncultural</b>										
Annuals:										
<i>Amaranthus</i>	-	++	+++	++	++	+	-	-	++	++
<i>Chenopodium</i>	+	+	+	+	+	+	+	+	-	++
<i>Euphorbia</i>	+	+	-	-	+	+	-	-	+	-
<i>Portulaca</i>	+	-	-	-	-	-	-	-	-	-
Grasses:										
<i>Oryzopsis</i>	-	-	-	-	-	+	-	-	-	-
Other:										
<i>Mentzelia</i>	+	-	-	-	-	-	-	-	-	-
Paperveraceae	-	-	-	-	-	-	-	-	-	+++
<i>Physalis</i>	+	+	+	+	+	-	-	-	-	+
<i>Sphaeralcea</i>	+	+	+	+	+	-	-	-	+	+

+ = 1-10/liter; ++ = 11- 25/liter; +++ = 25-100/liter

Table 13.100. LA 37592, Pit Structure 1, Floors 1-3, wood charcoal, flotation results by taxon and feature; count/weight (g).

Floor No.	Floor 1	Floor 2	Floor 3		Total		
Feature No.	9	1	2	18		Weight (g)	Col. %
	Major Off-chamber Cist	Fire Pit	Bark-lined Ash Pit	Ash Pit			
FS No.	1027	476	491	1009	1010		
Context	Floor Fill Layer 3	Layer 3		Lower Fill Layer 4	Floor Fill Layer 5		
Conifers:							
<i>Juniperus</i>	5/.20	14/.30	16/.40	16/.40	10/.20	1.50	58%
<i>Pinus edulis</i>	1/.10	-	-	-	-	0.10	4%
Nonconifers:							
<i>Artemisia</i>	1/.01	-	3/.01	2/.01	3/.10	0.13	5%
<i>Atriplex</i>	2/.01	1/.01	1/.01	-	-	0.03	1%
<i>Chrysothamnus</i>	1/.01	-	-	-	-	0.01	<1%
<i>Prunus</i>	8/.40	-	-	1/.01	-	0.41	16%
Salicaceae	1/.01	-	-	1/.01	7/.20	0.22	8%
Unknown nonconifer	1/.01	5/.20	-	-	-	0.21	8%
<b>Total</b>	<b>20/.75</b>	<b>20/.51</b>	<b>20/.42</b>	<b>20/.43</b>	<b>20/.50</b>	<b>2.61</b>	<b>100%</b>



Table 13.101. LA 37592, Pit Structure 1, Floors 1-3, macrobotanical wood charcoal, weights (g) by taxon and feature.

Floor No.	1						2		Total			
	1 Hearth		3 Vent Shaft	6 Large Subfloor Cist		9 Major Off-chamber Cist	1 Hearth	2 Ash Pit		Weight (g)	%	
FS No.	446	447	448	449	455	458	463	476	487	491		
Context	Layer 1, Lower	Layers 2-4, W 1/2	Layer 2, Base, E 1/2	Layer 3	Layer 8, Const.	Layer 1, Upper	Layer 1, NW 1/4	Layer 1, Lower	Layer 2, Base, NW 1/4	Fill		
Cultural												
Conifers:												
<i>Juniperus</i>	2.43	1.32	1.72	1.89	-	-	-	0.33	1.22	1.12	12.39	8%
<i>Pinus edulis</i>	-	-	-	-	-	-	-	-	-	0.18	0.18	<1%
Undetermined conifer	-	-	1.25	-	-	-	-	-	-	-	1.25	1%
Nonconifers:												
<i>Artemisia</i>	0.09	0.53	0.57	-	-	-	-	-	-	-	1.22	1%
<i>Atriplex</i>	-	12.5	4.78	2.11	-	-	-	0.57	0.34	0.51	20.85	13%
<i>Populus/Salix</i>	0.15	-	-	0.16	-	-	0.60%	-	0.22	0.02	0.60	1%
Undetermined nonconifer	-	-	0.15	-	-	-	-	-	-	0.17	0.32	<1%
Possibly Cultural												
Conifers:												
<i>Juniperus</i>	-	-	-	-	-	100.1 u	-	-	-	-	100.10	64%
Undetermined conifer	-	-	-	-	12.18 u	-	6.87 u	-	-	-	19.05	12%
<b>Total</b>	2.67	14.35	8.47	4.16	12.18	100.1	6.87	0.9	1.78	2	155.96	100%

u = uncharred; Const. = Construction

Table 13.102. LA 37592, Pit Structure 1, lower fill, macrobotanical wood charcoal, weights (g) by taxon and stratigraphic context.

	Structural Collapse Unit	Wall Clearing	Floor 1	Fill between Floors 1 and 2	Floor 3	Total	
<b>FS</b>	<b>349</b>	<b>378</b>	<b>416</b>	<b>471</b>	<b>489</b>	<b>Weight (g)</b>	<b>Col. %</b>
<b>Context</b>	<b>NE 1/4, Layer 23</b>	<b>NW 1/4</b>	<b>NW 1/4, Floor Fill, Layer 35</b>	<b>SE 1/4, Layer 37</b>	<b>SE 1/4, Layer 38</b>		
<b>Cultural</b>							
Conifers:							
<i>Juniperus</i>	–	1.87	–	2.48 pc	0.18 pc	<b>4.38</b>	<b>79%</b>
Nonconifers:							
<i>Artemisia</i>	–	0.69	–	–	–	<b>0.69</b>	<b>12%</b>
Unknown	–	–	0.26	–	–	<b>0.26</b>	<b>5%</b>
<b>Possibly Cultural</b>							
Conifers:							
<i>Juniperus</i>	0.22 u	–	–	–	–	<b>0.22</b>	<b>4%</b>
<b>Total</b>	<b>0.22</b>	<b>2.56</b>	<b>0.26</b>	<b>2.48</b>	<b>0.18</b>	<b>5.70</b>	<b>100%</b>

pc = partially charred; u = uncharred

Table 13.103. LA 37592, Extramural Areas 3 and 4 proximate to south end of Pit Structure 1, plant remains from features, flotation full-sort results by taxon; frequency and abundance per liter.

Extramural Area Feature	EA 3		EA 4		
	2	1	4	5	
	Large Rock-lined Roasting Pit	Possible Kiln	Fire Pit	Large Fire Pit	
<b>FS</b>	<b>439</b>	<b>97</b> <b>98</b>	<b>366</b>	<b>1029</b>	
<b>Cultural</b>					
Annuals:					
<i>Chenopodium</i>	–	2.0	4.0	–	1.0
<i>Cycloloma</i>	6.0	–	–	–	1.0
Cultivars:					
<i>Zea mays</i>	–	–	–	+ cupule	+ cupule
Perennials:					
<i>Juniperus</i>	++ twig	–	–	–	–
<b>Noncultural</b>					
Annuals:					
<i>Amaranthus</i>	–	–	–	20.6	–
<i>Chenopodium</i>	–	–	–	6.1	–
<i>Cycloloma</i>	4.0	–	–	–	–
<i>Euphorbia</i>	–	–	36.0	2.4	–
<i>Portulaca</i>	2.0	–	2.0	0.6	–
Other:					
Paperveraceae	–	–	–	–	1.0
<i>Physalis</i>	–	–	–	0.6	–
<i>Sphaeralcea</i>	1.0	–	–	–	–
Unidentifiable	–	–	–	11.5	–
Perennials:					
<i>Juniperus</i>	–	–	–	+ mc	–

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = 1–10/liter; ++ = 11– 25/liter, mc = male cone

Samples from a rock-lined hearth in Floor 1 of Room 202 and from two fire pits in Floor 3 produced corn, four weedy annual taxa, grass, groundcherry, and juniper (Table 13.108). Wood is predominately juniper by weight, followed by cottonwood/willow, saltbush, and rabbitbrush (Table 13.109). Differences in assemblages from Floors 1 and 3 are not remarkable and may be explained by sample size variation. Percentages of macrobotanical wood taxa are very similar. Juniper was the dominant wood type from the rock-lined hearth, but two taxa not identified in flotation samples, piñon and mountain mahogany, were present (Table 13.107). A large chunk of unburned juniper wood from one of five postholes aligned along the east wall reveals the identity of one of the posts. Flotation samples were not collected during excavation of Room 203, but a macrobotanical wood sample was identified as juniper (Table 13.107).

Extramural Area 2 is in the northeast quadrant of the site based on the center of the pit structure. This quadrant encompasses the area from the roomblocks to the wash separating LA 37592 from LA 60751, the area between Roomblocks 1 and 2, an area of high artifact density between Roomblock 2 and the pit structure, and the pre-roomblock deposits under Room 202. Corn was the most common plant remain recovered from features and floor fill below Room 202 (Table 13.110). The primary activity evidenced in each of the superimposed fire pits (Features 3, 6, and 11) was corn processing. The fire pit linked to the most recent prerom surface (Feature 3) also had burned pigweed, goosefoot, winged pigweed, and ricegrass seeds, revealing a more diverse use of the feature in the time period just prior to construction of Room 202. The basin-shaped fire pit (Feature 1) just to the east of Room 202 corresponds in time to Floor 2 of Room 202. Corncob fragments and a kernel were identified in the ashy fill of the base of the feature. Sandy upper fill forms a handy postoccupational marker, sealing the cultural contents of the feature. Feature 3 partially superimposes Feature 9 in the northeastern corner. These two features were the only contexts where ricegrass was recovered in Extramural Area 2. Ricegrass in these two chronologically separated contexts indicates mixing of deposits or that ricegrass was used during the entire occupation of Extramural Area 2. A sample from under the torso of Burial 6 contained unburned and probably intrusive weedy annual seeds. Wood from Features 3 and 9 was particu-

larly diverse, including juniper, piñon, sagebrush, saltbush, cottonwood/willow, and greasewood (Table 13.111). Wood from macrobotanical samples is similarly diverse, and Feature 9 yielded a high number of taxa (Table 13.112).

*Thermal features.* The number of thermal features of various types, locations, and ages allows for some useful functional comparisons. The sample includes roasting and fire pits (all extramural) from the mid-Pueblo II era, and interior and extramural fire pits from the Pueblo III era. We have enough detail (20 flotation samples from 16 different features, and 145.6 g of charcoal from 31 samples, also constituting 16 features) to make some reasonable statements about the variability encountered here. Curiously, floral composition does not simply follow temporal (Pueblo II vs. Pueblo III), functional (roasting pits vs. fire pits), or architectural division of space (interior vs. extramural). Rather, one group (interior fire pits, and especially central hearths in the pit structure) stands out from the rest.

Burned pigweed, goosefoot, purslane, and winged pigweed seeds were present in 20 to 40 percent of samples, from all types and ages of thermal features. Large numbers of seeds were found only in one Room 202 fire pit (Feature 1, Floor 3); otherwise, density of weedy annual seeds was quite low. The diversity of weed species is slightly higher in Pueblo III features, but the sample size is also slightly larger in the later era. Pueblo II thermal features contain no grass remains, while 20 percent of Pueblo III interior fire pits have Gramineae, and 40 percent of Pueblo III extramural fire pits have ricegrass.

In the Pueblo II period, none of the three extramural roasting pits have corn remains, while all three extramural fire pits did contain cob fragments. The absence of kernels suggests corn was present as fuel use of spent cobs. In Pueblo III proveniences, all thermal features were fire pits, and all contained corn debris. Kernels were present in 75 percent of the eight interior fire pit samples and 80 percent of the five extramural fire pit samples. We can infer that either whole-kernel processing involving heat (parching, roasting) took place in these fire pits, and/or shelling and grinding took place nearby, with stray kernels ending up in the fire pits.

Species composition of wood shows some very interesting patterning. Pueblo II-III roasting pits and fire pits are nearly identical, with very high per-

Table 13.104. LA 37592, Pit Structure 1, midden in upper fill, plant remains, flotation full-sort results by taxon and layer; frequency and abundance per liter.

Midden Deposit	Initial Deposit	Main Deposit				
FS	247	235	296	241	322	321
Context	Layer 6	Layer 5	Layer 4	Layer 3	Layer 3, NW 1/4	Layer 1, NW 1/4
<b>Cultural</b>						
Annuals:						
<i>Amaranthus</i>	18.5	–	–	–	–	–
<i>Chenopodium</i>	–	–	–	4.0	–	–
<i>Portulaca</i>	14.8	66	–	–	–	–
Cultivars:						
<i>Zea mays</i>	+ cupule, 1.5 kernel	+ cupule, 2.0 kernel	–	+ cupule	+ cupule	+ cupule
Grasses:						
<i>Oryzopsis</i>	–	2.0	–	1.0	–	0.9
Other:						
<i>Physalis</i>	7.4	–	–	–	–	–
<i>Sphaeralcea</i>	–	4.0	–	–	–	–
Unidentifiable	11.1	–	–	–	–	–
Perennials:						
<i>Echinocereus</i>	3.7	–	–	–	–	–
<i>Juniperus</i>	+ twig	–	–	–	+ twig	–
<i>Pinus</i>	+ bark	–	–	–	–	–
<i>Pinus edulis</i>	+ conescale, + nutshell	–	–	–	–	–
<i>Platyopuntia</i>	0.7	–	–	–	–	–
<b>Possibly Cultural</b>						
Annuals:						
<i>Nicotiana attenuata</i>	–	–	0.6	16.0	–	–
<b>Noncultural</b>						
Annuals:						
<i>Amaranthus</i>	–	20.0	–	–	–	–
<i>Chenopodium</i>	7.4	68.0	1.9	104.0	20.0	2.6
<i>Descurainia</i>	7.4	–	–	–	–	–
<i>Euphorbia</i>	11.1	16.0	0.6	12.0	1.5	0.4
<i>Lappula</i>	–	–	0.6	–	–	–
<i>Mentzelia albicaulis</i>	–	12.0	–	12.0	1.5	–
<i>Monolepsis</i>	7.4	–	–	40.0	–	–
<i>Portulaca</i>	11.1	–	–	34.0	–	0.4
Perennials:						
<i>Echinocereus</i>	–	–	–	–	0.8	–
<i>Platyopuntia</i>	0.4	–	–	–	–	–
Grasses:						
Gramineae	–	2.0	–	–	–	–
<i>Oryzopsis</i>	–	2.0	–	–	–	2.1
Other:						
Boraginaceae	–	24.0	–	–	–	–
Compositae	1.5	–	–	–	–	–
<i>Physalis</i>	–	4.0	–	–	–	–
<i>Sphaeralcea</i>	–	4.0	–	–	0.8	–

+ = 1-10/liter



Table 13.105. LA 37592, Pit Structure 1, midden in upper fill, wood charcoal, flotation results by taxon and layer; count/weight (g).

Midden Deposit	Initial Deposit	Main Deposit			Total	
		235	241	322	Weight (g)	Col. %
FS	247					
Context	Layer 6	Layer 5	Layer 3	Layer 3, NW 1/4		
Conifers:						
<i>Juniperus</i>	1/.01	6/.10	7/.40	9/.20	0.71	36%
Unknown conifer	1/.01	–	–	–	0.01	<1%
Nonconifers:						
<i>Artemisia</i>	2/.01	4/.01	6/.20	4/0.01	0.23	12%
<i>Atriplex</i>	4/.10	7/.10	2/.20	–	0.4	20%
Salicaceae	–	3/.01	2/.10	–	0.11	6%
<i>Sarcobatus</i>	6/.20	–	–	4/0.01	0.3	15%
Unknown nonconifer	6/.10	–	3/.01	3/.02	0.21	11%
<b>Total</b>	<b>20/.43</b>	<b>20/.22</b>	<b>20/.91</b>	<b>20/.41</b>	<b>1.97</b>	<b>100%</b>

centages of juniper and a smattering of shrub woods (no piñon, no riparian wood; Figs. 13.99a, 13.99b). The two rock-lined, rectangular features generically called roasting pits but reminiscent of kilns are similar to La Plata Mine features in containing only wood species and little or no cultivars or grasses (Brown et al. 1991:270, 361). Pueblo III extramural fire pits are much the same but have a slightly more substantial shrub component, and presences of piñon and cottonwood/willow. One category stands out in considerable opposition: Pueblo III interior fire pits have far less coniferous wood, a substantial portion of shrubby species, and more piñon and cottonwood/willow. When these interior fire pits are further subdivided into pit structure and roomblock hearths (Fig. 13.100), we can see that central hearths in Pit Structure 1 are particularly responsible for the weighting away from conifers and towards saltbush in particular. The substantial saltbush component derives from three layers of the central Floor 1 fire pit, as well as the main Floor 2 hearth. Wood in the many Room 202 samples is distinguished by particularly high cottonwood/willow (roof fall?) and piñon counts.

*Summary.* Corn and weedy annuals were the apparent focus of subsistence throughout the occupation of LA 37592. Evidence of grass use was limited to a few occurrences of ricegrass and dropseed grass. Perennial use was very restricted as well, including two cases of hedgehog cactus, one of prickly pear

cactus, and one of piñon. The recovery of tobacco in several proveniences, particularly burials, indicates the use of this important ceremonial plant. Wood was predominately juniper and saltbush but included small quantities of riparian cottonwood/willow, and very limited occurrences of upland species such as wild cherry and mountain mahogany.

With regard to evidence of wild and domesticated food plants in flotation samples, differences between temporal/functional categories of thermal features are shown to be minor. All have occasional remains of a relatively short list of weedy annuals (and these are the taxa most commonly found in Anasazi sites throughout the Colorado Plateau), while grasses (considerably scarcer in the regional record) turn up occasionally in Pueblo III features. Perennial food remains (fruits or nuts of shrubs, trees, succulent monocots, or cacti) are distinctly absent from LA 37592 thermal features. The occasional charred juniper twigs or leaflets are almost surely accompanying fuel, not food use. Corn is the only agricultural use in evidence. Its absence from Pueblo II roasting pits appears to be functional rather than temporal, as corn is found consistently in fire pits of the same era. Kernels were more apt to accompany corn remains in Pueblo III fire pits. At the risk of reading too much into a small data pool, we could speculate that relatively more processing effort, and a greater variety of processing steps, were taking place at the home base in this time period.

Table 13.106. LA 37592, Room 201, plant remains, flotation scan results by taxon and floors/features; frequency and abundance per liter.

Feature	Floor 1	Pot Sunk in Floor 1	Burial 2			Floor 3	Pot Sunk in Floor	Oxidized Pit under South Wall
FS	170	178	184	185	186	190	196	199
	Contact		From around Burial	Vessel 1 Contents	Vessel 2 Contents	Contact	With Infant Burial	
<b>Cultural</b>								
Annuals:								
<i>Amaranthus</i>	-	-	-	-	-	-	-	+
<i>Chenopodium</i>	-	-	-	-	-	+	-	-
Cultivars:								
<i>Zea mays</i>	-	-	-	+ glume	-	-	+ cupule	+ cupule
Grasses:								
<i>Sporobolus</i>	-	-	-	+	-	-	-	-
<i>Pinus edulis</i>	-	-	-	+ bark	-	-	-	-
<b>Possibly Cultural</b>								
Annuals:								
<i>Nicotiana attenuata</i>	-	-	-	-	+	-	-	-
<i>Portulaca</i>	-	-	-	-	-	-	+++	-
<b>Noncultural</b>								
Annuals:								
<i>Amaranthus</i>	-	+	+	+	-	-	-	-
<i>Chenopodium</i>	-	-	+	-	-	-	-	-
<i>Cycloloma</i>	-	-	+	+	-	-	-	-
<i>Euphorbia</i>	-	+	+	-	+	-	-	-
<i>Portulaca</i>	-	+	-	-	+	-	-	+
Grasses:								
<i>Oryzopsis</i>	-	-	-	+	-	-	-	-
Other:								
<i>Mentzelia</i>	-	-	-	+	-	-	-	-
<i>Physalis</i>	-	+	-	+	+	-	+	-
<i>Sphaeralcea</i>	-	+	-	-	-	-	-	-
Unidentifiable	+	-	-	-	-	-	-	-

All cultural plant remains are carbonized.  
 Plant remains are seeds unless indicated otherwise.  
 + = 1–10/liter; +++ = 25–100/liter

### *Human Remains/Burials*

The eight burials encountered at LA 37592 include no males and only two adults, Burials 5 and 7 (Table 13.113). Four of the remaining individuals were less than six years of age at the time of death, and the fifth was in the subadult teens. Burials 1 and 4 were in pit structure fill; Burials 1 and 7 were in extramural cists; Burials 2, 3, and 5 were beneath room floors; and Burial 6 was in an extramural fill area. Burial 7 dates to the Mid Pueblo II component of the site. Burials 1, 4, 6, and perhaps 5, from the sub-

midden and under Roomblock 2, appear to date to the Pueblo II–III transition. The ceramic association and subfloor contexts of Burials 2 and 3 indicate Early Pueblo III dates. The pollen associations for these burials are not remarkable; only Burial 2 had maize pollen. Corn cupules were also associated with Burials 2, 3, and 5 (Table 13.114). Disarticulated human remains are discussed at length in the section on the Pit Structure 1 midden.

**Burial 0.1.** Of all the human remains at this site, these are the best candidate for a secondary burial.

Table 13.107. LA 37592, Rooms 201, 202, and 203, macrobotanical wood charcoal, weights (g) by taxon and floors/features.

Room	201		202			203	Total		
Feature		3	1		5		Weight (g)	Col. %	
	Floor 1 Contact	Pot Sunk in Floor 1	Rock-lined Hearth	Floor 2 Fill	Posthole	Floor 1			
FS	173	199	506	553	523	571	546		
Context			Floor 1	Floor 1, N 1/2	Layer 2	Floor 2			
<b>Cultural</b>									
Conifers:									
<i>Juniperus</i>	–	9.66	6.46	3.49	–	–	1.25	<b>20.86</b>	<b>32%</b>
<i>Pinus edulis</i>	–	–	2.40	–	–	–	–	<b>2.40</b>	<b>4%</b>
Nonconifers:									
<i>Artemisia</i>	3.86	0.58	0.49	–	–	–	–	<b>4.93</b>	<b>8%</b>
<i>Atriplex</i>	–	–	0.07	–	0.12	–	–	<b>0.19</b>	<b>&lt;1%</b>
<i>Cercocarpus</i>	–	–	–	0.64	–	–	–	<b>0.64</b>	<b>1%</b>
<i>Populus/Salix</i>	–	–	2.72	–	0.36	–	–	<b>3.08</b>	<b>5%</b>
Undetermined	–	–	0.30	–	–	–	–	<b>0.30</b>	<b>&lt;1%</b>
<b>Possibly Cultural</b>									
Conifers:									
<i>Juniperus</i>	–	–	–	–	–	31.59	–	<b>31.59</b>	<b>49%</b>
Nonconifers:									
<i>Populus/Salix</i>	0.97	–	–	–	–	–	–	<b>0.97</b>	<b>1%</b>
<b>Total</b>	<b>4.83</b>	<b>10.24</b>	<b>12.44</b>	<b>4.13</b>	<b>0.48</b>	<b>31.59</b>	<b>1.25</b>	<b>64.96</b>	<b>100%</b>

Only the cranium, a partial innominate, and the femora were recovered, and the cranium and the femora were separated by several centimeters of fill. These remains were placed in a large extramural storage cist. Only about two-thirds of the cist was excavated, so a few more elements may have been present, but there is no doubt that the remains were placed in the cist disarticulated. The ceramics in this cist suggest that it was contemporary with the earliest floor in Pit Structure 1. Mineral-painted white wares are more abundant than organic-painted, but organic paint is present.

**Burial 1.** This burial of a two-year-old child was placed in the midden. The child's upper and lower legs were tightly flexed to the torso, and the child was lying on its back. The ceramics in the immediate vicinity of this burial are all late types, and all decorated types were painted with organic paint.

**Burial 2.** Burial 2, a three- to six-year-old child, was in a grave below Floor 1 in Room 201. Two McElmo Black-on-white bowls accompanied this burial (Fig. 13.27), clearly placing the burial in Pueblo III. This primary burial was lying on its

left side with the head looking straight ahead to the south (orientation 63 degrees true north). The legs were flexed (cf. Ubelaker 1978:14), the arms slightly bent at the sides. Some disturbance of the burial resulted from the passage of the telephone line over the feet and the right hand.

**Burial 3.** This is the burial of a very small infant, possibly a preterm baby. The skeletal material is in extremely fragile condition. The child was placed in a subfloor vessel in the floor of Room 201. As best determined, the child was lying on its right side, facing southwest, at about midlevel of the vessel, indicating that some fill was in the vessel when the burial was placed. The vessel is Pueblo II-III in age, and the floor artifacts from the room are early Pueblo III.

**Burial 4.** This child burial had been placed in the fill of Pit Structure 1 near the north wall, below the midden, and possibly in the vicinity of the bench, although the bench was not defined in this part of the structure. Much of this burial was removed by the backhoe. A worn Mancos Black-on-white pitcher was dislodged near the burial and may have been associated with it. The burial pre-dates the midden

Table 13.108. LA 37592, Rooms 201 and 202, plant remains, flotation full-sort results by feature/layer; frequency and abundance per liter.

Room No.	201		202	
Feature/Context	Fire or Roasting Pit, Floor 2	Rock-lined Hearth	Feat. 1, Fire Pit, Layer 3, Contact	Feat. 3, Fire Pit, Layer 1, Contact
FS	583	506	556	559
<b>Cultural</b>				
Annuals:				
<i>Amaranthus</i>	–	–	23.3	1.6
<i>Chenopodium</i>	–	8	20	–
<i>Cycloloma</i>	–	–	310.8	1.6
<i>Portulaca</i>	–	4	10	–
Cultivars:				
<i>Zea mays</i>	+++ cupule	+++ cupule, 2.0 kernel	+ cupule, 1.7 kernel	+ cupule, 0.8 kernel
Grasses:				
Graminieae	–	–	–	0.8
Other:				
<i>Physalis</i>	–	–	6.7	–
Unidentifiable	–	–	–	0.8
Perennials:				
<i>Echinocereus</i>	2.7	–	–	–
<i>Juniperus</i>	–	–	+ twig	–
<b>Possibly Cultural</b>				
Annuals:				
<i>Nicotiana attenuata</i>	2.7	–	–	–
<b>Noncultural</b>				
Annuals:				
<i>Amaranthus</i>	–	–	23.3	–
<i>Chenopodium</i>	5.3	–	–	–
Perennials:				
<i>Scirpus</i>	1.3	–	–	–

All cultural plant remains are carbonized.  
 Plant remains are seeds unless indicated otherwise.  
 + = 1–10/liter; +++ = 25–100/liter

but postdates the Pit Structure 1 floor. The vessel, in turn, seems to be earlier than the burial, possibly an heirloom or a worn-out vessel.

**Burial 5.** Most of this burial of an adult was removed by construction of the east water line; only portions of the legs remained in situ. The grave was apparently under the east wall of Room 201. All associated ceramics are organic-painted Pueblo III types.

**Burial 6.** This burial of a subadult was below Room 202. Lower and upper legs were tightly flexed. Most of the arms are missing, but the presence of some carpals in the vicinity of the knees and neck

suggest that the arms, too, were flexed. A McElmo Black-on-white bowl was placed right-side-up next to the left side of the head, and a small Dolores Corrugated jar was lying on its side with the orifice a few centimeters from the right cheek. This burial was placed in a grave dug in the intentional fill of a larger pit. In keeping with the McElmo grave goods, the ceramics from immediately around the burial are predominantly organic-painted but include one mineral-painted item. Placement beneath the room and the sherds suggest that Burial 6 is probably earlier than the last uses of the roomblock.

**Burial 7.** This burial is that of an older woman,



Table 13.109. LA 37592, Rooms 201 and 202, wood charcoal, flotation results by taxon and feature/layer; count/weight (g).

Room	201	202			Total	
Feature/Context	Fire or Roasting Pit, Floor 2	Rock-lined Hearth	Feat. 1, Fire Pit, Layer 3, Contact,	Feat. 3, Fire Pit, Layer 1, Contact,	Weight (g)	Col. %
<b>FS</b>	<b>583</b>	<b>506</b>	<b>556</b>	<b>559</b>		
Conifers:						
<i>Juniperus</i>	18/.70	12/.50	2/.10	7/.30	1.60	45%
Unknown conifer	–	–	–	4/.20	0.20	6%
Nonconifers:						
<i>Artemisia</i>	1/.01	–	2/.10	1/.01	0.12	3%
<i>Atriplex</i>	1/.01	3/.10	3/.30	–	0.41	12%
<i>Chrysothamnus</i>	–	1/.10	4/.20	4/.10	0.40	11%
Salicaceae	–	2/.01	7/.40	4/.10	0.51	14%
<i>Sarcobatus</i>	–	–	1/.10	–	0.10	3%
Unknown nonconifer	–	2/.10	1/.10	–	0.20	6%
<b>Total</b>	<b>20/.72</b>	<b>20/.81</b>	<b>20/1.30</b>	<b>20.71</b>	<b>3.54</b>	<b>100%</b>

40–55 years of age. The burial was probably placed in the bottom of a large storage pit, but the water line removed all but the base of the pit. This pit was beneath Roomblock 2 but may have preceded it. L3 has extreme osteoarthritic lipping, more than on L4–5, which may indicate injury rather than age. The pubis is present, but it is very fragile, one of the most vulnerable parts of the burial. We took a close-up photo and collected the right (?) one, which had already separated. The position is unusual: the femora stick straight down from the innominates, but the lower legs are tightly flexed under the femora. The right arm is somewhat displaced but passes under the legs; the left arm is bent over the neck and behind the shoulder. The head is thrown back and turned toward the right side, with the mouth wide open. The sternum (or at least the manubrium) is pushed through to the vertebral column, with the clavicles displaced down.

The woman is accompanied by a single, small, corrugated pitcher, which had been mended, on which there was sooting. The corrugation on the vessel was mostly obliterated, to the point that the analyst typed it as Chapin Gray. There is, however, no question that the context is Pueblo II, and it is likely that the vessel dates to Pueblo II rather than Basketmaker III. A large Mancos Black-on-white bowl sherd (about 40 percent of the bowl) was found underneath the burial. The few sherds directly associated with the burial are all mineral-painted,

indicating that it is likely to be from the earlier component of the site, making this the earliest burial encountered at LA 37592. There were traces of what appeared to be matting underneath it.

#### LA 37592: FEATURES SUMMARY

The 104 features at LA 37592 were quite evenly distributed among rooms, the pit structure, and extramural areas, but in terms of spatial extent, they were concentrated in the pit structure (Table 13.115). The concentration effect is enhanced by the presence of three floors in the pit structure. Many of the feature types such as parts of a pit structure ventilation system or hearths are defined by where the feature was located.

Twenty-six heating facilities were present, including roasting pits, fire pits, and hearths. Mean volumes of hearths and fire pits are remarkably similar, although fire pit volumes are much more variable (Table 13.116), in keeping with their generally extramural and less restricted locations.

By far the most common feature type was the all important, ubiquitous, widely variable, multifunctional, yet uninterpretable “pit.” This site had more features in this generic feature type than any other excavated in the project (n = 41) because of the busy extramural surfaces under the rooms and the three floors in the pit structure. These features ranged in volume from 0.1 to 275 liters (Figs. 13.101, 13.102).

Table 13.110. LA 37592, Extramural Area 2, plant remains from features, flotation full-sort and scan results by taxon and floor context; frequency and abundance per liter.

Sample Type	Full-Sort					Scan	
Feature	1 Basin-shaped Fire Pit	3 Unlined Fire Pit	6 Fire Pit	9 Fire Pit	11 Fire Pit		
FS	566	564	582	594	598	578	610
Context	Floor 2, Contact, N 1/2	Floor 4, S 1/2	Floor 5, E 1/2	Floor 6, E 1/2	Floor 6	Floor 5, N 1/2	Burial 6, under torso
<b>Cultural</b>							
Annuals:							
<i>Amaranthus</i>	–	5.0	–	–	–	–	–
<i>Chenopodium</i>	–	1.3	–	3.0	–	–	–
<i>Cycloloma</i>	–	7.5	–	–	–	–	–
<i>Descurainia</i>	–	–	–	28.0	–	–	–
<i>Portulaca</i>	–	–	–	2.0	–	–	–
Cultivars:							
<i>Zea mays</i>	+ cupule, + glume, 1.0 kernel	+ cupule	+ cupule	+ cob, + cupule, 2.0 kernel	+ cupule, 1.0 kernel	+ cupule	–
Grasses:							
<i>Oryzopsis</i>	–	1.3	–	1.0	–	–	–
Other:							
Unidentifiable	–	5.0	–	6.0	–	–	–
Perennials:							
<i>Atriplex canescens</i>	–	–	–	3.0	–	–	–
<i>Juniperus</i>	–	–	+ leaflet	–	–	–	–
<b>Noncultural</b>							
Annuals:							
<i>Amaranthus</i>	–	–	–	6.0	–	–	+
<i>Chenopodium</i>	–	–	–	–	–	+	+
<i>Euphorbia</i>	–	–	4.0	–	1.0	+	–
<i>Portulaca</i>	–	–	72.0	–	–	+	+
Other:							
<i>Physalis</i>	–	–	–	2.0	–	–	–

All cultural plant remains are carbonized.  
 Plant remains are seeds unless indicated otherwise.  
 + = 1–10/liter

All but three had volumes less than 100 liters, the majority had volumes less than 10 liters, and the most frequent volume was about 1 liter. The mean volume of all of this site’s pits is 26.9 liters (Table 13.116), which is less than the mean of around 100 liters for all La Plata pits. Most of these pits were cylindrical, and most were in the pit structure; these milk-carton-sized pits could have been used for short-term storage of items, or, more likely, to support small temporary posts (see the discussion

of altars in Pit Structure 1, Floor 2). There is considerable overlap in volume between the majority of this feature type and postholes (Fig. 13.102); in addition to shape and size, postholes were distinguished by an alignment of holes, wood or a post impression, and shims. This modal “pit” size is also similar to that of sipapus (Fig. 13.102), which are also identified by location, and occasionally by special treatment such as jar-neck lining, although no such special preparations occurred at this site.

Table 13.111. LA 37592, Extramural Area 2, wood charcoal, flotation results by taxon and feature/floor context; count/weight (g).

Feature No.	1	3	6	9	11	Total	
FS No.	566	564	582	594	598	Weight (g)	Col. %
Context	Floor 2, Layer 2, Base	Floor 4, Layer 2, Base	Floor 5, General Fill	Floor 6, S 1/2	Floor 6, N 1/2		
Conifers:							
<i>Juniperus</i>	15/.30	7/.20	17/.40	1/.01	19/.30	1.21	55%
<i>Pinus edulis</i>	–	4/.10	–	–	–	0.10	4%
Unknown conifer	1/.01	6/.20	–	–	–	0.21	10%
Nonconifers:							
<i>Artemisia</i>	1/.01	–	3/.01	7/.10	1/.01	0.13	6%
<i>Atriplex</i>	1/.01	1/.01	–	4/.01	–	0.30	14%
<i>Chrysothamnus</i>	1/.01	–	–	–	–	0.01	<1%
Salicaceae	–	1/.01	–	–	–	0.01	<1%
<i>Sarcobatus</i>	–	1/.01	–	5/.20	–	0.21	10%
Unknown nonconifer	1/.01	–	–	3/.01	–	0.02	1%
<b>Total</b>	<b>20/.44</b>	<b>20/.62</b>	<b>20/.41</b>	<b>20/.42</b>	<b>20/.31</b>	<b>2.20</b>	<b>100%</b>

Table 13.112. LA 37592, Extramural Area 2, macrobotanical wood charcoal, weights (g) by taxon and features

Feature	3	6	9	14	Subroom 202	Burial 6	Subfloor Pit	Total	
	Fire Pit	Fire Pit	Fire Pit	Pit	S 1/2, Layer 9	Layer 9, Level 4	Floor 8	Weight (g)	Col. %
<b>FS</b>	<b>562</b>	<b>581</b>	<b>594</b>	<b>600</b>	<b>601</b>	<b>618</b>	<b>712</b>		
<b>Cultural</b>									
Conifers:									
<i>Juniperus</i>	0.39	7.04	–	33.82	–	–	3.43	44.68	78%
<i>Pinus edulis</i>	0.34	–	–	–	–	–	5.77	6.11	11%
Nonconifers:									
<i>Artemisia</i>	1.07	0.26	0.48	–	–	–	–	1.81	3%
<i>Atriplex</i>	–	–	2.43	–	–	–	–	2.43	4%
<i>Cercocarpus</i>	–	–	0.45	–	–	–	–	0.45	1%
<i>Populus/Salix</i>	0.30	–	0.56	–	–	–	–	0.86	1%
<i>Sarcobatus</i>	–	–	0.16	–	–	–	–	0.16	<1%
Unknown	–	–	0.10	–	–	–	–	0.10	<1%
<b>Possibly Cultural</b>									
Conifers:									
<i>Juniperus</i>	–	–	–	–	0.32	–	–	0.32	1%
Other:									
Unknown	–	–	–	–	–	0.63	–	0.63	1%
<b>Total</b>	<b>2.10</b>	<b>7.30</b>	<b>4.18</b>	<b>33.82</b>	<b>0.32</b>	<b>0.63</b>	<b>9.20</b>	<b>57.55</b>	<b>100%</b>

#### LA 37592: SITE SYNOPSIS

LA 37592 is surrounded by other structures and features pertaining to the Jackson Lake community. People would have walked through the site and done things there even when no structure was

being occupied. Traces of Archaic-era use are nearly absent in the highway project sample, and there are no identifiable artifacts from the preceramic periods at this site either. Well below the Puebloan deposits, however, there was a burned surface and charcoal dating to around 2000 BC. This burned surface

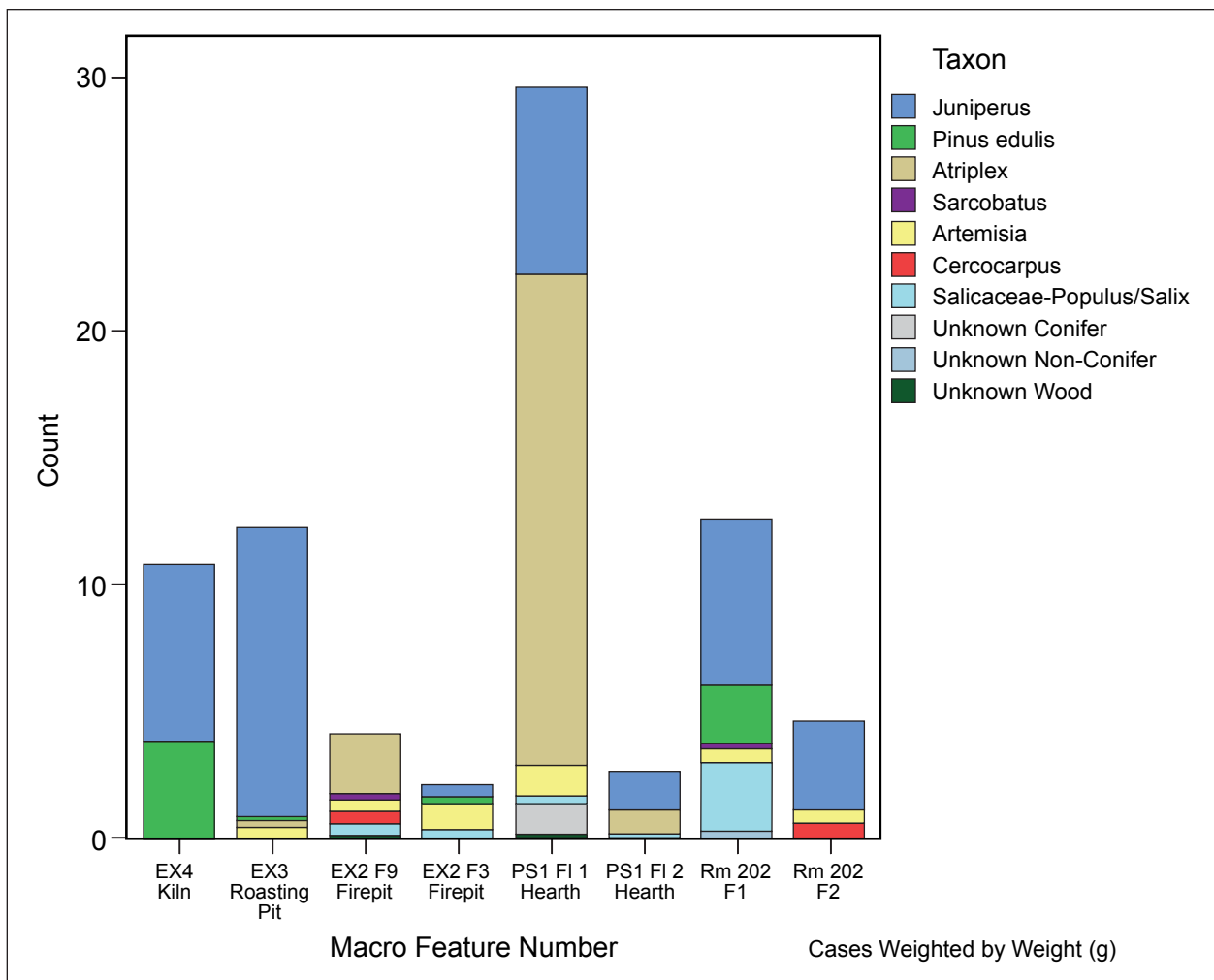


Figure 13.99a. LA 37592, fuel type, weights in exterior and interior heating features; bar graph.

could have been from a natural fire, or it could have resulted from human activity. The burn was a surface burn, not a heating feature, but there is little question that Archaic peoples at least occasionally passed through the valley, if they did not live there.

The project sample contains clear evidence of occupation of the vicinity during Transitional Basketmaker III (LA 37594; Chapter 10, Vol. 1-Book 1, this report) and classic Basketmaker III (LA 60751, LA37595 [Chapters 11 and 12 respectively, Vol. 1-Book 1, this report]; Toll and Wilson 2000). Pueblo I material is absent from our materials from Jackson Lake sites. LA 37592, however, contained no structures and few artifacts dating from before the AD 900s.

Permanent occupation of this site began in the 1000s (Pueblo II). Because of the intensive occupation in the late AD 1000s and early AD 1100s (not

to mention construction activities in the AD 1970s and 1980s), the nature of the first occupation here is somewhat sketchy. Features remaining from the first occupation included large cists, large fire pits, and occupation surfaces. There is a reasonable chance that some of these surfaces were enclosed within walls, but no clear traces of these walls were identified. There were enough large, permanent features that clearly date to Mid Pueblo II that I am quite certain that habitation was taking place at the site.

At some interval after the first phase of habitation, the pit structure was dug and built, along with the visible surface rooms. The ratios of mineral to organic paint on ceramics strongly suggest that some years separated the earliest use from the time of main use, centered on the pit structure. The pit structure showed considerable intensity



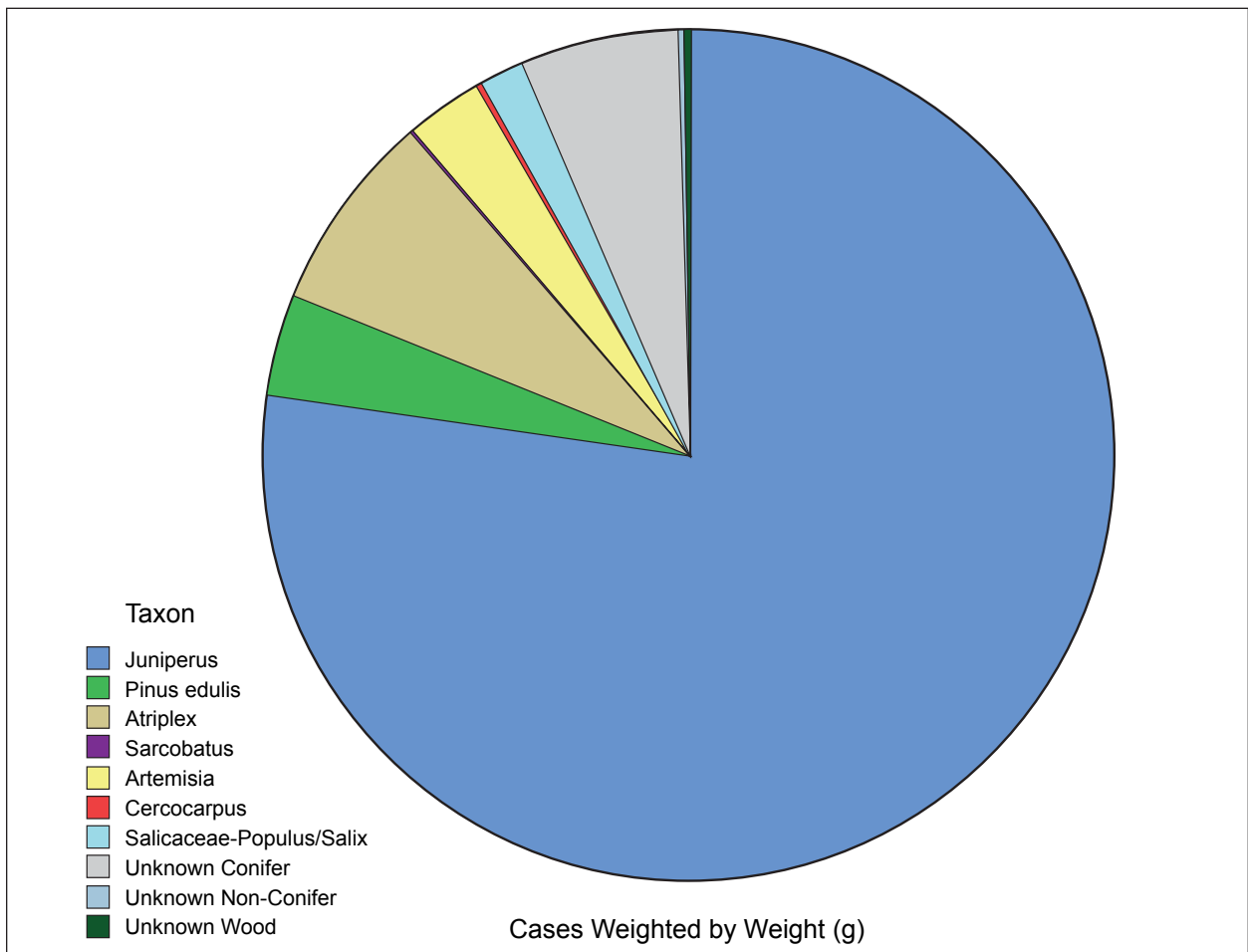


Figure 13.99b. LA 37592, weights of identified fuel wood (dominated by juniper from large fire features) by species; pie chart.

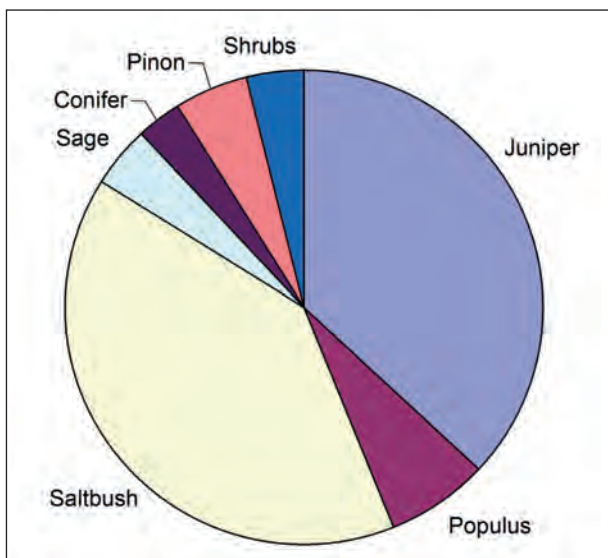


Figure 13.100. LA 37592, all Pueblo III interior fire pits, fuel wood types, pie chart.

of use. It was extensively remodeled twice after the initial construction, and the initial floor was itself revamped a number of times, as indicated by the number of sipapus on that floor. The floor included a major off-chamber cist with considerable storage capacity. Final use of the pit structure was in the latter AD 1100s. The assemblage of cultural materials associated with the excavated rooms of Roomblock 2 floors is perhaps slightly later than the ceramics found with the floor of the pit structure. It is therefore possible that the habitation of the rooms was at least in part responsible for the earliest midden deposition in the upper pit structure fill. The surface habitation that went with the use of the pit structure is little known. Some of the associated surface features were represented by the complex stratigraphy underneath Roomblock 2, especially the middle room, Room 202. Wall remnants were

Table 13.113. LA 37592, human skeletal remains (all), by burial provenience or stratigraphic context; summary table.

Remains	Location	Age/Sex	Individuals	Position Orientation	Associations	Period
Burial 1	upper fill, Pit Structure 1	child, 2 1/2 years	1	On back, tightly flexed, 157° TN.	No grave goods; midden.	-
Burial 2	subfloor pit, Room 201	child, 3-6 years	1	Left side, looking south, legs flexed, 63° TN.	2 McElmo Black-on-white bowls.	Pueblo III
Burial 3	subfloor vessel, Room 201	infant, preterm	1	Right side? 312° TN?	In Dolores Corrugated jar.	Pueblo III
Burial 4	fill, Pit Structure 1	infant, 6-9 months	1	Left side, facing south.	Early Mancos Black-on-white pitcher?	Pueblo II-III
Burial 5	Room 201?	adult female (?)	1	Unknown.	None.	Pueblo II-III
Burial 6	below Room 202	subadult, 14-16 years	1	On back, legs tightly flexed, looking up, 312° TN.	Small Dolores Corrugated jar, McElmo Black-on-white bowl.	Pueblo II-III
Burial 7	between Room 202 and Pit Structure 1	40-55-year-old female	1	On back, upper legs extended, flexed at knee, 150° TN.	Obliterated corrugated gray pitcher, 40% of Mancos Black-on-white bowl, possible mat.	Pueblo II
Burial 0.1	EA 4, Feature 3, major cist	child, 3-5 years	1	Cranium, femora, partial innominate only.	None.	Pueblo II-III
Disarticulated	Layer 1, Pit Structure 1	206 mature,* 72 immature, 44 indeterminate	9-12 minimum	-	None.	Pueblo III
Disarticulated	Layer 3, Pit Structure 1	17 mature,* 31 immature	4 minimum	-	None.	Pueblo III
Disarticulated	Layer 4, Pit Structure 1	8 mature,* 6 immature	5 minimum	-	None.	Pueblo III
Disarticulated	Layer 5, Pit Structure 1	3 adult,* 2 immature	4 minimum	-	None.	Pueblo III
Disarticulated	submidden, Pit Structure 1	8 mature,* 3 immature, 9 indeterminate	2 minimum	-	None.	Pueblo II-III

\* Age and sex of "disarticulated" are in terms of elements rather than individuals.  
 TN = true north

Table 13.114. LA 37592, Room 201, plant remains, flotation full-sort and scan results by taxon and feature/floor context; frequency and abundance per liter.

Sample Type	Scan					Full-Sort	Scan		
Feature	Floor 1	Pot Sunk in Floor 1	Burial 2			Fire or Roasting Pit, Floor 2	Floor 3	Pot Sunk in Floor	Oxidized Pit under South Wall
FS	170	178	184	185	186	583	190	196	199
Context			From around Burial	Vessel 1 Contents	Vessel 2 Contents	With Burial 5	Contact	With Infant Burial (Burial 3)	
<b>Cultural</b>									
Annuals:									
<i>Amaranthus</i>	-	-	-	-	-	-	-	-	+
<i>Chenopodium</i>	-	-	-	-	-	-	+	-	-
Cultivars:									
<i>Zea mays</i>	-	-	-	+ glume	-	+++ cupule	-	+ cupule	+ cupule
Grasses:									
<i>Sporobolus</i>	-	-	-	+	-	-	-	-	-
Perennials:									
<i>Echinocereus</i>	-	-	-	-	-	2.7	-	-	-
<i>Pinus edulis</i>	-	-	-	+ bark	-	-	-	-	-
<b>Possibly Cultural</b>									
Annuals:									
<i>Nicotiana attenuata</i>	-	-	-	-	+	2.7	-	-	-
<i>Portulaca</i>	-	-	-	-	-	-	-	+++	-
<b>Noncultural</b>									
Annuals:									
<i>Amaranthus</i>	-	+	+	+	-	-	-	-	-
<i>Chenopodium</i>	-	-	+	-	-	5.3	-	-	-
<i>Cycloloma</i>	-	-	+	+	-	-	-	-	-
<i>Euphorbia</i>	-	+	+	-	+	-	-	-	-
<i>Portulaca</i>	-	+	-	-	+	-	-	-	+
Grasses:									
<i>Oryzopsis</i>	-	-	-	+	-	-	-	-	-
Other:									
<i>Mentzelia</i>	-	-	-	+	-	-	-	-	-
<i>Physalis</i>	-	+	-	+	+	-	-	+	-
<i>Sphaeralcea</i>	-	+	-	-	-	-	-	-	-
Unidentifiable	+	-	-	-	-	-	-	-	-
Perennials:									
<i>Scirpus</i>	-	-	-	-	-	1.3	-	-	-

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = 1–10/liter; ++ = 11–25/liter, +++ = 25–100/liter

Table 13.115. LA 37592, feature types, counts by major provenience.

Feature Type	Pit Structure 1			Rooms	Extramural Areas	Total
	Floor 1	Floor 2	Floor 3			
Indeterminate cultural feature	–	–	–	–	2	2
Pit, not further specified	–	4	11	11	14	40
Roasting facility	–	–	–	–	4	4
Subfloor vessel	–	–	–	2	–	2
Storage facility	1	–	–	–	1	2
Major off-chamber cist	1	–	–	–	–	1
Major storage cist	–	–	–	–	2	2
Hearth	1	1	1	6	1	10
Ash receptacle	–	–	2	1	–	3
Fire pit	–	–	–	1	12	13
Posthole	–	3	–	6	3	12
Vent tunnel	1	–	–	–	–	1
Vent shaft	1	–	–	–	–	1
Bench	1	–	–	–	–	1
Niche	1	–	–	–	–	1
Masonry wall	–	–	–	2	1	3
Charcoal/ash lens	–	–	–	–	1	1
Sipapu	1	1	5	–	–	7
Grave	–	–	–	1	–	1
<b>Total</b>	<b>8</b>	<b>9</b>	<b>19</b>	<b>30</b>	<b>41</b>	<b>107</b>

Table 13.116. LA 37592, feature types and counts with mean volumes (liters) of measured features.

Features (counts)	Feature Type	Mean Volume (l)	Standard Deviation
34	Pit	26.9	54.68
3	Roasting facility	216.4	78.27
2	Subfloor vessel	37.0	6.29
1	Storage facility	293.7	–
1	Major off-chamber cist	2298.1	–
1	Major storage cist	922.9	–
9	Hearth	39.8	22.64
2	Ash receptacle	8.8	1.34
4	Fire pit	39.4	50.64
12	Posthole	2.0	2.05
1	Niche	32.6	–
5	Sipapu	1.4	0.38
1	Grave	42.1	–

Total cases = 104; the volumes of 28 (26.9%) were not recorded.

also present north of the pit structure, the likely location of surface architecture associated with the pit structure. The surface remains probably succumbed to three primary forces: the flood that destroyed the north part of Room 201, highway shoulder work, and occupation of Roomblock 2.

The majority of cultural material from the site,

dominated by the rich midden in the upper fill of Pit Structure 1, dates to the AD 1100s and very early 1200s. The midden was deposited some time after the discontinuation of use and the dismantling of the pit structure. Removal of the roof began the filling process and greatly accelerated disintegration of the structure. There is enough structural collapse below the midden to indicate that midden deposition started considerably after removal of the structure roof. The midden must represent several years of accumulation, though the deposition span was all within a single ceramic time bracket. The habitation structure that was associated with the midden is not known, though part of it included Roomblock 2. Given a similar deposit at LA 37591 (Chapter 17, Vol. 1-Book 2, this report), it seems quite possible that the both pit structures were part of a single settlement, and that one or both habitations were removed by highway construction previous to the current project. The pit structure at LA 37591 is about 130 m northwest of Pit Structure 1 at LA 37592, suggesting either a sprawling single settlement or two smaller ones.

Some use of the surfaces at LA 37592, including the large fire pits south of the pit structure, could have been contemporary with midden deposition



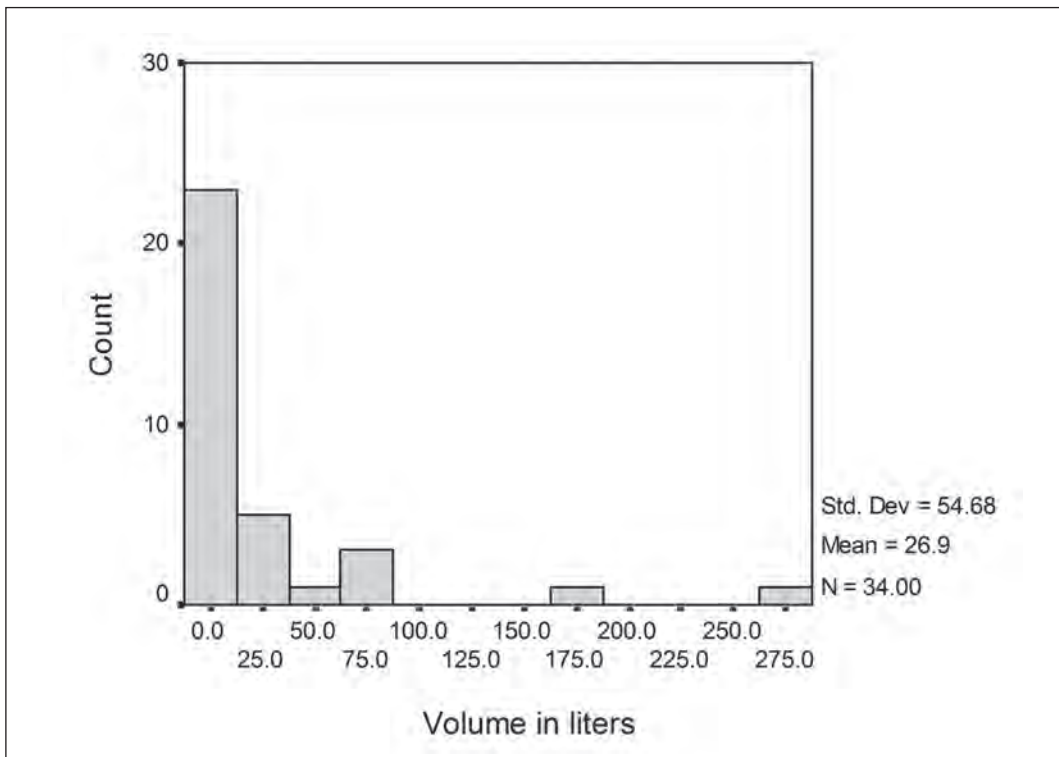


Figure 13.101. LA 37592, site-wide, pit size (counts by volume) for all pits, histogram.

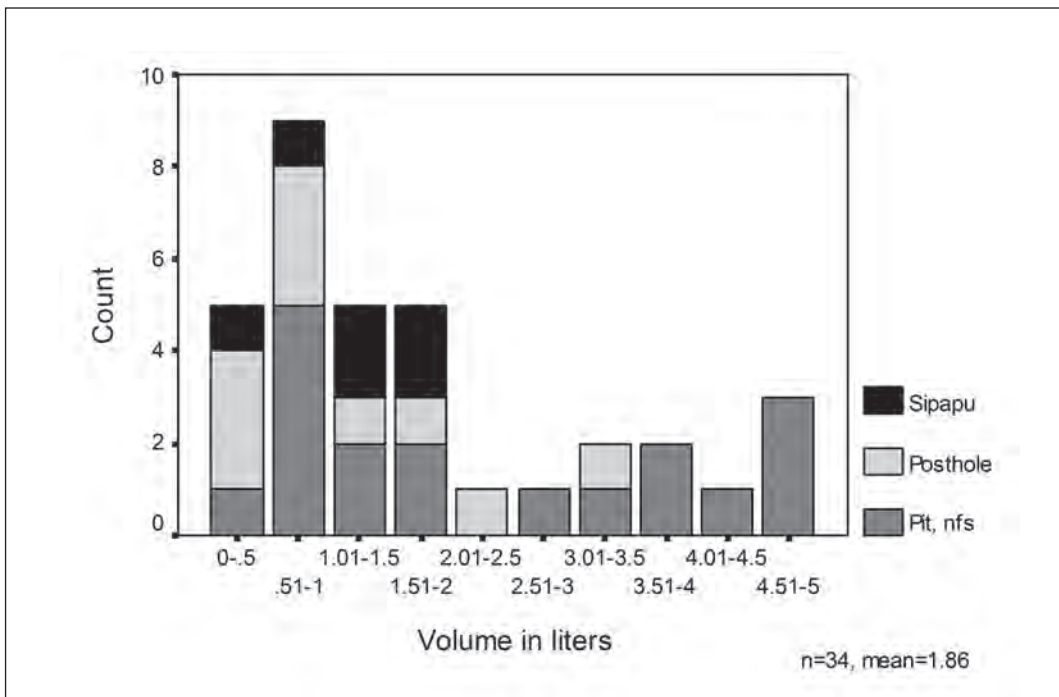


Figure 13.102. LA 37592, site-wide, pit size (counts by volume) for pits less than 5 liters, histogram.

or the use of the structure. The occurrence of mineral-painted white ware, indicative of manufacture before the late 1000s, and organic-painted white ware, indicative of deposits that postdate 1100, gives a good thumbnail sketch of site use (Fig. 13.103). The dominance of organic paint in the late midden is marked, and the prevalence of mineral paint in all other contexts except the room floors is also clear. Note that the small earlier Pueblo II sample contains no organic paint at all.

The final events at the site involved violence of some sort. A number of individuals, ranging from children to adults and including men and women,

were dismembered and their remains left on the surface of the midden. The human remains were interspersed with midden deposits, but the nature of the deposit is different from the materials in the midden. Some of the mixture of artifactual materials with human remains probably resulted from surface processes—the uppermost midden deposits were very near the modern ground surface after 800 years. This violent event was clearly the last thing that happened at this location. This scenario has also been described at other sites north of the San Juan such as Sand Canyon and Castle Rock at about this time (Lipe 1995:157).

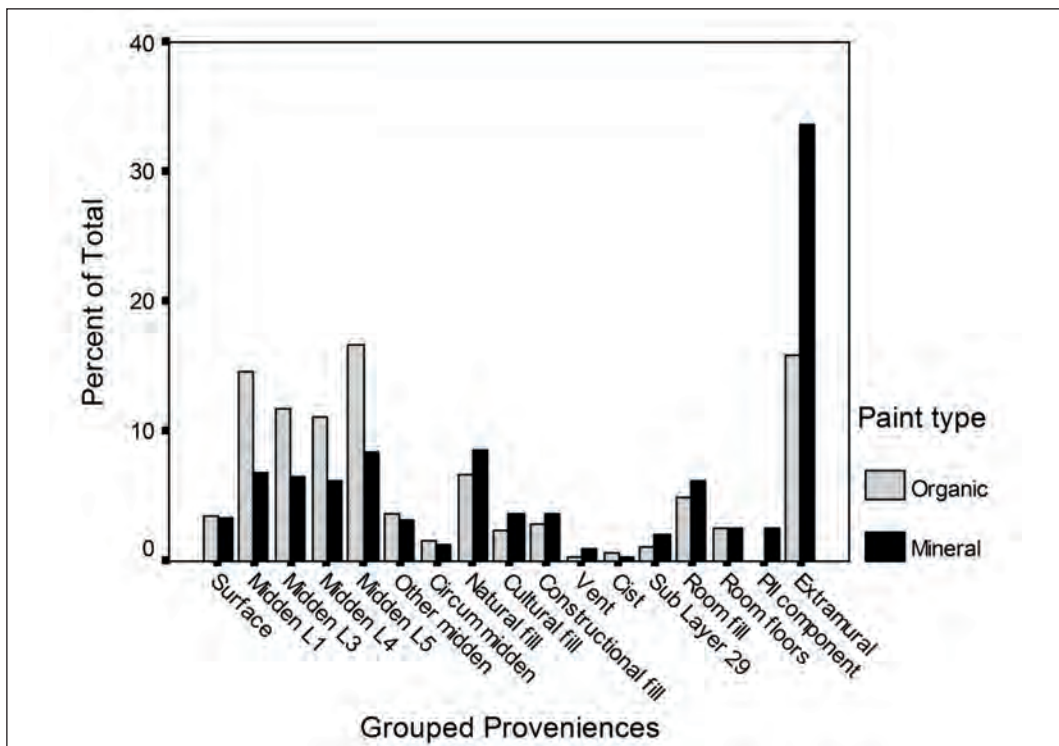


Figure 13.103. LA 37592, site-wide, ceramics, mineral and organic paint counts by grouped proveniences, bar chart.

## 14 LA 37593 (Thunder Maker Site)

Charles A. Hannaford

The Thunder Maker site, LA 37593, was visible on the surface as a cobble mound representing the remains of a small surface structure. The cobble mound served as the central feature for an arbitrarily bounded site literally surrounded by cultural material making up the densely settled prehistoric Jackson Lake community (Figs. pf.1, 1.1). Archaeologists working within the right-of-way excavated three rooms of the probable seven-room cobble surface structure. Further subsurface excavations revealed a second, poorly preserved cobble structure with one surviving room, a pit structure, 10 extramural storage and thermal features, four primary burials, and the semiarticulated skeletal remains of some 17 individuals interpreted as secondary burials interred in the upper fill of the pit structure. The site functioned as a habitation site within the prehistoric community.

Ceramic artifacts show that most of the site elements are generally contemporaneous, dating to Mid/Late Pueblo II (AD 1000–1125). A Pueblo III (AD 1100–1300) ceramic component is represented by two contiguous extramural major storage cists, one containing a human burial. The site name was derived from conversation with Navajo crew members concerning the Pueblo III burial, which was associated with the articulated skeleton of a Harris hawk. The Navajos speculated that the burial represented a Rain Maker Priest, or Thunder Maker, whom the hawk served as a messenger to supplicate the clouds for rain.

The site, on land owned by the NM Department of Game and Fish, was found in 1981 during the initial survey of the proposed highway right-of-way (Lancaster 1982a:76–77) and revisited in the course of the follow-up right-of-way survey, completed by OAS in 1988 (Toll and Hannaford 1997). Excavations

were conducted from June 14 through October 27, 1988, with a labor expenditure of 479 person days. OAS crew members at various times included Chuck Hannaford (crew chief), Dorothy Zamora, Janet Johnson, Susan Moga, Anthony Martinez, Jimmy Fine, Kalay Melloy, Daryl Beasley, Cindy Bunker, Peter Bullock, Rod North, and Nancy Akins. San Juan College crew members included Fred Alfred, Peter Arena, Penelope Whitten, Mona Charles, and Merilee Bridges. Crew size varied depending on labor needs and averaged about seven.

### ENVIRONMENTAL SETTING

The landscape surrounding the Thunder Maker site, LA 37593, is distinguished by terraced alluvial topography. LA 37593 sits on a terrace on the west margin of the valley bottom (Figs. 14.1a, 14.1b, 14.2). The site elevation is 5,420 ft (1,652 m). The higher Jackson Lake terrace rises about 40 m to the west, and the floodplain and active channel of the La Plata River are about 60 m east. The river valley provided the site inhabitants with a variety of resources, including lithic material for building and tools, riparian plants and animals, water, and good agricultural land. The floodplain was suitable for both prehistoric dry farming and irrigation-enhanced farming methods. Nusbaum (1935: site form 4-157) recorded possible prehistoric irrigation ditches in the vicinity. The floodplain just to the southeast is presently cultivated, and some of the currently used ditches may actually have prehistoric origins.

Local compact sandy clay soils are associated with alluvial fan sediments mantling the terrace that LA 37593 is located on. The initial 25 to 30 cm of sediment in the immediate site area is characterized by



*Figure 14.1a. LA 37593, site overview, view east, pre-excavation.*



*Figure 14.1b. LA 37593, water line trench and drainage area, pre-excavation.*



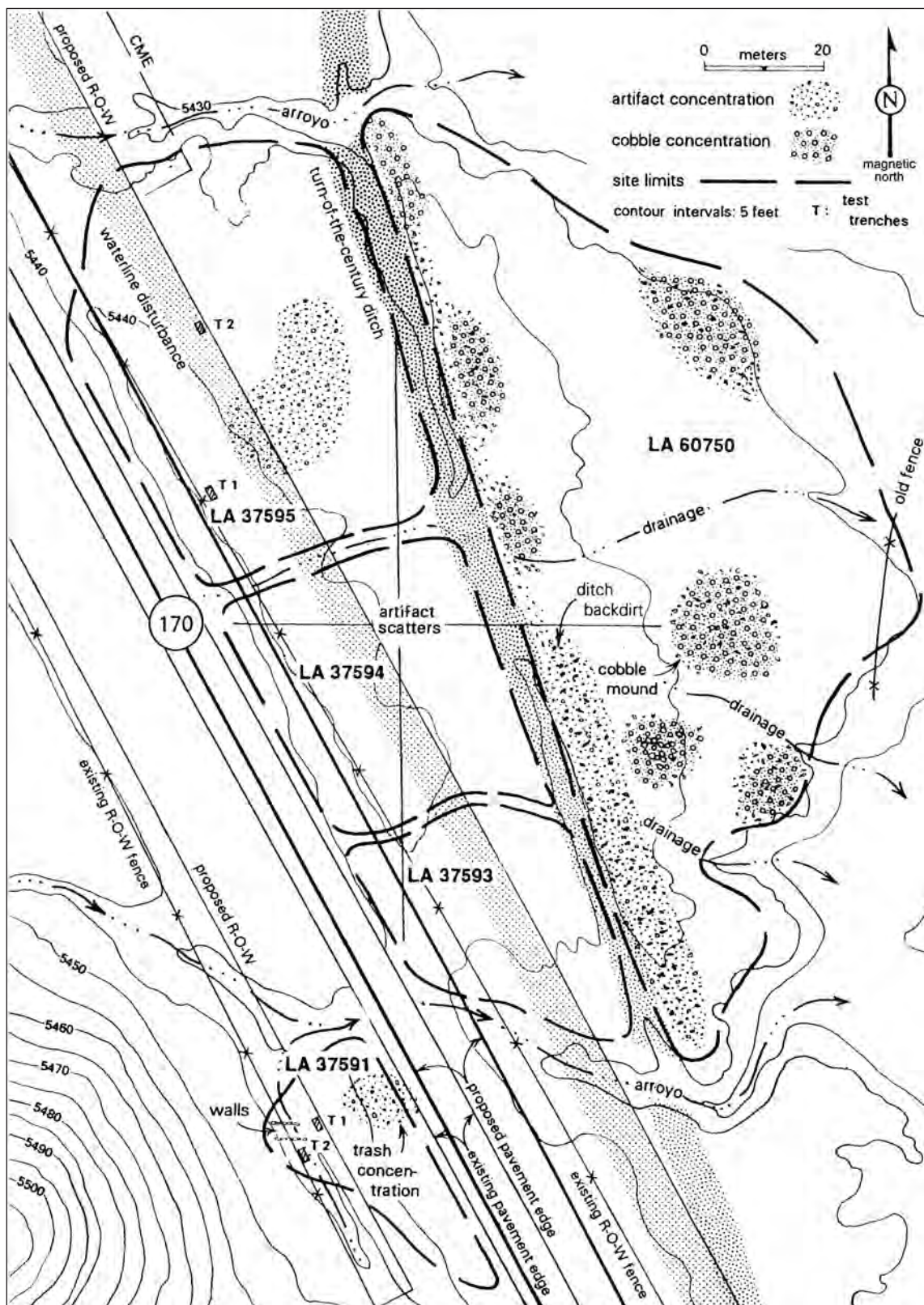


Figure 14.2. LA 37593, site area map (adapted from OAS survey map, Toll and Hannaford 1997)

very compact fine to medium sand with occasional small pebbles. Below this initial sandy layer the soil becomes finer-textured, laminated sandy clay. Occasional gravel lenses of various sizes are present throughout the sandy sediments representing east-trending flooding episodes originating from the higher Jackson Lake terrace.

The terrace LA 37593 is on is essentially level, but the surface is currently broken by numerous east-trending arroyos. The site is bounded on the south by one of these arroyos and has a moderate southward gradient into the drainage. The terrace surface at this locality is covered with a rather sparse growth of shrubs, including sage, saltbush, and greasewood. The riparian zone along the nearby river includes tall sage, mature cottonwoods, willows, and tamarisk. As part of the Jackson Lake Wildlife Area, the site is managed by the New Mexico State Department of Fish and Game, and this protected area is currently sanctuary to a large deer herd. The riparian zone along the river is a haven for a variety of smaller animals and birds.

#### ARCHAEOLOGICAL SETTING

LA 37593 is a component of the thickly settled prehistoric Jackson Lake community. The community comprised architectural elements on both sides of the La Plata River about 8 km (5 miles) north of its confluence with the San Juan River. Cultural material indicates nearly continuous occupation from Basketmaker III to Pueblo III abandonment. The Jackson Lake community was a focus of Anasazi residential settlement characterized by repeated structure construction, use, abandonment, and reuse. In addition to residential structures, the community contains public architecture exemplified by possible Basketmaker III great kivas (Dykeman and Langenfeld 1987:41–53) and a later Pueblo II–III great kiva and great house (Toll and Hannaford 1997:22, 35–36). These public structures suggest higher tiers of long-term social integration.

In 1935 Deric Nusbaum recorded 60 sites within about a 1-mile radius of the Jackson Lake locality. Forty-two of the sites are on west-side valley terraces in the immediate site vicinity. Basketmaker III pit structures have been recorded on both sides of the river, but their presence is commonly masked by the later occupations. The later sites are visible as cobble mounds of varying sizes representing

the architectural remains of Pueblo II–III surface structures. Pit structures associated with the cobble mounds are rarely visible from the surface.

The highway provides a linear transect through the west edge of the community (Fig. 14.2). Recorded sites within the right-of-way show many close neighbors, and additional unrecorded sites extend outside the construction zone across the terrace surface. The Thunder Maker site is surrounded by other structural sites. The site merges with LA 37594 (Basketmaker III and Mid Pueblo II components) to the north, LA 37591 (Late Pueblo II, Early Pueblo III, and Late Pueblo III components) to the west, LA 60751 (Basketmaker III and Pueblo II–III components) to the south, and LA 60750 (Pueblo II–III components) to the east. The recorded sites in the right-of-way have arbitrarily defined boundaries using the conspicuous cobble mounds as the site nucleus, but a nearly continuous scatter of cultural material covers the surface area between the cobble mounds. Precise site boundaries are difficult to assign in the complex community context. In the case of the Thunder Maker site, the highway marks the west boundary, an old irrigation ditch the east edge, and arroyos the north and south borders. LA 60750 extends east from the irrigation ditch, blanketing some 60 m of terrace surface with Pueblo II–III cultural material. This site includes at least four distinct cobble scatters representing eroded structural remains. Judging from the quantity of subsurface material exposed during excavations in the right-of-way, abundant buried material accompanies these structures. Establishing site boundaries is perplexing in this highly utilized community context.

The Thunder Maker site is near Chaco 4-126, recorded during Nusbaum's 1935 reconnaissance. Nusbaum's site locations cannot be positively matched, but his site description and sketch map agree with the surface appearance of the Thunder Maker site. His survey form shows an estimated two-room cobble structure measuring 12 by 20 ft (4 by 6 m) and cut by a ditch on the east side. Reexamination of Nusbaum's grab sample of 30 sherds indicates an Early Pueblo III assemblage based on the presence of McElmo Black-on-white ( $n = 5$ ) and Pueblo III black-on-white ( $n = 10$ ).

LA 37593 was officially recorded by Lancaster (1982a:76–77) during the original highway inventory. Recorded surface elements included a

cobble mound and two diffuse cobble and artifact scatters. The cobble mound measured 10 by 9 m and was interpreted as a surface structure of about two rooms. Lancaster noted considerable site disturbance associated with the recent mechanical installation of water lines.

Three 1 by 2 m trenches were excavated during Lancaster's (1983:33–34) site testing. Test Trench 1, in the cobble mound, encountered a possible floor at a depth of 40 cm. The other trenches were placed in extramural areas northwest of the cobble mound. Test Trench 2 encountered cultural fill to a depth of 20 cm below the surface. Test Trench 3 exposed a possible hearth at 10 cm below the surface. Recovered ceramics suggested a Pueblo II–III date; Mancos Black-on-white ( $n = 18$ ) and McElmo Black-on-white ( $n = 10$ ) were the main diagnostic types (Lancaster 1983:15). Toll and Hannaford's (1997) re-survey of the proposed highway construction zone was in general agreement with Lancaster's site description. However, disturbance from the unmonitored water line installations was extensive and included the exposure of human skeletal elements.

#### SITE CONDITION

Several natural and mechanical processes have affected the integrity of LA 37593. In general, the terrace surface is severely eroded at this locality. Surface material has been subjected to sheet wash, and the site area along the south boundary has been cut by an arroyo. Erosion along this arroyo has been intensified by the prolonged channeling of runoff from the nearby terrace through a drainage pipe beneath the highway.

NM 170, which originated as a freight-wagon road at the beginning of the twentieth century, defines the western site boundary. The road has exposed the site to over 100 years of road, shoulder, and drainage maintenance activities. Asphalt fragments were commonly found throughout the initial 30 to 40 cm of fill, attesting to these operations. Also, the wagon road and subsequent highway provided long-term site accessibility by the traveling public.

A turn-of-the-century irrigation ditch transects the length of the east site boundary. The swath for the ditch and backdirt ranges from 7 to 10 m wide, and the ditch is currently about 1 m deep. The ditch removed an unknown number of rooms from the eastern edge of the primary cobble mound

(Roomblock 1) and apparently cut through additional buried cultural material along the east edge of the site.

Modern utility trenches were a serious source of site modification within the right-of-way. Two subsurface phone lines extend the entire length of the site, but most damaging to site integrity was an unmonitored sequential installation of two water line trenches in the early 1980s. The trenches each measured about 1 m wide and 1 m deep, and both trenches transect the length of the site. The eastern trench passed through the center of Pit Structure 1, truncating the center of a mass human interment in the upper fill. Human bone was exposed and scattered over a 20 by 20 m surface area. Unknown quantities of skeletal elements from the deposit were irretrievably lost during these water line installations.

The interpretive integrity of Roomblock 2 was also altered by the water line installation. The installation or subsequent leakage repair must have occurred on a particularly muddy day that inhibited machinery traction. Heavy machinery was repeatedly turned around on the muddy arroyo slope, producing numerous deep tire scars averaging over 30 cm deep. This heavy-machinery activity completely altered the interpretive value of the roomblock. Exposed skeletal elements from the upper fill of Pit Structure 1 were additionally churned and lost.

#### FIELD METHODS

The primary site datum for LA 37593 was established at 50N/77E with an arbitrary elevation of 0.00 m (Fig. 14.3). The datum was 3 m east of the construction zone and was marked with rebar for future reference. The edge of the right-of-way measured 13.2 m east of the existing right-of-way fence, and the 74E baseline was used to designate the edge of the construction zone. The north-south baseline was aligned with the highway right-of-way and does not designate magnetic or true north. Magnetic north is 32 degrees east of the baseline alignment. Grids and other excavation units were provenienced from the southwest corner.

Initially, visible site elements in the right-of-way consisted of scattered human skeletal elements exposed by the water line trench and a portion of the cobble mound designated Roomblock 1. A moderate



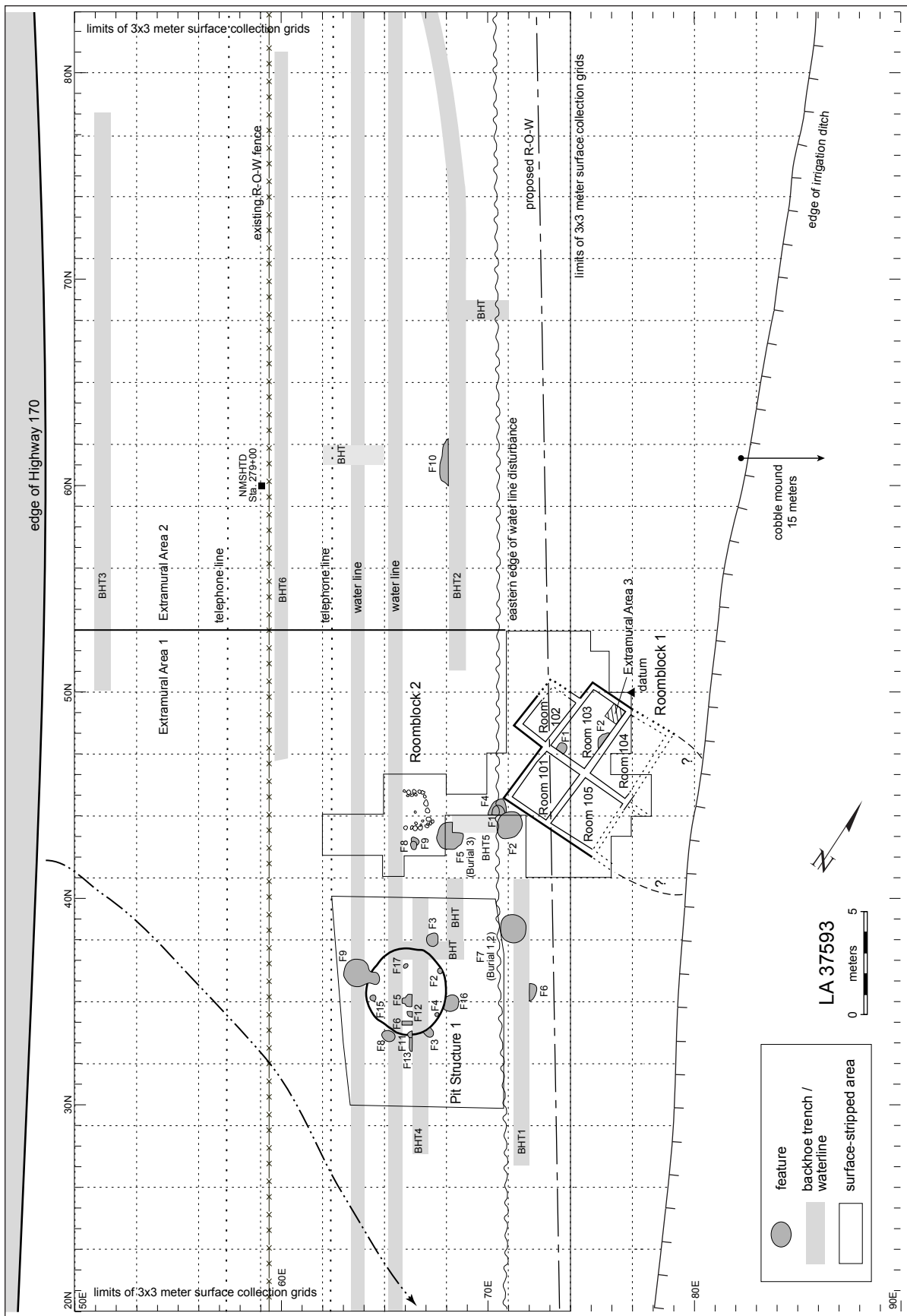


Figure 14.3. LA 37593, plan.



scatter of artifacts surrounded the cobble mound, but no concentrations were apparent. Surface artifacts were considered extremely mixed and not representative of intact behavioral patterning. However, a large area of the site surface was collected using 1 by 1 m grids to facilitate precise recovery of the scattered human remains. Larger 3 by 3 m grids were employed in the site area away from the bone scatter.

Following the surface artifact collection, investigations centered on finding the source of the exposed skeletal elements and roomblock definition. This was accomplished by the excavation of a series of contiguous hand trenches. In addition to defining Roomblock 1 and the source of the human remains, the definition trenches revealed Roomblock 2 and Extramural Features 1, 3, 4, 8, and 9. Specific methods employed in the study of the architectural elements and human remains are discussed below under their respective headings.

Subsurface investigations proceeded with the excavation of hand trenches and backhoe trenches judgmentally placed to evaluate the nature and extent of subsurface material (Table 14.1). Backhoe trenches were profiled, and exposed features were excavated. Small (usually 1 by 2 m) excavation units were positioned over the feature while the plan was determined. The feature was then excavated according to natural layers determined in the profile. The features were excavated by hand and the fill screened through 1/4-inch mesh. Only site elements uncovered by the various mechanical and hand-dug definition trenches were excavated. These trenches should account for virtually all buried architectural elements within the right-of-way. The site surface

was not mechanically bladed, and a few smaller extramural features may have gone undetected.

## STRATIGRAPHY

The backhoe trenches revealed similar soil profiles across the site, typified by the profile of Backhoe Trench 1 (Fig. 14.4). One of the deepest trenches excavated, it was in the more intensely utilized area of the site, adjacent to both Roomblock 1 and Pit Structure 1. The trench revealed two extramural storage cists and two human burials. Backhoe trenches away from this area had similar soil profiles but tended to have diminished subsurface cultural content.

The prehistoric occupation was on alluvial-fan sediments characterized by layers of compact sand interspersed with sharply defined alluvial sand and gravel lenses. Cultural material was confined mainly to Layer 1, extending from the surface to a maximum depth of 1.1 m below the surface. The cultural layer averaged about 30 cm in depth across the entire site. Cultural material was in the form of light soil staining and charcoal flecks mixed with a moderate density of sherds and chipped stone. The surrounding soil matrix was a very compact fine- to medium-grained sand with caliche inclusions and essentially no gravel or cobbles.

The cultural layer was followed by natural alluvial sediments composed of finer-grained laminated sand layers. The lower alluvial layers were sterile and contrasted with Layer 1 by the finer-grained texture and laminations. Boundaries were clear and characterized by flat shapes. Isolated

Table 14.1. LA 37593, backhoe trenches and miscellaneous hand trenches; summary table.

Unit Type	Southwest Corner	Orientation	Length (m)	Depth (m)	Features Located
Backhoe Trench 1	27N/71E	north-south	14	1.9-2.2	Extramural Features 6, 7; Burials 1 and 2
Backhoe Trench 2	51N/68E	north-south	30	1.5	Extramural Feature 10
Backhoe Trench 3	50N/51E	north-south	28	1	-
Backhoe Trench 4	28N/66E	north-south	12	2.5	Pit Structure 1; Burial 4
Backhoe Trench 5	44N/68E	east-west	3.5	2.2	Extramural Features 2, 5; Burial 3
Backhoe Trench 6	47N/60E	north-south	34	1.2	-
Hand trench	68N/68E	east-west	3	0.8	-
Hand trench	61N/62E	east-west	3	1.2	west water line and phone line
Hand trench	38/68E	north-south	3	1.3	-
Hand trench	37/66E	east-west	3	1.4	edge of Pit Structure 1; Extramural Feature 3

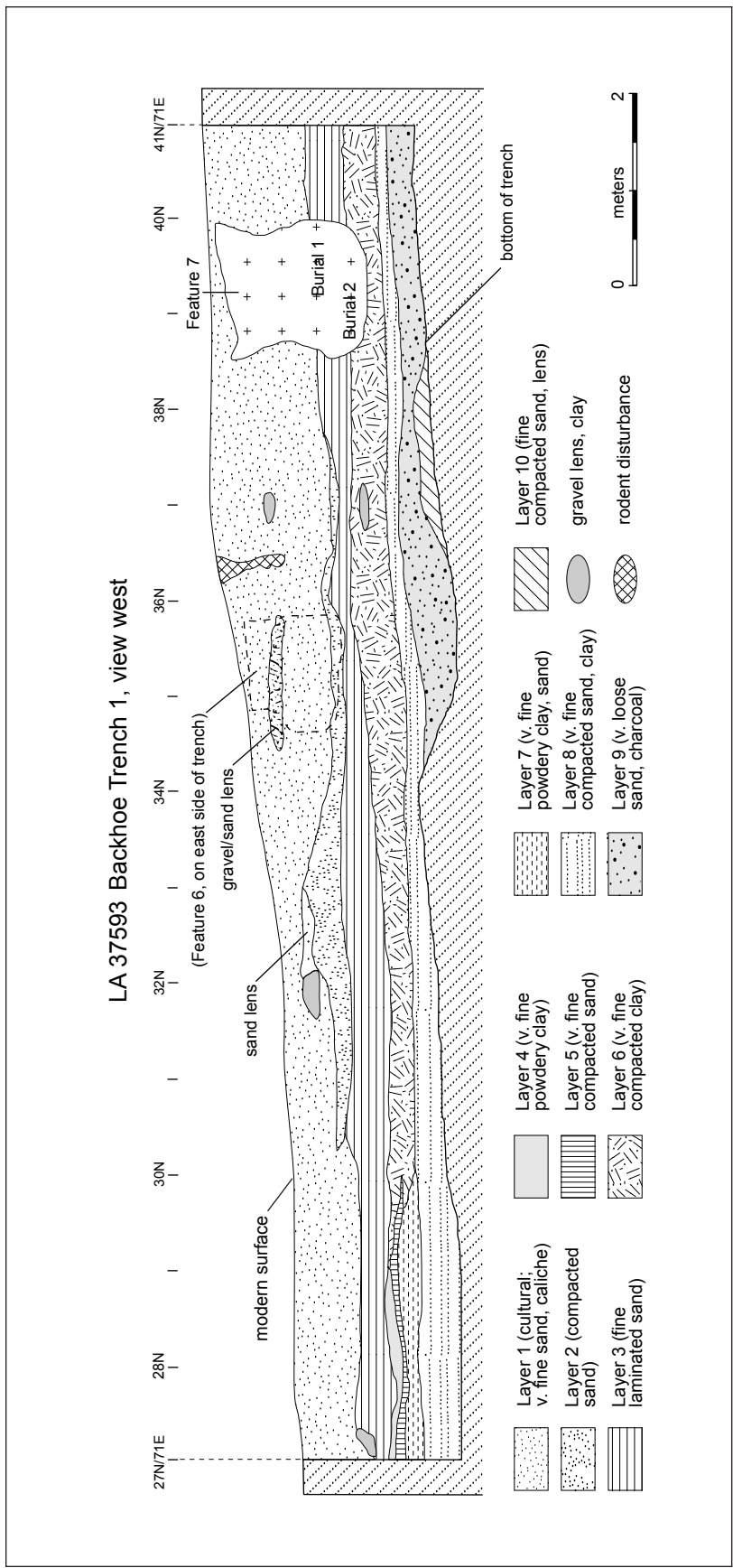


Figure 14.4. LA 37593, Backhoe Trench 1, profile, view west.

sand and gravel lenses ranging from 1 to 3 m wide attest to localized channeling across the fan during episodes of higher runoff from the western terrace slope. No high-energy flooding episodes evidenced by cobble lenses were encountered.

### EXCAVATION RESULTS

The LA 37593 site boundaries as defined measure about 67 by 37 m (220 by 121 sq ft), an area of 2,479 sq m (26,684 sq ft). The construction zone along the west margin covered 64 by 24 m, an area of 1,536 sq m, just over half of the arbitrarily bounded site. Roomblock 1, the primary site element, was visible from the surface (Fig. 14.5), but the construction zone was a marginal to high concentration of largely unrecorded surface and buried cultural elements preserved outside of the project limits. In other words, a wide range of nearby prehistoric activities contributed to cultural manifestations in the project area. This complicated context, coupled with the partial site excavation, precludes a comprehensive

understanding of the site. The component age of the various site elements is presented in Table 14.2.

### EXTRAMURAL AREA 1

Extramural Area 1 consists of the site area within the construction zone bounded by the south arroyo and an arbitrary north limit at the 53N line. Extramural Area 1 was the primary locus of prehistoric occupation containing all architectural elements and all but one (Extramural Feature 10) of the extramural features and the majority of the surface material.

### Surface collection

The surface was almost free of vegetation and highly visible. The site area from the edge of the highway to the existing right-of-way fence was not collected because of poor preservation associated with long-term drainage maintenance activities. Surface artifacts were infrequently observed in this area. The surface collection in Extramural Area 1 covered a 33 by 15 m area, and all but the northern row of eight grids were collected using 1 by 1 m grids



Figure 14.5. LA 37593, Roomblock 1, excavation.

Table 14.2. LA 37593, Extramural Areas 1 and 2, features and fill by time period.

	Mid Pueblo II	Late Pueblo II	Early Pueblo III	Late Pueblo III	Unassigned
<b>Extramural Area 1</b>					
Surface	-	-	-	-	X
Disturbed upper fill	-	-	-	-	X
Lower cultural fill	-	X	-	-	-
Feature 1	-	X	-	-	-
Feature 2					
Upper fill	-	X	-	-	-
Roof fill	-	-	-	X	-
Floor fill/floor	-	-	-	X	-
Feature 3	-	-	-	-	X
Feature 4	-	-	-	-	X
Feature 5	-	-	-	-	-
General fill	-	X	-	-	-
Burial 3	-	-	X	-	-
Floor	-	-	X	-	-
Feature 6	-	X	-	-	-
Feature 7					
General fill	-	X	-	-	-
Burial 1	-	X	-	-	-
Burial 2	X	-	-	-	-
Floor fill/floor	X	-	-	-	-
Feature 8	-	X	-	-	-
Feature 9	-	X	-	-	-
<b>Extramural Area 2</b>					
Surface	-	-	-	-	X
Disturbed upper fill	-	-	-	-	X
Feature 10	X	-	-	-	-
Extramural Area 3	-	-	-	X	-
Roomblock 100					
Wall clearing	-	-	-	-	X
Room 101 floors/feature	-	X	-	-	-
Room 102	-	X	-	-	-
Room 103 floor/features	-	X	-	-	-
Roomblock 200	-	-	-	-	X
Pit Structure 1					
Disturbed upper fill	-	-	-	-	X
Undisturbed upper fill	-	X	-	-	-
Burial 4	-	X	-	-	-
Human bone layer	-	X	-	-	-
Refuse sample	-	X	-	-	-
Roof fill	-	X	-	-	-
Floor fill	-	X	-	-	-
Floor 1 features	X	-	-	-	-
Floor 2 features	X	-	-	-	-

X = present

rather than larger ones because of the presence of human skeletal elements. The surface, consisting of seven 3 by 3 m grids and 455 1 by 1 m grids, was examined. Of the total area of 495 sq m, the surface collection covered 477 sq m. In decreasing order

of occurrence, artifacts included sherds, chipped stone artifacts, faunal remains, and ground stone (Tables 14.3, 14.4-14.8). In addition, human skeletal elements exposed and scattered by the water line trenches were recovered from 38 grids (Table 14.9).



Over half of the Extramural Area 1 grids contained no material (57 percent, or 262 of 462 grids, combining both grid sizes); the highest count for a grid is 48 artifacts (Figs. 14.6a, 14.6b, 14.6c). An additional 11 percent (n = 51) of the grids contained only one artifact. Sherds were the most common artifact, averaging 1.5 sherds (maximum 33) per square meter. Chipped stone had a density of just

under one artifact (maximum 15) per square meter. Other than concentrating in the southern part of the site, no intact behavioral patterning is attributed to the surface assemblage. Artifacts were commonly recovered along the water line trenches and the eastern edge of the mechanical disturbance.

The surface artifact assemblage is probably associated primarily with the Late Pueblo II ce-

Table 14.3. LA 37593, Extramural Areas 1 and 2, cultural materials from ground surface, counts by type.

	Extramural Area 1	Extramural Area 2	Total
<b>Ceramics</b>			
Gray ware	554	31	<b>585</b>
White ware	158	13	<b>171</b>
Red ware	1	–	<b>1</b>
<b>Total</b>	<b>713</b>	<b>44</b>	<b>757</b>
<b>Lithics</b>			
Debitage	225	14	<b>239</b>
Core	8	–	<b>8</b>
Biface	1	–	<b>1</b>
Retouched, utilized	32	3	<b>35</b>
Denticulate	–	2	<b>2</b>
Bifacial knife, scraper	2	–	<b>2</b>
Hammerstone	5	–	<b>5</b>
Hammerstone flake	2	–	<b>2</b>
<b>Total</b>	<b>275</b>	<b>19</b>	<b>294</b>
<b>Ground Stone</b>			
Mano	4	–	<b>4</b>
One-hand mano	2	–	<b>2</b>
Two-hand trough mano	1	–	<b>1</b>
Two-notch axe	1	–	<b>1</b>
<b>Total</b>	<b>8</b>	<b>–</b>	<b>8</b>
<b>Fauna</b>			
Jackrabbits	1	–	<b>1</b>
Dog, coyote, wolf	2	1	<b>3</b>
Dog, coyote, fox, wolf	1	–	<b>1</b>
Deer	3	–	<b>3</b>
Artiodactyl	2	–	<b>2</b>
Mammal	22	–	<b>22</b>
Small mammal	5	1	<b>6</b>
Medium–large mammal	1	–	<b>1</b>
Large mammal	16	–	<b>16</b>
Birds	8	–	<b>8</b>
<b>Total</b>	<b>61</b>	<b>2</b>	<b>63</b>
<b>Human Bone Age</b>			
Indeterminate	51	–	<b>51</b>
Fetal, neonate	1	–	<b>1</b>
Juvenile	8	–	<b>8</b>
Mature	60	–	<b>60</b>
<b>Total</b>	<b>120</b>	<b>–</b>	<b>120</b>

Table 14.4. LA 37593, pottery types by major provenience; counts and percents.

Ceramic Type	Pit Structure 1		Room-block 1		Room-block 2		Extra-mural Area 1		Extra-mural Area 2		Extra-mural Area 3		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Plain, fillet rim	1	0.0%	0	0.0%	–	–	0.2	0.0%	–	–	–	–	0.1	0.0%
Pueblo II corrugated	13	0.4%	47	0.9%	7	0.7%	19	0.8%	1	0.4%	1	1.6%	88	0.7%
Pueblo II–III corrugated	31	1.1%	158	3.0%	2	0.2%	16	0.7%	5	1.8%	1	1.6%	213	1.8%
Pueblo III corrugated	9	0.3%	2	0.0%	3	0.3%	7	0.3%	1	0.4%	–	–	22	0.2%
Plain gray	440	15.2%	447	8.6%	88	8.3%	284	12.7%	13	4.7%	1	1.6%	1273	10.8%
Corrugated gray	1506	52.1%	3097	59.3%	617	58.4%	1283	57.3%	154	56.0%	38	60.3%	6695	57.0%
Incised corrugated	3	0.1%	–	–	–	–	–	–	–	–	–	–	3	0.0%
Red Mesa-style black-on-white	1	0.0%	11	0.2%	5	0.5%	1	0.0%	–	–	–	–	18	0.2%
Pueblo II black-on-white	71	2.5%	58	1.1%	10	0.9%	55	2.5%	5	1.8%	1	1.6%	200	1.7%
Black Mesa-style black-on-white	1	0.0%	–	–	–	–	–	–	–	–	–	–	1	0.0%
Sosi-style black-on-white	–	–	2	0.0%	–	–	2	0.1%	–	–	–	–	4	0.0%
Dogoszhi-style black-on-white	39	1.3%	108	2.1%	13	1.2%	35	1.6%	7	2.5%	–	–	202	1.7%
Chaco-style black-on-white	2	0.1%	3	0.1%	1	0.1%	1	0.0%	–	–	–	–	7	0.1%
Early Pueblo III black-on-white	–	–	4	0.1%	1	0.1%	3	0.1%	–	–	–	–	8	0.1%
Late Pueblo III black-on-white	–	–	–	–	–	–	9	0.4%	–	–	–	–	9	0.1%
Pueblo I–II black-on-white	–	–	–	–	2	0.2%	1	0.0%	–	–	–	–	3	0.0%
Pueblo I–III black-on-white	307	10.6%	510	9.8%	89	8.4%	197	8.8%	39	14.2%	8	12.7%	1152	9.8%
Pueblo III black-on-white	2	0.1%	–	–	1	0.1%	1	0.0%	–	–	–	–	4	0.0%
Painted black-on-white	63	2.2%	6	0.1%	4	0.4%	5	0.2%	–	–	–	–	78	0.7%

Table 14.4 (continued)

Ceramic Type	Pit Structure 1		Room-block 1		Room-block 2		Extra-mural Area 1		Extra-mural Area 2		Extra-mural Area 3		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Polished white	329	11.4%	629	12.0%	179	17.0%	261	11.7%	41	14.9%	12	19.0%	1451	12.3%
Polished black-on-white	49	1.7%	129	2.5%	32	3.0%	40	1.8%	9	3.3%	–	–	259	2.2%
Transitional Pueblo III black-on-white	2	0.1%	2	0.0%	–	–	–	–	–	–	–	–	4	0.0%
Squiggle hachure black-on-white	10	0.3%	3	0.1%	1	0.1%	5	0.2%	–	–	1	1.6%	20	0.2%
Mesa Verde indeterminate red	–	–	1	0.0%	–	–	–	–	–	–	–	–	1	0.0%
Mesa Verde Bluff Black-on-red	–	–	–	–	–	–	1	0.0%	–	–	–	–	1	0.0%
Mesa Verde Deadmans Black-on-red	3	0.1%	2	0.0%	–	–	6	0.3%	–	–	–	–	11	0.1%
Mesa Verde Plain Red	–	–	2	0.0%	–	–	–	–	–	–	–	–	2	0.0%
Cibola indeterminate red ware	–	–	–	–	1	0.1%	–	–	–	–	–	–	1	0.0%
Kayenta indeterminate red	3	0.1%	1	0.0%	–	–	–	–	–	–	–	–	4	0.0%
Kayenta Tusayan Black-on-red	1	0.0%	–	–	–	–	–	–	–	–	–	–	1	0.0%
Kayenta Tusayan Polychrome	1	0.0%	–	–	–	–	–	–	–	–	–	–	1	0.0%
Reserve Punched Corrugated Smudged	–	–	1	0.0%	–	–	–	–	–	–	–	–	1	0.0%
Mogollon Tularosa Fillet rim	1	0.0%	–	–	–	–	–	–	–	–	–	–	1	0.0%
Mogollon Smudged Brown	1	0.0%	3	0.1%	–	–	–	–	–	–	–	–	4	0.0%
<b>Total</b>	<b>2889</b>	<b>100.0%</b>	<b>5227</b>	<b>100.0%</b>	<b>1056</b>	<b>100.0%</b>	<b>2239</b>	<b>100.0%</b>	<b>275</b>	<b>100.0%</b>	<b>63</b>	<b>100.0%</b>	<b>11,749</b>	<b>100.0%</b>

N = count

Table 14.5. LA 37593, vessel form and paint type by major provenience; counts and percents.

Vessel Form	Pit Structure 1		Room-block 1		Room-block 2		Extra-mural Area 1		Extra-mural Area 2		Extra-mural Area 3		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Vessel Form</b>														
Indeterminate	10	0.3%	28	0.5%	4	0.4%	15	0.7%	3	1.1%	–	–	<b>60</b>	<b>0.5%</b>
Bowl rim	77	2.7%	114	2.2%	28	2.7%	48	2.1%	9	3.3%	1	1.6%	<b>277</b>	<b>2.4%</b>
Bowl body	274	9.5%	460	8.8%	128	12.1%	213	9.5%	27	9.8%	7	11.1%	<b>1109</b>	<b>9.4%</b>
Seed jar rim	11	0.4%	3	0.1%	–	–	1	0.0%	–	–	–	–	<b>15</b>	<b>0.1%</b>
Olla rim	2	0.1%	6	0.1%	1	0.1%	4	0.2%	–	–	–	–	<b>13</b>	<b>0.1%</b>
Olla neck	1	0.0%	–	–	1	0.1%	1	0.0%	–	–	–	–	<b>3</b>	<b>0.0%</b>
Cooking, storage rim	90	3.1%	228	4.4%	28	2.7%	84	3.8%	12	4.4%	2	3.2%	<b>444</b>	<b>3.8%</b>
Pitcher	–	–	–	–	–	–	9	0.4%	–	–	–	–	<b>9</b>	<b>0.1%</b>
Necked jar body	208	7.2%	543	10.4%	54	5.1%	173	7.7%	29	10.5%	7	11.1%	<b>1014</b>	<b>8.6%</b>
Canteen	–	–	–	–	–	–	1	0.0%	–	–	–	–	<b>1</b>	<b>0.0%</b>
Jar body	2194	75.9%	3818	73.0%	811	76.8%	1668	74.5%	194	70.5%	46	73.0%	<b>8731</b>	<b>74.3%</b>
Bowl or jar body	–	–	–	–	1	0.1%	–	–	–	–	–	–	<b>1</b>	<b>0.0%</b>
Ladle	3	0.1%	1	0.0%	–	–	5	0.2%	–	–	–	–	<b>9</b>	<b>0.1%</b>
Ladle bowl	10	0.3%	8	0.2%	–	–	8	0.4%	–	–	–	–	<b>26</b>	<b>0.2%</b>
Ladle handle	6	0.2%	17	0.3%	–	–	5	0.2%	1	0.4%	–	–	<b>29</b>	<b>0.2%</b>
Open gourd dipper	1	0.0%	–	–	–	–	3	0.1%	–	–	–	–	<b>4</b>	<b>0.0%</b>
Bird effigy	–	–	1	0.0%	–	–	–	–	–	–	–	–	<b>1</b>	<b>0.0%</b>
Pipe	2	0.1%	–	–	–	–	1	0.0%	–	–	–	–	<b>3</b>	<b>0.0%</b>
<b>Total</b>	<b>2889</b>	<b>100.0%</b>	<b>5227</b>	<b>100.0%</b>	<b>1056</b>	<b>100.0%</b>	<b>2239</b>	<b>100.0%</b>	<b>275</b>	<b>100.0%</b>	<b>63</b>	<b>100.0%</b>	<b>11,749</b>	<b>100.0%</b>
<b>Paint Type</b>														
None	327	37.6%	618	42.5%	180	53.3%	258	42.0%	41	40.6%	12	54.5%	<b>1436</b>	<b>42.2%</b>
Organic	88	10.1%	199	13.7%	41	12.1%	83	13.5%	4	4.0%	1	4.5%	<b>416</b>	<b>12.2%</b>
Mineral	455	52.3%	637	43.8%	117	34.6%	274	44.6%	56	55.4%	9	40.9%	<b>1548</b>	<b>45.5%</b>
<b>Total</b>	<b>870</b>	<b>100.0%</b>	<b>1454</b>	<b>100.0%</b>	<b>338</b>	<b>100.0%</b>	<b>615</b>	<b>100.0%</b>	<b>101</b>	<b>100.0%</b>	<b>22</b>	<b>100.0%</b>	<b>3400</b>	<b>100.0%</b>

N = count

ramic component, but extreme mixing precluded a definite component assignment. Pueblo II black-on-white and Pueblo II-III black-on-white are the dominant white wares, and mineral pigment dominates the decorated sherds. Earlier ceramics are limited to a single Pueblo I-II black-on-white sherd. The later Pueblo III component is poorly represented.

### Disturbed upper cultural layer

Subsurface artifacts collected from the upper cultural fill of backhoe trenches, extramural feature definition trenches, and miscellaneous exploration trenches were placed with this provenience. The material was collected from the initial 0–40 cm of the

general cultural layer, which consistently exhibited mixing and mechanical alteration. Recent glass, metal, and asphalt fragments were commingled with the prehistoric artifacts. The recovered artifact assemblage consisted of sherds, chipped stone artifacts including two projectile points, ground stone, and faunal remains (Tables 14.4–14.8). Nine skeletal elements scattered from the mass human interment by the water line installations were recovered from exploratory trench 37N/66E.

The disturbed upper cultural layer is probably associated with the Late Pueblo II ceramic component, but a specific component age was not assigned because of mixing. Artifacts from the surface and this portion of the cultural layer have similar



Table 14.6. LA 37593, chipped stone tool and material type by major provenience; counts and percents.

	Pit Structure 1		Room-block 1		Room-block 2		Extra-mural Area 1		Extra-mural Area 2		Extra-mural Area 3		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Tool Type</b>														
Debitage	571	81.3%	1213	90.7%	225	83.3%	599	83.4%	68	76.4%	18	85.7%	<b>2694</b>	<b>85.9%</b>
Core	32	4.6%	28	2.1%	6	2.2%	24	3.3%	4	4.5%	1	4.8%	<b>95</b>	<b>3.0%</b>
Uniface	–	–	–	–	1	0.4%	–	–	–	–	–	–	<b>1</b>	<b>0.0%</b>
Biface	–	–	1	0.1%	–	–	2	0.3%	–	–	–	–	<b>3</b>	<b>0.1%</b>
Retouched, utilizeddebitage	70	10.0%	62	4.6%	31	11.5%	68	9.5%	12	13.5%	1	4.8%	<b>244</b>	<b>7.8%</b>
Retouched, utilized core	2	0.3%	3	0.2%	–	–	3	0.4%	–	–	–	–	<b>8</b>	<b>0.3%</b>
Drill	2	0.3%	–	–	–	–	2	0.3%	1	1.1%	–	–	<b>5</b>	<b>0.2%</b>
Graver	1	0.1%	–	–	–	–	–	–	–	–	–	–	<b>1</b>	<b>0.0%</b>
Notch	–	–	–	–	1	0.4%	–	–	1	1.1%	–	–	<b>2</b>	<b>0.1%</b>
Denticulate	–	–	–	–	–	–	2	0.3%	2	2.2%	–	–	<b>4</b>	<b>0.1%</b>
Bifacial knife, scraper	2	0.3%	1	0.1%	–	–	2	0.3%	–	–	–	–	<b>5</b>	<b>0.2%</b>
Projectile point	1	0.1%	7	0.5%	1	0.4%	3	0.4%	–	–	1	4.8%	<b>13</b>	<b>0.4%</b>
Hammerstone	21	3.0%	13	1.0%	2	0.7%	10	1.4%	1	1.1%	–	–	<b>47</b>	<b>1.5%</b>
Hammerstone flake	–	–	7	0.5%	2	0.7%	3	0.4%	–	–	–	–	<b>12</b>	<b>0.4%</b>
Chopper, plane	–	–	1	0.1%	1	0.4%	–	–	–	–	–	–	<b>2</b>	<b>0.1%</b>
Hoe	–	–	1	0.1%	–	–	–	–	–	–	–	–	<b>1</b>	<b>0.0%</b>
<b>Total</b>	<b>702</b>	<b>100.0%</b>	<b>1337</b>	<b>100.0%</b>	<b>270</b>	<b>100.0%</b>	<b>718</b>	<b>100.0%</b>	<b>89</b>	<b>100.0%</b>	<b>21</b>	<b>100.0%</b>	<b>3137</b>	<b>100.0%</b>
<b>Material Type</b>														
Chert	276	39.3%	619	46.3%	93	34.4%	319	44.4%	42	47.2%	8	38.1%	<b>1357</b>	<b>43.3%</b>
Chalcedony	13	1.9%	17	1.3%	15	5.6%	28	3.9%	–	–	1	4.8%	<b>74</b>	<b>2.4%</b>
Silicified wood	155	22.1%	303	22.7%	117	43.3%	125	17.4%	11	12.4%	12	57.1%	<b>723</b>	<b>23.0%</b>
Quartzite	19	2.7%	58	4.3%	2	0.7%	23	3.2%	1	1.1%	–	–	<b>103</b>	<b>3.3%</b>
Quartzitic sandstone	65	9.3%	35	2.6%	14	5.2%	36	5.0%	7	7.9%	–	–	<b>157</b>	<b>5.0%</b>
Igneous	4	0.6%	4	0.3%	1	0.4%	5	0.7%	3	3.4%	–	–	<b>17</b>	<b>0.5%</b>
Rhyolite	1	0.1%	–	–	–	–	–	–	1	1.1%	–	–	<b>2</b>	<b>0.1%</b>
Sandstone	3	0.4%	16	1.2%	–	–	14	1.9%	–	–	–	–	<b>33</b>	<b>1.1%</b>
Siltstone	166	23.6%	283	21.2%	28	10.4%	168	23.4%	24	–	–	–	<b>669</b>	<b>21.3%</b>
Other	–	–	2	0.1%	–	–	–	–	–	–	–	–	<b>2</b>	<b>0.1%</b>
<b>Total</b>	<b>702</b>	<b>100.0%</b>	<b>1337</b>	<b>100.0%</b>	<b>270</b>	<b>100.0%</b>	<b>718</b>	<b>100.0%</b>	<b>89</b>	<b>100.0%</b>	<b>21</b>	<b>100.0%</b>	<b>3137</b>	<b>100.0%</b>

N = count

distribution and occurrence patterns. The openings of the various extramural features were mainly in this portion of the cultural layer, but specific occupation surfaces within the unit were not identified. The primary prehistoric occupation surface was apparently comparable with the present ground surface.

### Undisturbed lower cultural layer

Cultural fill from the various excavation units below the zone of mechanical alteration is designated the undisturbed lower cultural layer. The lower portion of the cultural layer generally ranged from 40 cm to a maximum depth of 1.10 m below the surface. Rodent burrows, prevalent on the site, were the main source of mixing in this lower fill. Artifact

Table 14.7. LA 37593, ground stone tool type by major provenience; counts and percents.

	Pit Structure 1		Roomblock 1		Roomblock 2		Extramural Area 1		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Indeterminate fragment	–	–	1	2.4%	–	–	–	–	1	0.6%
Pottery polishing stone	–	–	–	–	–	–	1	2.0%	1	0.6%
Plaster polishing stone	2	3.2%	–	–	–	–	2	4.1%	4	2.5%
Abrading stone	5	8.1%	–	–	–	–	–	–	5	3.1%
Shaped slab	15	24.2%	6	14.3%	–	–	2	4.1%	23	14.4%
Jar cover	2	3.2%	1	2.4%	–	–	1	2.0%	4	2.5%
Anvil	–	–	2	4.8%	–	–	–	–	2	1.3%
Lapidary stone	4	6.5%	1	2.4%	–	–	–	–	5	3.1%
Mano	6	9.7%	5	11.9%	2	28.6%	10	20.4%	23	14.4%
One-hand mano	4	6.5%	2	4.8%	–	–	4	8.2%	10	6.3%
Two-hand mano	11	17.7%	4	9.5%	–	–	9	18.4%	24	15.0%
Two-hand trough mano	–	–	2	4.8%	–	–	2	4.1%	4	2.5%
Two-hand slab mano	6	9.7%	5	11.9%	4	57.1%	9	18.4%	24	15.0%
Two-hand loaf mano	–	–	–	–	–	–	1	2.0%	1	0.6%
Metate	3	4.8%	–	–	–	–	–	–	3	1.9%
Trough metate	–	–	3	7.1%	–	–	–	–	3	1.9%
Slab metate	1	1.6%	1	2.4%	–	–	6	12.2%	8	5.0%
Miniature metate	–	–	1	2.4%	–	–	–	–	1	0.6%
Two-notch axe	–	–	3	7.1%	1	14.3%	1	2.0%	5	3.1%
Full-grooved axe	1	1.6%	–	–	–	–	–	–	1	0.6%
Tchamahia	–	–	1	2.4%	–	–	1	2.0%	2	1.3%
Wedge	1	1.6%	–	–	–	–	–	–	1	0.6%
Ornament	–	–	3	7.1%	–	–	–	–	3	1.9%
Pendant	1	1.6%	1	2.4%	–	–	–	–	2	1.3%
<b>Total</b>	<b>62</b>	<b>100.0%</b>	<b>42</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>49</b>	<b>100.0%</b>	<b>160</b>	<b>100.0%</b>

content was much reduced, and cultural staining was faint.

The layer is assigned to the general Late Pueblo II ceramic component. The few painted white wares are decorated with nearly equal amounts of organic and mineral paint, and diagnostic sherds tend toward Pueblo II types.

A single extramural feature was found at the base of the cultural layer at 1.10 m below the surface. The depth contrasts with the other extramural features, evidencing some vertical variation among the features, but specific use-surfaces within the lower fill were not identified. The anomalous depth suggests Feature 3 may be the earliest of the extramural features, but no artifacts were recovered from the feature fill. Surrounding sherds from the hand-dug excavation unit (37N/66E) typified the general Late Pueblo II ceramic component.

#### *Features (Extramural Area 1)*

The nine extramural features in Extramural

Area 1 are discussed in order of their numerical occurrence. Feature attributes are presented in Table 14.10 and associated artifacts are tabulated in Tables 14.11–14.15. Three primary human burials interred within features are discussed with the pertinent features. Artifacts with the primary burials are presented in Tables 14.16–14.20.

*Pit (not further specified; Feature 1).* This feature was just outside the southwest corner of surface Room 101 and was uncovered in roomblock-definition trench 44N/70E. The pit was built over Feature 4, and the superimposition removed the larger portion of the earlier fire pit (Fig. 14.7). In turn, the southern half of both superimposed features were truncated by the prehistoric excavation of a major storage cist (Feature 2).

The surviving northern segment suggests a general pit shape with a hemispherical profile (Fig. 14.8). Dimensions were incomplete, but I would project a diameter of about 65 cm and a depth of 25 cm. The surviving northern edge was lined with

Table 14.8. LA 37593, faunal assemblage, taxon by major provenience; counts and percents.

	Pit Structure 1		Room-block 1		Room-block 2		Extra-mural Area 1		Extra-mural Area 2		Extra-mural Area 3		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Prairie dog	–	–	–	–	–	–	1	0.2%	–	–	–	–	1	0.1%
Rock squirrel	–	–	1	0.8%	–	–	–	–	–	–	–	–	1	0.1%
Small squirrels	–	–	–	–	–	–	4	0.6%	–	–	–	–	4	0.4%
Pocket gophers	–	–	1	0.8%	–	–	4	0.6%	–	–	–	–	5	0.5%
Banner-tailed kangaroo rat	–	–	–	–	–	–	195	30.6%	–	–	–	–	195	18.3%
Mouse	–	–	–	–	–	–	22	3.5%	–	–	–	–	22	2.1%
Woodrats	–	–	–	–	–	–	1	0.2%	–	–	–	–	1	0.1%
Porcupine	–	–	1	0.8%	–	–	–	–	–	–	–	–	1	0.1%
Rodent	–	–	–	–	–	–	6	0.9%	–	–	–	–	6	0.6%
Cottontails	5	1.8%	4	3.3%	–	–	1	0.2%	–	–	–	–	10	0.9%
Jackrabbits	6	2.1%	2	1.7%	1	5.9%	4	0.6%	–	–	–	–	13	1.2%
Weasels and allies	2	0.7%	–	–	–	–	1	0.2%	–	–	–	–	3	0.3%
Dog, coyote, wolf	1	0.4%	–	–	1	5.9%	7	1.1%	1	50.0%	–	–	10	0.9%
Dog, coyote, fox, wolf	1	0.4%	–	–	–	–	2	0.3%	–	–	–	–	3	0.3%
Deer	30	10.7%	6	5.0%	–	–	10	1.6%	–	–	2	20.0%	48	4.5%
Artiodactyl	2	0.7%	5	4.2%	–	–	4	0.6%	–	–	–	–	11	1.0%
Mammal	27	9.6%	14	11.7%	3	17.6%	23	3.6%	–	–	2	20.0%	69	6.5%
Small mammal	52	18.6%	12	10.0%	2	11.8%	45	7.1%	1	50.0%	–	–	112	10.5%
Medium-large mammal	15	5.4%	5	4.2%	2	11.8%	3	0.5%	–	–	–	–	25	2.3%
Large mammal	70	25.0%	59	49.2%	5	29.4%	43	6.8%	–	–	5	50.0%	182	17.1%
Rough-legged hawk	–	–	–	–	–	–	124	19.5%	–	–	–	–	124	11.6%
Turkey	13	4.6%	2	1.7%	–	–	5	0.8%	–	–	–	–	20	1.9%
Birds	55	19.6%	6	5.0%	3	17.6%	52	8.2%	–	–	1	10.0%	117	11.0%
Nonvenomous snakes	–	–	–	–	–	–	6	0.9%	–	–	–	–	6	0.6%
Bullsnake	–	–	–	–	–	–	7	1.1%	–	–	–	–	7	0.7%
Toads and frogs	–	–	–	–	–	–	46	7.2%	–	–	–	–	46	4.3%
Bird eggshell	1	–	–	–	–	–	21	3.3%	–	–	–	–	24	2.3%
<b>Total</b>	<b>280</b>	<b>100.0%</b>	<b>120</b>	<b>100.0%</b>	<b>17</b>	<b>100.0%</b>	<b>637</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>1066</b>	<b>100.0%</b>

cobbles, including the eight complete two-hand manos. A single Pueblo II black-on-white sherd was incorporated in the lining construction. The flat bottom was unlined and level with the base of the cobble-lining at a depth of 35 cm below the surface. The feature was similar in appearance to the earlier fire pit (Feature 4) but lacked evidence of burning. The cobble-lined pit is coded “feature type not further specified” because of the absence of thermal evidence. Fill was compact sand with light cultural staining, and moderate artifact content in-

cluded sherds and chipped stone artifacts. The few diagnostic sherds suggest an affiliation with the Late Pueblo II ceramic component.

*Major storage cist (Feature 2).* A major storage cist was discovered just outside the southwest corner of Surface Room 101. The undercut east wall of the large cist actually extended under the south wall of the abandoned room. The cist was discovered during the investigation of sub-surface cultural fill encountered at the south end of

Table 14.9. LA 37593, human remains, age and sex by major provenience; counts and percents.

	Pit Structure 1		Roomblock 1		Roomblock 2		Extramural Area 1		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>By Age</b>										
Indeterminate	228	11.1%	–	–	2	9.1%	51	39.5%	<b>281</b>	<b>12.7%</b>
Fetal, neonate	4	0.2%	–	–	–	–	1	0.8%	<b>5</b>	<b>0.2%</b>
Juvenile	597	29.1%	–	–	2	9.1%	8	6.2%	<b>607</b>	<b>27.5%</b>
Immature	25	1.2%	–	–	1	4.5%	–	–	<b>26</b>	<b>1.2%</b>
Mature, young	139	6.8%	2	66.7%	–	–	–	–	<b>141</b>	<b>6.4%</b>
Mature	1057	51.6%	1	33.3%	17	77.3%	69	53.5%	<b>1144</b>	<b>51.9%</b>
<b>Total</b>	<b>2050</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>22</b>	<b>100.0%</b>	<b>129*</b>	<b>100.0%</b>	<b>2204</b>	<b>100.0%</b>
<b>By Sex</b>										
Indeterminate	1979	96.5%	3	100.0%	20	90.9%	129	100.0%	<b>2131</b>	<b>96.7%</b>
Male	44	2.1%	–	–	2	9.1%	–	–	<b>46</b>	<b>2.1%</b>
Female	27	1.3%	–	–	–	–	–	–	<b>27</b>	<b>1.2%</b>
<b>Total</b>	<b>2050</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>22</b>	<b>100.0%</b>	<b>129*</b>	<b>100.0%</b>	<b>2204</b>	<b>100.0%</b>

\*120 of these elements are from present ground surface, mostly or all a result of the water-line trenching.

roomblock-definition trench 44N/70E. The cultural fill was just south of Features 1 and 4, and Backhoe Trench 5 was placed to investigate the nature of the fill. The cist profile was uncovered on the north wall of the backhoe trench, and unfortunately the trench removed an 80 cm wide segment through the center of the cist (Fig. 14.9).

A circular opening 1 m in diameter was fully delineated at a depth of 60 cm below the present ground surface. However, the cist had originally cut through Features 1 and 4 (both exposed at 7 cm below the present ground surface), and fill associated with the feature was encountered at a depth of 10 cm below the surface at the south end of trench 44N/70E. The original mouth was probably at a depth of about 10 cm below the present ground surface, but I calculated the feature dimensions from the point of unambiguous mouth definition. The feature floor was 1.5 m below the fully delineated mouth based on these minimum measurements. A maximum depth of about 2.10 m can be conjectured with an adjusted maximum volume of 3,711 liters.

The deep cist was dug into the natural alluvial sediments. There was no evidence of plaster or oxidation. Surrounding alluvial sand layers were compact but would have been somewhat porous for storage considerations. The fill of the cist was divided into three deposition layers: upper fill, roof fill, and floor fill.

The upper fill consisted of light trash affiliated

with the Late Pueblo II occupation. The upper fill included cultural material originally excavated from the south end of trench 44/70E and full-cut material from the cist to a depth of 1.87 m below the surface. The 1.80 m thick homogenous layer was removed primarily from the north segment of the cist. Very little of the upper fill remained on the south profile of Backhoe Trench 5. The upper fill was characterized by fine-grained compact sand with very light cultural staining and charcoal flecking. Artifacts included sherds, chipped stone artifacts, faunal remains, and a tchamahia fragment. An interesting artifact consisted of a natural sandstone concretion that was apparently used as a paint container. The concretion weighed 395 g and had been somewhat hollowed out. A yellow pigment stained the inside of the concretion. The domestic artifacts were mixed with construction material, including 70 unburned construction-size cobbles (10 by 5 cm) and three fragments of unshaped tabular sandstone.

The roof fill consisted of the same soil matrix as the upper fill but with the addition of decayed wood. The 33 cm thick layer extended from a depth of 1.87 to 2.20 m below the surface. The lower cist had an intact 60 cm wide segment north of the backhoe trench and a 30 cm wide segment south of the trench. Unburned juniper beam fragments 2 to 6 cm in diameter were mixed throughout the layer and were apparently associated with roofing material. There was no evidence of beam-impressed



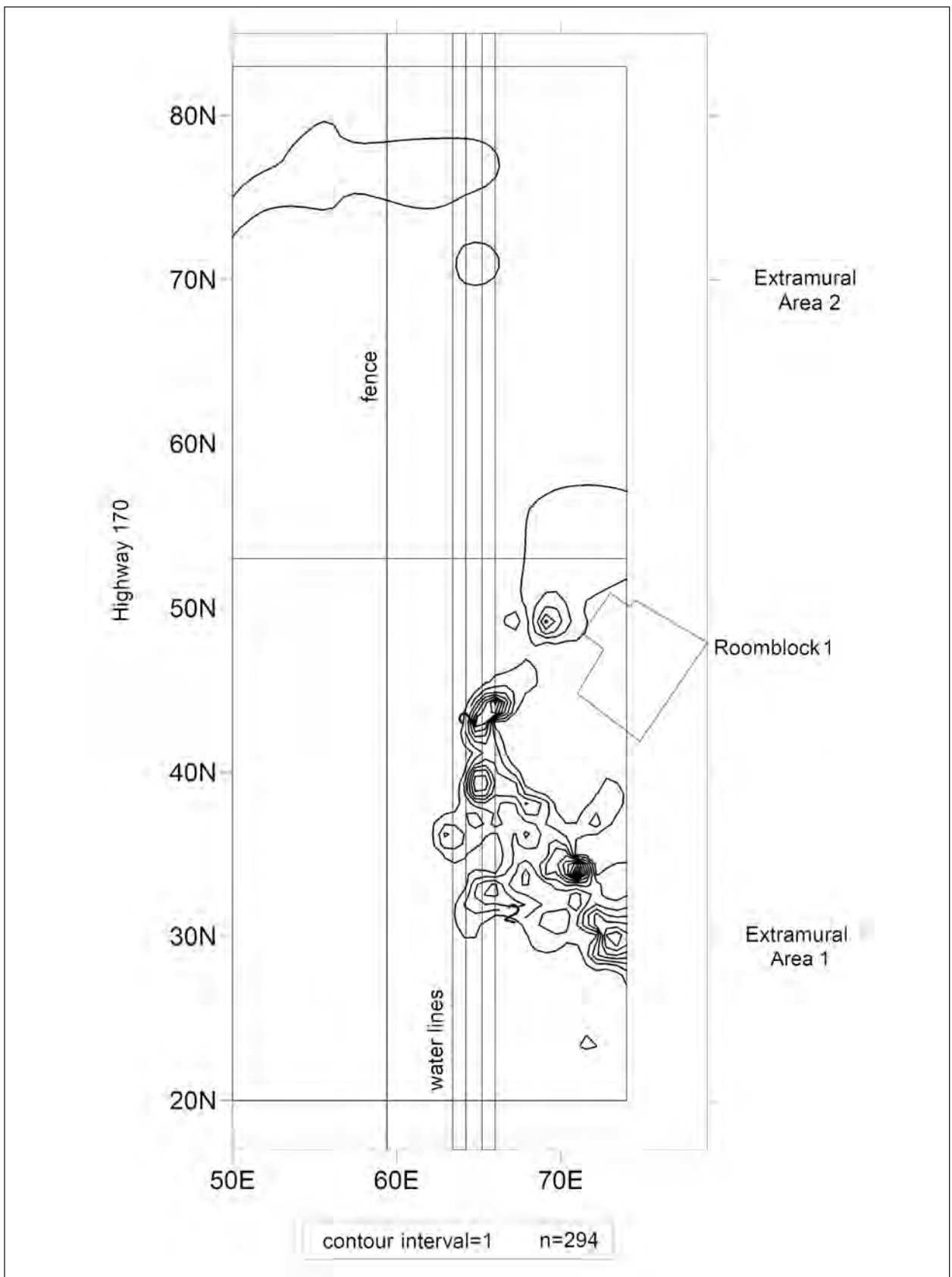


Figure 14.6a. LA 37593, surface collection area, distribution and density, lithics.

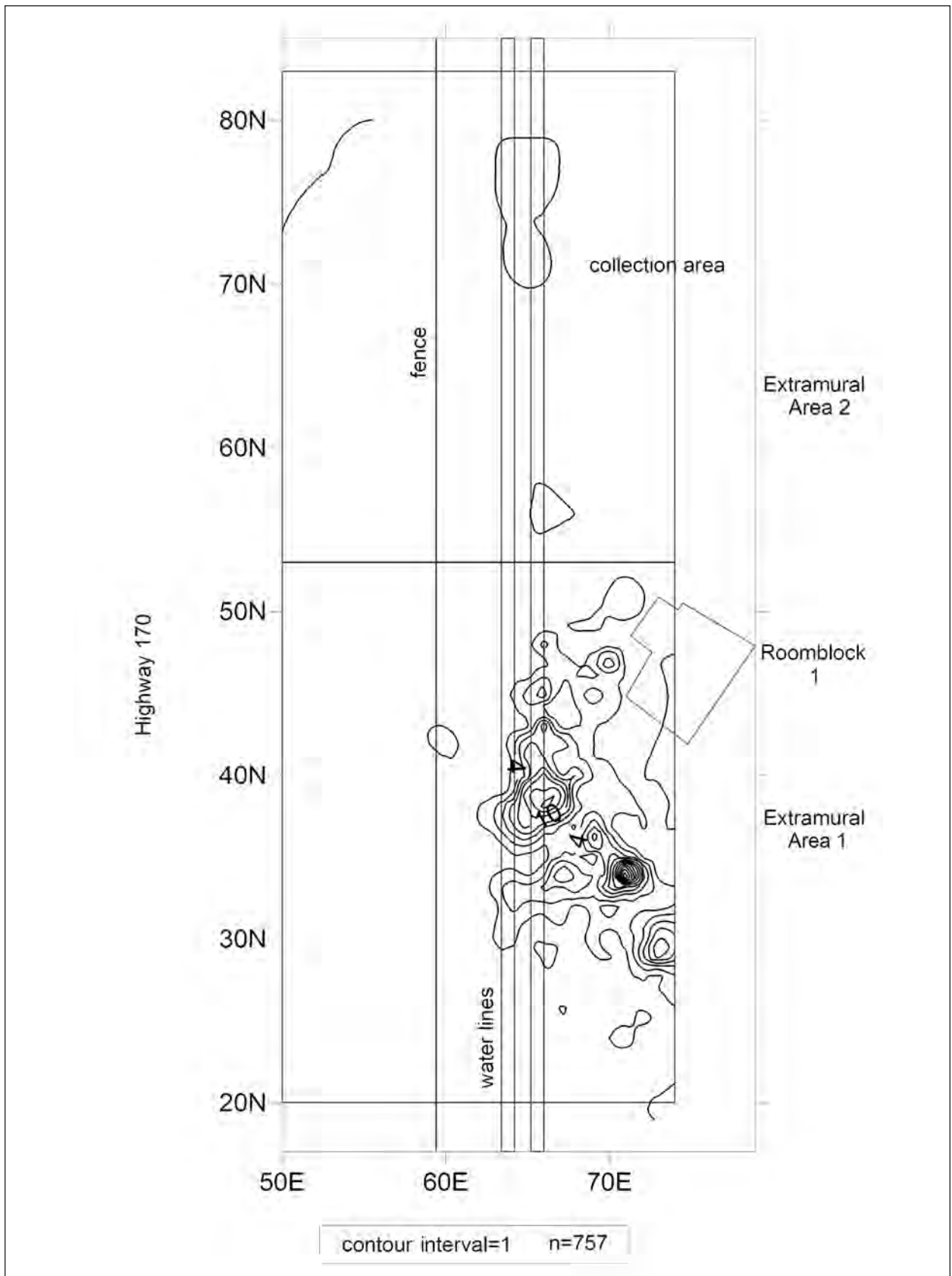


Figure 14.6b. LA 37593, surface collection area, distribution and density, ceramics.

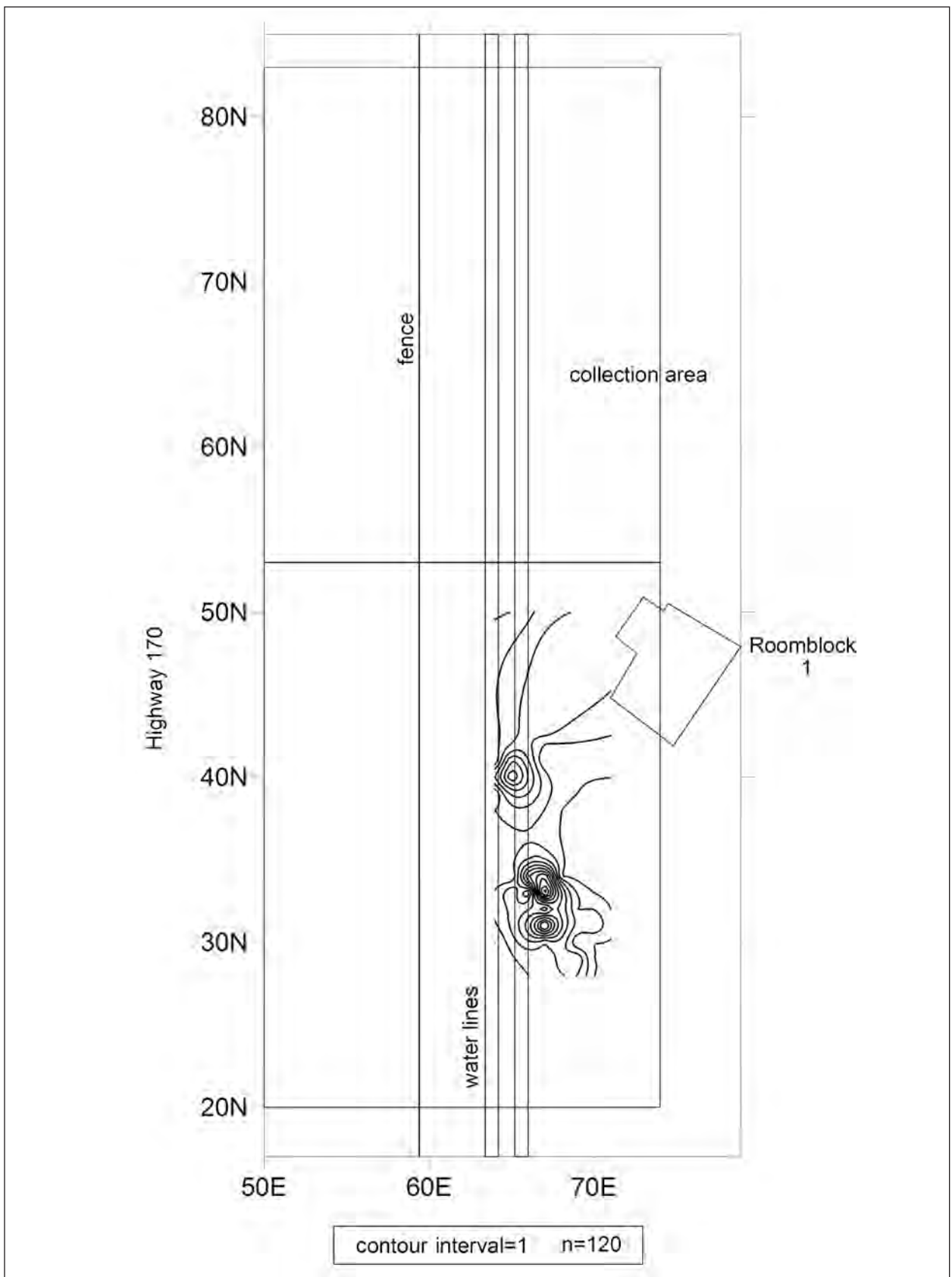


Figure 14.6c. LA 37593, surface collection area, distribution and density, human remains (bone).

Table 14.10. LA 37593, Extramural Areas 1 and 2, features; summary table.

Feature	Depth bgs (m)	Dimensions	Volume (l)	Shape	Construction Details	Use Details	Function
<b>Extramural Area 1</b>							
1	0.07	incomplete	–	pit/cylindrical	cobble-lined, open	unburned	pit, not further specified
2	0.1	1.5 x 1.5 x 1.5 m	–	cist/upright cone	unlined	unburned	major storage cist
3	1.1	20 x 20 cm x incomplete height	–	pit/cylindrical	unlined	burned	roasting facility
4	0.07	incomplete	–	pit/cylindrical	cobble-lined, open	burned	fire pit
5	unknown	1.5 x 1.6 x incomplete height	–	cist/upright cone	unlined	unburned	major storage cist and Burial 3
6	0.05	1.21 m x incomplete width x 1.07 m height	estimated 1,230	cist/upright cone	unlined	unburned	storage facility
7	0.05	1.25 m x incomplete width x 1.62 m height	estimated 1,988	cist/upright cone	unlined	unburned	major storage cist and Burials 1 and 2
8	0.02	43 x 36 x 7 cm height	8.6	pit/hemispherical	unlined	burned	fire pit
9	0.02	incomplete	–	pit/hemispherical	unlined	burned	fire pit
<b>Extramural Area 2</b>							
10	0.1	2.24 m x incomplete width x 40 cm height	–	pit/hemispherical	unlined	unburned	borrow pit?

clods or other closing material associated with the decayed wood. A single 30 cm long pole fragment with a 3 cm diameter dated 923–1131+vv (TRL No. LP-86).

The roof fill contained an assemblage of cached, use-related items including three whole or partial ceramic vessels (Table 14.21), fragmentary and whole two-hand manos (n = 5) and metates (n = 3), and at least nine poorly preserved baskets. Two small and unusual specialized “manos” of indefinite function were part of the mano assemblage. The cached artifacts were at a uniform depth of 2.20 m below the surface. Outside of the cached assemblage, the surrounding fill contained infrequent artifacts consisting of a few sherds, chipped stone debitage, and faunal remains. The faunal remains are mainly elements of a single toad, most likely a natural intrusion. Unburned construction cobbles (n = 45) and a 20 by 20 cm tabular sandstone fragment accompanied the light refuse.

A partial bowl (Vessel 6) was represented by 10 articulated sherds typed as Pueblo II black-on-white (n = 8) and plain gray (2). The bowl, which was 35 percent complete, had a rim diameter of 20 cm. The

presence of crushed igneous temper types the bowl as Mancos Black-on-white. The bowl was near the northeast wall of the cist and was apparently cached with the assemblage as a broken vessel.

A 95 percent complete jar (Vessel 7) consisted of seven plain gray body sherds and five fillet rim sherds. The vessel was articulated but fractured from the weight of the overlying fill (Fig. 14.10). The jar was centrally located in the north segment of the trench. The vessel had crushed igneous temper and was typed as Mummy Lake Gray. The exterior surface was well sooted, and the heavily abraded rim had a diameter of 15 cm. The vessel was apparently a retired cooking jar functioning as a storage container. The jar was full of raw selenite crystals (n = 96, weight = 493 g), possibly representing unprocessed white wash tint for wall plastering (Fig. 14.11). A pollen wash of the vessel produced a high amount of *Zea mays* pollen (1,635 grains).

Nine sherds were recovered from a Late Pueblo III pitcher (Vessel 15), accounting for 40 percent of the vessel. The pitcher was freshly broken by the backhoe and probably complete when deposited. The pitcher had sand temper and organic



Table 14.11. LA 37593, Extramural Areas 1 and 2, pottery types by feature; counts and percents.

Feature	Extramural Area 1										Extramural Area 2			Total		
	1 Pit		2 Storage		4 Fire Pit		5 Major Cist		6 Storage		7 Major Cist		10 Indeterminate			
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count		Col. %	Count
Fillet rim	-	-	5	1.8%	-	-	-	-	-	-	-	-	-	-	5	0.5%
Pueblo II corrugated	-	-	-	-	-	-	2	0.8%	3	1.3%	9	4.1%	-	-	14	1.3%
Pueblo II-III corrugated	-	-	3	1.1%	-	-	8	3.0%	2	0.9%	1	0.5%	2	2.9%	16	1.4%
Pueblo III corrugated	-	-	1	0.4%	-	-	-	-	-	-	2	0.9%	-	-	3	0.3%
Plain gray	8	20.0%	35	12.5%	1	9.1%	35	13.3%	9	4.0%	43	19.6%	-	-	131	11.8%
Corrugated gray	23	57.5%	148	52.9%	8	72.7%	158	59.8%	101	45.1%	114	52.1%	45	64.3%	597	53.9%
Red Mesa-style black-on-white	-	-	-	-	-	-	1	0.4%	-	-	-	-	-	-	1	0.1%
Pueblo II black-on-white	2	5.0%	15	5.4%	-	-	2	0.8%	12	5.4%	8	3.7%	1	1.4%	40	3.6%
Sosi-style black-on-white	-	-	-	-	-	-	1	0.4%	-	-	-	-	-	-	1	0.1%
Dogozhi-style black-on-white	-	-	1	0.4%	-	-	4	1.5%	8	3.6%	4	1.8%	2	2.9%	19	1.7%
Chaco-style black-on-white	-	-	-	-	-	-	-	-	0.4	0.2%	-	-	-	-	0.1	0.0%
Early Pueblo III black-on-white	-	-	1	0.4%	-	-	2	0.8%	-	-	-	-	-	-	3	0.3%
Late Pueblo III black-on-white	-	-	9	3.2%	-	-	-	-	-	-	-	-	-	-	9	0.8%
Pueblo II-III black-on-white	2	5.0%	35	12.5%	2	18.2%	21	8.0%	28	12.5%	13	5.9%	13	18.6%	114	10.3%
Pueblo III black-on-white	-	-	-	-	-	-	1	0.4%	-	-	-	-	-	-	1	0.1%
Painted black-on-white	-	-	-	-	-	-	-	-	1	0.4%	-	-	-	-	1	0.1%
Polished white	2	5.0%	21	7.5%	-	-	24	9.1%	43	19.2%	23	10.5%	6	8.6%	119	10.7%
Polished black-on-white	1	2.5%	4	1.4%	-	-	4	1.5%	13	5.8%	2	0.9%	1	1.4%	25	2.3%
Squiggle hachure black-on-white	-	-	1	0.4%	-	-	1	0.4%	1	0.4%	-	-	-	-	3	0.3%
Mesa Verde Bluff Black-on-red	-	-	1	0.4%	-	-	-	-	-	-	-	-	-	-	1	0.1%
Mesa Verde Deadmans Black-on-red	2	5.0%	-	-	-	-	-	-	2	0.9%	-	-	-	-	4	0.4%
<b>Total</b>	<b>40</b>	<b>100.0%</b>	<b>280</b>	<b>100.0%</b>	<b>11</b>	<b>100.0%</b>	<b>264</b>	<b>100.0%</b>	<b>224</b>	<b>100.0%</b>	<b>219</b>	<b>100.0%</b>	<b>70</b>	<b>100.0%</b>	<b>1108</b>	<b>100.0%</b>

Table 14.12. LA 37593, Extramural Areas 1 and 2, vessel forms by feature and ware group; counts and percents.

Feature	Extramural Area 1										Extramural Area 2		Total			
	1 Pit		2 Storage		4 Fire Pit		5 Major Cist		6 Storage		7 Major Cist			10 Indeterminate		
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %		Count	Col. %	
<b>Gray Ware</b>																
Bowl body	-	-	2	0.7%	-	-	-	-	-	-	-	-	-	-	2	0.2%
Cooking, storage rim	3	7.5%	11	3.9%	2	18.2%	18	6.8%	8	3.6%	15	6.8%	2	2.9%	59	5.3%
Necked jar body	1	2.5%	22	7.9%	-	-	37	14.0%	12	5.4%	18	8.2%	5	7.1%	95	8.6%
Jar body	27	67.5%	157	56.1%	7	63.6%	147	55.7%	95	42.4%	136	62.1%	40	57.1%	609	55.0%
Ladle handle	-	-	-	-	-	-	1	0.4%	-	-	-	-	-	-	1	0.1%
<b>White Ware</b>																
Indeterminate	-	-	1	0.4%	-	-	1	0.4%	3	1.3%	-	-	1	1.4%	6	0.5%
Bowl rim	1	2.5%	9	3.2%	1	9.1%	4	1.5%	11	4.9%	5	2.3%	4	5.7%	35	3.2%
Bowl body	3	7.5%	26	9.3%	1	9.1%	25	9.5%	34	15.2%	21	9.6%	10	14.3%	120	10.8%
Seed jar rim	-	-	-	-	-	-	-	-	1	0.4%	-	-	-	-	1	0.1%
Olla rim	-	-	1	0.4%	-	-	-	-	2	0.9%	-	-	-	-	3	0.3%
Olla neck	-	-	1	0.4%	-	-	-	-	-	-	-	-	-	-	1	0.1%
Pitcher	-	-	9	3.2%	-	-	-	-	-	-	-	-	-	-	9	0.8%
Necked jar body	-	-	-	-	-	-	1	0.4%	4	1.8%	-	-	-	-	5	0.5%
Jar body	2	5.0%	34	12.1%	-	-	27	10.2%	49	21.9%	23	10.5%	8	11.4%	143	12.9%
Ladle	1	2.5%	-	-	-	-	2	0.8%	1	0.4%	1	0.5%	-	-	5	0.5%
Ladle bowl	-	-	4	1.4%	-	-	-	-	1	0.4%	-	-	-	-	5	0.5%
Ladle handle	-	-	-	-	-	-	-	-	1	0.4%	-	-	-	-	1	0.1%
Open gourd dipper	-	-	2	0.7%	-	-	1	0.4%	-	-	-	-	-	-	3	0.3%
<b>Red Ware</b>																
Bowl rim	-	-	1	0.4%	-	-	-	-	-	-	-	-	-	-	1	0.1%
Bowl body	2	5.0%	-	-	-	-	-	-	2	0.9%	-	-	-	-	4	0.4%
<b>Total</b>	<b>40</b>	<b>100.0%</b>	<b>280</b>	<b>100.0%</b>	<b>11</b>	<b>100.0%</b>	<b>264</b>	<b>100.0%</b>	<b>224</b>	<b>100.0%</b>	<b>219</b>	<b>100.0%</b>	<b>70</b>	<b>100.0%</b>	<b>1108</b>	<b>100.0%</b>

Table 14.13. LA 37593, Extramural Areas 1 and 2, clipped stone tool types by feature, counts and percents.

Feature	Extramural Area 1										Extramural Area 2		Total			
	1 Pit		2 Storage		4 Fire Pit		5 Major Cist		6 Storage		7 Major Cist		10 Indeterminate		Count	Col. %
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %		
Debitage	13	92.9%	50	94.3%	2	100.0%	44	77.2%	80	84.2%	48	76.2%	21	87.5%	258	83.8%
Core	-	-	3	5.7%	-	-	44	77.2%	5	5.3%	2	3.2%	2	8.3%	16	5.2%
Retouched, utilized debitage	-	-	-	-	-	-	5	8.8%	9	9.5%	8	12.7%	1	4.2%	23	7.5%
Retouched, utilized core	1	7.1%	-	-	-	-	1	1.8%	1	1.1%	-	-	-	-	3	1.0%
Drill	-	-	-	-	-	-	1	1.8%	-	-	-	-	-	-	1	0.3%
Denticulate	-	-	-	-	-	-	2	3.5%	-	-	-	-	-	-	2	0.6%
Hammerstone	-	-	-	-	-	-	-	-	-	-	4	6.3%	-	-	4	1.3%
Hammerstone flake	-	-	-	-	-	-	-	-	-	-	1	1.6%	-	-	1	0.3%
<b>Total</b>	<b>14</b>	<b>100.0%</b>	<b>53</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>57</b>	<b>100.0%</b>	<b>95</b>	<b>-</b>	<b>63</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>308</b>	<b>100.0%</b>

paint, and was typed as McElmo Black-on-white. All nine Late Pueblo III sherds from the site are from this pitcher. The association with the cache suggests a Late Pueblo III affiliation for the assemblage.

The basket assemblage represents a rare occurrence of these infrequently preserved artifacts (Figs. 14.12a, 14.12b). The poorly preserved baskets survived primarily as soil imprints, and full recovery and preservation was not possible. However, Eric Blinman was able to make some field observations and retrieved several samples of the imprints. Blinman distinguished nine separate baskets including four shallow bowls, three steep-sided bowls, and two indeterminate types. Sheared edges showed that the backhoe had removed additional baskets, but these imprints are essentially invisible to backhoe monitoring. One basket was from the north segment of the cist, and the remaining eight were clustered around the remaining 30 cm wide arc around the south perimeter. There were two instances of baskets stacked within baskets. Two shallow bowls had diameters of 12 cm and 25-30 cm, but dimensions were generally incomplete. One, two, and perhaps three rod foundations were recorded. Stitch width was consistently about 1.0 mm, and observed stitch frequency ranged from 4.2 to 6.5 per cm. Two complete two-hand manos were beneath the cluster of baskets, but otherwise there was no evidence of contents.

The floor fill consisted of a 5 cm thick layer of fine alluvial sediment extending from 2.20 to 2.25 m below the surface. The silty sediment was finely laminated and contained numerous drying cracks. The layer indicates that water collected, pooled, and dried in the cist, accumulating a 5 cm thick layer. The fill contained infrequent flecks of charcoal, and artifact content was low, including one piece of chipped stone debitage, a two-hand mano, and five faunal elements. The cached artifacts were resting essentially on top of the fine alluvial floor fill, but there was indication that baskets were actually floated by pooling in the cist. The two-hand mano found in the floor fill is probably associated with the cached assemblage. This mano along with a similar mano from the cache were distinctively shorter than the other manos, and they evidenced surface wear in the form of soft abrasion. The artifacts may have been used for activities other than grinding, such as hide processing. There were no artifacts directly in contact with the natural, unprepared floor of the

Table 14.14. LA 37593, Extramural Area 1, ground stone tool types by feature; counts and percents.

Feature	1 Pit		2 Storage		4 Fire Pit		5 Major Cist		6 Storage		7 Major Cist		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Pottery polishing stone	–	–	–	–	–	–	–	–	1	14.3%	–	–	1	2.9%
Plaster polishing stone	–	–	–	–	–	–	–	–	2	28.6%	–	–	2	5.7%
Shaped slab	–	–	–	–	–	–	–	–	1	14.3%	1	14.3%	2	5.7%
Jar cover	–	–	–	–	–	–	–	–	1	14.3%	–	–	1	2.9%
Mano	–	–	–	–	–	–	1	50.0%	–	–	–	–	1	2.9%
One-hand mano	–	–	–	–	–	–	–	–	2	28.6%	–	–	2	5.7%
Two-hand mano	2	25.0%	4	40.0%	–	–	1	50.0%	–	–	1	14.3%	8	22.9%
Two-hand trough mano	1	12.5%	–	–	–	–	–	–	–	–	–	–	1	2.9%
Two-hand slab mano	4	50.0%	2	20.0%	–	–	–	–	–	–	3	42.9%	9	25.7%
Two-hand loaf mano	1	12.5%	–	–	–	–	–	–	–	–	–	–	1	2.9%
Slab metate	–	–	3	30.0%	1	100.0%	–	–	–	–	2	28.6%	6	17.1%
Tchamahia	–	–	1	10.0%	–	–	–	–	–	–	–	–	1	2.9%
<b>Total</b>	<b>8</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>35</b>	<b>100.0%</b>

N = count

Table 14.15. LA 37593, Extramural Area 1, faunal remains by feature; counts and percents.

Feature	2 Storage		5 Major Cist		6 Storage		7 Major Cist		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Prairie dog	–	–	–	–	–	–	1	0.4%	1	0.2%
Small squirrel	1	2.0%	–	–	–	–	3	1.1%	4	0.7%
Pocket gopher	–	–	–	–	–	–	4	1.5%	4	0.7%
Banner-tailed kangaroo rat	–	–	–	–	–	–	195	73.0%	195	35.2%
Mouse	–	–	–	–	–	–	22	8.2%	22	4.0%
Woodrat	–	–	–	–	1	5.3%	–	–	1	0.2%
Rodent	–	–	–	–	–	–	6	2.2%	6	1.1%
Cottontail rabbit	–	–	–	–	1	5.3%	–	–	1	0.2%
Jackrabbit	2	3.9%	–	–	–	–	1	–	3	0.5%
Dog, coyote, wolf	–	–	–	–	–	–	5	1.9%	5	0.9%
Dog, coyote, fox, wolf	–	–	1	0.5%	–	–	–	–	1	0.2%
Deer	2	3.9%	1	0.5%	2	10.5%	–	–	5	0.9%
Mammal	–	–	–	–	–	–	1	0.4%	1	0.2%
Small mammal	4	7.8%	22	10.1%	5	26.3%	8	3.0%	39	7.0%
Medium–large mammal	1	2.0%	–	–	–	–	1	0.4%	2	0.4%
Large mammal	2	3.9%	3	1.4%	6	31.6%	8	3.0%	19	3.4%
Rough-legged hawk	–	–	124	57.1%	–	–	–	–	124	22.4%
Turkey	1	2.0%	1	0.5%	1	5.3%	2	0.7%	5	0.9%
Bird	1	2.0%	33	15.2%	2	10.5%	–	–	36	6.5%
Nonvenomous snake	–	–	6	2.8%	–	–	–	–	6	1.1%
Bullsnake	–	–	7	3.2%	–	–	–	–	7	1.3%
Toad and frog	36	70.6%	–	–	1	5.3%	9	3.4%	46	8.3%
Bird eggshell	1	2.0%	19	8.8%	–	–	1	0.4%	21	3.8%
<b>Total</b>	<b>51</b>	<b>100.0%</b>	<b>217</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>	<b>267</b>	<b>100.0%</b>	<b>554</b>	<b>100.0%</b>



Table 14.16. LA 37593, Burials 1–4, pottery types by burial; sherd counts and percents.

	Burial 1		Burial 2		Burial 3		Burial 4		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Pueblo II corrugated	–	–	–	–	–	–	1	2.0%	1	0.4%
Plain gray	–	–	–	–	–	–	5	10.2%	5	1.9%
Corrugated gray	–	–	–	–	–	–	18	36.7%	18	6.8%
Pueblo II black-on-white	–	–	–	–	–	–	1	2.0%	1	0.4%
Dogoszhi-style black-on-white	–	–	–	–	–	–	1	2.0%	1	0.4%
Pueblo II–III black-on-white	–	–	–	–	2	1.3%	11	22.4%	13	4.9%
Polished white	–	–	–	–	–	–	10	20.4%	10	3.8%
Polished black-on-white	–	–	–	–	1	0.7%	2	4.1%	3	1.1%
Mancos Corrugated	–	–	8	12.9%	2	1.3%	–	–	10	3.8%
Dolores Corrugated	–	–	–	–	64	42.4%	–	–	64	24.3%
Mesa Verde Plain Gray	–	–	27	43.5%	16	10.6%	–	–	43	16.3%
Mesa Verde Corrugated Gray	–	–	25	40.3%	48	31.8%	–	–	73	27.8%
Cortez Black-on-white	–	–	–	–	1	0.7%	–	–	1	0.4%
Mancos Black-on-white	1	100.0%	2	3.2%	2	1.3%	–	–	5	1.9%
McElmo Black-on-white	–	–	–	–	2	1.3%	–	–	2	0.8%
Mesa Verde Pueblo II–III Black-on-white	–	–	–	–	1	0.7%	–	–	1	0.4%
Mesa Verde Polished White	–	–	–	–	8	5.3%	–	–	8	3.0%
Mesa Verde Polished Black-on-white	–	–	–	–	3	2.0%	–	–	3	1.1%
Mancos Black-on-white (squiggle hachure)	–	–	–	–	1	0.7%	–	–	1	0.4%
<b>Total</b>	<b>1</b>	<b>100.0%</b>	<b>62</b>	<b>100.0%</b>	<b>151</b>	<b>100.0%</b>	<b>49</b>	<b>100.0%</b>	<b>263</b>	<b>100.0%</b>

N = count

Table 14.17. LA 37593, Burials 1–4, vessel forms by burial and ware group; sherd counts and percents.

	Burial 1		Burial 2		Burial 3		Burial 4		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Gray Ware</b>										
Cooking, storage rim	–	–	8	12.9%	12	7.9%	1	2.0%	21	8.0%
Necked jar body	–	–	1	1.6%	25	16.6%	7	14.3%	33	12.5%
Jar body	–	–	51	82.3%	92	60.9%	16	32.7%	159	60.5%
Ladle handle	–	–	–	–	1	0.7%	–	–	1	0.4%
<b>White Ware</b>										
Bowl rim	–	–	1	1.6%	3	2.0%	3	6.1%	7	2.7%
Bowl body	–	–	1	1.6%	4	2.6%	8	16.3%	13	4.9%
Necked jar body	–	–	–	–	–	–	2	4.1%	2	0.8%
Jar body	–	–	–	–	12	7.9%	12	24.5%	24	9.1%
Ladle	1	100.0%	–	–	1	0.7%	–	–	2	0.8%
Open gourd dipper	–	–	–	–	1	0.7%	–	–	1	0.4%
<b>Total</b>	<b>1</b>	<b>100.0%</b>	<b>62</b>	<b>100.0%</b>	<b>151</b>	<b>100.0%</b>	<b>49</b>	<b>100.0%</b>	<b>263</b>	<b>100.0%</b>
<b>Paint Type</b>										
None	–	–	–	–	8	38.1%	10	40.0%	18	36.7%
Organic	1	100.0%	–	–	3	14.3%	3	12.0%	7	14.3%
Mineral	–	–	2	100.0%	10	47.6%	12	48.0%	24	49.0%
<b>Total</b>	<b>1</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>21</b>	<b>100.0%</b>	<b>25</b>	<b>100.0%</b>	<b>49</b>	<b>100.0%</b>

Table 14.18. LA 37593, Burials 2–4, chipped stone material and tool type by burial; counts and percents.

	Burial 2		Burial 3		Burial 4		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Material Type</b>								
Chert	4	25.0%	10	35.7%	1	11.1%	15	28.3%
Chalcedony	–	–	2	7.1%	–	–	2	3.8%
Silicified wood	2	12.5%	5	17.9%	–	–	7	13.2%
Quartzite	1	6.3%	1	3.6%	–	–	2	3.8%
Quartzitic sandstone	1	6.3%	2	7.1%	2	22.2%	5	9.4%
Sandstone	2	12.5%	–	–	1	11.1%	3	5.7%
Siltstone	6	37.5%	8	28.6%	5	55.6%	19	35.8%
<b>Total</b>	<b>16</b>	<b>100.0%</b>	<b>28</b>	<b>100.0%</b>	<b>9</b>	<b>100.0%</b>	<b>53</b>	<b>100.0%</b>
<b>Tool Type</b>								
Debitage	13	81.3%	21	75.0%	5	55.6%	39	73.6%
Core	–	–	3	10.7%	2	22.2%	5	9.4%
Retouched, utilized debitage	2	12.5%	1	3.6%	–	–	3	5.7%
Retouched, utilized core	–	–	–	–	1	11.1%	1	1.9%
Drill	–	–	1	3.6%	–	–	1	1.9%
Denticulate	–	–	2	7.1%	–	–	2	3.8%
Hammerstone	–	–	–	–	1	11.1%	1	1.9%
Hammerstone flake	1	6.3%	–	–	–	–	1	1.9%
<b>Total</b>	<b>16</b>	<b>100.0%</b>	<b>28</b>	<b>100.0%</b>	<b>9</b>	<b>100.0%</b>	<b>53</b>	<b>100.0%</b>

Table 14.19. LA 37593, ground stone tools associated with primary burials; summary table.

Burial	Tool Type	Material	Length (mm)	Completeness*	Width (mm)	Completeness	Thickness (mm)	Completeness	Weight (g)
2	two-hand slab mano	sandstone	221.0	1	113.0	1	39.0	1	1600.0
2	two-hand slab mano	sandstone	211.0	1	125.0	1	71.0	1	3000.0
2	slab metate	sandstone	205.0	0	212.0	0	15.0	1	1150.0
4	two-hand mano	sandstone	257.0	1	122.0	1	51.0	1	2300.0

\*Completeness: 1 = whole dimension; 0 = incomplete

cist. A pollen sample scraped from the floor contained high amounts of *Zea mays* pollen (adjusted value of 175.7 grains/g).

This major storage cist, the latest feature on the site, is one of two intrusive Pueblo III features. We interpreted its use-history as follows: The feature was excavated after the primary Late Pueblo II abandonment judging from the truncation of the two extramural features, the undercutting nature of the cist wall beneath the south wall of Room 101, and the ca. AD 1131 roof beam. Floor pollen

suggests it was originally used to store corn. This function continued for an unknown time, while fine sediment accumulated on the floor. The storage function may have occurred over a short period considering the general paucity of Pueblo III artifacts on the site, and the users must have lived elsewhere in the nearby community. Finally, implements were cached in the cist with the intention of retrieving them later. The McElmo Black-on-white vessel suggests this was a Pueblo III event. An admittedly imaginative scenario envisions emigrants

Table 14.20. LA 37593, Burials 1–4, faunal remains, taxon by burial; counts and percents.

	Burial 1		Burial 2		Burial 3		Burial 4		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Prairie dog	1	100.0%	–	–	–	–	–	–	1	0.2%
Small squirrel	–	–	3	1.2%	–	–	–	–	3	0.6%
Pocket gopher	–	–	4	1.6%	–	–	–	–	4	0.9%
Banner-tailed kangaroo rat	–	–	195	76.5%	–	–	–	–	195	42.2%
Mouse	–	–	22	8.6%	–	–	–	–	22	4.8%
Rodent	–	–	6	2.4%	–	–	–	–	6	1.3%
Cottontail rabbit	–	–	–	–	–	–	2	9.1%	2	0.4%
Jackrabbit	–	–	1	0.4%	–	–	1	4.5%	2	0.4%
Dog, coyote, fox, wolf	–	–	–	–	1	0.5%	1	4.5%	2	0.4%
Deer	–	–	–	–	–	–	2	9.1%	2	0.4%
Mammal	–	–	1	0.4%	–	–	–	–	1	0.2%
Small mammal	–	–	8	3.1%	22	12.0%	7	31.8%	37	8.0%
Medium–large mammal	–	–	–	–	–	–	2	9.1%	2	0.4%
Large mammal	–	–	5	2.0%	–	–	1	4.5%	6	1.3%
Rough-legged hawk	–	–	–	–	124	67.4%	–	–	124	26.8%
Turkey	–	–	1	0.4%	–	–	3	13.6%	4	0.9%
Bird	–	–	–	–	30	16.3%	3	13.6%	33	7.1%
Bullsnake	–	–	–	–	7	3.8%	–	–	7	1.5%
Toad and frog	–	–	8	3.1%	–	–	–	–	8	1.7%
Bird eggshell	–	–	1	0.4%	–	–	–	–	1	0.2%
<b>Total</b>	<b>1</b>	<b>100.0%</b>	<b>255</b>	<b>100.0%</b>	<b>184</b>	<b>100.0%</b>	<b>22</b>	<b>100.0%</b>	<b>462</b>	<b>100.0%</b>

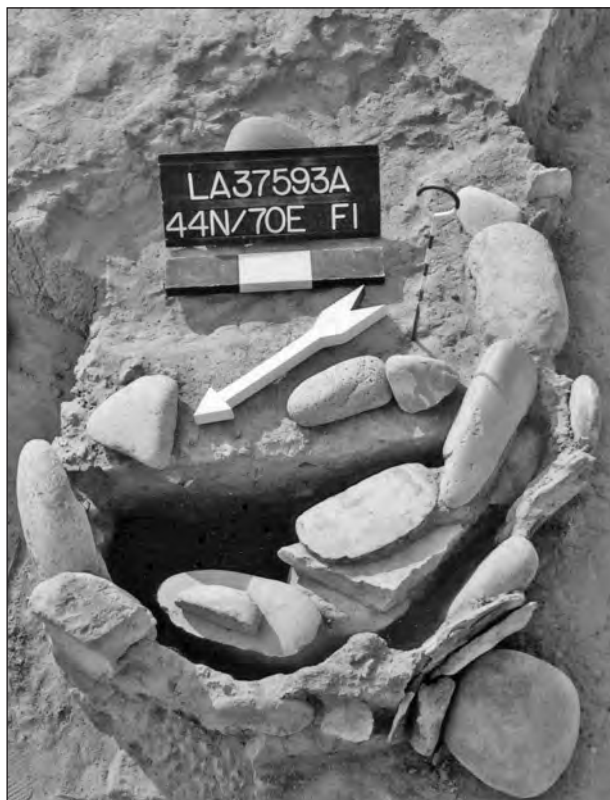


Figure 14.7. LA 37593, Extramural Area 1, Feature 1 (overlying Feature 4), view southeast.

of the Great Abandonment preparing to leave the area, but with hopeful thoughts of return and house renewal. In any event, the cached assemblage was not retrieved, the roof rotted away, additional pooling occurred, and finally the 2 m cavity filled with general Late Pueblo II refuse from the nearby area of the deteriorating roomblock.

**Roasting facility (Feature 3).** A small roasting facility was discovered in Extramural Area 1 in hand trench 37N/66E at a depth of 1.10 m below the surface. Feature 3 was the deepest extramural feature encountered, and the depth is an anomaly. The feature was just outside the north wall of Pit Structure 1; there was no evidence of an associated activity surface. The upper portion of the roasting facility was removed during excavation of the hand trench before the stained soil was recognized as a feature. The remaining lower fill was ashy sand with charcoal flecks concentrated at the bottom. The sides and bottom were oxidized with about a 2 cm rind showing use as a roasting facility. No artifacts were associated with the feature. Sherds from the hand trench were Late Pueblo II types, characteristic of the lower cultural fill. The feature was probably affiliated with the Late Pueblo II ceramic

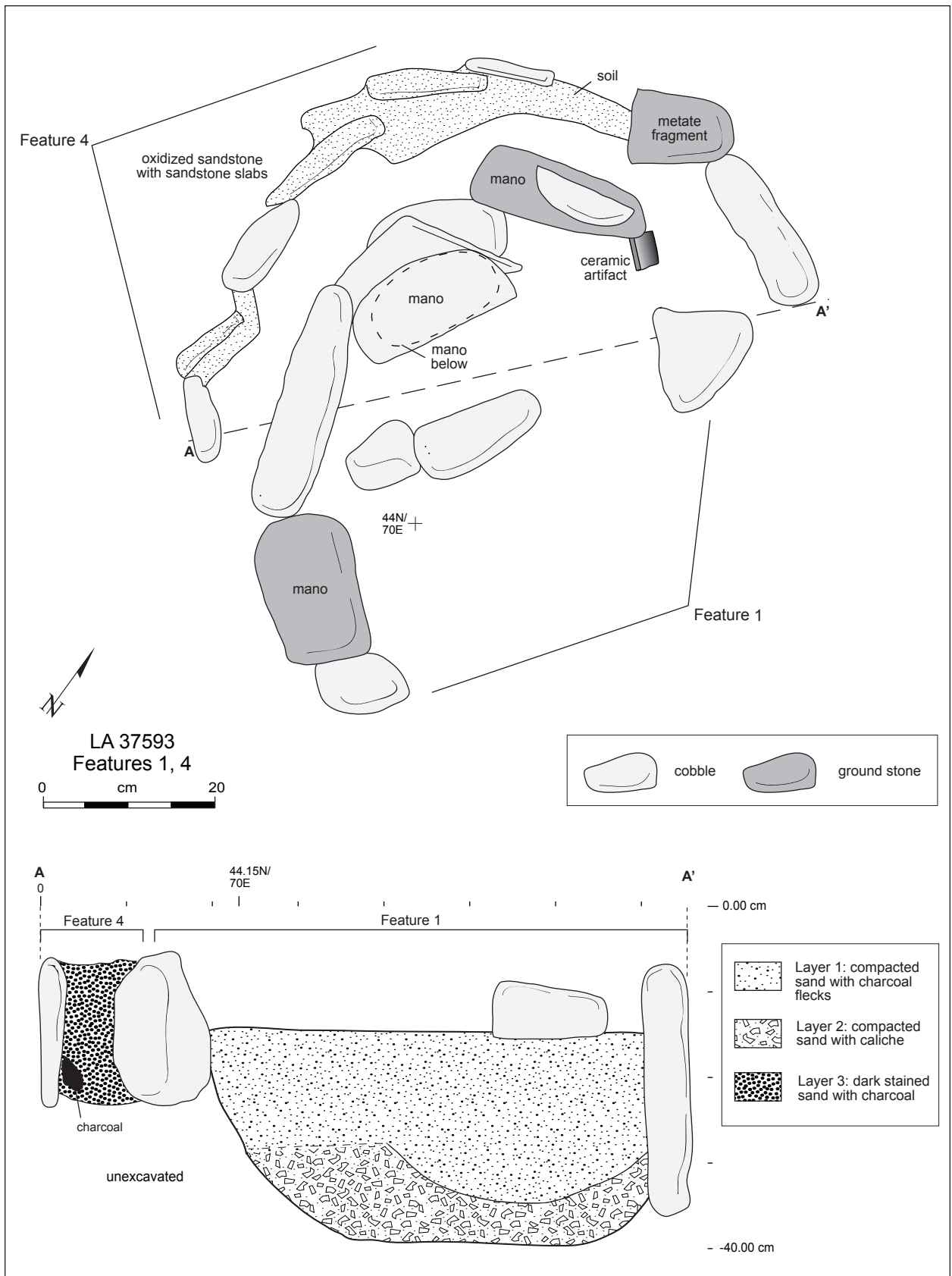


Figure 14.8. LA 37593, Extramural Area 1, Features 1 and 4, plan and profile.



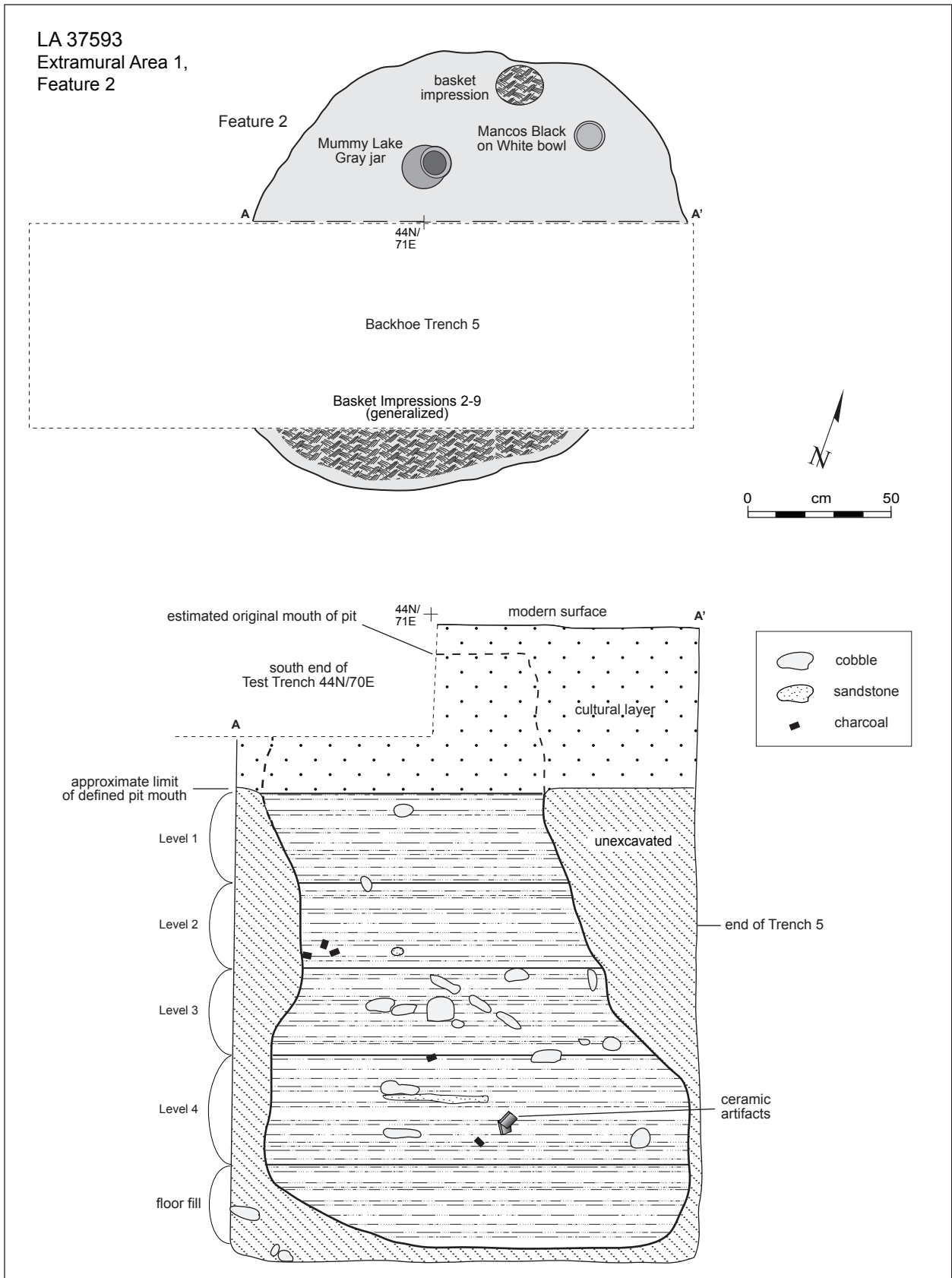


Figure 14.9. LA 37593, Extramural Area 1, Feature 2 (major storage cist), plan and profile.

Table 14.21. LA 37593, whole vessels by sherd group and stratigraphic context; summary table.

FS	Vessel	Pottery Type	Vessel Form	Sherd Count	Weight (g)	Radius (mm)	Paint/Burial
<b>Floor 1, Pit Structure 1</b>							
408	1	Mesa Verde Painted Black-on-white	Olla rim	1	2.0	–	mineral
408	1	Mesa Verde Painted Black-on-white	Jar body	23	103.0	–	–
408	1	Mesa Verde Painted Black-on-white	Jar body	1	90.0	–	–
408	1	Mesa Verde Painted Black-on-white	Storage rim: corrugated	1	76.0	40.0	–
408	1	Mesa Verde Painted Black-on-white	Necked jar body	2	30.0	–	–
408	1	Mesa Verde Painted Black-on-white	Necked jar body	1	42.0	–	–
408	1	Mesa Verde Painted Black-on-white	Jar body	2	91.0	–	–
408	1	Mesa Verde Painted Black-on-white	Jar body	19	350.0	–	–
408	1	Corrugated gray	Necked jar body	2	4.0	–	–
	<b>Total</b>			<b>52</b>	<b>788.0</b>		
413	2	Mesa Verde Corrugated Gray	Cooking, storage rim	4	288.0	60.0	–
413	2	Mesa Verde Corrugated Gray	Jar body	17	114.0	–	–
413	2	Mesa Verde Corrugated Gray	Necked jar body	4	74.0	–	–
	<b>Total</b>			<b>25</b>	<b>476.0</b>		
408	3	Dolores Corrugated	Cooking, storage rim	1	69.0	–	–
408	3	Mesa Verde Corrugated Gray	Necked jar body	5	157.0	–	–
408	3	Mesa Verde Corrugated Gray	Jar body	43	247.0	–	–
408	3*	Plain gray	Jar body	30	231.0	–	–
408	3*	Plain gray	Jar body	3	67.0	–	–
	<b>Total</b>			<b>82</b>	<b>771.0</b>		
<b>Floor 1, Feature 9 (major off-chamber cist)</b>							
444	4	Mancos Black-on-white	Jar body	1	40.0	–	mineral
444	4	Mancos Black-on-white	Jar body	1	192.0	–	–
444	4	Mesa Verde Polished Black-on-white	Jar body	2	46.0	–	–
444	4	Mesa Verde Polished White	Jar body	3	234.0	–	–
	<b>Total</b>			<b>7</b>	<b>512.0</b>		
<b>Extramural Area 1, Feature 2</b>							
731	6	Mancos Black-on-white	Bowl rim	3	100.0	100.0	mineral
731	6	Mancos Black-on-white	Bowl body	5	84.0	–	–
731	6	Mesa Verde Plain Gray	Bowl body	2	10.0	–	–
	<b>Total</b>			<b>10</b>	<b>194.0</b>		
731	7	Mummy Lake Gray	Cooking, storage rim	5	600.0	70.0	–
731	7	Mesa Verde Plain Gray	Jar body	11	410.0	–	–
	<b>Total</b>			<b>16</b>	<b>1010.0</b>		
703	15	Late Pueblo III black-on-white	Pitcher	7	196.0	–	organic
703	15	Late Pueblo III black-on-white	Pitcher	1	7.0	40.0	–
703	15	Late Pueblo III black-on-white	Pitcher	1	23.0	–	–
	<b>Total</b>			<b>9</b>	<b>226.0</b>		
<b>Extramural Area 1, Feature 5</b>							
735	14	Dolores Corrugated	Jar body	49	864.0	–	–
735	14	Dolores Corrugated	Necked jar body	7	40.0	–	–
735	14	Dolores Corrugated	Cooking, storage rim	4	109.0	80.0	–
	<b>Total</b>			<b>60</b>	<b>1013.0</b>		
735	18	McElmo Black-on-white	Ladle	1	132.0	50.0	Burial 3/organic
<b>Extramural Area 1, Feature 7</b>							
756	5	Mancos Corrugated	Cooking, storage rim	8	1544.0	–	Burial 2
756	5	Mesa Verde Corrugated Gray	Necked jar body	1	134.0	–	–
756	5	Mesa Verde Corrugated Gray	Jar body	21	550.0	–	–
756	5	Mesa Verde Plain Gray	Jar body	27	145.0	–	–
	<b>Total</b>			<b>57</b>	<b>2573.0</b>		

Table 14.21 (continued)

FS	Vessel	Pottery Type	Vessel Form	Sherd Count	Weight (g)	Radius (mm)	Paint/Burial
780	8	Mancos Black-on-white	Ladle	1	115.0	45.0	Burial 1/organic
756	9	Mancos Black-on-white	Bowl rim	1	68.0	70.0	Burial 2
756	9	Mancos Black-on-white	Bowl body	1	88.0	–	mineral
	<b>Total</b>			<b>2</b>	<b>156.0</b>		
756	10	Mesa Verde Corrugated Gray	Jar body	3	215.0	–	–
<b>Room 101, Floor 1</b>							
606	12	Mesa Verde Corrugated Gray	Necked jar body	49	315.0	–	–
606	12	Mesa Verde Corrugated Gray	Jar body	77	348.0	–	–
606	12	Dolores Corrugated	Cooking, storage rim	10	130.0	125.0	–
	<b>Total</b>			<b>136</b>	<b>793.0</b>		
602	13	Mesa Verde Corrugated Gray	Necked jar body	11	128.0	–	–
602	13	Mesa Verde Corrugated Gray	Jar body	28	245.0	–	–
602	13	Dolores Corrugated	Cooking, storage rim	8	154.0	125.0	–
	<b>Total</b>			<b>47</b>	<b>527.0</b>		
604	19	Dolores Corrugated	Jar body	59	552.0	–	–
604	19	Dolores Corrugated	Necked jar body	33	355.0	–	–
604	19	Dolores Corrugated	Cooking, storage rim	10	70.0	125.0	–
	<b>Total</b>			<b>102</b>	<b>977.0</b>		
605	20	Mesa Verde Polished White	Jar body	6	24.0	–	organic
605	20	Mesa Verde Polished White	Bowl body	1	3.0	–	–
605	20	Mesa Verde Polished White	Necked jar body	1	6.0	–	–
605	20	Mesa Verde Polished White	Jar body	4	86.0	–	–
605	20	Mesa Verde Plain Gray	Jar body	6	106.0	–	–
605	20	Mesa Verde Pueblo II–III Black-on-white	Jar body	81	169.0	–	–
605	20	Mesa Verde Pueblo II–III Black-on-white	Necked jar body	4	34.0	–	–
605	20	Mesa Verde Pueblo II–III Black-on-white	Jar body	5	89.0	–	–
605	20	Mesa Verde Pueblo II–III Black-on-white	Jar body	1	11.0	–	–
605	20	Mesa Verde Pueblo II–III Black-on-white	Jar body	1	6.0	–	–
	<b>Total</b>			<b>110</b>	<b>428.0</b>		
<b>Room 103, Floor 2</b>							
697	11	Dogoszhi Black-on-white	Bowl rim	1	518.0	90.0	–
785	16	Mesa Verde Pueblo II–III Black-on-white	Bird effigy	1	149.0	–	organic
698	17	Mancos Corrugated	Cooking, storage rim	7	83.0	110.0	–
698	17	Mesa Verde Corrugated Gray	Necked jar body	4	432.0	–	–
698	17	Mesa Verde Corrugated Gray	Necked jar body	3	282.0	–	–
698	17	Mesa Verde Corrugated Gray	Jar body	9	1713.0	–	–
698	17	Mesa Verde Corrugated Gray	Jar body	2	115.0	–	–
	<b>Total</b>			<b>25</b>	<b>2625.0</b>		

\*These sherds were coded as being from Vessel 1, but do not belong to it. It is assumed that they pertain to Vessel 3.



Figure 14.10. LA 37593, Extramural Area 1, Feature 2, Mummy Lake Gray jar (Vessel 7) in situ.



Figure 14.11. LA 37593, Extramural Area 1, Feature 2, Mummy Lake Gray jar (Vessel 7); right: selenite contents.

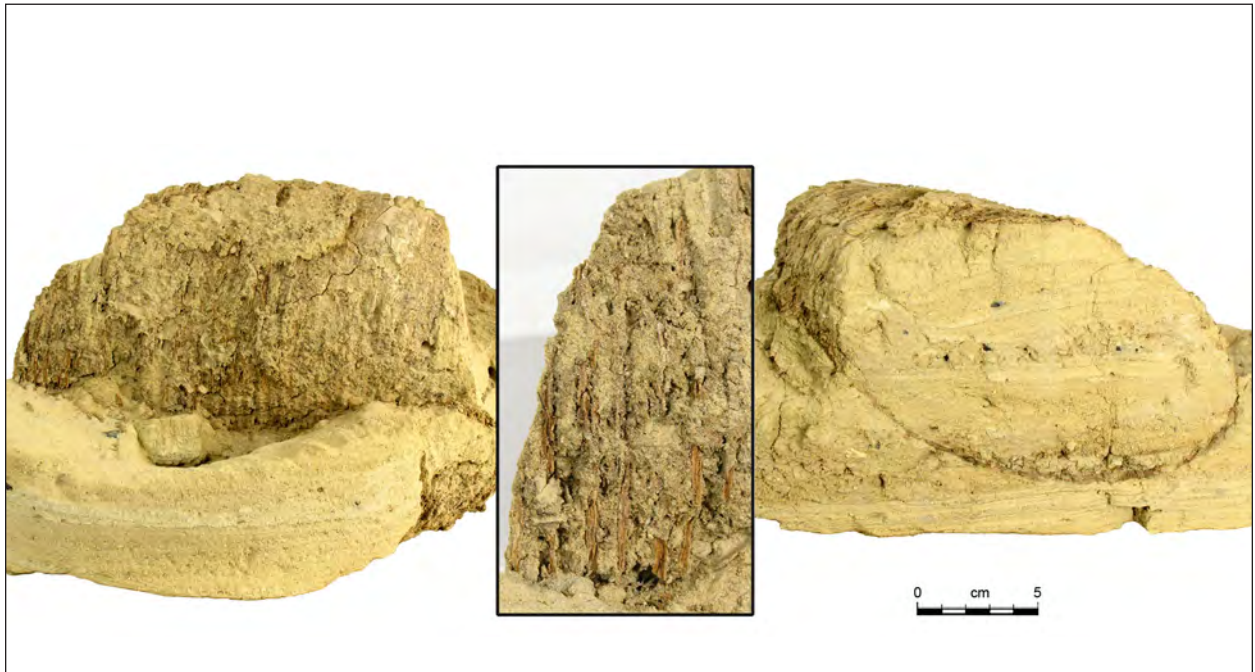


Figure 14.12a. LA 37593, Extramural Area 1, Feature 2, basket in situ; two views (left and right) and detail (center).



Figure 14.12b. LA 37593, Extramural Area 1, Feature 2, basket impression, detail.



component but was not assigned a specific age component because of the absence of directly associated artifacts.

**Fire pit (Feature 4).** This fire pit was just outside the southwest corner of Surface Room 101 and was uncovered during the excavation of roomblock-definition trench 44N/70E. The fire pit was the earliest in a sequence of three superimposed features (Figs. 14.7, 14.8). The majority of the fire pit was removed by the construction of a cobble-lined pit (Feature 1) and a later major storage cist (Feature 2) cut through the south half of both features.

The surviving northern segment was a cobble-lined circular pit. Dimensions were incomplete, but I estimate a diameter of about 75 cm and a depth of 20 cm. The northern edge was lined with upright cobbles, including one metate fragment. The unlined flat bottom was level with the cobble bases at a depth of 23 cm below the surface. The edge and bottom of the small surviving segment were lightly oxidized, indicating use as a thermal feature. The fire pit was apparently open at the time of abandonment, and the superimposed cobble-lined pit (Feature 1) followed a similar, but smaller, construction plan. The small amount of surviving fill consisted of dark charcoal-stained sand with abundant charcoal flecks. Artifacts included 11 sherds and 2 pieces of chert debitage. The fire pit may be affiliated with the Mid Pueblo II ceramic component, but it was not assigned a specific age component because of extreme mixing.

**Major storage cist (Feature 5; includes Burial 3).** This major storage cist was found 3 m west of Feature 2 and was discovered in the southwest corner of Backhoe Trench 5 (Fig. 14.13). These neighboring major storage cists shared similar dimensions and Pueblo III temporal affiliations. The floor dimensions of the major storage cist were complete, but the backhoe removed a 50 by 50 cm rectangular segment from the east edge. The original height of the feature was not established. The flat unprepared floor was at a depth of 1.95 m below the present surface, and 1 m tall walls were evident in the south and west trench profiles. The upper fill was removed by backhoe to safely excavate the deep undercut walls, and the cist mouth was not conclusively delineated. I expect that the original vertical dimension corresponded closely with that of nearby Feature 2, with the mouth occurring within about

10 cm of the present surface. This would suggest an original height of about 1.85 m and an estimated volume of 4,199 liters. The fill was divided into three depositional layers consisting of an initial layer of general fill, the interment of Burial 3, and a thin floor fill layer.

The general fill of Feature 5 was a 60 cm thick layer extending from the highest point of feature definition down to an arbitrary termination point 10 cm above Burial 3. The homogenous layer consisted of fine-grained sand with light cultural staining and charcoal flecks. Low-density refuse included ceramics, chipped stone artifacts, two manos, and faunal elements. Almost half ( $n = 20$ ) of the turkey elements from the site were from the general fill, but these consist mainly of eggshell ( $n = 19$ ). Construction material in the form of 98 unburned cobbles were mixed throughout the fill.

The general fill layer was arbitrarily divided at a depth of 1.50 m below the surface, about 10 cm above the burial. The burial mat was at a depth of 1.85 m below the surface. The 35 cm thick grave fill layer was essentially identical to the overlying general fill layer. The surrounding grave fill contained infrequent sherds, chipped stone artifacts, and faunal elements. These artifacts were considered grave fill rather than burial-related items. For example, the seven bull snake elements probably represent a natural intrusion, since six additional elements appeared in the higher general fill. Of interest, however, were the 30 bird bone elements. This is the second largest concentration of bird bone on the site, second only to the 50 bird bone elements found with the human bone layer in Pit Structure 1. A few construction cobbles were mixed throughout the fill but were not quantified in this layer. The general fill and grave fill covering is most accurately viewed as a single unit derived from mixed Late Pueblo deposits. Burial 3, the remains of a mature adult male (age 48), was placed near the center of the major storage cist. The backhoe had damaged the cranium, and postcranial bones were poorly preserved. The skull was broken by the backhoe, and bone was exposed in the west profile of the backhoe trench. The burial rested on what was probably a rectangular plaited rush mat measuring about 1 m by 70 cm wide. The poorly preserved mat consisted of fine decayed matter, and no soil impressions of the weave survived. The body rested on the spread mat but was not wrapped

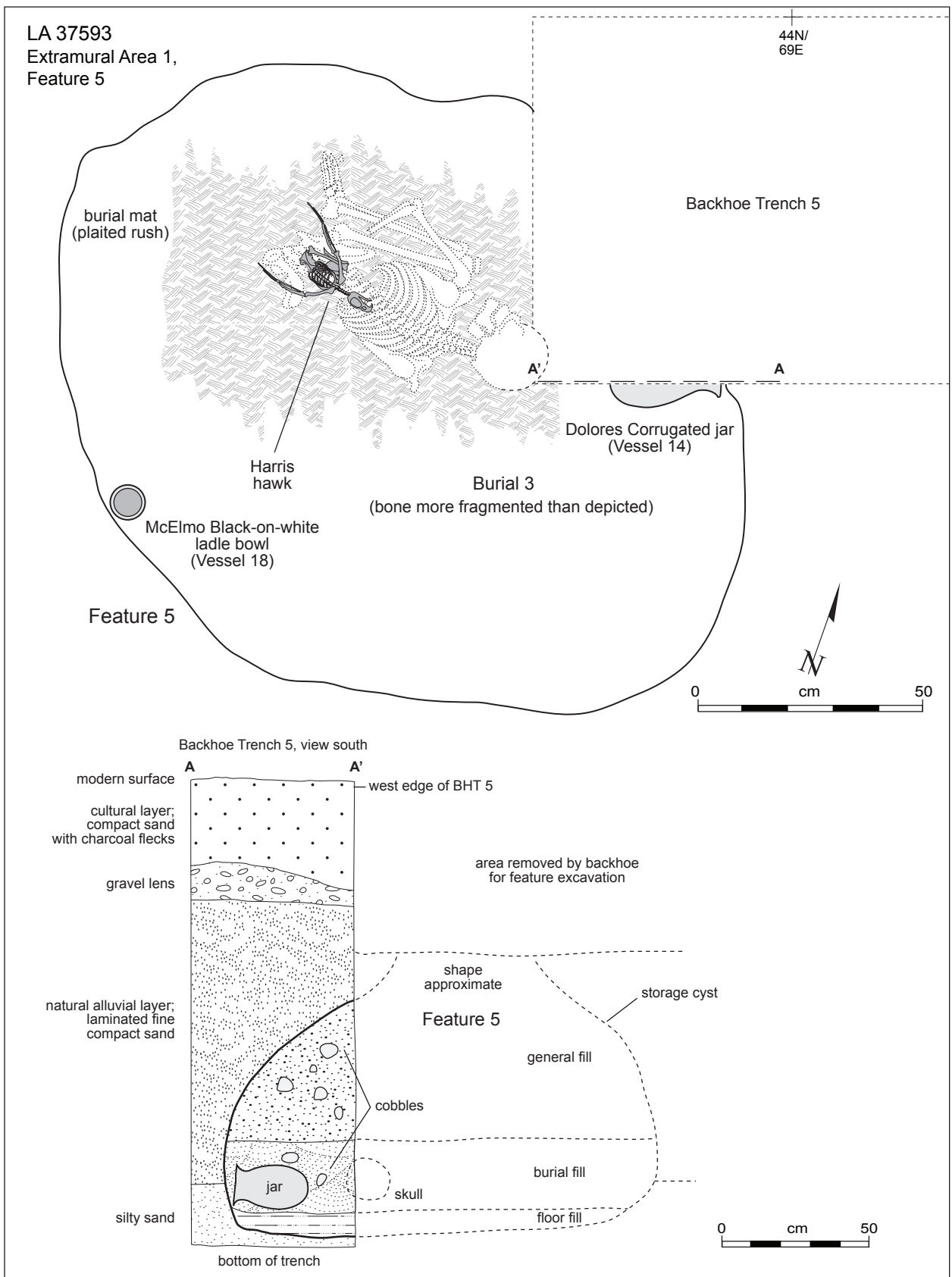


Figure 14.13. LA 37593, Extramural Area 1, Feature 5, Burial 3, with Backhoe Trench 5, plan and profile, view south.

in matting. The burial was chest down, with both legs tightly flexed under the body. Both arms were folded under the torso and across the stomach. The head faced downwards and toward the east (105 degrees along lumbar vertebra curving to 60 degrees at cranium). A pinch pollen sample from around the body revealed high amounts of cheno-am, *Sphaeralcea*, and *Zea mays* pollens.

Accompanying grave goods consisted of two ceramic vessels and a fully articulated Harris hawk. A McElmo Black-on-white ladle (Vessel 18) was 75 percent complete and represented by a single bowl sherd (Table 14.21). Most of the handle was missing, and the ladle bowl had light basal abrasion. The ladle was roughly polished, suggesting an early example of McElmo Black-on-white. The McElmo Black-on-white ladle suggests that the burial is associated with an Early Pueblo III site component. It was found away from the burial mat, against the southwest wall of the cist.

A reconstructible Pueblo II-III corrugated jar (Vessel 14) had 56 body and 4 rim sherds. The jar was broken by the backhoe and was probably a complete vessel when placed. The Dolores Corrugated jar had crushed igneous temper and was found off the burial mat against the east wall of the cist. The jar rested on its side with the rim toward the east wall and the base 20 cm from the skull. The jar had a rim diameter of 16 cm and was heavily sooted. There was no evidence of contents. A pollen wash from the jar contained low amounts of *Pinus* and cheno-am.

A fully articulated Harris hawk was placed over the lower lumbar vertebra. The wings stretched over the pelvis, and the beak rested on the spine just below the ribs. The talons were not present and had apparently been removed before the burial. Although raptor burials are reported in a number of Southwestern sites (Hill 2000:365-368), the association with a human burial is unusual. Raptor elements are remarkably scarce in the La Plata Highway collections, and the other instances occur as single elements in dispersed contexts, making this individual even more noteworthy. The Harris hawk inspired the Navajo interpretation of the burial as a Thunder Maker Priest, whom the Harris hawk served as his cloud messenger.

The floor fill of Feature 5 was a 10 cm thick layer of fine alluvial sediment extending from a depth of 1.85 m below the surface to floor contact at 1.95 m below the surface. Burial 3 was on top of the alluvial

sediment. The silty sediment was finely laminated and contained numerous drying cracks, attesting to the pooling of water in the cist. The floor fill was identical to the sediments covering the floor of the nearby major storage cist (Feature 2). The floor fill contained occasional flecks of charcoal, but no artifacts were recovered from fill or from the unprepared floor of the cist. A pollen sample scraped from the floor contained only 649 grains/g total concentration, including low amounts of *Pinus*, Poaceae, cheno-am, *Ephedra*, and an unknown pollen.

To summarize, the major storage cist is one of two intrusive Pueblo III features on the site. The cist was assigned an Early Pueblo III ceramic affiliation based on the rough surface treatment of the McElmo Black-on-white ladle, but I conjecture that the two seemingly paired cists were roughly contemporaneous. The feature apparently functioned originally as a storage facility, but, unlike the neighboring cist, no domestic economic pollens were recovered from the fine sediments that accumulated on the floor over the period of use. The major storage cist was used last as a burial chamber. The Harris hawk suggests a special burial status, reflected in the excitement and interest the feature generated among the Navajo crew.

**Cist (not further specified; Feature 6).** This cist was exposed in the east profile of Backhoe Trench 1, and the western third of the feature was removed by the backhoe (Fig. 14.4). The feature was provenienced in reference to 1 by 2 m hand trench 34N/72E. The circular opening was defined at a depth of 5 cm below the surface. The single layer of trashy fill included, in decreasing order of occurrence, sherds, chipped stone debitage, faunal remains including one awl fragment, and ground stone. Ground stone artifacts included a pottery polishing stone and two plastering polishing stones. The rather dense domestic refuse included five construction-sized cobbles and about 20 smaller cobbles averaging around 5 cm. The soil matrix was soft fine-grained sand with charcoal flecks but little cultural staining. The absence of thermal evidence indicates the feature functioned as a storage facility. A pollen sample scraped from the unlined floor had a small amount of *Zea mays* pollen (46 grains/g). After abandonment the cist was used as a refuse receptacle. Ceramics in the trashy fill indicate a Late Pueblo II affiliation.

**Major storage cist (Feature 7; includes Burials 1 and 2).** This major storage cist was about 4 m south of Roomblock 1 and 4 m east of Pit Structure 1. The feature was exposed in the west profile of Backhoe Trench 1; the eastern half of the cist had been removed by the backhoe (Fig. 14.4). The sides of the cist were traced in the profile to within 5 cm of the present ground surface (Fig. 14.14a). The circular mouth was not fully defined until a depth of 30 cm below the surface because of extensive mechanical surface modification. The major storage cist was provenienced in reference to 1 by 2 m hand trench 38N/70E.

The general fill of Feature 7 was about a 95 cm thick layer measured from the point of complete mouth definition and extending down to Burial 1. The homogenous layer consisted of loose sandy silt with charcoal flecks but only light cultural staining. Low-density artifacts in decreasing order of occurrence included ceramics, chipped stone artifacts, faunal elements, and ground stone. Only five construction cobbles were associated with the light refuse. The layer is viewed as grave fill covering Burial 1 and consisting of Late Pueblo II spoils.

Burial 1, the remains of an infant (age 6 months) was buried against the west wall of the cist at a depth of 1.36 m below the surface (Fig. 14.14a). The infant was wrapped in plaited rush matting, or a poorly preserved cradleboard. Dark stain from the decayed covering enclosed a 40 by 20 cm area. The infant was lying on its back in an extended position with the arms along the sides of the body. The head faced upward and towards the south (155 degrees measured through the remaining cranial fragments and the center of the covering).

The head of Burial 1 was just outside the rim of a corrugated jar associated with Burial 2. The bowl portion of a Mancos Black-on-white ladle (Vessel 8) was placed just south of the infant's head and within the rim of the jar (Fig. 14.14b). The ladle had crushed igneous temper, organic paint, and light abrasion around the rim. A pollen wash from the ladle had low amounts of *Pinus*, cheno-am, and *Poaceae*. Burial 1 is assigned a Late Pueblo II affiliation.

The floor fill of Feature 7 was differentiated from grave fill beginning beneath Burial 1 and extending to floor contact at a depth of 1.65 m below the surface. The 30 cm layer designates grave fill associated specifically with Burial 2. Artifacts are considered grave fill rather than formal offerings. There

was no discernible break or distinction between the general and floor fills other than the presence of Burial 1. However, ceramics suggest that Burial 2 and the surrounding floor fill was earlier, with a Mid Pueblo II affiliation. A partial Mancos Black-on-white bowl with Burial 2 had mineral paint, and there were no organic-decorated sherds from the lower fill. Only two construction cobbles were counted in the lower fill.

Burial 2, the remains of a mature adult female (age 35), was buried on the floor of the cist against the south wall (Fig. 14.14a). The lower half of the body was truncated by the backhoe, and elements were broken and lost. The body rested on a poorly preserved plaited rush mat of unknown size. The semiflexed body reclined slightly on the left side with the head toward the west (240 degrees) and the face toward the north. The arms were folded over the chest. Several hand bones were found isolated around the left shoulder, probably resulting from prehistoric disturbance associated with the later interment of Burial 1. Rodent feces and fly larvae were evident around the body, suggesting an initially shallow and accessible interment.

Accompanying grave goods included three ceramic vessels and two sandstone two-hand slab manos. Chipped stone artifacts and a slab metate fragment were recovered near the body, but these artifacts are probably grave fill rather than being placed intentionally with the burial. A flotation sample from fill around the burial contained carbonized *Amaranthus* and *Portulaca* seeds. Of interest were the high amounts of *Cercocarpus* charcoal in the flotation sample along with *Artemisia*, *Populus*/*Salix*, and *Pinus edulis*.

An upright Pueblo II corrugated jar (Vessel 5) consisting of 33 articulated body and rim sherds was placed next to the head (Fig. 14.14c). The mouth of the jar was originally covered by a sandstone lid that had subsequently slipped into the vessel. This Dolores Corrugated jar had crushed igneous temper and a rim diameter of 21 cm. The vessel was lightly sooted, and the interior was heavily eroded. The jar contained faunal remains consisting of several small rodent-sized mammals. Banner-tailed kangaroo rat was the most common taxon (estimated six individuals), and all 195 elements of this taxon from the site were from the vessel. It was unclear whether the rodents were grave-related offerings or later scavengers. However, all of the rodent remains

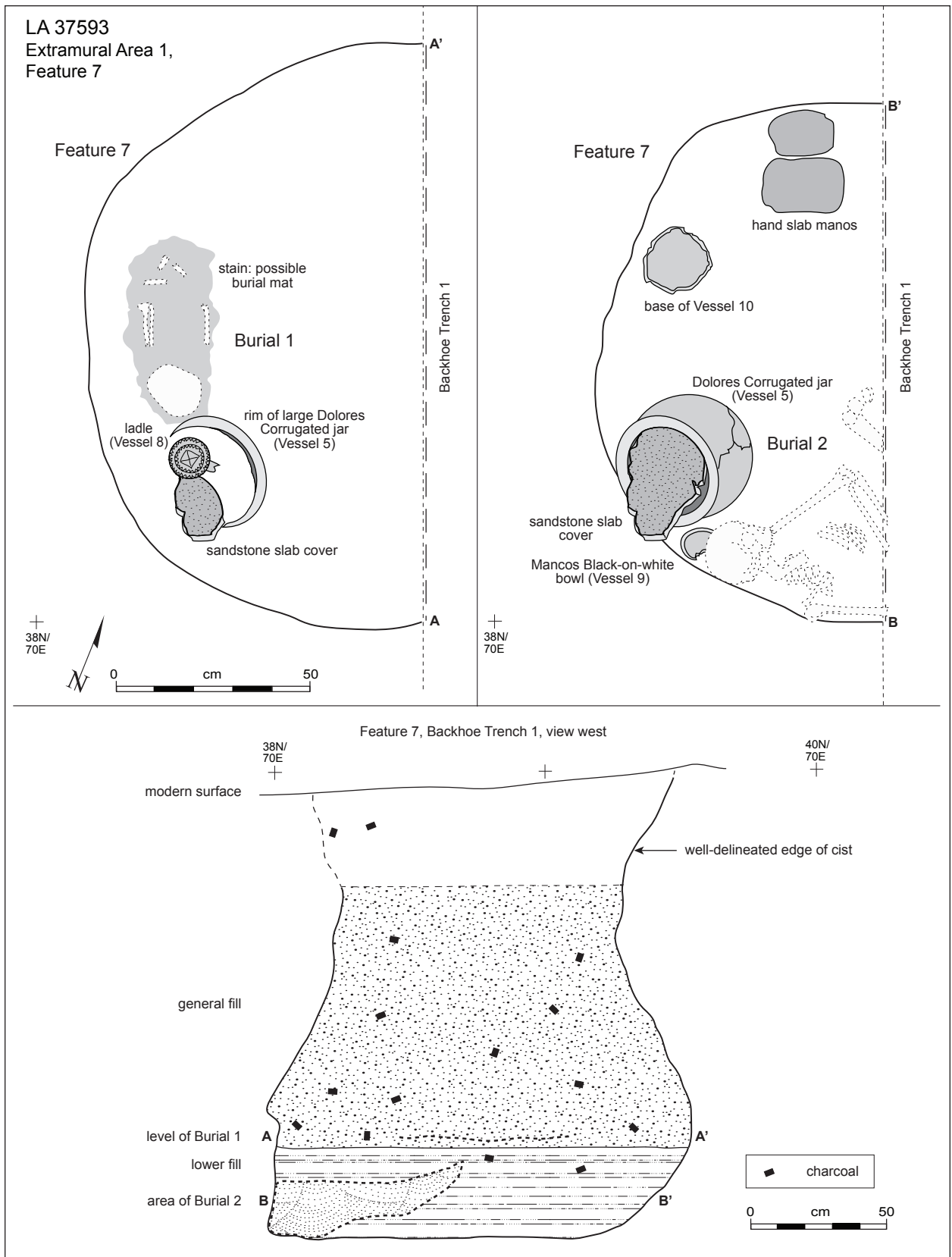


Figure 14.14a. LA 37593, Extramural Area 1, Feature 7, Burials 1 and 2, with Backhoe Trench 1, plans and profile, view west.



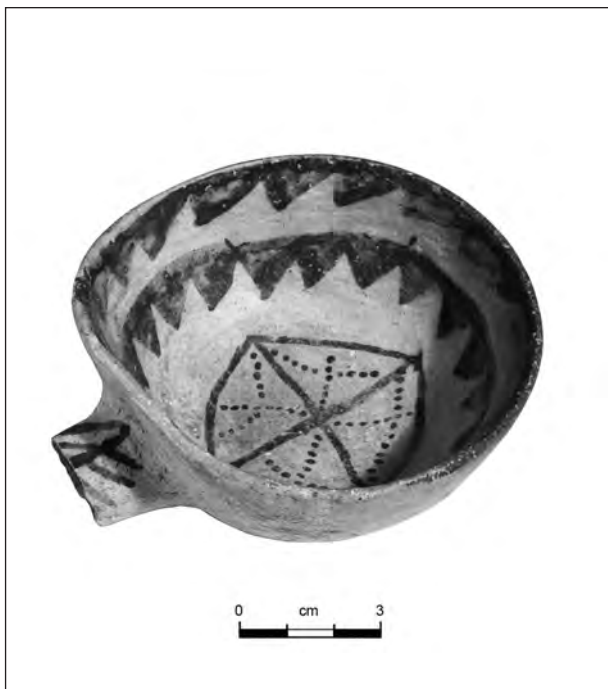


Figure 14.14b. LA 37593, Extramural Area 1, Feature 7, Burial 1, Mancos Black-on-white ladle (Vessel 8).

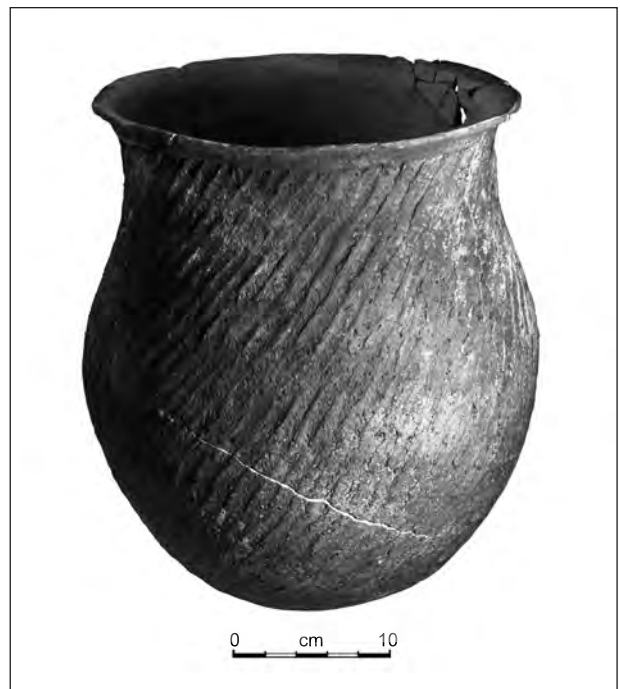


Figure 14.14c. LA 37593, Extramural Area 1, Feature 7, Burial 2, Dolores Corrugated jar (Vessel 5).

were recovered from the ceramic container. The true toad (eight elements) and turkey (one eggshell and one 1st phalanx) were from the grave fill beside the body.

A partial Mancos Black-on-white bowl (Vessel 9) was decorated with mineral pigment and had a rim diameter of 18 cm. The 30-percent-complete bowl (two sherds) was broken prehistorically and placed just above the skull. A pollen wash from the vessel contained no pollen.

The base of a plain gray jar (Vessel 10) was placed beside the west wall of the cist. The 27 sherds had crushed igneous temper, and the jar base had a diameter of 17 cm. The exterior was heavily sooted. The reshaped jar base was possibly utilized as a puki. A pollen wash yielded very low amounts of *Pinus*, cheno-am, *Ulmus*, *Platyopuntia*, and *Zea mays* pollen.

To summarize, Feature 7 functioned originally as a storage facility with a Mid Pueblo II affiliation. A pollen sample scraped from the unlined floor yielded very high quantities of *Zea mays* pollen (455 grains/g). Carbonized corn cupules were also present. The duration of storage use is uncertain, but there was no fine sediment accumulation on the floor, unlike Features 2 and 5. Feature 7 was used

last as a burial chamber. The initial Mid Pueblo II female interment was directly on the floor with extensive (more than three) grave offerings. The final Late Pueblo II infant burial somewhat disturbed the earlier burial and was interred at the level of the exposed Dolores Corrugated jar. The infant's ladle bowl offering corresponds with the similar ladle bowl offering accompanying the 48-year-old male with the Harris hawk.

**Fire pits (Features 8 and 9).** Two superimposed fire pits were discovered during the excavation of 1 by 3 m hand trench 41N/65E. The fire pits were about 50 cm south of the remnant south wall of Roomblock 2 and within 2 cm of the surface. This was probably an activity area, associated with the poorly preserved roomblock, in which the fire pits functioned as centers for cooking, heating, and light. The fire pits lacked artifacts. The light oxidation suggested low-temperature fires and short periods of use. Feature 8 replaced the earlier fire pit and was represented by an unlined shallow pit lightly oxidized on all surfaces. A flotation sample contained carbonized *Oenothera*, *Juniperus*, and *Zea mays* seeds, and *Atriplex* and *Artemisia* charcoal. Feature 9, the earlier fire pit, survived only as a remnant arc along the east edge of Feature

8. This earlier fire pit was seemingly about the same size and shape as its replacement. A flotation sample contained *Zea mays* with mainly *Juniperus* charcoal. Both fire pits are most likely associated with the Late Pueblo II component.

## EXTRAMURAL AREA 2

Extramural Area 2 was defined as the site area within the construction zone bounded by the 53N and 83N lines. The north edge merges with LA 37594, which is the next group of architectural elements intersecting the highway transect. Extramural Area 2 of LA 37593 was essentially a 30 m transitional area positioned between architectural elements at LA 37593 and LA 37594. However, additional cobble scatters and cultural materials extended along the east edge outside of the right-of-way. Extramural Area 2 had no visible surface manifestations, and a single subsurface feature was encountered (Table 14.10). Extramural Area 2 artifact summaries are presented in Tables 14.3, 14.4–14.6, 14.7.

### Surface collection

The site surface was highly visible because of mechanical water line installations. The surface collection covered a 30 by 24 m area (Figs. 14.3, 14.6a, 14.6b, 14.6c) and was collected in 3 by 3 m grids. The surface of 80 grids was examined, covering an area of 720 sq m.

Low-frequency artifacts included sherds ( $n = 44$ ), chipped stone artifacts ( $n = 19$ ), and faunal remains ( $n = 2$ ). In contrast to Extramural Area 1, no human skeletal elements or ground stone were present on the surface (Table 14.3). Artifact densities ranged from no material in 50 grids (62 percent) to a high of six artifacts. Another 24 grids (30 percent) had only one artifact. The maximum sherd density was four, and the maximum chipped stone density was two. The surface collection is considered extremely mixed Pueblo II material, but it was not assigned to a specific age component.

### Disturbed upper cultural layer

Subsurface artifacts were collected from backhoe trenches and two 1 by 3 m hand trenches. The shallow cultural layer ranged from a depth of 20 to 40 cm below the surface. The fill was lightly stained, with infrequent flecks of charcoal. The recovered artifact assemblage consisted of ceramics

and chipped stone artifacts, including a projectile point. Recent road litter and asphalt fragments were mingled throughout the cultural layer, indicating extensive churning and mixing. The layer contained no subsurface artifact concentrations or activity surfaces. The cultural layer was a consequence of the highly settled community context, with the shallow blanket of mixed refuse indicating low-level use of this portion of the site. The disturbed cultural layer is considered mixed material associated with the general Pueblo II occupation.

### Features (Extramural Area 2)

*Possible borrow pit (Feature 10a).* A segment of an ephemeral pit was exposed in the west profile of Backhoe Trench 2 between the 60N and 62N grid lines. The eastern third of the feature was removed by the backhoe. The feature had an irregular circular form, and the uneven hemispherical profile was traced to within 10 cm of the surface. The fill was compact fine sand with charcoal flecks and light refuse including ceramics and chipped stone debitage (Tables 14.11–14.13). A flotation scan from the irregular floor contained a carbonized corn cupule. There were no cobbles or construction materials mixed with the fill. The feature is assigned a Mid Pueblo II affiliation based on the Pueblo II types and the mineral-decorated white wares. The ephemeral pit is seemingly a cultural feature, but its function and its relationship with the main group of site elements is unclear. The feature is tentatively interpreted as a borrow pit excavated into the alluvial fine sandy loam. However, the isolated feature is 10 m north of the main site area and may be related to community elements outside of the right-of-way.

## EXTRAMURAL AREA 3

Extramural Area 3 is a poorly understood subsurface cultural manifestation discovered below Floor 3 of Surface Room 103 (Fig. 14.3). A subfloor test against the northeast corner of Room 103 encountered cultural fill below Floor 3, which was apparently not related to the surface roomblock. The subfloor fill was arbitrarily designated Extramural Area 3, but the exact nature and origin of the fill was not determined from the limited excavation. The cultural fill extended to a depth of at least 1.45 m below datum, where excavation was terminated

because of time restraints. The total depth and horizontal extent of the manifestation were not ascertained. Most of Room 103 was outside of the right-of-way, and excavation in this area focused only on recovering cultural material from the room. The area remains intact and preserved outside of the construction zone.

The 80 cm layer of exposed cultural fill consisted of light trash and charcoal mixed in a soil matrix of red sandy alluvium. Artifacts included ceramics, chipped stone debitage including a projectile point, three faunal elements, and a small unshaped piece of chalcopyrite (Tables 14.4–14.6, 14.8). A total of 48 construction-sized cobbles were mixed throughout the fill. The fill was deepest in a 1 by 1 m area at the northeast corner of the room and did not extend south or west into Rooms 101 and 102. The fill suggests that the northeast corner of Room 103 was constructed over a buried cultural element, possibly a pit structure. The preponderance of mineral-painted pottery suggests that the fill is associated with the Mid Pueblo II ceramic period. Unfortunately, little more can be said about the sub-floor discovery.

### ROOMBLOCK 1

Roomblock 1 comprised the primary architectural element visible at LA 37593 prior to excavation (Figs. 14.3, 14.15). The small surface roomblock was constructed of cobbles and mortar. The surviving segment of the east–west-oriented cobble mound had a length of 10 m and a width of 9 m. The total length is unknown because an early 1900s irrigation ditch cut through the eastern edge of the roomblock. Cobbles do not extend east of the ditch, but backdirt contained abundant cultural material, suggesting that the ditch had passed through rooms along the eastern edge of the structure. The low mound had a relief of about 20 cm. A one-story structure is suggested from the low height of the mound. No wall alignments were visible from the surface.

The highest surface concentration of cobbles was between the 43N to 51N and the 71E to 77E grid lines. The project limit transected the cobble mound between the 73E and 74E line.

The investigation of the cobble mound began with wall definition. Cobble wall fall was removed in arbitrary 10 cm levels from 25 grid excavation

units of 1 by 3 m (20 units), 1 by 2 m (4 units), and 1 by 1 m (1 unit). An area of 69 sq m was cleared during the wall definition. The surface in the area of the cobble mound ranged from 0 to +21 cm above datum, and wall alignments were generally exposed in Level 2 at an average depth of 8 cm below datum.

The fill in this initial layer of wall clearing was characterized by cobble wall fall in a matrix of very compact fine sandy clay. All fill was screened, and artifact density was fairly high. However, glass and asphalt fragments were commonly noted across nearly all of the excavation units to a depth of 10 cm below datum, and this initial layer of wall clearing is considered a mixed deposit. A total of 617 medium-sized construction cobbles averaging 15 by 10 by 4 cm were counted from the grid excavations during this initial wall clearing.

After room outlines were defined, provenience designations changed from grid units to the particular room number (Tables 14.4–14.9). Rooms 101, 102, and 103 were either completely or partially within the project limits and were totally excavated (Fig. 14.3). The walls of Rooms 104 and 105 east of the right-of-way were partially delineated, but the rooms were not excavated. The medial wall between Rooms 104 and 105 extended at least another 90 cm east, suggesting two additional east rooms extended to the edge of the irrigation ditch. The outlines of the easternmost rooms were not verified by surface stripping.

The east–west-trending rectangular roomblock is composed of two rows of contiguous rooms. The medial east–west wall separating the room tiers exhibits the best preservation and demonstrates that the probable seven-room structure was initially constructed as one unit. The rectangular rooms with longer north–south dimensions introduce an unusual peculiarity to the site layout. Instead of the traditional room arrangement, in which the longer room axis is parallel to the south plaza or work area, the rooms are orientated with the long axis perpendicular to the plaza. Although rooms apparently extend east of the delineated rooms, no additional room extensions were defined to the north, west, or south of the roomblock. Assuming that the surface roomblock was associated with the pit structure and cultural features to the south, the alignment would position Rooms 101 and 105 as front, or plaza-facing rooms. Rooms 102, 103, and 104 would be in the rear tier of rooms.

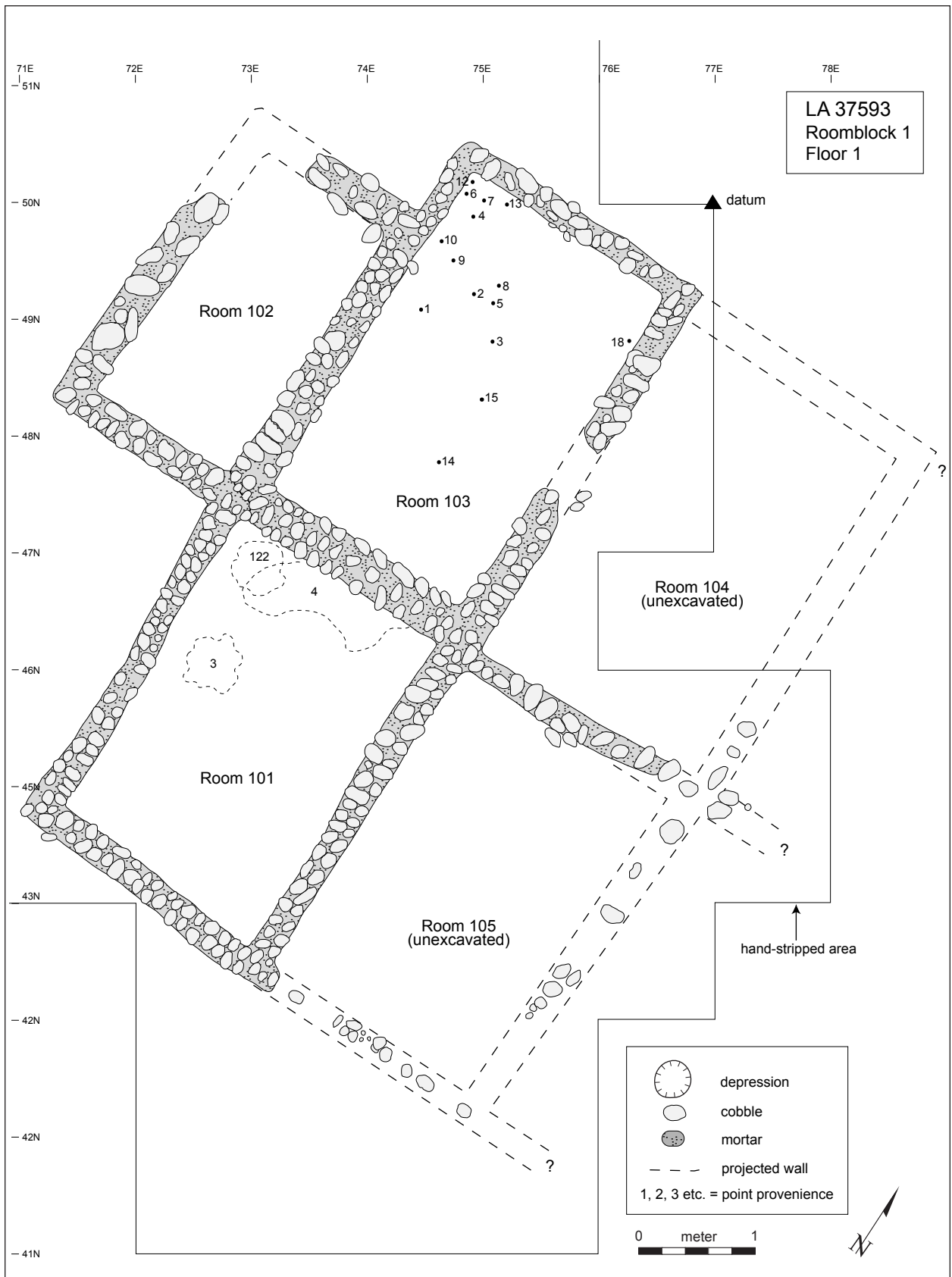


Figure 14.15. LA 37593, Roomblock 1, Rooms 101-103, Floor 1, plan.

### Room 101

The dimensions of Room 101 were as follows: north-south length, 3.05 m; east-west width, 2.0 m; floor area, 6.1 sq m.

This rectangular room was at the southwest corner of the roomblock and fronted the activity area to the south (Fig. 14.15). The room had straight walls with squared corners. The room shared a wall with Room 103 to the north and Room 105 to the east. No contiguous rooms were noted to the west or south. Pit Structure 1 was 8 m to the south.

The ground surface in the area of Room 101 was +10 cm above datum. The initial wall definition had removed two arbitrary 10 cm levels of wall fall from grid excavation units before room walls were delineated. The room fill was initially investigated

by excavating a 50 cm wide trench positioned parallel to the east wall. The trench extended from the bottom of the surface-stripped area at 8 cm below datum to a final depth of 53 cm below datum. The trench profile was characterized by a 45 cm layer of cobble wall fall resting on sterile alluvial sand and gravel. Subsequently defined floors were recognized only by the presence of horizontal artifacts encountered within this wall fall layer. The subtle floors were not apparent in the trench profile. All fill from the trench and across the room was excavated with trowels and screened through 1/4-inch mesh. Artifacts recovered from Room 101 are presented in Tables 14.22-14.24.

#### Layer 1, floor fill

The floor fill in Room 101 is about 10 cm of

Table 14.22. LA 37593, Roomblock 1, Room 101, pottery types, forms, and paint, counts by floors, features, and fill.

	Room Fill	Floor Fill	Floor 1	Floor 2	Floor 2 Feature 2	Floor 3	Floor 3 Feature 2	Floor 3 Feature 3	Total
<b>Type</b>									
Pueblo II corrugated	–	2	1	–	–	–	–	–	3
Pueblo II–III corrugated	–	8	112	–	–	–	–	–	120
Plain gray	–	61	55	17	–	11	–	–	144
Corrugated gray	8	224	137	72	1	86	–	2	530
Red Mesa-style black-on-white	–	3	–	–	–	–	–	–	3
Pueblo II black-on-white	–	1	–	–	–	2	–	–	3
Dogoszhi-style black-on-white	–	29	–	3	–	3	–	–	35
Chaco-style black-on-white	–	–	–	–	–	1	–	–	1
Early Pueblo III black-on-white	–	–	–	–	–	–	–	1	1
Pueblo II–III black-on-white	–	43	94	18	–	6	–	4	165
Painted black-on-white	–	–	–	1	–	–	–	–	1
Polished white	–	14	12	22	–	9	2	–	59
Polished black-on-white	–	–	–	1	–	–	–	–	1
Mogollon Smudged Brown	–	–	–	3	–	–	–	–	3
<b>Total</b>	<b>8</b>	<b>385</b>	<b>411</b>	<b>137</b>	<b>1</b>	<b>118</b>	<b>2</b>	<b>7</b>	<b>1069</b>
<b>Form</b>									
Bowl rim	–	24	–	2	–	2	–	1	29
Bowl body	–	13	3	13	–	8	–	3	40
Olla rim	–	2	–	–	–	–	–	–	2
Cooking, storage rim	–	18	21	9	–	–	–	–	48
Necked jar body	–	78	91	7	–	10	–	2	188
Jar body	8	250	296	106	1	98	2	1	762
<b>Total</b>	<b>8</b>	<b>385</b>	<b>411</b>	<b>137</b>	<b>1</b>	<b>118</b>	<b>2</b>	<b>7</b>	<b>1069</b>
<b>Paint</b>									
None	–	14	12	22	–	9	2	–	59
Organic	–	–	90	9	–	4	–	4	107
Mineral	–	76	4	14	–	8	–	1	103
<b>Total</b>	<b>–</b>	<b>90</b>	<b>106</b>	<b>45</b>	<b>–</b>	<b>21</b>	<b>2</b>	<b>5</b>	<b>269</b>



Table 14.23. LA 37593, Roomblock 1, Room 101, chipped stone tool and material types by floors and fill; counts and percents.

	Room Fill		Floor Fill		Floor 1		Floor 2		Floor 3		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Tool Type</b>												
Debitage	2	100.0%	27	96.4%	1	100.0%	18	94.7%	6	75.0%	<b>54</b>	<b>93.1%</b>
Core	–	–	1	3.6%	–	–	–	–	2	25.0%	<b>3</b>	<b>5.2%</b>
Hammerstone	–	–	–	–	–	–	1	5.3%	–	–	<b>1</b>	<b>1.7%</b>
<b>Total</b>	<b>2</b>	<b>100.0%</b>	<b>28</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>	<b>8</b>	<b>100.0%</b>	<b>58</b>	<b>100.0%</b>
<b>Material Type</b>												
Chert	1	50.0%	11	39.3%	–	–	9	47.4%	4	50.0%	<b>25</b>	<b>43.1%</b>
Silicified wood	–	–	–	–	–	–	1	5.3%	1	12.5%	<b>2</b>	<b>3.4%</b>
Quartzite	–	–	3	10.7%	–	–	1	5.3%	–	–	<b>4</b>	<b>6.9%</b>
Quartzitic sandstone	1	50.0%	–	–	–	–	1	5.3%	–	–	<b>2</b>	<b>3.4%</b>
Igneous	–	–	–	–	–	–	–	–	2	25.0%	<b>2</b>	<b>3.4%</b>
Siltstone	–	–	14	50.0%	1	100.0%	7	36.8%	1	12.5%	<b>23</b>	<b>39.7%</b>
<b>Total</b>	<b>2</b>	<b>100.0%</b>	<b>28</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>	<b>8</b>	<b>100.0%</b>	<b>58</b>	<b>100.0%</b>

Table 14.24. LA 37593, Roomblock 1, Room 101, faunal remains, taxon by floor and fill; counts and percents.

	Floor Fill	Floor 2	Floor 3		Total	
	Count	Count	Count	Col. %	Count	Col. %
Deer	–	1	–	–	<b>1</b>	<b>5.3%</b>
Mammal	–	–	1	6.3%	<b>1</b>	<b>5.3%</b>
Small mammal	–	1	1	6.3%	<b>2</b>	<b>10.5%</b>
Large mammal	1	–	9	56.3%	<b>10</b>	<b>52.6%</b>
Turkey	–	–	1	6.3%	<b>1</b>	<b>5.3%</b>
Bird	–	–	4	25.0%	<b>4</b>	<b>21.1%</b>
<b>Total</b>	<b>1</b>	<b>–</b>	<b>16</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>

cobble wall fall overlying Floor 1. The layer consisted of cobble wall debris and a matrix of compact fine sandy clay mortar. Wall fall was represented by 188 cobbles. The majority (n = 121) were medium-sized construction cobbles averaging 15 by 10 by 4 cm. Two larger cobbles measured 30 by 20 by 10 cm, and the remaining cobbles were smaller 5 by 5 by 2 cm chinking stones. There was very little organic staining in the deposit, and no evidence of roofing material. Refuse mixed with the wall fall was dominated by ceramics, with smaller amounts of chipped stone, ground stone, and faunal remains. The ceramic assemblage included sherds associated with several reconstructible vessels from Floor 1. Artifacts from the floor fill and Floor 1 contact were combined because of the subtle nature of the use-surface.

### Floor 1

Floor 1 was an unprepared irregular surface recognized only by the presence of sherds from several vessels dispersed across the same horizontal plane. The ephemeral use-surface was slightly compacted, free of organic staining, and indistinguishable from surrounding fill. The floor sloped slightly from north to south, ranging from 13 to 18 cm below datum. No features were associated with the floor (Fig. 14.15).

Sherds associated with four partial vessels dominated the Floor 1 artifact assemblage. The vessels were broken and commingled mainly in the north half of the room (Table 14.25). The assemblage included the larger portion of three Pueblo II–III corrugated jars and a Pueblo II–III black-on-white jar

with organic pigment. The vessels were apparently abandoned in the room and were crushed in place as the room deteriorated.

### *Layer 2, Floor 1 fill*

Layer 2 was a continuation of wall fall extending from Floor 1 to contact with Floor 2 at a depth of -24 cm below datum. The 10 cm layer was identical to upper wall fall, and 85 medium-sized cobbles were removed from the fill. Cultural material was represented by a moderate mixture of refuse, including ceramics, chipped stone, ground stone, and faunal material. Organic staining and charcoal were sparse. The cultural material can be combined with Floor 2 because of the difficulty of recognizing and defining the subtle surface.

### **Floor 2**

Floor 2 was as an expediently utilized activity surface showing essentially no preparation. The floor was marked by 65 construction cobbles resting on an irregular surface. The floor rests on a lower layer of wall fall with a slightly lighter color, but the surface was indistinguishable from surrounding wall fall. Cobbles from the lower wall fall protruded through the ephemeral surface, and wall debris formed a higher hump in the center of the room. The central hump was at 14 cm and the floor ranged to about 24 cm below datum. The floor was identified mainly by the presence of two thermal features (Fig. 14.16a).

Cultural material on Floor 2 was sparse, consisting of sherds and a chert hammerstone). Of interest were two sherds of a Mogollon Smudged Brown bowl beside the hearth (Feature 2) in the center of the room. Another sherd from the same vessel was found in Layer 2 above the floor. The presence of these intrusive sherds is notable considering the expedient nature of the activity surface.

### *Features (Floor 2)*

Two thermal features on Floor 2 indicate the use of fires in Room 101 (Table 14.26). Although these features suggest habitational function, the deteriorated nature of the room suggests expedient utilization while the room was in a state of deterioration.

*Fire pit (Feature 1).* Feature 1, a small, circular fire pit, was against the north wall of the room. The fire pit was dug into the lower layer of wall fall and ex-

hibited only light, patchy oxidation. The absence of oxidation or smoke staining along the adjacent room wall suggests low-level firing intensity. The fill was mainly stained sand with small charcoal flecks; no artifacts were present. A flotation sample included carbonized *Zea mays* along with *Juniperus* and *Populus/Salix* charcoal. Four unburned medium-sized cobbles formed a diagonal line across the feature and most likely represented postabandonment wall fall. Feature 1 seems to have functioned as a heating pit associated with the main hearth.

*Hearth (Feature 2).* Feature 2, an informal circular hearth, was found near the center of the room. The hearth had been dug into the lower wall fall layer. A faint 1 cm thick oxidation strip encircled the perimeter, but oxidation did not extend across the sides or bottom of the hearth. The oxidized strip was considered too sandy for archaeomagnetic sampling. The fill was composed of combustible material, including white ash and chunks of charcoal mixed with stained sandy clay. A flotation sample contained *Zea mays*, including cob fragments and a cupule. Charcoal consisted of *Juniperus*, unknown nonconifer, and *Populus/Salix*. Additional charcoal stain was scattered in a 20 cm area around the hearth. Cultural material in the fill was limited to a single unburned corrugated gray jar sherd. Two Mogollon Smudged Brown bowl sherds were on the floor within 10 cm of the hearth. The feature functioned as a cooking/warming hearth when the room was in a state of deterioration.

### *Layer 3, Floor 2 fill*

Another layer of wall fall identical to the previously described fill layers separated Floor 2 from Floor 3. The 10 cm layer contained 133 medium-sized cobbles. None of the cobbles were burned, and very little organic staining was present in the layer. Cultural material evidenced low-level refuse mixed with the wall fall. Corrugated gray jar sherds were the most prevalent ceramic artifact type. Painted ceramics included one mineral- and four organic-paint decorated sherds. Chipped stone debitage and faunal elements were sparse.

### **Floor 3**

Floor 3 was an unprepared, slightly compacted occupation surface). The nearly level surface ranged from 33 cm to 36 cm below datum. The floor was

Table 14.25. LA 37593, Roomblock 1, Rooms 101–103, point-provenienced artifacts by floor; summary table.

Point Provenience	Material	Description
<b>Room 101: Floor 1</b>		
1	ceramic	Vessel 13: Pueblo II–III corrugated jar (47 sherds)
2	ceramic	Vessel 19: Pueblo II–III corrugated jar (102 sherds)
3	ceramic	Vessel 12: Pueblo II–III corrugated jar (136 sherds)
4	ceramic	Vessel 20: Pueblo II–III black-on-white jar (110 sherds)
<b>Room 101: Floor 2</b>		
1	ceramic	Mogollon Smudged Brown ware bowl (2), corrugated jar (3)
2	ceramic	Dogoszhi-style black-on-white jar (1)
3	chipped stone	silicified wood hammerstone
<b>Room 101: Floor 3</b>		
1	ceramic	corrugated gray jar sherds (14 sherds)
<b>Room 103: Floor 1</b>		
1	ceramic	polished white jar (4 sherds)
2	ceramic	polished white bowl (4 sherds) polished black-on-white bowl (1sherd)
3	ceramic	Pueblo II black-on-white ladle (3 sherds)
4	ground stone	siltstone two-notch axe
5	ground stone	metamorphic two-notch axe
6	ground stone	sandstone two-hand slab mano
7	ground stone	igneous anvil
	chipped stone	–
8	faunal	awl
	ground stone	schist hoe, sandstone slab metate fragment
9	ground stone	sandstone slab metate fragment
10	chipped stone	chert core flake
11	ceramic	Pueblo II black-on-white bowl (1 sherd)
12	ground stone	siltstone two-hand trough mano
13	chipped stone	chert indeterminate tool
14	ceramic	Mesa Verde Plain Gray jar (6 sherds)
	ceramic	Mesa Verde Corrugated Gray jar (1 sherd)
	ceramic	Mesa Verde Polished White jar (3 sherds)
	ceramic	Mesa Verde Polished White bowl (1 sherd)
	ceramic	Gallup Black-on-white (1 sherd)
15	ceramic	Mesa Verde Corrugated Gray jar (25 sherds)
<b>Room 103: Floor 2</b>		
1	ceramic	Mesa Verde Polished White jar (4 sherds)
2	chipped stone	chert core flake
3	ceramic	Mesa Verde Corrugated jar (2 sherds)
4	ceramic	Mancos Black-on-white jar (1sherd)
5	chipped stone	chert scraper
6	chipped stone	chert indeterminate projectile point fragment
7	faunal	small mammal bone with grinding
8	other	turquoise
9	chipped stone	silicified wood side-notched projectile point
10	ceramic	Mancos Black-on-white jar (1sherd), Mesa Verde Corrugated Gray jar (1 sherd)
<b>Room 103: Floor 3</b>		
1	ceramic	Mesa Verde Corrugated Gray jar (1 sherd)
2	ceramic	Mesa Verde Corrugated Gray jar (1 sherd)
3	ceramic	polished black-on-white (1 sherd)
4	ceramic	Mesa Verde Corrugated Gray jar (1 sherd)
5	ceramic	Pueblo II black-on-white jar (1 sherd)
6	chipped stone	chert core
7	chipped stone	chert core flake

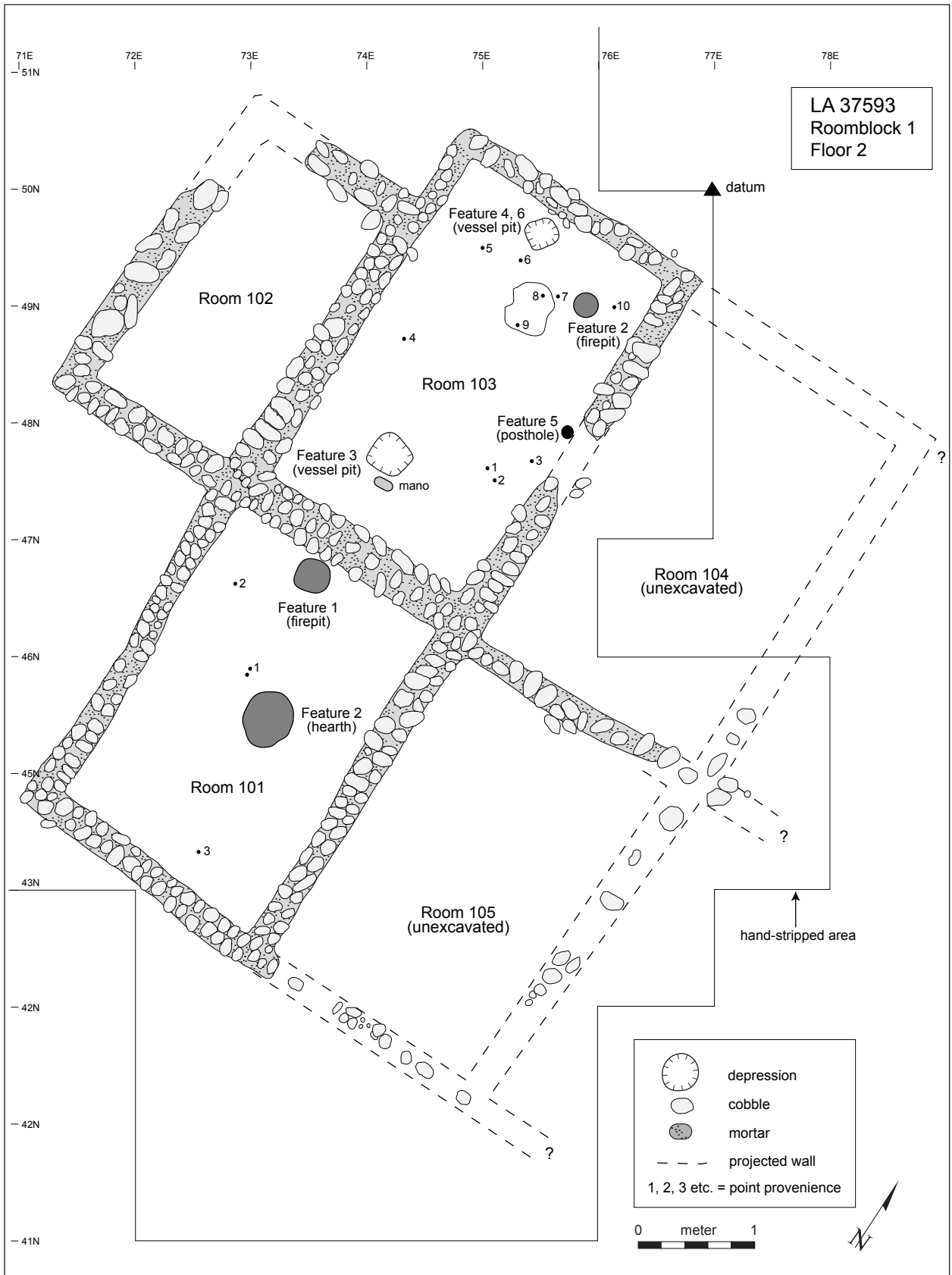


Figure 14.16a. LA 37593, Roomblock 1, Rooms 101-103, Floor 2, plan.

Table 14.26. LA 37593, Roomblock 1, features; summary table.

Feature	Feature Type	Location	Dimensions (cm)	Volume (l)	Shape	Construction Details	Use Details	Function
1	fire pit	Room 101, Floor 2	36 x 25 x 5	3.7	pit/hemispherical	unlined, open	burned	fire pit
2	hearth	Room 101, Floor 2	45 x 45 x 5	8.0	pit/hemispherical	unlined, open	burned	hearth
1	posthole	Room 101, Floor 3	10 x 10 x 20	1.6	pit/cylindrical	unlined, open	unburned	roof support?
2	cist	Room 101, Floor 3	57 x 49 x 33	72.8	cist/upright cone	unlined, open	unburned	storage
3	pit	Room 101, Floor 3	56 x 44 x 57	447.7	pit/irregular	unlined, open	unburned	storage/mano cache
1	deaccessioned: no feature	Room 103, Floor 2	—	—	—	—	—	—
2	fire pit	Room 103, Floor 2	42 x 30 x 4	4.1	pit/hemispherical	unlined, open	burned	fire pit
3	subfloor vessel	Room 103, Floor 2	vessel: 20 x 20 x 11.5	—	pit/irregular	closed by slab	unburned	ritual?
4	subfloor vessel	Room 103, Floor 2	pit: 34 x 26 x 40 vessel: 22 x 22 x 40	28.3 28.4	pit/irregular	closed by slab	unburned	ritual?
5	posthole	Room 103, Floor 2	12 x 11 x 2	0.2	pit/cylindrical	unlined, open	unburned	post support
6	subfloor effigy vessel	Room 103, Floor 2	—	0.24	in Feature 4	below Feature 4 (Dolores Corrugated jar)	unburned	ritual?
1	cist	Room 103, Floor 3	60 x 50 x 95	225.7	cist/upright cone	unlined, open	unburned	storage
2	indeterminate cultural	Room 103, Floor 3	segment	—	cist/upright cone	cobble-lined, open	unburned	unknown

very difficult to discern from surrounding fill but was most likely the living surface associated with the initial construction of the room. Floor delineation was aided by the presence of 23 scattered construction cobbles resting on this surface (Fig. 14.16b).

Cultural material on Floor 3 consisted of 14 corrugated gray body sherds from the same vessel. The sooted sherds were concentrated in a 10 cm area near the center of the room. A shaped slab fragment of siltstone was in the southwest corner.

### Features (Floor 3)

Three features—a posthole, a cist, and an indeterminate pit—were associated with Floor 3:

**Posthole (Feature 1).** Feature 1, a single posthole, was found in the northeast corner. An upright oxidized cobble shim braced the east side of the post, but the remnant, poorly preserved post and surrounding sandy fill were unburned. A flotation sample suggests this was a *Juniperus* post. The post may have functioned as a roof support, but no other post pairings were found in the room.

**Cist (Feature 2).** Feature 2, a subfloor cist, was uncovered in the northwest corner. The circular mouth had a diameter of 14 cm and was level with the base course of the west wall. The undercut cist had been dug into the lower alluvial layer to a depth of 64 cm below datum. The lower portion of the cist undercuts the west wall by about 7 cm. The homogenous layer of sandy clay fill contained tiny charcoal flecks but very little organic staining. The mouth of the feature was almost indiscernible from the surrounding floor. Two unburned cobbles were in the fill, and artifacts were confined to two polished white jar sherds lacking decoration. The cist most likely functioned as a storage facility.

**Pit (Feature 3).** Feature 3, an irregular sub-floor pit, was against the north wall. The pit was marked by three cobbles set in a row against the wall; however, the faint oblong surface outline was nearly imperceptible. The pit had been dug into the lower layer of alluvial fill to a floor depth of 90 cm below datum. The edges and bottom of the pit were imprecise and difficult to define. The homogenous layer of fill consisted of lightly stained compact sand with tiny charcoal flecks, but with almost no artifact content. A cache of three two-hand manos were



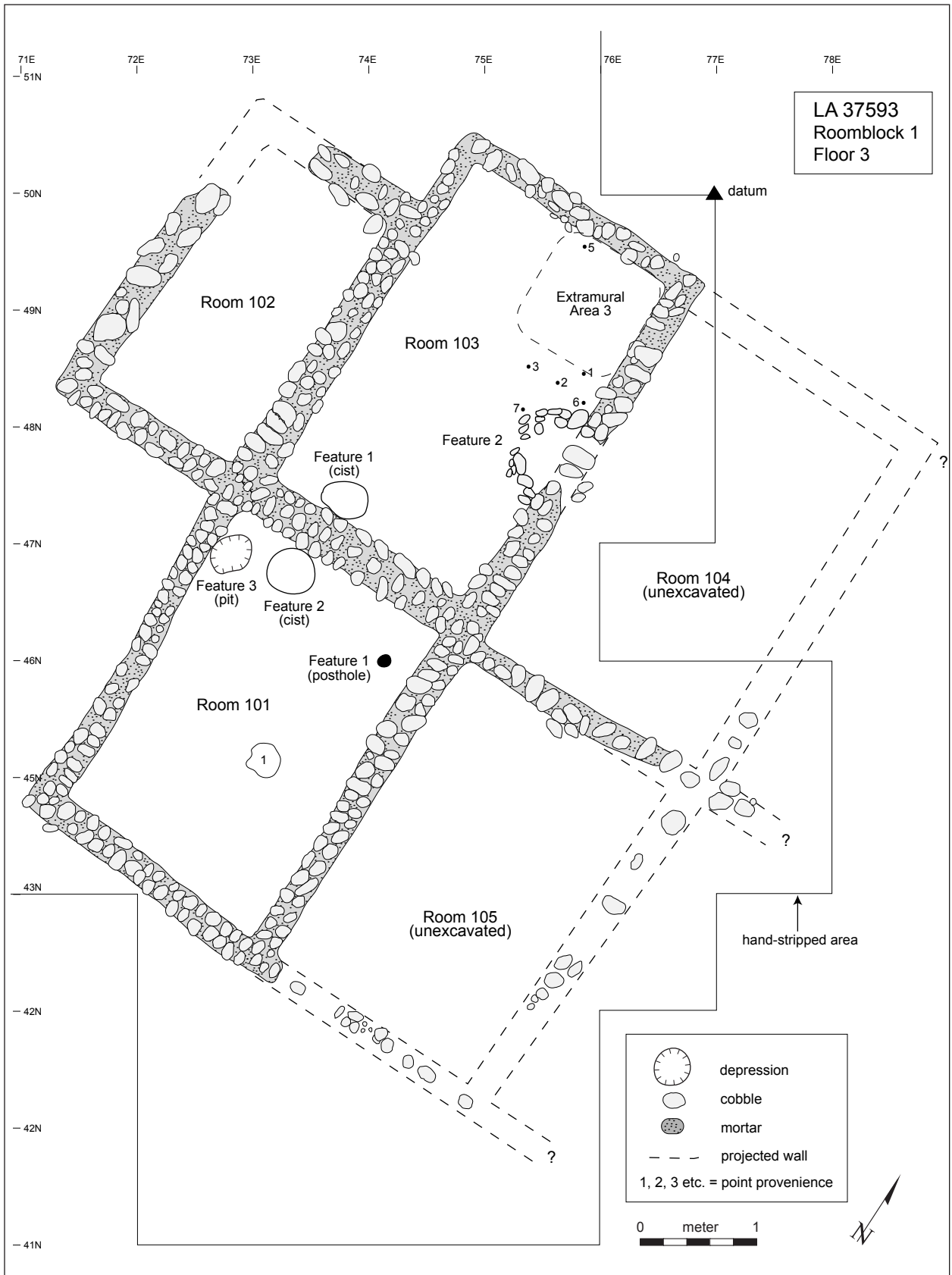


Figure 14.16b. LA 37593, Roomblock 1, Rooms 101–103, Floor 3, plan.

found stacked in the fill at a depth of 70 cm below datum, 20 cm above the floor. The set included two fine- to medium-grained igneous manos and one sandstone mano. An Early Pueblo III black-on-white bowl rim sherd with organic paint was placed beside the manos. Other artifacts from the general fill included a sandstone slab metate fragment and six additional sherds. Three sherds were decorated with organic paint, and one with mineral paint. The amorphous pit most likely functioned as a storage facility.

#### *Layer 4, Floor 3 fill*

Cultural material extended another 5 to 17 cm below Floor 3 to a base depth of 53 cm below datum at the north wall. This subfloor fill was a pale brown sandy clay with minute charcoal flecks, but it lacked organic staining. Cultural material consisted primarily of low-frequency ceramic and faunal elements. Nine decorated sherds were painted with mineral pigment. An additional 23 construction cobbles were recorded from the layer. This deposit extended below and under the wall foundation cobbles and may represent cultural fill upon which

the roomblock was constructed. However, rodent activity was heavy throughout the room stratigraphy, and this subtle layer of subfloor fill could easily have been introduced from upper layers. The base of the layer rested on sterile alluvial coarse sand and gravel.

#### **Walls**

Room 101 walls consisted of from four to eight surviving courses of cobble masonry (Fig. 14.17). Wall heights were as follows: northeast corner, 45 cm (8 courses); northwest corner, 45 cm (8 courses); southeast corner, 25 cm (4 courses); southwest corner, 25 cm (4 courses). All four walls were constructed of double rows of uniformly coursed unmodified cobbles. Foundation trenches 25 to 30 cm wide and about 10 cm deep were filled with an initial layer of light grayish-brown clay mortar. The north wall had a single course of larger foundation footing cobbles averaging 25 by 15 by 7 cm resting on the layer of mortar. The remaining walls lacked these larger footing cobbles, and walls were constructed directly on the foundation mortar. The upper walls were 25 to 30 cm wide and constructed



Figure 14.17. LA 37593, Room 101, Floor 3, walls; view north.

of a double row of cobbles set end to end with their long dimensions perpendicular to the room interior. The occupants were selecting construction cobbles consistently ranging from 10 by 10 by 2 cm to 15 by 10 by 4 cm. The vertical 4 cm measurement seemed to be the critical dimension, with the least tolerance of variation for producing level, uniform coursing planes. Cobble courses were separated by about 2 to 3 cm of mortar, producing uniform 5 to 6 cm courses.

Horizontally, cobbles were separated by about 2 to 3 cm of mortar. The perpendicular orientation of the double-simple masonry helped reveal the wall building sequence. The medial wall dividing the roomblock was built first, suggesting that the primary roomblock, with the exception of Room 102, was constructed as a unit. The east and west walls abut the medial wall and were added next. Finally, the south wall abuts both the east and west walls and was the last wall erected. There was no evidence of doors or other features in the surviving wall bases.

### **Roof**

No roofing material was observed in Room 101. No wood was recovered, which was evidently salvaged for reuse. There was no evidence that the room had burned. A single posthole in the northeast corner was possibly associated with roof support, but no other postholes were found. Remains sufficient to accurately interpret the method of roofing were not recovered.

### **Summary: Room 101**

Room 101 was apparently a “front” room, adjacent the extramural southern activity area. The quality cobble architecture indicates that a high level of care and energy were expended in the construction of the room. The room was presumably fully enclosed by walls and roofed. However, floor artifacts and features are minimally represented. Floor features on the initial floor are limited to two storage cists, one of which contained a cache of manos. The cists and manos suggest that food may have been stored and processed in the room, but metates and grinding bins were not found. The absence of thermal features on this floor supports seasonal or nonhabitation use. The upper floors were advantageously utilized while the room was in state of decline. Walls were collapsing, and the room may

have intermittently served as convenient shelter and storage space. Of interest was the occurrence of two informal thermal features on Floor 2 with intrusive brown ware sherds resulting from one of these episodes. The presence of carbon-painted ceramics throughout the fill sequence and from cist fill on Floor 3 indicates that the room was repeatedly used during the Late Pueblo II period.

### **Room 102**

Room 102 was a “back room,” located at the northwest corner of Roomblock 1 (Fig. 14.15). Small and rectangular, its dimensions were as follows: north-south length, 2.45 m; east-west width, 1.35 m; floor area, 3.31 sq m. The room was smaller than the other rooms in the roomblock and was not paired with a “front” room to the south. Room 102 had straight walls with squared corners. It was apparently appended onto the west end of the roomblock after the construction of Room 103. Room 102 shared a wall with Room 103 to the west, and the south wall was an extension of the medial wall dividing the roomblock tiers. Surface stripping found no evidence of a matched masonry room or a more ephemeral ramadalike structure south of the room.

Lancaster (1983:32-34) originally tested the roomblock. Test Trench 1 (1 by 2 m) removed the northwest corner of Room 103 and encountered what was thought to be the floor at a depth of 40 cm below the surface. This floor was not found during our subsequent excavation.

The ground surface in the area of Room 102 ranged from 10 to 20 cm above datum. The initial wall-definition trenches removed two arbitrary 10 cm levels from grid excavation units before the walls were defined. The room was investigated by excavating a 50 cm wide trench adjacent the south wall of the room. All fill from the trench and from across the room was excavated with trowels and screened through 1/4-inch mesh.

General fill consisted of a 30 cm thick layer of cobble wall mixed in a matrix of compact light-colored sandy clay. Wall fall was represented by 154 cobbles, including medium-size cobbles ( $n = 72$ ) and smaller filler and chinking cobbles ( $n = 82$ ). Moderate refuse included sherds, chipped stone, ground stone, one faunal fragment, and a corn cob (Tables 14.27-14.31). The refuse was mixed with

lightly stained soil with small charcoal fragments. There was no evidence that the room had burned.

There were no features in the room, and no floor or activity surfaces was delineated. The layer of wall fall and light refuse rested on a sterile alluvial layer of coarse sand and gravel at a depth of about 30 cm below datum.

Room 102 walls were greatly reduced and poorly preserved (Fig. 14.18). Their heights were as follows: northeast corner, 25 cm (two courses), northwest corner, unknown (removed during testing, probably

the same as northeast corner); southeast corner, 25 cm (four courses); southwest corner, 10 cm (one course). A 30 cm long segment at the southeast corner had a maximum of four surviving courses. This area abuts against the medial wall dividing the roomblock. The remaining walls were reduced to one- and two-course stubs. The walls rested on about a 5 cm foundation of grayish-brown mortar. There were no larger foundation footing cobbles. The walls employed the double-simple construction style, but the poorly preserved wall remnants ap-

Table 14.27. LA 37593, Roomblocks 1 and 2, pottery types by roomblock and room; counts and percents.

	Roomblock 1		Room 101		Room 102		Room 103		Roomblock 2		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Plain rim	–	–	–	–	–	–	1	0.1%	–	–	1	0.0%
Pueblo II corrugated	31	1.0%	3	0.3%	4	1.7%	9	1.0%	7	0.7%	54	0.9%
Pueblo II–III corrugated	27	0.9%	120	11.2%	1	0.4%	10	1.2%	2	0.2%	160	2.5%
Pueblo III corrugated	1	0.0%	–	–	–	–	1	0.1%	3	0.3%	5	0.1%
Plain gray	248	8.1%	144	13.5%	8	3.5%	47	5.4%	88	8.3%	535	8.5%
Corrugated gray	1906	62.2%	530	49.6%	151	65.4%	510	59.0%	617	58.4%	3714	59.1%
Red Mesa–style black-on-white	3	0.1%	3	0.3%	1	0.4%	4	0.5%	5	0.5%	16	0.3%
Pueblo II black-on-white	28	0.9%	3	0.3%	5	2.2%	22	2.5%	10	0.9%	68	1.1%
Sosi-style black-on-white	2	0.1%	–	–	–	–	–	–	–	–	2	0.0%
Dogoszhi-style black-on-white	49	1.6%	35	3.3%	5	2.2%	19	2.2%	13	1.2%	121	1.9%
Chaco-style black-on-white	2	0.1%	1	0.1%	–	–	–	–	1	0.1%	4	0.1%
Early Pueblo III black-on-white	–	–	1	0.1%	–	–	3	0.3%	1	0.1%	5	0.1%
Pueblo I–II black-on-white	–	–	–	–	–	–	–	–	2	0.2%	2	0.0%
Pueblo II–III black-on-white	239	7.8%	165	15.4%	11	4.8%	95	11.0%	89	8.4%	599	9.5%
Pueblo III black-on-white	–	–	–	–	–	–	–	–	1	0.1%	1	0.0%
Painted black-on-white	4	0.1%	1	0.1%	–	–	1	0.1%	4	0.4%	10	0.2%
Polished white	412	13.5%	59	5.5%	35	15.2%	123	14.2%	179	17.0%	808	12.9%
Polished black-on-white	100	3.3%	1	0.1%	9	3.9%	19	2.2%	32	3.0%	161	2.6%
Transitional Pueblo III black-on-white	2	0.1%	–	–	–	–	–	–	–	–	2	0.0%
Squiggle hachure black-on-white	3	0.1%	–	–	–	–	–	–	1	0.1%	4	0.1%
Mesa Verde indeterminate red	1	0.0%	–	–	–	–	–	–	–	–	1	0.0%
Deadmans Black-on-red	2	0.1%	–	–	–	–	–	–	–	–	2	0.0%
Mesa Verde Plain Red	1	0.0%	–	–	1	0.4%	–	–	–	–	2	0.0%
Cibola indeterminate red	–	–	–	–	–	–	–	–	1	0.1%	1	0.0%
Kayenta indeterminate red	1	0.0%	–	–	–	–	–	–	–	–	1	0.0%
Reserve Punched Corrugated Smudged	1	0.0%	–	–	–	–	–	–	–	–	1	0.0%
Mogollon Smudged Brown	–	–	3	0.3%	–	–	–	–	–	–	3	0.0%
<b>Total</b>	<b>3063</b>	<b>100.0%</b>	<b>1069</b>	<b>100.0%</b>	<b>231</b>	<b>100.0%</b>	<b>864</b>	<b>100.0%</b>	<b>1056</b>	<b>100.0%</b>	<b>6283</b>	<b>100.0%</b>

N = count

Table 14.28. LA 37593, Roomblocks 1 and 2, vessel forms and paint types by roomblock and room; counts and percents.

	Roomblock 1		Room 101		Room 102		Room 103		Roomblock 2		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Vessel Form</b>												
Indeterminate	24	0.8%	–	–	–	–	4	0.5%	4	0.4%	<b>32</b>	<b>0.5%</b>
Bowl rim	51	1.7%	29	2.7%	1	0.4%	33	3.8%	28	2.7%	<b>142</b>	<b>2.3%</b>
Bowl body	305	10.0%	40	3.7%	21	9.1%	94	10.9%	128	12.1%	<b>588</b>	<b>9.4%</b>
Seed jar rim	–	–	–	–	2	0.9%	1	0.1%	–	–	<b>3</b>	<b>0.0%</b>
Olla rim	2	0.1%	2	0.2%	–	–	2	0.2%	1	0.1%	<b>7</b>	<b>0.1%</b>
Olla neck	–	–	–	–	–	–	–	–	1	0.1%	<b>1</b>	<b>0.0%</b>
Cooking, storage rim	143	4.7%	48	4.5%	10	4.3%	27	3.1%	28	2.7%	<b>256</b>	<b>4.1%</b>
Necked jar body	262	8.6%	188	17.6%	20	8.7%	73	8.4%	54	5.1%	<b>597</b>	<b>9.5%</b>
Jar body	2254	73.6%	762	71.3%	177	76.6%	625	72.3%	811	76.8%	<b>4629</b>	<b>73.7%</b>
Bowl or jar body	–	–	–	–	–	–	–	–	1	0.1%	<b>1</b>	<b>0.0%</b>
Ladle	1	0.0%	–	–	–	–	–	–	–	–	<b>1</b>	<b>0.0%</b>
Ladle bowl	5	0.2%	–	–	–	–	3	0.3%	–	–	<b>8</b>	<b>0.1%</b>
Ladle handle	16	0.5%	–	–	–	–	1	0.1%	–	–	<b>17</b>	<b>0.3%</b>
Bird effigy	–	–	–	–	–	–	1	0.1%	–	–	<b>1</b>	<b>0.0%</b>
<b>Total</b>	<b>3063</b>	<b>100.0%</b>	<b>1069</b>	<b>100.0%</b>	<b>231</b>	<b>100.0%</b>	<b>864</b>	<b>100.0%</b>	<b>1056</b>	<b>100.0%</b>	<b>6283</b>	<b>100.0%</b>
<b>Paint Type</b>												
None	403	48.3%	59	21.9%	35	53.0%	121	42.6%	180	53.3%	<b>798</b>	<b>44.5%</b>
Organic	46	5.5%	107	39.8%	7	10.6%	39	13.7%	41	12.1%	<b>240</b>	<b>13.4%</b>
Mineral	386	46.2%	103	38.3%	24	36.4%	124	43.7%	117	34.6%	<b>754</b>	<b>42.1%</b>
<b>Total</b>	<b>835</b>	<b>100.0%</b>	<b>269</b>	<b>100.0%</b>	<b>66</b>	<b>100.0%</b>	<b>284</b>	<b>100.0%</b>	<b>338</b>	<b>100.0%</b>	<b>1792</b>	<b>100.0%</b>

peared more haphazard than the uniform coursing in Room 101. No doorways were noted in the remaining wall bases.

No roofing material or wood was observed in the room.

#### Summary: Room 102

The sparse cultural material recovered from Room 102 supplies minimal information for interpreting the room. Absence of a prepared floor and floor features suggest the room was probably used for storage. Wall abutments show the room was built after Rooms 101 and 103, but use of the room was probably short, considering the absence of multiple discernible living floors. The higher frequency of mineral- versus carbon-painted ceramics in the general fill raises to the possibility that the roomblock was actually constructed during the Pueblo II period, and reused floors in Rooms 101 and 103 represented repeated use into the Later Pueblo II period. Room 102 was not used repeti-

tively and was a receptacle for slightly earlier Mid Pueblo II refuse.

#### Room 103

Rooms 102 and 104, in the northern tier of Roomblock 1, bracketed Room 103 (Figs. 14.3, 14.15). Its dimensions were as follows: north-south length, 3.25 m; east-west width, 2.0 m; floor area, 6.5 sq m. This rectangular room had straight walls with squared corners. The room is slightly larger than Room 101, to the south, but the two rooms are symmetrically matched. In contrast, Room 102, to the west, is smaller, and its north wall does not correspond with the north wall of Room 103. The unexcavated room to the east seems to be of comparable dimensions. Room 103 seems to be a “back” room paired with Room 101. There are no nearby surface manifestations north of the room suggestive of associated extramural activity areas. The northeast corner of the room is outside of the



Table 14.29. LA 37593, Roomblocks 1 and 2, chipped stone material and tool types by roomblock and room; counts and percents.

	Roomblock 1		Room 101		Room 102		Room 103		Roomblock 2		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Material Type</b>												
Chert	431	45.0%	25	43.1%	56	73.7%	107	43.5%	93	34.4%	<b>712</b>	<b>44.3%</b>
Chalcedony	15	1.6%	–	–	1	1.3%	1	0.4%	15	5.6%	<b>32</b>	<b>2.0%</b>
Silicified wood	216	22.6%	2	3.4%	7	9.2%	78	31.7%	117	43.3%	<b>420</b>	<b>26.1%</b>
Quartzite	39	4.1%	4	6.9%	3	3.9%	12	4.9%	2	0.7%	<b>60</b>	<b>3.7%</b>
Quartzitic sandstone	29	3.0%	2	3.4%	–	–	4	1.6%	14	5.2%	<b>49</b>	<b>3.0%</b>
Igneous	1	0.1%	2	3.4%	–	–	1	0.4%	1	0.4%	<b>5</b>	<b>0.3%</b>
Sandstone	16	1.7%	–	–	–	–	–	–	–	–	<b>16</b>	<b>1.0%</b>
Siltstone	210	21.9%	23	39.7%	9	11.8%	41	16.7%	28	10.4%	<b>311</b>	<b>19.4%</b>
Other	–	–	–	–	–	–	2	0.8%	–	–	<b>2</b>	<b>0.1%</b>
<b>Total</b>	<b>957</b>	<b>100.0%</b>	<b>58</b>	<b>100.0%</b>	<b>76</b>	<b>100.0%</b>	<b>246</b>	<b>100.0%</b>	<b>270</b>	<b>100.0%</b>	<b>1607</b>	<b>100.0%</b>
<b>Tool Type</b>												
Debitage	861	90.0%	54	93.1%	72	94.7%	226	91.9%	225	83.3%	<b>1438</b>	<b>89.5%</b>
Core	16	1.7%	3	5.2%	2	2.6%	7	2.8%	6	2.2%	<b>34</b>	<b>2.1%</b>
Uniface	–	–	–	–	–	–	–	–	1	0.4%	<b>1</b>	<b>0.1%</b>
Biface	1	0.1%	–	–	–	–	–	–	–	–	<b>1</b>	<b>0.1%</b>
Retouched, utilizeddebitage	56	5.9%	–	–	–	–	6	2.4%	31	11.5%	<b>93</b>	<b>5.8%</b>
Retouched, utilized core	2	0.2%	–	–	1	1.3%	–	–	–	–	<b>3</b>	<b>0.2%</b>
Notch	–	–	–	–	–	–	–	–	1	0.4%	<b>1</b>	<b>0.1%</b>
Bifacial knife, scraper	–	–	–	–	–	–	1	0.4%	–	–	<b>1</b>	<b>0.1%</b>
Projectile point	4	0.4%	–	–	1	1.3%	2	0.8%	1	0.4%	<b>8</b>	<b>0.5%</b>
Hammerstone	10	1.0%	1	1.7%	–	–	2	0.8%	2	0.7%	<b>15</b>	<b>0.9%</b>
Hammerstone flake	7	0.7%	–	–	–	–	–	–	2	0.7%	<b>9</b>	<b>0.6%</b>
Chopper, plane	–	–	–	–	–	–	1	0.4%	1	0.4%	<b>2</b>	<b>0.1%</b>
Hoe	–	–	–	–	–	–	1	0.4%	–	–	<b>1</b>	<b>0.1%</b>
<b>Total</b>	<b>957</b>	<b>100.0%</b>	<b>58</b>	<b>100.0%</b>	<b>76</b>	<b>100.0%</b>	<b>246</b>	<b>100.0%</b>	<b>270</b>	<b>100.0%</b>	<b>1607</b>	<b>100.0%</b>

right-of-way and was apparently constructed over an inadequately understood subsurface cultural anomaly that was not excavated. The anomaly is termed Extramural Area 3, but the subsurface manifestation may represent the edge of a pit structure.

The ground surface in the area of Room 103 was 10 to 15 cm above datum. The initial wall definition removed two arbitrary 10 cm levels of wall fall from grid excavation, delineating all but the northern wall. The room fill was investigated by excavating a 50 cm wide trench positioned against the south wall of the room. The trench extended from 0 to -5 cm to

an average depth of about 40 cm below datum. The subtle floors were not apparent in the homogenous 35 to 40 cm layer of jumbled wall fall. All fill from the trench and room was excavated with trowels and screened through 1/4-inch mesh (Tables 14.32–14.35).

General fill was the initial 35 to 40 cm layer of wall fall and mixed cultural refuse. Cobble wall fall was prevalent, consisting of 610 cobbles mixed with compact sandy clay mortar melt. Cobbles of over 20 cm were tabulated in the “large” category (n = 64). Cobbles with dimensions averaging around 15 by 10 by 4 cm, the most common, fell into the “medium”

Table 14.30. LA 37593, Roomblocks 1 and 2, ground stone tool types by roomblock and room; counts and percents.

Artifact Type	Roomblock 1		Room 101		Room 102		Room 103		Roomblock 2		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Indeterminate fragment	1	9.1%	–	–	–	–	–	–	–	–	1	2.0%
Shaped slab	1	9.1%	1	16.7%	–	–	4	17.4%	–	–	6	12.2%
Jar cover	–	–	–	–	–	–	1	4.3%	–	–	1	2.0%
Anvil	–	–	–	–	–	–	2	8.7%	–	–	2	4.1%
Lapidary stone	–	–	–	–	–	–	1	4.3%	–	–	1	2.0%
Mano	–	–	1	16.7%	1	50.0%	3	13.0%	2	28.6%	7	14.3%
One-hand mano	–	–	–	–	–	–	2	8.7%	–	–	2	4.1%
Two-hand mano	4	36.4%	–	–	–	–	–	–	–	–	4	8.2%
Two-hand trough mano	–	–	1	16.7%	–	–	1	4.3%	–	–	2	4.1%
Two-hand slab mano	–	–	2	33.3%	1	50.0%	2	8.7%	4	57.1%	9	18.4%
Trough metate	1	9.1%	–	–	–	–	2	8.7%	–	–	3	6.1%
Slab metate	–	–	–	–	–	–	1	4.3%	–	–	1	2.0%
Miniature metate	–	–	1	16.7%	–	–	–	–	–	–	1	2.0%
Two-notch axe	1	9.1%	–	–	–	–	2	8.7%	1	14.3%	4	8.2%
Tchamahia	1	9.1%	–	–	–	–	–	–	–	–	1	2.0%
Ornament	1	9.1%	–	–	–	–	2	8.7%	–	–	3	6.1%
Pendant	1	9.1%	–	–	–	–	–	–	–	–	1	2.0%
<b>Total</b>	<b>11</b>	<b>100.0%</b>	<b>6</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>23</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>49</b>	<b>100.0%</b>

category (n = 460). Cobbles with a largest dimension of under 10 cm were placed in the “small” category (86). Cultural material consisting of sherds, chipped stone debris, ground stone fragments, and faunal remains was common throughout the fill. Small charcoal fragments were associated with the cultural refuse, but there was no evidence that the room had burned. Roofing material was completely absent. The general fill rested on a very ephemeral use-surface termed Floor 1.

### Floor 1

Floor 1 in Room 103 was an unprepared use-surface recognized by artifacts scattered generally in the same horizontal plane (Fig. 14.15). The slightly compacted use-surface ranged from a depth of 35 cm below datum at the north end to 40 cm below datum at the south end. No organic staining was present, but carbonized corn cupules were recovered from

a flotation sample from the floor. In addition to floor artifacts, 21 wall cobbles rested across the use-surface. The majority (n = 17) were medium-sized cobbles, with three large and one small cobble. There were no floor features. The floor was at the same depth as Floor 3 in Room 101.

Floor artifacts were mainly sherds, but the assemblage also had several whole ground stone artifacts, including two two-notch axes, two two-hand manos, a hoe, and an anvil (Fig. 14.20a). Other artifacts included fragments of a slab metate, an indeterminate chert tool, and a bone awl (Table 14.25). The artifacts were clustered in the northwest corner of the room. The axes and hoe suggest field maintenance equipment, and the grinding equipment indicates food processing as a room activity. The sherds depict a range of storage and serving activities represented by partially reconstructible portions of several vessels, including a polished white ware

Table 14.31. LA 37593, Roomblocks 1 and 2, faunal remains, taxon by roomblock and room; counts and percents.

Faunal Type	Roomblock 1		Room 101		Room 102		Room 103		Roomblock 2		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Rock squirrel	–	–	–	–	–	–	1	1.3%	–	–	1	0.7%
Pocket gopher	1	4.8%	–	–	–	–	–	–	–	–	1	0.7%
Porcupine	1	4.8%	–	–	–	–	–	–	–	–	1	0.7%
Cottontail rabbit	3	14.3%	–	–	–	–	1	1.3%	–	–	4	2.9%
Jackrabbit	–	–	–	–	–	–	2	2.5%	1	5.9%	3	2.2%
Dog, coyote, wolf	–	–	–	–	–	–	–	–	1	5.9%	1	0.7%
Deer	4	19.0%	1	5.3%	–	–	1	1.3%	–	–	6	4.4%
Artiodactyl	4	19.0%	–	–	–	–	1	1.3%	–	–	5	3.6%
Mammal	–	–	1	5.3%	–	–	13	16.5%	3	17.6%	17	12.4%
Small mammal	2	9.5%	2	10.5%	1	100.0%	7	8.9%	2	11.8%	14	10.2%
Medium–large mammal	3	14.3%	–	–	–	–	2	2.5%	2	11.8%	7	5.1%
Large mammal	2	9.5%	10	52.6%	–	–	47	59.5%	5	29.4%	64	46.7%
Turkey	1	4.8%	1	5.3%	–	–	–	–	–	–	2	1.5%
Bird	–	–	4	21.1%	–	–	2	2.5%	3	17.6%	9	6.6%
Bird eggshell	–	–	–	–	–	–	2	2.5%	–	–	2	1.5%
<b>Total</b>	<b>21</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>79</b>	<b>100.0%</b>	<b>17</b>	<b>100.0%</b>	<b>137</b>	<b>100.0%</b>



Figure 14.18. LA 37593, Room 102, view to west wall.

Table 14.32. LA 37593, Room 103, pottery types, forms, and paint, counts by floors, features, and fill.

	Fill	Floor 1 Fill	Floor 1	Floor 2	Floor 2 Feature 2	Floor 2 Feature 3	Floor 2 Feature 4	Floor 2 Feature 6	Floor 3	Floor 3 Feature 1	Floor 3 Feature 2	Total
<b>Type</b>												
Plain rim	1	–	–	–	–	–	–	–	–	–	–	1
Pueblo II corrugated	1	–	–	–	–	–	7	–	–	–	1	9
Pueblo II–III corrugated	8	1	–	–	–	–	–	–	–	1	–	10
Pueblo III corrugated	–	–	–	–	–	–	–	–	1	–	–	1
Plain gray	36	1	1	1	–	–	–	–	4	3	1	47
Corrugated gray	301	17	33	29	2	1	41	–	24	40	22	510
Pueblo II black-on-white	5	2	4	1	–	–	–	–	10	–	–	22
Painted black-on-white	1	–	–	–	–	–	–	–	–	–	–	1
Polished white	74	5	12	11	–	–	9	–	5	5	2	123
Polished black-on-white	15	2	1	–	–	–	–	–	1	–	–	19
<b>Total</b>	<b>536</b>	<b>32</b>	<b>52</b>	<b>45</b>	<b>2</b>	<b>2</b>	<b>61</b>	<b>1</b>	<b>48</b>	<b>59</b>	<b>26</b>	<b>864</b>
<b>Form</b>												
Indeterminate form	–	2	–	2	–	–	–	–	–	–	–	4
Bowl rim	22	3	2	3	–	1	2	–	–	–	–	33
Bowl body	70	6	5	3	–	–	4	–	1	5	–	94
Seed jar rim	1	–	–	–	–	–	–	–	–	–	–	1
Olla rim	2	–	–	–	–	–	–	–	–	–	–	2
Cooking, storage rim	14	1	–	1	–	1	7	–	1	1	1	27
Necked jar body	45	1	–	1	–	–	10	–	4	11	1	73
Jar body	381	19	42	35	2	–	38	–	42	42	24	625
Ladle	1	–	3	–	–	–	–	–	–	–	–	4
Bird effigy	–	–	–	–	–	–	–	1	–	–	–	1
<b>Total</b>	<b>536</b>	<b>32</b>	<b>52</b>	<b>45</b>	<b>2</b>	<b>2</b>	<b>61</b>	<b>1</b>	<b>48</b>	<b>59</b>	<b>26</b>	<b>864</b>
<b>Paint</b>												
None	74	3	12	11	–	–	9	–	5	5	2	121
Organic	29	1	–	–	–	1	2	1	2	3	–	39
Mineral	86	7	6	4	–	–	2	–	12	7	–	124
<b>Total</b>	<b>189</b>	<b>11</b>	<b>18</b>	<b>15</b>	<b>–</b>	<b>1</b>	<b>13</b>	<b>1</b>	<b>19</b>	<b>15</b>	<b>2</b>	<b>284</b>

bowl and jar, a Pueblo II black-on-white ladle bowl, and a Mesa Verde Corrugated Gray jar. The absence of floor features suggests expedient room usage during the growing season. Six sherds have mineral decoration, but the partially reconstructible Mesa Verde Corrugated Gray jar suggests use during the Late Pueblo II period.

#### Floor 2/ Fill

An average of 5 cm of floor fill separated Floor 1 from Floor 2 in Room 103. The fill was essentially identical to the initial layer of general fill overlaying Floor 1. Twenty-two wall cobbles were scattered throughout the layer, including 12 medium and 10

Table 14.33. LA 37593, Room 103, chipped stone material and tool types, counts by floors, features, and fill.

	Room Fill	Floor 1 Fill	Floor 1	Floor 2	Floor 2 Feature 2	Floor 2 Feature 4	Floor 3	Floor 3 Feature 1	Floor 3 Feature 2	Total
<b>Material Type</b>										
Chert	57	12	3	10	–	3	14	1	7	107
Chalcedony	–	–	–	1	–	–	–	–	–	1
Silicified wood	42	4	–	15	1	–	11	2	3	78
Quartzite	7	–	–	3	–	–	2	–	–	12
Quartzitic sandstone	2	–	–	1	–	–	1	–	–	4
Igneous	1	–	–	–	–	–	–	–	–	1
Siltstone	17	4	–	4	–	1	6	6	3	41
Other	–	–	1	–	–	–	1	–	–	2
<b>Total</b>	<b>126</b>	<b>20</b>	<b>4</b>	<b>34</b>	<b>1</b>	<b>4</b>	<b>35</b>	<b>9</b>	<b>13</b>	<b>246</b>
<b>Artifact Type</b>										
Debitage	117	19	2	30	1	4	32	9	12	226
Core	3	1	–	–	–	–	2	–	1	7
Retouched, utilized debitage	3	–	1	1	–	–	1	–	–	6
Bifacial knife, scraper	–	–	–	1	–	–	–	–	–	1
Projectile point	–	–	–	2	–	–	–	–	–	2
Hammerstone	2	–	–	–	–	–	–	–	–	2
Chopper, plane	1	–	–	–	–	–	–	–	–	1
Hoe	–	–	1	–	–	–	–	–	–	1
<b>Total</b>	<b>126</b>	<b>20</b>	<b>4</b>	<b>34</b>	<b>1</b>	<b>4</b>	<b>35</b>	<b>9</b>	<b>13</b>	<b>246</b>

Table 14.34. LA 37593, Room 103, ground stone tool types, counts by floors, features, and fill.

	Room Fill	Floor 1	Floor 2	Floor 2 Feature 3	Floor 2 Feature 4	Floor 3	Floor 3 Feature 2	Total
Shaped slab	–	–	–	2	–	1	1	4
Jar cover	–	–	–	–	–	–	1	1
Anvil	–	1	1	–	–	–	–	2
Lapidary stone	–	1	–	–	–	–	–	1
Mano	2	–	–	–	–	–	1	3
One-hand mano	–	–	1	–	–	–	1	2
Two-hand trough mano	–	1	–	–	–	–	–	1
Two-hand slab mano	–	1	–	1	–	–	–	2
Trough metate	2	–	–	–	–	–	–	2
Slab metate	–	–	–	–	1	–	–	1
Two-notch axe	–	2	–	–	–	–	–	2
Ornament	1	–	1	–	–	–	–	2
<b>Total</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>23</b>

small cobbles. Four features and a group of artifacts scattered along the same horizontal plane identified the poorly preserved ephemeral floor (Figs. 14.16a, 14.20b). These artifacts were given point-specific locations on Floor 2, but artifacts recovered from both

the floor fill and Floor 2 contact should be combined because of the difficulty in defining and following the use-surface. One small compacted 25 by 25 cm area contained a slightly higher clay content and organic staining, which may be the only surviving



Table 14.35. LA 37593, Room 103, faunal remains, taxon by floors, features, and fill; counts and percents.

	Room Fill		Floor Fill	Floor 2	Floor 2 Feature 2	Floor 2 Feature 4	Floor 3	Floor 3 Feature 1		Floor 3 Feature 2		Total	
	N	Col. %	N	Count	N	N	N	N	Col. %	N	Col. %	N	Col. %
Rock squirrel	–	–	–	–	–	–	1	–	–	–	–	1	1.3%
Cottontail rabbit	1	1.8%	–	–	–	–	–	–	–	–	–	1	1.3%
Jackrabbit	–	–	–	1	–	–	–	1	16.7%	–	–	2	2.5%
Deer	1	1.8%	–	–	–	–	–	–	–	–	–	1	1.3%
Artiodactyl	–	–	–	–	–	–	–	1	16.7%	–	–	1	1.3%
Mammal	4	7.0%	–	–	–	1	–	3	50.0%	5	62.5%	13	16.5%
Small mammal	4	7.0%	–	1	–	–	1	–	–	1	12.5%	7	8.9%
Medium–large mammal	2	3.5%	–	–	–	–	–	–	–	–	–	2	2.5%
Large mammal	42	73.7%	1	–	1	–	1	–	–	2	25.0%	47	59.5%
Bird	1	1.8%	–	–	–	–	–	1	16.7%	–	–	2	2.5%
Bird eggshell	2	3.5%	–	–	–	–	–	–	–	–	–	2	2.5%
<b>Total</b>	<b>57</b>	<b>100.0%</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>6</b>	<b>100.0%</b>	<b>8</b>	<b>100.0%</b>	<b>79</b>	<b>100.0%</b>

N = count

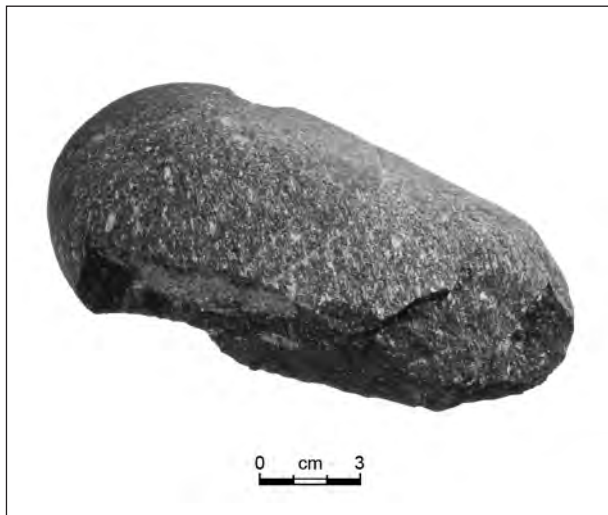


Figure 14.20a. LA 37593, Room 103, Floor 1, axe.

remnant of a once-prepared surface. The floor varied from 42 to 47 cm below datum.

Ten floor artifacts with specific point proveniences included a scattering of sherds along with a complete chert basal-notched projectile point, a small silicified wood side-notched projectile point fragment, a quartzite knife fragment, a piece of turquoise, and a small mammal bone with indeterminate grinding modification (Fig. 14.16a). The chert projectile point does not appear to be Anasazi

and may be intrusive to the area. The two projectile points, scraper, turquoise, and faunal fragment were clustered over the only surviving area of prepared floor and are adjacent to a small heating pit and a subfloor vessel. The small cluster of artifacts including the uncommon turquoise give the appearance of a special or ritual assemblage. The small piece of turquoise was roughly circular and ground flat on both faces. It weighed less than 1 g and was analyzed as a bead blank or a piece of inlay. Several artifacts from the floor fill, including another projectile point, an anvil, azurite (1 g), and hematite (4 g), may be associated with this unusual assemblage, but they have less specific proveniences. The azurite and hematite were probably used as pigment, although the azurite is similar in appearance to the small piece of turquoise.

#### Features (Floor 2)

Floor 2 features in Room 103 included a small thermal feature, a posthole, and three subsurface ceramic vessels (Fig. 14.20b; Table 14.21). The presence of exotic artifacts, including a buried effigy vessel (Fig. 14.21) and a Dogoszhi Black-on-white bowl from the Kayenta series in northeastern Arizona (Fig. 14.22), parallels the unusual floor artifact assemblage and supports the possibility that Room 103 had a special or ritual use.

*Fire pit (Feature 2).* A small, circular heating pit was found in the northeast corner of the room. The informal thermal feature is just east of the area of prepared floor containing the assemblage of special or ritual artifacts. The feature was dug slightly

into the lower floor fill; its fill consisted of lightly stained soil and charcoal flecks. Cobbles rested on the bottom and north edge of the feature. The absence of heavy oxidation suggests low-intensity firing. Fuelwood consisted mainly of *Juniperus* and



Figure 14.20b. LA 37593, Room 103, Layer 8, Floor 2, Features 3 and 4, view west.



Figure 14.21. LA 37593, Room 103, Floor 2, Feature 6, McElmo Black-on-white effigy vessel (early PIII).



Figure 14.22. LA 37593, Room 103, Floor 2, Feature 3, Dogoszhi Black-on-white bowl (Vessel 11).

*Artemisia*. The size of the depression and apparent cobble firedogs suggest that the feature functioned as a heating pit for ceramic vessels. Artifacts in the shallow fill included two corrugated gray sherds, a piece of silicified wood debitage, and a fragment of cottontail rabbit bone.

**Indeterminate cultural feature (Feature 3).** A roughly square worked-sandstone slab and a two-hand mano resting horizontally on the floor marked the feature. A circular pit with lightly stained cultural fill was evident beneath the slab. The pit contained an inverted (mouth down) Dogoszhi Black-on-white bowl (Fig. 14.22). The bowl was encountered 5 cm below the slab. The pit was apparently dug to accommodate the complete vessel.

Vessel fill was no different from the surrounding lightly stained cultural fill of the pit. No other artifacts were found in the fill. The bowl contained high amounts of *Zea mays* (adjusted value of 123.4 grains/g), cheno-am (5,548 grains/g) and *Sarcobatus* (164 grains/g) pollen. Small to moderate amounts of *Pinus* (681 grains/g), Poaceae, and Onagraceae (47 grains/g each) pollen were present. *Artemisia* and low-spine Asteraceae pollen was present in low amounts. *Amaranthus* seeds were the most common plant remains in the flotation sample. The intrusive and attractively decorated vessel may have served as a special votive offering.

**Subfloor vessel (Feature 4).** A rectangular sandstone slab metate fragment resting horizontally on



the floor marked the location of this feature (Fig. 14.16a). The slab was positioned adjacent to the north wall and directly opposite Feature 3. The slab covered a subfloor Dolores Corrugated jar. The jar was articulated and about 80 percent complete, missing the rim and part of the bottom. The mouth of the vessel was even with the slab, and vessel fill was identical to the surrounding pit fill. A pollen sample was not obtained from this vessel. Unburned *Chenopodium* seeds were the most common plant remains from flotation samples from both the bowl and Floor 2 in general. The vessel was placed in an irregular pit with lightly stained cultural fill. The funnel-shaped pit profile is wider at the mouth, suggesting that an earlier vessel may have been removed and replaced with the current vessel. Light refuse in the fill included sherds, chipped stone debitage, a small mammal bone, and three pieces of human bone, including two teeth and a temporal bone fragment. The light refuse including the human bone may have been introduced by rodent activity, which was profusely evident throughout the fill. Of interest was an unusual effigy vessel found under the jar. This vessel was assigned a separate feature number (Feature 6), but it is most likely associated with the jar. The unusual nature of this effigy vessel and possibly the poorly provenienced human bone suggests that the subsurface jar functioned more than just a simple storage container.

**Posthole (Feature 5).** A small 10 cm pit adjacent to the east wall had a flat bottom and only 2 cm of fill in the form of clay and gravel (Fig. 14.16a). A small pebble on the east edge served as a shimming stone. The small pit is interpreted as a posthole, but no other postholes were identified in the room. The small diameter and shallow nature of the posthole suggest that the post was not an important roof-bearing support.

**Indeterminate cultural feature (Feature 6).** This is a complete bird effigy vessel (Fig. 14.21) decorated with carbon paint and found at the bottom of the pit containing the subfloor Dolores Corrugated jar (Feature 4). The vessel was placed mouth up at the bottom of the pit. The edge of the corrugated jar actually rested on the vessel. The bottom of the corrugated jar was missing, but the lower effigy vessel was not accessible through the jar. The relationship

of the vessels is problematic. The vessels may be associated, with the effigy vessel positioned in the pit prior to the placement of the corrugated jar. However, the widened upper mouth of the pit suggests reuse, in which case the placement of the corrugated jar may have disturbed an earlier activity. The presence of three pieces of poorly provenienced human bone from the general pit fill compounds the quandary. This bone may have been related to an earlier activity, may have been introduced during reuse of the pit, or may have been introduced by rodents. In any event, the site inhabitants would have known about the lower effigy vessel during the placement of the jar. The effigy vessel contained cheno-am (1,913 grains/g) and *Zea mays* (318 grains/g) pollen, but the fill was identical to the surrounding pit fill. The uncommon nature of the effigy vessel with the subsurface jar again suggests a votive function similar to that proposed for the Dogoszhi Black-on-white bowl (Fig. 14.22) found at the south end of the room.

### Floor 3 / Fill

An average of about 5 cm of floor fill separated Floor 2 from Floor 3 in Room 103. The fill was identical to the higher fill layers and was characterized mainly by deteriorated wall fall. Fifty cobbles from the fill included 16 small and 34 medium cobbles. Two floor features and a small assemblage of artifacts scattered along the same horizontal plane identified the poorly preserved floor (Fig. 14.16b). These artifacts were assigned point-specific proveniences. Cultural material from both the floor fill and floor contact should be viewed as one unit because of the difficulty in defining the ephemeral use-surface. Floor 3 ranged from a depth of 50 cm to 56 cm below datum and was situated at the base of the foundation cobble stones. The unprepared use-surface lacked cultural staining and was characterized by a slightly compacted contact with the lower red sandy fill. A flotation sample from the floor contained a carbonized *Zea mays* cupule.

Artifacts were limited to scattered sherds and a chert core and a chert core flake). Mesa Verde Corrugated jar sherds were the most common ceramic form, and there was one decorated sherd with mineral pigment. Floor artifacts were concentrated around the indeterminate cultural feature built against the east wall.

### *Features (Floor 3)*

Floor 3 features consisted of a storage cist and an odd indeterminate cultural feature constructed against the east wall:

**Cist (Feature 1).** This unlined and poorly preserved cist was in the southeast corner of the room. A similar pit in Room 101 was on the opposite side of the south wall. The cist was marked by a faint circular outline on Floor 3 at a depth of 55 cm below datum. The cist was dug about 1 m into the lower natural sandy-clay alluvium, but the unlined edges and bottom of the cist were imprecise and difficult to define. The homogenous layer of fill consisted of lightly stained sandy clay mixed with wall rubble and light refuse. The 56 wall cobbles in the fill included 50 medium and 6 small cobbles. Light refuse included sherds, chipped stone debitage, and faunal remains. The sherd assemblage consisted mainly of corrugated jar sherds but also included an Early Pueblo III bowl sherd. An Early Pueblo III bowl sherd was also found in the Room 101 pit on the opposite side of the wall. The cist most likely functioned as a general storage facility.

**Indeterminate cultural feature (Feature 2).** This poorly understood feature consisted of a C-shaped cobble wall constructed against the center of the east room wall (Figs. 14.23, 14.24). Only the segment of this feature in Room 103 was excavated. I assume that this is basically the western half of the feature and that a mirror image would be found in Room 104 to the east. Room 104 was outside of the construction zone and was not investigated.

This coursed cobble wall abuts the foundation stones of the east wall at a depth of about 55 cm below datum and extends to a depth of about 1.50 m below datum. The unlined irregular floor was the natural alluvium. The cobble wall seems to represent the cobble lining of a cylindrical enclosure. The excavated segment measured about 80 cm north-south by 60 cm east-west and was about 1 m deep. Decayed wood lintels under the east wall show that the wall was constructed over the open feature. Fill consisted of abundant cobble wall fall debris with compact sandy clay mortar melt and cultural refuse. The portion of the east wall above the feature had collapsed into the feature. The 86 pieces of wall debris from the fill included 1 large, 69 medium, and 16 small cobbles. Cultural refuse

included sherds; chipped stone core-reduction debris; ground stone artifacts including a jar cover, a worked sandstone slab, and two manos; and faunal remains. Charcoal flecks were common in the fill, but there was no indication that the feature had burned or was involved with thermal activ-



Figure 14.23. LA 37593, Room 103, Floor 2 [or?] 3, Feature 2; bipod shot, view south.



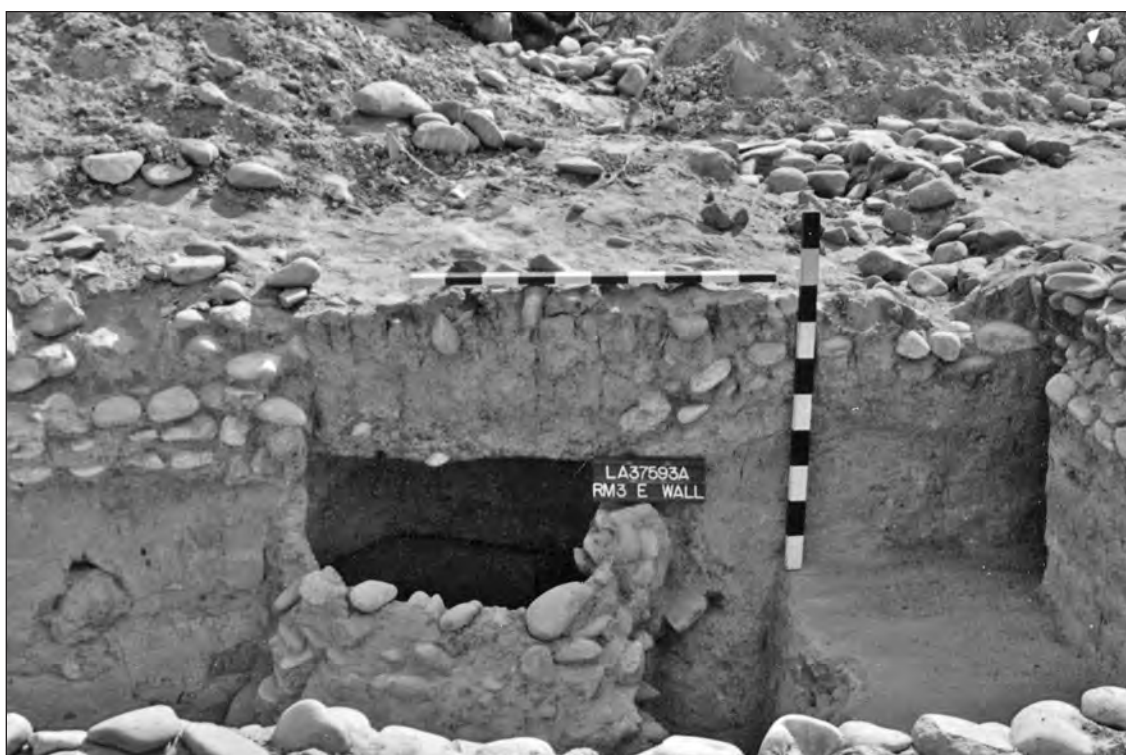


Figure 14.24. LA 37593, Room 103, Floor 3, Feature 2, view to east wall.

ities. The small sherd assemblage consisted mainly of common corrugated jar sherds, and no diagnostic decorated sherds were recovered.

The function of this feature is problematic. Our first impression was that the enclosure was a “man-hole” (Prudden 1918:9) allowing access into Room 104 to the east. Lintels show that the east wall was built over the feature, suggesting that it was a planned architectural element of the room. We did not recognize the feature at the level of Floor 2, but the ephemeral nature of the room floors does not exclude this additional association. A possible concealed access may add to the uncertain functional interpretation of the peculiar assortment of features and artifacts found in the room. The northeast corner of Room 103 is built over a buried cultural anomaly that could be an earlier pit structure (see the discussion of Extramural Area 3). It is also possible that Feature 2 is associated with this uninvestigated and poorly understood area of the site. Final functional interpretations must await future investigation of the remaining portion of the feature preserved outside of the construction zone.

### Subfloor / Fill

Subfloor cultural material in Room 103 extended another 10 cm into the red, sandy clay alluvium to a depth of 65 cm below datum. This subfloor fill was lower than the room walls. Cultural material included sherds, chipped stone debitage, a small metate, and faunal remains. Twenty medium and eight small wall cobbles were present in the fill. A partial vessel consisting of four sherds of a Pueblo II bowl decorated with mineral paint was found in the southeast corner of the room. I attribute the cultural material to both general cultural and rodent activity. Cultural material continued down in roughly a 1 by 1 m area at the northeast corner of the room. The material is from a lower cultural anomaly extending east and outside of the right-of-way. This subsurface anomaly was not investigated but suggests that the northeast corner of the room is constructed over an earlier cultural manifestation. *Walls.* Room 103 walls consisted of from one to eight surviving courses of cobble masonry. The heights of the walls were as follows: northeast corner, 10 cm (1 course);

northwest corner, 30 cm (4 courses); southeast corner, 45 cm (8 courses); southwest corner, 45 cm (8 courses). The south wall, in common with Room 101, was the best preserved (Fig. 14.25). The north wall was greatly reduced, and cobbles may have been prehistorically scavenged (Fig. 14.26). The walls employed the double-simple style of masonry, but unlike Room 101, the construction was more haphazard, with more mortar filler and less concern for uniform coursing planes. Foundation trenches 25 to 30 cm wide were filled with an initial 10 cm of layer of light grayish mortar. The south and west wall had a single course of larger foundation footing cobbles resting on the mortar layer. The upper walls were 25 to 30 cm wide and offset about 5 cm from the wider footing cobbles. The north and east walls lacked footing cobbles. The east and west walls abut the medial south wall dividing the roomblock. The north wall was built last and abuts the east and west walls. There was no evidence of doors or other wall features in the surviving wall bases.

### Roof

No roofing material was recovered from Room

103, and there was no evidence that the room had burned. A single post from Floor 2 does not seem to be part of the structural framework. Roofing material was evidently salvaged for use elsewhere.

### Summary: Room 103

Room 103 is situated in the “back” tier of rooms, based on a north-south site layout. The room was fully enclosed by walls and roofed, but the original wall height and the type of roofing superstructure was not identified. A possible “manhole”-like feature may have allowed access to unexcavated Room 104, but the relationship of these rooms is not currently understood. The absence of formal thermal features argues for nonhabitation or seasonal use during the growing season. Floors were very subtle, and use-surfaces were separated by periods of wall deterioration. In this respect the use-surfaces are similar to those uncovered in Room 101. Floor levels between the rooms do not correspond to the same vertical planes. The association of carbon-painted sherds and whole vessels indicates repeated room use during the Late Pueblo II. The presence of unusual buried vessels with specialized floor artifacts



Figure 14.25. LA 37593, Room 103, south wall.





Figure 14.26. LA 37593, Room 103, north wall.

argues for special or ritual room use during one of these occupations. The northeast corner of the room was constructed over a lower cultural manifestation (perhaps a pit structure), which should also lie beneath Room 104 to the east.

#### *Discussion: Roomblock 1*

Archaeological investigations have revealed that Roomblock 1 is a small surface structure consisting of seven rooms. The rectangular roomblock is orientated east-west, and the north-south walls are aligned almost exactly on magnetic north. The medial wall dividing the room tiers was constructed first, followed by the symmetrical layout of “front” and “back” rooms. The roomblock was seemingly constructed as a unit, with the exception of Room 102, which was secondarily appended to the west end of the structure.

Rooms were commonly constructed with the long axis parallel to the plaza, but longer north-south floor plans perpendicular to the activity area provide an unusual twist to site layout. I assume that Roomblock 1 is associated with Pit Structure 1, with a common north-south roomblock, plaza and

activity area, pit structure, and trash mound layout. This layout seems reasonable, although a formal refuse area was not apparent. A formal refuse deposit may have been removed by the arroyo south of the pit structure or in the path of the old irrigation ditch. The highly settled community or “urban” setting complicates the relationship of site elements and site layout. The site is literally surrounded by cultural manifestations that may have influenced the excavated site elements in the narrow project area. The initial construction of the highway may have removed related cultural manifestations to the west, although backhoe trenches revealed no material in the immediate vicinity. The interpretive value of Roomblock 2 to the north has been completely altered during utility construction. However, my impression of the remaining segment is that of a small, possibly one-room structure, seemingly too small to warrant an associated pit structure. Given our present understanding of the site, I favor a standard north-south roomblock, activity area, pit structure association and site layout.

No chronometric dates were obtained for the roomblock. The ceramic assemblage presents a mixture of mineral- and carbon-decorated sherds

characteristic of a Transitional Mid to Late Pueblo II occupation. The pit structure has a somewhat stronger Mid Pueblo II construction date, with ceramics dominated by mineral-painted sherds. A single dendrochronological date of ca. AD 1100 is suggestive of the latter end of the ceramic component. Roomblock 1 should also have been constructed during the Mid Pueblo II period, considering an alignment of Roomblock 1 and Pit Structure 1. I'm inclined to think that both Roomblock 1 and Pit Structure 1 were originally constructed during Mid Pueblo II. The pit structure was abandoned, preserving a stronger mineral-painted ceramic assemblage. The roomblock saw continued use/reuse, with carbon-painted sherds from the various floors demonstrating Late Pueblo II use. Room 102 was constructed after Rooms 101 and 103 but shows no discernible use-episodes. Like the pit structure, Room 102 may have been constructed and abandoned early, becoming the receptacle of trashy fill with higher frequencies of mineral-decorated sherds.

Room function in terms of "front," plaza-facing living rooms and "back" storage rooms was not readily apparent. Instead, both rooms expressed periodic use while the roomblock was in a state of deterioration. This supports the contention that the roomblock was constructed prior to the observable use-episodes. Floor levels were not on the same horizontal plane between the rooms. Room 103 floors were deeper, with Floor 1 corresponding in depth to Floor 3 in Room 101. How use-episodes were related between the rooms is uncertain. In general, artifacts and features give the impression of periodic episodes of storage and expedient shelter. I find the presence of intrusive brown ware sherds with one of these episodes in Room 101 Floor 2 worthy of note. However, the unusual buried vessels and floor artifacts from Room 103 Floor 2 seem to denote special or ritual activities. This room may have been, in addition, a subfloor entry into Room 104 and was apparently constructed partially over some sort of subsurface cultural manifestation.

The original construction height of the cobble walls has been a continuous point of conjecture. The tallest surviving wall segment was 40 cm, represented by eight courses. The wall could easily have supported the weight of additional courses, but the original wall height is unknown. The best example of double-simple wall construction from

Room 101 employed a minimum of mortar, considering the problematic building medium of stacked, rounded cobbles. The occupants were selecting construction cobbles consistently ranging from 10 by 10 by 2 cm to 15 by 10 by 4 cm. The vertical 4 cm measurement seemed to be the critical dimension, with the least tolerance of variation for producing level, uniform courses. Cobble courses were separated by about 2 to 3 cm of mortar, producing uniform 5 to 6 cm coursing planes. Horizontally, cobbles were separated by about 2 to 3 cm of mortar. The use of selected cobbles set in level uniform courses produced a rather strong wall capable of supporting the weight of additional courses or nonmasonry superstructure, and the potential for high-standing masonry.

This masonry style was utilized most consistently throughout the construction of Room 101 but was not maintained over the entire roomblock. The best-preserved segments of double-simple cobble masonry utilized 32 cobbles per linear meter of construction. A single course around the 23.75 linear meters of walls enclosing only the excavated rooms required about 760 cobbles, using this idealized cobble construction frequency. The tallest surviving wall height of eight courses made use of 6,080 cobbles. The 2,163 wall fall cobbles quantified during excavation included 617 from surface definition trenches, 519 from Room 101, 154 from Room 102, and 873 from Room 103. These cobbles would construct about a four-course wall around the excavated rooms. The remaining four courses, consisting of some 2,500 cobbles, are missing and were presumably scavenged in the past along with the roofing materials. There was a large quantity of cobbles in the pit structure, which may account for some of the "missing" rock, and it is also possible that walls used nonrock materials such as wattle or adobe to bring them to the desired height.

The entire seven-room structure consisting of an estimated 48.35 m of linear walls needed 12,378 cobbles to construct an eight-course wall. A full-standing 2 m wall (7 ft) would consist of about 36 courses composed of some 55,692 cobbles. Needless to say, this quantity of cobbles is not represented in the cobble mound, considering that only 617 cobbles were recovered from the first two levels of wall-definition trenches. There was a large quantity of cobbles in the pit structure, which may account for some of the "missing" rock, and it is also possible that walls

used nonrock materials such as wattle or adobe to bring them to the desired height. The discrepancy in cobble frequency argues for either shorter walls or composite walls and prehistoric scavenging practices.

The average medium-sized cobble weighs about 1 kg. If a single house builder spent an arbitrary one hour at the nearby terrace selecting a rather heavy load of 22 cobbles (44 pounds), the full wall height, seven-room construction project would require an energy expenditure of about 2,531 trips. The gathering of cobbles alone would take one individual 105 days to complete working 24 hours a day. The four adults comprising a two-household social unit would accomplish the labor in 42 eight-hour days.

Assembling closing and support materials—timbers, bast, roofing dirt—would also have been laborious. In any event, this exercise demonstrates that at the very least the construction of even a small structure was a formidable task involving an appreciable investment of time and labor. The concentrated cobbles constituting a structure were undoubtedly valuable resources for future construction projects, as were any wooden elements, which we rarely found in the course of the project. The structures must have embodied noteworthy land and social claims to the social units involved in their construction, use, and heritage. Whereas the associated pit structures have become filled and invisible through time, the surface cobble mounds remain conspicuous “bumps” across the landscape to this day.

## ROOMBLOCK 2

Roomblock 2 was a poorly preserved roomblock not visible from the surface. Excavations uncovered the surviving remnant of a one-room cobble structure, but the interpretive integrity of the cultural material was completely lost. This site area was severely altered by the water line installations. The east-west length of the roomblock is unknown, the north-south width was 1.6 m, and the floor area was incomplete.

The surviving structure was bounded by the 43N to 46N lines and the 66E to 68E lines (Figs. 14.3, 14.27). The structure was 6 m north of and directly upslope from Pit Structure 1. The southeast corner of Roomblock 1 was 4 m east. Several extramural features were directly south of the structure. The

surface was characterized by bare, hardpan ground sloping south into the arroyo. Surface cobbles were rare, and the mechanically altered ground effectively masked the structure. The water line installations had scattered human bone across the surface, and the structure was discovered during the excavation of exploratory trenches intended to recover the human bone. The area was explored by 10 grid excavation units ranging in size from 1 by 2 m ( $n = 4$ ) to 1 by 3 m ( $n = 6$ ). An area of 24 sq m was examined to define the structure. Fill was removed in 10 cm levels and was screened through 1/4-inch mesh.

The trenches uncovered the outline of one partial room. The water line trench cut the western half of the room; fill was thoroughly churned and mixed. Modern material including glass, metal, and asphalt was mixed with the prehistoric artifacts. Surviving wall alignments were limited to foundation footing stones. The upper walls were completely razed, and none of the fill or prehistoric artifacts recovered from the various excavation units could be confidently attributed to the actual room remnant. There was no evidence that additional wall alignments abutted the defined walls. The structure did not extend west of the water line trenches.

### Fill

Fill from the various grid excavation units was classified as surface strip and general fill, but these vertical designations can be combined because of the extreme mixing. The fill is essentially identical to the disturbed upper cultural layer encountered across the site with the addition of higher numbers of wall fall cobbles ( $n = 144$  medium-sized cobbles). The fill was compacted brown sandy clay with light cultural staining. Cultural material was dominated by ceramics followed by chipped stone artifacts and smaller frequencies of ground stone, faunal remains, and human bone (Tables 14.4–14.9, 14.27–14.31). The human bone is attributed to elements originating from the Pit Structure 1 bone layer that were scattered during the mechanical water line installation. The scattered human bone shows that cultural material is mixed and may have originated from multiple depositional proveniences.

### Walls

The surviving walls had been reduced to a single course of foundation footing cobbles. Their heights



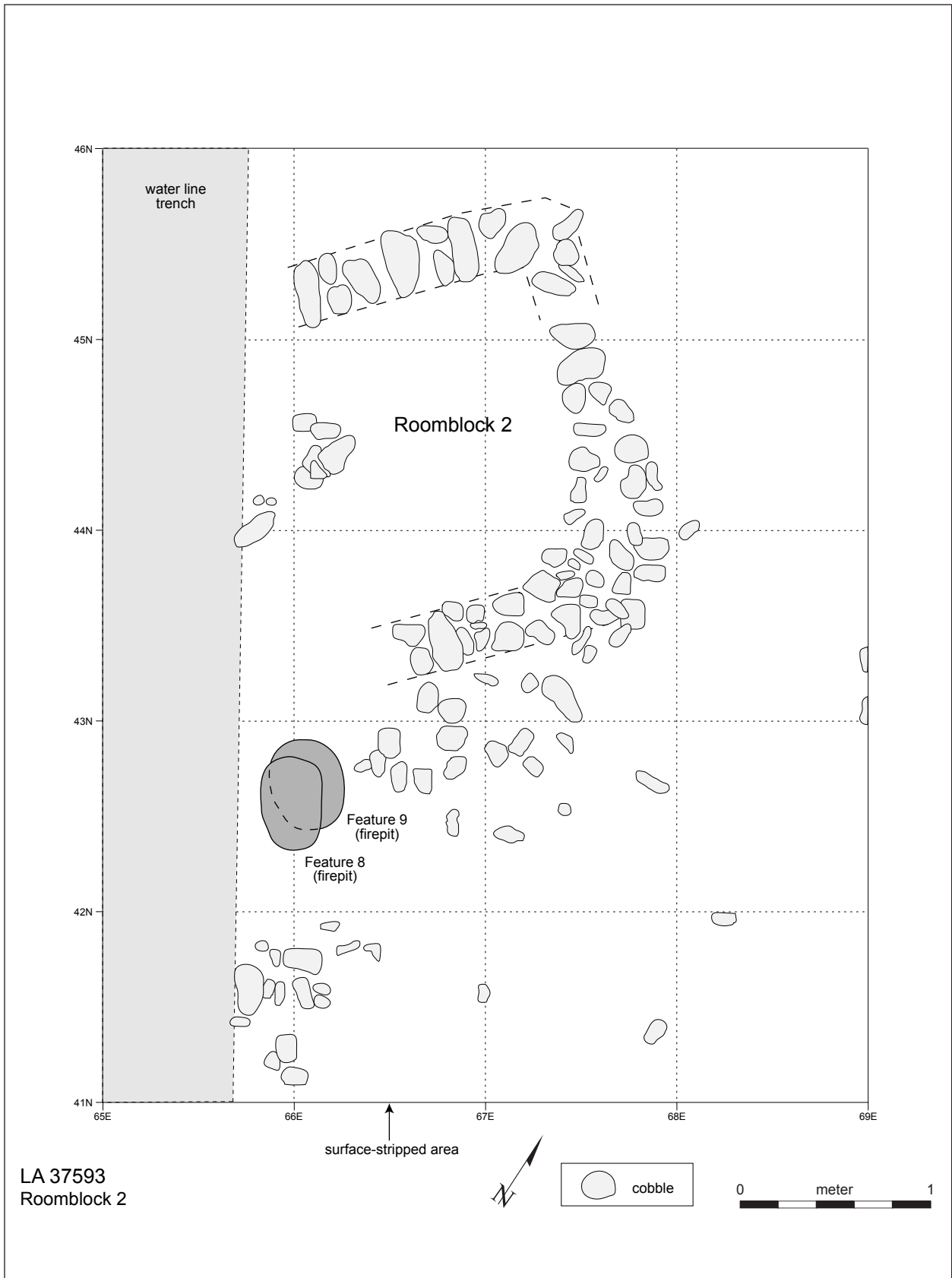


Figure 14.27. LA 37593, Roomblock 2, plan.

were as follows: northeast corner, 8 cm (one course); northwest corner, unknown; southeast corner, 8 cm (one course); southwest corner, unknown. The walls were 25 to 30 cm wide and were constructed of a combination of large single cobbles and double rows of medium-sized cobbles set end to end, perpendicular to the room interior. The walls were resting on sterile sandy alluvium at a depth of 50 to 55 cm below datum. This was the same depth as that of the medial wall dividing Roomblock 1. The cobbles rested directly on the sterile alluvium with no indication of a foundation trench. The 144 cobbles recovered from the exploratory trenches would add only about one course around just the surviving 4.50 m of linear walls. There was no indication of doors in the surviving wall portions. No floors or use-surfaces were detected in the room. No roofing material was recovered, and there was no indication that the structure had burned.

#### *Discussion: Roomblock 2*

The surviving segment of Roomblock 2 is suggestive of a single-room structure. The longer east-west axis of the rectangular room is parallel to the south work area, contrasting with the Roomblock 1 orientation. Two superimposed extramural hearths directly outside the south wall may be related to the structure. The room faces Pit Structure 1 to the south, but the apparent one-room structure seems too small to have initiated the original roomblock-pit structure alignment.

The surviving one-room remnant gives the impression of a fieldhouse. Unfortunately, none of the jumbled artifacts confidently characterize associated activities, and dating the structure is problematic. Unless the room has no temporal overlap with the other structures, it is unlikely that this remnant served as a fieldhouse, given its location amid several other structures. Ceramics indicate a mixed Late Pueblo II background. Based on this general context, I place the construction of the structure after that of Roomblock 1 and Pit Structure 1. The seemingly Late Pueblo II affiliation overlaps with the continued use of Roomblock 1, but Pit Structure 1 was already abandoned. Both occupational use and postabandonment erosion may have contributed materials to the upper fill of the pit structure.

#### **PIT STRUCTURE 1**

Pit Structure 1 was discovered at LA 37593 after the excavation of human bone that had been exposed during the water line installations. An exploratory backhoe trench encountered the lower walls of the pit structure and revealed that the human bone had been prehistorically placed in a partially filled, abandoned pit structure cavity. The pit structure is about 8 m south of Roomblock 1 and about 5 m south and downslope of Roomblock 2. The structure is bounded by the 33N to 38N lines and the 63E to 68E lines (Figs. 14.3, 14.28a).

The dimensions of the pit structure were 3.80 m long (north-south) and 3.70 m wide (east-west). The floor area was 11.04 sq m, and the structure was 2.40 m below present ground surface (original ground surface was not determined). The maximum height of the walls was 1.20 m (upper walls not preserved). The orientation of the structure was 155 degrees true north.

The unlikely location of Pit Structure 1 on the rather steeply sloping north arroyo bank, combined with surface alteration associated with the 1980 water line installations and complete natural filling of the structure effectively obscured all surface indications. Pit Structure 1 was probably associated with the prominent surface structure represented by Roomblock 1, in which the surface and subsurface structures displayed a standard north-south, unit-type site layout. The arroyo has removed any midden than may have developed south of the pit structure.

Pit Structure 1 had a circular floor plan (Fig. 14.28a) with a major off-chamber cist on the west side. Rather than a north-south axis, the 155-degree true north axis gives the pit structure a southeast to south southeast orientation, roughly parallel to the west terrace. The nearby pit structure at LA 37591 has a similar orientation.

After the human remains had been removed, a backhoe trench was dug along the 67N grid line. The profile of the pit structure was discovered in the backhoe trench (Fig. 14.28b). The upper fill, human bone layer, and a refuse sample below the human bone layer were excavated by hand in relation to grid units. After the unexpected discovery of the pit structure, we removed the lower fill below these units with the backhoe to within about 30 cm of the floor. The remaining fill was designated roof fall

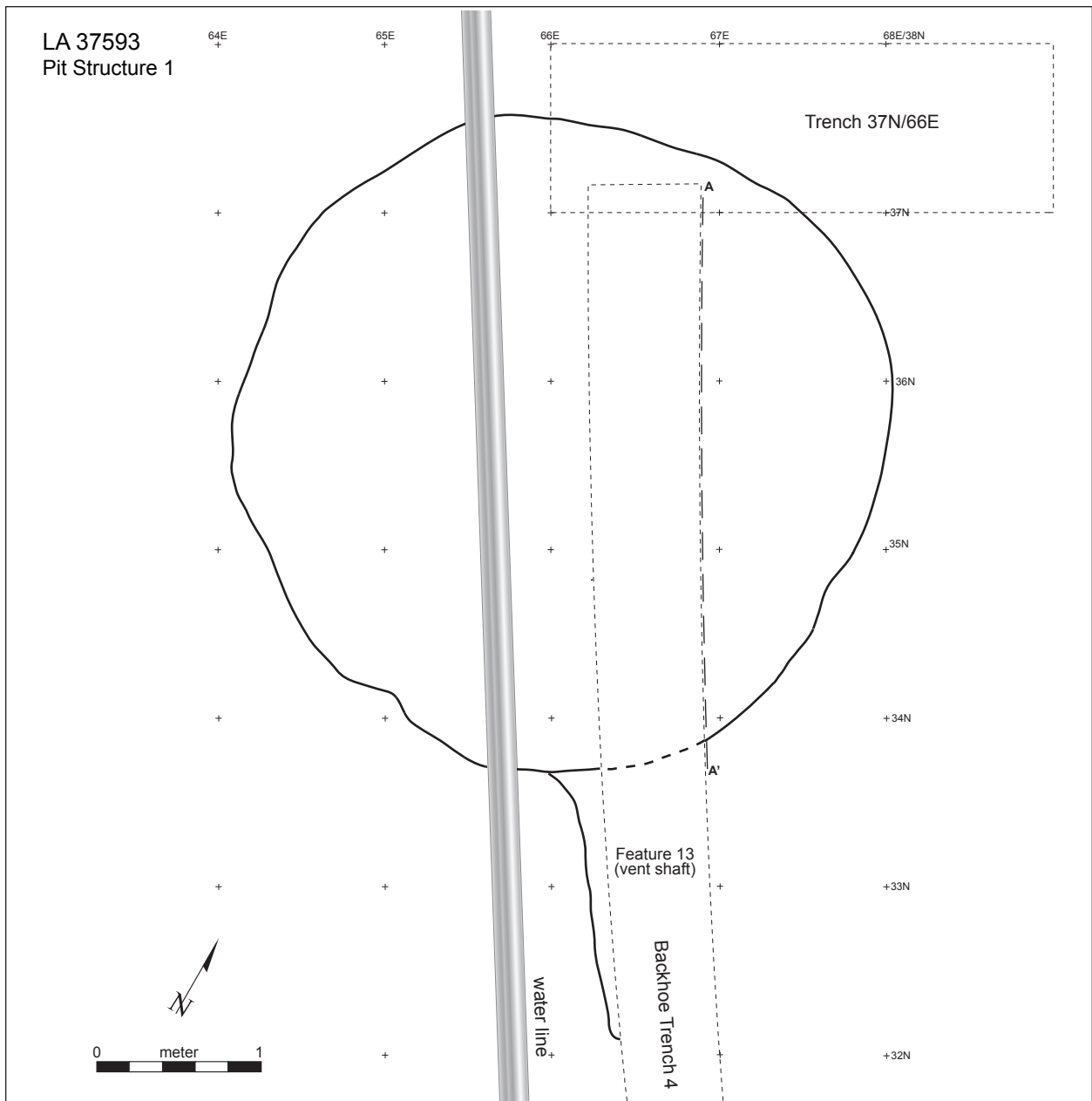


Figure 14.28a. LA 37593, Pit Structure 1, plan.

and floor fill. These excavation units were excavated with trowels, but the fill was not screened. Feature fill was excavated with trowels, and all feature fill was screened. Excavation of the pit structure was hampered by the exposure of the water line, which required leaving a 30 cm wide north-south balk across the pit structure to support the pipe. The backhoe trench removed about a 90 cm wide segment of the floor along the 67N grid line.

Excavators identified 34 stratigraphic layers in

the north-south profile along the 67E grid line (Fig. 14.28b). These depositional layers were removed in five larger excavation units: upper fill, human bone layer, refuse sample, roof fill, and floor fill (Tables 14.36-14.41). Both cultural and natural processes were involved with the fill sequence. The roof of the pit structure was removed at abandonment, and the pit structure filled with a combination of alluvial fill and culturally dumped construction dirt. This was followed by the additional cultural dumping of con-

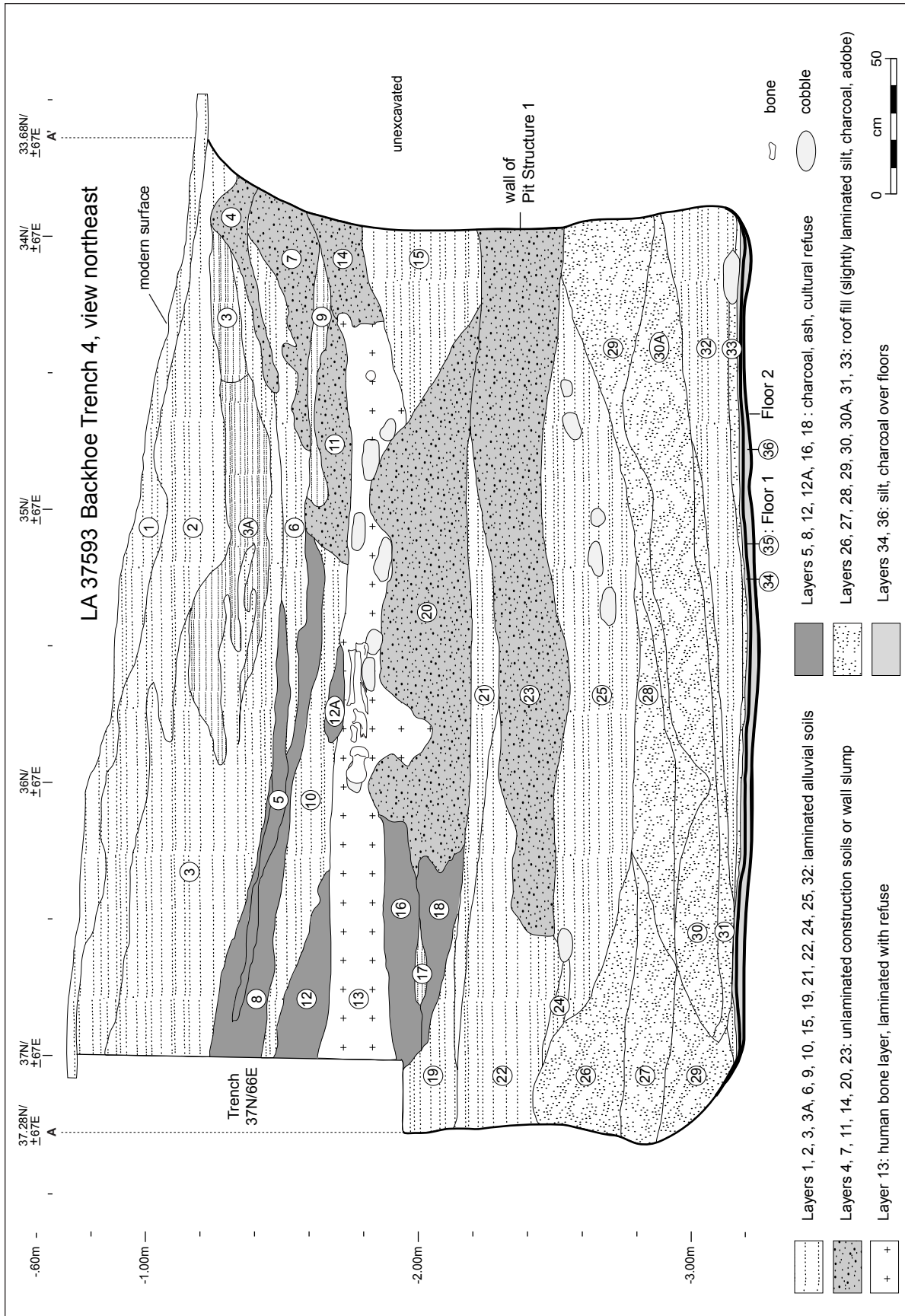


Figure 14.28b. LA 37593, Pit Structure 1, Backhoe Trench 4, profile, view northeast.

Table 14.36. LA 37593, Pit Structure 1, pottery types by stratigraphic context; counts and percents.

	Above Roof		Roofing Material		Bone Layer		Refuse Sample		Floor Fill		Floor		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Fillet rim	-	-	-	-	-	-	-	-	-	-	1	0.2%	1	0.0%
Pueblo II corrugated	5	0.5%	2	0.5%	5	0.8%	1	0.3%	-	-	-	-	13	0.4%
Pueblo II-III corrugated	11	1.1%	9	2.1%	3	0.5%	2	0.6%	-	-	6	1.2%	31	1.1%
Pueblo III corrugated	-	-	5	1.2%	2	0.3%	1	0.3%	-	-	1	0.2%	9	0.3%
Plain gray	172	16.8%	26	6.1%	77	13.0%	53	16.8%	2	10.0%	110	21.5%	440	15.2%
Corrugated gray	574	56.2%	265	61.9%	296	49.9%	127	40.2%	7	35.0%	237	46.4%	1506	52.1%
Incised corrugated	2	0.2%	-	-	-	-	-	-	-	-	1	0.2%	3	0.1%
Red Mesa-style black-on-white	-	-	-	-	-	-	-	-	-	-	1	0.2%	1	0.0%
Pueblo II black-on-white	17	1.7%	9	2.1%	6	1.0%	8	2.5%	2	10.0%	29	5.7%	71	2.5%
Black Mesa-style black-on-white	-	-	-	-	1	0.2%	-	-	-	-	-	-	1	0.0%
Dogoszhi-style black-on-white	12	1.2%	2	0.5%	12	2.0%	6	1.9%	2	10.0%	5	1.0%	39	1.3%
Chaco-style black-on-white	-	-	1	0.2%	1	0.2%	-	-	-	-	-	-	2	0.1%
Pueblo II-III black-on-white	92	9.0%	48	11.2%	77	13.0%	67	21.2%	2	10.0%	21	4.1%	307	10.6%
Pueblo III black-on-white	1	0.1%	-	-	1	0.2%	-	-	-	-	-	-	2	0.1%
Painted black-on-white	-	-	-	-	4	0.7%	-	-	1	5.0%	58	11.4%	63	2.2%
Polished white	109	10.7%	50	11.7%	88	14.8%	47	14.9%	2	10.0%	33	6.5%	329	11.4%
Polished black-on-white	18	1.8%	7	1.6%	18	3.0%	3	0.9%	1	5.0%	2	0.4%	49	1.7%
Transitional Pueblo III black-on-white	-	-	1	0.2%	-	-	1	0.3%	-	-	-	-	2	0.1%
Squiggle hachure black-on-white	3	0.3%	3	0.7%	-	-	-	-	-	-	4	0.8%	10	0.3%
Mesa Verde Deadmans Black-on-red	2	0.2%	-	-	1	0.2%	-	-	-	-	-	-	3	0.1%
Kayenta indeterminate red	2	0.2%	-	-	-	-	-	-	1	5.0%	-	-	3	0.1%
Kayenta Tusayan Black-on-red	-	-	-	-	-	-	-	-	-	-	1	0.2%	1	0.0%
Kayenta Tusayan Polychrome	-	-	-	-	1	0.2%	-	-	-	-	-	-	1	0.0%
Mogollon Tularosa Fillet rim	-	-	-	-	-	-	-	-	-	-	1	0.2%	1	0.0%
Mogollon Smudged Brown	1	0.1%	-	-	-	-	-	-	-	-	-	-	1	0.0%
<b>Total</b>	<b>1021</b>	<b>100.0%</b>	<b>428</b>	<b>100.0%</b>	<b>593</b>	<b>100.0%</b>	<b>316</b>	<b>100.0%</b>	<b>20</b>	<b>100.0%</b>	<b>511</b>	<b>100.0%</b>	<b>2889</b>	<b>100.0%</b>



Table 14.37. LA 37593, Pit Structure 1, vessel forms and paint types by stratigraphic context; counts and percents.

	Above Roof		Roofing Material		Bone Layer		Refuse Sample		Floor Fill		Floor		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Form</b>														
Indeterminate	3	0.3%	2	0.5%	2	0.3%	1	0.3%	–	–	2	0.4%	<b>10</b>	<b>0.3%</b>
Bowl rim	24	2.4%	15	3.5%	16	2.7%	12	3.8%	1	5.0%	9	1.8%	<b>77</b>	<b>2.7%</b>
Bowl body	79	7.7%	45	10.5%	71	12.0%	60	19.0%	1	5.0%	18	3.5%	<b>274</b>	<b>9.5%</b>
Seed jar rim	–	–	–	–	11	1.9%	–	–	–	–	–	–	<b>11</b>	<b>0.4%</b>
Olla rim	1	0.1%	1	0.2%	–	–	–	–	–	–	–	–	<b>2</b>	<b>0.1%</b>
Olla neck	–	–	–	–	–	–	1	0.3%	–	–	–	–	<b>1</b>	<b>0.0%</b>
Cooking, storage rim	28	2.7%	16	3.7%	20	3.4%	7	2.2%	–	–	19	3.7%	<b>90</b>	<b>3.1%</b>
Necked jar body	64	6.3%	48	11.2%	43	7.3%	24	7.6%	2	10.0%	27	5.3%	<b>208</b>	<b>7.2%</b>
Jar body	811	79.4%	298	69.6%	428	72.2%	210	66.5%	16	80.0%	431	84.3%	<b>2194</b>	<b>75.9%</b>
Ladle	–	–	3	0.7%	–	–	–	–	–	–	–	–	<b>3</b>	<b>0.1%</b>
Ladle bowl	6	0.6%	–	–	–	–	1	0.3%	–	–	3	0.6%	<b>10</b>	<b>0.3%</b>
Ladle handle	2	0.2%	–	–	2	0.3%	–	–	–	–	2	0.4%	<b>6</b>	<b>0.2%</b>
Open gourd dipper	1	0.1%	–	–	–	–	–	–	–	–	–	–	<b>1</b>	<b>0.0%</b>
Pipe	2	0.2%	–	–	–	–	–	–	–	–	–	–	<b>2</b>	<b>0.1%</b>
<b>Total</b>	<b>1021</b>	<b>–</b>	<b>428</b>	<b>100.0%</b>	<b>593</b>	<b>100.0%</b>	<b>316</b>	<b>100.0%</b>	<b>20</b>	<b>100.0%</b>	<b>511</b>	<b>100.0%</b>	<b>2889</b>	<b>100.0%</b>
<b>Paint</b>														
None	107	43.0%	50	41.3%	88	42.7%	46	35.1%	2	20.0%	34	22.2%	<b>327</b>	<b>37.6%</b>
Organic	33	13.3%	11	9.1%	28	13.6%	13	9.9%	1	10.0%	2	1.3%	<b>88</b>	<b>10.1%</b>
Mineral	109	43.8%	60	49.6%	90	43.7%	72	55.0%	7	70.0%	117	76.5%	<b>455</b>	<b>52.3%</b>
<b>Total</b>	<b>249</b>	<b>100.0%</b>	<b>121</b>	<b>100.0%</b>	<b>206</b>	<b>100.0%</b>	<b>131</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>153</b>	<b>100.0%</b>	<b>870</b>	<b>100.0%</b>

Table 14.38. LA 37593, Pit Structure 1, chipped stone tool and material types by stratigraphic context; counts and percents.

	Above Roof		Roofing Material		Bone Layer		Refuse Sample		Floor Fill		Floor		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Tool Type</b>														
Debitage	284	85.8%	60	77.9%	118	75.2%	62	86.1%	8	80.0%	39	70.9%	<b>571</b>	<b>81.3%</b>
Core	9	2.7%	6	7.8%	12	7.6%	2	2.8%	–	–	3	5.5%	<b>32</b>	<b>4.6%</b>
Retouched, utilized debitage	29	8.8%	6	7.8%	18	11.5%	8	11.1%	1	10.0%	8	14.5%	<b>70</b>	<b>10.0%</b>
Retouched, utilized core	2	0.6%	–	–	–	–	–	–	–	–	–	–	<b>2</b>	<b>0.3%</b>
Drill	2	0.6%	–	–	–	–	–	–	–	–	–	–	<b>2</b>	<b>0.3%</b>
Graver	–	–	1	1.3%	–	–	–	–	–	–	–	–	<b>1</b>	<b>0.1%</b>
Bifacial knife, scraper	1	0.3%	–	–	1	0.6%	–	–	–	–	–	–	<b>2</b>	<b>0.3%</b>
Projectile point	–	–	–	–	–	–	–	–	1	10.0%	–	–	<b>1</b>	<b>0.1%</b>
Hammerstone	4	1.2%	4	5.2%	8	5.1%	–	–	–	–	5	9.1%	<b>21</b>	<b>3.0%</b>
<b>Total</b>	<b>331</b>	<b>100.0%</b>	<b>77</b>	<b>100.0%</b>	<b>157</b>	<b>100.0%</b>	<b>72</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>55</b>	<b>100.0%</b>	<b>702</b>	<b>100.0%</b>
<b>Material Type</b>														
Chert	127	38.4%	30	39.0%	66	42.0%	32	44.4%	3	30.0%	18	32.7%	<b>276</b>	<b>39.3%</b>
Chalcedony	5	1.5%	1	1.3%	6	3.8%	1	1.4%	–	–	–	–	<b>13</b>	<b>1.9%</b>
Silicified wood	90	27.2%	23	29.9%	22	14.0%	11	15.3%	1	10.0%	8	14.5%	<b>155</b>	<b>22.1%</b>
Quartzite	6	1.8%	2	2.6%	4	2.5%	2	2.8%	3	30.0%	2	3.6%	<b>19</b>	<b>2.7%</b>
Quartzitic sandstone	20	6.0%	5	6.5%	20	12.7%	15	20.8%	–	–	5	9.1%	<b>65</b>	<b>9.3%</b>
Igneous	3	0.9%	–	–	–	–	1	1.4%	–	–	–	–	<b>4</b>	<b>0.6%</b>
Rhyolite	1	0.3%	–	–	–	–	–	–	–	–	–	–	<b>1</b>	<b>0.1%</b>
Sandstone	2	0.6%	–	–	–	–	–	–	–	–	1	1.8%	<b>3</b>	<b>0.4%</b>
Siltstone	77	23.3%	16	20.8%	39	24.8%	10	13.9%	3	30.0%	21	38.2%	<b>166</b>	<b>23.6%</b>
<b>Total</b>	<b>331</b>	<b>100.0%</b>	<b>77</b>	<b>100.0%</b>	<b>157</b>	<b>100.0%</b>	<b>72</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>55</b>	<b>100.0%</b>	<b>702</b>	<b>100.0%</b>

Floor fill (n = 10) and floor collapsed.

Table 14.39. LA 37593, Pit Structure 1, ground stone tool types, counts by stratigraphic context.

	Above Roof	Roofing	Bone Layer	Refuse Sample	Floor Fill	Floor	Count
Plaster polishing stone	–	–	–	–	–	2	2
Abrading stone	–	–	1	2	–	2	5
Shaped slab	2	–	2	2	1	8	15
Jar cover	–	–	–	–	–	2	2
Lapidary stone	1	–	1	–	1	1	4
Mano	1	1	2	1	–	1	6
One-hand mano	1	–	1	1	–	1	4
Two-hand mano	1	–	2	–	–	8	11
Two-hand slab mano	–	–	–	–	–	6	6
Metate	2	1	–	–	–	–	3
Slab metate	–	–	–	–	–	1	1
Full-grooved axe	–	–	–	–	–	1	1
Wedge	–	–	–	–	–	1	1
Pendant	–	1	–	–	–	–	1
<b>Total</b>	<b>8</b>	<b>3</b>	<b>9</b>	<b>6</b>	<b>2</b>	<b>34</b>	<b>62</b>

Table 14.40. LA 37593, Pit Structure 1, faunal remains, taxon by stratigraphic context; counts and percents.

	Above Roof		Roofing Material		Bone Layer		Refuse Sample		Floor Fill		Floor		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Cottontail rabbit	2	1.8%	1	14.3%	1	0.8%	–	–	–	–	1	4.0%	5	1.8%
Jackrabbit	3	2.7%	–	–	1	0.8%	–	–	–	–	2	8.0%	6	2.1%
Weasel and allies	–	–	–	–	2	1.6%	–	–	–	–	–	–	2	0.7%
Dog, coyote, wolf	–	–	–	–	1	0.8%	–	–	–	–	–	–	1	0.4%
Dog, coyote, fox, wolf	1	0.9%	–	–	–	–	–	–	–	–	–	–	1	0.4%
Deer	19	16.8%	–	–	4	3.2%	2	25.0%	3	100.0%	2	8.0%	30	10.7%
Artiodactyl	–	–	–	–	2	1.6%	–	–	–	–	–	–	2	0.7%
Mammal	4	3.5%	–	–	22	17.7%	–	–	–	–	1	4.0%	27	9.6%
Small mammal	24	21.2%	1	14.3%	18	14.5%	–	–	–	–	9	36.0%	52	18.6%
Medium–large mammal	9	8.0%	–	–	3	2.4%	–	–	–	–	3	12.0%	15	5.4%
Large mammal	36	31.9%	5	71.4%	20	16.1%	4	50.0%	–	–	5	20.0%	70	25.0%
Turkey	10	8.8%	–	–	–	–	1	12.5%	–	–	2	8.0%	13	4.6%
Bird	4	3.5%	–	–	50	40.3%	1	12.5%	–	–	–	–	55	19.6%
Bird eggshell	1	0.9%	–	–	–	–	–	–	–	–	–	–	1	0.4%
<b>Total</b>	<b>113</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>124</b>	<b>100.0%</b>	<b>8</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>25</b>	<b>100.0%</b>	<b>280</b>	<b>100.0%</b>

struction dirt, refuse, and, most interestingly, a secondary interment of human skeletal remains. The upper fill covering the human remains was mainly alluvial sediments.

### Upper fill

The upper fill was excavated by hand in relation to various grid-based excavation units. The pit structure had not been discovered at this point. The upper fill included Layers 1 through 12, characterized mainly by alluvial sediments with smaller amounts of light refuse and unlaminated wall

slump, or construction soils. The excavation unit extended from the surface to contact with the human remains layer at a depth of 80 cm below the surface. The “upper fill” designation differentiated undisturbed fill, while “disturbed upper fill” designated mixed fill removed from the water line trench. The upper fill contained moderate artifact content commensurate with the range of artifact types and frequencies recovered from the lower excavation units.

### Burial 4

Burial 4 was a formal primary burial encountered by

Table 14.41. LA 37593, excavation units defining human bone layer; summary table.

Trench	Size (m)	Comment	Upper Fill	Bone Layer	Below Bone Layer	Total
33N/64E	1 x 1	Southwest edge of pit structure.	2	10	–	12
33N/65E	1 x 2	South quadrant of pit structure with eastern 50 cm of trench truncated by waterline.	21	203	–	224
33N/66E	1 x 2	South quadrant of pit structure with waterline along western edge.	20	138	–	158
33N/67E	1 x 2	Southeast edge of pit structure.	10	13	–	23
34N/64E	1 x 3	West quadrant of pit structure.	3	385	–	388
35N/63E	segment	Western edge of pit structure.	–	35	–	35
35N/65E	1 x 3	North quadrant of pit structure with eastern 50 cm of trench truncated by waterline.	11	179	–	190
35N/66E	1 x 2	North quadrant of pit structure with waterline along western edge.	28	712	2	742
35N/67E	1 x 2	East quadrant of pit structure.	–	187	–	187
36N/68E	segment	Eastern edge of pit structure; bone removed only from profile.	–	48	–	48
37N/66E	1 x 3	North edge of pit structure; bone actually found outside of projected pit structure walls and probably represents waterline-scattered elements.	9	–	–	9
Waterline/backhoe	–	Elements collected from waterline trench and backhoe profile.	29	13	–	42
<b>Total</b>			<b>133</b>	<b>1923</b>	<b>2</b>	<b>2058</b>

the backhoe while stepping down the perimeter of the deep pit structure cavity for purposes of safety. The burial was probably positioned just inside the eastern edge of the pit structure in the vicinity of the 34N/68E and/or 35N/68E grids. The upper walls of the pit structure were poorly preserved, and they were not recognized during the excavation of the upper fill. The burial was situated in the upper fill between the surface and a depth of 50 cm. The burial was separated from the lower, secondary interment by about 30 cm of fill. The burial was encountered while monitoring the backhoe, and unfortunately only some of the badly disturbed skeletal elements were recovered. A grave pit was not identified. The relationship of the few artifacts collected from the same backhoe bucket with the burial is uncertain. No formal grave offerings were found. The recovered bone was mainly postcranial elements from a six-year-old child. The sex and burial position were not identified. The burial represents the last cultural event in the depositional history of the pit structure. Ceramics from the upper fill suggest that the burial occurred during the Late Pueblo II period (AD 1025–1125).



### *Human Remains Layer*

The human remains layer (Layer 13) in Pit Structure 1 at LA 37593 was an enigmatic deposit of both semiarticulated and disarticulated human bone culturally introduced into the upper fill of the abandoned structure (Figs. 14.28b, 14.29, 14.30, 14.31). The human bones (n = 2,203) represent the remains of at least 17 individuals. The pit structure had filled with about 1.3 m of fill when the bone was deposited in the open and abandoned cavity. About 80 cm of fill covered the bone and obliterated all surface visibility of the structure. Unfortunately, the integrity of the human remains layer was adversely affected during the early 1980s mechanical installation of two water lines. The water line cut completely through the deposit, exposing and scattering bone across the site surface. The only positive aspect

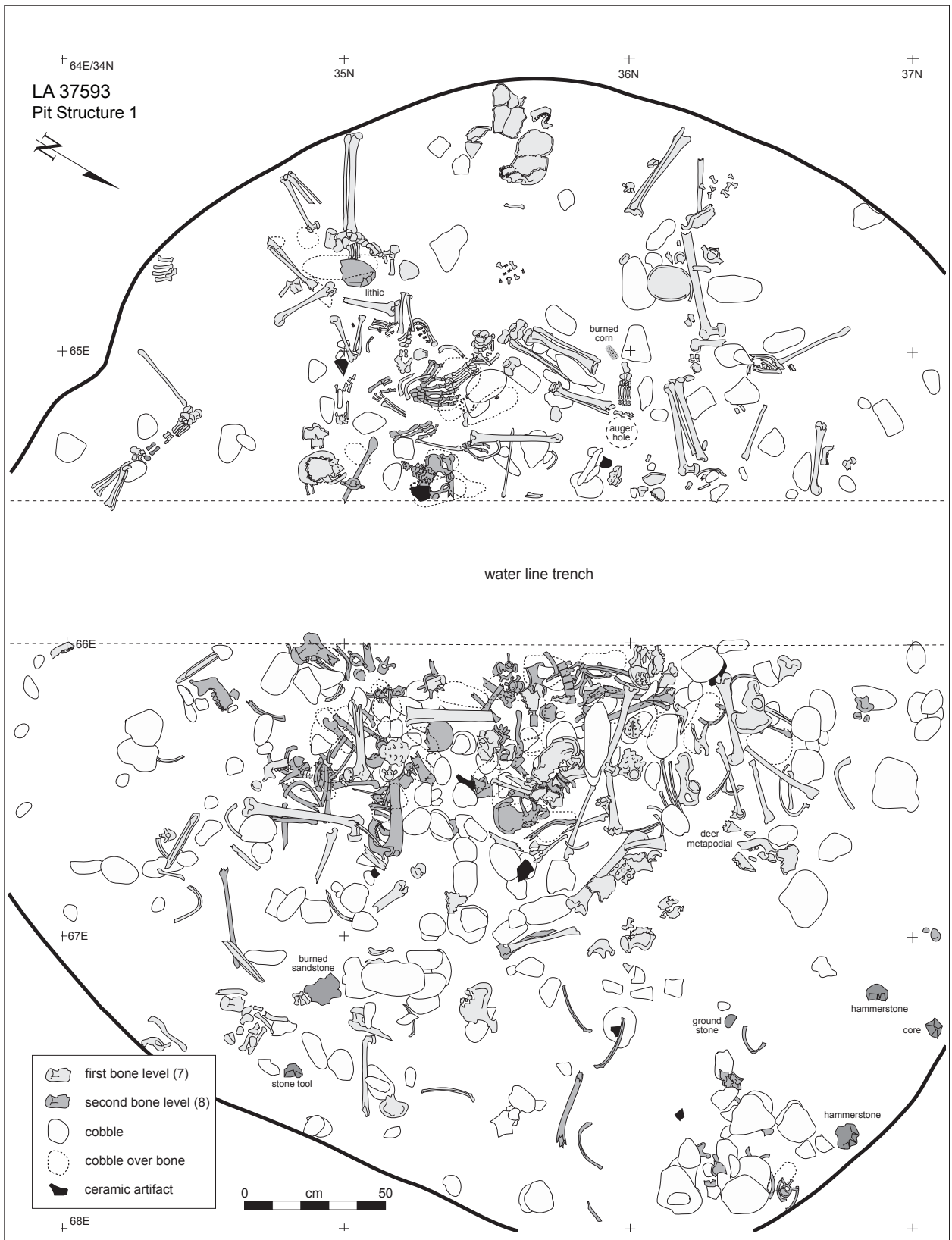


Figure 14.29. LA 37593, Pit Structure 1, Layer 13, Levels 7 and 8, human remains, plan.



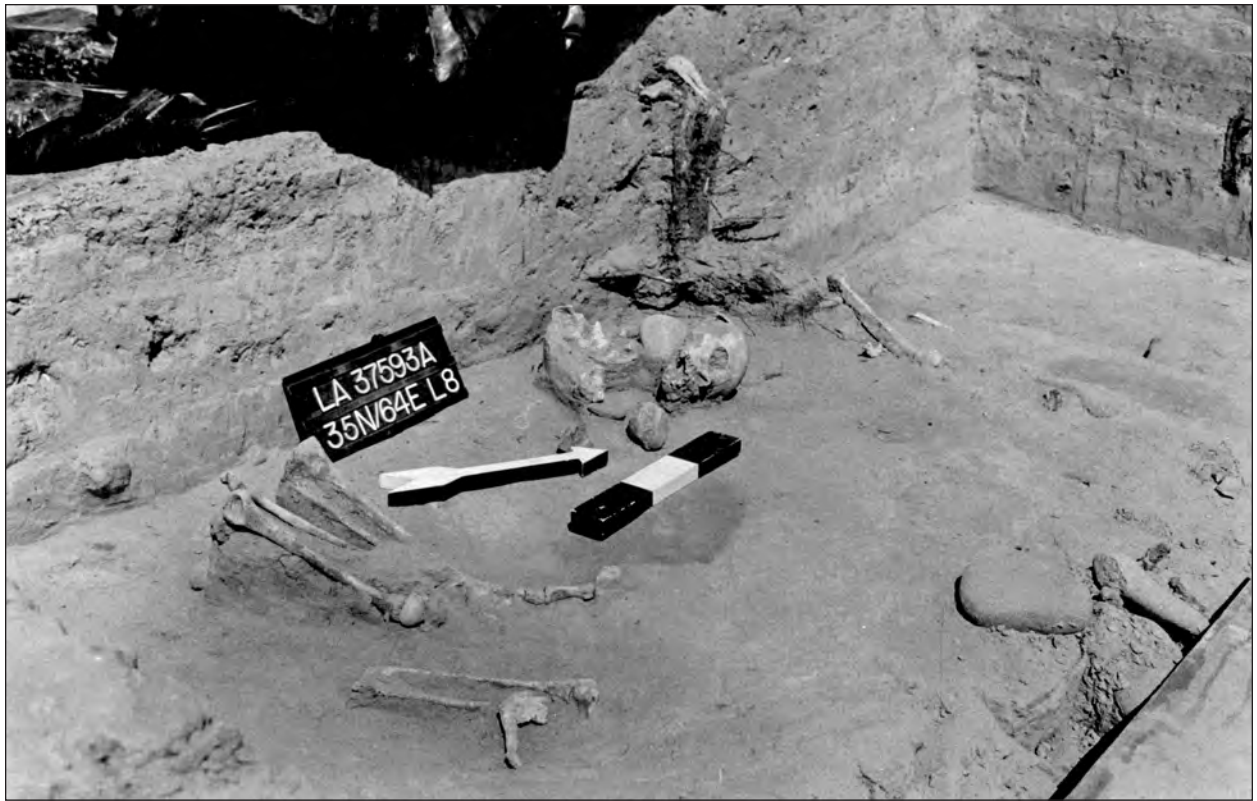


Figure 14.30. LA 37593, Pit Structure 1, Layer 13, Level 8, human remains (semiarticulated), view west.



Figure 14.31. LA 37593, Pit Structure 1, Layer 13, Level 7, human remains (disarticulated), view southwest.



of this event was that the exposed surface bone led to the discovery of the subsurface remains. The area of the site containing the deposit most likely would not have been investigated because of the severe mechanical alteration of the arroyo slope and the sensitivity of working around the high-pressure water lines.

### **Water line trench**

The eastern water line trench at LA 37593 cut completely through the center of the human remains layer (Figs. 14.28a, 14.29). The eastern edge of the 50 cm wide trench passed almost exactly along the 66E grid line. The trench was dug to a depth of 1.50 m below the surface, passing through the human remains layer and extending another 50 cm below the deposit. The trench passed north-south through the central and thickest portion of the deposit. The basin-shaped deposit averaged about 30 cm thick in the center and tended to taper out around the edges of the structure. Similarly, human bone was concentrated in the center of the deposit and was less dense around the perimeter.

The amount of human bone removed from the deposit by mechanical equipment and irretrievably lost is unknown. The human bone layer comprised about 3.3 cu m of fill based on calculations using the measurements of the average diameter of the pit structure and a maximum layer thickness of 30 cm. The 3.80 by 0.50 m by 0.30 m segment of the trench cutting through the human bone layer removed about 0.6 cu m, or 18 percent of the deposit. The actual amount of material removed is probably higher, considering that the trench passed through the center of the deposit containing the densest concentration of bone. At 206 bones per individual, the estimated 17 individuals would total 3,502 elements, but only 2,203 elements were recovered from all excavation units. This indicates that as many as 1,299 elements (37 percent) may be missing, allowing for original and complete primary interments.

We recovered 154 pieces of human bone that had been removed from the in situ deposit and scattered during the water line installations. Human bone was scattered in about a 20 by 20 m surface area at the time of excavation. Surface collection grids accounted for 120 pieces of human bone. The surface bone had been open to the elements for nearly 10 years and suffered from weathering. An unknown number of surface elements were undoubtedly lost

over the course of the exposure. Another 31 elements from various subsurface contexts were recovered by exploratory and roomblock-definition trenches. These elements had been additionally churned by mechanical agencies and introduced into subsurface contexts by rodents. Only the three pieces of bone from Room 103 may not have originated from the human bone layer. Unfortunately, time did not permit extended exploration for bone away from the primary provenience, and exploratory excavations undoubtedly did not recover all of the subsurface elements scattered during the water line installation. The water line trench outside of the pit structure was not exposed because of safety concerns, and this trench was undoubtedly an important source of bone pulled from the main bone layer.

### **Methodology**

As with adjacent Roomblock 2, the surface at Pit Structure 1 was characterized by bare hardpan sloping south into the arroyo. The surface was greatly scarred from the heavy machinery operations and subsequent erosion. The scattered surface bone was collected from 38 grids; bone frequency ranged from 1 to 11 elements per unit. Grids overlying the pit structure contained 41 pieces of human bone. The remaining surface bone was scattered north and south of the pit structure. Much of the southern bone was pushed east by blading and was collected from grids 4 to 5 m east of the water line trench.

As investigations began, the pit structure had not yet been identified, and the exact location and depth of the water line trenches were unknown. The source of the scattered surface bone was found with grid-based exploration units, beginning with the excavation of 1 by 3 m trench 35N/65E (Table 14.41). The trench was excavated to a depth of 1.24 m below the surface; it was the first unit to encounter the subsurface bone concentration. The concentrated human bone layer was about 0.85 m below the surface.

Investigations proceeded by extending 1 by 2 m trench 33N/65E to the south. These two exploratory trenches established the north-south extent of the human bone layer. Contiguous exploration units were then excavated east and west, following the extent of bone exposed in the trenches. The entire human remains layer was excavated with 11 explor-

atory trenches of varying sizes. The pit structure was not identified until after the human bone layer was removed, and a backhoe trench along the 67E line encountered the lower walls and floor of the structure. The poorly preserved upper walls of the pit structure were not recognized during the excavation of the human bone layer.

The upper fill, consisting of about 80 cm of fill overlying the human remains layer, was excavated by hand with picks, shovels, augers, and trowels. The majority of the trenches were excavated in 10 cm levels, and fill was screened with 1/4-inch mesh. Only the upper fill of trench 33N/67E was removed as a full-cut, unscreened unit to expedite exposure of the human bone layer. The upper fill from this trench was examined with trowels but not screened. Similarly, disturbed fill from the water line trench was examined with trowels but not screened. Human bone scattered throughout the upper fill had been separated from the human bone layer by various postevent activities, including extensive rodent disturbance. The upper fill was removed more rapidly in order to expose the human remains layer. Bone from the upper fill may show evidence of excavation damage in the form of shovel, pick mattock, and auger scarring. Bone from the water line trench may evidence heavy machinery scarring as well as excavation damage from the larger excavation tools.

The human remains layer consisted of culturally deposited *in situ* skeletal elements. The 20 to 30 cm thick layer was excavated completely by hand with metal trowels, dental picks, and wooden tools. All fill was screened through 1/4-inch mesh. The soil matrix surrounding the bone was consistently compact and could be penetrated with a trowel only with great effort. All care and sensitivity was exercised toward bone recovery; bone may nonetheless evidence some excavation damage in the form of scarring from the various hand tools because of the hardness of the soil. Exposed bone from the trenches was removed at the end of each day's excavation because of the proximity of the highway. Investigations were disadvantaged by the necessity of quickly exposing and removing the bone from each trench and inability to view the entire exposed deposit.

### **Stratigraphy**

LA 37593's human remains layer was in the upper

fill of Pit Structure 1 about 1.3 m above the floor (Fig. 14.28b). The abandoned pit structure had initially filled with about 1 m of both naturally introduced laminated alluvial soils and culturally introduced unlaminated construction dirt, or spoils. The open cavity then experienced an episode of water ponding characterized by about a 10 cm layer of fine laminated clay. The fill directly beneath the human remains layer consisted of both a mound of culturally deposited construction/spoils dirt and charcoal-stained refuse. These layers rested directly on the lower ponded clay unit. The uneven mounded appearance of the construction dirt suggests that the human remains layer was introduced soon after the construction dirt was deposited and before the mound had a chance to disseminate. The rather homogenous human remains layer was seemingly deposited as a single cultural event. This layer was covered with about 80 cm of naturally deposited alluvial soils interspersed with thin layers of refuse. Additional construction spoil or wall slump was confined mainly to the south perimeter.

### **Fill**

The human remains layer (Layer 13; Fig. 14.28b) was composed of a soil matrix of compact, very pale brown (10YR 7/4), fine to medium sand/silt with thin clay laminations. The fill is very similar to the culture-bearing layer characterizing the general prehistoric site occupation. The culturally stained fill contained a moderate amount of refuse, but charcoal was scarce. There was no indication of direct burning. The fill was probably introduced as grave-covering material that was additionally modified by alluviation. The deposit was subject to repeated ponding episodes evidenced by the thin clay laminations. This repeated alluvial action may have been a source of artifact and bone movement, mixing, and disturbance. Alluvial action associated with the nearby arroyo undoubtedly contributed to the poor preservation of the upper pit structure walls. The sediment and refuse composing the fill was essentially identical to alluvial sediments positioned both above and below the human bone layer. The human bone layer contrasted with the surrounding alluvial sediments mainly by the addition of the human skeletal elements and an abundance of medium-sized construction cobbles. Although not specifically quantified, photographs suggest that the human remains layer contained around 200

cobbles intermingled with the bone. Only scattered cobbles were found above and below the human bone layer.

### Cultural Materials

The human remains layer in Pit Structure 1 at LA 37593 contained a moderate amount of refuse consisting of ceramics, chipped and ground stone artifacts, and faunal elements including a bone awl fragment (Tables 14.36–14.40). The refuse was intermingled with the skeletal elements. The artifacts originated from intentionally introduced refuse accompanying the grave dirt and materials washed in by alluvial action. Lensing in the stratigraphic units above and below the human remains layer suggests that cultural material was consistently washing downslope and into the pit structure cavity from the north. Other than redeposited refuse accompanying the grave dirt, there was no indication that artifacts were associated with activities directly related to the bone. There were no formal grave offerings with the skeletal remains. For the most part, artifact frequencies and type distributions vary little from site-wide refuse patterns. Similarly, artifact classes have comparable distributions between the various pit structure fill units.

Ceramics are the only means of dating the deposit, and they are consistent with an event dating from the Late Pueblo II period (AD 1025 to 1125). Decorated sherds are painted mainly with mineral pigments. Smaller amounts of organic-painted sherds and Pueblo II–III black-on-white suggest a Late Pueblo II date. A single Chaco-style black-on-white sherd was found with the human remains layer, one of seven such sherds recovered from the site. Ceramics from fill units above the human bone layer and from a refuse sample below the skeletal remains reflect similar distributions and temporal associations.

Eight hammerstones were found in the human remains layer, but 59 hammerstones were collected from the entire site, and the artifact type was common and widespread. For example, three hammerstones were found in fill above the human bone layer, and nine more were found in the lower roof fill and on the floor. The faunal assemblage included nearly equal numbers of small and large mammals along with several deer elements (Tables 14.40, 14.41). The most unusual overrepresentation were the 50 indeterminate bird bone fragments that make

up about 42 percent of the general bird bone ( $n = 118$ ) recovered from the site. The only other concentration of bird bone were 30 similar indeterminate fragments found with Burial 3 grave fill.

*Human remains.* The disarticulated human bone assemblage ( $n = 2,203$ ) represents at least 17 individuals ranging in age from infants to older adults (Tables 14.42, 14.43; also see Martin et al. 2001:143–153). The age distribution includes infants 0–2 years of age ( $n = 1$ ); children 3–5 years ( $n = 2$ ), 6–10 years ( $n = 5$ ), and 11–15 years ( $n = 2$ ); adult females ( $n = 3$ ); and adult males ( $n = 4$ ). The adult age distribution includes a female and a male between 15 and 20, a male between 25 and 29, a male between 35 and 40, and two females over 40 years of age. The assemblage was composed of single disarticulated elements and articulated segments, including legs and feet, arms and hands, and vertebrae and ribs (Figs. 14.30, 14.31). Crania were generally fragmentary, but several were complete and apparently fractured by cobbles. No fully articulated skeletons were found, but as many as a quarter of the elements from individuals in all age groups were originally articulated. Other elements from the same individuals were nearby. Analysts noted that age groups tended to cluster within various excavation units, suggesting that parts of individuals were placed close together (Martin et al. 2001:143–153). The water line definitely affected both the extent and numbers of original articulations. Excavators noted articulated legs and vertebrae truncated by the trench. Many of the postcranial elements are complete (32.8 percent), and another 12.9 percent are represented by over half of the element (Table 14.44). Articulated segments were indiscriminately positioned, and no specific directional orientation was noted. The bone from the various individuals and age groups was of the same general condition and quality. Weathering was recorded on the majority of the bone (Table 14.45).

Analysts found that the skeletal assemblage contained relatively low frequencies and types of alteration (Martin et al. 2001:143–153; Table 14.46). Alteration types included burning, carnivore damage, and various impact and spiral breaks. Partial light burning was limited to three small ambiguous bone fragments. The fragments are from the end of a long bone, and the cancellous structure actually resembles that of a medium-sized mammal

Table 14.42. LA 37593, Pit Structure 1, human bone layer, counts by skeletal element and age.

<b>Element</b>	<b>Indeterminate</b>	<b>Juvenile</b>	<b>Young</b>	<b>Mature</b>	<b>Total</b>
Indeterminate	3	1	–	26	<b>30</b>
Indeterminate fragment	7	–	–	13	<b>20</b>
Long bone fragment	7	5	1	33	<b>46</b>
Plate, blade fragment	85	1	–	46	<b>132</b>
Cancellous tissue	13	1	–	–	<b>14</b>
Cranial fragment	67	88	17	96	<b>268</b>
Cranial complex	–	1	1	–	<b>2</b>
Cranial vault	–	1	–	1	<b>2</b>
Posterior 1/2 of vault	–	1	–	–	<b>1</b>
Occipital region	–	–	–	3	<b>3</b>
Occipital	–	–	1	3	<b>4</b>
Occipital condyle	–	–	–	5	<b>5</b>
Sphenoid	–	2	4	5	<b>11</b>
Hyoid	–	–	–	1	<b>1</b>
Vomer	–	–	–	1	<b>1</b>
Parietal	–	–	9	5	<b>14</b>
Parietal + occipital	–	–	–	3	<b>3</b>
Temporal	1	–	3	15	<b>19</b>
Zygomatic	–	–	–	3	<b>3</b>
Mastoid process	–	–	1	–	<b>1</b>
Frontal	–	2	1	4	<b>7</b>
Orbital region	–	–	4	4	<b>8</b>
Malar	–	1	–	5	<b>6</b>
Lacrima	–	–	–	1	<b>1</b>
Maxillary region	–	–	–	1	<b>1</b>
Maxilla	–	2	2	1	<b>5</b>
Maxilla dentition	–	–	1	–	<b>1</b>
Palate	–	–	–	1	<b>1</b>
Nasal	–	–	1	–	<b>1</b>
Styloid process	–	–	–	1	<b>1</b>
Mandible	–	2	3	4	<b>9</b>
Ascending ramus	–	1	1	1	<b>3</b>
Coronoid process	–	–	–	1	<b>1</b>
Mandibular condyle	–	1	–	–	<b>1</b>
Horizontal ramus	–	–	1	2	<b>3</b>
Indeterminate tooth	2	1	14	4	<b>21</b>
Deciduous incisor	–	1	–	–	<b>1</b>
Permanent incisor	–	1	–	–	<b>1</b>
Upper permanent incisor	–	–	1	–	<b>1</b>
Central upper perm incisor	–	1	2	3	<b>6</b>
Lateral upper perm incisor	–	–	–	1	<b>1</b>
Central lower perm incisor	–	1	–	3	<b>4</b>
Lateral lower perm incisor	–	–	–	1	<b>1</b>
Upper deciduous canine	–	–	–	2	<b>2</b>
Upper permanent canine	–	1	1	–	<b>2</b>
Canine	–	–	1	2	<b>3</b>
Premolar	–	–	3	1	<b>4</b>
First upper premolar	–	2	2	1	<b>5</b>
Second upper premolar	–	1	1	2	<b>4</b>
Premolar	–	2	–	8	<b>10</b>
First lower premolar	–	1	–	–	<b>1</b>
Second lower premolar	–	–	–	1	<b>1</b>
Permanent molar	–	–	2	1	<b>3</b>

Table 14.42 (continued)

Element	Indeterminate	Juvenile	Young	Mature	Total
First permanent molar	–	2	–	–	2
Second permanent molar	–	2	1	2	5
Third permanent molar	–	–	1	1	2
First lower perm molar	–	–	1	–	1
Second permanent molar	–	1	1	1	3
Third lower perm. molar	–	–	–	1	1
Vertebra	5	6	–	37	48
Atlas (C1)	–	1	–	8	9
Axis, (C2)	–	1	1	2	4
Cervical vertebra	–	1	1	4	6
Cervical 3	–	–	1	1	2
Cervical 4	–	1	–	1	2
Cervical 5	–	1	–	1	2
Cervical 6	–	1	–	1	2
Cervical 7	–	1	–	2	3
Thoracic vertebra	–	7	9	11	27
Thoracic 1	–	1	–	1	2
Thoracic 2	–	1	–	1	2
Thoracic 3	–	1	–	1	2
Thoracic 4	–	1	–	1	2
Thoracic 5	–	1	–	1	2
Thoracic 6	–	1	–	1	2
Thoracic 7	–	1	–	1	2
Thoracic 9	–	–	–	1	1
Thoracic 10	–	–	–	1	1
Thoracic 11	–	–	–	2	2
Thoracic 12	–	–	–	3	3
Lumbar vertebra	1	–	3	3	7
Lumbar 2	–	–	–	2	2
Lumbar 3	–	–	–	2	2
Lumbar 4	–	1	–	1	2
Lumbar 5	–	1	–	2	3
Sacral vertebra	–	2	–	–	2
Sacrum	–	2	–	3	5
Caudal vertebra	–	–	–	2	2
Sternum, sternebra	–	1	–	1	2
Manubrium	–	2	–	–	2
Rib	1	50	7	313	371
Clavicle	–	1	3	5	9
Scapula	–	8	2	7	17
Acromion	–	–	–	1	1
Innominate	–	1	1	–	2
Single pelvis	–	1	–	–	1
Ilium	–	5	–	3	8
Ischium	–	4	–	–	4
Pubis	–	3	–	–	3
Ilium, acetabulum, ischium	–	–	1	1	2
Ischium, pubis	–	1	–	–	1
Pubic symphysis	–	–	2	1	3
Humerus	–	12	3	7	22
Radius	–	14	2	5	21
Ulna	–	8	3	8	19
Carpal	–	24	–	–	24
Scaphoid	–	1	–	5	6
Lunate	–	2	–	3	5
Pisiform	–	1	–	2	3
Triquetral	–	1	–	2	3



Table 14.42 (continued)

Element	Indeterminate	Juvenile	Young	Mature	Total
Trapezium	–	2	–	5	7
Trapezoid	–	2	–	2	4
Capitate	–	3	–	3	6
Hamate	–	–	–	3	3
Metacarpal	–	3	–	1	4
Metacarpal 1	–	6	–	5	11
Metacarpal 2	–	7	1	4	12
Metacarpal 3	–	10	–	4	14
Metacarpal 4	–	10	1	4	15
Metacarpal 5	–	12	1	2	15
Phalanx (manus)	–	2	–	–	2
First phalanx (manus)	–	35	–	21	56
Second phalanx (manus)	–	24	–	12	36
Third phalanx (manus)	–	23	–	8	31
Femur	–	16	1	16	33
Patella	–	2	–	4	6
Tibia	–	14	–	11	25
Fibula	–	8	3	9	20
Tarsal	–	1	–	–	1
Talus	–	6	1	4	11
Calcaneus	–	4	1	2	7
Medial cuneiform	–	4	–	4	8
Central cuneiform	–	3	2	6	11
Lateral cuneiform	–	3	–	3	6
Navicular	–	7	–	3	10
Cuboid	–	5	–	7	12
Metatarsal	–	1	–	–	1
Metatarsal 1	–	6	–	5	11
Metatarsal 2	–	4	–	4	8
Metatarsal 3	–	5	2	4	11
Metatarsal 4	–	5	–	5	10
Metatarsal 5	–	5	–	4	9
Phalanx (pes)	–	3	–	–	3
First phalanx (pes)	–	27	–	22	49
Second phalanx (pes)	–	14	–	13	27
Third phalanx (pes)	–	11	–	10	21
Sesamoid	–	2	–	–	2
Carpal or tarsal	–	10	–	–	10
Metapodial	–	1	–	–	1
<b>Total</b>	<b>192</b>	<b>606</b>	<b>134</b>	<b>991</b>	<b>1923</b>

Table 14.43. LA 37593, Pit Structure 1, human bone layer, counts by skeletal element and completeness.

	Complete	Epiphysis Missing	Diaphysis	Epiphysis	>75%	50–75%	25–50%	<25%	Total
Indeterminate	–	–	–	1	–	–	–	40	41
Indeterminate fragment	–	–	–	–	–	–	–	24	24
Long bone fragment	–	–	–	2	–	–	2	53	57
Plate, blade fragment	–	–	–	–	–	–	–	100	100
Cancellous tissue	–	–	–	–	–	–	–	8	8
Cranial fragment	–	–	–	–	–	–	–	248	248
Cranial complex	–	–	–	–	1	–	–	1	2
Cranial vault	–	–	–	–	–	1	1	–	2
Posterior 1/2 of vault	–	–	–	–	1	–	–	–	1
Occipital region	–	–	–	–	–	–	–	3	3
Occipital	–	–	–	–	1	1	1	2	5
Occipital condyle	–	–	–	–	–	–	4	1	5
Sphenoid	–	–	–	–	–	1	5	5	11
Hyoid	–	–	–	–	–	–	1	–	1
Vomer	–	–	–	–	–	–	–	1	1
Parietal	2	–	–	–	2	1	3	7	15
Parietal + occipital	–	–	–	–	–	2	1	–	3
Temporal	2	–	–	–	3	2	2	10	19
Zygomatic	–	–	–	–	1	–	2	–	3
Mastoid process	1	–	–	–	–	–	–	–	1
Frontal	1	–	–	–	2	2	1	1	7
Orbital region	–	–	–	–	1	2	–	7	10
Malar	2	–	–	–	–	–	3	1	6
Lacrimal	–	–	–	–	–	–	–	1	1
Maxillary region	1	–	–	–	1	1	–	–	3
Maxilla	–	–	–	–	4	1	–	1	6
Maxilla dentition	–	–	–	–	1	–	–	–	1
Palate	–	–	–	–	–	–	–	1	1
Nasal	–	–	–	–	–	–	1	–	1
Styloid process	–	–	–	–	–	–	–	1	1
Mandible	4	–	–	–	1	3	1	–	9
Ascending ramus	–	–	–	–	1	–	1	1	3
Coronoid process	–	–	–	–	–	–	–	1	1
Mandibular condyle	–	–	–	–	1	–	–	–	1
Horizontal ramus	–	–	–	–	–	1	–	2	3
Indeterminate tooth	–	–	–	–	1	1	1	18	21
Deciduous incisor	–	–	–	–	–	1	–	–	1
Permanent incisor	–	–	–	–	1	–	–	–	1
Upper permanent incisor	–	–	–	–	1	–	–	–	1
Central upper permanent incisor	1	–	–	–	3	–	2	–	6
Lateral upper permanent incisor	–	–	–	–	–	–	1	–	1
Central lower permanent incisor	1	–	–	–	3	–	–	–	4
Lateral lower permanent incisor	–	–	–	–	1	–	–	–	1
Upper deciduous canine	–	–	–	–	2	–	–	–	2
Upper permanent canine	–	–	–	–	–	2	–	–	2
Canine	–	–	–	–	–	1	2	–	3
Premolar	–	–	–	–	1	–	3	–	4
First up premolar	2	–	–	–	3	–	–	–	5
Second up premolar	–	–	–	–	2	2	–	–	4

Table 14.43 (continued)

	Complete	Epiphysis Missing	Diaphysis	Epiphysis	>75%	50–75%	25–50%	<25%	Total
Premolar	1	–	–	–	9	–	–	–	10
First lower premolar	–	–	–	–	–	1	–	–	1
Second lower premolar	1	–	–	–	–	–	–	–	1
Permanent molar	–	–	–	–	–	2	–	2	4
First permanent molar	–	–	–	–	1	1	–	–	2
Second permanent molar	2	–	–	–	2	1	–	–	5
Third permanent molar	2	–	–	–	–	–	–	–	2
First lower permanent molar	1	–	–	–	–	–	–	–	1
Second permanent molar	3	–	–	–	–	–	–	–	3
Third lower permanent molar	1	–	–	–	–	–	–	–	1
Vertebra	–	–	–	5	–	–	–	43	48
Atlas (C1)	5	–	–	–	–	–	4	1	10
Axis, (C2)	2	–	–	–	2	–	–	–	4
Cervical vertebra	1	–	–	–	2	–	2	1	6
Cervical 3	1	–	–	–	1	–	–	–	2
Cervical 4	1	–	–	–	–	1	–	–	2
Cervical 5	1	–	–	–	–	–	1	–	2
Cervical 6	1	–	–	–	–	–	1	–	2
Cervical 7	–	–	–	–	2	–	1	–	3
Thoracic vertebra	1	–	–	–	16	3	2	7	29
Thoracic 1	1	–	–	–	–	1	–	–	2
Thoracic 2	1	–	–	–	–	1	–	–	2
Thoracic 3	1	–	–	–	–	–	1	–	2
Thoracic 4	1	–	–	–	–	–	1	–	2
Thoracic 5	1	–	–	–	–	–	1	–	2
Thoracic 6	1	–	–	–	–	–	1	–	2
Thoracic 7	1	–	–	–	–	1	–	–	2
Thoracic 9	–	–	–	–	1	–	–	–	1
Thoracic 10	1	–	–	–	–	–	–	–	1
Thoracic 11	2	–	–	–	–	–	–	–	2
Thoracic 12	3	–	–	–	–	–	–	–	3
Lumbar vertebra	–	–	–	–	4	–	2	2	8
Lumbar 2	1	–	–	–	1	–	–	–	2
Lumbar 3	1	–	–	–	1	–	–	–	2
Lumbar 4	1	–	–	–	1	–	–	–	2
Lumbar 5	2	–	–	–	1	–	–	–	3
Sacral vertebra	–	–	–	–	1	1	–	1	3
Sacrum	1	–	–	–	3	–	–	1	5
Caudal vertebra	2	–	–	–	–	–	–	–	2
Sternum, sternebra	1	–	–	–	1	–	–	–	2
Manubrium	–	–	–	–	–	–	1	1	2
Rib	6	–	1	–	19	17	48	282	373
Clavicle	1	3	–	–	3	–	1	1	9
Scapula	1	–	–	–	1	4	2	12	20
Acromion	1	–	–	–	–	–	–	–	1
Innominate	–	–	–	2	–	–	–	–	2
Single pelvis	–	–	–	–	1	–	–	–	1
Ilium	1	–	–	–	4	–	2	1	8
Ischium	1	–	–	–	1	1	1	–	4
Pubis	1	–	–	–	1	–	1	–	3
Ilium, acetabulum, ischium	1	–	–	–	1	–	–	–	2
Ischium, pubis	–	–	–	–	1	–	–	–	1
Pubic symphysis	–	–	–	–	–	–	–	3	3
Humerus	9	–	–	3	2	1	4	5	24

Table 14.43 (continued)

	Complete	Epiphysis Missing	Diaphysis	Epiphysis	>75%	50–75%	25–50%	<25%	Total
Radius	11	2	–	5	1	2	1	1	23
Ulna	8	1	–	2	4	1	3	1	20
Carpal	8	–	–	13	–	–	–	–	21
Scaphoid	5	–	–	–	1	–	–	–	6
Lunate	6	–	–	–	–	–	–	–	6
Pisiform	1	–	–	–	1	1	–	–	3
Triquetral	2	–	–	–	1	–	–	–	3
Trapezium	6	–	–	–	1	–	–	–	7
Trapezoid	2	–	–	–	2	–	–	–	4
Capitate	3	–	–	1	2	–	–	–	6
Hamate	1	–	–	–	2	–	–	–	3
Metacarpal	3	1	–	–	–	1	–	–	5
Metacarpal 1	10	1	–	–	–	–	1	–	12
Metacarpal 2	7	2	–	–	2	1	–	–	12
Metacarpal 3	7	4	–	–	3	–	1	–	15
Metacarpal 4	9	2	–	–	4	–	–	–	15
Metacarpal 5	8	1	–	1	5	–	–	–	15
Phalanx (manus)	–	–	–	2	–	–	–	–	2
First phalanx (manus)	43	10	–	1	4	4	–	–	62
Second phalanx (manus)	30	3	–	–	–	–	4	–	37
Third phalanx (manus)	25	5	–	–	1	–	–	–	31
Femur	6	–	–	8	4	3	10	9	40
Patella	3	–	–	–	2	–	1	–	6
Tibia	8	2	–	6	3	3	2	5	29
Fibula	4	–	–	2	7	4	2	3	22
Tarsal	1	–	–	–	–	–	–	–	1
Talus	10	–	–	–	–	–	2	–	12
Calcaneus	4	1	–	–	3	–	1	–	9
Medial cuneiform	8	–	–	–	–	–	–	–	8
Central cuneiform	9	–	–	–	1	–	1	–	11
Lateral cuneiform	5	–	–	–	1	–	–	–	6
Navicular	9	–	–	–	1	–	–	–	10
Cuboid	12	–	–	–	–	–	–	–	12
Metatarsal	–	–	–	1	–	–	–	–	1
Metatarsal 1	8	2	–	–	–	–	1	1	12
Metatarsal 2	6	2	–	–	–	–	–	–	8
Metatarsal 3	6	5	–	1	–	–	–	–	12
Metatarsal 4	7	3	–	–	1	–	–	–	11
Metatarsal 5	4	2	–	–	2	1	–	–	9
Phalanx (pes)	–	–	–	1	2	–	–	–	3
First phalanx (pes)	36	9	–	3	3	–	1	–	52
Second phalanx (pes)	24	3	–	–	–	–	–	–	27
Third phalanx (pes)	19	1	–	–	–	–	–	1	21
Sesamoid	2	–	–	–	–	–	–	–	2
Carpal or tarsal	3	1	–	–	6	–	–	–	10
Metapodial	–	–	–	2	–	–	–	–	2
<b>Total</b>	<b>474</b>	<b>66</b>	<b>1</b>	<b>62</b>	<b>192</b>	<b>82</b>	<b>146</b>	<b>922</b>	<b>1945</b>

Elements with indeterminate completeness not shown.

Table 14.44. LA 37593, Pit Structure 1, human bone, counts by completeness and fill type.

	Above Roof	Bone Layer	Refuse Sample	Total
Not applicable	–	1	–	1
Indeterminate	12	92	–	104
Complete	9	465	–	474
1 epiphysis missing	6	60	–	66
Diaphysis	–	1	–	1
Epiphysis	3	59	–	62
>75% present	7	185	–	192
50–75% present	4	78	–	82
25–50% present	12	134	–	146
<25% present	72	848	2	922
<b>Total</b>	<b>125</b>	<b>1923</b>	<b>2</b>	<b>2050</b>

Table 14.46. LA 37593, Pit Structure 1, human bone layer, counts by processing type and thermal alteration.

Cuts, Breaks	None	Burning, Graded	Count
None	1528	3	1531
Longitudinal split	3	–	3
Transverse split	3	–	3
Oblique split	7	–	7
Impact	37	–	37
Proximal end impact	1	–	1
Distal end impact	3	–	3
Midshaft spiral	17	–	17
Spiral	1	–	1
Abrasion	3	–	3
<b>Total</b>	<b>1603</b>	<b>3</b>	<b>1606</b>

Table 14.45. LA 37593, Pit Structure 1, faunal and human remains, counts by presence of weathering.

Faunal (bone layer only)				
	None	Weathering	Staining	Total
Indeterminate	6	–	–	6
Indeterminate fragment	8	2	–	10
Long-bone fragment	22	12	2	36
Plate, blade fragment	40	17	–	57
Cranial fragment	1	–	–	1
Petrous temporal	1	–	–	1
Frontal	2	–	–	2
Atlas (C1)	–	–	1	1
Lumbar vertebra	1	1	–	2
Lumbar 7	–	–	1	1
Rib	3	–	–	3
Tibia	–	1	–	1
Fibula	1	–	–	1
Metapodial	–	1	–	1
First phalanx	1	–	–	1
<b>Total</b>	<b>86</b>	<b>34</b>	<b>4</b>	<b>124</b>
Human				
	Above Roof	Bone Layer	Refuse Sample	Total
None	53	697	–	750
Erosion (scored, pitted)	4	180	–	184
Weathering	63	886	1	950
Solutional staining	3	152	1	156
Abrasion	1	8	–	9
<b>Total</b>	<b>124</b>	<b>1923</b>	<b>2</b>	<b>2049</b>

rather than a human. Light burning was recorded on 12 faunal elements from the human bone layer; small mammal (n = 5) and bird (n = 4) account for the majority of the species. Single elements of mammal, large mammal, and mule deer also had light burning. Carnivore damage was recorded on

2.5 percent (n = 56) of the bone; dogs and coyotes were probably responsible for the gnawing. Carnivore damage suggests that the bone was accessible and not deeply buried originally, which would have made it susceptible to further damage and element loss. Other bone alteration was characterized



by low amounts (3.6 percent,  $n = 78$ ) of splits, impacts, and spiral breaks. Most of this altered bone ( $n = 74$ ) was confined to the human bone layer, with infrequent numbers in the upper fill ( $n = 2$ ), Roomblock 2 definition trench ( $n = 1$ ), and a surface grid ( $n = 1$ ). The bone from the surface grid, definition trench, and one bone from the upper fill of the pit structure were redeposited during the water line installation. Spiral breaks on these three pieces of bone may have resulted from heavy-machinery damage. The various breaks occur on individuals of all ages and a wide variety of elements (Martin et al. 2001). The most common are impact breaks of crania and spiral breaks of femur shafts. Much of the observed breakage is ambiguous, but a large number can be attributed directly to the deposition of the bone at the same time as the deposition of the construction cobbles. Cobbles were thoroughly mixed with the bone and not just a cobble mantle. Many spiral breaks, impact breaks, and abrasions seemingly occurred when cobbles were tossed into the pit structure cavity with the skeletal elements. The pit structure cavity was approximately 1 m below the surface at the time of deposition. The quantity of cobbles tossed from this height would have had ample force to break bone and produce a variety of both direct impacts and indirect anvil-type breaks and abrasions. Photographs frequently document cobbles in direct contact with fractured bone.

### Human Remains: Discussion

The human bone layer in Pit Structure 1 seems to represent a single interment event of very short duration. Ceramics recovered from the upper fill, the human bone layer, and refuse below the deposit date to Late Pueblo II (AD 1025–1125). The placement of the skeletal remains high in the fill suggests that the remains were not associated with the closure of the pit structure. Although the pit structure had been abandoned and had accumulated over 1 m of fill, surface rooms were experiencing at least intermittent use. The surrounding Jackson Lake community was essentially at the height of its occupation. The site continued to be utilized into the Pueblo III period after the interment.

There is little evidence to support a hypothesis of intentional perimortem human alteration of the individuals represented in the skeletal assemblage (Martin et al. 2001:143–153). Instead, the assemblage appears to result from events involving the re-

location of human remains across the community. With the exception of Pueblo I, the Jackson Lake community had been almost continuously occupied since the Basketmaker III period, with settlement continuing until regional Pueblo III abandonment. The surrounding community experienced repeated episodes of land alteration involving new construction, structure dismantling, abandonment, and reuse of both features and structures in a very active and spatially concentrated locality. These repeated building episodes undoubtedly encountered and disturbed human remains in the densely settled “urban” context. Episodes of dumping without human remains occurred in the fill both above and below the human bone layer, which appears to represent the movement and secondary interment of burials encountered during prehistoric construction activities. The range of individuals seems characteristic of what prehistoric groups would have encountered in the community context. During the excavation of the Morris 41 community, Earl Morris (1939:90–91, 94, 96) reported several instances of disarticulated and broken bone in kivas and pits that he interpreted as graves disturbed and relocated in the course of construction.

Viewing the human bone layer as a secondary interment suggests that missing, disarticulated, and broken elements were largely unintentional and secondary to events motivated by construction activities. Some of the bodies were partially intact when moved, while others were not. Articulated hands and feet from many of the individuals suggest that the reinterment occurred when some limbs were still held together by ligaments and tendons. The absence of cut marks precludes intentional dismemberment of the bodies. Faunal bone is also largely fragmentary, though less abundant than human bone (Table 14.47). Placing the skeletal remains in the abandoned pit structure was probably not fortuitous. The open cavity of the pit structure provided a convenient burial depression in the compact soil, but the abandoned structure was undoubtedly charged with additional social/behavioral significance, memorializing use-rights, land claims, and other aspects of community social and behavioral dynamics (Toll and Schlanger 1998; Schlanger 1992). Placement of the skeletal remains in the upper fill of the pit structure may have been a means of reinforcing generational social ties to the locality. An additional formal burial was placed in the upper fill

Table 14.47. LA 37593, Pit Structure 1, faunal remains in human bone layer, counts by skeletal element and completeness.

	Indeterminate	Complete	Epiphysis Only	>75%	50–75%	25–50%	<25%	Process Only	Total
Indeterminate	–	–	–	–	–	–	6	–	6
Indeterminate fragment	10	–	–	–	–	–	–	–	10
Long-bone fragment	20	–	–	–	–	–	16	–	36
Plate, blade fragment	48	–	–	–	–	–	9	–	57
Cranial fragment	1	–	–	–	–	–	–	–	1
Petrous temporal	–	–	–	1	–	–	–	–	1
Frontal	–	–	–	–	2	–	–	–	2
Atlas (C1)	–	1	–	–	–	–	–	–	1
Lumbar vertebra	–	–	1	–	–	–	–	1	2
Lumbar 7	–	–	–	–	1	–	–	–	1
Rib	–	–	–	–	–	–	3	–	3
Tibia	–	–	–	–	–	1	–	–	1
Fibula	–	–	–	1	–	–	–	–	1
Metapodial	–	–	–	–	–	–	1	–	1
First phalanx	–	1	–	–	–	–	–	–	1
<b>Total</b>	<b>79</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>35</b>	<b>1</b>	<b>124</b>

above the human bone layer, but unfortunately this burial was discovered with the backhoe, and most of the interpretive value of the remains was diminished. However, the burial indicates continued use of the abandoned pit structure as a burial locality after the deposition of the human bone layer. The burial may also reinforce the view that the human bone layer was not the result of a violent event with lingering negative connotations such as cannibalism, witchcraft, or warfare trauma, which would have warranted disuse of the area.

Whether the skeletal remains were originally encountered in and removed from the immediate site area, the local community, or a more distant site is unclear. Late Pueblo III trash in the upper fill of the nearby pit structure at LA 37591 was deposited by descendant off-site households from an unidentified locality. This secondarily deposited refuse also seems to represent some type of behavior concerned with continued identity with the site. A fair amount of labor was expended in collecting and transporting basketloads of refuse to the pit structure. Some of the jumbled remains from the human bone layer give a similar impression of dumped basket-

loads of bone. Interestingly, Burial 3 had elevated amounts of bird bone corresponding with similar higher counts with the human bone layer. Although from a later Pueblo III component, Burial 3 may exemplify a type of burial and grave fill from which the human bone layer was generated.

The cobble-broken bone may suggest it was placed here by a social group unrelated to the remains. The absence of grave goods may support this contention. Any grave goods encountered with the primary burials were apparently reused or redeposited separately from the skeletal remains. In turn, these observations could simply reflect little-understood secondary interment practices in which burials were incidentally encountered by groups in a highly active community settlement. There is at least some concern for body placement indicated by the apparently jumbled “basketloads” of bone. The broken bone may also reflect unconcern for incidental breakage caused by contact with cobbles, possibly serving to hamper scavengers.

Turner and Turner (1999:314–316) have a contrasting interpretation of the skeletal remains. Based on their analysis of the assemblage, they conclude

that their criteria for cannibalism are present, although in low frequencies. However, their conclusion of cannibalism is based on their independent partial analysis of only 10 percent (n = 235) of the entire assemblage. Their published table of skeletal elements, bone damage, and MNI are inaccurate and misleading when viewed from the perspective of the entire assemblage.

The cannibalism signature proposed by the Turners is based on the presence of breakage, cut marks, anvil abrasions, burning, missing vertebra, and polishing. The human bone layer in fact consists of relatively high frequencies of whole bones. Whole bones are not confined to hand and foot bones, as the Turners suggest, but range across most of the elements and from all of the age groups. The Turners recorded four cut marks on cranial bone, while Martin et al. (2001:143–153) recorded no cut marks and only one gash on a metacarpal. The Turners recorded 70 instances of impact breaks and anvil abrasions confined mainly to cranial bone. The main source of recorded damage were various spiral and impact breaks (n = 79). These were also confined largely to cranial bone but were also recorded on several postcranial elements. Again, many, if not all, of the breaks can be directly attributed to incidental contact with surrounding cobbles rather than to intentional processing. Both analytical teams recorded burning on just three pieces of bone. The bone may be from a single element and may not be human.

The Turners recorded only three vertebrae and concluded that missing elements indicated cannibalism. In point of fact, 48 vertebrae were recovered, and these represent about 11 percent (48 of 408; MNI = 17) of the expected vertebra. The larger portion of the recovered vertebrae are complete. However, missing vertebrae along with other missing elements in general will always be problematic in this assemblage because of the extensive damage caused by the water line trench. Because of this unfortunate incident, arguments based on missing skeletal elements simply cannot be supported.

The Turners recorded no instances of pot polish because of inadequate time and inadequately cleaned bone; we believe that the pot polish attribute entered their analyses only after the publication of White (1992), which appeared after their analysis of these materials. Other analysts did not share the complaint about inadequately cleaned bone and recorded no instances of pot polish.

Lastly, the Turners state that bone was found on the floor and in the fill of the pit structure. All bone was found in the upper fill of the pit structure over 1 m above the floor.

In the final analysis, the Turners' claim of cannibalism is reduced from "low frequencies" to almost none when viewed from the standpoint of the entire assemblage, rather than a partial analytical subset. The various criteria for cannibalism all have multiple causes. In this case, site formation processes affecting the human bone layer create a poor case for cannibalism. Violent events such as cannibalism, witchcraft extermination, and warfare massacre could produce disarticulated and broken bone, but there should be a much higher incidence and range of cut marks and burning to support these contentions. The assemblage is seemingly best viewed from the perspective of poorly understood mortuary practices involving the movement and secondary interment of burials encountered in a heavily utilized community context. This secondary interment was then subjected to additional modification by carnivore activity, alluvial action, rodents, and, most radically, by modern construction events.



### Refuse sample

The refuse sample from Pit Structure 1 represented artifacts collected from Layers 16 and 18 (Fig. 14.28b). These layers consisted of charcoal and ash-stained refuse underlying the human bone layer on the north side of the pit structure. The sample was recovered from 1 by 2 m trench 35N/66E. The sample consisted of a 0.70 m long by 1.0 m wide by 0.25 m deep segment of the refuse. The refuse appeared to have been intentionally dumped into the pit structure along with unlaminated construction soils to the south. The unlaminated soils were artifact-poor. The intent of the sample was to obtain a ceramic assemblage for dating the refuse directly underlying the human bone layer. Ceramics from the refuse sample portray a Late Pueblo II (AD 1025–1125) occupation corresponding with the human bone layer and the upper fill. The refuse sample

also contained a similar range of artifact types and frequencies. The two human bone fragments in the deposit were probably introduced from the human bone layer by rodents.

### Roof fill

The roof fill in Pit Structure 1 was an excavation unit designating the lower 30 cm of fill resting on the floor. The unit consisted of Layers 29, 30, 31, and 32 in the pit structure profile (Fig. 14.28b). Layers 30 and 31 consisted of unlaminated silt and sand representing roof-closing soil. The layer contained numerous unburned roofing adobe chunks and light charcoal specking. Other than the charcoal flecks, there was no evidence of burning, and no wood was found in the layer. Layers 29 and 32 were laminated alluvial deposits of compact silt and sand surrounding the roofing soil; Layer 32 underlies the roofing soil and is thickest on the south end. This alluvial sediment was apparently deposited through the ventilator. This suggests that the pit structure was abandoned and accumulated alluvial sediments before the roof was completely dismantled. Layer 29 represents the accumulation of alluvial sediments after the roof was dismantled. Moderate amounts of refuse were mixed with the roof fill, including sherds, chipped stone, ground stone, and faunal remains. The artifacts are similar to those in the various upper excavation units.

### Floor fill

Pit Structure 1 "floor fill" was an arbitrary excavation unit designating the lower 5 cm of fill resting on Floor 1. The unit was comprised of Layers 33 and 34 (Fig. 14.28b). Layer 33 was unlaminated roofing material identical to Layer 30. The layer indicates an apparent initial effort to dismantle the roof followed by inactivity and the accumulation of alluvial fill before effort was again directed toward salvaging the roof. Layer 34 was a thin (1 cm) layer of charcoal-stained silt covering Floor 1. Artifact content was much reduced in the floor fill, consisting of only two sherds and one silicified wood projectile point.

### Floor 1

Floor 1 in Pit Structure 1 was a poorly preserved plastered floor ranging in thickness from less than 0.5 to 5 cm (Figs. 14.28b, 14.32). The plaster was a pale reddish tan, and some areas with better preservation had been use-stained a light brownish gray. The floor

was relatively flat and rose slightly around the edges to meet the walls. In general, alluvial activity had severely deteriorated the floor, which was very difficult to follow. A flotation scan noted burned *Amaranthus* and *Oryzopsis* seeds from the southeast quad of the floor. Unburned *Nicotiana* seeds were found in a flotation sample from the southwest quad.

Floor 1 was littered with cultural debris related to the abandonment of the pit structure (Tables 14.48–14.53). Artifact types included sherds, chipped stone, ground stone, and two faunal elements, one of which is a coarse-point awl. Artifacts were assigned a general floor provenience because of time restraints. Sherds and chipped stone artifacts were intermingled and scattered over the entire floor. The ground stone artifacts were concentrated in the southeast quadrant except for the slab metate, which was positioned face down against the wall in front of a storage cist at the base of the wall (Feature 8).

Sherds account for the majority of the artifact assemblage from Floor 1. Most of the sherds are jar sherds; gray ware jar sherds comprise the bulk of the assemblage. Other vessel forms including bowls (n = 9). Ladles (n = 2) were minimally represented. One of the bowl sherds is from a smudged brown ware from the south. A total of 67 groups of sherds were point-provenienced, a total of 342 sherds. Most of these sherds were in the northwest quadrant of the floor, and about one-fourth of them were in the southwest quadrant. Four reconstructible vessels were identified (Table 14.21), although none were complete. Two vessels had been broken on the floor in front of the entryway into the major off-chamber cist. One is a large Mancos Black-on-white jar (Vessel 1, 50 sherds) with a band of mineral-painted, interlocking swirls and the unusual feature of a corrugated neck (Fig. 14.33), as well as a Dolores Corrugated jar (Vessel 3, 49 sherds). The Mancos Black-on-white jar proved to be difficult to reconstruct because of its rough texture and somewhat crumbly paste. The vessel's users had also had to patch it: many mend holes are present. A fourth partially reconstructible vessel was the base of a Mancos Black-on-white jar from the major off-chamber cist (Feature 9). Ceramics recovered from the floor and floor features are dominated by mineral-painted vessels, suggesting that the pit structure was actually constructed and occupied during the Mid Pueblo II period (AD 1000–1100).

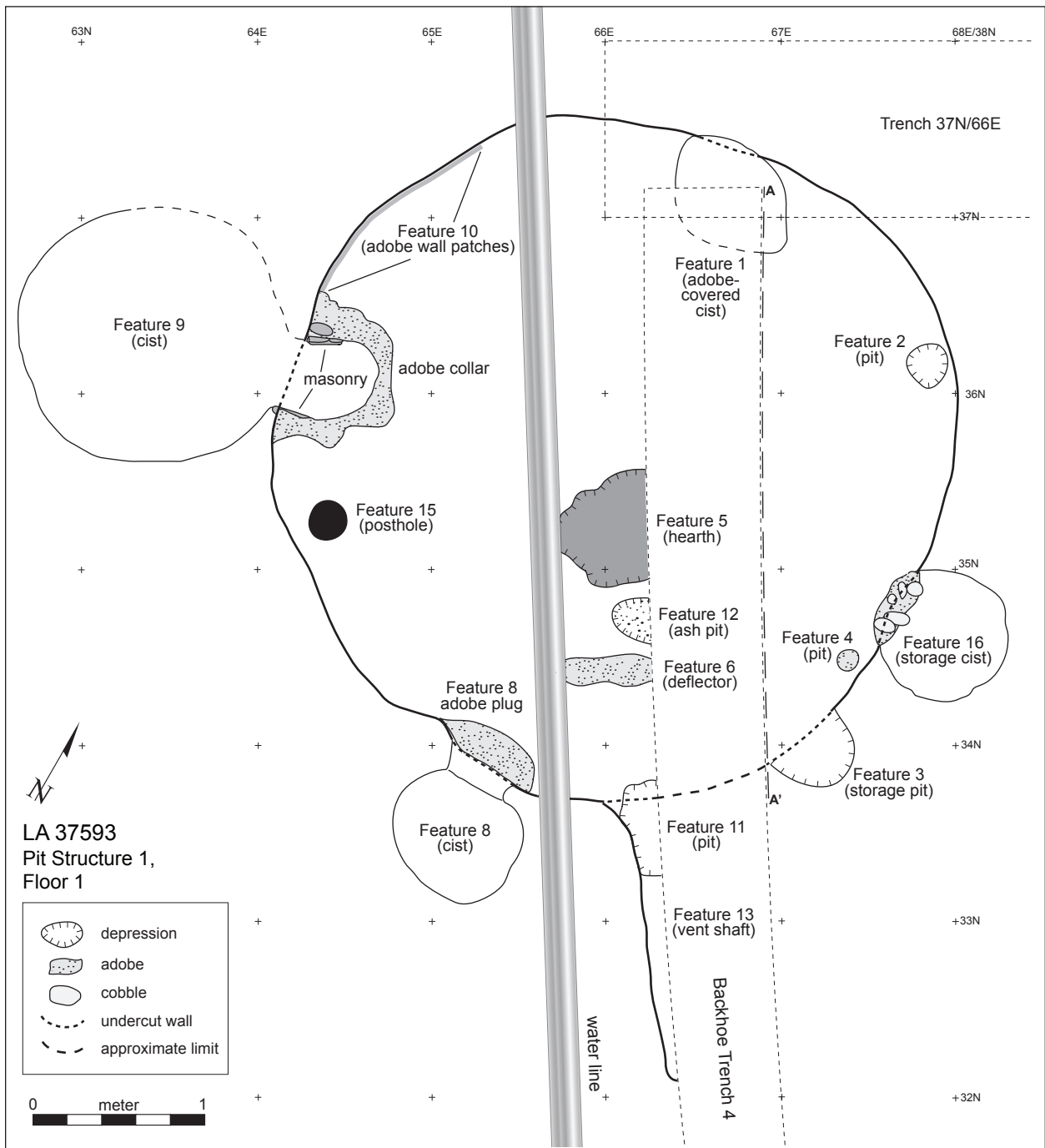


Figure 14.32 LA 37593, Pit Structure 1, Floor 1, plan.

Chipped stone artifacts consisted of manufacturing debris, mainly of debitage and one core. Tools were limited to four hammerstones and two retouched flakes. Twenty-one pieces of chipped stone were piece-plotted in 17 groups. Again, most of the material was in the northwest quadrant of the floor.

Ground stone artifacts consisted mainly of usable items concentrated along the wall in the southeast quadrant of the pit structure. They included abrading and polishing stones, manos, slab metate, and shaped slabs. A shaped slab in the vicinity of the ventilator may have functioned to block the vent tunnel. The artifacts indicate a variety of



Table 14.48. LA 37593, Pit Structure 1, Floor 1, features; summary table.

Feature	Location	Dimensions (cm/m)	Volume (l)	Shape	Construction Details	Use Details	Function
1	north floor/wall junction	85 x 60 x 56 cm	231.2	cist/upright cone	unlined	closed/unburned	storage
2	northeast floor	29 x 25 x 28 cm	17.9	pit/cylinder	unlined	open/unburned	pit
3	southeast floor/wall junction	50 x 30 x 45 cm	56.5 l	pit/hemisphere	unlined	open/burned	storage?
4	southeast floor	15 x 13 x 8 cm	1.2	pit/oblong curvilinear	unlined	closed/unburned	pit
5	central floor	incomplete	–	pit/hemisphere	unlined/	open/burned	hearth
6	south floor	incomplete	–	rectangular/solid	adobe	deflector for both floors	deflector
7	void; no feature	–	–	–	–	–	–
8	southwest floor/wall junction	64 x 76 x 70 cm	269.4	cist/upright cone	unlined	closed/unburned	storage
9	west floor/wall junction	1.6 x 1.4 x .95 m	1678.8	cist/upright cone	unlined/plastered entry	open/unburned	major off-chamber cist
10	wall patch (see wall discussion)	–	–	–	–	–	–
11	south floor	incomplete	–	pit/hemisphere	unlined	open/unburned	pit
12	central floor	incomplete	–	pit/oblong curvilinear	unlined	open/unburned	ash pit
13	south floor/wall junction	incomplete	–	Unknown	unlined	unknown	vent tunnel
14	void; no feature	–	–	–	–	–	–
15	west floor	22 x 21 x 24 cm	8.71	pit/cylinder	unlined/mano shim	open/unburned	posthole
16	southwest wall junction	65 x 45 x 66 cm	156/81	cist/irregular	unlined	closed/unburned	storage

domestic activities, especially food processing, represented by the manos and metate. A pollen sample from the metate was dominated by *Zea mays* pollen (FS 409, adjusted value 68.5 grains/g). Another pollen sample from beneath a cobble near the entry of the major off-chamber cist also produced high amounts of *Zea mays* (FS 409, adjusted value of 84.7 grains/g).

### Features (Floor 1)

Floor 1 in Pit Structure 1 was associated with fourteen features (Fig. 14.32; Tables 14.49–14.53). Most notable were a major off-chamber cist and several additional cists positioned around the pit structure at the floor/wall junction. Storage was apparently a major concern of the occupants. Most of the features were also associated with the occupation of Floor 2. Several features were closed and

inaccessible; they may represent discontinued features from Floor 2 (Table 14.48).

**Cist (Feature 1).** This storage cist was at the north floor/wall junction. The backhoe had passed through this feature, which was about 75 percent intact. However, complete dimensions were obtained. This cist had been sealed with adobe and was not in use. Feature fill consisted of compact sand with tiny charcoal flecks. Artifacts were limited to ten gray ware jar sherds from the same vessel and two pieces of debitage.

**Pit (Feature 2).** This oblong pit was filled with compact sandy clay and contained three corrugated gray jar sherds. The pit resembles a post support, but there was no evidence of wood or shims common to postholes. The function of the small pit is not readily identifiable.

Table 14.49. LA 37593, Pit Structure 1, Floors 1 and 2, pottery types, vessel forms, and paint type, counts by features/fill.

	Floor 1										Floor 2		Total
	Fill	Contact	Feature 1 Storage	Feature 2 Pit	Feature 3 Storage	Feature 5 Pit	Feature 8 Storage	Feature 9 Major Off-Chamber Cist	Feature 10 Wall Patch	Feature 15 Posthole	Feature 16 Storage	Floor 2 Fill	
<b>Pottery Type</b>													
Filllet rim	-	1	-	-	-	-	-	-	-	-	-	-	1
Pueblo II-III corrugated	-	2	-	-	4	-	-	-	-	-	-	-	6
Pueblo III corrugated	-	1	-	-	-	-	-	-	-	-	-	-	1
Plain gray	2	45	2	-	2	-	59	2	-	-	-	-	112
Corrugated gray	6	148	8	3	37	8	13	17	2	1	1	-	244
Incised corrugated	-	1	-	-	-	-	-	-	-	-	-	-	1
Red Mesa-style black-on-white	-	1	-	-	-	-	-	-	-	-	-	-	1
Pueblo II black-on-white	2	1	-	-	-	-	16	-	9	-	-	-	31
Dogozhi-style black-on-white	2	4	-	-	-	-	1	-	-	-	-	-	7
Pueblo II-III black-on-white	2	6	-	-	-	-	3	4	12	-	-	-	27
Painted black-on-white	1	49	-	-	-	-	9	-	-	-	-	-	59
Polished white	2	6	-	-	-	-	19	-	-	1	-	2	30
Polished black-on-white	1	-	-	-	-	-	2	5	-	-	-	-	8
Kayenta indeterminate red	-	-	-	-	-	-	-	-	-	-	-	-	1
Tusayan Black-on-red	-	-	-	-	-	-	1	-	-	-	-	-	1
Tularosa Fillet rim	-	1	-	-	-	-	-	-	-	-	-	-	1
<b>Total</b>	<b>19</b>	<b>266</b>	<b>10</b>	<b>3</b>	<b>43</b>	<b>8</b>	<b>7</b>	<b>45</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>531</b>
<b>Vessel Form</b>													
Indeterminate	-	-	-	-	-	-	-	-	-	-	-	-	2
Bowl rim	1	2	-	-	-	-	-	6	-	-	-	-	10
Bowl body	1	7	-	-	-	3	4	2	-	-	-	2	19
Cooking, storage rim	-	12	-	-	6	-	-	-	1	-	-	-	19
Necked jar body	2	21	-	-	4	-	-	1	1	-	-	-	29
Jar body	15	222	10	3	33	8	4	36	-	1	1	-	447
Ladle bowl	-	-	-	-	-	-	-	-	-	-	-	-	3
Ladle handle	-	2	-	-	-	-	-	-	-	-	-	-	2
<b>Total</b>	<b>19</b>	<b>266</b>	<b>10</b>	<b>3</b>	<b>43</b>	<b>8</b>	<b>7</b>	<b>45</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>531</b>
<b>Pigment</b>													
None	2	7	-	-	-	-	-	5	-	1	-	2	36
Organic	1	1	-	-	-	-	-	-	-	1	-	-	3
Mineral	7	59	-	-	-	6	31	21	-	-	-	-	124
<b>Total</b>	<b>10</b>	<b>67</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6</b>	<b>51</b>	<b>26</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>163</b>

Table 14.50. LA 37593, Pit Structure 1, Floor 1, chipped stone tool and material types, counts by features/fill.

	Fill	Contact	Feature 1 Storage	Feature 3 Storage	Feature 5 Pit	Feature 8 Storage	Feature 9 Major Off-chamber Cist	Feature 10 Wall	Feature 15 Posthole	Feature 16 Storage	Total
<b>Artifact Type</b>											
Debitage	8	12	2	1	4	4	7	1	7	1	<b>47</b>
Core	–	1	–	–	–	–	2	–	–	–	<b>3</b>
Retouched utilizeddebitage	1	2	–	–	1	2	–	–	3	–	<b>9</b>
Projectile point	1	–	–	–	–	–	–	–	–	–	<b>1</b>
Hammerstone	–	4	–	–	–	–	1	–	–	–	<b>5</b>
<b>Total</b>	<b>10</b>	<b>19</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>–</b>	<b>10</b>	<b>1</b>	<b>65</b>
<b>Material</b>											
Chert	3	7	1	1	3	–	1	1	3	1	<b>21</b>
Silicified wood	1	2	–	–	1	1	4	–	–	–	<b>9</b>
Quartzite	3	–	1	–	1	–	–	–	–	–	<b>5</b>
Quartzitic sandstone	–	2	–	–	–	1	1	–	1	–	<b>5</b>
Sandstone	–	–	–	–	–	1	–	–	–	–	<b>1</b>
Siltstone	3	8	–	–	–	3	4	–	6	–	<b>24</b>
<b>Total</b>	<b>10</b>	<b>19</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>1</b>	<b>10</b>	<b>1</b>	<b>65</b>

Table 14.51. LA 37593, Pit Structure 1, Floor 1, ground stone tools, counts by type and features/fill.

	Fill	Contact	Feature 8 Storage	Feature 9 Major Off-chamber Cist	Feature 10 Wall Patch	Feature 15 Posthole	Total
Plaster polishing stone	–	2	–	–	–	–	<b>2</b>
Abrading stone	–	2	–	–	–	–	<b>2</b>
Shaped slab	1	3	2	2	1	–	<b>9</b>
Jar cover	–	1	–	1	–	–	<b>2</b>
Lapidary stone	1	–	–	–	1	–	<b>2</b>
Mano	–	1	–	–	–	–	<b>1</b>
One-hand mano	–	1	–	–	–	–	<b>1</b>
Two-hand mano	–	4	–	4	–	–	<b>8</b>
Two-hand slab mano	–	5	–	–	–	1	<b>6</b>
Slab metate	–	1	–	–	–	–	<b>1</b>
Full-grooved axe	–	–	–	1	–	–	<b>1</b>
Wedge	–	–	–	1	–	–	<b>1</b>
<b>Total</b>	<b>2</b>	<b>20</b>	<b>2</b>	<b>9</b>	<b>2</b>	<b>1</b>	<b>36</b>

Table 14.52. LA 37593, Pit Structure 1, Floors 1 and 2, faunal remains, counts by taxon and features/fill.

	Floor 1								Floor 2	Total
	Fill	Contact	Feature 3	Feature 8	Feature 9	Feature 10	Feature 12	Feature 15	Feature 22	
Cottontail rabbit	–	–	–	1	–	–	–	–	–	1
Jackrabbit	–	–	1	1	–	–	–	–	–	2
Deer	3	–	–	1	1	–	–	–	–	5
Mammal	–	1	–	–	–	–	–	–	–	1
Small mammal	–	–	–	2	–	6	1	–	–	9
Medium–large mammal	–	–	–	1	1	–	1	–	–	3
Large mammal	–	1	–	2	1	–	–	–	1	5
Turkey	–	–	–	–	–	–	–	2	–	2
<b>Total</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>28</b>

Table 14.53. LA 37593, Pit Structure 1, Floor 2, features; summary table.

Feature	Location	Dimensions (cm)	Vol. (l)	Shape	Construction Details	Use Details	Function
1	southeast floor	29 x 21 x 18	8.8	pit/oblong curvilinear	unlined	open/unburned	pit
2	southeast floor	13 x 14 x 6	0.9	pit/oblong curvilinear	unlined	open/unburned	pit
3	east floor	16 x 16 x 3.5	0.7	pit/hemisphere	unlined	open/unburned	pit
4	east floor	16 x 16 x 5.5	1.1	pit/hemisphere	unlined	closed/unburned	pit
5	northeast floor	17 x 30 x 2l	0.9	pit/oblong curvilinear	unlined	open/unburned	pit
6	void; no feature	–	–	–	–	–	–
7	central floor	incomplete	–	pit/hemisphere	unlined	open/burned	hearth
8	north floor	10 x 10 x 16	1.3	pit/cylinder	unlined	closed/unburned	complex sipapu
9	north floor	7 x 8 x 2	0.1	pit/hemisphere	unlined	closed/unburned	complex sipapu
0	north floor	incomplete	–	pit/hemisphere	unlined	closed/unburned	complex sipapu
11	north floor	10 x 10 x 5	0.4	pit/hemisphere	unlined	closed/unburned	complex sipapu
12	west floor	14 x 10 x 2	–	pit/hemisphere	unlined	open/unburned	charcoal lens
13	north floor	incomplete	–	pit/cylinder	unlined	closed/unburned	complex sipapu
14	void; no feature	–	–	–	–	–	–
15	north floor	9 x 6 x 2	0.4	pit/oblong curvilinear	unlined	closed/unburned	complex sipapu
16	north floor	28 x 15 x 4	1.5	pit/oblong curvilinear	unlined	closed/unburned	complex sipapu
17	north floor	11 x 10 x 20	1.7	pit/cylinder	unlined	closed/unburned	complex sipapu
18	north floor	15 x 12 x 20	1.2	pit/oblong curvilinear	unlined	closed/unburned	complex sipapu
19	northwest floor	15 x 12 x 2	0.3	pit/oblong curvilinear	unlined	open/unburned	pot rest?
20	void; no feature	–	–	–	–	–	–
21	west floor	15 x 14 x 1.5	0.2	pit/cylinder	unlined	open/unburned	pot rest?
22	west floor	38 x 12 x 4.5	2.2	pit/oblong curvilinear	unlined	closed/unburned	unknown

**Pit (Feature 3).** This storage pit was at the east floor/wall junction. Feature fill consisted of compacted fine to coarse sand. Sherds (n = 43) from a single corrugated gray jar were found in the fill and on the floor of the feature. A single piece of chert debitage was recovered from the fill. The feature seemingly functioned as a storage pit, but the walls and floor were lightly oxidized, suggesting additional use as a thermal or roasting feature. There was no large charcoal or evidence of combustible material in the relatively clean sandy fill.

**Pit (Feature 4).** This small pit was against the wall between storage Features 3 and 16. This shallow, circular feature was completely filled with adobe and seems to be a simple floor patch. There were associated artifacts.

**Hearth (Feature 5).** The hearth was cut by the backhoe trench on the east and covered by the pipeline balk on the west. The complete north-south measurement was 60 cm, but the east-west measurement was incomplete. This shallow hearth

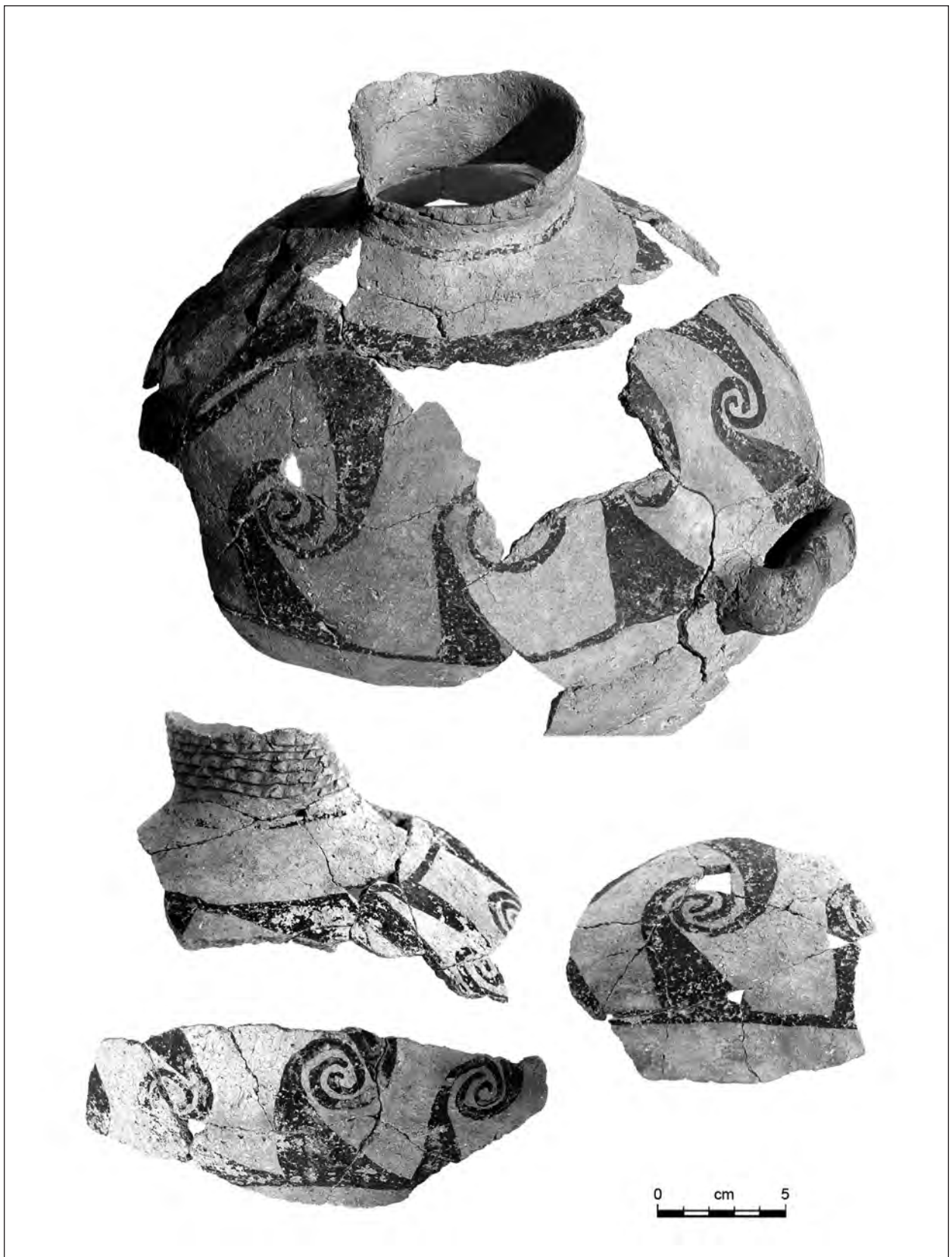


Figure 14.33. LA 37593, Pit Structure 1, Floor 1, Mancos Black-on-white olla (reconstructed) with corrugated neck, multiple views.



was about 10 cm deep. Its irregular outline gives the impression that it had been dismantled. A single cobble was set at the west end, and five burned cobbles were in the fill. The hearth had been dug into the natural alluvial sediment, and the sides and bottom were lightly oxidized. The fill consisted of abundant gray ash and charcoal. A flotation sample contained carbonized *Oryzopsis* seeds along with *Juniperus* and *Populus/Salix* charcoal. Artifacts consisted of eight corrugated gray jar sherds and five pieces of chipped stone debitage. One flake had a re-touched edge. An archaeomagnetic sample from the oxidized rind of the hearth was too weak for measurement.

**Deflector (Feature 6).** The deflector was cut by the backhoe trench on the east and the pipeline balk on the west. This rectangular adobe deflector was 10 cm wide and stood 14 cm above the floor, but the east-west dimension was incomplete. The hearth was about 50 cm north of the deflector. The deflector was common to both floors.

**Cist (Feature 8).** This large storage cist was at the south wall/floor junction, just west of the ventilator tunnel. The feature had been closed with a plug of adobe mortar and cobbles. The unlined cist was dug into the natural alluvial sediments, and the walls and floor were very hard to define. Fill consisted of compact sand with abundant charcoal and ash. The fill contained occasional pieces of burned sandstone fragments and cobbles, but there was no indication of actual thermal use of the feature. Artifacts included small numbers of sherds, chipped stone debitage, two shaped sandstone slab fragments, and eight faunal elements. All six of the decorated jar sherds were painted with mineral pigments. The cist was apparently used as a trash receptacle for material cleaned from the hearth before the feature was finally plugged and closed.

**Major off-chamber cist (Feature 9).** This large, formal cist was at the west floor/wall junction (Fig. 14.34). The cist was common to both floors. A formal entryway allowed access into the cist. The entryway was 40 cm wide and extended about 45 cm out from the wall and onto the floor of the pit structure. In plan view the entryway had straight sides and a curved front. An adobe coping raised a few centimeters above the floor surrounded the entryway. The interior of the entryway sloped steeply

downward into the cist, which had a vertical height of 95 cm. The domed roof was about 20 cm above Floor 1, and the undercut walls extended to a depth of 75 cm below the floor. The unlined circular cist was supported only by the strength of the natural alluvial sediments. The unprepared floor was relatively flat and level. Limited masonry was confined to the entrance and probably served to minimize deterioration of the entrance by repetitive access. For safety concerns, the roof was removed with a backhoe for excavation. Time restraints did not allow for the total excavation of the feature, but the plan and dimensions of the cist were recorded.

The fill consisted of compact alluvial sandy clay mixed with roof fall from the pit structure. As with the other storage features, delineating feature fill from the surrounding natural alluvial sediments was not easy. The fill was lightly stained with moderate charcoal flecking, but there no indication of burning. Artifacts from the fill included rather low frequencies of sherds, chipped stone, ground stone, and one faunal element.

Floor artifacts in Feature 9 were assigned a



Figure 14.34. LA 37593, Pit Structure 1, Floor 1, Feature 9 (major off-chamber cist).

general floor provenience. The artifacts were concentrated in about a 1 m area in the center of the feature. Artifacts were mixed with about twenty cobbles and several broken sandstone slab fragments. All of the material seemed to have been thrown into the feature, presumably at abandonment. Sherds made up the largest part of the floor assemblage, but they appeared to be primarily secondary refuse rather than intentionally broken vessels. A large part of a Mancos Black-on-white jar (Vessel 4; Table 14.21) was present. Chipped stone was represented by only two items, including a hammerstone and a piece of debitage. The ground stone assemblage consisted of several whole artifacts, including a jar cover, two two-hand manos (two more manos of this type were in the feature fill), a full-groove axe (Fig. 14.35), and a wedge. The wedge, also found in the feature fill, was of a dense metamorphic material weighing 2.8 kg. The wedge-shaped stone had light pecking and seemed to be a blank that was being shaped into an axe. Two bone tools were a spatulate fragment and coarse point awl.

Other materials included an unshaped piece of kaolin and an unburned small-diameter wood fragment. The juniper produced a dendro date of 1035–1102 vv (TRL LP-83). The date corresponds with the waning portion of the Mid Pueblo II period (AD 1000–1100), characterized by the surrounding mineral-painted ceramics. This was the only piece of wood recovered from Pit Structure 1. I attribute

the wood to roofing material from the pit structure introduced into the storage cist at abandonment. A pollen sample from across the floor of the cist contained high amounts of *Zea mays* (adjusted value of 68.5 grains/g) and fairly high amounts of *Platyopuntia* pollen (adjusted value of 17.1 grains/g). A flotation sample included carbonized *Oryzopsis* and *Juniperus*.

This large off-chamber cist added just under 2 sq m of floor space and a storage capacity that more than doubled the volume of all the other storage features combined. This feature type is rather rare but has many similarities to major off-chamber cists at LA 37592, LA 37595, and LA 37598.

**Pit (Feature 11).** This pit was at the south end of the pit structure at the mouth of the vent tunnel. The pit had been cut by the backhoe trench on the east, and the remaining feature was about 40 percent complete. The pit measured 50 cm north–south and was 10 cm deep. The fill consisted of a relatively sterile compact sand with no artifact content. The function of the pit is not clear, although an association with the ventilator is suggested by their proximity.

**Ash pit (Feature 12).** The ash pit was between the hearth and deflector. The pit was cut in half by the backhoe trench and was about 50 percent complete. The pit measured 21 cm north–south and was 10 cm deep. A large rodent hole passed through the feature. The fill consisted of ash and charcoal with



Figure 14.35. LA 37593, Pit Structure 1, Floor 1, Feature 9 (major off-chamber cist), axe.

two faunal elements from small and medium-sized mammals. Carbonized corn cupules were recovered from a flotation sample.

**Vent tunnel (Feature 13).** Almost the entire vent tunnel had been removed by the backhoe trench. Only a narrow 10 cm wide segment of the tunnel remained along the west edge of the trench. The tunnel extended about 1.50 m south of the pit structure. The entry was totally destroyed by the trench, and there was no evidence of the vent shaft. The surviving segment of the tunnel had been dug into the native alluvial sediments, and there was no evidence of plastering. The fill consisted of compact sandy clay with a fair amount of ash and charcoal. Artifacts were limited to fragments of a worked sandstone slab that were partially resting on Feature 11 at the mouth of the ventilator. These may be pieces of a vent cover for closing off the vent tunnel.

**Posthole (Feature 15).** This posthole was near the west wall and just south of the major off-chamber cist. The posthole had a flat bottom and had been dug into the natural alluvial sediments. The posthole contained sandy fill, and no wood remained. A 25 cm long mano served as a shim on the northwest side. The mano stood about 12 cm above the floor. Two turkey bones were in the fill; one long bone also served as a shim with the mano. This was the only definite posthole evidencing the roof support system. The only other candidate was Feature 3, diagonally across the pit structure near the east wall. However, the actual function of that pit was more ambiguous.

**Cist (Feature 16).** This poorly preserved storage cist was at the east floor-wall junction. The cist was sealed with jumbled cobbles and adobe mortar, and was not in use. The cist had been dug into the natural alluvial sediments, and the irregular walls were difficult to define. The fill consisted of compact fine sand with charcoal flecks. Eleven cobbles were mixed throughout the fill. Artifact content was limited to one white ware jar sherd and one chert flake.

#### **Floor fill/Floor 2**

About 2 cm of gray silty fill separated Floor 2 from Floor 1 in Pit Structure 1. The silty fill contained abundant ash, but artifact content was very low. Cultural material from the floor fill and floor

contact should be viewed as one unit because of the ephemeral nature of the fill, and the low artifact content on Floor 2. Floor 2 was an unprepared surface consisting of a natural clay and silt lens in the natural alluvial sediment (Figs. 14.28b, 14.36, 14.37). A dark use-stain covered the floor in some areas. The natural clay lens characterizing Floor 2 was level and extended under the walls of the structure. The backhoe trench verified that only sterile alluvial sediments were below the floor. Pollen (FS 433) from the floor contained low amounts of *Pinus* (1121 grains/g) and cheno-am (625 grains/g), Poaceae (55 grains/g), and high-spine *Asteraceae* (52 grains/g). A small amount of *Zea mays* pollen (13 grains/g adjusted) was also present.

Artifacts were limited to one corrugated gray jar sherd in the floor fill and two polished white bowl sherds on the floor near the entrance of the major off-chamber cist. Floor 2 had been cleaned of all debris prior to the construction of Floor 1.

#### **Features (Floor 2)**

Floor 2 in Pit Structure 1 was associated with 20 features (Fig. 14.36). The features consisted of miscellaneous low-volume pits denoting a variety of subsidiary uses not associated with storage (Table 14.53). Most notable was a sipapu complex characterized by a concentration of nine pits north of the hearth. The ritual complex was most likely composed of additional pits originally, but the backhoe trench truncated the east side of the complex. This ritual complex contrasts with Floor 1, which apparently lacked a sipapu. Essentially all of the Floor 1 features were also associated with Floor 2.

**Pit (Feature 1).** This pit was near the southeast wall at the mouth of Feature 3, described in the Floor 1 feature descriptions. Feature fill consisted of compact sand with charcoal flecks, but there was no oxidation or evidence of direct burning. No artifacts were found in the fill. Feature 3 had been used for thermal activities, and the pit may have functioned as a pot rest in association with the feature.

**Pit (Feature 2).** This pit was filled with compact sandy clay and may also have functioned as a pot rest along with Feature 1. No artifacts were found in the fill.

**Pits (Feature 3 and 4).** These paired pits were on the east floor of the pit structure. The shallow

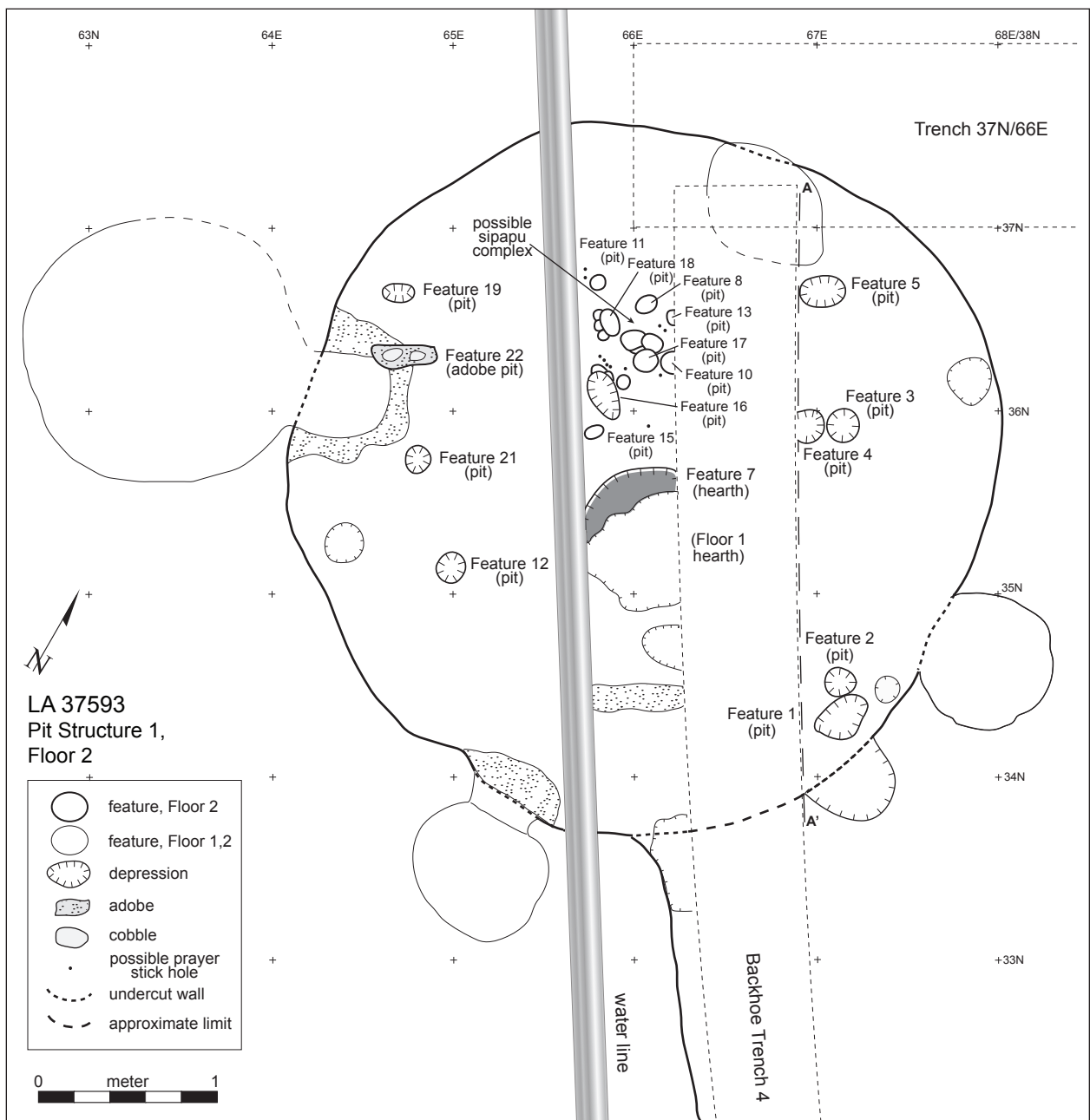


Figure 14.36. LA 37593, Pit Structure 1, Floor 2, plan.

pits were filled with coarse sand with no associated artifacts. The pits probably served as pot rests, since they seem much too shallow for roof supports.

**Pit (Feature 5).** This shallow pit was filled with sand with no associated artifacts. The pit was most likely a pot rest positioned near Feature 1 (see Pit Structure 1, Floor 1, feature descriptions).

**Hearth (Feature 7).** The hearth was cut by the backhoe trench on the east and the pipeline balk on the west. The complete north-south measurement was 70 cm, but the east-west measurement was incomplete. Only about 5 cm of ashy fill remained, and there were no associated artifacts. The roughly circular outline is a northern extension of the later hearth (Feature 5) associated with Floor 1. The remaining segment was unlined and lightly oxidized.





Figure 14.37. LA 37593, Pit Structure 1, Floor 2; bipod shot, view northwest.



An archaeomagnetic sample from the oxidized rind of the hearth was too weak for measurement.

**Sipapu complex (Features 8-11, 13, and 15-18).** A group of at least nine small pits were concentrated in about a 50 by 50 cm area north of the hearth (Figs. 14.36, 14.37). The backhoe truncated the eastern edge of the complex and undoubtedly removed additional pits. Three pits (Features 16, 17, and 18) were each superimposed on three to four earlier pits. The surviving pits seem to be clustered around Feature 17, which may be the central member of the complex (Fig. 14.38). The pits had circular and oblong outlines and ranged from 2 to 20 cm deep. The coarse red sand in each pit suggested that it was intentional fill because of the contrast with the surrounding dark clay floor. For this reason, the pits were coded as closed. However, the sand may have functioned to support alters or other ritual paraphernalia rather than simply closing the pits. No artifacts were associated with the pits. A pollen sample from the central group (Feature 17) contained low amounts of *Pinus* (1391 grains/g), cheno-am (741 grains/g), Poaceae (30 grains/g), and high-spine *Asteraceae* (30 grains/g). No corn pollen was present in the sample.

In addition to the pits, 12 smaller sand-filled holes were interspersed among the pits. The holes were filled with the same coarse red sand. The holes were about 1 cm in diameter and about 2 cm deep. The holes are randomly positioned for the most part, but a diagonal line of four holes was just north of Feature 16. These holes were not assigned a specific feature number but are thought to be part of the complex. They may mark the location of prayer sticks (Brisbin et al. 1988:197).

The pit complex began about 30 cm north of the hearth in the area that is customarily the location of a sipapu. The sipapu complex consisting of multiple pits and prayer stick holes appears to be a ritual activity area similar to examples found on the Dolores Project (Brisbin et al. 1988:195-198; Wilshusen 1988c:649-671; Wilshusen 1989:89-111). The sand-filled pits may have supported various ritual paraphernalia such as altars, but the backhoe trench had removed the eastern edge of the complex, complicating the delineation of specific pit pairings. The distinctive group of pits is similar to the sipapu complex encountered in Pit Structure 1 at LA 37592. The entire complex was

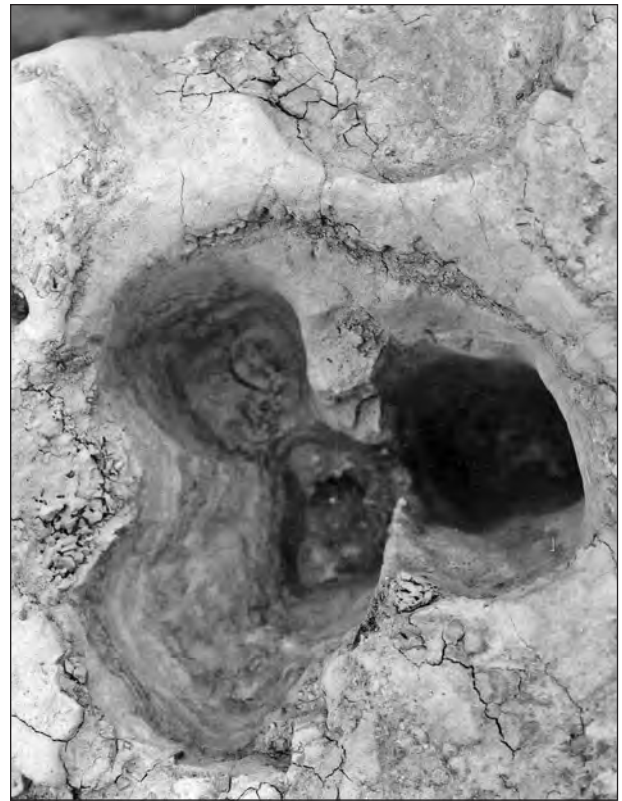


Figure 14.38. LA 37593, Pit Structure 1, Floor 2, Feature 17 (pits within sipapu complex).

plastered over during the construction of Floor 1, which lacked a sipapu.

**Pit (Feature 12).** This shallow pit was about 60 cm west of the hearth. The pit was filled with charcoal and may have functioned as warming pit or pot rest. A flotation sample showed that the charcoal consisted of *Juniperus* and *Atriplex*.

**Pits (Features 19 and 21).** These pits were near the formal entry into the major off-chamber cist. The shallow pits were filled with compact sand with no associated artifacts. The pits were probably pot rests associated with the large cist.

**Pit (Feature 22).** This shallow pit had been cut into the entryway of the major off-chamber cist. The pit was then completely filled with adobe and two unshaped cobbles. A single large mammal bone fragment was found in the pit. The function of the pit is unknown, although it probably relates to the construction or maintenance of the major off-chamber cist.

## Walls

The walls of Pit Structure 1 were poorly preserved and consisted of plaster over native alluvial soils. Distinguishing between the outer native alluvial soils and the inner alluvial fills of the pit structure was difficult. In general, the undisturbed outer alluvial soils were characterized by compact sandy silt with caliche flecks and a grayer color, while the inner pit structure fills had a slightly browner color with tiny charcoal flecks. However, wall contact was often ambiguous and hard to trace. The best-preserved portion of the north wall was defined to a height of 1.25 m above the floor. The lower walls flared out at the base, forming a somewhat larger floor area. The native alluvial soils were very compact and apparently offered the inhabitants stable walls with no need for masonry support. Four thin layers of lightly sooted plaster, totaling about 2 cm thick, coated better-preserved portions of the native walls.

**Wall patch (Feature 10, Floor 1).** A wall patch measuring 90 cm by 45 cm was on the northwest wall. The patch contained several cobbles, sherds, and two ground stone artifacts impressed into the

wall and plastered with abundant adobe mortar (Tables 14.49–14.52). The ground stone included a lapidary stone and a shaped slab fragment. Most interesting were 45 sherds stacked side by side in roughly four courses (Fig. 14.39). The sherds were mainly corrugated gray ware jar sherds along with Pueblo II black-on-white and Pueblo II–III black-on-white bowl and jar sherds. All of the white ware sherds were painted with mineral pigments. The small sherd assemblage supports the proposed Mid Pueblo II occupation of the pit structure. The initial impression was that the patch covered a wall feature, but none was found behind the patch. The patch apparently reinforced the natural alluvial wall in this area of the pit structure. The adobe mortar was very compact and had to be removed with a pick.

## Roof construction

Information pertaining to roof construction was sparse. No wood was recovered from the pit structure, and roofing material was limited to small peds of oxidized adobe with occasional vegetal impressions from the roof fill. Although oxidized



Figure 14.39. LA 37593, Pit Structure 1, Floor 1, Feature 10, wall patch.

adobe peds were encountered throughout the roof fill, charcoal content was low, suggesting that the pit structure was at the most only lightly burned. The absence of wood reveals reuse of roofing material after abandonment. A flat-laid roof configuration with beams spanning the pit structure without intermediate support is suggested by the single posthole and the absence of a bench and pilasters. A typical roof entryway is postulated for the pit structure.

### *Discussion: Pit Structure 1*

Ceramics indicate construction and use of Pit Structure 1 during the Mid Pueblo II period (AD 1000–1100). This is based on the higher numbers of mineral-painted sherds on the floor and in the features. The single dendro sample from the major off-chamber cist yielded a date of AD 1035–1102 vv (TRL No. LP-83). The date overlaps the proposed ceramic date and suggests that the occupation extended to the waning portion of the Mid Pueblo II period. Ceramics in the upper fill units consistently contained higher amounts of organic-painted sherds characteristic of Late Pueblo II. Pit Structure 1 was probably associated with Roomblock 1, with a typical north–south unit-type site layout. The sipapu complex and the abundance of storage facilities indicate both ritual and domestic functions. The sipapu suggests possible hierarchical ritual activities beyond those practiced by a single household (Wilshusen 1988c:89–111). These possible multihousehold rituals were apparently discontinued with the abandonment of Floor 2. The final floor had no evidence of a sipapu. The pit structure was abandoned in a leisurely way, with no evidence of a formal closing ceremony or offering. The abandoned cavity was filled with both alluvial and intentionally introduced deposits, punctuated by the secondary interment of at least 17 individuals in the upper fill. The secondary interment may indicate that the population continued to attribute a significance to the pit structure that had originally been expressed in the sipapu complex.



### LA 37593: MATERIAL CULTURE

The excavated portion of LA 37593, the Thunder Maker site, produced a moderately sized artifact assemblage consisting of sherds (11,749), chipped stone (3,135), ground stone (160), and faunal remains (1,066), including 15 bone tools.

### *Ceramic Artifacts*

The ceramic assemblage totaled 11,749 sherds (Tables 14.54, 14.55). Ceramics dominated the artifact types and constituted the seventh largest sherd assemblage recovered on the project. The ratio of sherds to chipped stone, the next largest artifact category, is 3.7:1. The assemblage included 35 analytical types. These types were broadly categorized into gray wares (70.7 percent), white wares (29.1 percent), red wares (0.2 percent), and brown wares (0.05 percent). Just over 45 percent of the decorated sherds have mineral pigment, and 12 percent have organic pigment; the remainder are sherds with no pigment. The assemblage is composed of 18 vessel categories, although jar body sherds accounted for 74 percent of the vessel forms (Tables 14.5, 14.55).

Most of the sherds were discarded as refuse in the various provenience units, but 20 complete or partially reconstructible vessels were also recovered (Table 14.21). In most cases the fragmentary vessels were not reconstructed, and complete measurements were not obtained. Complete vessels were recovered from the pit structure floor, Rooms 101 and 103 of the surface roomblock, and extramural features; and with burials. The pit structure vessels were broken on the floor at abandonment, while Room 101 vessels were apparently smashed on the floor by the collapse of the structure. Room 103 vessels including a bird effigy were buried beneath the floor as part of a ritual complex. Vessels in an extramural major storage cist (Extramural 1 Feature 2) were part of a Late Pueblo III cache. Lastly, jars and ladles were found as grave offerings: three burials were interred in extramural storage cists.

Ceramic types and distributions show that the site elements are associated with four temporal components (Table 14.56). The earliest occupation dated from the Mid Pueblo II period and is represented by



Table 14.54. LA 37593, pottery types (all); counts, weights (g), and percents of each.

	Count	Col. %	Weight (g)	Col. %
Fillet rim	1	0.0%	31.0	0.0%
Pueblo II corrugated	57	0.5%	543.0	0.7%
Pueblo II–III corrugated	62	0.5%	720.0	0.9%
Pueblo III corrugated	11	0.1%	200.0	0.3%
Plain gray	1002	8.5%	5073.0	6.6%
Corrugated gray	5089	43.3%	25622.0	33.4%
Incised corrugated	3	0.0%	24.0	0.0%
Red Mesa–style black-on-white	13	0.1%	66.0	0.1%
Pueblo II black-on-white	88	0.7%	877.0	1.1%
Sosi-style black-on-white	3	0.0%	38.0	0.0%
Dogoszhi-style black-on-white	131	1.1%	1535.0	2.0%
Chaco-style black-on-white	5	0.0%	48.0	0.1%
Pueblo I–II black-on-white	3	0.0%	11.0	0.0%
Pueblo II–III black-on-white	857	7.3%	5061.0	6.6%
Pueblo III black-on-white	3	0.0%	100.0	0.1%
Painted black-on-white	24	0.2%	306.0	0.4%
Polished white	1171	10.0%	6591.0	8.6%
Polished black-on-white	230	2.0%	1160.0	1.5%
Squiggle hachure black-on-white	14	0.1%	122.0	0.2%
Mummy Lake Gray	5	0.0%	600.0	0.8%
Mancos Corrugated	31	0.3%	1757.0	2.3%
Dolores Corrugated	202	1.7%	2543.0	3.3%
Mesa Verde Corrugated	11	0.1%	233.0	0.3%
Mesa Verde Plain Gray	267	2.3%	1736.0	2.3%
Mesa Verde Corrugated Gray	1552	13.2%	12917.0	16.8%
Cortez Black-on-white	4	0.0%	14.0	0.0%
Mancos Black-on-white	90	0.8%	2038.0	2.7%
Mancos Black-on-white, Sosi	1	0.0%	17.0	0.0%
Mancos Black-on-white, Dogoszhi	63	0.5%	452.0	0.6%
McElmo Black-on-white	7	0.1%	351.0	0.5%
Mesa Verde Pueblo II–III Black-on-white	269	2.3%	1657.0	2.2%
Mesa Verde Pueblo III Black-on-white	1	0.0%	24.0	0.0%
Mesa Verde Painted Black-on-white	52	0.4%	787.0	1.0%
Mesa Verde Polished White	233	2.0%	1628.0	2.1%
Mesa Verde Polished Black-on-white	21	0.2%	182.0	0.2%
Mesa Verde Transitional Pueblo III black-on-white	4	0.0%	25.0	0.0%
Mancos squiggle hachure black-on-white	5	0.0%	52.0	0.1%
Mesa Verde indeterminate red	1	0.0%	3.0	0.0%
Bluff Black-on-red	1	0.0%	4.0	0.0%
Deadmans Black-on-red	11	0.1%	55.0	0.1%
Mesa Verde Plain Red	2	0.0%	9.0	0.0%
Gallup Black-on-white	2	0.0%	7.0	0.0%
Chaco Black-on-white	1	0.0%	3.0	0.0%
Cibola indeterminate red ware	1	0.0%	6.0	0.0%
Chuska Corrugated gray	1	0.0%	4.0	0.0%
Newcomb Black-on-white	1	0.0%	3.0	0.0%
Chuska Black-on-white	2	0.0%	17.0	0.0%
Toadlena Black-on-white	10	0.1%	64.0	0.1%
Chuska Pueblo II–III black-on-white	4	0.0%	34.0	0.0%
Chuska Polished White	4	0.0%	13.0	0.0%
Black Mesa Black-on-white	1	0.0%	2.0	0.0%
Dogoszhi Black-on-white	1	0.0%	518.0	0.7%
Kayenta indeterminate red	4	0.0%	29.0	0.0%
Tusayan Black-on-red	1	0.0%	32.0	0.0%

Table 14.54 (continued)

	Count	Col. %	Weight (g)	Col. %
Tusayan Polychrome	1	0.0%	20.0	0.0%
Reserve Punched Corrugated Smudged	1	0.0%	4.0	0.0%
Tularosa Fillet rim	1	0.0%	4.0	0.0%
Mogollon Smudged Brown	4	0.0%	48.0	0.1%
Plain rim	1	0.0%	4.0	0.0%
Pueblo II–III corrugated	1	0.0%	7.0	0.0%
Plain gray	3	0.0%	5.0	0.0%
Corrugated gray	3	0.0%	12.0	0.0%
Pueblo II black-on-white	14	0.1%	112.0	0.1%
Dogoszhi-style black-on-white	6	0.1%	32.0	0.0%
Late Pueblo III black-on-white	9	0.1%	226.0	0.3%
Pueblo II–III black-on-white	26	0.2%	93.0	0.1%
Polished white	39	0.3%	196.0	0.3%
Polished black-on-white	6	0.1%	44.0	0.1%
Squiggle hachure black-on-white	1	0.0%	2.0	0.0%
<b>Total</b>	<b>11749</b>	<b>100.0%</b>	<b>76753.0</b>	<b>100.0%</b>

mineral-painted Pueblo II types. Mineral-decorated types with an absence of associated carbon-pigment types were recovered mainly from the pit structure floor and associated floor features. The pit structure was apparently built, used, and abandoned during the Mid Pueblo II period. The single dendro sample, dating AD 1102 vv, seems to corroborate the ceramic dates and suggests that the occupation may have occurred during the latter portion of the Mid Pueblo II period. Roomblock 1 may also have been constructed at this time, but the pit structure was built and abandoned in Mid Pueblo II. Roomblock 1 saw continued use into Late Pueblo II, and Roomblock 1 was constructed over Extramural Area 3, showing that this little understood subsurface anomaly was an earlier manifestation dating from at least Mid Pueblo II. Unfortunately, Extramural Area 3 was outside of the right-of-way, and not enough information was recovered for confidently dating and understanding the nature of the manifestation. The only other site elements associated with the initial Mid Pueblo II occupation were Burial 2 from an extramural storage cist (Feature 7) and possibly an unidentified cultural feature (Feature 10) from Extramural Area 2.

The site saw continued occupation into the Late Pueblo II ceramic period. Mineral-decorated Pueblo II types were still common, but there was an increase in organic-decorated white wares. The pit structure fill sequence shows a gradual increase of organic-decorated white wares from the lower to

the upper contexts. The presence of partial and complete organic pigment decorated vessels from the floors of Rooms 101 and 103 of Roomblock 1 show that the structure saw continued use into the Late Pueblo II period. However, mineral-painted white wares were still common in the fill sequence of the surface structure and may illustrate that Room 102 was abandoned rather early. Roomblock 2 was probably constructed at this time, but because of the extreme mixing the small surface structure was not assigned a component age. The majority of the extramural features were associated with the Late Pueblo II occupation. The presence of Late Pueblo II refuse across the site suggests an active occupation, although the ephemeral floors of Roomblock 1 suggests that the structure was in a state of deterioration and occupation may have been intermittent. In general, the Jackson Lake community was intensely occupied during the Late Pueblo II period. Late Pueblo II refuse at the site may also be attributed to the central placement of the site within this highly active community center. The Late Pueblo II ceramic component was characterized by a transitional occupation between the middle and late periods. The transitional occupation, combined with mixing and contamination problems, often resulted in difficulties when assigning temporal designations to proveniences.

The Pueblo III occupation was limited to the use of two Extramural Area 1 storage cists. An Early Pueblo III association was attributed to Burial 3 in



Table 14.55. LA 37593, pottery types by vessel form; counts and percents.

	Bowl		Jar		Special Closed		Ladle		Specialized		Indeterminate		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Plain rim	-	-	-	-	1	4.0%	-	-	-	-	-	-	1	0.0%
Fillet rim	-	-	6	0.1%	-	-	-	-	-	-	-	-	6	0.1%
Pueblo II corrugated	-	-	88	0.9%	-	-	-	-	-	-	-	-	88	0.7%
Pueblo I-III corrugated	-	-	213	2.1%	-	-	-	-	-	-	-	-	213	1.8%
Pueblo III corrugated	-	-	22	0.2%	-	-	-	-	-	-	-	-	22	0.2%
Plain gray	4	0.3%	1232	12.1%	11	44.0%	18	26.5%	1	25.0%	7	11.5%	1273	10.8%
Corrugated gray	-	-	6690	65.6%	-	-	-	-	-	-	5	8.2%	6695	57.0%
Incised corrugated	-	-	3	0.0%	-	-	-	-	-	-	-	-	3	0.0%
Red Mesa-style black-on-white	3	0.2%	15	0.1%	-	-	-	-	-	-	-	-	18	0.2%
Pueblo II black-on-white	104	7.5%	74	0.7%	-	-	22	32.4%	-	-	-	-	200	1.7%
Black Mesa-style black-on-white	1	0.1%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Sosi-style black-on-white	1	0.1%	3	0.0%	-	-	-	-	-	-	-	-	4	0.0%
Dogoshi-style black-on-white	104	7.5%	97	1.0%	-	-	1	1.5%	-	-	-	-	202	1.7%
Chaco-style black-on-white	2	0.1%	5	0.0%	-	-	-	-	-	-	-	-	7	0.1%
Early Pueblo III black-on-white	7	0.5%	-	-	-	-	1	1.5%	-	-	-	-	8	0.1%
Late Pueblo III black-on-white	1	0.1%	2	0.0%	-	36.0%	-	-	-	-	-	-	9	0.1%
Pueblo I-II black-on-white	517	37.3%	617	6.0%	2	8.0%	10	14.7%	2	50.0%	4	6.6%	1152	9.8%
Pueblo II-III black-on-white	4	0.3%	-	-	-	-	-	-	-	-	-	-	4	0.0%
Painted black-on-white	7	0.5%	70	0.7%	-	-	-	-	-	-	1	1.6%	78	0.7%
Polished white	459	33.1%	942	9.2%	1	4.0%	13	19.1%	1	25.0%	35	57.4%	1451	12.3%
Polished black-on-white	133	9.6%	114	1.1%	-	-	3	4.4%	-	-	9	14.8%	259	2.2%
Transitional Pueblo III black-on-white	4	0.3%	-	-	-	-	-	-	-	-	-	-	4	0.0%
Squiggle hachure black-on-white	16	1.2%	-	-	-	-	-	-	-	-	-	-	20	0.2%
Mesa Verde indeterminate red	-	-	1	0.0%	-	-	-	-	-	-	-	-	1	0.0%
Bluff Black-on-red	1	0.1%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Deadmans Black-on-red	7	0.5%	4	0.0%	-	-	-	-	-	-	-	-	11	0.1%
Mesa Verde Plain Red	1	0.1%	-	-	1	4.0%	-	-	-	-	-	-	2	0.0%
Cibola indeterminate red ware	1	0.1%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Kayenta indeterminate red	2	0.1%	2	0.0%	-	-	-	-	-	-	-	-	4	0.0%
Tusayan Black-on-red	1	0.1%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Tusayan Polychrome	1	0.1%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Reserve Punched Corrugated Smudged	1	0.1%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Tularosa Fillet rim	1	0.1%	-	-	-	-	-	-	-	-	-	-	1	0.0%
Mogollon Smudged Brown	3	0.2%	1	0.0%	-	-	-	-	-	-	-	-	4	0.0%
<b>Total</b>	<b>1386</b>	<b>100.0%</b>	<b>10205</b>	<b>100.0%</b>	<b>25</b>	<b>100.0%</b>	<b>68</b>	<b>100.0%</b>	<b>4</b>	<b>100.0%</b>	<b>61</b>	<b>100.0%</b>	<b>11749</b>	<b>100.0%</b>

Table 14.56. LA 37593, pottery and paint types by time period; counts and percents.

	Mid Pueblo II		Late Pueblo II		Early Pueblo III		Late Pueblo III		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Type</b>										
Plain rim	–	–	1	0.0%	–	–	–	–	1	0.0%
Fillet rim	1	0.2%	–	–	–	–	5	7.8%	6	0.1%
Pueblo II corrugated	9	1.4%	31	0.6%	2	1.3%	–	–	42	0.7%
Pueblo II–III corrugated	6	0.9%	160	3.2%	8	5.3%	–	–	174	3.0%
Pueblo III corrugated	1	0.2%	10	0.2%	–	–	–	–	11	0.2%
Plain gray	148	23.2%	568	11.4%	16	10.6%	16	25.0%	748	12.8%
Corrugated gray	296	46.3%	2670	53.7%	104	68.9%	14	21.9%	3084	52.9%
Incised corrugated	1	0.2%	2	0.0%	–	–	–	–	3	0.1%
Red Mesa–style black-on-white	1	0.2%	8	0.2%	1	0.7%	–	–	10	0.2%
Pueblo II black-on-white	31	4.9%	87	1.7%	2	1.3%	11	17.2%	131	2.2%
Black Mesa–style black-on-white	–	–	1	0.0%	–	–	–	–	1	0.0%
Sosi-style black-on-white	–	–	1	0.0%	–	–	–	–	1	0.0%
Dogoszhi-style black-on-white	6	0.9%	106	2.1%	–	–	1	1.6%	113	1.9%
Chaco-style black-on-white	–	–	3	0.1%	–	–	–	–	3	0.1%
Early Pueblo III black-on-white	–	–	5	0.1%	2	1.3%	–	–	7	0.1%
Late Pueblo III black-on-white	–	–	–	–	–	–	9	14.1%	9	0.2%
Pueblo II–III black-on-white	26	4.1%	616	12.4%	3	2.0%	3	4.7%	648	11.1%
Pueblo III black-on-white	–	–	3	0.1%	–	–	–	–	3	0.1%
Painted black-on-white	58	9.1%	8	0.2%	–	–	–	–	66	1.1%
Polished white	45	7.0%	585	11.8%	8	5.3%	5	7.8%	643	11.0%
Polished black-on-white	4	0.6%	91	1.8%	4	2.6%	–	–	99	1.7%
Transitional Pueblo III black-on-white	–	–	2	0.0%	–	–	–	–	2	0.0%
Squiggle hachure black-on-white	4	0.6%	7	0.1%	1	0.7%	–	–	12	0.2%
Bluff Black-on-red	–	–	1	0.0%	–	–	–	–	1	0.0%
Deadmans Black-on-red	–	–	3	0.1%	–	–	–	–	3	0.1%
Mesa Verde Plain Red	–	–	1	0.0%	–	–	–	–	1	0.0%
Kayenta indeterminate red	–	–	2	0.0%	–	–	–	–	2	0.0%
Tusayan Black-on-red	1	0.2%	–	–	–	–	–	–	1	0.0%
Tularosa Fillet rim	1	0.2%	–	–	–	–	–	–	1	0.0%
Mogollon Smudged Brown	–	–	3	0.1%	–	–	–	–	3	0.1%
<b>Total</b>	<b>639</b>	<b>100.0%</b>	<b>4975</b>	<b>100.0%</b>	<b>151</b>	<b>100.0%</b>	<b>64</b>	<b>100.0%</b>	<b>5829</b>	<b>100.0%</b>
<b>Pigment</b>										
None	46	26.3%	580	38.3%	8	38.1%	5	17.2%	639	36.7%
Organic	2	1.1%	267	17.6%	3	14.3%	9	31.0%	281	16.2%
Mineral	127	72.6%	667	44.1%	10	47.6%	15	51.7%	819	47.1%
<b>Total</b>	<b>175</b>	<b>100.0%</b>	<b>1514</b>	<b>100.0%</b>	<b>21</b>	<b>100.0%</b>	<b>29</b>	<b>100.0%</b>	<b>1739</b>	<b>100.0%</b>

N = count

an Extramural Area 1 storage cist (Feature 5). Grave goods included a Pueblo II–III gray ware jar and a McElmo Black-on-white ladle. A Late Pueblo III association is assigned to artifacts cached in a nearby Extramural Area 1 major storage cist (Feature 2). Ceramics in this cache included a Mummy Lake Gray jar filled with pieces of selenite (Figs. 14.10, 14.11) and a partial Late Pueblo III pitcher. A single dendro sample with the artifacts had a date of AD

1131 ±vv. The Early and Late Pueblo III components were characterized by limited activities, including a burial and an artifact cache. Pueblo III trash is sparse, suggesting that the site was not actively occupied at this time. The burial and the cache may have served to reinforce social/behavioral links among descendants living elsewhere in the community. Temper was identified on a sample of 3,143 sherds constituting 26.8 percent of the ceramic assemblage (Table

Table 14.57. LA 37593, pottery types, counts by temper type.

	None	Igneous	Igneous +Sand	Quartzite	Fine Sandstone	Sherd	Igneous + Sherd	Igneous + Sand + Sherd	Quartz + Sherd + Sherd	Fine Sandstone + Sherd	Quartz Sand	Quartz +Sand +Sherd	Tra-chyte	Mo-gollon Tuff	Total Count
Plain rim	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Fillet rim	-	5	-	-	-	-	-	-	-	-	-	-	-	-	5
Pueblo II corrugated	-	30	-	1	-	-	-	-	-	-	-	-	-	-	31
Pueblo II-III corrugated	-	148	1	1	-	-	-	-	-	1	-	-	-	-	151
Pueblo III corrugated	-	11	-	-	-	-	-	-	-	-	-	-	-	-	11
Plain gray	-	3	245	-	12	-	2	9	-	-	-	-	3	-	274
Corrugated gray	-	1553	5	26	-	7	18	-	-	-	3	-	-	-	1613
Red Mesa-style black-on-white	-	1	-	-	-	-	3	-	-	-	-	-	1	-	5
Pueblo II black-on-white	-	38	11	-	1	11	33	3	-	-	1	16	10	-	124
Black Mesa-style black-on-white	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Sosi-style black-on-white	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Dogozhi-style black-on-white	-	21	1	1	-	10	38	1	-	-	3	4	2	-	81
Chaco-style black-on-white	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
Early Pueblo III black-on-white	-	2	2	-	-	-	3	-	-	-	1	-	-	-	8
Late Pueblo III black-on-white	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9
Pueblo II-III black-on-white	-	165	10	14	-	44	65	4	4	-	10	17	4	-	337
Pueblo III black-on-white	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Painted black-on-white	-	-	-	-	-	-	54	-	-	-	-	-	-	-	54
Polished white	-	143	8	9	1	60	72	2	2	-	6	32	5	-	340
Polished black-on-white	-	12	-	-	1	13	8	1	1	1	-	5	-	-	42
Transitional PIII black-on-white	-	2	-	-	-	-	1	1	-	-	-	-	-	-	4
Squiggle hachure	-	5	-	-	-	-	-	-	-	-	-	1	-	-	6
Mesa Verde indeterminate red	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Bluff Black-on-red	-	10	1	-	-	-	-	-	-	-	-	-	-	-	11
Deadmans Black-on-red	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
Mesa Verde Plain Red	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cibola indeterminate red	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Kayenta indeterminate red	-	-	-	-	-	1	-	-	-	-	-	2	1	-	4
Tusayan Black-on-red	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Tusayan Polychrome	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Reserve Punched Corrugated	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Smudged	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Tularosa Fillet rim	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Smudged brown	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
<b>Total</b>	<b>3</b>	<b>2396</b>	<b>39</b>	<b>64</b>	<b>3</b>	<b>149</b>	<b>305</b>	<b>12</b>	<b>7</b>	<b>1</b>	<b>36</b>	<b>84</b>	<b>24</b>	<b>6</b>	<b>3129</b>
<b>% of Total</b>	<b>0.1%</b>	<b>76.6%</b>	<b>1.2%</b>	<b>2.0%</b>	<b>0.1%</b>	<b>4.8%</b>	<b>9.7%</b>	<b>0.4%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>1.2%</b>	<b>2.7%</b>	<b>0.8%</b>	<b>0.2%</b>	<b>100.0%</b>

14 indeterminate not shown.

14.57). Fourteen temper categories were recognized, including three gray ware sherds that lacked temper (temper was indeterminate in 14 of the sherds). Crushed igneous rock accounts for 76.6 percent of the temper sample, and igneous rock with combinations of sand and sherd total 88.0 percent of the sample. The remaining eight temper types appear as very small percentages. The igneous temper can be considered a locally available material, and the temper is abundantly represented across wares, types, and temporal components. White wares include a wider range of temper types, but igneous temper dominates both white wares and gray wares. Nonlocal tempers are minimally present, including trachybasalt, Mogollon tuff, and various combinations of quartz sand. Twenty-four trachybasalt-tempered sherds indicating origin in the Chuska Valley origin were recovered, 22 of which are white wares, 1 a gray ware, and 1 a red ware. The decorated examples are all Pueblo II types, and 10 of 15 have organic paint, as would be expected, even from earlier Chuskan pottery.

Red ware sherds were scarce. The seven identified types were mainly represented by single sherds. Mesa Verde Deadmans Black-on-red ( $n = 11$ ) was the most common type. The majority of the red ware sherds, including eight of the Deadmans Black-on-red sherds, were recovered from mixed deposits without component age designations. One Kayenta red ware sherd has trachybasalt temper, which is unusual. Mogollon types (brown wares) were also very scarce. Of interest was the recovery of three bowl sherds from a single vessel on Floor 2 of Room 102. The intrusive smudged brown ware bowl was left on the floor during the Late Pueblo II use of the room.

Gray ware is represented by 11 vessel form designations, but various jar parts account for over 99 percent of the vessel forms. White ware is represented by 17 vessel form types. Jars constitute 56.5 percent and bowls 31.9 percent of the white ware vessel forms. Other forms include ollas, pitchers, various ladles, pipes, a canteen, and a bird effigy (Tables 14.5, 14.21, 14.28, 14.32). The entire ceramic assemblage embodies a variety of household cooking, storage, and serving tasks typical of a residential site. In addition to the household tasks, the bird effigy and Dogoszhi-style bowl were unusual, or special forms were deposited as ritual offerings beneath Floor 2 of Room 103. Three pipe fragments

suggest ritual activities, but the fragments were discarded as refuse; one was recovered from the surface, and two from the disturbed upper fill of the pit structure. In addition to domestic functions, ladles accompanied both an infant interred during the Late Pueblo II and an older man interred during the Early Pueblo III component.

Lastly, three sherds had edge grinding and a drill hole, suggesting use as pendants. One possible pendant was the kick-up base from a polished white ware olla. The other two pendants were made from Deadmans Black-on-red and polished white sherds. Two pendants were from poorly provenienced surface contexts or Roomblock 1 definition trenches. The remaining pendant was recovered from the fill of an Extramural Area 1 feature (Feature 1).

### *Chipped Stone Artifacts*

The chipped stone assemblage at LA 37593 consisted of 3,135 artifacts representing 53.99 kg (119 lbs) of materials. Nearly 60 percent of the chipped stone assemblage was recovered from mixed deposits without assigned age components. The largest dated assemblage was associated with the Late Pueblo II occupation. The chipped stone assemblage exhibits trends typically documented for the other Jackson Lake sites. The chipped stone assemblage is composed of 10 material types, with chert comprising over 40 percent of the materials. Chert, silicified wood, siltstone, quartzitic sandstone, and quartzite (in descending order) make up over 95 percent of the assemblage. The majority of the artifacts were by-products of core-reduction activities, with debitage accounting for over 85 percent of the artifacts. The tool category was composed mainly of utilized and retouched debitage and hammerstones. Bifacially manufactured tools were infrequent, with sixteen projectile points encompassing the most common formal tool type.

The assemblage is composed primarily of common materials that are readily available and easily procured from the La Plata Valley glacial terraces. The material types are usually found in the form of various-sized river cobbles, but chert and silicified wood can also be found in the Animas Formation, exposed about 1.6 km west of the site. Exotic materials were rare and limited mainly to four formal tools of Narbona (formerly Washington Pass) chert. This intrusive material from the Chuska

Mountains included a drill and three projectile points.

The material types show similar patterns of reduction and usage. Cores were common, indicating both the local availability of the material types and the primary stages of reduction. The entire reduction sequence was exhibited by the more commonly used material types. The assemblage depicts a common Anasazi production strategy centered on the generation and expedient use of flakes with very little energy directed toward formal tool manufacture. The materials can be broadly grouped into highly siliceous sharp-edged materials such as the cherts, silicified wood, and chalcedony, and more coarse-grained durable-edged materials such as siltstone and quartzitic sandstone (Tables 14.58, 14.59a, 14.59b). The siltstone and quartzitic sandstone were generally available in larger-sized cobbles, and these materials had larger and heavier flakes. The highly siliceous materials tended to have smaller and lighter debitage. The highly siliceous materials show the widest range of tool use, including projectile point manufacture. Hammerstones, multipurpose tools used in a wide range of activities, were nearly equally divided between the two broad

material categories. As dictated by the composition of the site, by far the most chipped stone material is from the late Pueblo II time segment. Insofar as the unequal sample sizes allow, more fine-grained materials are present in the Late Pueblo II group than in the Mid Pueblo II group (Table 14.60).

The 16 projectile points make up the largest formal tool category. The projectile points, along with the notched flakes, indicate the production and maintenance of hunting equipment or weapons. Only five of the projectile points were complete. Most (n = 10) of the points were recovered from mixed deposits that were not assigned a specific component age. These included the three points made from exotic material in the form of Narbona Pass chert (Fig. 14.40 [c, d, i]). Points were also recovered from surface rooms and from the disturbed upper fill and floor fill of the pit structure. A large side-notched point recovered from the general fill of Room 102 appears to be a curated point from an earlier time period (Fig. 14.40 [a]).

In addition to hunting activities, two projectile points and a knife were recovered from a context suggesting ritual activities. These artifacts were associated with other apparently ritual materials on

Table 14.58. LA 37593, chipped stone tools by material type; counts and percents.

	Chert		Chalcedony		Silicified Wood		Quartzite		Siltstone		Other		Total
	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	
Debitage	1167	43.3%	60	2.2%	603	22.4%	227	8.4%	589	21.9%	48	1.8%	<b>2694</b>
Core	46	48.4%	–	–	15	15.8%	4	4.2%	28	29.5%	2	2.1%	<b>95</b>
Uniface	1	100.0%	–	–	–	–	–	–	–	–	–	–	<b>1</b>
Biface	–	–	–	–	3	100.0%	–	–	–	–	–	–	<b>3</b>
Retouched, utilized debitage	99	40.6%	9	3.7%	88	36.1%	15	6.1%	31	12.7%	2	0.8%	<b>244</b>
Retouched, utilized core	5	62.5%	–	–	2	25.0%	–	–	1	12.5%	–	–	<b>8</b>
Drill	3	60.0%	–	–	2	40.0%	–	–	–	–	–	–	<b>5</b>
Graver	1	100.0%	–	–	–	–	–	–	–	–	–	–	<b>1</b>
Notch	1	50.0%	–	–	1	50.0%	–	–	–	–	–	–	<b>2</b>
Denticulate	3	75.0%	–	–	1	25.0%	–	–	–	–	–	–	<b>4</b>
Bifacial knife, scraper	1	20.0%	1	20.0%	2	40.0%	1	20.0%	–	–	–	–	<b>5</b>
Projectile point	4	30.8%	4	30.8%	5	38.5%	–	–	–	–	–	–	<b>13</b>
Hammerstone	16	34.0%	–	–	–	–	11	23.4%	19	40.4%	1	2.1%	<b>47</b>
Hammerstone flake	10	83.3%	–	–	1	8.3%	–	–	1	8.3%	–	–	<b>12</b>
Chopper, plane	–	–	–	–	–	–	2	100.0%	–	–	–	–	<b>2</b>
Hoe	–	–	–	–	–	–	–	–	–	–	1	100.0%	<b>1</b>
<b>Total</b>	<b>1357</b>	<b>43.3%</b>	<b>74</b>	<b>2.4%</b>	<b>723</b>	<b>23.0%</b>	<b>260</b>	<b>8.3%</b>	<b>669</b>	<b>21.3%</b>	<b>54</b>	<b>1.7%</b>	<b>3137</b>

Quartzite includes quartzitic sandstone; other includes sandstone, rhyolite, igneous, and other.

N = count



Table 14.59a. LA 37593, projectile point material types, counts by point type and by major provenience.

Projectile Point Type	Material					Total
	Chert (Narbona Pass)	Chalcedony	Silicified Wood (undiff.)	Silicified wood (yellow brown)	Quartzite (undiff.)	
Basal notch	0	1	0	0	0	1
Unidentified point	1	1	1	0	0	3
Unidentified small	0	1	0	0	0	1
Large (early?) side-notched	0	1	1	0	0	2
Unnotched	1	0	2	0	0	3
Side-notched convex	1	0	1	0	0	2
Side-notched straight	0	0	0	1	0	1
Knife	0	0	0	0	1	1
Straight-sided drill	1	0	0	1	0	2
<b>Total</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>16</b>

**Provenience Unit**

Surface room	0	2	0	1	1	4
Roomblock	2	1	2	0	0	5
Pit Structure	0	0	1	1	0	2
Extramural Area	2	1	2	0	0	5
<b>Total</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>16</b>

Floor 2 of Room 103. The complete basal-notched point (Fig. 14.40 [g]) was made of chalcedony and resembled a Coal Creek point from the Uncompahgre Plateau in west central Colorado (Buckles 1971:1220). The complete side-notched point and knife fragment were both made of silicified wood (Fig. 14.40 [f, h]).

*Ground Stone Artifacts*

The ground stone assemblage at LA 37593 consisted of 160 artifacts (Tables 14.61, 14.62). The bulk of the artifacts were recovered from Late Pueblo II, followed by Mid Pueblo II contexts. Few ground stone artifacts were recovered from the Late Pueblo III component. Late Pueblo III artifacts were mainly mealing equipment, including manos and metates cached in an Extramural Area 1 major storage cist (Feature 2). Two small specialized “manos” of indeterminate function were among this equipment. The Mid and Late Pueblo II components had similar ranges of artifact types and frequencies. The ground stone artifacts were manufactured from 11 material types, but over 70 percent of the assemblage was made from local sandstones.

Manos were the most common artifact type, comprising 55.6 percent of the total assemblage. Mealing equipment including both manos and

metates totaled 65 percent of the ground stone artifacts. Thirteen one-hand manos depict nonspecialized food processing tools used for a variety of tasks. However, the preponderance of two-hand manos indicates that the specialized processing of corn was an important activity. Mealing equipment was recovered from both the pit structure floor and Room 103 of the surface structure. Three manos were cached in a subfloor pit (Feature 3) on Floor 3 of Room 101. In addition to their primary use as mealing equipment, manos were secondarily utilized in feature construction. Eight complete two-hand manos lined an Extramural Area 1 pit (Feature 1), and a two-hand mano served as a shim in a pit structure posthole (Feature 15).

The ground stone artifacts indicate several additional site activities. An assortment of shaped slab fragments were mainly sandstone. These shaped slabs were used for a variety of covers and closures. Construction, field clearing, and fuel processing are suggested by axes from both Mid and Late Pueblo II contexts. Two tchamahias may have been more specialized or ritualistic agricultural implements. A complete specimen was recovered from mixed deposits during wall clearing of Roomblock 1, and the other was a fragment discarded as refuse in the upper fill of an Extramural Area 1 major storage cist (Feature 2). The complete specimen is of siltstone

Table 14.59b. LA 37593, chipped stone tools by material type and weight (g) with percents.

	Chert		Chalcedony		Silicified Wood		Quartzite		Siltstone		Other		Total Weight (g)
	Weight	Row %	Weight	Row %	Weight	Row %	Weight	Row %	Weight	Row %	Weight	Row %	
Debitage	9512.0	38.8%	110.0	0.4%	2299.0	9.4%	3437.0	14.0%	8637.0	35.2%	532.0	2.2%	24527.0
Core	4089.0	40.1%	-	-	745.0	7.3%	481.0	4.7%	4765.0	46.7%	129.0	1.3%	10209.0
Uniface	3.0	100.0%	-	-	-	-	-	-	-	-	-	-	3.0
Biface	-	-	-	-	20.0	100.0%	-	-	-	-	-	-	20.0
Retouched, utilized debitage	1502.0	41.2%	11.0	0.3%	642.0	17.6%	492.0	13.5%	960.0	26.3%	37.0	1.0%	3644.0
Retouched, utilized core	274.0	61.3%	-	-	109.0	24.4%	-	-	64.0	14.3%	-	-	447.0
Drill	10.0	15.2%	0.0	0.0%	56.0	84.8%	-	-	-	-	-	-	66.0
Graver	51.0	100.0%	-	-	-	-	-	-	-	-	-	-	51.0
Notch	14.0	30.4%	-	-	32.0	69.6%	-	-	-	-	-	-	46.0
Denticulate	91.0	89.2%	-	-	11.0	10.8%	-	-	-	-	-	-	102.0
Bifacial knife, scraper	1.0	1.6%	1.0	1.6%	54.0	84.4%	8.0	12.5%	-	-	-	-	64.0
Projectile point	8.0	40.0%	7.0	35.0%	5.0	25.0%	-	-	-	-	-	-	20.0
Hammerstone	3783.0	30.4%	-	-	-	-	2456.0	19.7%	6050.0	48.6%	165.0	1.3%	12454.0
Hammerstone flake	595.0	84.2%	-	-	46.0	6.5%	-	-	66.0	9.3%	-	-	707.0
Chopper, plane	-	-	-	-	-	-	615.0	100.0%	-	-	-	-	615.0
Hoe	-	-	-	-	-	-	-	-	-	-	1016.0	100.0%	1016.0
<b>Total</b>	<b>19933.0</b>	<b>36.9%</b>	<b>129.0</b>	<b>0.2%</b>	<b>4019.0</b>	<b>7.4%</b>	<b>7489.0</b>	<b>13.9%</b>	<b>20542.0</b>	<b>38.0%</b>	<b>1879.0</b>	<b>3.5%</b>	<b>53991.0</b>

Quartzite includes quartzitic sandstone; other includes sandstone, rhyolite, igneous, and other.

and is the only example of this subtype of tchamahia from the project (see Fig. 20.17 [b], Chapter 20, Vol. 2, this report). It has a straight-sided hafting element with a broader, convex blade, contrasting with the teardrop-shaped hornstone “classic” tchamahias. Lapidary stones, abrading stones, two shale pendants, a small sandstone disk, and two ornaments may indicate jewelry production (Table 14.63). The turquoise and shale ornaments or inlay were associated with other apparent ritual offerings on Floor 2 of Room 103.

### Faunal Remains

Faunal remains from LA 37593 totaled 1,066 elements, including 15 bone tools (Tables 14.64, 14.65). The assemblage is composed mainly of scattered disarticulated elements discarded as refuse in the various proveniences. Articulated carcasses account for higher counts in the kangaroo rat (at least three individuals), Harris hawk (1 individual), snake (probably 1 individual), and toad (36 elements from one individual) categories. The faunal remains are represented by 31 taxonomic categories. The assemblage is broadly represented by mammals (68 percent), birds (27 percent), and snakes/toads (6 percent). The snake and toads were probably natural rather than culturally introduced remains. The faunal remains consist of skeletal elements with the exception of 23 eggshell fragments from bird (n = 3) and turkey (n = 20) eggs. Turkey eggshell accounted for just under half of the turkey remains from the site. The bulk of the turkey eggshell (n = 19) was recovered from the fill covering Burial 3.

The majority of the mammal remains were recorded as small, medium, or large mammals; large-mammal bones are the single largest bone category. Among the identified mammals, deer was the most common large mammal. Deer bone probably accounts for the larger portion of the unidentified large mammal bone. Deer and deer-sized mammals were an important food source, followed by rabbits, rodents, squirrels, and birds, all commonly associated with agricultural fields. Turkey elements accounted for only 2 percent of the faunal remains. Possible dog or coyote was limited to 13 elements, and 10 of these were recovered from mixed deposits without assigned component ages. Weasel was represented by three elements found on the surface (n

Table 14.60. LA 37593, chipped stone, tool and material types by time period; counts and percents.

	Mid Pueblo II		Late Pueblo II		Early Pueblo III		Late Pueblo III		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Type</b>										
Debitage	52	73.2%	997	86.2%	21	75.0%	6	85.7%	<b>1076</b>	<b>85.2%</b>
Core	3	4.2%	47	4.1%	3	10.7%	1	14.3%	<b>54</b>	<b>4.3%</b>
Retouched, utilizeddebitage	10	14.1%	77	6.7%	1	3.6%	–	–	<b>88</b>	<b>7.0%</b>
Retouched, utilized core	–	–	6	0.5%	–	–	–	–	<b>6</b>	<b>0.5%</b>
Drill	–	–	–	–	1	3.6%	–	–	<b>1</b>	<b>0.1%</b>
Graver	–	–	1	0.1%	–	–	–	–	<b>1</b>	<b>0.1%</b>
Denticulate	–	–	–	–	2	7.1%	–	–	<b>2</b>	<b>0.2%</b>
Bifacial knife, scraper	–	–	3	0.3%	–	–	–	–	<b>3</b>	<b>0.2%</b>
Projectile point	–	–	5	0.4%	–	–	–	–	<b>5</b>	<b>0.4%</b>
Hammerstone	5	7.0%	19	1.6%	–	–	–	–	<b>24</b>	<b>1.9%</b>
Hammerstone flake	1	1.4%	–	–	–	–	–	–	<b>1</b>	<b>0.1%</b>
Chopper, plane	–	–	1	0.1%	–	–	–	–	<b>1</b>	<b>0.1%</b>
Hoe	–	–	1	0.1%	–	–	–	–	<b>1</b>	<b>0.1%</b>
<b>Total</b>	<b>71</b>	<b>100.0%</b>	<b>1157</b>	<b>100.0%</b>	<b>28</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>1263</b>	<b>100.0%</b>
<b>Material</b>										
Chert	22	31.0%	518	44.8%	10	35.7%	3	42.9%	<b>553</b>	<b>43.8%</b>
Chalcedony	–	–	17	1.5%	2	7.1%	–	–	<b>19</b>	<b>1.5%</b>
Silicified wood	10	14.1%	249	21.5%	5	17.9%	2	28.6%	<b>266</b>	<b>21.1%</b>
Quartzite	3	4.2%	44	3.8%	1	3.6%	–	–	<b>48</b>	<b>3.8%</b>
Quartzitic sandstone	6	8.5%	64	5.5%	2	7.1%	1	14.3%	<b>73</b>	<b>5.8%</b>
Igneous	–	–	6	0.5%	–	–	–	–	<b>6</b>	<b>0.5%</b>
Sandstone	3	4.2%	5	0.4%	–	–	–	–	<b>8</b>	<b>0.6%</b>
Siltstone	27	38.0%	252	21.8%	8	28.6%	1	14.3%	<b>288</b>	<b>22.8%</b>
Other	–	–	2	0.2%	–	–	–	–	<b>2</b>	<b>0.2%</b>
<b>Total</b>	<b>71</b>	<b>100.0%</b>	<b>1157</b>	<b>100.0%</b>	<b>28</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>1263</b>	<b>100.0%</b>

= 1) and from the human bone layer (n = 2) in the pit structure fill.

Just under 40 percent of the bone was recovered from Late Pueblo II contexts, followed by Mid Pueblo II, Early Pueblo III, and Late Pueblo III. Most of the Late Pueblo II bone was recovered from the pit structure fill and Roomblock 1. The highest bone frequencies came from Room 103 (n = 79) of the surface roomblock and the human bone layer (124) of the pit structure. The bone is similarly distributed by taxa and frequencies across the Late Pueblo II fill units.

Over 90 percent of the Mid Pueblo II bone was recovered with Burial 2. Kangaroo rat bone from at least three individuals account for 76 percent of this bone, and silky pocket mouse, mouse, and white-footed mouse raise the total to 85 percent of the bone. The three kangaroo rat individuals were recovered from a gray ware jar accompanying the burial, and the remaining bone was with the fill around the

body. The various rodents may have been foraging on the shallow burial and the contents of the vessel when they died and may not represent actual grave offerings.

The Early Pueblo III bone was recovered with Burial 3. An articulated Harris hawk was resting on the back of the burial, and miscellaneous bird bone was found in the grave fill. Other bone included small mammal and a single dog/coyote bone. The snake from the fill was probably natural.

Only 15 bone tools were recovered from the site. Bone awls were the most common artifact, comprising 60 percent of the tools. Bone awls suggest a wide range of domestic punching and piercing activities, and possibly the additional manufacture of mats and basketry. Other identifiable tools included a tube and a spatulate fragment. The bone tools were recovered from roomblock fill, pit structure fill, and extramural feature fill. The

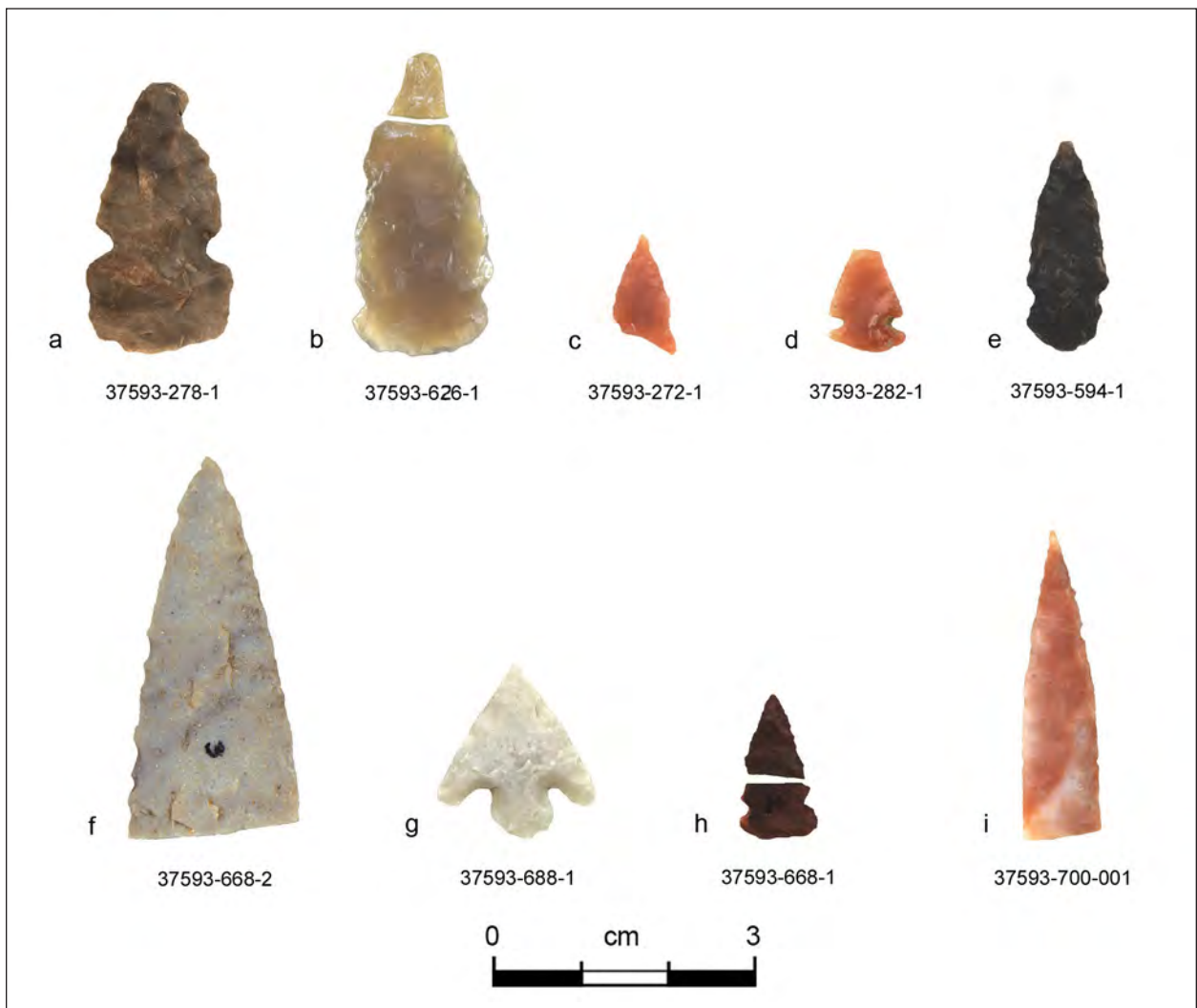


Figure 14.40 [a-i]. LA 37593, formal tools: a. large side-notched silicified wood point, possibly early, from Room 102; b. side-notched chalcedony point, also likely early, from Room 102 upper fill; c. Narbona Pass chert point fragment, from Roomblock 1; d. side-notched Narbona Pass chert point with convex base, also from Roomblock 1; e. side-notched silicified wood point with convex base, from Pit Structure 1 fill; f. quartzite knife, from Room 103, Floor 2; g. basally notched (Coal Creek?) point, from Floor 2, Room 103; h. side-notched heat-treated yellow-brown silicified wood point with straight base; i. highly crafted, unnotched Narbona Pass chert point, from Extramural 3, Layer 9.

bone tools were mainly discarded as refuse in Late Pueblo II proveniences.

### *Botanical Remains*

Mollie S. Toll

All occupation phases of the Thunder Maker site (LA 37593) fit within a time period from Mid to Late Pueblo II and as late as very early Pueblo III (AD 1050-1130). The closest contemporary site is LA 37594, immediately to the north. Earlier, Basketmaker occupations are found at LA 37594,

as well as LA 60751, to the south. Late Pueblo II to Pueblo III occupations are found at LA 60751, LA 60750 (to the east, and not excavated by this project), LA 37591 (across the highway to the southwest), and LA 37592 (also to the south).

Elements of LA 37593 within the right-of-way and investigated for botanical remains include Roomblock 1, Pit Structure 1, and extramural thermal and storage features. An important later site component, a mass human interment in upper fill of the pit structure, didn't include any macrofloral samples or artifacts.

Table 14.61. LA 37593, ground stone tools by material type; counts and percents.

	Igneous		Granite		Sandstone		Siltstone		Other		Quartzitic Sandstone		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Indeterminate fragment	–	–	–	–	1	0.9%	–	–	–	–	–	–	1	0.6%
Pottery polishing stone	–	–	–	–	1	0.9%	–	–	–	–	–	–	1	0.6%
Plaster polishing stone	1	9.1%	1	8.3%	–	–	–	–	–	–	2	22.2%	4	2.6%
Abrading stone	1	9.1%	2	16.7%	1	0.9%	–	–	1	50.0%	1	11.1%	5	3.2%
Shaped slab	1	9.1%	–	–	20	17.9%	1	11.1%	–	–	–	–	23	14.8%
Jar cover	–	–	–	–	4	3.6%	–	–	–	–	–	–	4	2.6%
Anvil	1	9.1%	–	–	–	–	1	11.1%	–	–	–	–	2	1.3%
Lapidary stone	–	–	–	–	4	–	–	–	–	–	1	11.1%	5	3.2%
Mano	3	27.3%	3	25.0%	16	14.3%	1	11.1%	–	–	–	–	23	14.8%
One-hand mano	1	9.1%	1	8.3%	8	7.1%	–	–	–	–	–	–	10	6.5%
Two-hand mano	–	–	3	25.0%	20	17.9%	–	–	–	–	1	11.1%	24	15.5%
Two-hand trough mano	–	–	1	8.3%	1	0.9%	1	11.1%	–	–	1	11.1%	4	2.6%
Two-hand slab mano	1	9.1%	1	8.3%	20	17.9%	1	11.1%	–	–	1	11.1%	24	15.5%
Two-hand loaf mano	–	–	–	–	1	0.9%	–	–	–	–	–	–	1	0.6%
Metate	–	–	–	–	3	2.7%	–	–	–	–	–	–	3	1.9%
Trough metate	–	–	–	–	3	2.7%	–	–	–	–	–	–	3	1.9%
Slab metate	–	–	–	–	7	6.3%	–	–	–	–	1	11.1%	8	5.2%
Miniature metate	–	–	–	–	–	–	–	–	–	–	1	11.1%	1	0.6%
Two-notch axe	1	9.1%	–	–	1	0.9%	2	22.2%	1	50.0%	–	–	5	3.2%
Full-grooved axe	1	9.1%	–	–	–	–	–	–	–	–	–	–	1	0.6%
Tchamahia	–	–	–	–	–	–	2	22.2%	–	–	–	–	2	1.3%
Wedge	–	–	–	–	1	0.9%	–	–	–	–	–	–	1	0.6%
<b>Total</b>	<b>11</b>	<b>100.0%</b>	<b>12</b>	<b>100.0%</b>	<b>112</b>	<b>100.0%</b>	<b>9</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>9</b>	<b>100.0%</b>	<b>155</b>	<b>100.0%</b>

Other includes one metamorphic axe, one sedimentary slab, and one quartzite polishing stone with quartzitic sandstone.

N = count

In Pit Structure 1, a hearth in earlier Floor 2 contained no cultural flotation remains (Table 14.66). Macrobotanical wood from features on this floor was largely juniper (Table 14.67). On Floor 1, thermal features (Features 5, 12) and storage features (Features 8, 9) contained carbonized ricegrass and goosefoot seeds, a few corn cupules, and juniper leaflets (Tables 14.66, 14.68). Flotation wood from the Feature 5 hearth was largely juniper, with a bit of cottonwood/willow (Table 14.69). Floor grids contained scattered references to feature contents (ricegrass, juniper leaflets) as well as pigweed seeds (southeast quad) and unburned tobacco seeds (southwest quad; Table 14.68). Within the cobble

roomblock, Room 101 had three sampled floors. All three floor surfaces contained only unburned weed seeds (purslane on all three, abundant pigweed on the earlier Floors 2 and 3, and patata on Floor 1; Table 14.68). Floor 2 thermal features contained carbonized pigweed, plus flotation corncob parts and juniper, and a major component of flotation charcoal (Tables 14.66, 14.68, 14.69). Macrobotanical charcoal from the hearth (Feature 2) on this floor was entirely piñon, on the other hand (Table 14.67). The only floral materials from Room 102 were corncob fragments from Layer 3 (Table 14.70). Room 103 living surfaces included scattered corncob fragments (Table 14.71). Room 103 features contained



Table 14.62. LA 37593, ground stone tools by time period; counts and percents.

	Mid Pueblo II		Late Pueblo II		Late Pueblo III		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Pottery polishing stone	–	–	1	1.3%	–	–	1	0.8%
Plaster polishing stone	2	5.4%	2	2.6%	–	–	4	3.3%
Abrading stone	2	5.4%	3	3.9%	–	–	5	4.1%
Shaped slab	8	21.6%	12	15.6%	–	–	20	16.3%
Jar cover	2	5.4%	2	2.6%	–	–	4	3.3%
Anvil	–	–	2	2.6%	–	–	2	1.6%
Lapidary stone	1	2.7%	3	3.9%	–	–	4	3.3%
Mano	1	2.7%	13	16.9%	–	–	14	11.4%
One-hand mano	1	2.7%	7	9.1%	–	–	8	6.5%
Two-hand mano	8	21.6%	6	7.8%	4	44.4%	18	14.6%
Two-hand trough mano	–	–	3	3.9%	–	–	3	2.4%
Two-hand slab mano	8	21.6%	9	11.7%	2	22.2%	19	15.4%
Two-hand loaf mano	–	–	1	1.3%	–	–	1	0.8%
Metate	–	–	3	3.9%	–	–	3	2.4%
Trough metate	–	–	2	2.6%	–	–	2	1.6%
Slab metate	2	5.4%	1	1.3%	3	33.3%	6	4.9%
Miniature metate	–	–	1	1.3%	–	–	1	0.8%
Two-notch axe	–	–	2	2.6%	–	–	2	1.6%
Full-grooved axe	1	2.7%	–	–	–	–	1	0.8%
Tchamahia	–	–	1	1.3%	–	–	1	0.8%
Wedge	1	2.7%	–	–	–	–	1	0.8%
Ornament	–	–	2	2.6%	–	–	2	1.6%
Pendant	–	–	1	1.3%	–	–	1	0.8%
<b>Total</b>	<b>37</b>	<b>100.0%</b>	<b>77</b>	<b>100.0%</b>	<b>9</b>	<b>100.0%</b>	<b>123</b>	<b>100.0%</b>

Table 14.63. LA 37593, ornaments, counts by type and major provenience.

	Room 103	Roomblock	Pit Structure	Extramural Area 1	Total
Inlay/mosaic/set	1	–	–	–	1
Manufacturing debris	1	–	–	–	1
Pendant	–	2	1	2	5
Disc	–	1	–	–	1
<b>Total</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>8</b>

only unburned weed and grass seeds (Tables 14.66, 14.71). Macrobotanical charcoal from a heating pit on Surface 2 was about equal parts juniper, sage, and an unknown nonconifer (Table 14.67).

The only cultural floral remains in extramural thermal features were corncob fragments (Feature 8 and 9 fire pits; Table 14.66) and, oddly enough,

evening primrose seeds in Feature 8. Charred juniper leaflets in Feature 8 are linked with the 19 percent juniper charcoal in that provenience (Tables 14.63, 14.68). Feature 8 also contained saltbush, sage, and cottonwood/willow, while Feature 9 leaned more heavily (88 percent) towards juniper (Table 14.69). Extramural storage cists contained

Table 14.64. LA 37593, faunal remains, taxon by time period; counts and percents.

	Mid PII		Late PII		Early PIII		Late PIII		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Mammal	2	0.7%	40	9.7%	–	–	–	–	42	4.6%
Small mammal	17	6.1%	55	13.3%	22	12.0%	4	9.5%	98	10.7%
Medium mammal	3	1.1%	12	2.9%	–	–	–	–	15	1.6%
Large mammal	10	3.6%	134	32.4%	–	–	–	–	144	15.7%
Rodent	6	2.1%	–	–	–	–	–	–	6	0.7%
Antelope ground squirrel	2	0.7%	–	–	–	–	–	–	2	0.2%
Ground squirrel	1	0.4%	–	–	–	–	1	2.4%	2	0.2%
Rock squirrel	–	–	1	0.2%	–	–	–	–	1	0.1%
Gunnison's prairie dog	–	–	1	0.2%	–	–	–	–	1	0.1%
Botta's pocket gopher	4	1.4%	–	–	–	–	–	–	4	0.4%
Silky pocket mouse	11	3.9%	–	–	–	–	–	–	11	1.2%
Banner-tailed kangaroo rat	195	69.6%	–	–	–	–	–	–	195	21.2%
Mouse	8	2.9%	–	–	–	–	–	–	8	0.9%
White-footed mouse	3	1.1%	–	–	–	–	–	–	3	0.3%
Mexican woodrat	–	–	1	0.2%	–	–	–	–	1	0.1%
Desert cottontail rabbit	1	0.4%	5	1.2%	–	–	–	–	6	0.7%
Black-tailed jackrabbit	3	1.1%	7	1.7%	–	–	–	–	10	1.1%
Dog, coyote, fox, wolf	–	–	1	0.2%	1	0.5%	–	–	2	0.2%
Dog, coyote, wolf	–	–	1	0.2%	–	–	–	–	1	0.1%
Weasel and allies	–	–	2	0.5%	–	–	–	–	2	0.2%
Artiodactyl	–	–	5	1.2%	–	–	–	–	5	0.5%
Deer	2	0.7%	29	7.0%	–	–	1	2.4%	32	3.5%
Mule deer	–	–	2	0.5%	–	–	–	–	2	0.2%
Bird	–	–	72	17.4%	30	16.3%	–	–	102	11.1%
Red-tailed hawk	–	–	–	–	124	67.4%	–	–	124	13.5%
Blue grouse	–	–	2	0.5%	–	–	–	–	2	0.2%
Turkey	3	1.1%	15	3.6%	–	–	–	–	18	2.0%
Nonvenomous snake	–	–	6	1.4%	–	–	–	–	6	0.7%
Bullsnake	–	–	–	–	7	3.8%	–	–	7	0.8%
True toad	8	2.9%	1	0.2%	–	–	36	85.7%	45	4.9%
Aves eggshell	–	–	3	0.7%	–	–	–	–	3	0.3%
<i>Meleagris</i> eggshell	1	0.4%	19	4.6%	–	–	–	–	20	2.2%
<b>Total</b>	<b>280</b>	<b>100.0%</b>	<b>414</b>	<b>100.0%</b>	<b>184</b>	<b>100.0%</b>	<b>42</b>	<b>100.0%</b>	<b>920</b>	<b>100.0%</b>

scattered traces of burned weed seeds (pigweed in Features 2 and 7, purslane in Feature 7; Table 14.72). Carbonized corn cob fragments occurred in both Features 7 and 10 (Tables 14.70, 14.71). Except for Features 1 (fire pit) and 5 (storage cist; unburned sage and cottonwood/willow, respectively), wood in extramural features leaned towards juniper charcoal (Table 14.67).

### Pollen

Richard Holloway

Three samples were taken from the floor of Pit Structure 1 in association with artifacts (FS 402, 408, and 409). These samples dated to the Mid Pueblo II

period. The pollen assemblages contained fairly high amounts of cheno-am and Poaceae in addition to rather high amounts of *Zea mays* and *Sphaeralcea* pollen. Given that these assemblages were in association with ground stone artifacts, the relatively high concentration values for these taxa suggest that processing activities involving these taxa may have been occurring. The three samples were collected from the same general area, which might suggest a specific use for this area of the pit structure.

The sample associated with the Dogoszhi bowl also contained a fairly high quantity of corn pollen, along with pollen of Onagraceae and a high amount of *Sarcobatus* pollen. Interestingly, Onagraceae pollen was often associated with corn pollen from

Table 14.65. LA 37593, bone tools, types by major provenience; summary table.

FS	Lot	Tool Type and Modification	Element	Completeness	Vertical	Length (mm)
<b>Extramural Area 1</b>						
87	2	Tool, fragment, indeterminate	artiodactyl tooth	indeterminate	surface	15
804	8	Awl fragment, indeterminate point	mammal long bone	indeterminate	cist, Feature 6, Level 2	30
<b>Pit Structure 1</b>						
402	1	Awl, medium point with drilled proximal end	mammal long bone	complete	Feature 9, Floor 1	97
444	1	Spatulate fragment	mammal long bone	>25%	Feature 9, Floor 1	87
444	2	Awl, coarse point	deer ulna	>75%	Feature 9, Floor 1	101
568	1	Bone tube	turkey tibiotarsus	25–50%	upper fill, Level 12	48
579	4	Awl, coarse point	deer metapodial	complete	upper fill	117
590	3	Awl, coarse point	mammal long bone	>75%	upper fill	97
<b>Room 103</b>						
638	1	Awl, coarse point	mammal long bone	indeterminate	floor fill, Layer 5, Floor 1	108
667	1	Awl, coarse point	deer metapodial	complete	fill, Level 2	118

samples taken from the El Paso pipeline project in southern San Juan and McKinley Counties (Holloway 1996). It has also been noted that corn and Onagraceae were used together medicinally.

The samples associated with the Pueblo III period from this site were associated with burial contexts. These samples contained higher concentration values of cheno-am and *Sarcobatus* along with elevated values of *Zea mays* pollen. These might suggest the introduction of flowers along with interment of the body. Six pollen wash samples were also taken from burials; these are discussed in a separate section.

#### LA 37593: SUMMARY

The Thunder Maker site, LA 37593, was visible on the surface as a small, nondescript cobble mound—one of many similar cobble surface structures comprising the prehistoric Jackson Lake community. This particular group of structures is in the midst of the community and is literally surrounded on all sides by contemporary sites and cultural elements. Designating a site boundary in this context is problematic, especially with extensive unexcavated material extending east of the site. The linear right-of-way precluded definition of the entire range of site elements that might be associated with the

occupation within the highly utilized community landscape.

The excavated portion of the site included three rooms of a five- to seven-room (or more) cobble surface structure (one room of which was almost entirely destroyed by water line construction); a pit structure that was invisible from the surface; and 10 extramural features, including hearths, roasting facilities, and major storage cists. Four primary burials were recovered from extramural storage cists and the upper fill of the pit structure. The pit structure fill also contained a mass human interment with at least 17 individuals represented. Semiarticulated and disarticulated elements had been placed by inhabitants in the cavity formed by the abandoned pit structure. Ceramics indicate an initial site occupation in the Mid/Late Pueblo II period with temporal components in the Early Pueblo III period and final abandonment in the Late Pueblo III period. The excavation verified the complexity of occupation associated with just one discrete cobble mound within the prehistoric community.

The architectural elements suggest that the site initially functioned as a permanent habitation site with year-round occupation. The initial and primary Mid/Late Pueblo II occupation most likely started with a standard unit-type layout with a cobble roomblock, plaza/activity area, pit structure, and trash mound. These site elements have a north-

Table 14.66. LA 37593, plant remains, flotation results by taxon, major provenience, and feature; frequency and abundance per liter.

	Pit Structure 1			Roomblock 1			Extramural Area 1		
	Floor 1		Floor 2	Room 101 Floor 2		Room 103 Surface 2	37N/66 E	41N/65E	
	5 Hearth	9 Cist/ Floor	7 Hearth	1 Fire Pit	2 Hearth	2 Heating Pit	3 Roasting Facility	8 Fire Pit	9 Fire Pit
<b>FS</b>	<b>410</b>	<b>444</b>	<b>428</b>	<b>609</b>	<b>613</b>	<b>672</b>	<b>578</b>	<b>850</b>	<b>851</b>
<b>Cultural</b>									
Annuals:									
<i>Amaranthus</i>	-	-	-	-	1.0	-	-	-	-
<i>Chenopodium</i>	1.0	-	-	-	-	-	-	-	-
Cultivars:									
<i>Zea mays</i>	-	-	-	+ cupule	+ cob fragments, +cupule	-	-	+ cupule	+ cupule
Grasses:									
<i>Oryzopsis</i>	23	-	-	-	-	-	-	-	-
Other:									
<i>Oenothera</i>	-	-	-	-	-	-	-	4.0	-
Perennials:									
<i>Juniperus</i>	+ leaflet	++++ leaflet	-	+ mc	-	-	-	+ leaflet	-
<b>Noncultural</b>									
Annuals:									
<i>Amaranthus</i>	31.0	-	-	-	-	-	-	-	-
<i>Chenopodium</i>	-	-	-	-	-	7.0	1.0	-	-
<i>Portulaca</i>	1.0	-	-	-	-	-	-	-	-
<i>Suaedo</i>	-	-	-	-	-	1.0	-	-	-
Grasses:									
<i>Oryzopsis</i>	7.0	-	-	-	-	-	-	-	-
Other:									
Unidentifiable	-	-	-	-	-	-	1.0	-	-

All cultural plant remains are carbonized. Plant remains are seeds unless indicated otherwise.  
+ = less than 10/liter, ++++ = greater than 100/liter, mc = male cone

south orientation, but a formal trash mound indicating intensity and duration of site use was not found. The trash dump may have been washed away by the arroyo that is presently south of the pit structure. The settlement was probably the home of several households considering the double-tiered room layout of five to seven rooms. The presence of a sipapu complex in the pit structure suggests that the structure could have functioned as an integrative device for multiple households and perhaps the larger community.

Several observations evidence the intensity and duration of settlement, particularly during the primary Mid/Late Pueblo II occupation. The initial construction of the cobble surface structure was

over a subsurface anomaly of unknown function. This feature was partially exposed along the east edge of the right-of-way; the few sherds recovered from it suggest a Mid/Late Pueblo II affiliation. The cobble structure built over the anomalous structure had three floors, evidence of both permanent and intermittent use while the structure was falling into decay. Rooms show domestic use and ritual use characterized by the rare (in this area) presence of turquoise and subfloor ceramic vessels. The vessels include an effigy vessel (Fig. 14.21) and an imported Kayenta Dogoszhi Black-on-white bowl (Fig. 14.22) with high amounts of *Zea mays* pollen. Another cobble surface structure thought to be a one-room fieldhouse dates to the same Mid/Late

Table 14.67. LA 37593, macrobotanical wood, weights (g) by taxon and major proveniences, floors/features.

Context	Pit Structure 1		Room 101		Room 103		Extramural Area 1			
	Floor 1	Floor 2	Floor 1	Floor 3	Floor 3	Floor 2	2	5	7	8
Feature	8 Storage Pit	12 Ash Pit	2 Hearth	1 Posthole	2 Heating Pit	2 Unknown	2 Major Storage Cist	5 Major Storage Cist, Burial 3	7 Large Cist, Burial 2	8 Fire Pit
<b>FS</b>	<b>448</b>	<b>434</b>	<b>613</b>	<b>635</b>	<b>672</b>	<b>718</b>	<b>731</b>	<b>735</b>	<b>756</b>	<b>850</b>
<b>Cultural</b>										
Conifers:										
<i>Juniperus</i>	0.05	13.25	–	–	0.3	–	–	–	6.17	–
<i>Pinus edulis</i>	–	–	11.96	–	–	–	–	–	0.28	–
Nonconifers:										
<i>Artemisia</i>	–	–	–	–	0.28	–	0.18	–	0.56	–
<i>Atriplex</i>	–	2.11	–	–	–	–	–	–	–	–
cf. <i>Cercocarpus</i>	–	–	–	–	–	–	–	–	0.88	–
Salicaceae ( <i>Populus/Salix</i> )	–	–	–	–	0.01	–	–	0.01	–	–
Unknown nonconifer	–	–	–	–	0.27	0.01	–	–	–	–
<b>Possibly Cultural</b>										
Conifers:										
<i>Juniperus</i>	–	–	–	3.23 u	–	–	33.8 pc	–	–	–
Nonconifers:										
<i>Artemisia</i>	–	–	–	–	–	–	–	–	–	14.72 u
Salicaceae ( <i>Populus/Salix</i> )	–	–	–	–	–	–	–	2.92 u	.39 u	–

pc = partially charred, u = uncharred  
cf. = resembles taxon

Pueblo II time period. Unfortunately, this structure was almost totally destroyed by the construction of the water lines transecting the site. Lastly, the pit structure had two floors, and after abandonment the half-filled cavity was used as an internment space for some 17 individuals followed by an additional burial in the upper fill. Ceramics indicate that occupation activities and postabandonment burial occurrences were affiliated with the Mid/Late Pueblo II time period.

The Pueblo III occupation is represented by two contiguous extramural major storage cists, but very little Pueblo III ceramic litter occurs on the site. The presence of *Zea mays* pollen indicates that both major storage cists functioned originally as corn storage facilities. Feature 5 was then used during the Early Pueblo III for the burial of a possible status individual with an articulated red-tail hawk.

Feature 2 contained a unique Late Pueblo III cache including baskets and a Mummy Lake Gray jar (Fig. 14.11) filled with selenite crystals. The implements were apparently cached in the cist at the time of the Great Abandonment with intentions of returning.

The most distinctive site feature consisted of a mass human interment dating from the Late Pueblo II of at least 17 individuals in the abandoned and half-filled cavity of the pit structure. The internment contained both semiarticulated and jumbled remains but seems to have represented a single interment episode of short duration. There was little evidence to support a hypothesis of intentional perimortem human alteration of the individuals in the skeletal assemblage. The internment is viewed as a poorly understood mortuary practice involving the movement and secondary internment of burials encountered in the long-lived and heavily



Table 14.68. LA 37593, Pit Structure 1, Floor 1, plant remain, flotation scan results by taxon and floor quadrants/features; abundance per liter.

	SE Quad	NW Quad	SW Quad	Feature 12 Ash Pit	Feature 8 Small Storage Cist
FS	402	408	409	415	448
<b>Cultural</b>					
Annuals:					
<i>Amaranthus</i>	+	-	-	-	-
Cultivars:					
<i>Zea mays</i>	-	-	-	+ cupule	-
Grasses:					
<i>Oryzopsis</i>	+	-	-	-	-
Perennials:					
<i>Juniperus</i>	-	+ leaflet	-	-	+ leaflet
<b>Possibly Cultural</b>					
Annuals:					
<i>Nicotiana</i>	-	-	+	+	-
<b>Noncultural</b>					
Annuals:					
<i>Amaranthus</i>	+++	+	+	+	+
<i>Chenopodium</i>	+	+	+	+	+
<i>Euphorbia</i>	+	+++	+	+	-
Malvaceae	+	+	-	-	-
<i>Monolepis</i>	-	-	-	+	-
<i>Portulaca</i>	+	+	-	+	-
<i>Suaeda</i>	-	+	-	-	-
Grasses:					
<i>Oryzopsis</i>	++	-	-	-	-
Other:					
<i>Oenothera</i>	-	+	-	-	-
<i>Physalis</i>	+	-	-	-	-
Perennials:					
<i>Echinocereus</i>	-	+	-	-	+

Plant remains are seeds unless indicated otherwise.

Plant remains are seeds unless indicated otherwise.

+ = less than 10/liter, ++ = 11–25/liter, +++ = 25–100/liter

utilized community context. The open cavity of the pit structure provided a convenient burial depression in the compact soil, but perhaps most importantly, the structure was the source of social/behavioral significance memorializing such things as use-rights, land claims, and other aspects of community social/behavioral dynamics. It is interesting that an additional primary burial from the same Late Pueblo II time period was placed in the fill above the mass interment, and a possible status burial from the Early Pueblo III period was in a nearby

major storage cist. Primary individual burials and the secondary burial of multiple remains may have been means of reinforcing generational social ties to the locality. It was most likely not merely fortuitous that the human remains were placed in the pit structure, a structure charged with social and ideological meaning, rather than some other common context. It is fortuitous that this important but little understood phenomena was brought to light by the excavation of this nondescript site in the midst of the prehistoric Jackson Lake community.

Table 14.69. LA 37593, wood charcoal, flotation results by taxon and major proveniences, floors/features; count/weight (g).

Feature	Pit Structure 1		Roomblock 100		Extramural Area 1		Total	
	Floor 1		Room 101, Floor 2		41N/65E		Weight (g)	Col. %
	5 Hearth		1 Fire Pit	2 Hearth	8 Fire Pit	9 Fire Pit		
FS	410		609	613	850	851		
Conifers:								
<i>Juniperus</i>	16/2.33		9/.12	14/.23	6/.09	17/.61	3.38	78%
Unknown conifer	1/.32		–	–	–	–	0.32	7%
Nonconifers:								
<i>Artemisia</i>	–		–	–	3/.08	1/.02	0.1	2%
<i>Atriplex</i>	–		–	–	10/.22	1/.02	0.24	6%
Salicaceae ( <i>Populus/Salix</i> )	3/.03		6/.06	2/.02	1/.08	–	0.19	4%
Unknown nonconifer	–		5/.03	4/.02	–	1/.04	0.09	2%
<b>Total</b>	<b>20/2.68</b>		<b>20/2.21</b>	<b>20/2.27</b>	<b>20/4.47</b>	<b>20/6.9</b>	<b>4.32</b>	<b>100%</b>

Table 14.70. LA 37593, carbonized *Zea mays* remains; counts by major provenience and floors/features.

	Pit Structure 1				Extramural Area 1			Room 102	Room 103
	Human Bone Layer	Dumping Episode	Roof Fill	Feature 8 Cist	Feature 2 Major Storage Cist	Feature 6 Cist	Feature 7 Major Storage Cist	General Fill	Feature 2 Heating Pit
Measurable cob specimens	–	2	1	–	1	3	3	–	–
Cob fragments	1	4	–	6	–	1	–	2	1

Table 14.71. LA 37593, Roomblock 1, Rooms 101 and 103, plant remains, flotation scan results by taxon and floor/surface; abundance per liter.

FS	Room 101			Room 103				
	Floor 1 603	Floor 2 610	Floor 3 618	Surface 1 660	Surface 2 668	Surface 2, Bowl 698	Surface 3 694	Layer 8, Bowl 697
<b>Cultural</b>								
Cultivars:								
<i>Zea mays</i>	–	–	+ cupule	–	–	–	+ cupule	–
<b>Noncultural</b>								
Annuals:								
<i>Amaranthus</i>	–	++	+++	+	–	–	+	+++
<i>Chenopodium</i>	–	–	–	–	++	+++	+	+
<i>Monolepis</i>	+	–	–	–	–	–	–	–
<i>Portulaca</i>	+	+	+	–	++	–	+++	–
Grasses:								
<i>Oryzopsis</i>	–	–	–	–	–	+	–	–
Other:								
Malvaceae	–	–	–	+	–	–	–	–
<i>Physalis</i>	–	–	–	–	+	–	–	–

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = less than 10/liter, ++ = 11–25/liter, +++ = 25–100/liter

Table 14.72. LA 37593, Extramural Areas 1 and 2, plant remains, flotation scan results by taxon and feature; abundance per liter.

Context	Extramural Area 1				Extramural Area 2	
	44N/70E	44N/69E	38N/70E		34N/72E	
Feature	2 Major Storage Cist	1 Pit Burial	7 Major Storage Cist/ Burial 2		6 Cist Floor	10 Independent Feature
FS	731	735	756	757	805	350
<b>Cultural</b>						
Annuals:						
<i>Amaranthus</i>	+	-	+	-	-	-
<i>Portulaca</i>	-	-	+	-	-	-
Cultivars:						
<i>Zea mays</i>	-	-	-	+ cupule	-	+ cupule
Perennials:						
<i>Juniperus</i>	+	-	-	-	-	-
<b>Noncultural</b>						
Annuals:						
<i>Amaranthus</i>	+	+	+++	+	-	+
<i>Chenopodium</i>	-	+	+	+	-	-
<i>Cheno-Am</i>	-	-	-	+	+	+
<i>Cycloloma</i>	-	+	+	-	-	-
<i>Euphorbia</i>	+	-	-	-	-	-
<i>Portulaca</i>	+	+	+	-	+	+
<i>Suaeda</i>	-	-	-	+	-	-
Other:						
Malvaceae	-	-	-	-	-	+
Unidentifiable	-	-	-	-	-	+
Perennials:						
<i>Echinocereus</i>	-	+	-	-	+	+
<i>Opuntia</i>	+	-	-	-	-	-
<i>Scirpus</i>	-	-	-	-	+	+

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = less than 10/liter, ++ = 11–25/liter, +++ = 25–100/liter

Peter Y. Bullock, with contributions by H. Wolcott Toll

LA 60749, first seen as a sherd and lithic scatter, is on the gently sloping first terrace west of the La Plata River (Figs. pf.1, 1.1). The site is within the existing right-of-way directly across from the entrance to Jackson Lake.

LA 60749 was not recorded during the 1982 NMDOT survey documented by Lancaster (1982a). Resurvey of the area by Toll and Hannaford (1997:23, 25–26) found substantial cultural materials south of the boundaries originally defined for LA 37592, including the site OAS defined then as LA 60749 (Fig. 15.1).

OAS excavation of LA 60749 took place from April 7 through May 19, 1988, a labor expenditure of 193 person-days. Excavations were carried out by a crew directed by Charles A. Hannaford, and which included Roberta Bradley, Peter Bullock, Cindy Bunker, Jimmy Fine, Janet Johnson, Susan Moga, Rod North, H. Wolcott Toll, and Adisa Wilmer. Crew size fluctuated from three to 12 people over the course of the project. All involved in the excavation were employees of OAS.

#### ENVIRONMENTAL SETTING

LA 60749 is separated from Jackson Lake by the higher, second, gravel-topped river terrace characteristic of most of the valley. A large arroyo, draining the area now flooded by Jackson Lake, runs west to east along the southern edge of the site. A second, shallower drainage, also running west to east, crosses the northern portion of the site. The site elevation is 5,432 ft (1,656 m).

Prior to excavation, LA 60749 was covered with a combination of mixed grasses and greasewood. The Jackson Lake Wildlife Area grows crops, primarily alfalfa, in irrigated fields not far to the east

of the site, and an abandoned irrigation ditch constructed around 1900 passes along the east edge of the site. Farming was clearly a possibility in the immediate vicinity. Three utility lines (two water lines and a phone cable) traverse LA 60749 parallel to the highway. The site has also been modified by fence construction and highway shoulder maintenance.

#### ARCHAEOLOGICAL SETTING

On the surface LA 60749 was a diffused sherd and lithic scatter measuring 143 m (469 ft) north-south by 70 m (230 ft) east-west (10,010 sq m/107,754 sq ft). Two surface scatters of burnt jacal were within this area. Excavation revealed cultural features consisting of a shallow pit structure with two associated extramural features in the southern portion of the site, and a bell-shaped cist and an irregular pit near the northern end. The northern features were probably associated with elements of LA 37592, directly to the north.

A number of previously recorded sites are in the immediate vicinity of LA 60749. East of the proposed project limits and about 125 m from the structure at LA 60749, between LA 60749 and the La Plata River, is a large house mound with associated features (LA 111902). Surface sherds suggest the site dates to the Pueblo III period. North of LA 60749 and with contiguous surface material is LA 37592, a multicomponent site with occupations in Pueblo II, Early Pueblo III, and Late Pueblo III. LA 60743, a sparse cobble and artifact scatter, is directly south of LA 60749; the two sites are separated by the Jackson Lake drainage. Five sites are to the west, separated from LA 60749 by NM 170: LA 60744, an artifact scatter; LA 60745, a small Pueblo II roomblock; LA

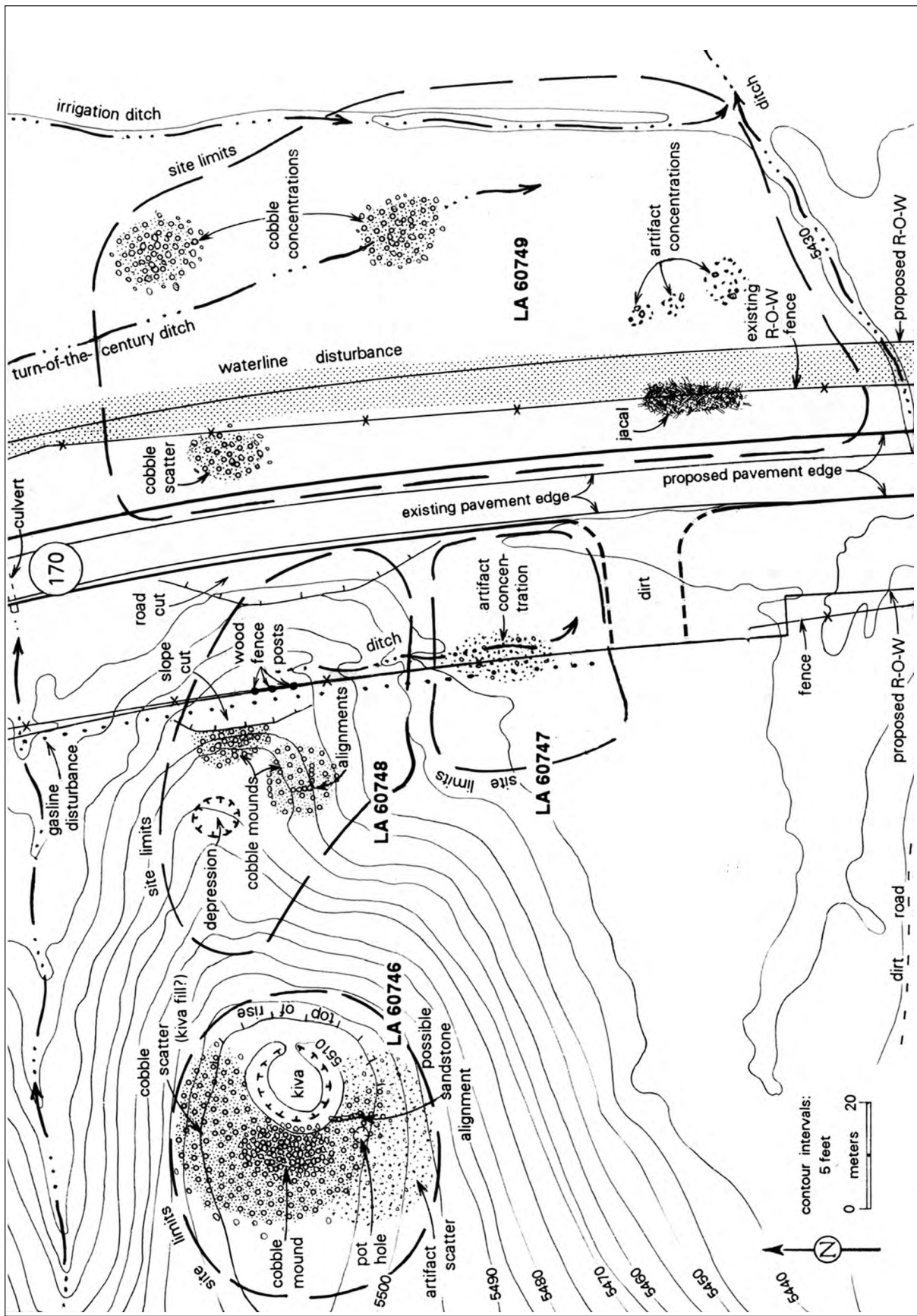


Figure 15.1. LA 60749, site area map (adapted from OAS survey map, Toll and Hannaford 1997).



60746, a probable great kiva on a hilltop; LA 60748, several small structures on a bench below the great kiva; and LA 60747, another scatter at the edge of the highway. LA 60746, LA 60748, and LA 111902 were outside the project right-of-way and were not revisited. The project performed excavations at LA 60743, LA 60744, LA 60745, and LA 60747, and LA 37592 (Chapters 2, 3, 4, 5, and 13 respectively, Vol. 1, Book 1 and Book 2, this report). This group of sites forms part of the Jackson Lake community, which we consider to extend to LA 37598 (Chapter 16, Vol. 1-Book 2, this report), about 1.5 km north of LA 60749.

### FIELD METHODS

A 3 by 3 m grid was superimposed over LA 60749. The southwest corner of the grid was designated 15N/141E. Surface artifacts were collected through the use of this grid. A main site datum was established 5.5 m east of the right-of-way and tied into the grid at 147N/158.60E. Subdatums were established as needed and tied into the main site datum. The site was arbitrarily divided into three sections provenienced as extramural areas (Fig. 15.2). These divisions were based on the grid, with each area extending across the total width of the site. Extramural Area 1 extended from 14N to 60N. Extramural Area 2 extended from 60N to 105N. Extramural Area 3 extended from 105 N to the northern edge of the site at 170N.

Surface artifacts were provenienced by the grids in which they were collected, identified by their southwest corners. Extramural features were numbered consecutively within each extramural area. Intact cultural features were found in two of the three extramural areas. Two features and a pit structure were found in Extramural Area 1. Two features were found in Extramural Area 3.

A series of judgmentally selected 1 by 3 m trenches were hand excavated in areas of the site observed to have potential for subsurface cultural material. This was combined with an effort to space the trenches approximately 15 m apart for the length of the site. The areas chosen for test trenches included areas of high surface artifact concentration (Figs. 15.1, 15.2, 15.3), areas of soil discoloration, and areas adjacent to cobble mounds outside of the proposed project limits.

A probability sampling program, designed for

unbiased discovery of cultural features and deposits not discernible from modern ground surface indications, was implemented. To aid in resolution, LA 60749 was stratified into three areas, equivalent to the extramural areas. Numbers were assigned to each 1 by 1 m grid within each area. Sample units were then selected from these pools of numbers through random numbers generated by a hand-held calculator. Each of the three areas was sampled separately. The goal was an unbiased sample of 1 percent for each extramural area, and thus 1 percent of the total site area. Twenty-three 1 by 1 m sampling units were excavated. Two of the 23 sampling units revealed cultural material.

Several portions of the site were shovel scraped prior to the excavation of trenches. This was done in areas where features were believed to occur close to the modern ground surface. Two surface scatters of burnt jacal within Extramural Area 1 were scraped (Fig. 15.4). One area of discolored soil within Extramural Area 3 was also shovel scraped.

One backhoe trench was dug across the northern portion of the site to locate possible cultural features in an area of visible alluvial activity.

After OAS excavation was completed, in a final effort to locate possible intact cultural features or deposits, three areas of the site were mechanically surface scraped. Portions of all three extramural areas were scraped in a number of passes to a total depth of 20–25 cm below the modern ground surface. One strip along the eastern side of the existing fenceline, measuring 130 m long and 3.5 m wide, was scraped—an area of 455 sq m. An additional area of 520 sq m in a strip 65 m long by 8 m wide in the southern portion of the site, east of the existing fenceline, was also scraped. The third portion of the site that was scraped consisted of a strip 133 m long and 6 m wide along the western side of the existing fenceline, an area of 798 sq m. No additional cultural features or deposits were found.

Arbitrary levels were designated “levels,” and areas excavated in definable stratigraphic units were designated “layers.” All dirt from hand excavations was screened through 1/4-inch mesh hardware cloth. Artifacts recovered were bagged and assigned field specimen numbers, and later transported back to the museum in Santa Fe for analysis. A form describing the matrix encountered (and recording the starting and ending depth of the level removed) was filled out for each unit excavated.

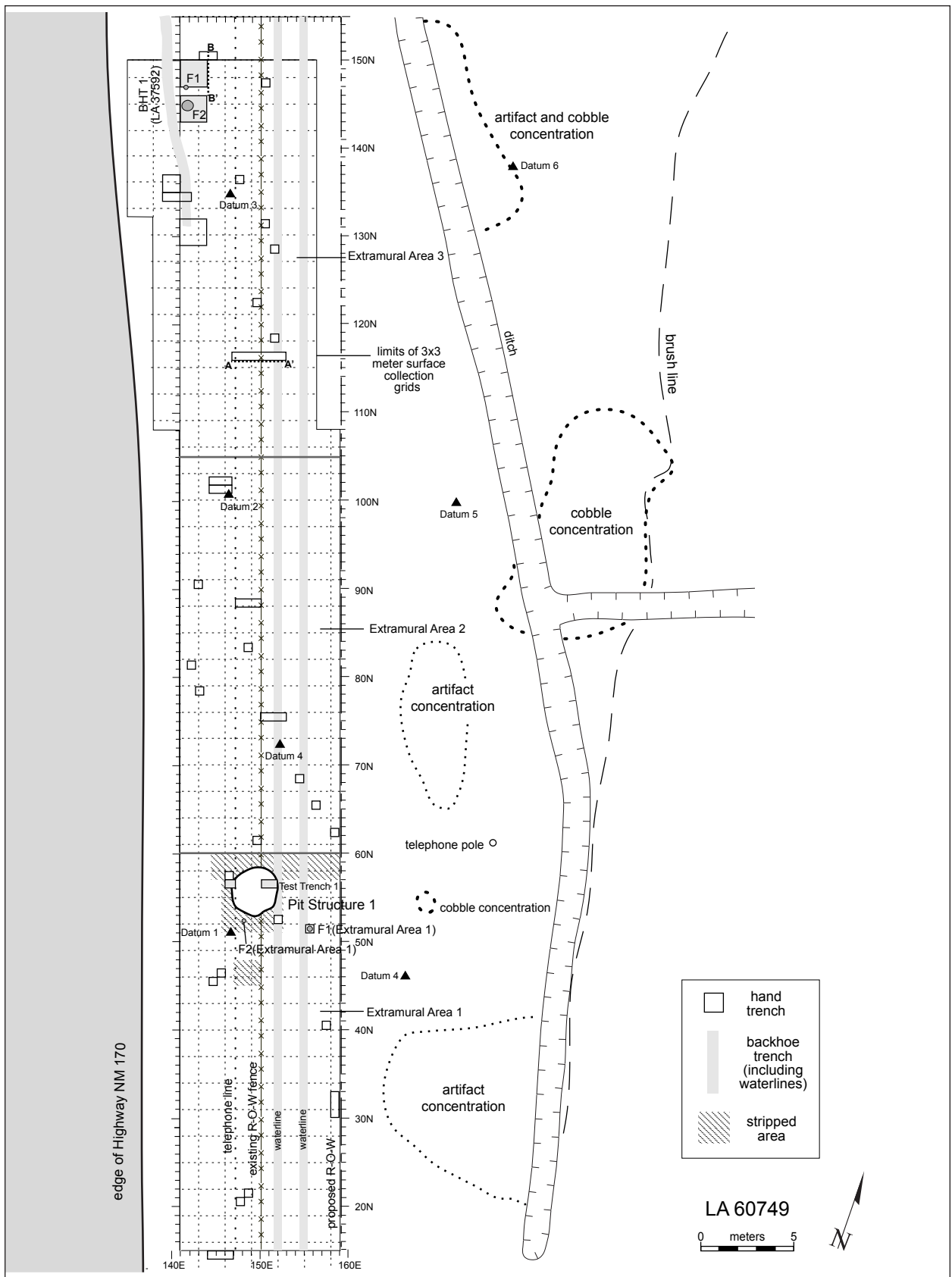


Figure 15.2. LA 60749, plan.

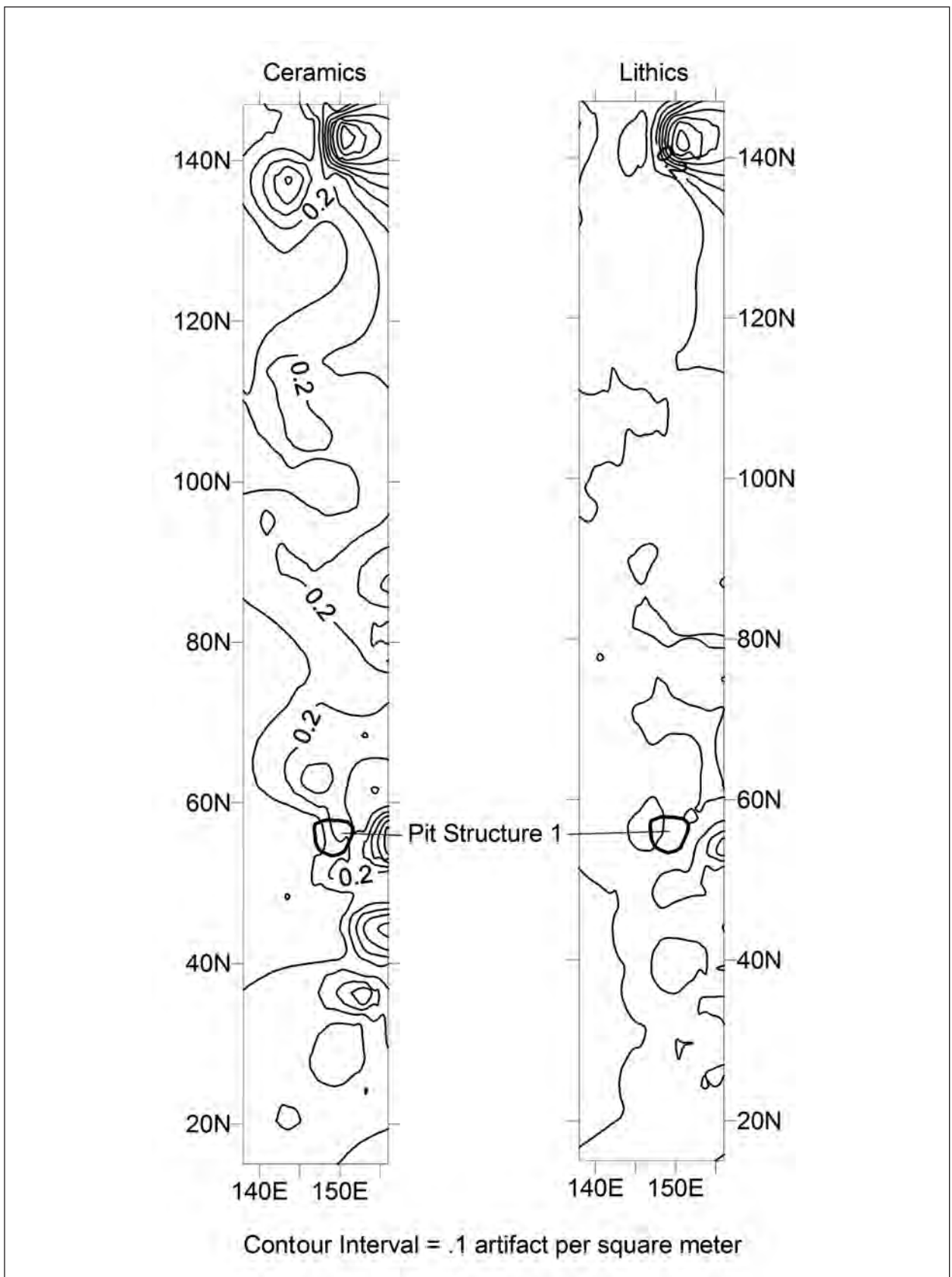


Figure 15.3. LA 60749, surface collection area, distribution and density, ceramics and lithics.



Figure 15.4. LA 60749, Extramural Area 1, early clearing near Pit Structure 1, view east to La Plata River.

## EXCAVATION RESULTS

Areas of surface material at LA 60749 were first shovel scraped to locate features that might exist close to the modern ground surface. Trenches of 1 by 3 m were then placed judgmentally at 15 m intervals and hand excavated. Units measuring 1 by 1 m, designed for unbiased discovery through random number selection, were also hand excavated at this time. Remaining areas of the site with the potential for intact cultural material were then backhoed. Finally, most of the site was mechanically surface scraped to locate additional intact cultural features or deposits that may have escaped earlier detection. The test trenches, backhoe trenches, and site features are discussed below according to their spatial distribution across the site, generally from south to north.

## EXTRAMURAL AREA 1

Two surface scatters of burnt jacal in Extramural Area 1 were shovel scraped to locate possible structures or intact features just below the modern ground surface. Shovel scraping was conducted as a series of 1 by 3 m trenches, to a depth of 10 cm. Twenty-eight 1 by 3 m trenches were shovel scraped in the area of the largest jacal scatter. Pit Structure 1 was uncovered in this manner (Fig. 15.4).

Three 1 by 3 m trenches were shovel scraped to a depth of 10 cm in the area of a smaller jacal scatter, south of Pit Structure 1. No features or deposits were found in this scatter.

Two 1 by 3 m trenches were dug at 14N/144E and 30N/158E in areas of surface artifact concentration to locate possible intact cultural deposits or features. Both of these trenches revealed alluvial deposition containing redeposited cultural material but no intact cultural deposits.

The terrace the site is located on is composed of culturally sterile laminated sandy clay. In trench 14N/144E, this material was found directly under



the churned top stratum of eolian and duff surface soil. Within trench 30N/158E there were three strata of material. The churned surface soil formed Layer 1. Layer 2 consisted of alluvial clay 24 to 28 cm thick containing redeposited artifacts and charcoal. Beneath this material was Layer 3, culturally sterile laminated sandy clay forming the terrace.

A total of eight 1 by 1 m random sampling units were hand excavated in Extramural Area 1. The units, their depths, and the level of cultural material occurrence are listed in Table 15.1. Auger holes were dug into the bottoms of all test trenches that did not expose features and that were not placed over earlier utility trenches. Most of these units revealed alluvial deposition containing redeposited artifacts. The majority of this material appears to have originated at the higher sites, on the next terrace to the west. Some cultural material may be occupational scatter associated with LA 37592 or the cobble mounds east of LA 60749.

#### Features (Extramural Area 1)

**Pit (Feature 1).** A pit was found 4.5 m southeast of Pit Structure 1. Its location suggests it is contem-

Table 15.1. LA 60749, Extramural Area 1, 1 by 1 m test pits; units, artifacts, and auger depths.

Unit	Depth (cm)	Artifact Occurrence (cm)	Additional Auger Depth (m)
20N/147E	40.0	20.0	1.10
21N/148E	60.0	40.0	0.83
40N/157E	70.0	50.0	0.90
45N/144E	30.0	10.0	0.70
46N/145E	50.0	none	0.50
51N/155E	20.0	20.0	Feature 1 (pit)
52N/152E	60.0	waterline fill	–
57N/146E	40.0	10.0	1.25

poraneous and associated with the pit structure. The pit is a shallow, saucer-shaped feature measuring 54 cm across and 6 cm deep (Fig. 15.5). Its volume was 13.7 liters. The absence of an intact original ground surface in the area of the feature makes the original height of the walls unknown. The shallow nature of the pit suggests that the upper portion of the feature has been removed, possibly by erosion combined with fence and highway maintenance.

The fill of Feature 1 consisted of a single layer of ashy sand containing bits of charcoal. There was no



Figure 15.5. LA 60749, Extramural Area 1, Feature 1, view south.



evidence of burning or oxidation in the pit itself. No artifacts were recovered from the fill. Association with Pit Structure 1 indicates that the feature dates to the Early Pueblo III period.

**Heating pit (Feature 2).** Feature 2 was a small circular heating pit 35 cm south of Pit Structure 1 and 6 m southwest of Feature 1. This feature was also associated with Pit Structure 1. The top of the heating pit was intact, which indicates that, at least in its immediate vicinity, the prehistoric ground surface was also intact. However, this ground surface was not discernible, and no artifacts were found associated with it.

Feature 2 measured 28 cm across, with a sloping base that varied from 16 to 23 cm deep. Its volume was 14.1 liters. The walls were straight except for the northern wall, which belled out slightly. Oxidation was present on 60 percent of the feature's rim. This oxidation was 1.5 cm thick at the top of the feature's opening and extended 2 to 5 cm down. A mano fragment was embedded in the south wall of the feature, projecting slightly above the rest of the feature opening.

Feature 2 contained two strata of fill. Layer 1 was ashy sand containing some charcoal. This layer varied from 7 to 10 cm deep. Layer 2 was a clean sand 13 to 15 cm thick. No artifacts were found within either layer of fill within the feature. Association of the feature with Pit Structure 1 dates it to the Early Pueblo III period. Layer 2 contained small fragments of burned corncobs, but the fragmentary nature of this material and its position in unburned fill suggest the corncobs are trash remains and not evidence of corn storage.

### PIT STRUCTURE 1

Pit Structure 1 at LA 60749 was defined by surface-stripping 31 1 by 3 m grids in an area of scattered burnt jacal (Figs. 15.2, 15.6a). Once the general outline of the walls was defined, two east-west 1 by 2 m trenches were dug at 56N/146E and 56N/150E to provide profiles of the structure's fill sequence and delineate the walls (Fig. 15.6b). The structure was subsequently divided into quadrants, and the floor fill in each quad was cleared to the floor.

Pit Structure 1, a shallow, saucer-shaped depression, was the base of a jacal superstructure. It was at the north edge of Extramural Area 1 between

52N and 58N and 146E and 152E on the grid. The pit structure measured 4.60 m east-west by 4.90 m north-south (Fig. 15.7). The greatest depth of the structure was 12 cm near the center of the floor. Two north-south utility trenches had affected the integrity of the pit structure's floor. A water line trench removed a narrow strip along the eastern side of the structure, and a phone cable trench crossed the pit structure 80 cm from the western outside edge. These trenches probably explain the presence of some burned jacal outside the structure limits.

A number of 1 by 3 m trenches were shovel scraped until the outside walls of the pit structure were located and the area of the structure could be defined. The pit structure was then divided into quadrants. Each quadrant was excavated to within 5 cm of the floor and the remaining material designated as floor fill. The floor fill layer was removed from the pit structure as a single unit. Proximity to the surface and extensive rodent activity resulted in some mixing of deposits.

Two 1 by 2 m trenches were dug at 56N/150E and 56N/146E in the area of Pit Structure 1 after the completion of the shovel scraping. These trenches were excavated to determine the depth and nature of the structure's fill and to define the extent of its exterior walls. The pit structure's walls were found in both trenches, and the fill of the structure was exposed (Fig. 15.8).

Two fill units were defined within Pit Structure 1. Because of the shallow nature of the pit structure, an arbitrary division was made 5 cm above the floor surface. The lower stratum (Layer 2) was designated as floor fill. Layer 1 was a combination of burnt structural jacal and postoccupational silty eolian soil. Included in this layer were large numbers of charred twigs from the jacal. The jacal and associated charred twigs appeared to be from the walls and roof of the structure.

Layer 2 (the floor fill layer) consisted primarily of a fine silty eolian sand that collected in the structure prior to burning. This sand is partially vitrified in spots from heat generated by the burning of the structure. Some jacal is also present. The eolian element of Layer 2 varied from 2 to 4 cm deep, suggesting the structure stood empty for a period of time prior to burning.

Ceramics from the floor of Pit Structure 1 date it to the Early Pueblo III period. One support beam was found during excavation. Dendrochronological



Figure 15.6a. LA 60749, Pit Structure 1, early excavation, view northeast, La Plata River and Jackson Lake fields in distance. Note stain area and jacal concentration (right, foreground) and beams to right of metal fence post (center).

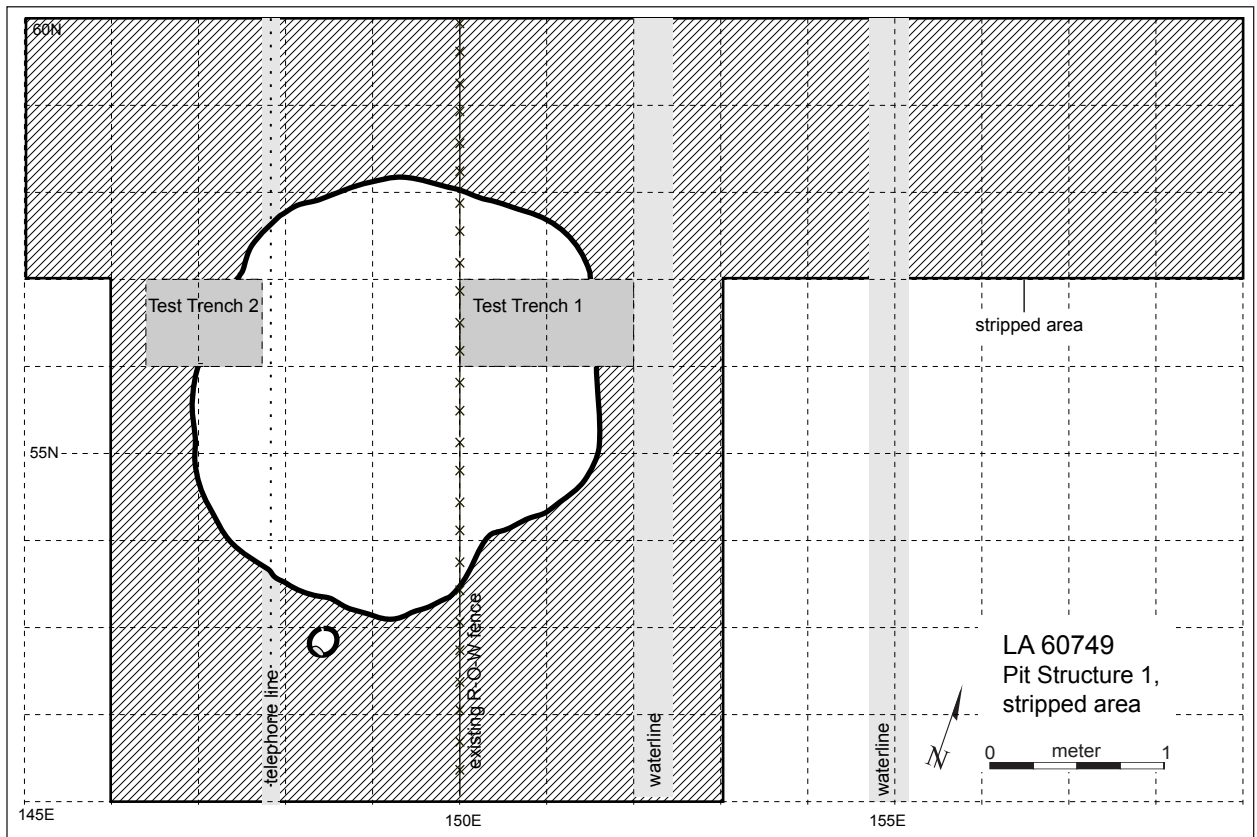


Figure 15.6b. LA 60749, Pit Structure 1, Test Trenches 1 and 2 and stripped area, plan.

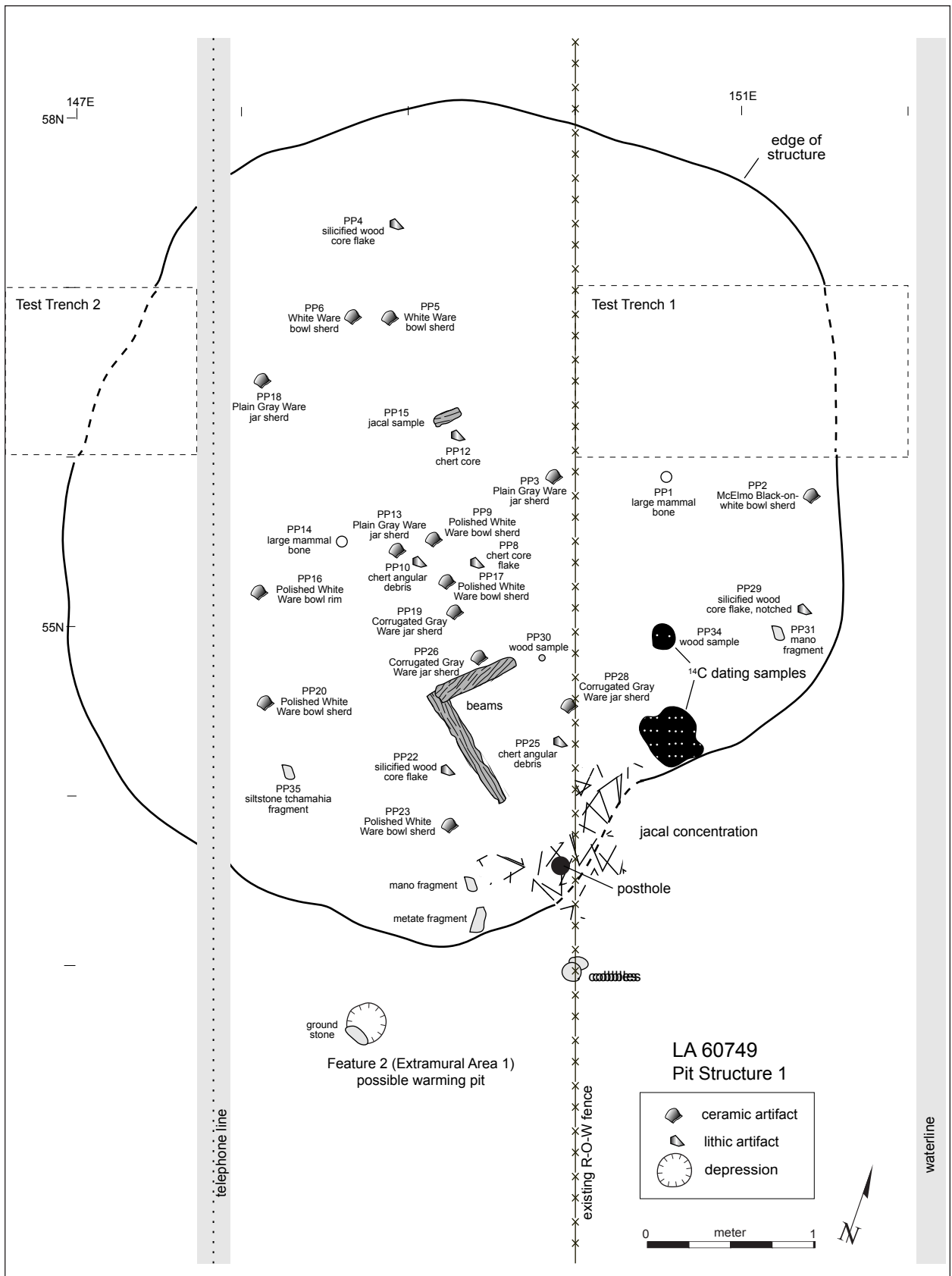


Figure 15.7. LA 60749, Pit Structure 1, Floor 1, plan.





Figure 15.8. LA 60749, Pit Structure 1, stratigraphy, showing burn layer and native substrate.

samples were collected, but the wood proved to be undatable cottonwood.

### Floor 1

Floor 1 was a prepared floor of packed sandy clay. The floor surface was flat but not level, generally sloping inward towards a low spot in the center of the structure. The floor surface on the north and northeastern sides of the structure tended to be lower, resulting in clearer floor-wall contact definition. Areas of the floor surface were slightly oxidized despite having been covered by sand prior to burning.

The jacal collected from the site burned sufficiently to survive in surface contexts. It ranges from tan to dark gray and, especially where a piece has been recently broken, is a strong reddish yellow (5YR 7/6). The pieces are quite hard, and some even give a dull clink when tapped, suggesting a hot fire. The excavators also noted areas of sand that they considered to be vitrified. Two burned timbers (or possibly one broken one), 54 and 26 cm long, were on the southeast quadrant of the floor; these beams did

not yield dates. By far the most burned jacal was collected from the southeast quadrant of the structure and just outside, some from the northeast quadrant, and only isolated pieces from the northwest and southwest quadrants, indicating the direction in which the structure fell or, perhaps, slumped. No attempt was made to collect all the burned jacal, but clearly there was not enough material to account for an entire structure. It is likely that only the southeast portion of the building burned hot enough to preserve the adobe. A single posthole was recorded in the southeast part of the structure.

Some of the pieces preserved impressions from the roofing material, showing that substantial beams were used in construction (Fig. 15.9). The curvatures suggest diameters of 2 to 22 cm. Of 43 samples for which radii could be estimated, the mean was 5.9 cm, closely matching the median. The mode is 7 cm; we are sure that many of the measurements were taken from impressions from the same log. The chart (Fig. 15.10), however, shows at the least the sizes of elements used in the structure. The largest ones (big enough for vigas in a great house!) are



Figure 15.9. LA 60749, Pit Structure 1, Floor 1, beams and jacal, detail, view east.

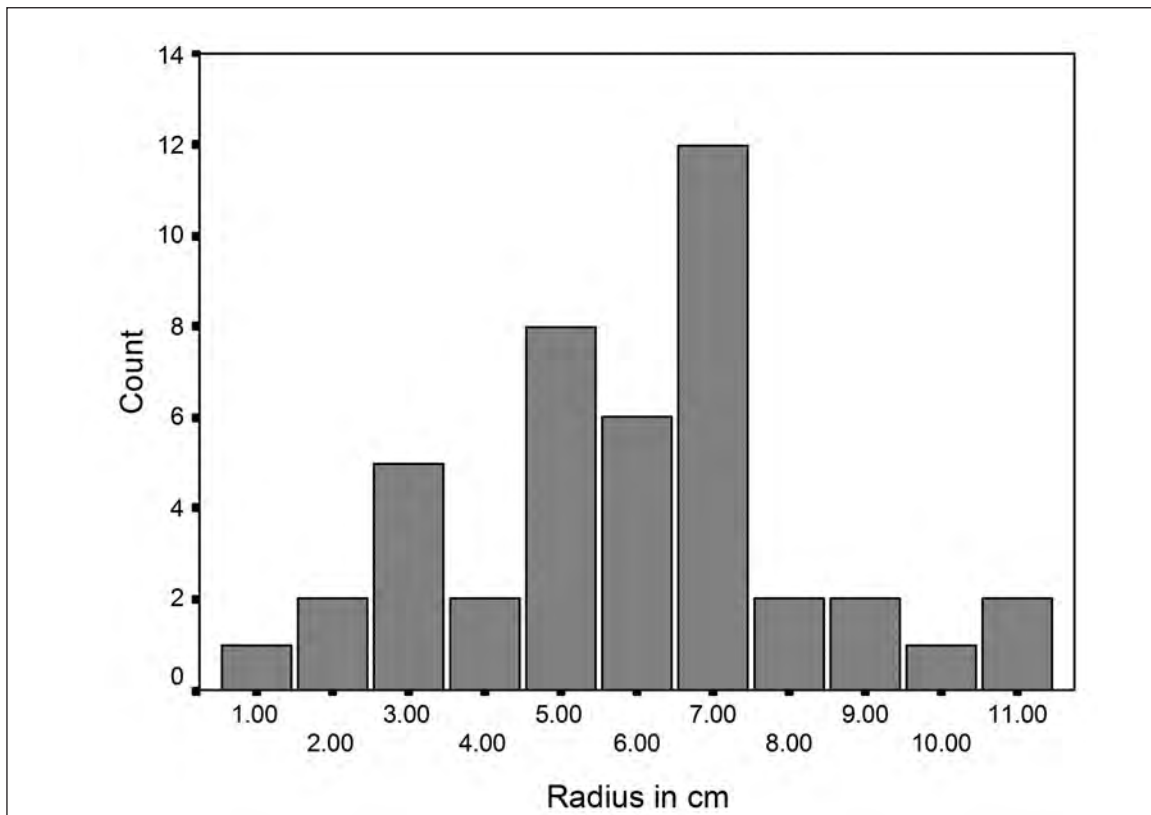


Figure 15.10. LA 60749, Pit Structure 1, Floor 1, beam radii from jacal casts (counts by radius), bar chart.



probably measurement artifacts, but the smallest ones are quite reliable. The striking thing is that logs with diameters larger than 10 cm seem very large for such a small structure. Lacking post patterns and more roof information, we can say little about the actual roof construction, although one cast suggests beams coming together at an apex.

Other vegetal materials are also visible in the jacal impressions, including what may be juniper bark, corn leaves or husks (leaving impressions with long parallel grooves), *Equisetum* (or "horsetail," leaving finer parallel lines), possibly a larger leaf (probably cottonwood), and smaller twigs. The sides opposite those with observable beam impressions are rough and lumpy, apparently unsmoothed. Pieces up to 12 by 7 by 4 cm were collected. Most pieces have only one impression from only one larger beam, suggesting that the larger elements were sometimes spaced rather than contiguous. Other impressions, however, have impressions from two beams, separated by 0 to 3 cm. There are also a few rectilinear impressions but only less than 2 cm on each side of the angle; these were perhaps split twigs. Given the unfinished faces, it is difficult to tell how thick the layer of mud was on the structure. Complete thicknesses range from 2.5 to 5.5 cm.

Although the species of the beam(s) was not obtained, wood samples from the floor of the structure do show patterning. All the samples from the northeast quadrant are cottonwood, while those from the southeast are a mix of cottonwood and juniper. Use of more juniper in the southeast part of the structure may have resulted in a hotter fire and more hardened adobe. Feature 2, outside the structure contained mostly sage and some cottonwood. The impressions on the jacal most strongly suggest juniper bark, but other species are possible.

In sum, the structure had a circular, scooped out floor with a superstructure of juniper and cottonwood logs with other vegetal material laid on top and plastered with rather wet mud. Little effort to smooth the mud is apparent. There is little evidence of how the superstructure was held upright, there being only one preserved, and only possibly associated posthole at the south edge. Perhaps the poles were simply leaned together and then mudded. No hearth was present, but the structure did burn in a hot fire at the termination of its use. Since the whole floor shows signs of burning, it is likely that the whole floor area was roofed.

### *Artifacts (Floor 1)*

A total of 35 artifacts were recovered from Pit Structure 1 Floor 1 (Table 15.2; Fig. 15.7). The artifacts had been covered with a layer of eolian silty sand prior to the burning of the structure. Even so, many of the artifacts showed evidence of exposure to intense heat. A number of the lithic artifacts are crazed, presumably from the heat.

The Floor 1 artifact assemblage included 15 ceramics. Of these, 4 sherds were corrugated, 7 were polished white ware, 3 were plain gray, and 1 was McElmo Black-on-white.

Two pieces of ground stone were on the Floor 1 surface: a mano fragment and a small (78 by 28 by 6 mm) tchamahia fragment. The mano fragment was in the southeastern portion of the pit structure, and the tchamahia fragment was in the southwestern portion. A jar cover was recovered from the floor fill layer just above the floor surface.

Lithic artifacts reflect both expedient lithic artifact production and lithic artifact utilization. A suite of artifacts associated with lithic production, even if they represent a variety of materials, suggests this activity repeatedly took place within this structure. Other activities, particularly the processing of plant or animal material of some kind, are indicated by the occurrence of utilized flakes used as expedient tools, and the notch. Utilized artifacts (other than cores) are restricted to objects composed of silicified wood. Although this may be the result of material availability, it could also reflect the tough and durable nature of the material.

Floor artifacts were concentrated in the southern half of the pit structure, primarily in the southeastern quadrant. Artifact distribution varied depending on artifact type. Lithic artifacts concentrated in the southeastern quarter of Floor 1, although a partial projectile point was found in the floor fill of the northwest quadrant of the structure. Ground stone artifacts are limited to the southern half of the pit structure. However, if the tchamahia fragment is not included in this distribution, ground stone artifacts were also restricted to the southeastern quarter of Floor 1. The occurrence of ceramics and bone has no discernible pattern.

Botanical remains from Floor 1 include burned pigweed seeds from the southeastern quarter and juniper twig fragments from the northeastern quarter. One unburned sedge seed was also recovered from

Table 15.2. LA 60749, Pit Structure 1, Floor 1, point-provenienced artifacts; summary table.

Point Provenience	Material	Type
1	bone	large mammal
2	ceramic	McElmo Black-on-white bowl sherd (mineral paint)
3	ceramic	plain gray jar sherd
4	lithic	silicified wood, core flake, bidirectional retouch
5	ceramic	polished white ware bowl sherd
6	ceramic	polished white ware bowl sherd
7	lithic	silicified wood, core flake
8	lithic	chert, core flake
9	ceramic	polished white ware bowl sherd
10	lithic	chert, angular debris
11	lithic	chert, angular debris
12	lithic	chalcedony, core flake
13	ceramic	plain gray ware jar sherd
14	bone	large mammal
15	other	jacal sample, northwest quad
16	ceramic	polished white ware bowl rim
17	ceramic	polished white ware bowl sherd
18	ceramic	plain gray ware jar sherd
19	ceramic	corrugated gray ware jar sherd
20	ceramic	polished white ware bowl sherd
21	bone	large mammal
22	lithic	silicified wood, core flake, unidirectional utilization
23	ceramic	polished white ware bowl sherd
24	other	jacal sample, southwest quad
25	lithic	chert, angular debris
26	ceramic	corrugated gray ware jar sherd
27	ceramic	corrugated gray ware jar sherd
28	ceramic	corrugated gray ware jar sherd
29	lithic	silicified wood, core flake, notch
30	other	wood sample
31	ground stone	sandstone mano fragment
32	lithic	siltstone, multidirectional core
33	lithic	quartzite, pyramid core
34	other	C-14 wood sample
35	ground stone	siltstone tchamahia fragment

the southeastern quarter of the Floor 1 surface. Because sedge was used for matting and basketry, the seed suggests that mats and baskets were made in the pit structure.

The entrance to the pit structure is visible in the southeastern portion of the structure wall. There is no discernible floor-wall edge in this area, unlike the rest of the pit structure. The floor in this portion of the structure fades away without a definite break or edge. Although this section of the floor is higher in relation to the rest of the pit structure, the occurrence of floor artifacts in this area suggests the floor is still intact. The concentration of artifacts in this area of the structure indicates an activity area as-

sociated with a structural entrance. Activities may have been pursued by individuals sitting in the structure's entrance.

#### *Features (Floor 1)*

*Posthole (Feature 1).* One feature, a posthole, was found in Pit Structure 1 in the southeastern quadrant of Floor 1. The posthole measured 28 cm across and 17 cm deep, with a volume of 10.4 liters. It had straight walls extending down from the modern ground surface and a flat base. There was a single layer of fill within Feature 1. One artifact, a large-mammal bone, was in the feature fill.

Feature 1 was originally believed to be a

postmold, that is, a cast left by a disintegrated up-right post and filled. However, its association with the pit structure is questionable, since its regular shape and location on the existing fenceline suggest a modern posthole.

*Pit Structure 1: Interpretation*

The lack of internal features, especially a central hearth, within a Pueblo structure could imply that Pit Structure 1 was used for storage. However, the large number of floor artifacts suggests the structure was primarily used as an activity area. Combined with the associated extramural features (pit and heating pit), this suggests warm-weather use of the pit structure, perhaps as a summer house. Given the shallowness of the feature, the term “pit structure” is probably misleading. The lightweight construction material and the shallowness of the excavation are more consistent with a ramada than with a full-scale habitation. The inhabitants of one of the nearby contemporaneous sites such as LA 37592 or LA 111902 are likely to have constructed such a feature.

It seems likely that Pit Structure 1 was constructed for warm-weather use. The extent of the artifact assemblage recovered from the pit structure indicates the wide range of activities pursued within or adjacent to it. Lithic reduction of a reddish chert was one of the activities that took place within the structure. Ground stone indicates that the processing of cultivated plants (possibly maize or other seeds, such as pigweed) also took place. Bowls and jars from several vessels were broken in this area, again indicating a variety of activities. A sedge seed on the floor of the structure suggests that basketmaking may have also taken place there. All of these activities were carried out in or near the door of the structure. The scatter of lithic debitage within the structure’s entrance suggests lithic tool production was the last activity to take place within the structure prior to abandonment. The structure stood empty for a considerable length of time after its use had ceased, long enough for 2 to 4 cm of silty sand to accumulate over the floor. The structure then burned, oxidizing the interior eolian material, and in some spots vitrifying the sand.

**EXTRAMURAL AREA 2**

Four 1 by 3 m trenches (75N/150E, 88N/147E, 101N/144E, and 102N/144E) were hand excavated within Extramural Area 2. They were placed in areas of possible cultural activity, spaced roughly 15 m apart. Test trench depths varied from 30 cm (101N/144E), to 60 cm (75N/150E and 88N/147E). Alluvial deposition and associated cultural redeposition was found within all four of the trenches. No intact cultural deposits or features were found. Auger holes were placed in the bottom of two of the trenches (88N/147E and 102N/144E) to locate possible cultural material at a greater depth. Only culturally sterile alluvium was found in the auger holes.

Culturally sterile laminated clays comprise the original terrace material. This material was reached within most of these trenches, although trench 101N/144E stopped short of this layer. An earlier erosional channel through the terrace surface, subsequently filled with alluvial deposits, was exposed within trench 102N/144E.

Eight 1 by 1 m random sampling units were excavated within Extramural Area 2. These units revealed the same culturally sterile alluvial deposition overlain with redeposited cultural material observed in the other test trenches on this site. No intact cultural features or deposits were found within any of these units. One ground stone artifact, a shaped slab, was found within 78N/143E at depth of 30 cm below the modern ground surface. The lack of an associated feature or surface, and the nature of the deposit in which it occurred, suggest the slab had been redeposited. Auger holes were placed in the bottoms of all but one of these trenches. Artifact occurrences and auger hole depths are given in Table 15.3.

No features or intact cultural deposits were found in Extramural Area 2.

*Table 15.3. LA 60749, Extramural Area 2, 1 by 1 m test pits; units, artifact, and auger depths.*

Unit	Depth (cm)	Artifact Occurrence (cm)	Additional Auger Depth (m)
61N/149E	30.0	10.0	1.45
62N/158E	50.0	40.0	0.71
65N/156E	30.0	20.0	1.50
68N/154E	30.0	20.0	–
78N/143E	40.0	40.0	1.15
81N/142E	40.0	20.0	1.30
83N/148E	30.0	none	1.15
90N/143E	55.0	20.0	1.30

### EXTRAMURAL AREA 3

Three 1 by 3 m trenches (116N/147E, 116N/150E, and 129N/143E) were hand excavated in Extramural Area 3 (Figs. 15.2, 15.11). They were placed in areas judged to have possible intact cultural features or deposits and spaced roughly 15 m apart. The three trenches ranged in depth from 30 cm (116N/147E) to 50 cm (116N/150E and 129N/143E). One trench (116N/150E) was found to contain extensive water line fill.

Three similar strata of material were found within each of these trenches, paralleling those occurring in Extramural Areas 1 and 2. Layer 1 was a churned surface soil comprised of eolian silt and

surface duff. Layer 2 consists of alluvial deposition containing redeposited artifacts and charcoal. Although this material was treated as a single deposit, subtle differences and banding indicate it represents a series of depositional episodes, rather than a single event. Beneath this material was Layer 3, the culturally sterile laminated clays that form the original terrace material.

Trench 146N/141E was excavated to a depth of 1.30 m (Figs. 15.2, 15.11). The material visible in this trench corresponded to that in the other trenches within Extramural Area 3. Layer 1 (the upper stratum) is churned surface soil. Layer 2 was composed of a sandy clay alluvial deposit containing some redeposited cultural material. This layer ex-

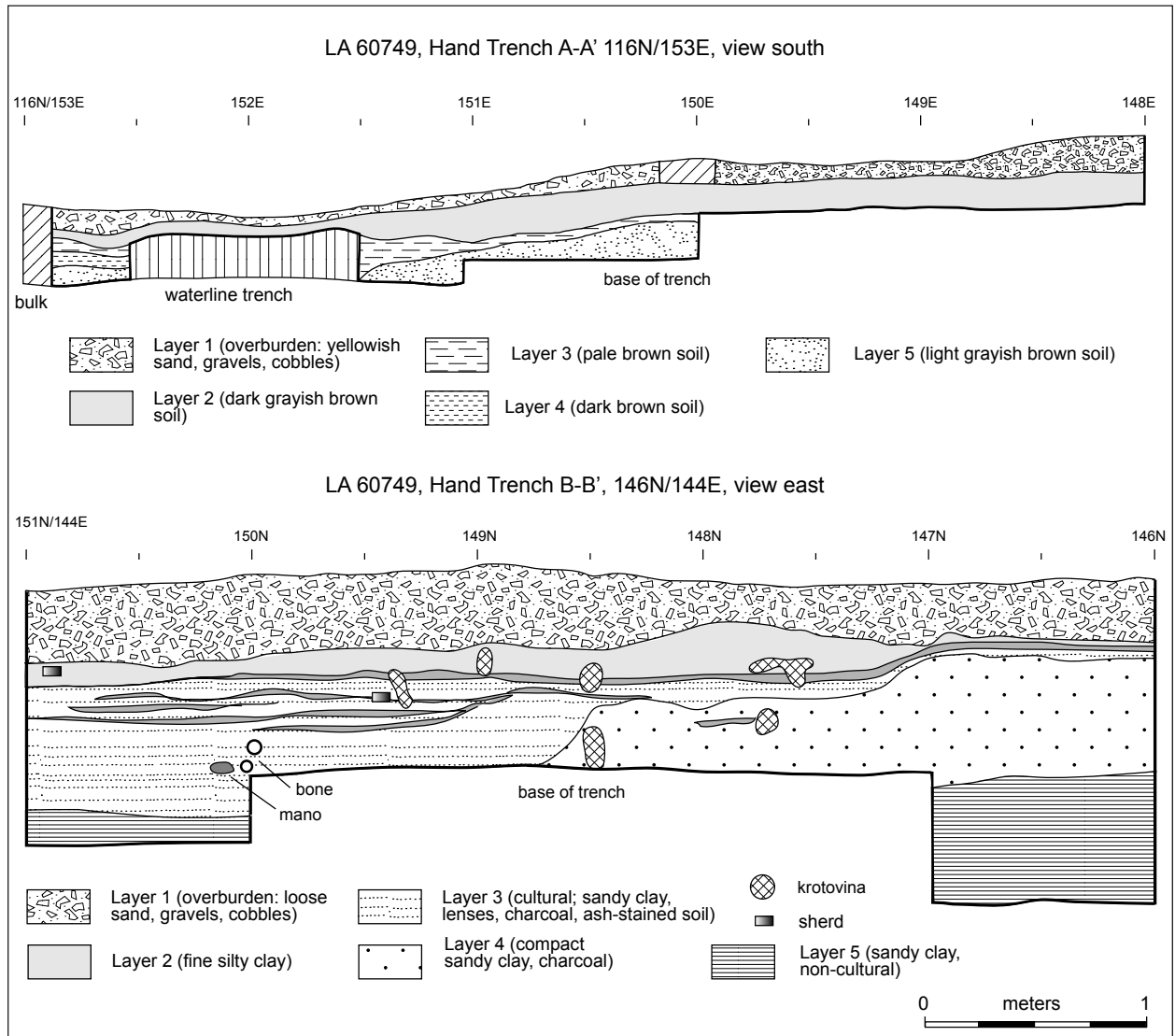


Figure 15.11. LA 60749, Extramural Area 3, hand trenches, profiles; A-A' (view south) and B-B' (view east).



tended to a depth of 85 cm beneath the modern ground surface. Beneath Layer 2 was found a bell-shaped cist (Extramural Area 3, Feature 1). The cist was present at the base of Layer 2, dug into Layer 3. Layer 3 is culturally sterile laminated alluvial sandy clay, forming the original terrace deposit. A grid north-south profile is shown in Figure 15.11.

An area within Extramural Area 3 (129N/141E), measuring 2 by 3 m was shovel scraped to locate possible cultural features within an area of ash-stained soil. This area was scraped to a depth of 10 cm. No cultural features were found. The staining was limited to surface material, suggesting it was of recent origin.

Seven random sample units measuring 1 by 1 m were hand excavated in Extramural Area 3 (Table 15.4). The number of units selected was designed to provide a 1 percent sample of Extramural Area 3. The units excavated revealed stratigraphy similar to that already noted for the other areas of the site, a series of alluvial depositions containing some re-deposited cultural material overlaying a deposit of culturally sterile laminated sandy clays.

An intact cultural deposit was found within one of the units, 147N/150E. This consisted of an ash lens 2 cm thick, 38 cm below the modern ground surface. The ash lens extended across the northern half of the sampling unit in an area measuring 1.0 by 0.55 m.

Auger tests were dug in the bottoms of six of the test trenches in Extramural Area 3. None of these holes revealed cultural material.

Backhoe Trench 1, 131N/150.5E to 149.5N/139E, was 18.5 m long. The trench was dug in the northern portion of the site, roughly parallel to the highway. This backhoe trench also extended across a portion of LA 37592. Backhoe Trench 1 was 2 m deep. The profile of Backhoe Trench 1 reveals a series of al-

luvial deposits like those in the trenches and sampling units across LA 60749. Generally this material was fine, silty sandy clay, with some coarser sand and gravel lensing that varies only in color and texture. Toward the bottom of the trench was a cobble lens.

A shallow drainage crosses the northern portion of the site. Visible layers in the Backhoe Trench 1 profile indicate this is not a recent development but has occurred in this area at least since Anasazi habitation. The drainage has experienced a large number of cutting and filling episodes through time. Variation in these episodes depended on the quantity and velocity of water in the drainage.

Cultural material was limited to the upper two layers of deposition in the backhoe trench profile. This is primarily composed of charcoal flecks, although several sherds were also present. These upper layers represent alluvial deposition and artifact redeposition from LA 60746, LA 60747, and LA 60748, upslope on the next terrace to the west. In areas outside of the actual drainage, sheetwash appears to have taken place, moving materials downslope and depositing it on the terrace. No cultural features or deposits were found in Backhoe Trench 1.

### Features (Extramural Area 3)

**Cist (Feature 1).** Feature 1, a bell-shaped cist, was found in trench 146N/141E at a depth of 85 cm below the modern ground surface. The cist was circular and measured 22 by 30 cm across its opening, belling out to 54 by 54 cm at its widest point (Figs. 15.2, 15.12). Its volume was 35.2 liters. The depth of the feature was 68 cm, with a saucer-shaped base that sloped down toward the center).

The cist was dug into the culturally sterile laminated sandy clay of the original terrace material, in the bottom of a drainage coming from the upper terrace to the west. Feature fill consisted of alluvial sandy soil containing some gravels, identical to the 60 cm of alluvial deposition above the mouth of the cist. This suggests that both the feature fill and the covering material are products of the same flooding and depositional mechanism and episodes. At the time of flooding, the cist was open and empty. A single corrugated sherd was found in the fill of this feature, redeposited as part of the alluvial feature fill.

Table 15.4. LA 60749, Extramural Area 3, 1 by 1 m test pits; units, artifact, and auger depths.

Unit	Depth (cm)	Artifact Occurrence (cm)	Additional Auger Depth (m)
118N/151E	10.0	waterline	—
22N/149E	40.0	20.0	1.10
128N/151E	50.0	20.0	0.85
131N/150E	60.0	50.0	0.90
135N/139E	1.4	1.2	0.90
136N/147E	60.0	60.0	0.54
147N/150E	60.0	50.0	0.16





Figure 15.12. LA 60749, Extramural Area 3, Feature 1 (cist), profile showing surrounding soil; base of feature excavated, view north.

The cist is a considerable distance to the north of the other features on the site and more logically associated with activities at LA 37592, just to the north and east. Association with LA 37592 dates this feature to the Late Pueblo II or Transitional Pueblo II-III period, and the corrugated sherd indicates it is Pueblo II or younger in age.

A second area of cultural activity was investigated south of the cist at 144N/141E and proved to be a more or less rectangular deposit designated Feature 2. There was soil staining and a considerable number of sherds and charcoal flecks. Ninety sherds were recovered from four artificial levels or 60 cm (Fig. 15.13). The pottery is similar, also being Pueblo II-III, with more organic- than mineral-painted items. The degree to which this feature was cultural fill in a natural surface anomaly as opposed to an intentional excavation is unclear, but clearly there were cultural materials present.



## LA 60749: MATERIAL CULTURE

### *Ceramic Artifacts*

Ceramics are the largest category of artifacts recovered from LA 60749, with a total of 1,674 sherds (Tables 15.5-15.8). Ceramics from all components at LA 60749 indicate a mixture of material deriving from Pueblo II and Pueblo III contexts. White ware types recovered from this site include Red Mesa-style black-on-white, Pueblo II black-on-white, Early Pueblo III black-on-white, Late Pueblo III black-on-white, and Pueblo III transitional black-on-white. The majority of (68 percent) of decorated white wares are painted in organic paint. Corrugated types include Pueblo II corrugated (21.4 percent), Pueblo II-III corrugated (57.1 percent), and Pueblo III corrugated (21.4 percent). In almost all contexts, Pueblo III types are more common than Pueblo II types. This,



Figure 15.13. LA 60749, Extramural Area 3, Feature 2 (deposit), showing irregular shape; view west.

along with the dominance of white wares decorated in organic paint, indicates that a majority of these ceramics derive from Pueblo III occupations. The dominance of Early Pueblo III black-on-white over Late Pueblo III black-on-white indicates most of the Pueblo III occupation probably dates to the late twelfth and early thirteenth centuries (C. Dean Wilson, personal communication, 1993). The highly mixed nature of the site is evident in Table 15.7, which shows ceramic types by degree of mixture. There is a tendency for a better balance of mineral and organic paint in the less mixed deposits, which tend to be deeper. The overall character of the ceramic assemblage is later, and a high degree of mixture in shallower deposits is present.

A 16 percent sample of the ceramics was analyzed for temper. Four-fifths of the ceramics are tempered with local crushed igneous rock. Sherd, and sand and sherd, are the other primary temper types, and Chuskan trachybasalt temper was found in only three sherds, or about 1 percent. Minimal representation of nonlocal pottery is also seen in four White Mountain Redware sherds (0.2 percent of the total), and single sherds of Kayenta Red and

Woodruff Smudged. No Cibola white wares were identified, although the sherd and sherd and sand cases suggest some may be present. The nonlocal red and white sherd types also fit the late date of the site. If correctly identified, the Woodruff sherd is likely to be an heirloom.

#### *Chipped Stone Artifacts*

Chipped, or flaked, stone artifacts totaled 564 for the site (Table 15.9). Most of these artifacts were either chert (50 percent) or siltstone (29.8 percent), primarily in the form of debitage. Flaked lithic artifacts were concentrated in the northern and southern portions of the site. The preponderance of debitage combined with the relatively large number of cores present on the site ( $n = 30$ ) indicate that lithic reduction was taking place, probably to produce expedient tools. Formal artifacts were few, as expected for Anasazi sites. Two corner-notched chert projectile points, one uniface and one notch were part of the assemblage. The size, shape, workmanship, material, and even breakage of these points are very similar, suggesting a single maker and user (Fig. 15.14). One point was

Table 15.5. LA 60749, pottery types (all) by count and weight, with percents.

	Count	Col.%	Weight (g)	Col.%
Pueblo II corrugated	3	0.2%	24.0	0.3%
Pueblo II–III corrugated	6	0.4%	42.0	0.5%
Pueblo III corrugated	1	0.1%	11.0	0.1%
Plain gray	228	13.6%	1168.0	14.0%
Corrugated gray	692	41.3%	3185.0	38.2%
Red Mesa–style black-on-white	1	0.1%	4.0	0.0%
Pueblo II black-on-white	13	0.8%	80.0	1.0%
Sosi-style black-on-white	10	0.6%	49.0	0.6%
Dogoszhi-style black-on-white	12	0.7%	62.0	0.7%
Early Pueblo III black-on-white	17	1.0%	186.0	2.2%
Late Pueblo III black-on-white	3	0.2%	12.0	0.1%
Pueblo II–III black-on-white	106	6.3%	655.0	7.8%
Pueblo III black-on-white	23	1.4%	119.0	1.4%
Painted black-on-white	1	0.1%	2.0	0.0%
Polished white	213	12.7%	1060.0	12.7%
Polished black-on-white	85	5.1%	331.0	4.0%
Transitional Pueblo III black-on-white	15	0.9%	33.0	0.4%
Squiggle hachure black-on-white	1	0.1%	7.0	0.1%
Dolores Corrugated	2	0.1%	6.0	0.1%
Mesa Verde Corrugated	2	0.1%	12.0	0.1%
Mesa Verde Plain Gray	38	2.3%	220.0	2.6%
Mesa Verde Corrugated Gray	124	7.4%	704.0	8.4%
Mancos Black-on-white	1	0.1%	5.0	0.1%
McElmo Black-on-white	2	0.1%	14.0	0.2%
Mesa Verde Pueblo II–III Black-on-white	20	1.2%	77.0	0.9%
Mesa Verde Pueblo III Black-on-white	6	0.4%	59.0	0.7%
Mesa Verde Polished White	28	1.7%	142.0	1.7%
Mesa Verde Polished Black-on-white	7	0.4%	11.0	0.1%
Puerco Black-on-red	2	0.1%	15.0	0.2%
Wingate Polychrome	2	0.1%	4.0	0.0%
Nava Black-on-white	1	0.1%	13.0	0.2%
Chuska Polished White	2	–	1.0	0.0%
Kayenta indeterminate red	1	0.1%	17.0	0.2%
Woodruff Smudged	1	0.1%	2.0	0.0%
Corrugated gray	1	0.1%	1.0	0.0%
Polished white	3	0.2%	3.0	0.0%
Polished black-on-white	1	0.1%	10.0	0.1%
<b>Total</b>	<b>1674</b>	<b>100.0%</b>	<b>8346.0</b>	<b>100.0%</b>

found in Pit Structure 1, the second was 80 m to the north in Extramural Area 2. These artifacts are also noteworthy because the style is generally associated with a much earlier time period (Early Pueblo II) than is suggested by the ceramics. The points are thus either heirlooms or finds by the residents of the site, or products of a knapper who did not conform to the style of the day. The similarity of material and form noted above suggest that the latter is more likely. Retouched and utilized debitage were also present, but in small quantities. Only 5.4 percent of the flaked lithic artifacts were utilized (Table 15.9).

### Ground Stone Artifacts

Ground stone artifacts recovered from LA 60749 came from a variety of proveniences across the site. Seven were collected, none of which is complete. These included four manos, a jar cover, a shaped slab (possibly architectural), and a tchamahia fragment (Table 15.10). The presence of the tchamahia fragment on Floor 1 of Pit Structure 1 adds perspective to the use of these tools. Pit Structure 1 is likely to have been a fieldhouse or temporary storage structure. The presence of a tchamahia in association with

Table 15.6. LA 60749, Extramural Areas 1–3 and Pit Structure 1, pottery and paint types by major provenience; counts and percents.

	Extramural Area 1		Extramural Area 2		Extramural Area 3		Pit Structure 1		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Pottery Type</b>										
Pueblo II corrugated	–	–	–	–	2	0.2%	1	1.7%	3	0.2%
Pueblo II–III corrugated	3	0.6%	–	–	5	0.5%	–	–	8	0.5%
Pueblo III corrugated	1	0.2%	–	–	2	0.2%	–	–	3	0.2%
Plain gray	88	18.6%	47	24.5%	127	13.4%	7	11.9%	269	16.1%
Corrugated gray	219	46.4%	90	46.9%	474	49.8%	31	52.5%	814	48.6%
Red Mesa–style black-on-white	–	–	–	–	1	0.1%	–	–	1	0.1%
Pueblo II black-on-white	4	0.8%	1	0.5%	9	0.9%	–	–	14	0.8%
Sosi-style black-on-white	–	–	1	0.5%	9	0.9%	–	–	10	0.6%
Dogoszhi-style black-on-white	2	0.4%	–	–	10	1.1%	–	–	12	0.7%
Early Pueblo III black-on-white	8	1.7%	–	–	11	1.2%	1	1.7%	20	1.2%
Late Pueblo III black-on-white	1	0.2%	–	–	2	0.2%	–	–	3	0.2%
Pueblo II–III black-on-white	43	9.1%	16	8.3%	64	6.7%	4	6.8%	127	7.6%
Pueblo III black-on-white	7	1.5%	8	4.2%	14	1.5%	–	–	29	1.7%
Painted black-on-white	1	0.2%	–	–	–	–	–	–	1	0.1%
Polished white	78	16.5%	20	10.4%	133	14.0%	14	23.7%	245	14.6%
Polished black-on-white	14	3.0%	9	4.7%	69	7.3%	1	1.7%	93	5.6%
Transitional Pueblo III black-on-white	–	–	–	–	15	1.6%	–	–	15	0.9%
Squiggle hachure black-on-white	–	–	–	–	1	0.1%	–	–	1	0.1%
Puerco Black-on-red	–	–	–	–	2	0.2%	–	–	2	0.1%
Wingate Polychrome	2	0.4%	–	–	–	–	–	–	2	0.1%
Kayenta indeterminate red	1	0.2%	–	–	–	–	–	–	1	0.1%
Woodruff Smudged	–	–	–	–	1	0.1%	–	–	1	0.1%
<b>Total</b>	<b>472</b>	<b>100.0%</b>	<b>192</b>	<b>100.0%</b>	<b>951</b>	<b>100.0%</b>	<b>59</b>	<b>100.0%</b>	<b>1674</b>	<b>100.0%</b>
<b>Pigment Type</b>										
None	79	50.0%	20	36.4%	133	39.3%	14	70.0%	246	43.1%
Organic	53	33.5%	27	49.1%	117	34.6%	4	20.0%	201	35.2%
Mineral	26	16.5%	8	14.5%	88	26.0%	2	10.0%	124	21.7%
<b>Total</b>	<b>158</b>	<b>100.0%</b>	<b>55</b>	<b>100.0%</b>	<b>338</b>	<b>100.0%</b>	<b>20</b>	<b>100.0%</b>	<b>571</b>	<b>100.0%</b>

manos suggests that while tchamahias are often found in special contexts, they also occur in contexts more likely to be associated with farming, where they probably functioned as tools.

### *Faunal Remains*

Excluding turkey eggshell, the small faunal assemblage at LA 60749 is dominated by deer and large-mammal elements, which are likely to be deer, as well (Table 15.11). Over 70 percent of the faunal count is from large mammals, with jackrabbits, small mammals, and turkey present in small quantities. The unusually high proportion of large-mammal bone is probably the result of differences in preservation and the small sample. The elements

present include vertebrae and leg bones (Table 15.12); it is conceivable that these materials are from a road kill long after site occupation. Deer are abundant in the wildlife area and are regularly killed by highway traffic. Most of the deer and large-mammal elements, however, come from buried and less mixed contexts, and are therefore more likely to have been prehistorically deposited. The 92 pieces of eggshell come from two levels of a test in Extramural Area 1 and probably represent one or two eggs.

### *Botanical Remains*

The majority of botanical samples from LA 60749 are from an Early Pueblo III pit structure less than



Table 15.7. LA 60749, Extramural Areas 1–3, pottery and paint types, counts by presence of disturbance.

	Extramural Area 1		Extramural Area 2		Extramural Area 3		Total
	Mixed	Unmixed	Mixed	Unmixed	Mixed	Unmixed	
<b>Pottery Type</b>							
Pueblo II corrugated	–	–	–	–	2	–	2
Pueblo II–III corrugated	3	–	–	–	4	1	8
Pueblo III corrugated	1	–	–	–	1	1	3
Plain gray	88	–	47	–	116	11	262
Corrugated gray	215	4	85	5	452	22	783
Red Mesa–style black-on-white	–	–	–	–	1	–	1
Pueblo II black-on-white	4	–	1	–	9	–	14
Sosi-style black-on-white	–	–	1	–	7	2	10
Dogozhi-style black-on-white	2	–	–	–	10	–	12
Early Pueblo III black-on-white	8	–	–	–	9	2	19
Late Pueblo III black-on-white	1	–	–	–	2	–	3
Pueblo II–III black-on-white	40	3	15	1	59	5	123
Pueblo III black-on-white	7	–	8	–	13	1	29
Painted black-on-white	1	–	–	–	–	–	1
Polished white	77	1	19	1	122	11	231
Polished black-on-white	13	1	8	1	66	3	92
Transitional Pueblo III black-on-white	–	–	–	–	15	–	15
Squiggle hachure black-on-white	–	–	–	–	1	–	1
Puerco Black-on-red	–	–	–	–	2	–	2
Wingate Polychrome	2	–	–	–	–	–	2
Kayenta indeterminate red	1	–	–	–	–	–	1
Woodruff Smudged	–	–	–	–	1	–	1
<b>Total</b>	<b>463</b>	<b>9</b>	<b>184</b>	<b>8</b>	<b>892</b>	<b>59</b>	<b>1615</b>
<b>Pigment Type</b>							
None	78	1	19	1	124	9	232
Organic	52	1	26	1	110	7	197
Mineral	23	3	7	1	80	8	122
<b>Total</b>	<b>153</b>	<b>5</b>	<b>52</b>	<b>3</b>	<b>314</b>	<b>24</b>	<b>551</b>

Mixed includes surface material and disturbed contexts; unmixed are subsurface contexts.

40 cm below surface. Signs that the structure burned include the blackened floor and fired jacal and burned wood on the floor. Fragments of mealing tools point to likely food processing in the structure. Floor fill produced few cultural plant materials (burned pigweed seeds in the southeast quad, juniper leaflets in the northeast quad; Table 15.13). An unburned sedge seed in the southeast quad is of interest, as this water-loving plant is quite out of context at the site location, and this plant has often been utilized for matting and other forms of basketry. A posthole held many remnants of the original post in the form of disintegrated pieces of unburned wood, along with some burned and unburned borage seeds (mysterious, since this

family is characterized by nasty little prickly plants with no redeeming economic value).

Extramural proveniences at LA 60749 date generally to the Late Pueblo II, or Pueblo II–III transition, and may in fact be part of a neighboring site, LA 37592. One pit contained charred corncob fragments (Table 15.13). Since the quantities are small and the pit shows no signs of burning, these are more likely to relate to diffuse remains of trash disposal rather than use of the pit to store corn. A bell-shaped pit held scattered burned juniper leaflets, again probably an artifact of trash rather than pit use.

Cottonwood/willow wood was identified in a macrobotanical sample from the southeast quadrant of the pit structure floor. Another macrobotanical



Table 15.8. LA 60749, Extramural Areas 1–3 and Pit Structure 1, vessel forms by ware group and major provenience; counts and percents.

	Extramural Area 1		Extramural Area 2		Extramural Area 3		Pit Structure 1		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Gray Ware</b>										
Indeterminate	–	–	–	–	1	0.2%	–	–	1	0.1%
Cooking, storage rim	12	3.9%	5	3.6%	21	3.4%	4	10.3%	42	3.8%
Necked jar body	42	13.5%	12	8.8%	71	11.6%	4	10.3%	129	11.8%
Canteen	–	–	–	–	1	0.2%	–	–	1	0.1%
Jar body	257	82.6%	120	87.6%	516	84.6%	31	79.5%	924	84.2%
<b>Subtotal</b>	<b>311</b>	<b>100.0%</b>	<b>137</b>	<b>100.0%</b>	<b>610</b>	<b>100.0%</b>	<b>39</b>	<b>100.0%</b>	<b>1097</b>	<b>100.0%</b>
<b>White Ware</b>										
Indeterminate	1	0.6%	1	1.8%	1	0.3%	–	–	3	0.5%
Olla	1	0.6%	1	1.8%	2	0.6%	–	–	4	0.7%
Cooking, storage rim	2	1.3%	–	–	5	1.5%	–	–	7	1.2%
Pitcher	–	–	–	–	1	0.3%	–	–	1	0.2%
Necked jar body	5	3.2%	5	9.1%	15	4.4%	1	5.0%	26	4.6%
Jar body	65	41.1%	10	18.2%	153	45.3%	5	25.0%	233	40.8%
Bowl or jar body	82	51.9%	38	69.1%	157	46.4%	13	65.0%	290	50.8%
Ladle	2	1.3%	–	–	3	0.9%	–	–	5	0.9%
Open gourd dipper	–	–	–	–	1	0.3%	1	5.0%	2	0.4%
<b>Subtotal</b>	<b>158</b>	<b>100.0%</b>	<b>55</b>	<b>100.0%</b>	<b>338</b>	<b>100.0%</b>	<b>20</b>	<b>100.0%</b>	<b>571</b>	<b>100.0%</b>
<b>Red Ware</b>										
Cooking, storage rim	1	33.3%	–	–	–	–	–	–	1	20.0%
Bowl or jar body	2	66.7%	–	–	2	100.0%	–	–	4	80.0%
<b>Subtotal</b>	<b>3</b>	<b>100.0%</b>	<b>–</b>	<b>–</b>	<b>2</b>	<b>100.0%</b>	<b>–</b>	<b>–</b>	<b>5</b>	<b>100.0%</b>
<b>Brown Ware</b>										
Bowl	–	–	–	–	1	100.0%	–	–	1	100.0%
<b>Subtotal</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>1</b>	<b>100.0%</b>	<b>–</b>	<b>–</b>	<b>1</b>	<b>100.0%</b>
<b>Total</b>	<b>472</b>	<b>28.2%</b>	<b>192</b>	<b>11.5%</b>	<b>951</b>	<b>56.8%</b>	<b>59</b>	<b>3.5%</b>	<b>1674</b>	<b>100.0%</b>

sample from Extramural Area 3 yielded uncarbonized goosefoot seeds, probably intrusive in origin (Table 15.14).

Three scan samples had sufficient wood charcoal for identification. Wood is not usually examined during scan analysis, but a sample of a broken post supposedly collected from the pit structure floor could not be located, so in order to get additional information about wood use, 20 pieces from each sample were identified.

Cottonwood/willow constituted 95 percent of the wood from the northeast quadrant of the structure. The other 5 percent was an unknown non-conifer. Wood from the southeast quadrant was 60 percent cottonwood/willow and 40 percent juniper, while cottonwood/willow only made up 25 percent of the assemblage from Feature 2, and 75 percent was sagebrush (Table 15.15). The abundance of ju-

niper coincides with the probable species of wood apparent in the adobe casts.

#### LA 60749: SUMMARY

The history of construction and occupation of LA 60749 is relatively simple. For most of the habitation period at the Jackson Lake community, the area of LA 60749 was used in a way that precluded the construction of features or structures. This appears to have taken place despite the presence of structures on most sides. The site area may have served as part of a plaza, or an agricultural field. There is no indication of either formal or informal use of the space.

No features or artifacts associated with the Basketmaker III period were found at LA 60749, although Basketmaker III use took place in the general

Table 15.9. LA 60749, Extramural Areas 1–3 and Pit Structure 1, chipped stone tool and material types by major provenience; counts and percents.

	Extramural Area 1		Extramural Area 2		Extramural Area 3		Pit Structure 1		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Tool Type</b>										
Debitage	167	92.3%	46	74.2%	259	88.7%	24	75.0%	<b>496</b>	<b>87.5%</b>
Core	3	1.7%	7	11.3%	19	6.5%	1	3.1%	<b>30</b>	<b>5.3%</b>
Uniface	1	0.6%	–	–	–	–	–	–	<b>1</b>	<b>0.2%</b>
Retouched, utilizeddebitage	9	5.0%	6	9.7%	11	3.8%	4	12.5%	<b>30</b>	<b>5.3%</b>
Retouched, utilized core	–	–	–	–	1	0.3%	2	6.3%	<b>3</b>	<b>0.5%</b>
Notch	–	–	1	1.6%	–	–	–	–	<b>1</b>	<b>0.2%</b>
Bifacial knife, scraper	1	0.6%	–	–	–	–	–	–	<b>1</b>	<b>0.2%</b>
Projectile point	–	–	–	–	1	0.3%	1	3.1%	<b>2</b>	<b>0.4%</b>
Hammerstone	–	–	2	3.2%	1	0.3%	–	–	<b>3</b>	<b>0.5%</b>
<b>Total</b>	<b>181</b>	<b>100.0%</b>	<b>62</b>	<b>100.0%</b>	<b>292</b>	<b>100.0%</b>	<b>32</b>	<b>100.0%</b>	<b>567</b>	<b>100.0%</b>
<b>Material Type</b>										
Chert	93	51.4%	37	59.7%	142	48.6%	17	53.1%	<b>289</b>	<b>51.0%</b>
Chalcedony	3	1.7%	–	–	1	0.3%	2	6.3%	<b>6</b>	<b>1.1%</b>
Silicified wood	25	13.8%	4	6.5%	17	5.8%	7	21.9%	<b>53</b>	<b>9.3%</b>
Quartzite	6	3.3%	1	1.6%	7	2.4%	2	6.3%	<b>16</b>	<b>2.8%</b>
Quartzitic sandstone	10	5.5%	1	1.6%	17	5.8%	–	–	<b>28</b>	<b>4.9%</b>
Igneous	–	–	1	1.6%	–	–	–	–	<b>1</b>	<b>0.2%</b>
Rhyolite	2	1.1%	1	1.6%	1	0.3%	–	–	<b>4</b>	<b>0.7%</b>
Siltstone	42	23.2%	17	27.4%	107	36.6%	4	12.5%	<b>170</b>	<b>30.0%</b>
<b>Total</b>	<b>181</b>	<b>100.0%</b>	<b>62</b>	<b>100.0%</b>	<b>292</b>	<b>100.0%</b>	<b>32</b>	<b>100.0%</b>	<b>567</b>	<b>100.0%</b>
<b>% of Total</b>		<b>31.9%</b>		<b>10.9%</b>		<b>51.5%</b>		<b>5.6%</b>		<b>100.0%</b>

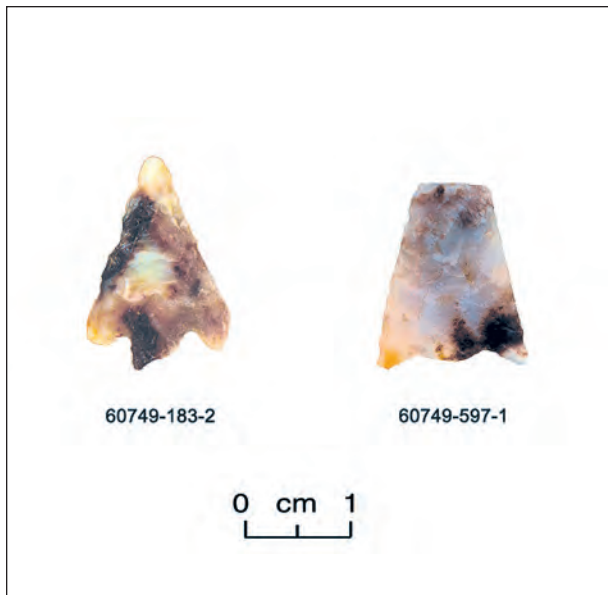


Figure 15.14. LA 60749, Pit Structure 1 and Extramural Area 2, projectile points; note same chert and corner-notched style.

site area. Basketmaker III pit structures are present at LA 60751, LA 37594, and LA 37595, not far to the north, as well as to the east in the East Side Rincon, across the La Plata River. Physical evidence for occupation of LA 60749 begins in the Late Pueblo II period. The extreme northern end of the site was occupied as part of the Pueblo II and Transitional Pueblo II-III construction and occupations at LA 37592. Two cists were present in the north part of LA 60749, between its structure and the repeatedly used LA 37592. It appears that flooding episodes that buried this area perhaps limited further use there.

The concentration of sites and roomblock clusters forming the Jackson Lake community expanded and contracted through time, but with little obvious utilization of the area within the site boundaries of LA 60749. Finally, during the Early Pueblo III period, the residents of the area built a structure atypical of others encountered in the project area. Although it is very shallow, we called this feature a

Table 15.10. LA 60749, Extramural Areas 2, 3 and Pit Structure 1, ground stone tools, counts by type and major provenience.

	Extramural Area 2	Extramural Area 3	Pit Structure 1	Total
Shaped slab	1	–	–	1
Jar cover	–	–	1	1
Mano	–	–	1	1
Two-hand mano	1	2	–	3
Tchamahia	–	–	1	1
<b>Total</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>7</b>

All are sandstone except for siltstone tchamahia.

Table 15.11. LA 60749, Extramural Areas 1, 3 and Pit Structure 1, faunal remains, taxa by major provenience; counts and percents.

	Extramural Area 1		Extramural Area 3		Pit Structure 1		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Jackrabbit	–	–	4	16.0%	–	–	4	9.1%
Deer	–	–	9	36.0%	3	15.8%	12	27.3%
Small mammal	–	–	4	16.0%	–	–	4	9.1%
Medium-large mammal	–	–	2	8.0%	–	–	2	4.5%
Large mammal	–	–	4	16.0%	16	84.2%	20	45.5%
Turkey	92	100.0%	2	8.0%	–	–	2	4.5%
<b>Total</b>	<b>92</b>	<b>100.0%</b>	<b>25</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>	<b>44</b>	<b>100.0%</b>

pit structure. This structure has no internal features, but it clearly had a juniper and daub superstructure; it could well have functioned as a storeroom, a field-house, or a ramada. Extramural features associated with the structure combined with the artifact assemblage on its floor suggest the pit structure served as a warm-weather activity area and possible habitation space with an outside hearth. A number of activities were performed within the pit structure, the majority near the entrance. The small assemblage of artifacts seems to be focused on farming and plant processing, although two projectile points were also present.

The structure was abandoned after a relatively short use. It stood empty for an unknown period of time before burning. The fire that eventually destroyed the superstructure was sufficiently hot to bake the jacal to the point that it survived on the ground surface until our excavation. The materials on the floor do not indicate a catastrophic aban-

donment, and some natural fill accumulated before the roof burned.

Although LA 60749 has its own designation, there is no doubt that the location was part of the busy landscape that formed the Jackson Lake community through several centuries of use.

Table 15.12. LA 60749, faunal elements, counts by taxon.

	Jackrabbit	Deer	Small Mammal	Medium Mammal	Large Mammal	Turkey	Total
Indeterminate fragment	–	–	–	–	2	–	2
Long-bone fragment	–	4	3	2	18	–	27
Lumbar 3	–	1	–	–	–	–	1
Lumbar 4	–	1	–	–	–	–	1
Rib	–	–	1	–	–	–	1
Humerus	–	1	–	–	–	–	1
Radius	1	–	–	–	–	–	1
Ulna	1	–	–	–	–	–	1
Femur	–	1	–	–	–	–	1
Tibia	2	–	–	–	–	–	2
Metatarsal	–	4	–	–	–	–	4
Quadrate	–	–	–	–	–	1	1
Tarsometatarsus	–	–	–	–	–	1	1
Eggshell	–	–	–	–	–	92	92
<b>Total</b>	<b>4</b>	<b>12</b>	<b>4</b>	<b>2</b>	<b>20</b>	<b>94</b>	<b>136</b>

Table 15.13. LA 60749, Extramural Areas 2, 3 and Pit Structure 1, plant remains, flotation scan results by taxon and floor/feature; abundance per liter.

Feature	Pit Structure 1				Extramural Area 3	Extramural Area 2
	Floor Fill, Stratum 2			Floor 1		
	NE 1/4	SW 1/4	SE 1/4		1 Posthole	1 Bell-shaped Cist
<b>FS</b>	<b>516</b>	<b>547</b>	<b>551</b>	<b>578</b>	<b>601</b>	<b>574</b>
<b>Cultural</b>						
Annuals:						
<i>Amaranthus</i>	–	–	+	–	–	–
Perennials:						
<i>Juniperus</i>	+ leaflet	–	–	–	+ leaflet	–
<i>Zea mays</i>	–	–	–	–	–	+ cupule
Other:						
Boraginaceae	–	–	–	+ floret	–	–
<b>Noncultural</b>						
Annuals:						
<i>Amaranthus</i>	–	–	+ capsule	–	–	–
<i>Chenopodium</i>	++	++	++	–	–	+
<i>Cycloloma</i>	–	–	–	–	+	–
<i>Portulaca</i>	–	+	+	–	–	–
Perennials:						
<i>Scirpus</i>	–	–	+	–	–	–
Grasses:						
<i>Oryzopsis</i>	–	–	–	+	–	–
Other:						
Boraginaceae	–	+	–	+ floret	–	–
<i>Mentzelia</i>	+++	–	–	–	–	–

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = less than 10/liter, ++ = 11–25/liter, +++ = 25–100/liter

Table 15.14. LA 60749, Extramural Area 3 and Pit Structure 1, macrobotanical plant remains, taxon by layer/level; weight (g) and abundance.

Context	Plant Part	Pit Structure 1	Extramural Area 3
		Floor Fill, Layer 2 SE 1/4	Level 12 146N/141E
<b>FS</b>		<b>581</b>	<b>606</b>
<b>Cultural</b>			
Salicaceae ( <i>Populus/Salix</i> )	Wood	1.09	–
<b>Possibly Cultural</b>			
<i>Chenopodium</i>	Seed	–	++++ .01 u

++++ = >100, u = uncarbonized

Table 15.15. LA 60749, Extramural Area 1 and Pit Structure 1, wood charcoal, flotation results by taxon and fill/layer count and weight (g).

Context	Pit Structure 1, Floor Fill, Layer 2				Extramural Area 1		Total	
	NE 1/4		SE 1/4		Count	Weight (g)	Weight (g)	Col. %
<b>FS</b>	<b>516</b>		<b>551</b>					
	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Weight (g)	Col. %
<b>Conifers</b>								
<i>Juniperus</i>	–	–	8	0.08	–	–	<b>0.08</b>	<b>7.8%</b>
<b>Nonconifers</b>								
<i>Artemisia</i>	–	–	–	–	15	0.32	<b>0.32</b>	<b>31.1%</b>
Salicaceae ( <i>Populus/Salix</i> )	19	0.35	12	0.21	5	0.06	<b>0.62</b>	<b>60.2%</b>
Unknown nonconifer	1	0.01	–	–	–	–	<b>0.01</b>	<b>1.0%</b>
<b>Total</b>	<b>20</b>	<b>0.36</b>	<b>20</b>	<b>0.29</b>	<b>20</b>	<b>0.38</b>	<b>1.03</b>	<b>100.0%</b>





# 16 ∞ LA 37598 (Three Fingers Up, Three Toes Down Site)

Peter Y. Bullock and H. Wolcott Toll

LA 37598 is at the far north extent of what we consider the Jackson Lake community. Unlike the other project sites along the La Plata River, this mixed-component (Pueblo II and Pueblo III) site is set a distance back from the terrace edge. Bisected by NM 170, LA 37598 consists of two cobble and stone roomblocks and three pit structures, one of which was partially below the westernmost roomblock (Roomblock 1). First recorded in 1981 (Lancaster 1982a:40–41) primarily as an artifact scatter and cobble mound, the scope of fieldwork at LA 37598 was greatly expanded in in the course of excavation for this current project.

LA 37598 was excavated with some fluctuations in crew size (from two to eight people) from October 12 through December 20, 1988, for a total of 403 person-days. Site excavation was directed by John Bradley of San Juan College, although other commitments limited his attendance to 60 percent of the field time. Crew personnel included Alphonso Benallie, Lorenzo Benallie, Peter Bullock, Earl Cowboy, Catherine Kemp, Rodney North, Michael Proper, and Penny Whitten, most of whom were employees of San Juan College. The rest of the crew was composed of OAS staff members. Roberta Bradley was in charge of the initial laboratory processing.

## ENVIRONMENTAL SETTING

LA 37598 is north of Jackson Lake on a large alluvial fan on the first terrace west of the La Plata River, 1 km north of the entrance to Jackson Lake (Figs. pf.1, 1.1). This fan is approximately 1.5 km wide in the area of the site and is relatively flat, sloping downward slightly toward the river on the east. The site elevation is 5,476 ft (1,669 m). The sandy silty soils of the site, which include some gravel lensing, can be attributed to alluvial fan deposition of

materials originating in the badlands area of Piñon Mesa, 1 km to the west. The increased width of the La Plata Valley in the area of LA 37598 results from a break in the gravel-topped terraces that are present for most of the valley's length. In the absence of the gravel terrace, sedimentary outcrops of Piñon Mesa are the first major change in elevation west of the site and the river. The greater width of the valley and lower gradient means that runoff velocity is less at the location of the site, allowing for the deposition of finer material.

In marked contrast to most of the sites excavated, LA 37598 is not on the terrace edge immediately adjacent to the La Plata River floodplain but 500 m back from the terrace edge. Most of the site extends out of the right-of-way toward the west and northwest. North of LA 37598 is a hiatus of known archaeological sites extending 2 km to LA 65024 (Vols. 3–4, this report), although survey of the valley is extremely patchy, and unrecorded sites are known to occur on the terrace toward the east, especially along the edge (Whalley 1980).

LA 37598 may be on the northern periphery of the Jackson Lake community. Before excavation, site vegetation was composed of a partial coverage of sage, saltbush, and greasewood, with extensive stands of wolfberry on the western portion. Understorey flora consisted primarily of mixed grasses.

## ARCHAEOLOGICAL SETTING

LA 37598 was first recorded in 1981 during survey for the realignment of NM 170. Lancaster (1982a:40–41) wrote that it measured 77 by 50 m and consisted of a large sherd and lithic artifact scatter, several cobble concentrations, and a cobble mound that had been partially removed during highway maintenance. During the following limited testing program, two

1 by 2 m test trenches were hand excavated on the site in the vicinity of visible architecture (Lancaster 1983:40–42).

Test Trench 1 revealed the presence of a room, including both a section of exposed wall constructed of mixed cobble and sandstone masonry, and a portion of prepared floor. Lancaster believed Test Trench 1, supplemented with shovel tests in the same area, showed the presence of a two- to four-room structure (Lancaster 1983:42). Test Trench 2 contained 30 cm of cultural fill containing sherds and burned sandstone. An auger test to an additional depth of 1.20 m showed no further cultural material. Because of the lack of architectural remains, Lancaster believed this portion of the site to be a midden area. Additional shovel tests conducted at this time in the central portion of the site revealed a hearth. The hearth, in association with the trash area and extensive surface scatter, were interpreted as indicating long-term site occupation (Lancaster 1983).

Reevaluation of the site for the present project expanded it to an area measuring 170 by 59 m (558 by 193 sq ft), or 10,030 sq m (107,962 sq ft). Based on the extent of the artifact scatter, the site was also extended across the highway to the east (Figs. 16.1a, 16.1b; Toll and Hannaford 1997:34, 47). Recent site modification has been primarily caused by highway maintenance and water line construction. The highway is cut down in the area of LA 37598, resulting in the removal of a portion of the site. Highway shoulder work and grading have caused further modification to both sides of the highway. Maintenance of the right-of-way fence and the construction of phone and water lines have also modified the site area.

LA 37598 is bisected by NM 170 (Figs. 16.1a, 16.2). To the east of the highway a small roomblock consisting of two rooms, a pit structure, and extramural features are present. To the east of the project area are several small cobble mounds and areas of soil discoloration caused by ash or charcoal. West of the highway is a cobble and stone roomblock that has been partially removed by road cutting. A pit structure is partially under this roomblock. An extensive cobble mound area with associated possible pit structure depressions is further to the west outside the highway right-of-way. Some soil discoloration is also present in this area. In addition, a number of extramural features are present on this side of the highway. A second pit structure,

southwest of the roomblock, was encountered during backhoe operations. After consultations with NMDOT, the western edge of the construction zone was reduced 4 m to preserve this pit structure and associated features.

Recorded sites in the immediate area of LA 37598 include LA 60753 (Chapter 9, Vol. 1-Book 1, this report), to the south on the east side of the highway; LA 60754 (outside the project right-of-way), to the east; and LA 37597 (Chapter 8, Vol. 1-Book 1, this report), to the south, spanning from the west side of the highway to the east (Fig. 1.20). Important sites in the southern extent of the Jackson Lake community include LA 60746, a possible great kiva and LA 111902, a larger pueblo site; both were outside the project right-of-way. LA 111902, like LA 37598, is in an open and relatively flat area; LA 111902, however, is 20–27 m lower and closer to the river than LA 37598. The main concentration of recorded sites that were within the project right-of-way and so were also revisited for this project were also to the south; LA 60748 and LA 60750 were outside the project right-of-way, but also within this more southerly area of the the Jackson Lake community (Fig. 1.20).

## FIELD METHODS

The provenience numbering system at LA 37598 (Table 16.1) was based on the presence of NM 170 running through the middle of LA 37598, serving as a convenient guide for the division of the site into more manageable areas for excavation (Fig. 16.2). Extramural Area 1 consists of the portion of the site west of the highway. Included in this extramural area are Roomblock 1 (five rooms), Pit Structures 1 and 3, and a number of associated extramural features. Extramural Area 2 was the area of the site east of the highway. This area includes Roomblock 2 (two rooms), Pit Structure 2, and several associated extramural features. An earlier occupation in the area of Roomblock 1 was designated Extramural Area 3, which included one pit feature.

Artifacts on the present ground surface were collected in a 3 by 3 m grid superimposed over the portion of the site west of the highway. A 12 by 12 m grid was superimposed over the east portion of the site for the collection of a smaller number of surface artifacts. The grids are identified by the grid location of their southwest corners. Both site grids ran parallel to the south portion of the western right-of-way

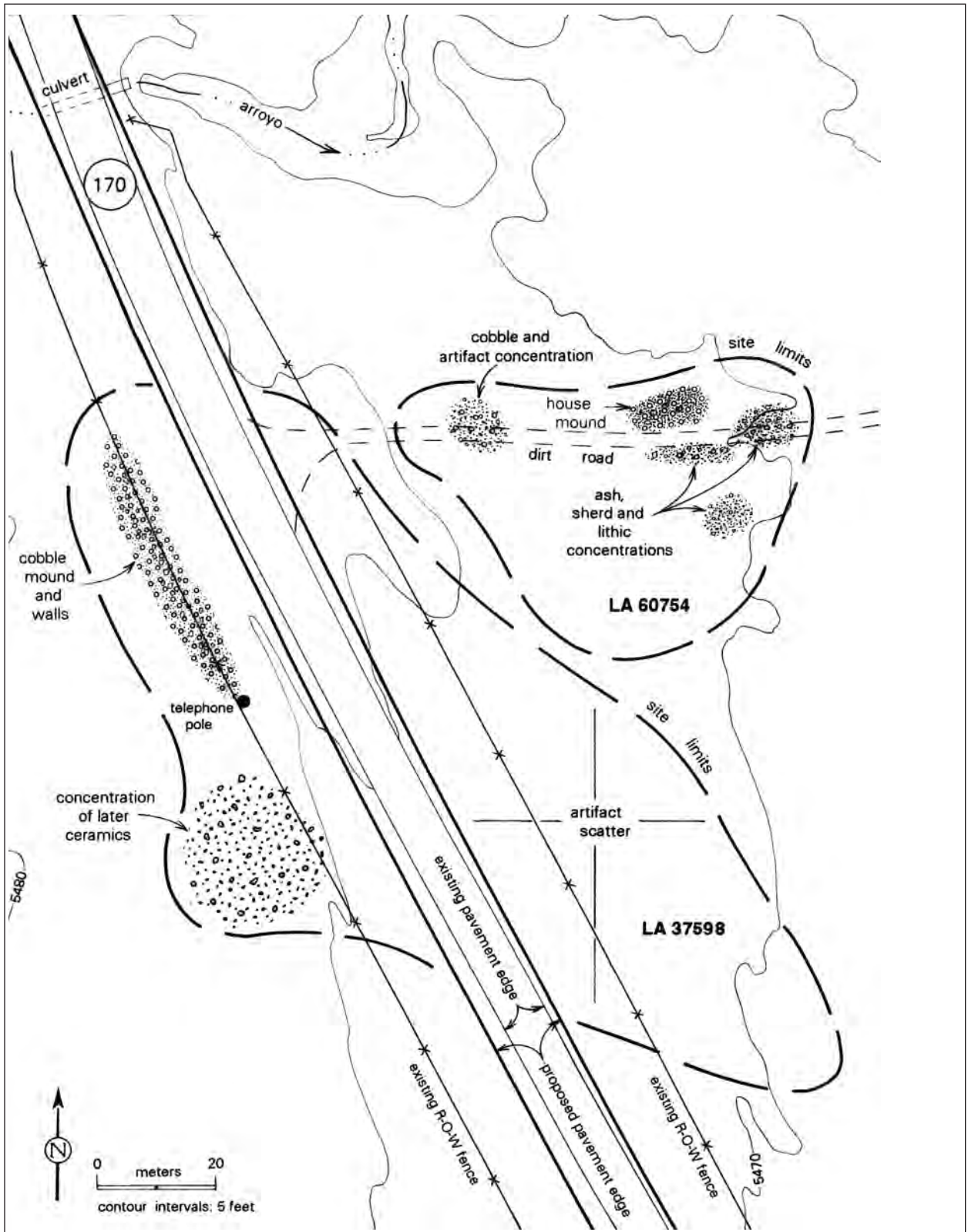


Figure 16.1a. LA 37598, site area map (adapted from OAS survey map, Toll and Hannaford 1997).



Figure 16.1b. LA 37598, site overview, view southeast, pre-excavation.

fence. Although the grids east of the highway were collected as 12 by 12 m grids, much of each grid in the 72E tier was covered by the highway pavement. In generating the surface material maps, exposed areas of the 72E grids were estimated in calculating surface densities. Areas of the partial grids range from 48 sq m at 62N/72E to 6 sq m at 134N/72E. Generally the surface material maps for the other sites are in terms of ceramic and lithic counts, but given the differences in collection unit size, the LA 37598 maps are in artifact density per square meter (Fig. 16.3).

The southwest corner of the site was designated as point 50N/50E. A brass cap directly to the east on the right-of-way line was designated 50N/56E. A site datum was placed 5 m outside the right-of-way at 126N/45E and assigned an arbitrary elevation of 10 m. Subdatums were established as needed during the excavation and tied into the original datum.

A series of 1 by 3 m test units were dug in the area of a visible cobble mound to define Roomblock 1, and the fill was removed in arbitrary 10 cm levels. Once the walls were defined for Roomblock 1, Room 101 was excavated as a discrete unit. The room was

trenched inside along one wall to obtain a profile of its interior fill, and the rest of the fill was taken out in natural layers. A similar strategy was employed for Room 104 but implemented only after most of the interior fill had been removed in 1 by 3 m units. Excavation of the other three rooms in Roomblock 1 continued with 1 by 3 m trenches based on the grid. Extramural areas in association with Roomblock 1 were also cleared by 1 by 3 m excavation units. Although an effort was made to stop levels at the same depths, some discrepancies resulted from this system. Grids falling in the area of the rooms were assigned to a “roomblock” provenience prior to identification of specific rooms.

Surface stripping of 1 by 3 m and 4 by 4 m units was used to define Roomblock 2. Once the walls were defined, each room was excavated as a discrete unit in the manner already described for Room 101.

Pit Structure 1 was also defined with 1 by 3 m excavation units. A portion of the fill was removed as a control sample in 10 cm levels. The remaining fill was removed as a single unit to in 10 cm of the floor. A similar strategy was employed in the excavation of Pit Structure 2. This differed, however, in



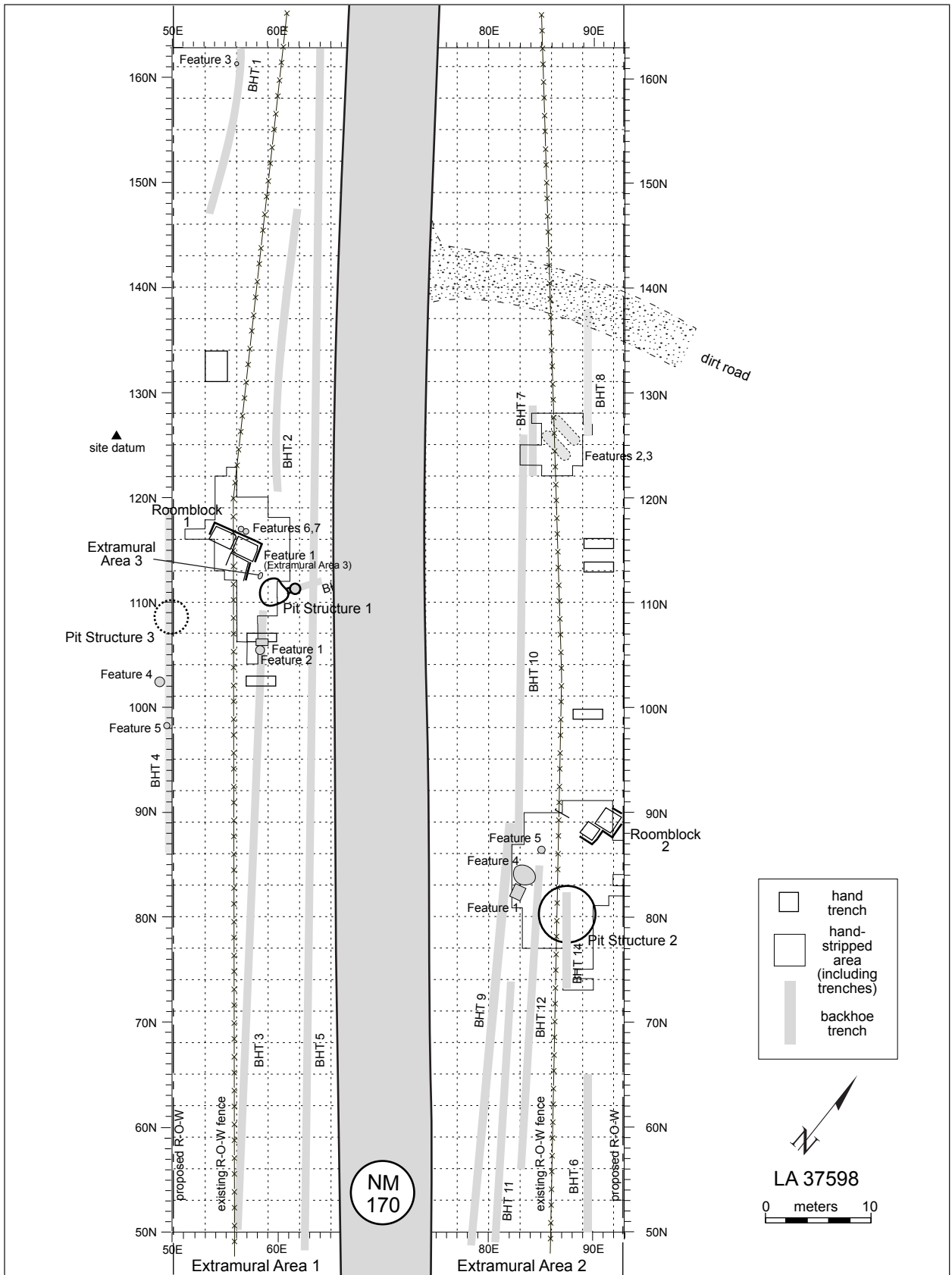


Figure 16.2. LA 37598, plan.

Table 16.1. LA 37598, proveniences and associated time periods.

Unit	Definition	Age
Modern surface (east)	area east of highway	ceramics mainly Pueblo II, but badly mixed
Modern surface (west)	area west of highway	Pueblo II–III mixed, AD 900–1000, 1100–1300
Historic disturbance (east)	area affected by recent activity	Pueblo II–III mixed, AD 900–1000, 1100–1300
Historic disturbance (west)	area affected by recent activity	Pueblo II–III mixed, AD 900–1000, 1100–1300
Undisturbed post-occupational fill	east of highway	small ceramic sample, Pueblo II based on associated architecture
Undisturbed post-occupational fill	west of highway	Middle Pueblo II, AD 1000–1100
Roomblock 2	includes Room 202 and associated features	small ceramic sample, general Pueblo II based on associated architecture
Pit Structure 2, Floor 1	includes all floor features	Middle Pueblo II, AD 1000–1100
Major storage cist	both rooms of subsurface structure	small ceramic sample is Pueblo II or Pueblo III, AD 900–1300, Pueblo II based on associated architecture
Extramural Area 2 features	small fire pit east of highway	general Pueblo II, AD 900–1100
Roomblock 100	general roomblock wall fall	ceramically Pueblo II–III mixed, Pueblo III based on associated architecture
Extramural Area 1 features	mealing bin and roasting pit	Middle Pueblo II, AD 1000–1100
Extramural Area 3 features	pit predating both Roomblock 100 and pits	Early to Middle Pueblo II, based on stratigraphic context
Room 101, Floor 1	plan surface, no features	no ceramics, but general Pueblo III based on stratigraphy
Room 101, Layer 2	cist located between floors	Pueblo III based on stratigraphy
Room 101, Floor 2	includes associated features	Pueblo III, AD 900–1300, based on both ceramics and stratigraphy
Room 102, Floor 1	includes associated features	Pueblo III, AD 900–1300, based on both ceramics and stratigraphy
Room 102, Floor 2	includes associated features	Pueblo III, AD 900–1300, based on both ceramics and stratigraphy
Room 103, Floor 1	includes associated features	Pueblo III, AD 1100–1300, based on both ceramics and stratigraphy
Room 103, Floor 2	includes associated features	Pueblo III, AD 1100–1300, based on both ceramics and stratigraphy
Room 104, Floor 1	includes associated features	Pueblo III, AD 1100–1300, based on both ceramics and stratigraphy
Room 105, Floor 1	small remnant	Pueblo III, AD 1100–1300, based on associated architecture
Pit Structure 1, Floor 1	includes associated features	Late Pueblo II, AD 1075–1125
Pit Structure 3, fill	not excavated	Pueblo II or Pueblo III, AD 900–1300, small sample

that once the control sample was completed, the remaining fill was removed mechanically by backhoe rather than by hand. The control samples from Pit Structures 1 and 2 were screened through 1/4-inch wire mesh hardware cloth. Also screened were the 10 cm thick floor fill layers and a 10 cm bench contact layer in Pit Structure 2. The remaining pit structure

fill was not screened. Pit Structure 3, outside the new right-of-way and defined in a backhoe trench, was not excavated.

Several backhoe trenches were placed through portions of the site to locate features, which were then excavated. Nonrandom exploratory 1 by 3 m trenches were placed in areas of possible cultural ac-

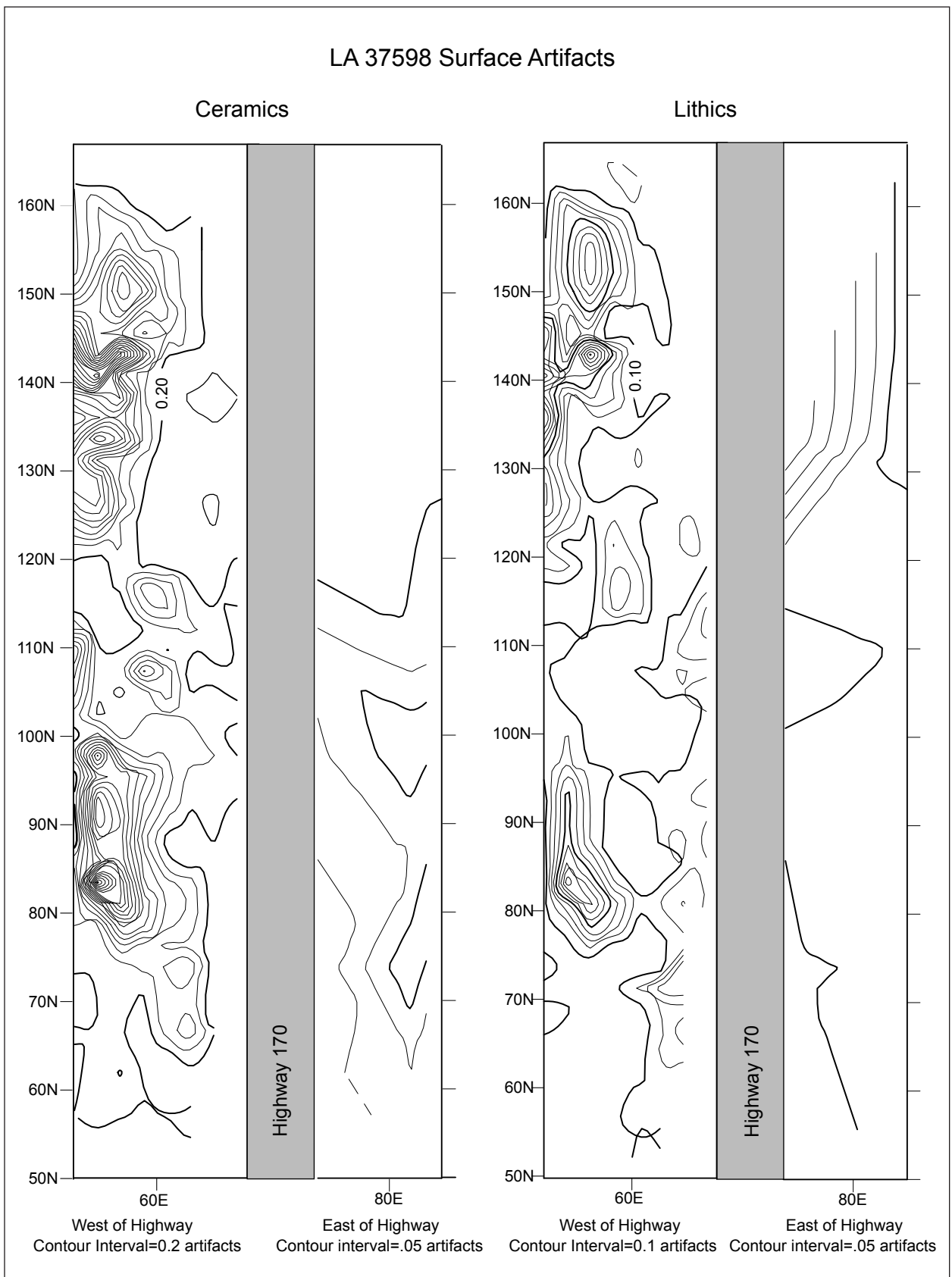


Figure 16.3. LA 37598, surface collection area, distribution and density, ceramics and lithics.

tivity containing concentrations of surface artifacts. Areas between features were explored with additional excavation units. Rock from most excavation units was sized and counted to assess construction methods. Auger holes were placed in the bottoms of test trenches and excavation units to confirm that culturally sterile deposits had been reached.

Arbitrary levels were designated “levels,” and areas excavated in definable stratigraphic units were designated “layers.”

## EXCAVATION RESULTS

The following discussion of LA 37598 is spatial, based on the occurrence of features and structures in test trenches and backhoe trenches as defined by the provenience system. Given the multicomponent nature of the site, this approach was felt to be more logical than a site description based on temporal affiliation.

### EXTRAMURAL AREA 1

Extramural Area 1 contains grids with east coordinates below 72 (Fig. 16.2). Five backhoe trenches (numbers 1–5) were dug across the western

portion of LA 37598 to find features and structures not discernible from the present ground surface (Table 16.2). All five of these backhoe trenches had a north–south grid orientation. Cultural features were found in three of the five trenches.

Backhoe Trench 1 (147.80N/53E) was dug in an area of charcoal staining. This charcoal was found to extend 8 m south and thicken to 30 cm at 148N/53E. Backhoe Trench 1 exposed one feature, a fire pit (Feature 3). Backhoe Trench 3 (50N/56E) revealed two roasting pits (Features 1 and 2). Backhoe Trench 4 (86N/49E) exposed a burned pit structure (Pit Structure 3) and two additional features, a pit (Feature 4) and a fire pit (Feature 5). Reduction of the right-of-way removed the features in Backhoe Trenches 1 and 4 from the project area. No other cultural material was observed in Backhoe Trenches 2 and 5.

Backhoe Trench 13 was oriented east-northeast and west-southwest. This backhoe trench was dug to help define Pit Structure 1. The same depositional sequence was visible in all the backhoe trenches on this portion of LA 37598, with only slight variations in texture and color. Four horizontal strata of fine to medium alluvial material of varying thickness were present, representing different depositional episodes.

Rippling surfaces and vertical breaks between

Table 16.2. LA 37598, Extramural Areas 1 and 2, backhoe trenches; summary table.

Backhoe Trench	Grid Location	Length (m)	Orientation	Features
<b>Extramural Area 1 (West)</b>				
1	147.80N/53E	16.0	North–South	–
2	121N/59E	26.0	North–South	–
3	50N/56E	59.0	North–South	Extramural Area 1, features
4	86N/49E	33.0	North–South	Pit Structure 3
5	47N/62E	114.5	North–South	Pit Structure 1
13	110N/61E	3.5	East–West	Pit Structure 1
<b>Extramural Area 2 (East)</b>				
6	50N/89E	15.0	North–South	–
7	122N/84E	7.0	North–South	–
8	126N/89E	12.0	North–South	–
9	48N/78E	41.0	North–South	Extramural Area 2, Features 1 and 4
10	87N/82.8E	39.0	North–South	–
11	48.5N/80.5E	23.5	North–South	–
12	56N/83.3E	32.0	North–South	–
14	75N/87E	9.5	North–South	Pit Structure 2, clearing

some of these alluvial deposits marked prehistoric current and channel activity associated with alluvial fan deposition. Visible in Backhoe Trench 1 was a coarse sand and gravel deposit marking a watercourse that cut through several layers of alluvium before itself becoming filled in. This is an earlier incarnation of a currently existing drainage associated with an alluvial fan to the north of LA 37598 and running perpendicular to the river.

### Test Units

Several test units were excavated in Extramural Area 1 to define the extent of Roomblock 1 and expose and define extramural features that might be associated with it (Fig. 16.2). This included features exposed by the backhoe trenches. Materials found in these tests are summarized in Table 16.3.

Trench 103N/57E (1 by 3 m) was placed south of Roomblock 1 to define two features exposed in Backhoe Trench 3. The trench was hand excavated to a depth of 40 cm. The four levels contained charcoal and artifacts in decreasing quantities. The upper portions of both features (mealing bin, Feature 1; and pit, Feature 2) were defined at a depth of 40 cm below the present ground surface. Very little pollen was associated with the mealing bin, but corn was represented. There was no evidence of any intact surface associated with the two features.

Trench 106N/57E (1 by 3 m) was excavated to look for cultural deposits or features in the area between Features 1 and 2, and Roomblock 1. The trench was dug to a depth of 20 cm revealing material similar to that in trench 103N/57E. Artifacts

were present (Table 16.3), but no features or surfaces of any kind were found.

Two trenches at 112N/59-60E and 115N/59E (1 by 3 m each) were dug to define the east edge of the cultural area that included Roomblock 1. Both trenches were dug to a depth of 30 cm. The sandy soil contained cobbles, charcoal, and artifacts in small numbers (Table 16.3). Except for a diminishing artifact occurrence at lower levels, no soil change was recorded. Earlier highway scraping along the east side of the cobble mound was apparent in trench 112N/60E. The east portion of the roomblock had been scraped away, causing the remaining portion to slump toward the east. An intact area of floor in Room 102 was exposed in the south part of trench 112N/59E, and an intact portion of floor in Room 105 was exposed at the north end of the same trench. Two small disarticulated human bone fragments were found in this area.

Trench 116N/58E (1 by 4 m) was placed along the east north-south wall of Roomblock 1 to find any additional rooms that might be present in this area. The modern ground surface slopes downward toward the north and east away from the roomblock in this area. Trench fill consisted of 20 cm of wall fall that had slumped toward the east, overlying 10 cm of multiple sand and clay lenses containing few artifacts that covered a floor in Room 105. A short segment of wall extended 70 cm north of Room 101. Although this wall stub seemed to indicate the presence of another room, none was found.

Three trenches at 117N/55-57E (1 by 3 m each) were dug along the north wall of Roomblock 1 to

Table 16.3. LA 37598, Extramural Area 1, test units; ceramics, chipped stone, and ground stone counts by unit and artifact type.

Grid Location	Unit Size (m)	Ceramic Artifacts			Chipped Stone Artifacts						Ground Stone Artifacts			
		Gray	White	Total	Debitage	Core	Utilized	Drill	Hammerstone	Total	Mano	Metate	Axe	Total
103N/57E	3 x 1	63	6	69	22	3	–	–	–	25	–	–	–	–
106N/57E	3 x 1	10	–	10	7	–	–	–	–	7	–	–	1	1
112N/59-60E	3 x 2	28	15	43	32	1	3	1	–	37	–	–	–	–
116N/58E	4 x 1	43	10	53	15	–	–	–	2	17	1	–	–	1
117N/55-57E	3 x 3	66	38	10	32	4	2	–	2	40	4	1	–	5
118N/55E	1 x 2	17	1	18	2	–	–	–	–	2	–	–	–	–
120N/55E	3 x 1	19	4	23	12	–	–	–	–	12	–	–	–	–
131N/54E	3 x 2	215	79	29	129	2	10	–	3	144	1	1	–	2
<b>Total</b>		<b>461</b>	<b>153</b>	<b>61</b>	<b>251</b>	<b>10</b>	<b>15</b>	<b>1</b>	<b>7</b>	<b>284</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>9</b>

Pendant from 131N/54E not shown.



define the wall and find surfaces and features that might exist to the north. The modern ground surface slopes gently downward toward the north on this side of the roomblock. These trenches revealed eolian deposition over wall fall. Two pits (Features 6 and 7) were exposed in trench 117N/56E at a depth of 20 cm. The upper portions of both features and any associated surface were no longer present. The material containing these two features abutted the north wall of Roomblock 1.

Trench 118N/55E (1 by 2 m) was dug to follow wall fall exposed in 117N/55E. Three 10 cm levels of cobble and mortar wall fall were excavated but not screened, with the base of the wall fall designated the base of Level 3. The material below these levels sloped downward toward the north and was culturally sterile.

Trench 120N/55E (1 by 3 m) was dug to a depth of 10 cm, exposing cobble masonry and clay wall fall.

Trench 131N/54E (2 by 3 m) was placed in an area of charcoal-stained soil and cobbles. Excavated to a depth of 20 cm, trench fill consisted of ashy soil containing pockets of coarse sandy soil and a high number of artifacts. The artifact assemblage included two pieces of ground stone, a two-hand *mano* fragment, and a lapidary stone.

A number of areas excavated on the east and northern periphery of the cobble mound proved to be outside the area of the roomblock. Artifacts encountered in the upper material of these trenches formed part of the peripheral surface scatter associated with the roomblock. No additional features or cultural deposits were found.

### Features (Extramural Area 1)

We recorded the following features in Extramural Area 1 at LA 37598 (Figs. 16.2, 16.4; Table 16.4):

**Mealing bin (Feature 1).** Feature 1 is 5 m south of Roomblock 1 and Pit Structure 1. A portion of the feature was removed in Backhoe Trench 3. The clay-lined walls were straight and constructed of upright slabs of sandstone encased in clay mortar. Wall thickness was 5 to 10 cm. The feature was excavated into the original ground surface, and the main mealing bin portion was 55 cm deep. No metate was present in the mealing bin. The bottom of the bin sloped down to a catchment basin. This basin measured 45 by 45 cm and was 30 cm deeper than the

bin itself. The base of this catchment basin was an inset slab base. The feature was oriented true north-south, with the catchment basin on the south.

Sometime after the use of Feature 1 as a mealing bin, the metate was removed. The feature was then reused as a roasting pit or fire pit, and the walls and base became heavily oxidized.

Though five strata were defined for this feature during excavation, only three distinct strata of feature fill were present in Feature 1. Layer 1 was a dark ashy clay approximately 10 cm thick, just in the top of the feature, containing sherds and lithic artifacts. Layer 2 was clean sandy soil 10 cm deep and possibly eolian in origin, containing only one sherd and one flake. Layer 3 filled the rest of the feature, including the catchment basin. This layer (Layer 3), which had experienced some rodent disturbance, was a sandy soil containing substantial amounts of charcoal. Sherds, lithic artifacts, and fragments of burnt sandstone were present in Layer 3.

Artifacts recovered from the mealing bin include ceramics, ground stone, and lithic artifacts. Twelve ceramics were recovered from four fill units of this feature, including a rodent-disturbed area. Of these, three sherds are polished white ware, eight are corrugated gray ware, and one is plain gray ware; all are from jars. The feature was dated to the Mid Pueblo II period (AD 1000–1100) by the ceramics and its association with Pit Structure 1, to the north. Five lithic artifacts were recovered from this feature, all debitage core flakes. Materials include chert, silicified wood, and quartzite. The pollen sample from this feature contains very little pollen, though corn was present. Piñon, juniper, and willow/cottonwood wood fragments were present, as were *Physalis* and sage remains, but there is little evidence of that cultigens were processed.

**Roasting pit (Feature 2).** Feature 2 was south of Roomblock 1 and Pit Structure 1 and 80 cm south of Feature 1. The east side of the feature was removed by Backhoe Trench 3. Feature 2 was configured as a circular cobble and rock masonry wall 65 cm deep, with an average wall thickness of 10 cm. The feature had a rounded base lined with small cobbles. The total interior of Feature 2 was heavily oxidized, except for the base.

Feature fill consisted of a single stratum layer of sandy clay containing ash, charcoal, and ceramics. Alternation in the amounts of clay in the stratum

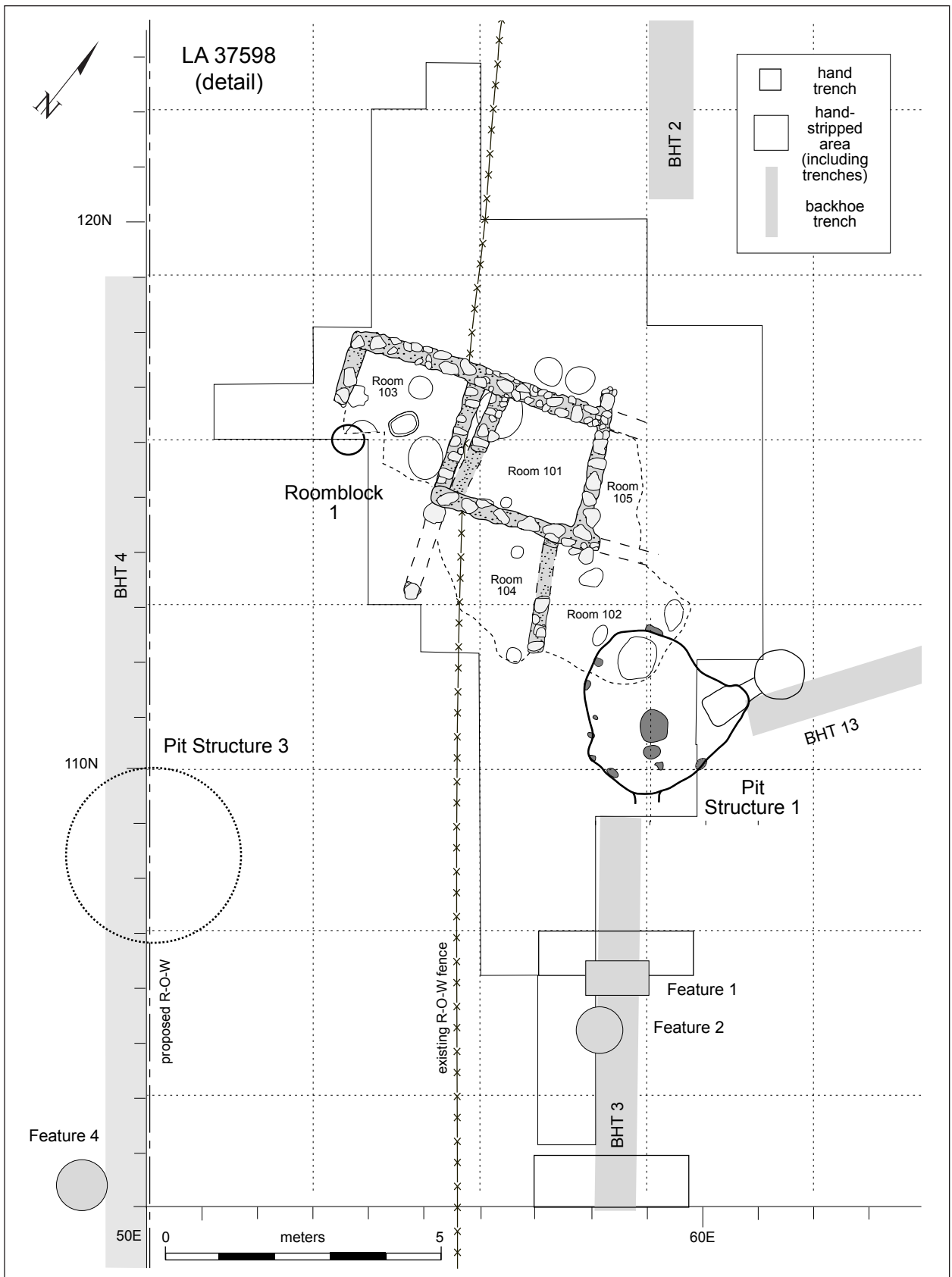


Figure 16.4. LA 37598, Extramural Areas 1 and 3 (west of NM 170), detail: Roomblock 1 and Pit Structures 1 and 3, plan.

Table 16.4. LA 37598, Extramural Area 1, Features 1–7; summary table.

Feature	Grid Location	Length (cm)	Width (cm)	Depth (cm)	Volume (l)	Shape	Comments
1 (mealing bin)	106N/58E	1.45 m	40.0	55.0	250.5	rectangular	secondary use as fire pit; 12 sherds, 5 flakes
2 (roasting pit)	105N/58E	80.0	40.0	80.0	201.0	circular	26 sherds, 13 flakes, 1 core
3 (fire pit)	161N/56E	25.0	–	20.0	–	–	not excavated
4 (pit)	102N/48E	80.0	–	60.0	–	–	not excavated
5 (pit)	98N/49E	45.0	–	20.0	–	–	not excavated
6 (pit)	116N/57E	30.0	30.0	6.0	4.2	cylindrical	upper portion may be gone
7 (pit)	116N/57E	30.0	30.0	7.0	4.9	cylindrical	upper portion may be gone

suggested alluvial filling. A number of cobbles and 17 angular pieces of rock, some of it oxidized, were in the fill. The rock and cobbles were concentrated in the lower third of the feature's fill. It appeared that some of the rock was from collapse of one side of the pit before or during natural filling.

A total of 26 sherds were collected from the fill of this feature. Of these, 5 are Mancos Black-on-white, 1 is Pueblo II black-on-white, 2 are Pueblo II–III black-on-white, and 18 are corrugated gray ware. A core and 13 flakes were also in the feature fill.

A 1 by 1 m trench (105N/57E) was dug along the western edge of Feature 2 to expose the outside of its masonry construction. This revealed that Feature 2 had been constructed as an excavated hole, dug to the desired depth and shape and then lined with masonry.

Although there was no evidence of an actual surface associated with Features 1 and 2, their proximity and corresponding upper depths suggest they were contemporary with each other. A reconstructed original ground surface depth also makes both features contemporary with Pit Structure 1. This would date Feature 2 to the Mid Pueblo II period (AD 1000–1100), a conclusion supported by the ceramics.

**Fire pit (Feature 3).** Feature 3 was a small fire pit north of Roomblock 1 near the north edge of the site. This feature was exposed in Backhoe Trench 1, visible at a depth of 5 cm below the modern ground surface. Feature fill consisted of oxidized sand with an associated charcoal layer, probably representing short-term use, or a single period of use. This feature was not excavated.

**Pit (Feature 4).** Feature 4 was south of Pit Structure 3 on the western edge of the site. This

feature was exposed in Backhoe Trench 4. Feature fill was composed of a sandy soil containing charcoal and ceramics, and including a number of cobbles and pieces of rock. Some of this rock was fire-red-dened. However, burning does not appear to have occurred in the feature itself. The top of the pit was visible in the backhoe trench profile extending to the modern ground surface, although it was not visible on the ground surface. Feature 4 was not excavated.

**Fire pit (Feature 5).** Feature 5 was a fire pit south of Pit Structure 3 and 2 m south of Feature 4. This feature was exposed in the western wall of Backhoe Trench 4. It was constructed of rock and cobble masonry, like features at other sites in the La Plata Valley. The rock and cobble masonry had been heavily oxidized. The top of the feature was 30 cm below the present ground surface. No artifacts were visible in the exposed portion of the feature. Feature 5 was not excavated.

**Pit (Feature 6).** Feature 6, a pit, was 1 m north of Roomblock 1. The feature was dug into a soil layer that abuts the north wall of Roomblock 1, postdating the roomblock's construction. The feature appeared in profile as a shallow basin-shaped depression, the upper portion of which was no longer present. It had one layer of fill consisting of sand with a small amount of charcoal. One piece of ground stone, a metate fragment also used as an abrading stone, was in the fill. Feature 6 is associated with the later use of Roomblock 1. Dating by association with the roomblock suggests a date in the later part of the Pueblo III period (AD 1100–1300).

**Pit (Feature 7).** Feature 7 was a pit to the north of Roomblock 1, adjacent to Feature 6. This pit was in the same soil deposit as and probably contem-

porary to Feature 6. Feature 7 was another shallow basin-shaped depression pit remnant, the upper portion of which was gone. A single stratum of fill was present in this feature, formed of a very sandy soil containing substantial amounts of charcoal and a small number of sherds. A small portion of the feature's wall was oxidized, indicating a degree of burning occurred in it. The second use of the feature was as an expedient fire pit.

The feature's association with Feature 6 and Roomblock 1 suggests a date in the later Pueblo III period (AD 1100–1300). The location of these two features in deposits postdating Roomblock 1 wall construction, but during roomblock occupation, ties them into the later period of site occupation. Any use-surface associated with Features 6 and 7 was removed with the upper portions of both features.

### EXTRAMURAL AREA 3

Extramural Area 3 at LA 37598 was the ground surface predating the construction of Pit Structure 1 and Roomblock 1 (Fig. 16.2). One feature, a pit (Feature 1), is associated with this surface (Table 16.5). Feature 1 is partially beneath Room 102, Roomblock 1. Only a slight remnant of Feature 1 remains, the rest having been removed by Pit Structure 1. The east wall of Room 102 originally extended across the top of this feature. Feature 1 was a simple pit dug into culturally sterile soil. The remaining walls were straight and originally had a rounded base. This pit contained a single stratum of fill, a laminated sandy soil containing some charcoal but no artifacts.

There were substantial botanical remains in this feature. Charred corn (maize) kernels were present, as well as burned and unburned seeds from purslane, goosefoot, and pigweed.

Feature 1 originated at the ground surface contemporary with Pit Structure 1. This suggests the pit only slightly predates the pit structure. The architectural association of this feature, predating Room

102 and slightly predating Pit Structure 1, suggests a date of Early or Mid Pueblo II (Table 16.1).

### ROOMBLOCK 1

Roomblock 1 at LA 37598 is 4 m northeast of Pit Structure 3 and 40 m northwest of Pit Structure 2, in the west central portion of the site (Figs. 16.2, 16.4, 16.5). The roomblock is built partially over Pit Structure 1. Extensive modifications to Roomblock 1 have occurred from highway maintenance on the east side of the roomblock. The western portion of the roomblock had been modified by agricultural and ranching activity. The roomblock had been driven over a number of times, possibly during fence maintenance. To the northwest of Roomblock 1 was an extensive cluster of cobble mounds that also includes several possible pit structure depressions. These cobble mounds formed an extension of LA 37598 outside the project limits and were not excavated.

The roomblock is on a slight rise that may be composed of earlier cultural deposition. Walls were constructed directly on this original sloping ground surface; the interior areas were then dug out to even and lower the floor of each room. At the time of excavation, Roomblock 1 contained one intact room and portions of four additional rooms (Figs. 16.5, 16.6, 16.7, 16.8). The rooms are constructed in a double row, front and back, oriented to the southwest-northeast. The existing construction is a mixed cobble and rock masonry, with some variation exhibited in construction style across the roomblock. Cobbles form most of the construction material, varying considerably in size across the roomblock. Angular rock is also present in wall construction, primarily angular unmodified pieces of sandstone or conglomerate. No shaped or dressed stone was found in either the remaining portions of the roomblock's walls or the associated wall fall. Clay mortar served to bond the stone and cobble masonry.

Table 16.5. LA 37598, Extramural Area 3, Feature 1; summary table.

Feature	Grid Location	Length (cm)	Width (cm)	Depth (cm)	Shape	Comments
1 (pit)	112N/57E	43.0	20.0	27.0	cylindrical	cut by Pit Structure 1

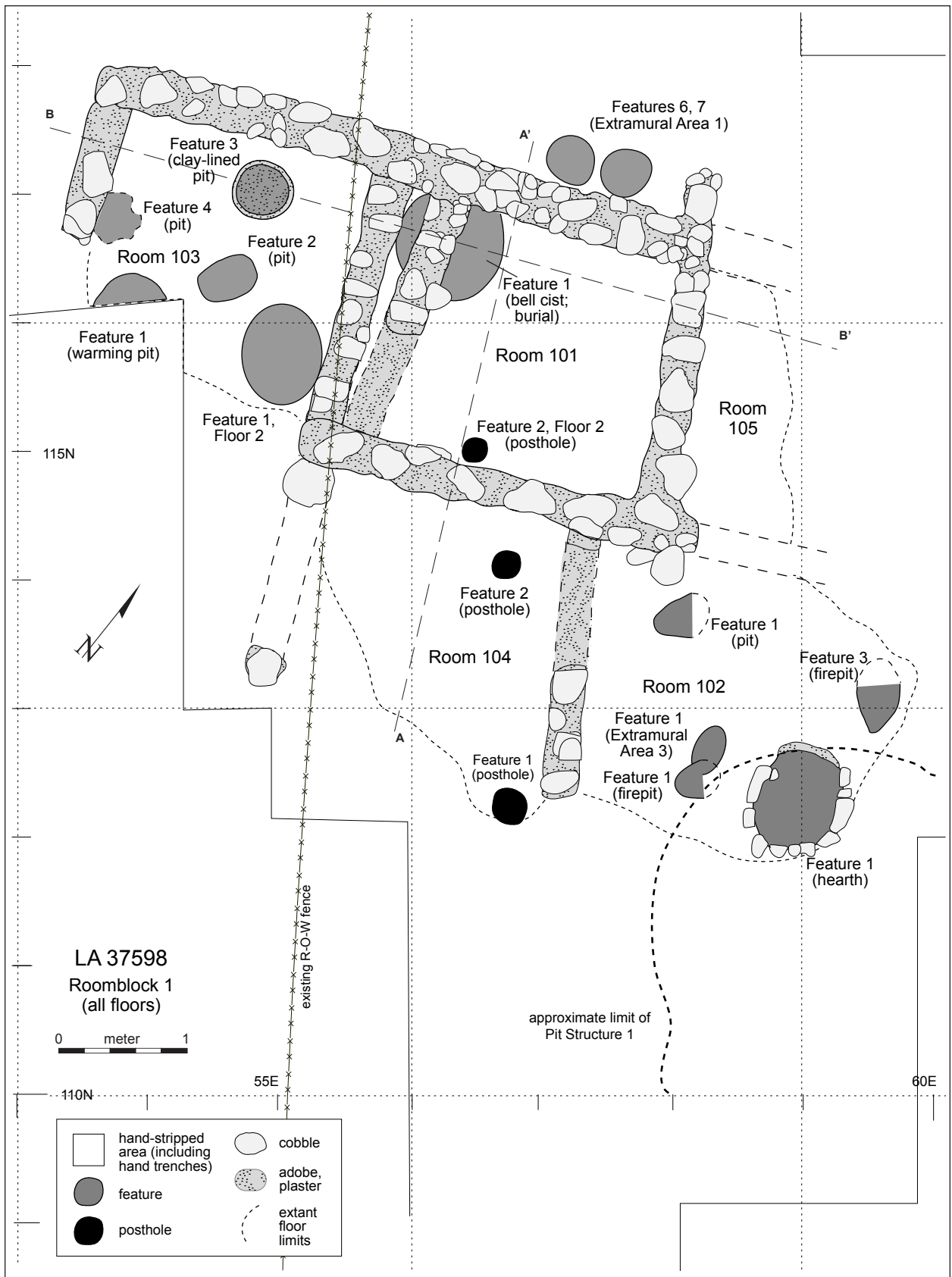


Figure 16.5. LA 37598, Extramural Areas 1 and 3, Roomblock 1, plan.





Figure 16.6. LA 37598, Roomblock 1, Room 101, view southwest.

The remnant of Room 105 suggests that additional rooms may have been present on the east side of the roomblock. These rooms may have been removed during earlier highway construction. The abutted northwest corner of Room 103 suggests that at least one additional room may have been present to the west. All existing walls in Roomblock 1 were limited to their base courses. No indication of door placement was evident for any of the rooms in Roomblock 1. Any doorways that may have existed were probably one or two courses above the base course of the walls.

A series of trenches were excavated on the roomblock to define walls and locate rooms. Most these trenches measured 1 by 3 m, although a few

measured 1 by 4 m, 2 by 2 m, and 1 by 1 m. One intact room (Room 101) and portions of four other rooms were defined (Rooms 102–105). One of Lancaster’s 1982 test trenches (Test Trench 1) was also found (Lancaster 1983:42).

Once defined, Room 101 was dug as a discrete unit. A trench was placed along the inside north wall and dug in arbitrary 10 cm levels to define the room’s interior stratigraphy. Defined layers were then individually removed. Room 102 was excavated in a similar fashion, with a trench placed along the inside of the room’s western wall, but only after partial removal of the fill. Rooms 103–105 were excavated in 1 by 3 m trenches dug across the rooms. Features were present in all but Room 105.



Figure 16.7. LA 37598, Roomblock 1, Rooms 101, 103, 104; view north.

### Room 101

Located on the north side of Roomblock 1 at LA 37598, Room 101 was the only intact room in Roomblock 1 (Figs. 16.2, 16.5, 16.9). Once the walls of Room 101 were defined, a trench 50 cm wide was excavated along the inside of the north wall. This trench was dug in eight arbitrary 10 cm levels, and a profile of the room's exposed interior stratigraphy was drawn. The rest of the fill was then excavated in natural strata.

Two floors and two features were found in Room 101 (Figs. 16.5, 16.8). Floor 1 was 1.9 m long and 2 m wide, an area of 3.8 sq m; Floor 2 was 2.4 m long and 2 m wide, an area of 4.8 sq m.

One major remodeling episode was found to have occurred, possibly in connection with the construction of Floor 1. This involved moving the western wall 50 cm to the east, reducing the length of the room. A bell-shaped cist in the room's northwest corner was found to have been dug into the fill between the two floors during a hiatus in room use, cutting the earlier Floor 2. A child burial was found in the fill of this cist. The lack of many internal features,

particularly a hearth, combined with the room's location in "back," suggests it served as a storage area. The presence of an unusual artifact assemblage, including a pair of small special-function "manos," two tchamahias, a sandal last/pallet, and a child burial in the cist mark this room as a special location.

### Stratigraphy

Four strata of fill in Room 101 represented the sequence of processes that occurred during and after room occupation.

Layer 1 was an irregular deposit of rock and cobble wall fall. This material covered most of the cobble mound's surface prior to excavation. Most of Layer 1 was stripped from Room 101 when the walls were defined.

Layer 2 was a medium sandy soil containing some clay, pieces of rock, and artifacts. This layer, a combination of structural material and eolian deposition, was 1 to 2 cm thick and rested directly on Floor 1.

Layer 3 was a fine-textured sand containing some charcoal and artifacts. This material was 37 cm to 40 cm thick and extended from Floor 1 to

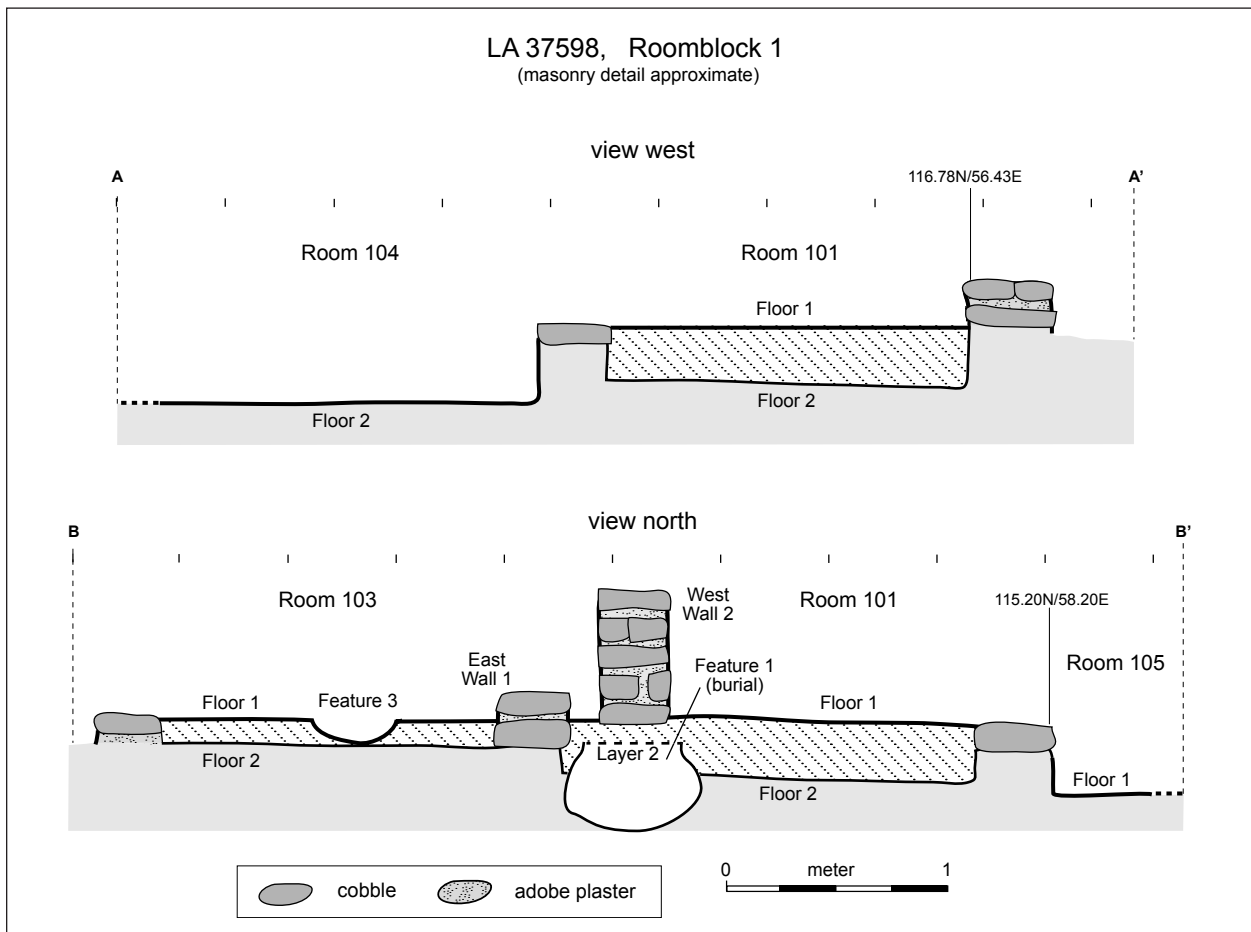


Figure 16.8. LA 37598, Roomblock 1, profiles; top: view west (Room 101, 104), bottom: view north (Room 101, 103, 105).

Floor 2. A large bell-shaped cist had been dug in this stratum before the construction of Floor 1. Layer 3 was intentional structural fill, presumably related to the construction of Floor 1 and possibly the shifting of the western wall.

Layer 4 was a fine eolian sand beneath Floor 2 containing some charcoal but few artifacts. This material was 25 cm thick and extended to a depth of 25 cm, ending on a well-prepared sooty surface pre-dating the roomblock.

### Walls

The four walls of Room 101 varied in their degree of preservation (Table 16.6). Wall construction originally enclosed the area of Rooms 101 and 103, and the walls were constructed as a single unit directly on the original ground surface. This interior space was then divided into Rooms 101 and 103 with the construction of a north-south wall.

The area enclosed by the walls of Room 101 was then dug out, lowering the room's interior, ranging in depth from 10 cm to 35 cm. Wall construction consisted of rock and cobble masonry bonded with clay mortar. Of the rock and cobble involved in wall construction, the majority was cobbles. The small amount of rock used in construction consisted of angular pieces of sandstone and conglomerate. None of the rock was shaped prior to construction. The coursing of the walls was somewhat irregular. Rock and cobbles were loosely packed, and at least in the lower portions of the walls, large amounts of clay mortar were used. One major remodeling episode involved Room 101. The western wall was moved 50 cm to the east between the use of Floors 1 and 2. A section of the north wall was also rebuilt.

North wall. The north wall was 40 cm thick and constructed of cobble and rock masonry built directly onto an original ground surface. The re-



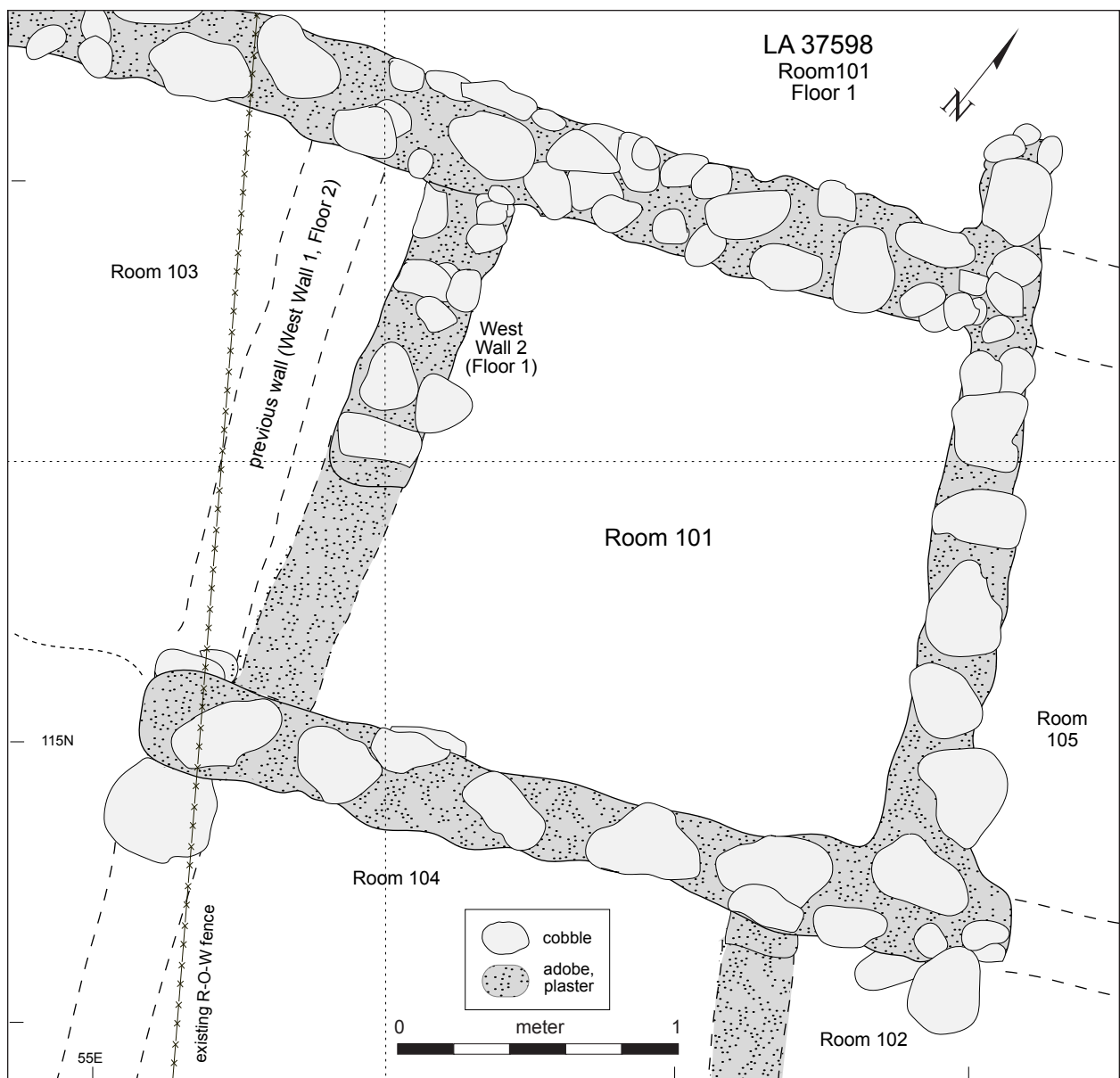


Figure 16.9. LA 37598, Room 101, Floor 1, plan.

maining wall consisted of a single course of masonry, except in the western half. Here a section of the lower wall was removed during construction of a bell-shaped cist (Layer 3, Feature 1). When the wall was rebuilt, settling of the filled cist required the addition of a second course to even the walls base. Most of the existing masonry was an irregular and loosely packed double row of rock and cobbles. A triple row existed in several places, but in no discernible pattern. Rocks and cobbles ranged in size from 10 by 10 cm to 30 by 30 cm. Rock and cobbles used in the rebuilt western section of the wall tend

to be smaller than those of the original construction, although the method of construction is similar.

**East wall.** The east wall of Room 101 was a single course of masonry built directly onto an existing surface. The rock and cobbles averaged 30 by 30 cm. Most of these were loosely placed in large amounts of clay with their long dimensions spanning the thickness of the wall. At the north end of the wall, a double row of smaller, tightly packed rock made up the wall thickness. This formed the juncture with the north wall. The east wall averaged 30 cm thick. An extension of this wall projected 40

Table 16.6. LA 37598, Roomblock 1, Rooms 101–105, wall dimensions.

Wall	Courses	Height (cm)		Length (m)	Thickness (m)	
		minimum	maximum		minimum	maximum
<b>Room 101</b>						
North	2	27.0	48.0	2.40	0.30	0.30
East	1	28.0	28.0	1.90	0.25	0.30
South	1	24.0	43.0	2.40	0.25	0.30
West	1	5.0	5.0	0.70	0.25	0.30
West (remodeled)	1	0.0	7.0	2.00	0.20	0.25
<b>Room 102</b>						
North	1	32.0	32.0	0.80 minimum	0.25	0.30
East	–	–	–	–	–	–
South	–	–	–	–	–	–
West	1	4.0	48.0	1.90	0.30	0.30
<b>Room 103</b>						
North	1	29.0	81.0	2.50	0.30	0.30
East	1	3.0	3.0	0.70	0.25	0.25
East (remodeled)	1	0.0	5.0	2.00	0.20	0.25
South	–	–	–	0.20 minimum	–	–
West	1	23.0	23.0	1.10	0.25	0.25
<b>Room 104</b>						
North	1	25.0	32.0	1.90	25.0	35.0
East	1	1.0	2.0	1.40	30.0	30.0
South	–	–	–	–	–	–
West	–	–	–	–	–	–
<b>Room 105</b>						
North	–	–	–	–	–	–
East	–	–	–	–	–	–
South	1	26.0	46.0	20.0	30.0	30.0
West	1	30.0	30.0	1.90	25.0	30.0

cm to the north of the north wall. Whether this wall stub was ever part of another room is not known. No evidence of additional rooms was found in this area.

**South wall.** The south wall consisted of a single course of mixed rock and cobble masonry. As with the other walls, the south wall was built directly onto an existing surface. The masonry was constructed of large cobbles and angular pieces of rock averaging 30 by 40 cm. Most rocks and cobbles were placed with their long dimensions parallel to the wall length. However, a few pieces of this material were placed with their long dimensions spanning the wall's thickness. This wall varied in thickness from 25 cm to 30 cm. The rock and cobble masonry was loosely laid, with clay mortar forming a larger percentage of this wall than any other wall of this room.

**West wall.** Two different western walls existed for Room 101, each associated with a different floor. The west wall was moved 0.5 m to the east in a remodeling phase between occupational episodes.

**West Wall 1.** The original (or earlier) west wall was constructed of a double row of cobbles of uniform size, tightly set in clay mortar. Several larger pieces of angular rock occurred in the wall, placed with their long dimensions spanning the wall's thickness. The distance between these larger pieces of rock varied from 30 to 60 cm. These pieces of material may have served as reinforcements for wall construction. One course of masonry remains in place for the entire length of the wall. This original west wall was constructed after but at the same level as the other three walls and is above the level of Floor 2.

**West Wall 2.** The upper (or later) version of the



west wall was only partially intact, extending 1.1 m across the west side of the room. Two courses of masonry remained. Little remained of the additional 90 cm of wall except a thin layer of clay from the wall footing. The remaining masonry was a loosely constructed rock and cobble wall incorporating large amounts of clay, except in the area above the earlier occurring cist. The settling of the cist fill required construction of a lower wall footing. This consisted of a short, partial course being laid across the cist prior to actual wall construction. This partial course was composed of cobble and rock masonry like that forming the other walls of the roomblock. This wall was 0.5 m east of West Wall 1; it was even with the existing north wall but higher than the other existing walls of the room.

### Corners

The reduced state of most of the walls made the determination of corner abutments for Room 101 difficult. The north, east, and south walls were built as part of the original roomblock construction, which also included Room 103. The corners between these three walls, though of only one remaining course, were all bonded. The West Wall 1 abutted the north and south walls, indicating its later, separate construction. The remaining portion of West Wall 2 abutted the north wall. Although its south end no longer existed, we assumed that it had the same form of juncture.

### Floors

Two prepared surfaces in Room 101 represented its occupational sequence. Both were identified as floors occurring at distinct breaks in the stratigraphy of the fill. Both floors were continuous across the entire room. One floor feature was found in Room 101—a posthole associated with Floor 2. One feature was also present in the fill layer between the room's two floors. Some disarticulated human bone was in the room's fill, but this may actually have been associated with the child burial in the pre-Floor 1 cist.

#### Floor 1

Floor 1 was a prepared surface occurring at an elevation of 10.14 mbd (northeast), 10.12 mbd (southeast), 10.17 mbd (northwest), and 10.12 mbd (southwest) (Figs. 16.7, 16.8, 16.9). This floor was

identified by a change in the stratigraphy of the fill, appearing as a thin prepared clay surface. The floor's surface was characterized as a clean, light-colored, hard homogenous packed clay. No ash or charcoal was present. Floor 1 ended at the base of all four of the room's walls. No features were found associated with it.

The artifact assemblage from Floor 1, Room 101, is a small but provocative collection. Ground stone items included a complete tchamahia, a shale pendant, and a siltstone sandal last utilized as a palette (Fig. 16.10 [a-d]). The siltstone sandal last measures 186 by 146 by 8 mm and contains five pigment-grinding areas. There are ground depressions on both faces; one face clearly has two depressions, and the other has at least one and probably two. Traces of pigment can be seen on three depressions: pink overlying yellow, white and green on top of red, and red. This is the only sandal last recovered from Jackson Lake, one of two from the La Plata Highway project, and the only one with a toe notch. One of the sandal lasts recovered from Pueblo Bonito is described as having red paint on one face; Judd (1954:282) feels that the artifact was painted, rather than a palette.

A second intact tchamahia was found in an adjacent grid, possibly from this room and possibly from Room 102. Forty tchamahias are represented in the La Plata project assemblage, but most of them are fragmentary. Notably, the only other provenience where intact, classic tchamahias such as these were found was the sealed subfloor ventilator in Pit Structure 1, LA 37600 (Vols. 3-4, this report), which included a vessel with sandal-last forms incised through the coils.

Lithic artifacts from Floor 1 included two pieces of debitage and two pieces of retouched/utilized debitage. Two of the lithic artifacts are chert, and the other two are silicified wood. Also unusual in the assemblage is an oblong artifact recorded as an axe but lacking a sharp bit. Heavily ground along the sides and worn on its pointed end, this artifact could also have functioned as a pestle or a paint-grinding tool. Though not actually tested, the shape and size of the small end of this tool could have been used in the depressions on the sandal-last palette.

A total of 26 ceramic artifacts were recovered from the Floor 1 surface in Room 101, including four Pueblo II-III Black-on-white sherds, two polished Black-on-white sherds, five polished white

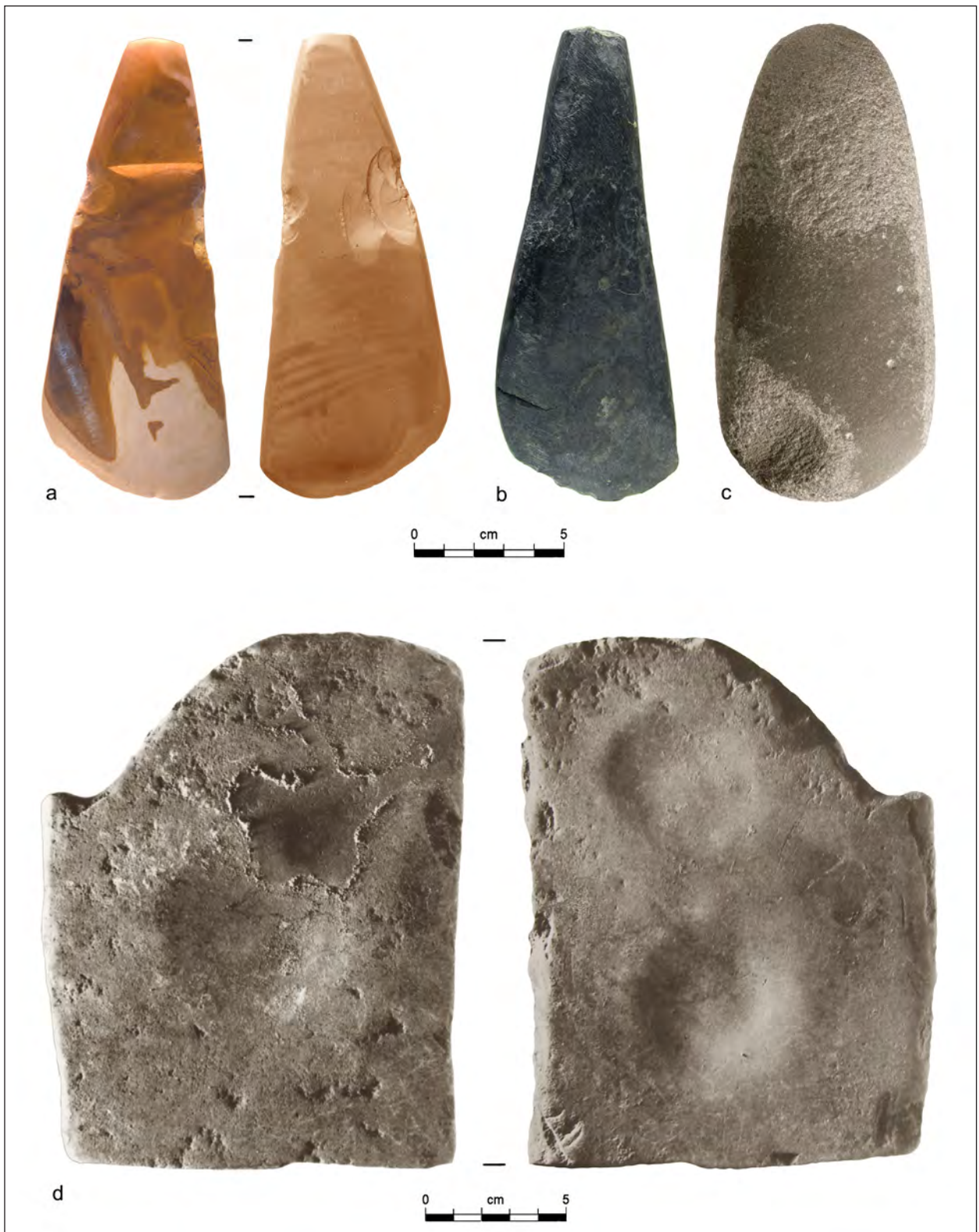


Figure 16.10 [a-d]. LA 37598, Roomblock 1, unusual ground stone tools: a. Brushy Basin tchamahia (MIAC Catalogue 53240/11), from Room 101, Floor 1; b. black siltstone tchamahia, from Room 102, surface stripping; c. possible pestle, from the surface above Room 102. Its shape and location found suggest that this tool could have been used for grinding pigment on "d."; d. two sides of a "sandal last" with concavities and pigment (not visible in this black-and-white photograph) on both faces, from Room 101, Floor 1.

sherds, nine corrugated gray ware sherds, and six plain gray ware sherds.

The number of specialized ground stone artifacts implies that Room 101 was used for storage by a person or persons of extraordinary ability or possessing knowledge of a specialized nature. Whether this involved craft specialization, religious knowledge, or community status is not known. The small lithic artifact assemblage indicates that the room was occasionally used as an activity area. No faunal remains were recovered from the surface of Floor 1.

## Floor 2

Floor 2 was between Layers 3 and 4 in Room 101 (Fig. 16.11). It was a well-prepared surface ending 35 cm below the base of the north, south, and east walls. Floor 2 extended beneath the remodeled western wall segment, abutting 10 cm below the room's earlier west wall. The location and extent of Floor 2 confirms the association of the earlier west wall of Room 101 with the other three walls and Floor 2. Elevations for Floor 2 were 10.43 mbd (northeast),

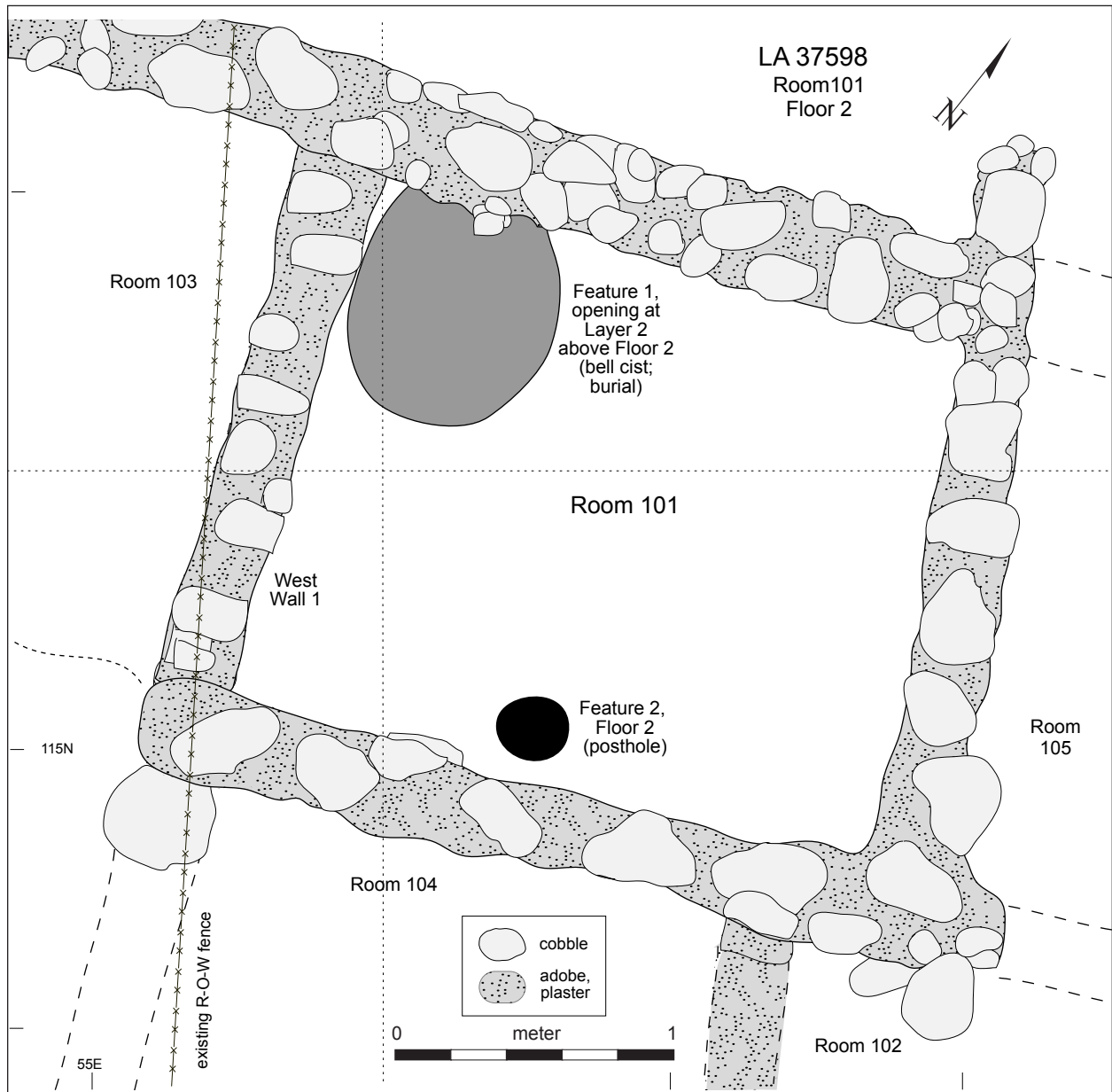


Figure 16.11. LA 37598, Room 101, Floor 2, Features 1 (cist) and 2 (posthole).



10.46 mbd (southeast), 10.40 mbd (northwest), and 0.45 mbd (southwest). A total of 18 ceramic artifacts were found on the surface of Floor 2: 4 Pueblo III Black-on-white sherds, 13 polished white ware sherds, and 1 corrugated sherd. The sherds date to the Pueblo III period. Two manos were also present on the surface of Floor 2.

One posthole, Feature 2, was the only feature found directly associated with this floor (Table 16.7).

### Features (Floor 2)

*Posthole (Feature 2).* Feature 2 was a shallow posthole in the southeast area of Room 101, against the south wall. The fill consisted of a single layer of dark sand containing a small amount of charcoal, five corrugated gray ware sherds, and one plain gray ware sherd.

### Non-Floor Features

*Cist (Feature 1).* A bell-shaped cist was found in the northwest corner of Room 101 (Fig. 16.11; Table 16.7). This feature was dug into Layer 2 (Fig. 16.8) before the creation of Floor 1 and the remodeling of the room's western wall. The cist did not extend past the existing west wall of the room, although its construction did result in the removal of a portion of the north wall. This undermined the north wall but not to the extent that it failed to remain standing. The fill of the cist consisted of a single stratum of dark ashy sand containing charcoal, bits of clay and adobe, and a few artifacts. In spite of the ashy fill, the flotation sample contained only a trace of juniper charcoal.

Nine ceramic artifacts were recovered from Feature 1: one Mancos Black-on-white sherd, one polished white ware sherd, and seven corrugated sherds. Faunal specimens recovered from the feature consist of two bird bones and two small mammal bones. Four lithic artifacts were recovered from the feature's fill: one unidirectional core, one core flake, and two pieces of angular debris.

A child burial was in the fill of the cist (Fig. 16.8). The child was about four years of age at death. The location of the burial and the remaining bone assemblage suggest the remains were articulated, but the small size and fineness of the bones led to extremely poor preservation. No grave goods were found with the burial. These remains are discussed as disarticulated human bone in the report on skeletal biology (Martin et al. 2001). Human bones were in the levels excavated to define the cist and in Layer 1 of the cist. These 65 elements are primarily from the cranium, vertebral column, and ribs, as well as a scapula and an ilium. In the provenience file these elements have been designated as Burial 0.1.

There was no evidence of burning in the cist. The construction of the cist between room uses makes its existence somewhat problematic. Feature use would have been short if the cist was used for any purpose other than as a burial pit. The feature was constructed during a period in which Room 101 was not being used, at least not in a traditional manner.

Any room use ended before the remodeling of the room and the moving of the west wall. The new west wall was at a point directly over the top of the cist. The hole created in the north wall during cist construction was repaired. Floor 1 in Rooms 101 and 103 covered the remaining portions of the cist.

### Summary: Room 101

The excavator identified a third occupation surface beneath the room area, filled by Layer 3. He was quite certain that this surface predated the room. Two corrugated sherds were present in the fill to the surface, and no features were present.

The low number of features and lack of a central hearth in Room 101, combined with its position as a "back" room, suggests it was used for storage. Despite the change in the room's configuration from one period of use to another, indications are that storage remained its primary use. Between the uses

Table 16.7. LA 37598, Room 101, features; summary table.

Feature	Length (cm)	Width (cm)	Depth (cm)	Volume (l)	Shape	Comments
1, Layer 2, cist	93.0	80.0	91.0	531.7	upright cone	contained Burial 0.1
2, Floor 2, posthole	26.0	26.0	6.0	3.1	cylindrical	—

of Floor 2 and Floor 1, a large cist (over 500 liters in volume) was dug, and a child was buried in the cist. Although the length of time this feature was open cannot be determined, it was probably short, and the cist may well have been intended specifically for the burial. Further fill was placed over the cist to form Floor 1. As demonstrated by the differences in floor artifact assemblages, additional use as an activity area took place with the completion and use of the later Floor 1. Limited processing activity took place during this second period of use. The

form of storage also may have changed to include ritual paraphernalia, indicated by the tchamahias and sandal-last palette.

### Room 102

Room 102 measured 0.8 m long and 1.4 m wide, an area of 1.12 sq m (Figs. 16.2, 16.5, 16.12). It was south of Room 101 on the south side of Roomblock 1 at LA 37598. The only remaining portion of this room was the northwestern corner, including parts of the west

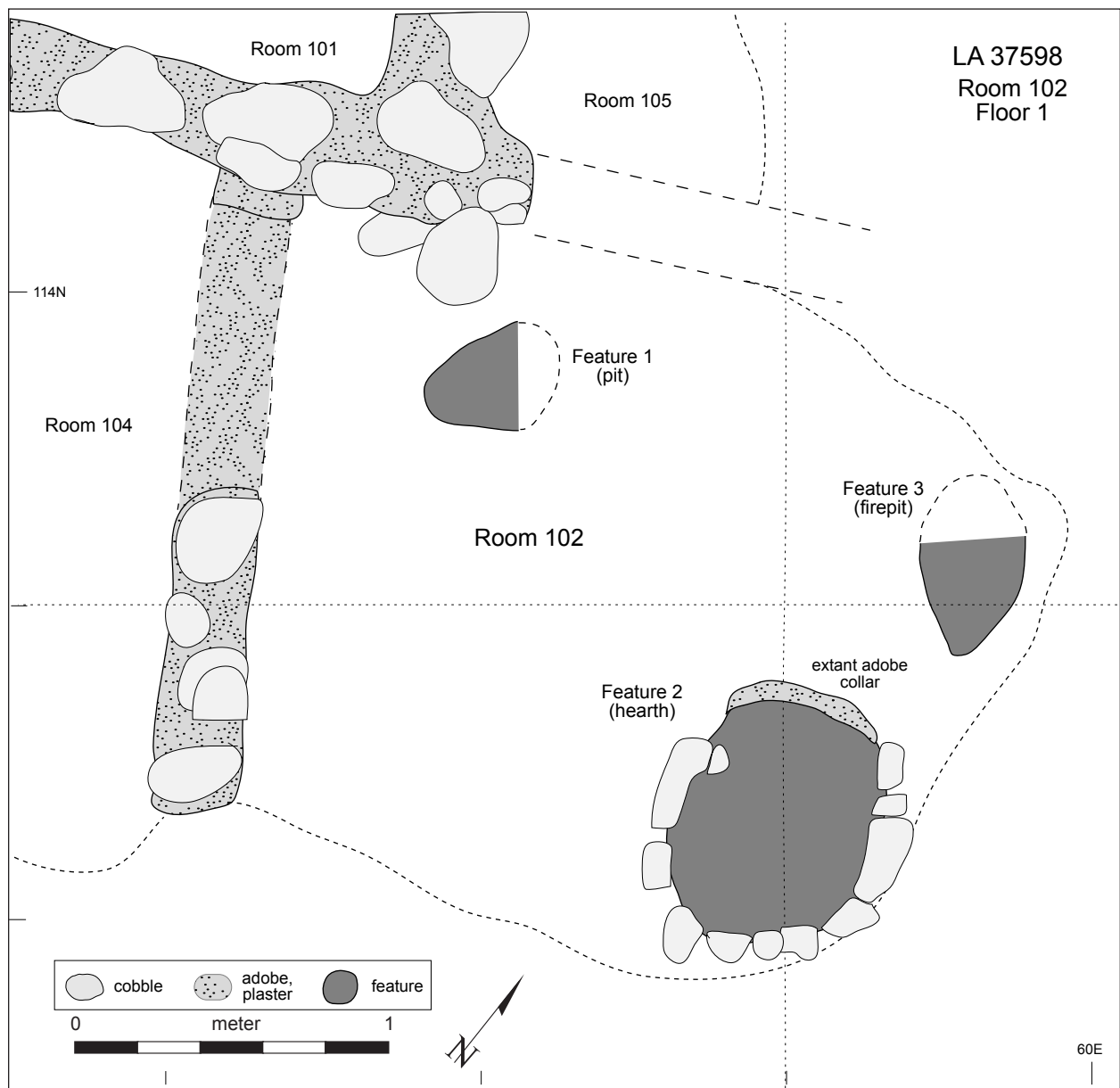


Figure 16.12. LA 37598, Room 102, Floor 1, plan.



and north walls, and the intact room fill between them. Surface disturbance and erosion had removed the south and east sides of the room. A trench, 30 cm wide, was dug along the inside of the western wall to expose the room's interior stratigraphy. This trench was dug after the room's fill had been partially removed. The exposed profile revealed floor surfaces and remaining strata of fill. The fill of the room was then excavated in natural strata. Room 102 contained two floor surfaces, both associated with floor features. A habitation is suggested by the number of floor features associated with each floor and the presence of a central hearth.

### Stratigraphy

Three discrete strata of fill were found in Room 102. A layer of structural debris capped two distinct eolian deposits.

Layer 1 was composed of structural debris, primarily wall fall material. This was an irregular layer of cobbles and rock mixed with melted adobe. This material varied in depth across the room and contained low numbers of artifacts.

Layer 2 was a fine to medium eolian sand containing few artifacts and slight amounts of charcoal. This material varied from 10 cm to 15 cm thick. The base of this stratum was on Floor 1. Some disarticulated human bone was present in this material above Floor 1.

Layer 3 was a fine yellowish-brown sandy soil containing some charcoal and artifacts. This was another eolian deposit of varying thickness. Layer 3 was 3 cm thick against the west wall, thinning toward the east to 1 cm at the edge of the intact portion of the room. This layer was between Floors 1 and 2.

### Walls

The walls of Room 102 existed in a greatly reduced state (Table 16.6). They were either completely gone (east and south walls) or limited to their base courses (north and west walls). The walls followed the slight slope of a slight preexisting mound. The west wall followed this slope; the north end was high, and the south end was low. As a result, the base of the north wall was higher than the top of the south end of the existing west wall. The north part of the room's interior was dug out to level its interior and provide a flat floor surface. The southeast portion of the room was built on top of the earlier structural fill of Pit Structure 1.

North wall. Only the western segment of Room 102's north wall remained, comprising mainly the south wall of Room 101. An abutted extension of this wall extended 30 cm east of the southeast corner of Room 101. The north wall consisted of a single course of rock and cobble masonry 80 cm long. The rocks and cobbles were larger than most of the other material used in the roomblock, averaging 30 by 40 cm. Some pieces of this material were laid with their long dimension spanning the thickness of the wall. However, most were placed with their long axis parallel to the wall's length. Soil to the south of the wall was removed, leveling the floor and raising the height of the wall base in relation to the level of the room.

West wall. It is not clear what percentage of this wall remained. The existing length of the wall, 2.1 m, may be close to its original length. Like other walls in Roomblock 1, this wall was built on an existing slope. Thus the south end of the existing wall was 34 cm high on the original ground surface, getting gradually shorter towards the north as the ground surface rose. Only a trace of the west wall remained in the 1 m directly south of its junction with the north wall. The existing segment of the west wall was comprised of a single course of masonry. It contained rocks and cobbles considerably smaller than those found in the other walls of the roomblock—10 by 10 cm. They were irregularly placed in adobe, with additional large amounts of clay mortar used to build up the wall and even out its sides.

### Corners

Only the northwest corner of Room 102 remained, and its condition was poor. Enough did not remain to show that the west wall abutted the north wall.

### Floors

Two floors were found in Room 102, both well-prepared surfaces that contained associated features. Open features occurred on each floor. Three features were found associated with Floor 1, and one feature was found associated with Floor 2. No artifacts were recovered from either floor. Although there was some variation in depth, the floor surfaces appeared to coincide with the floors in Room 101.

#### Floor 1

Floor 1 was a prepared ash-stained surface (Fig. 16.12). Artifacts were few above Floor 1, and

none were found directly on the floor's surface. To the north and west, this floor ended at the existing walls. To the south and east, it ended where the remaining room segment stopped. Elevations for Floor 1 were 10.21 mbd (northwest), 10.28 mbd (southwest), 10.30 mbd (northeast), and 10.36 mbd (southeast). Three open features, none of which were sealed, were found on the surface of Floor 1 (Table 16.8).

### Features (Floor 1)

**Pit (Feature 1).** Feature 1 was an oblong pit. It had a flat base that bottomed on Floor 2. The east half the pit had been removed earlier along the 112N/58E grid line. The fill of this feature consisted of a single homogenous layer of sandy soil containing charcoal and ash. Artifacts found in the feature were two small pieces of bone (one bird bone and one small-mammal bone), one lithic artifact (a retouched and utilized chert core flake), and one corrugated sherd. Rodent activity was evident along the west edge of the pit. The feature was not lined and showed no evidence of burning.

**Hearth (Feature 2).** Feature 2 was a formal rectangular hearth that served as the central hearth of Room 102, Floor 1. The feature was lined with sandstone slabs set in clay mortar. The slabs were missing from the north and northwest sides of the feature, although the mortar was still partially in place. The missing stone slabs were not found in the feature fill, suggesting they had been removed during the prehistoric period. The base of Feature 2 extended through Floor 2 into the upper fill of Pit Structure 1. An earlier version of this feature, serving as the central hearth on Floor 2, may have existed in the same area of the room and had also been removed at this time. The sides of the feature

were heavily oxidized and the sandstone heavily burnt, indicating heavy use. Little oxidation was present on the feature's base. The hearth contained a single stratum of ashy soil containing charcoal and artifacts. Artifacts recovered from the hearth's fill included a number of ceramics, several pieces of animal bone, and a number of lithic artifacts. In all, 15 ceramics were recovered from this feature: one McElmo Black-on-white sherd, one Toadlena Black-on-white bowl sherd (from the Chuska Valley), one Pueblo II-III Black-on-white sherd, one Dolores Corrugated Gray sherd, eight corrugated gray ware sherds, and three plain gray ware sherds. Recovered animal bone included one large mammal bone and two small-mammal bones. Three lithic artifacts were recovered from this feature: one piece of angular debris and two core flakes. This feature is believed to be the hearth found by Lancaster in Test Pit 2 (Lancaster 1983:41-42).

**Heating pit (Feature 3).** Feature 3 was an informal oxidized fire pit north of the hearth. It was oval with sloping sides and an uneven base. The north portion of the feature had been removed earlier in the excavation. The fire pit was not lined. Light oxidation was present on the bottom of the feature, suggesting slight use. The feature fill consisted of a single stratum of ashy sandy soil containing charcoal. No artifacts were recovered from this feature. The flotation sample contained only wild plant remains (Table 16.9).

### Floor 2

Floor 2 in Room 102 was a prepared, slightly sooty surface constructed directly on the original ground surface extending out over Pit Structure 1 (Fig. 16.13). Elevations for Floor 2 were 10.34 mbd (northwest), 10.43 mbd (southwest), 10.34 mbd

Table 16.8. LA 37598, Room 102, Floors 1 and 2, features; summary table.

Feature	Length (cm)	Width (cm)	Depth (cm)	Volume (l)	Shape	Comments
<b>Floor 1</b>						
1, pit	36.0	33.0	15.0	–	oblong, curvilinear	–
2, hearth	96.0	88.0	31.0	205.6	rectangular	
3, fire pit	36.0	26.0	9.0		cylindrical	partial
<b>Floor 2</b>						
1, fire pit	35.0	21.0	14.0	–	oblong, curvilinear	partial

Table 16.9. LA 37598, Rooms 101–104, plant remains, flotation results by taxon and feature; frequency and abundance per liter.

Room	101		102			103	104	
Feature	1 Posthole, Floor 2	– Floor Scraping	1 Heating Pit	2 Fire Pit	3 Fire Pit	1 Heating Pit	1 Posthole	2 Posthole
FS	380	361	363	338	1001	203	352	385
<b>Cultural</b>								
Annuals:								
<i>Portulaca</i>	–	–	–	2	–	2	–	–
Cultivars:								
<i>Zea mays</i>	–	–	+ cupule, 1.0 kernel	+ cupule, + glume	–	+ cupule	+ cupule	–
<b>Noncultural</b>								
Annuals:								
<i>Amaranthus</i>	5	–	–	–	1.0 + bract	–	14	–
<i>Chenopodium</i>	–	2	1	10	1	2	–	1
<i>Cycloloma</i>	3	–	1	1	–	–	–	–
<i>Euphorbia</i>	–	–	–	–	–	–	3	–
<i>Mentzelia</i>	–	–	–	–	1	–	–	–
<i>Portulaca</i>	–	1	1	–	–	–	6	–
<i>Salsola kali</i>	–	–	–	–	–	–	1	–
Other:								
Malvaceae	–	1	–	–	–	–	–	–
<i>Sphaeralcea</i>	–	–	–	–	–	1	–	–
Unidentifiable	–	–	–	–	3	–	–	–
Perennials:								
<i>Atriplex</i>	–	–	–	–	+ leaf	–	–	–

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = less than 10/liter

(northeast), and 10.47 mbd (southeast). The Floor 2 surface was intact across the remaining area of Room 102. In the portion of Room 102 above Pit Structure 1, Floor 2 was constructed directly over the pit structure's fill. Floor 2 abutted the remaining walls of the room, indicating it was put down after the walls were constructed. Three small mammal bones, 1 bird bone, and 13 lithic artifacts comprise the total artifact assemblage recovered from the Floor 2 surface. The lithic artifact assemblage included 1 hammerstone and 12 pieces of debitage. Ten of the lithic artifacts were chert; the other three were siltstone. This lithic artifact assemblage represents the use of the area for lithic production. One open feature was found on Floor 2 (Table 16.8).

#### Features (Floor 2)

*Fire pit (Feature 1)*. Feature 1 was a small unlined informal fire pit. This feature had sloping sides and a

rounded base with a greater depth toward the north side. The east portion of the feature had been removed earlier in the excavation. All of the feature's base and portions of the sides were heavily oxidized. The fire pit contained two strata of fill. Layer 1 was a fine eolian sand containing some charcoal. Layer 2 was a white ashy soil that containing substantial quantities of charcoal. No artifacts were recovered from Feature 1.

#### Summary: Room 102

The features in Room 102 indicate that the room's basic function remained constant for both use-periods represented by the floors. The lack of floor artifacts on Floor 1 limits our ability to understand what activities may have taken place there. In contrast, the presence of lithic artifacts on Floor 2, limited forms, and restricted material indicate that lithic production took place during this period of use.

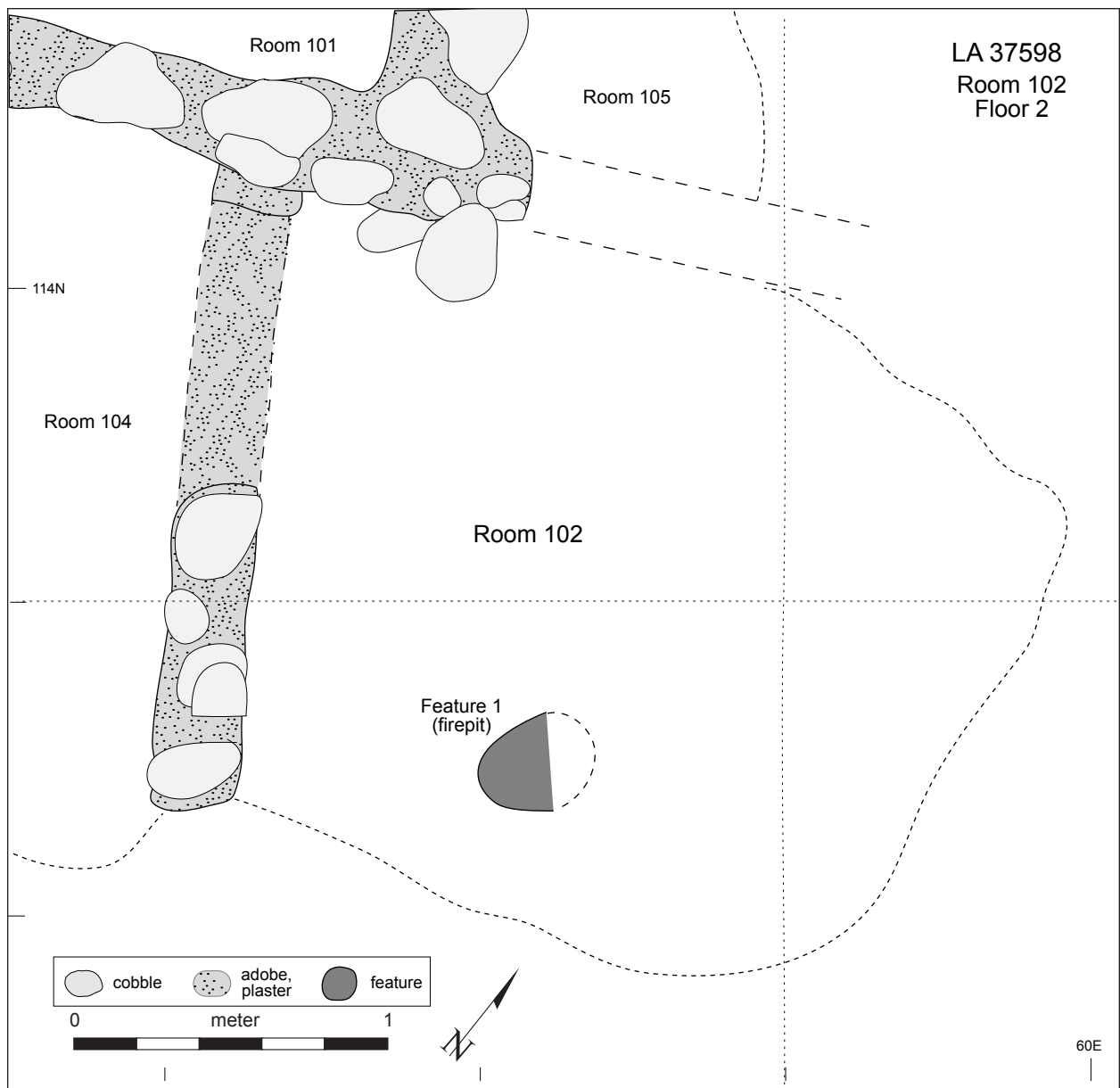


Figure 16.13. LA 37598, Room 102, Floor 2, plan.

### Room 103

Room 103 was in the west portion of Roomblock 1 at LA 37598 (Figs. 16.2, 16.5, 16.14). Two floor surfaces were present in the room, and both had associated open floor features. The southwest and south portions of the room conformed to the limits of observed modification on the west side of the roomblock and were no longer intact. Room 103 was excavated in a series of 1 by 3 m trenches dug

in arbitrary 10 cm levels until floor surfaces were reached. Although this is technically a “back-room” storage area, the presence of pits in association with both floor surfaces suggests it may have also served as a processing area. Floor artifacts show the room was also used, at least sporadically, as an activity area after Floor 1 was constructed.

### Stratigraphy

The fill of Room 103 was composed of four distinct

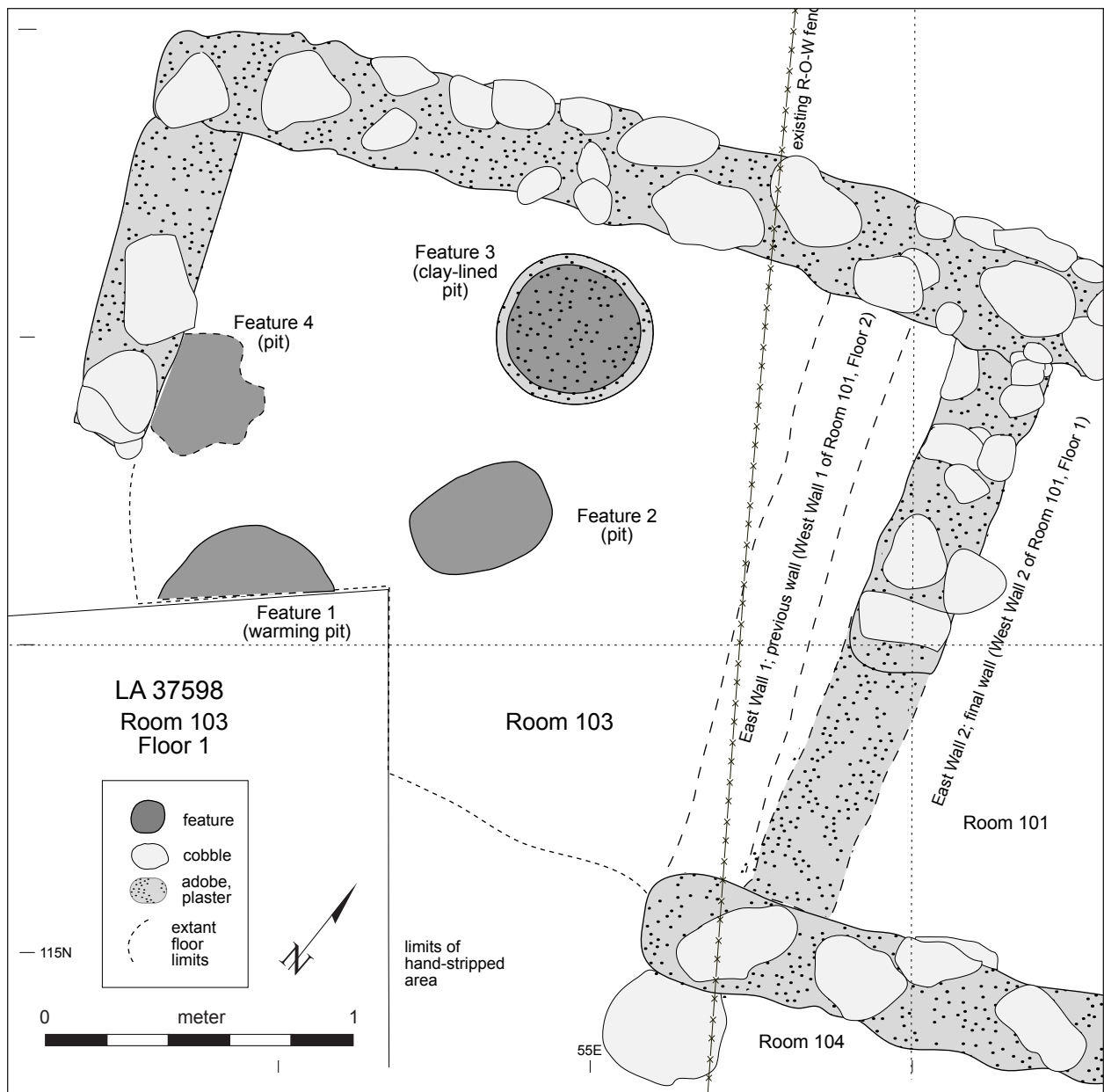


Figure 16.14. LA 37598, Room 103, Floor 1, plan.

strata (Fig. 16.8). One layer was primarily wall fall. An eolian deposit was also present, and the lower two layers consisted of construction material.

Layer 1 was an irregular layer composed of wall fall combined with some eolian deposits. The wall fall was made up of angular rocks and cobbles in a matrix of melted adobe. Some eolian sand was mixed with this material. Most of this material was removed when the room's walls were defined. Artifacts and charcoal occurred in this layer.

Layer 2 was a fine to medium eolian sand containing some charcoal and artifacts. It varied in thickness; the deepest deposits were against the east wall, and the thinnest toward the middle of the room. Floor 1 formed the bottom of Layer 2. A total of eight ceramics were collected from this material. Of this total, one sherd was corrugated gray ware, two were plain gray ware, four were Pueblo II or Pueblo III black-on-white, and one was White Mountain Redware.



Layer 3 was a fine to medium-textured sand. The material contains some charcoal and ash. Artifacts occurred, but not in large numbers. Visually, this deposit was identical to Layer 3 in Room 101, and like that material was intentional fill connected with the renovation of Rooms 103 and 101. Layer 3 was deposited before the repositioning of the wall between the two rooms. The base of this material was Floor 2.

Layer 4, another fine to medium sand, contained small amounts of charcoal. No artifacts were recovered from this deposit. Excavation ended in Room 103 before the base of this layer was reached.

## Walls

The walls of Room 103 were in the reduced state common to the rest of the roomblock (Fig. 16.8; Table 16.6). Remaining wall segments were composed of a single course of masonry. As with the other walls in the roomblock, wall construction conformed to the original ground surface. The lower course of the north and original east wall remained in place. Portions of the west wall and the later east wall were also in place. The south wall was completely gone. The north and south walls had originally been constructed as a single unit at the same time as the walls of Room 101. The west wall was then constructed, abutting the north and south walls. The original east wall was built to divide the resulting space into two rooms. In Room 101, the enclosed space was then dug out, lowering the room's floor. In Room 103 this excavation did not occur, and all four of the original walls were at the level of the original floor surface (Floor 2). The remaining wall construction was rock and cobble masonry, like the adjacent rooms.

As mentioned in the description of Room 101, remodeling occurred between occupational episodes, changing the form of Rooms 101 and 103. This involved moving the dividing wall between the two rooms 50 cm to the east. Changes in room use may have taken place at this time in Room 103. An increase in the number of floor features and the range of artifact types suggest a change did take place.

North wall. The remaining north wall of Room 103 consisted of one course of rock and cobble masonry. Most of this base course was constructed as a double row of large angular rocks and cobbles loosely set in large amounts of clay. Variations occurred in some portions of this coursing. Ma-

sonry segments were comprised of smaller rocks or cobbles placed in a triple row, or large cobbles or pieces of rock placed singularly in the wall. The north wall did not appear to have extended past the west end of Room 103. Erosion and surface churning were evident to the west and may have displaced the shallow remnants of additional rooms.

East wall. There were two east walls, each associated with one of the room's floors. These walls correspond to the west wall of Room 101.

*East Wall 1.* The original (lower) east wall was constructed of a double row of tightly placed cobbles, roughly of similar size. A single course the length of the wall remained intact. Large cobbles spanned the thickness of the wall at irregular intervals. As described for Room 101, these cobbles seemed designed to provide structural support. Although constructed separately from the adjacent walls of the room, East Wall 1 was contemporary with them.

*East Wall 2.* The later east wall was 50 cm east of its earlier counterpart. This wall was also higher, sitting on top of Layer 3 in Room 101. The existing portion of this wall was a double course of rock and cobble masonry contemporary with Floor 1. The double course was above the earlier cist in Room 101, as additional fill needed to deal with the slumpage of the features fill. The northern 1.10 m of this wall's base course remained intact, with the rest reduced to a clay wall footing.

South wall. The only remaining portion of the south wall was a segment 25 cm long, serving as the abutment for the original east wall. It was a single course of cobbles set in adobe mortar.

West wall. The remaining west wall was a segment 1.1 m long extending south from the north wall. It consisted of a single course of rock and cobble masonry. The cobbles and rocks averaged 30 by 30 cm and were set in large amounts of clay mortar.

## Corners

The north wall and the remaining portion of the south wall were both part of the original construction, also responsible for the north and south walls of Room 101. The remaining segment of the west wall abutted the north wall, suggesting that the west wall was built separately from the north and south walls. The abutted corner in the northwestern corner of Room 103 suggests that an ad-

ditional room may have existed to the west. The position of the wall (like that of the north and south walls) at the level of the original floor (Floor 2) indicates it was built at the same time. The existing corners associated with either of the east walls were abutted.

## Floors

Room 103 had two prepared floors, representing the room's occupational sequence (Fig. 16.8). A number of floor features, all of them open, were associated with the two floors of Room 103. Four features were associated with Floor 1, and one feature was associated with Floor 2. As previously mentioned in the description of Room 101, major remodeling involving the moving of the east wall, occurred in Room 103 before the construction of Floor 1.

### Floor 1

Floor 1 of Room 103 was 2.5 m long and 2 m wide, an area of 5 sq m (Fig. 16.14). It was a well-prepared but uneven surface extending across the remaining portion of the room. The elevations for Floor 1 were 10.31 mbd (northwest), 10.31 mbd (southwest), 10.30 mbd (northeast), and 10.29 mbd (southeast). The surface of Floor 1 ended at the base of the walls of Room 103. This surface extended over the original east wall, ending at the base of the later (upper) east wall (Fig. 16.8).

Two pieces of small-animal bone, bird eggshell, two ground stone artifacts, and a single lithic artifact (a chert core flake) were found on Floor 1. The lithic artifact assemblage was restricted to one piece of debitage. Two ground stone manos were also found on Floor 1. Ceramic artifacts found on Floor 1 included eight sherds (seven Pueblo III corrugated

sherds and one plain gray ware sherd) and one vessel. The vessel (Vessel 1) consisted of 42 sherds comprising about 30 percent of the whole vessel, a Mesa Verde Corrugated bowl. It was found upside down on the Floor 1 surface.

The artifact assemblage suggests that a number of processing activities, including lithic reduction, were pursued in Room 103 during the use of Floor 1. Four features were found associated with Floor 1: a warming pit and three other pits (Table 16.10).

### Features (Floor 1)

*Warming [ash] pit (Feature 1).* Feature 1 was a circular pit toward the west side of Room 103 (Fig. 16.14). Its walls sloped sharply in toward an uneven base. The base of the feature had experienced extensive rodent damage. Oxidation was apparent only on a small area of the feature's north wall, suggesting limited or short-term use. The fill of Feature 1 was a single stratum of fine light gray ash and charcoal. Slight oxidation and the ashy contents imply that the feature was slightly used or contained a small amount of hot coals.

Artifacts recovered from this feature include 13 ceramic artifacts: 1 Pueblo III black-on-white sherd, 3 Pueblo II-III black-on-white sherds, 6 corrugated sherds, and 3 plain gray ware sherds. Twelve lithic artifacts composed of a variety of materials were also recovered from this feature: seven core flakes, two pieces of angular debris, two hammerstone flakes, and one tested cobble that showed battering from use as a hammerstone.

Feature 1 contained one of the largest collection of faunal remains recovered from a single feature at LA 37598: one bird bone, two large-mammal ribs, three medium-mammal bones, and six small

Table 16.10. LA 37598, Room 103, Floors 1 and 2, features; summary table.

Feature	Length (cm)	Width (cm)	Depth (cm)	Volume (l)	Shape	Comments
<b>Floor 1</b>						
1, heating pit	60.0	60.0	40.0	113.0	cylindrical	human bone
2, pit	53.0	50.0	12.0	24.9	rectangular	—
3, pit	30.0	30.0	—	—	cylindrical	partial
4, pit	55.0	55.0	—	—	irregular	partial
<b>Floor 2</b>						
1, pit	56.0	50.0	27.0	—	—	partial

mammal bones. All of the animal bone exhibited burning to varying degrees, suggesting different times of deposition. Seven disarticulated human rib, scapula, and cranium fragments from a five-year-old child were also found in this feature. Only one of the human cranial fragments was recorded as burned, indicating that the burning was incidental.

**Pits (Features 2-4).** Three open pits, varying in size and depth, were in Room 103 (Fig. 16.14). Each pit contained one stratum of fill, in every case, a fine to medium sand containing slight quantities of charcoal and ash. None of these features exhibited any evidence of having been burned.

Artifacts were recovered from two of these features. Only Feature 3 had a clay lining. A total of 21 ceramic artifacts were collected from Feature 3: one McElmo Black-on-white sherd, six polished white ware sherds, eight corrugated gray ware sherds, and six plain gray ware sherds. One ground stone mano fragment was recovered from Feature 4.

Lithic artifacts were recovered from Features 3 and 4. Feature 3 contained nine lithic artifacts, all debitage: four pieces of angular debris and five core flakes. Feature 4 contained six lithic artifacts: two core flakes, one piece of angular debris, one cobble utilized as a hammerstone, and two multidirectional cores (also used as hammerstones).

The presence of open pits in this room suggests that a more specialized form of storage, or specialized processing of foodstuffs, occurred in Room 103. The one clay-lined pit (Feature 3) seems particularly specialized.

## Floor 2

A prepared surface, Floor 2, extended across the remaining portion of Room 103 (Fig. 16.15). It ended at the edges of the room, at the bases of all four walls (Fig. 16.8). One floor feature, an open pit, was found associated with this floor (Table 16.10). Floor 2 was 2 m long and 2 m wide, an area of 4 sq m. Its elevations were 10.41 mbd (northwest), 10.46 mbd (southwest), 10.45 mbd (northeast), and 10.46 mbd (southeast). After use of Floor 2 ceased, it was covered with a layer of fill (Layer 3) prior to the construction of Floor 1.

Five mano fragments were collected from the surface of Floor 2. One large-mammal rib was also recovered. A total of 14 lithic artifacts were present: 11 core flakes, 1 core, and 2 pieces of angular debris.

The lithic material is primarily chert, but silicified wood, quartzite, quartzitic sandstone, and siltstone are also represented. At least for the period represented by Floor 2, it served as a lithic production area. The variety of lithic material suggests this production was intensive. No ceramic artifacts were on this surface.

## Features (Floor 2)

**Pit (Feature 1).** Feature 1 was an irregularly shaped pit in the southeast area of Floor 2 in Room 103. The walls of this pit were heavily perforated by rodent activity, contributing to its irregular shape. The one stratum of fill in Feature 1 consisted of a sandy soil containing clay and charcoal. Two siltstone core flakes, one of which showed evidence of utilization (rounding), were recovered from the feature.

## Summary: Room 103

Features and artifacts in Room 103 indicate that room use changed. The lack of a hearth suggests that back-room storage remained the room's basic function. The floor features on both floors, but primarily Floor 1, may indicate specialized storage. Lithic artifact production took place in Room 103 during the period represented by Floor 2. The variation in lithic material present indicates that this production was substantial. Apparently, no lithic production took place on Floor 1.

## Room 104

Room 104 is on the south side of Roomblock 1 at LA 37598, directly west of Room 102 and south of Room 103 (Figs. 16.2, 16.5, 16.16). Its dimensions were 1.9 m long and 2 m wide, an area of 3.8 sq m. This was another "front" room, on the south side of the roomblock. The room was excavated as a series of 1 by 3 m trenches, each ending as the floor surface was reached. One floor surface and associated floor features were recorded in Room 104. The west portion of Room 104 was no longer in place.

## Stratigraphy

The fill of Room 104 was simpler than that found in the other rooms of Roomblock 1, primarily because less room fill still existed (Fig. 16.8). A shorter use-life for Room 104 coupled with a lack of remodeling may also have contributed to its simpler stratigraphy.

Layer 1 was a mixed layer of structural material and wall fall, combined with other debris, and eolian sand. Heavily churned, this layer appeared to have been previously affected by livestock and vehicles.

Layer 2 was an eolian deposit directly on Floor 1. This deposit was a fine to medium sandy soil with some charcoal and a number of artifacts present. The thickest portions of this material were adjacent to the room's existing walls; the thinnest deposit was toward the center of the room.

## Walls

The walls of Room 104 were similar to the others recorded for Roomblock 1 in construction and degree of preservation (Fig. 16.16; Table 16.6). The north wall was the only wall that was intact for its entire length. The south wall was completely gone. The other two walls had been reduced to remnant sections at the north end of the room. Like the rest of Roomblock 1, the walls of Room 104 were built directly on the original ground surface, following

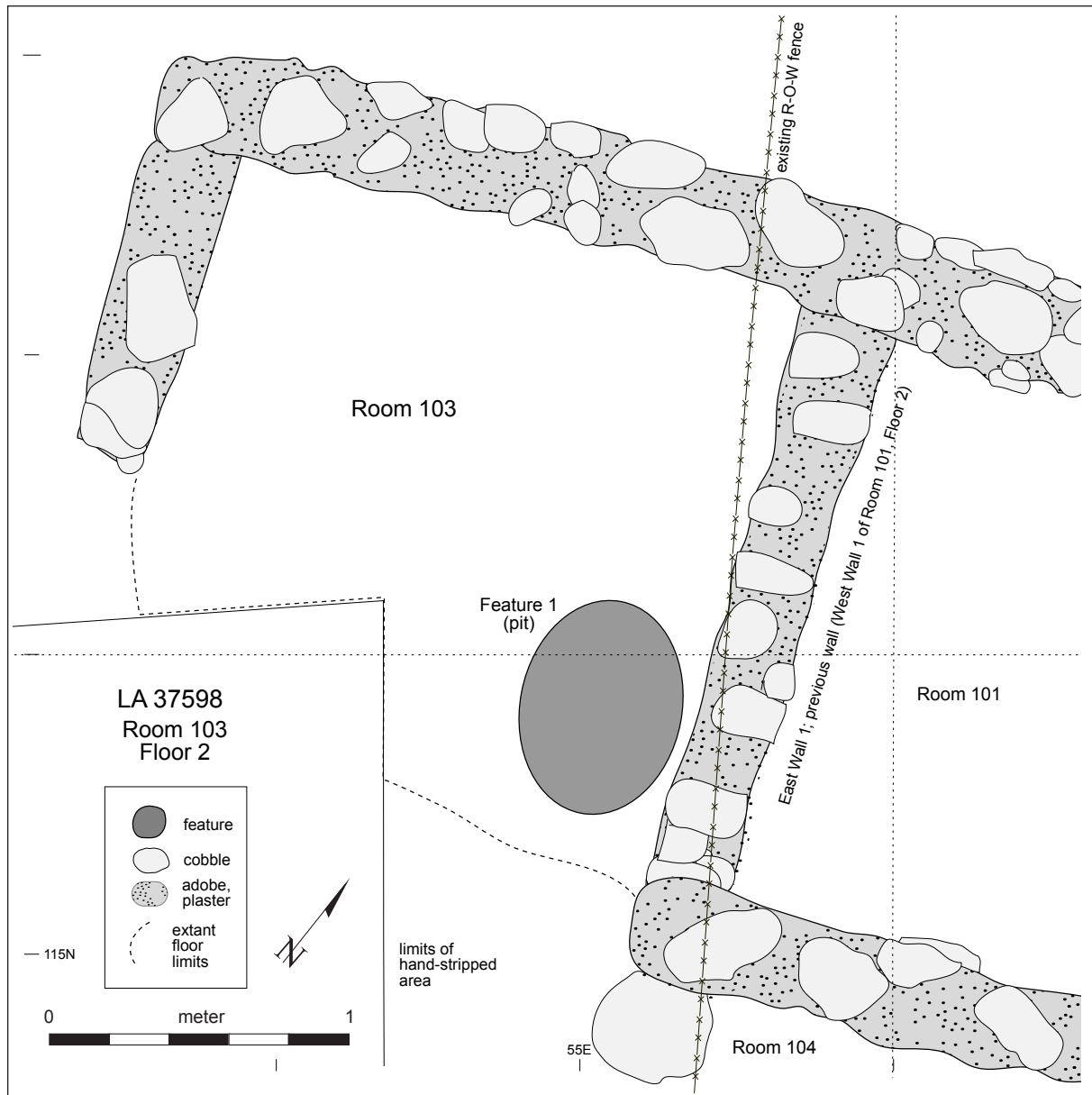


Figure 16.15. LA 37598, Room 103, Floor 2, plan.

the original slope. This means that although the remaining walls each consisted of a single course of masonry, they varied considerably in elevation. The north portion of the interior of the room was dug out after wall construction was completed to create a level floor.

**North wall.** The north wall was a masonry wall extending the entire width of the room. The wall was reduced to a single course of rock and cobble masonry built directly on the original ground surface. The interior of Room 104 was dug out after construction to level the interior of the room, raising the base of the wall 35 cm above the Floor 1 surface.

This wall divided Room 104 from Rooms 101 and 103. Wall construction consisted of large cobbles and pieces of rock (average 30 by 15 cm) loosely laid with their long dimensions perpendicular to the thickness of the wall. Large amounts of clay were used in wall construction. The amounts of clay used probably decreased in the higher courses. The base course was somewhat irregular, although the upper courses were likely evened out with mortar or plaster. Wall thickness varied from 25 cm to 35 cm.

**East wall.** The east wall separated Room 104 from Room 102. As noted in the Room 102 description, this wall consisted of a single course of

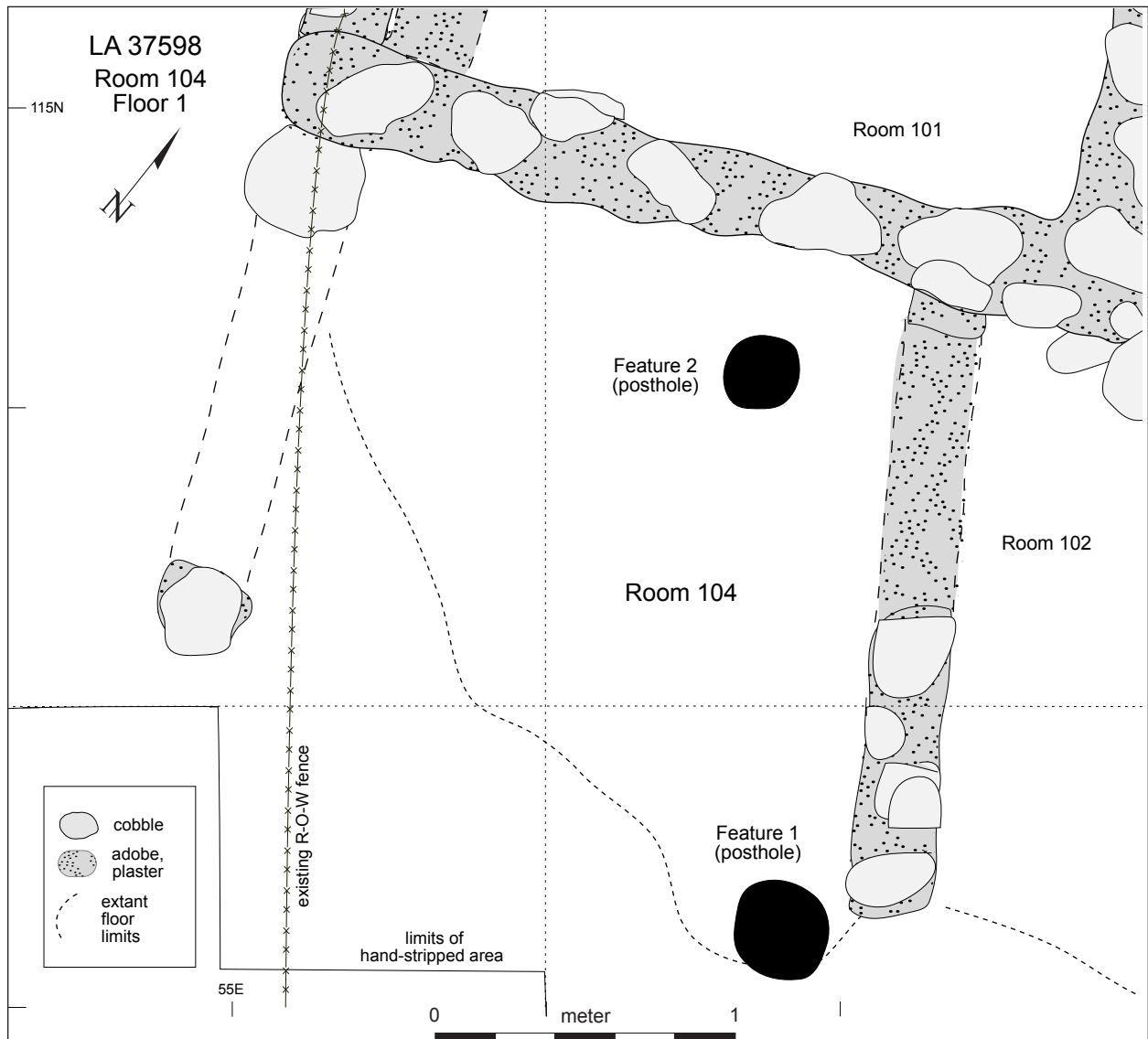


Figure 16.16. LA 37598, Room 104, Floor 1, plan.



masonry 35 cm high at the south end of the wall but reduced to the adobe wall footing 35 cm above the floor at the north end. Thus, the amount of wall masonry decreased to the north. The existing length of the wall was 2.1 m long, perhaps close to the wall's total length. The southeast corner of the room was no longer present.

**South wall.** Nothing remained of the south wall.

**West wall.** Very little remained of the west wall of Room 104. A wall stub measuring 20 cm existed in the northwestern corner of the room. A wall remnant 1 m to the south consisted of a single large cobble measuring 30 by 20 cm, embedded in clay mortar. This wall remnant was slightly north of the projected southwest corner of Room 104.

### Corners

The two remaining corners were in extremely fragmentary condition. However, it was still possible to determine their form. Both the east and west walls of Room 104 abutted the north wall. This suggests the room was a later addition to the roomblock, possibly constructed as a unit addition with Room 102.

### Floors

One floor surface, Floor 1, was found in Room 104 (Fig. 16.16).

#### Floor 1

The elevation of this floor suggests it was contemporary with Floor 2 of Rooms 101 and 102 (Fig. 16.8). This may be indicative of a single, longer use-life, for Room 104 did not experience the later reflooring evident in Rooms 101–103. The lack of a central hearth in what should technically be a “front” room is problematic, indicating variation in room function or use. The low number of artifacts recovered from the floor surface also makes interpretation difficult.

Floor 1 was a prepared, slightly ash-stained surface. The irregular surface was directly on the

original ground surface. The floor surface stopped at the base of the existing walls in the north area of the room, indicating it was constructed after the walls were built and the room's interior was leveled. The surface faded away as it extended toward the south end of the room, ending on a diagonal line between the end of the east wall and the existing western wall stub. Elevations for the existing portion of Floor 1 were 10.73 mbd (northwest), 10.72 mbd (southwest), 10.72 mbd (northeast), and 10.73 mbd (southeast). The surface of Floor 1 sloped down to the east. This sloping may have been the result of slumping caused by the existence of Pit Structure 1 beneath Room 102.

Features associated with Floor 1 occurred in the east, preserved portion of the floor (Table 16.11).

#### Features (Floor 1)

**Posthole (Feature 1).** Feature 1 was a posthole in the southeast area of Room 104 near the end of the east wall. It had straight vertical walls and an uneven base. Several rocks in the fill were placed against the inside, leaving an open space in the center and serving as shims to brace the post. The fill of Feature 1 was comprised of a single stratum of fine sand containing charcoal, and ceramic and lithic artifacts. The only ceramic artifact recovered from Feature 1 was a corrugated sherd. Two lithic artifacts were in the feature: one ground stone tool flake and one core flake. The only maize recovered from this roomblock came from Feature 1.

**Posthole (Feature 2).** Due north of Feature 1, Feature 2 was a shallow, circular posthole. There were two strata of fill in this feature. Layer 1 was a fine, clean eolian sand. Below Layer 1 was Layer 2, also a fine eolian sand, but slightly darker, containing charcoal, lumps of clay, and artifacts. Two sherds were found in Feature 2: one Mancos Black-on-white and one plain gray ware. A two-hand mano fragment was also found in the feature, placed ver-

Table 16.11. LA 37598, Room 104, Floor 1, features; summary table.

Feature	Length (cm)	Width (cm)	Depth (cm)	Volume (l)	Shape
1, posthole	40.0	34.0	34.0	36.3	cylindrical
2, posthole	28.0	24.0	8.0	4.2	cylindrical

tically against the inside wall of the feature. It had served as a shim to brace the post.

### Room 105

Room 105 was directly east of Room 101 on the east edge of the existing Roomblock 1 at LA 37598 (Figs. 16.2, 16.5, 16.17). It measured 1.9 m long and 0.5 m wide, an area of 0.95 m. Only a fraction of Room 105 was still intact, the edge of the existing room segment marking the east edge of the roomblock. The rest of the room had been removed during highway construction and maintenance. The remaining portion of the room consisted of a strip 50 cm wide, extending east along the inside of the west wall. Room 105 had one floor. No wall or floor features were found in the remaining portion of

the room. Its location in the roomblock suggests it was another “back room.” Room 105 was excavated in 1 by 3 m trenches dug in arbitrary 10 cm levels. Excavation ceased when Floor 1 was exposed.

### Stratigraphy

One stratum of fill was recorded in the remaining portion of Room 105. This area of the roomblock collapsed towards the east after removal of the east portion of the room.

Layer 1 was a sandy soil containing some charcoal and artifacts. This material was similar to the intentional fill in Rooms 101 and 103 between Floors 1 and 2. The upper portions of this material included some newer eolian deposition, but differentiation between deposits proved to be almost impossible. Layer 1 ended on Floor 1.

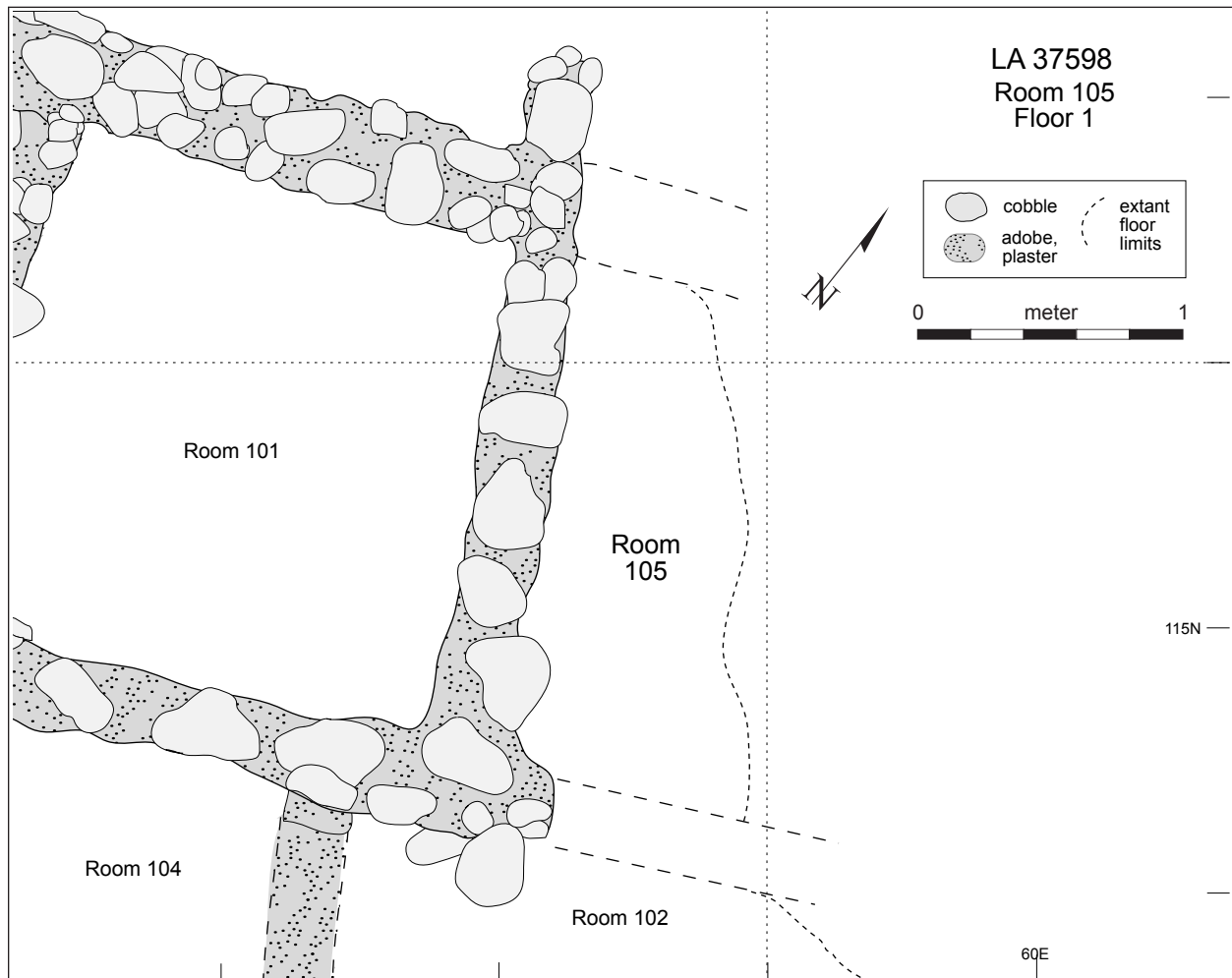


Figure 16.17. LA 37598, Room 105, Floor 1, plan.

## Walls

The walls of Room 105 were in a particularly deteriorated state (Table 16.6). The north and east walls were entirely gone.

**South wall.** All that remained of the south wall of Room 105 was a short wall stub constructed of rock and cobble masonry, extending along the south side of the room for 20 cm. The construction of this wall was similar to that of most of the other walls of the roomblock. The wall stub was an extension of the south wall of Rooms 101 and 103 and served as part of the north wall of Room 102.

**West wall.** The west wall of Room 105 was the only intact wall associated with the room, separating it from Room 101. As mentioned in the Room 101 description, this wall had a single course of masonry built directly on an earlier ground surface. Most of this wall was constructed of large cobbles and angular pieces of stone set in large amounts of clay mortar. A small area at the north end of this wall was constructed of a double row of smaller cobbles and pieces of rock, averaging 10 by 10 cm. The west wall extended 40 cm north of the room's floor surface, although there was no evidence that the room had originally been that large. The wall also extended 40 cm north of the north wall of Room 101.

## Corners

Only the southwest corner of Room 105 remained intact; it was a bonded corner. Nothing indicated the form of the room's other corners or the exact location of the northwest corner.

## Floors

One floor surface, Floor 1, was found in Room 105.

### Floor 1

The depth of Floor 1 in Room 105 (Fig. 16.17), suggests it was contemporary with the lower floors of Rooms 101-103 (Fig. 16.8). No evidence of any additional floors was found. The collapse of the room's upper fill may have removed any remaining evidence of an upper floor contemporary with those in most of the other rooms. No features were found in the remaining portion of Room 105.

Floor 1 was a slightly sooty prepared clay surface. It extended across the remaining portion of Room 105 and was used to determine the room's

extent. This area measured 1.9 m long and 0.5 m wide, extending along the west wall. The elevations of the remaining segment of Floor 1 in Room 105 were 10.42 mbd (northwest), 10.43 mbd (southwest), 10.42 mbd (northeast), and 10.39 mbd (southeast). Based on elevations, this floor surface appears contemporary with Floor 2 surfaces in Rooms 101, 102, and 103, and Floor 1 in Room 104. The floor surface in Room 105 was flat but not level. The slope of the floor towards the southeast may be the result of slumpage connected with Pit Structure 1, which was under a portion of this area of the roomblock. No features were found associated with Floor 1.

A total of 15 lithic artifacts were on the remaining portion of Floor 1 in Room 105: 14 pieces of debitage and 1 core. The core showed evidence of battering, indicating it had been used as a hammerstone. A variety of lithic materials were present, including silicified wood, quartzite, quartzitic sandstone, chert, and siltstone. The large range of lithic materials suggests lithic artifact production occurred on a large scale in Room 105.

### *Sequence and Interpretation Summary: Roomblock 1*

Roomblock 1 was a linear Pueblo III roomblock with at least five rooms oriented 5 degrees west of true north (Fig. 16.5). The roomblock was constructed of cobble and rock masonry, with clay mortar forming a large percentage of the lower walls. The occupation of Roomblock 1 was short, occurring in a single cultural period, although LA 37598 was occupied considerably longer. No evidence of doors or openings exists for any of the rooms in Roomblock 1. Any doors into or between rooms must have been one or more courses up in the wall construction. The rooms were probably paired to form multiroom suites formed of "front room" habitation space and "back room" storage areas.

The remaining portions of the roomblock, specific features, and floor artifact assemblages in the rooms enable inferences to be made concerning room use. Though Rooms 102 and 104 are both "front" rooms, only Room 102 was a definite habitation room, as indicated by a central hearth and associated features. Interpretation of Room 104 is problematic. Its location suggests it was a "front" room, but the lack of features, including a hearth, is more characteristic of a storage area. The postholes in Room 104

are large enough to be structural elements. However, their location inside and toward the center of the room makes it unlikely they were structural.

Rooms 101 and 103 were “back” rooms, presumably storage areas. Changes in use of both rooms occurred over time. Variations on a theme may be a better characterization of these changes, since storage remained the primary focus of use. This is consistent with the lack of central hearths in Rooms 101 and 103. The use of Room 101 through time remained storage, but the form of the storage changed. Floor 1 was an essentially featureless storage area. The construction of a large storage cist in the fill between floors shows that room use did not necessarily change even though the room was not completely being used. Later room use for Room 101 involved the storage of personal or ritual effects (tchamahias, paint palette, etc.). This form of room use would not have been evident except for the occurrence of these special-use items on the floor surface.

Vessel forms and wares are quite consistent across the rooms (Tables 16.12, 16.13), with two exceptions. Rooms 101 and 105 contained elevated quantities of white ware bowls compared to the other rooms. Though not suggested by floor features, greater presence of service pottery coupled with the unusual artifact assemblage in Room 101 indicate activities beyond storage in at least Room 101.

The presence of lithic artifacts, and the combination of artifact forms and lithic material, suggest activities that may have taken place in a specific locality and the intensity of their occurrence. The presence of hammerstones with debitage, even if of different materials, are indicative of lithic production. The greater the variety of lithic materials present, the more substantial the amount of production that took place, since each material present indicates at least one lithic flaking episode. However, there is no way to judge how long the activity lasted. Chert, the most prevalent material in the Roomblock 1 floor lithic artifact assemblages

Table 16.12. LA 37598, Roomblocks 1 and 2, pottery ware groups by room; counts and percents.

	Gray Ware		White Ware		Red Ware		Total
	Count	Row %	Count	Row %	Count	Row %	
Roomblock 1	706	73.4%	254	26.4%	2	0.2%	<b>962</b>
Room 101	101	54.0%	86	46.0%	–	–	<b>187</b>
Room 102	106	80.9%	24	18.3%	1	0.8%	<b>131</b>
Room 103	204	82.6%	39	15.8%	4	1.6%	<b>247</b>
Room 104	12	92.3%	1	7.7%	–	–	<b>13</b>
Room 105	55	55.6%	43	43.4%	1	1.0%	<b>99</b>
Roomblock 2	–	–	–	–	–	–	<b>–</b>
Room 201	12	80.0%	3	20.0%	–	–	<b>15</b>
Room 202	2	100.0%	–	–	–	–	<b>2</b>
<b>Total</b>	<b>1198</b>	<b>72.3%</b>	<b>450</b>	<b>27.2%</b>	<b>8</b>	<b>0.5%</b>	<b>1656</b>

Table 16.13. LA 37598, Roomblocks 1 and 2, vessel form by room; counts and percents.

	Bowl		Jar		Ladle		Total
	Count	Row %	Count	Row %	Count	Row %	
Roomblock 1	145	15.1%	813	84.5%	4	0.4%	<b>962</b>
Room 101	51	27.3%	136	72.7%	–	–	<b>187</b>
Room 102	22	16.8%	109	83.2%	–	–	<b>131</b>
Room 103	27	10.9%	219	88.7%	1	0.4%	<b>247</b>
Room 104	1	7.7%	12	92.3%	–	–	<b>13</b>
Room 105	27	27.3%	70	70.7%	2	2.0%	<b>99</b>
Roomblock 2	–	–	–	–	–	–	<b>–</b>
Room 201	1	6.7%	14	93.3%	–	–	<b>15</b>
Room 202	–	–	2	100.0%	–	–	<b>2</b>
<b>Total</b>	<b>274</b>	<b>16.5%</b>	<b>1375</b>	<b>83.0%</b>	<b>7</b>	<b>0.4%</b>	<b>1656</b>

(Tables 16.14, 16.15), makes up the largest category of material for each floor artifact assemblage, except Room 105, Floor 1. On this floor surface, silicified wood was the prevalent material.

Lithic artifact production is indicated for three rooms in the roomblock, limited to specific use-periods: Room 102, Floor 2; Room 103, Floor 2; and

Room 105, Floor 1. Lithic production in Room 102 was a single event. A variety of lithic material indicates that the other two rooms were used for more substantial production. The presence of high ratios of both debitage and utilized debitage suggests that the processing of material (either plant or animal) took place in Room 101. Grinding tools,

Table 16.14. LA 37598, Rooms 101, 104, and 105, chipped stone tools and material types, counts by fill and floor.

	Roomblock 1	Room 101			Room 104			Room 105
	General Fill	General Fill	Floor 1	Total	General Fill	Floor	Total	Floor Fill
<b>Tool Type</b>								
Debitage	10	26	5	31	2	2	4	15
Core	–	1	–	1	–	–	–	–
Retouched, utilized	–	–	2	2	–	–	–	–
Drill	1	–	–	–	–	–	–	–
Hammerstone	–	–	–	–	–	–	–	1
<b>Total</b>	<b>11</b>	<b>27</b>	<b>7</b>	<b>34</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>16</b>
<b>Material Type</b>								
Chert	6	16	3	19	–	1	1	4
Silicified wood	1	2	2	4	–	–	–	4
Quartzite	–	5	–	5	1	–	1	3
Quartzitic sandstone	–	2	–	2	–	–	–	2
Igneous	–	–	–	–	–	–	–	–
Rhyolite	–	–	1	1	–	–	–	–
Sandstone	1	–	–	–	–	–	–	–
Siltstone	3	2	1	3	1	1	2	3
<b>Total</b>	<b>11</b>	<b>27</b>	<b>7</b>	<b>34</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>16</b>

Table 16.15. LA 37598, Rooms 102 and 103, chipped stone tools and material types, counts by fill and floor.

	Room 102					Room 103					
	Floor 1	Floor 2				Floor 1			Floor 2		
	Floor	General Fill	Floor Fill	Floor	Total	General Fill	Floor	Total	General Fill	Floor Fill	Total
<b>Tool Type</b>											
Debitage	3	9	3	1	13	2	24	26	10	5	15
Retouched, utilized	1	–	–	–	–	–	–	–	–	–	–
Hammerstone	–	–	1	–	1	–	4	4	1	–	1
<b>Total</b>	<b>4</b>	<b>9</b>	<b>4</b>	<b>1</b>	<b>14</b>	<b>2</b>	<b>28</b>	<b>30</b>	<b>11</b>	<b>5</b>	<b>16</b>
<b>Material Type</b>											
Chert	3	8	2	1	11	1	15	16	4	2	6
Silicified wood	–	–	–	–	–	–	1	1	2	–	2
Quartzite	1	–	–	–	–	–	4	4	1	–	1
Quartzitic sandstone	–	–	–	–	–	–	6	6	3	–	3
Igneous	–	–	–	–	–	–	1	1	–	–	–
Rhyolite	–	–	–	–	–	–	–	1	–	–	–
Siltstone	–	1	2	–	3	1	–	1	1	3	4
<b>Group Total</b>	<b>4</b>	<b>9</b>	<b>4</b>	<b>1</b>	<b>14</b>	<b>2</b>	<b>28</b>	<b>30</b>	<b>11</b>	<b>5</b>	<b>16</b>



dominated by incomplete manos (3 of 16 are whole, and 2 of these are specialized short manos) were present across the rooms (Fig. 16.18; Table 16.16). Only the two specialized manos were found on the floor (Room 101, Floor 1), and no partial tools were reported from construction contexts. Lithic production may have taken place in various places in the roomblock. However, as the last activity in a number of storage rooms, it suggests that rooms may have served as activity areas at or after their abandonment as storage facilities, possibly because of their ability to provide shelter. One “front” habitation room had a similar assemblage. None of the utilized lithic artifacts from the floors of Roomblock 1 exhibited more than one used edge.

The occurrence of pits in Room 103 suggests a more specialized form of storage took place there

than in Room 101. The combined occurrence of both pits and a warming pit in Room 103 on Floor 1 suggests foodstuffs processing in addition to simple storage. Limited lithic production also took place in Room 103, possibly connected with this processing. The use of Rooms 101 and 103 as activity areas in addition to storage represents their expanded use during the later part of their occupation. Room 105 is another potential storage room, but what little remains does not allow for a definite determination to be made.

The flotation record from the rooms is somewhat scant (Tables 16.9, 16.17, 16.18). Burned taxa are dominated by maize in small quantities, with only a few examples of *Portulaca* (Table 16.16). Unburned weedy species seeds dominate the samples from room features (Tables 16.9, 16.17). Most of the wood



Figure 16.18. LA 37598, Roomblock 1, specialized short manos.

Table 16.16. LA 37598, ground stone by room.

	Roomblock 1	Room						Total
		101	102	103	104	201	202	
Indeterminate	–	–	–	–	1	–	–	1
Shaped slab	–	–	1	–	–	–	–	1
Sandal last	–	1	–	–	–	–	–	1
Lapidary stone	1	–	–	–	–	–	–	1
Mano	6	–	2	7	1	–	1	17
One-hand mano	–	–	1	–	–	–	–	1
Two-hand mano	4	–	1	1	–	1	–	7
Two-hand slab mano	2	–	–	–	1	–	–	3
Metate	1	–	–	–	–	–	–	1
Slab metate	–	–	1	–	–	–	–	1
Axe	–	–	1	–	–	–	–	1
Tchamahia	–	1	1	–	–	–	–	2
Ornament	–	1	–	–	–	–	–	1
Pendant	1	–	–	–	–	–	–	1
<b>Total</b>	<b>15</b>	<b>3</b>	<b>8</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>39</b>

charcoal is juniper and willow, but several shrubby plants (sage, saltbush, chamisa, and greasewood) are represented (Table 16.18).

The cumulative artifact assemblage from Roomblock 1 makes it a noteworthy provenience. Apparently specialized manos (Fig. 16.18; possibly for hide processing), whole tchamahias, the sandal-last palette, and an unusual axe or paint grinder (Fig. 16.10 [a–d]), and placement of a child burial all

point to a location with particular significance. Four of five projectile points from the site, both whole and fragmentary, came from Roomblock 1 or the extramural area immediately adjacent. Unfortunately, there is no further indication of function in the botanical remains. Some of this high occurrence of unusual and presumably valuable artifacts probably results from this being the last part of the site occupied, but the concentration of these items still sig-

Table 16.17. LA 37598, Rooms 101 and 103, plant remains, flotation scan results by taxon and floors/features; abundance per liter.

Room	101		103		
	Floor 1 Fill	Stratum between Floors 1 and 2	Floor 1 Fill	3 Pit	4 Pit
<b>FS</b>	<b>376</b>	<b>378</b>	<b>205</b>	<b>207</b>	<b>208</b>
	<b>Layer 2</b>	<b>Layer 3</b>			
<b>Cultural</b>					
Other:					
Unidentifiable	–	–	–	+	–
<b>Noncultural</b>					
Annuals:					
<i>Amaranthus</i>	–	–	+	+	–
<i>Chenopodium</i>	+	+	+	+	+
<i>Corispermum</i>	+	–	–	–	–
<i>Cycloloma</i>	+	+	–	–	–
<i>Euphorbia</i>	–	–	–	–	+
<i>Portulaca</i>	–	–	+	–	–

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = less than 10/liter

Table 16.18. LA 37598, Rooms 101–103, wood charcoal flotation results, weight (g) by taxon and feature.

Room	101	102		103	Total	
Feature	1 Bell-shaped Cist between Floors 1 and 2	1 Heating Pit	2 Fire Pit	1 Heating Pit	Weight (g)	Col. %
FS	379	363	338	203		
<b>Conifers</b>						
<i>Juniperus</i>	0.01	0.01	0.5	0.01	<b>0.53</b>	<b>37.6%</b>
<b>Nonconifers</b>						
<i>Artemisia tridentata</i>	–	–	0.01	–	<b>0.01</b>	<b>0.7%</b>
<i>Atriplex canescens</i>	–	–	0.3	–	<b>0.3</b>	<b>21.3%</b>
<i>Cercocarpus</i>	–	0.01	–	0.01	<b>0.02</b>	<b>1.4%</b>
<i>Chrysothamnus</i>	–	–	–	0.01	<b>0.01</b>	<b>0.7%</b>
Rosaceae	–	–	0.2	–	<b>0.2</b>	<b>14.2%</b>
Salicaceae ( <i>Populus/Salix</i> )	–	0.01	0.3	0.01	<b>0.32</b>	<b>22.7%</b>
<i>Sarcobatus</i>	–	–	–	0.01	<b>0.01</b>	<b>0.7%</b>
Chenopodiaceae	–	–	–	0.01	<b>0.01</b>	<b>0.7%</b>
<b>Total</b>	<b>0.01</b>	<b>0.03</b>	<b>1.31</b>	<b>0.06</b>	<b>1.41</b>	<b>100.0%</b>

nifies a high level of activity and probable special and or ritual use.

Conclusions regarding the construction of Roomblock 1 are possible despite its poor condition. It was constructed on a preexisting low mound. Previously existing cultural material may have been connected with this mound. The walls of Roomblock 1 were built directly on the mound's surface. The resulting sloping interior surfaces of the rooms were then dug out to create level floors in the rooms. Thus, we have walls with base courses at different elevations. Floor-surface elevations also vary, but to a lesser extent than the base courses of the walls.

Roomblock 1 originally consisted of a single row of rooms. Rooms 101 and 103 were part of this original construction. The resulting interior space was subdivided by construction of a wall between Rooms 101 and 103. Of the remaining rooms, Room 105 may have been the next one added (given the small remaining remnant of the room, this is questionable), lengthening the original row of rooms. A second row of rooms was then added along the south side of the roomblock, including Rooms 102 and 104. Room 102 was constructed over an earlier Pueblo II pit structure (Pit Structure 1).

Subsequent room-use sequences show variable intensities of use. Room 101 experienced a hiatus in total room use coinciding with the construction

of a large storage cist in its northwest corner. Cist use did not affect the occupation of the surrounding rooms, although major remodeling took place in Rooms 101 and 103 after cist use ceased. This remodeling included moving the wall between Room 101 and Room 103 to cover the filled in cist and the reflooring of both rooms. Room 102 was also remodeled (possibly at the same time), although only to the extent that a new floor was constructed.

The ceramic assemblages from the rooms in Roomblock 1 are mixed Pueblo II and Pueblo III (AD 900–1000 and AD 1100–1300). This mixing occurs to varying degrees in each of the rooms in this roomblock in the fill of each room and in the later wall fall. Although the ceramic assemblage numbers are small, the occurrence of Pueblo III sherds extending to the lower floors of the rooms supports a general Pueblo III (AD 1100–1300) date for Roomblock 1. A Pueblo III date is also supported by the architectural association of Roomblock 1 over Pit Structure 1, for which we have a firm Late Pueblo II ceramic date, and tchamahias are strongly associated with Pueblo III. Pit Structure 1 and the other Pueblo II areas of the site are the most obvious origin of the Pueblo II material in Roomblock 1. The small number of ceramics from Roomblock 1 does not allow for any more precise age assignment than Pueblo III.

## PIT STRUCTURE 1

Pit Structure 1 was in the west-central portion of the site, partially under Room 102 in Roomblock 1 (Figs. 16.2, 16.4, 16.19). No surface indications of Pit Structure 1 were present. It is basically circular, though the outline is quite irregular, with a bulge east of the axis above the large off-chamber cist, and an irregular curve on the west wall.

The fill of the pit structure was found under Floor 2 of Room 102. Originally this was believed to be a pit predating the room. A 1 by 3 m trench (110N/58E) dug into this cultural deposit in two arbitrary 10 cm levels revealed that the deposit had the size and depth of pit structure fill. Removal of the Room 102 floor surface allowed for definition of the pit structures edge. Pit Structure 1 was bisected, and the east half was excavated in six arbitrary 20 cm levels. These arbitrary levels cut across the temporal stratigraphy of the structures fill. An arbitrary layer of material 10 cm deep was left intact in the bottom of the pit structure. This was designated as the floor fill layer. The resulting profile of the pit structures contents was drawn, and the remaining fill was removed as a single unit. The Floor 1 fill layer was present across all of the pit structure's interior and later removed as a single unit. Pit Structure 1 is ceramically dated to the Late Pueblo II period (AD 1075–1125).

### Stratigraphy

The fill of Pit Structure 1 consisted of structural debris, eolian deposition, and some intentional dumping. Five strata of fill were present in the pit structure (Fig. 16.20). These are discussed in descending order from the modern ground surface to the floor.

Layer 1 consists of a sandy silty soil containing small bits of clay, charcoal, and some ash lensing. Trash was present, but constituted a minor portion of the total volume. Layer 1 varied in thickness, having a depth of 88 cm toward the center of the pit structure and pinching out to nothing at the edges. Some lensing of fine charcoal, eolian in origin, was present.

Layer 2 was a fine sandy eolian deposit lining most of the upper pit structure depression. The greatest depth of this material, at 50 cm, occurred against the north wall of the pit structure. This

stratum was 8 cm thick in the center of the pit structure, increasing in depth to 40 cm at the south wall. Some charcoal was present in this deposit; however, artifact occurrence was extremely low. One artifact of note from Layer 2 was a bone projectile point, a piece of large mammal bone sharpened to a point and notched (Fig. 16.21 [far right]). Polish was present on the artifact's distal end, evidence that it had been hafted.

Layer 3 was a distinct dark ash lens directly below Layer 2. The smallest of the layers recorded, it covered an area of 1 by 1 m. It was fine-textured ash 4 cm thick at its deepest point. Layer 3 represented a single distinct dumping episode and contained no artifacts. Several pit structures excavated by the project, including nearby LA 37595, show this pattern of a burn layer on top of a layer of roof dirt. This ash lens could represent a later intentional burning or may have been part of pit structure dismantling procedure in which roof timbers are removed, collapsing roofing and roof dirt onto the structure floor before organic materials from the roof were burned. Filling of structures after roof dismantling and burning of remaining roof material seems to have been allowed to progress through washing and wind deposition.

Layer 4 was composed of roof fall combined with some eolian deposits. This was a mixed fill of medium sandy soil containing lumps of clay, burnt adobe, pieces of rock and small cobbles, and charcoal; it contained a number of artifacts. This material had a depth of 40 cm across most of the pit structure, with greater deposition occurring against the south wall. In this area, Layer 4 extended up to the contemporary ground surface 1.26 m above the floor. This greater material depth along the south side suggests that the pit structure's roof was dismantled and the roof beams pulled from the north side of the structure, depositing most of the covering material to the south.

Layer 5 was the designated floor fill layer. This was the lower 10 cm of the combined roof fall material and eolian sand comprising Layer 4 (the division between Layer 4 and 5 was arbitrary). This material was directly above the floor of the pit structure. Carbonized juniper branches and corn cupules, by-products of hearth fuels, were both present in this material.

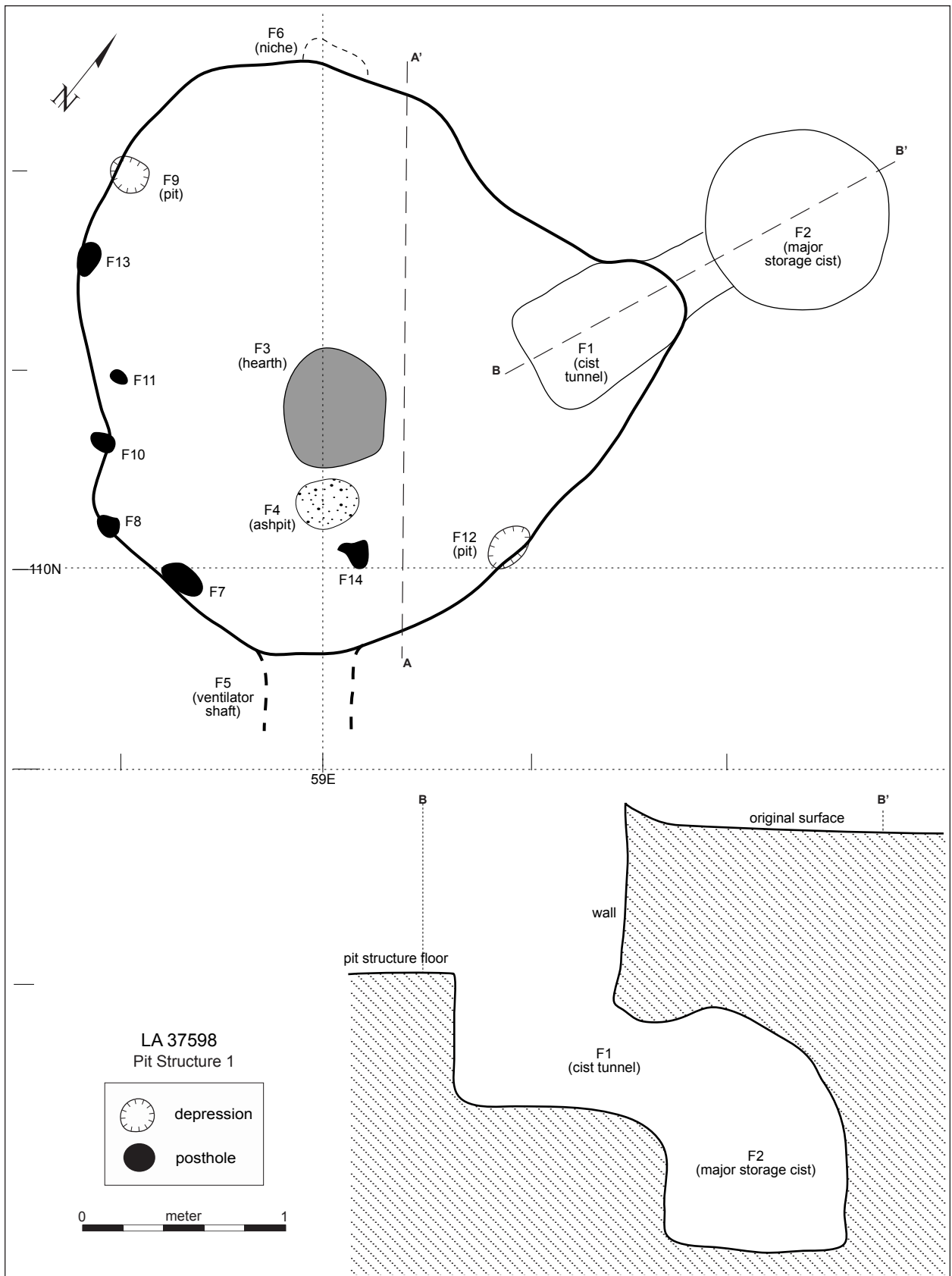


Figure 16.19. LA 37598, Pit Structure 1, plan, and Feature 1 (cist tunnel) and Feature 2 (major storage cist), profile.



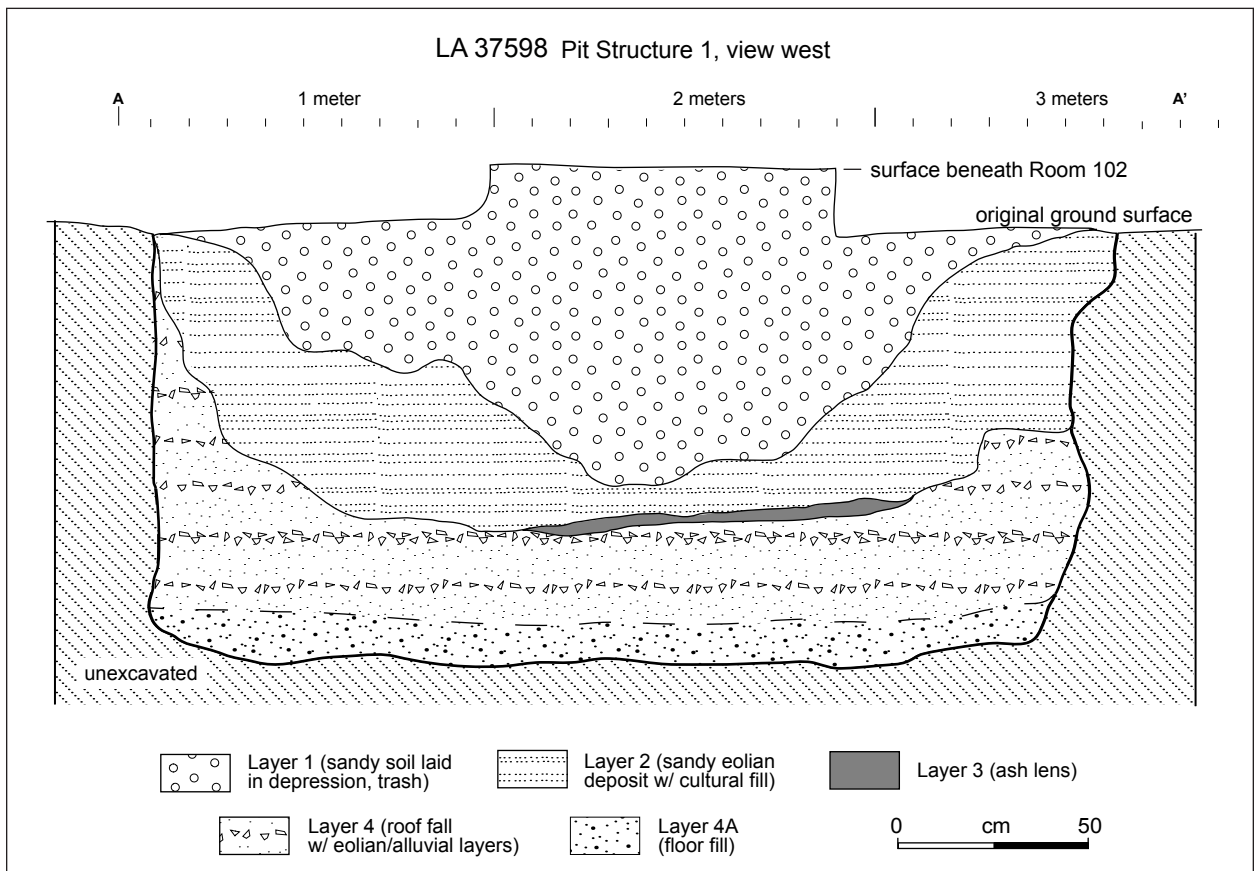


Figure 16.20. LA 37598, Pit Structure 1, profile, view west.



Figure 16.21. LA 37598, projectile points (left to right): side-notched, convex-base chalcidony point from surface stripping of Room 102; side-notched, straight-base quartzite point from Extramural Area 1 surface; corner-notched quartzite point from Pit Structure 2, Floor 1; unusual bone point from upper fill of Pit Structure 1.

## Architecture

Pit Structure 1 was constructed by digging directly into the natural alluvial deposits forming the terrace. It measured 2.83 m north-south by 2.85 m east-west, an area of 6.34 sq m (Fig. 16.19). The depth of the pit structure from the original ground surface was 1.26 m, or 1.36 m below Floor 2 of Room 102.

Pit Structure 1 consisted of a simple pit structure design (Fig. 16.19). It had vertical walls and a flat floor. There was no bench in this structure, and no pilasters were present. Interior features included the usual suite of features comprising the ventilator system. A large off-structure cist complex, including a tunnel, was off the east side of the pit structure. Two small pits were also present. A number of postholes were present in the pit structure, concentrated along the interior western wall. The pit structure was partially beneath Room 102 of Roomblock 1. Structural alignment through the ventilator opening and centers of the hearth and wall niche measured 320 degrees true north. A pit dating slightly earlier than the Pit Structure 1 (Extramural Area 3, Feature 1) was cut by the north wall of Pit Structure 1 during pit structure construction.

The walls of Pit Structure 1 were covered with a single layer of mud plaster. This single layer of plaster remained in place only on the lower 25 cm of the walls. Some light charcoal staining was evident on the remaining wall plaster. A single floor surface existed in Pit Structure 1. There was no evidence that any remodeling had occurred in the pit structure. The floor artifact assemblage was extremely small. A short use-life for the structure is suggested by the lack of remodeling, the single layer of lightly stained wall plaster, and the occurrence of a single floor. This also may account for the small size of the artifact assemblage. A single floor (Floor 1) was present in Pit Structure 1.

### Floor 1

All of the features in Pit Structure 1 were associated with Floor 1 (Fig. 16.19). The expected interior pit structure features associated with a pit structure ventilator system were present. In addition, a row of postholes was along the interior of the west wall. A large tunnel and off-chamber cist complex were also present.

Floor 1 was a well-prepared, slightly char-

coal-stained clay surface. The Floor 1 surface was placed directly onto the naturally occurring, culturally sterile, alluvial deposits. The floor surface was slightly uneven, sloping downward toward the center of the pit structure. This surface was bonded with the wall plaster, rising slightly at the junction. Floor depth was 10.43 m bsd in the center of the pit structure and 10.30 m bsd at the base of the walls.

Floor features included a hearth, ash pit, and ventilator (Table 16.19). Also present were a wall niche, two pits, and a tunnel with an off-structure cist. Along the base of the west wall, opposite the tunnel, were a series of postholes. Only one of the features, the wall niche, was sealed. Floor artifacts were few: one mano and nine pieces of animal bone. No ceramics or lithics were present. *Zea mays* pollen is present in high concentrations on the floor and in the base layer of fill in the hearth. Corn pollen is also present in appreciable quantities in the ash pit (Table 16.20), indicating that corn was processed in this structure despite the absence of processing features. Alternatively, or in addition, corn pollen may have been used ceremonially in the structure.

### Features (Floor 1)

**Tunnel and major off-chamber cist (Features 1 and 2).** This complex storage facility, off the northeast side of the pit structure, consisted of a tunnel at the juncture of the floor and east wall, extending to a large bell-shaped storage cist.

The tunnel opening was in the pit structure floor. The tunnel itself was rectangular, taller than it is wide, 90 cm high by 45 cm wide, with a flat base. The base of the tunnel was 75 cm below the floor surface. This tunnel extended 1 m before opening in the side of a large bell-shaped storage cist. The cist had a diameter of 1 m and was 1 m high with sloping walls, a flat base, and a domed roof. The tunnel served as the sole opening to the cist. Neither the tunnel nor the cist was lined. No evidence of a prepared floor was found in these features.

The tunnel (Feature 1) had two strata of fill, both of eolian material mixed with structural debris. Near the tunnel opening in the pit structure was a sandy soil mixed with some fallen wall plaster and roofing material. This material was identical with the roof fall in the lower portion of the pit structure (Layer 4) and filled the lower half of the tunnel's entrance and shaft. Above this was a fine sandy eolian deposit that also filled the cist. Both strata

Table 16.19. LA 37598, Pit Structure 1, Floor 1, features; summary table.

Feature	Length (cm)	Width (cm)	Depth (cm)	Volume (l)	Shape	Comments
1, tunnel	86.0	61.0	60.0	247.2	rectangular	–
2, storage cist	1.02	95.0	123.0	936	upright cone	located off tunnel
3, hearth	60.0	53.0	13.0	32.4	oblong curvilinear	–
4, ash pit	35.0	30.0	24.0	19.7	oblong curvilinear	–
5, ventilator	24.0 minimum	47.0	27.0	–	rectangular	not excavated
6, niche	25.0	8.0	15.0	2.3	rectangular	–
7, posthole	22.0	13.0	10.0	2.2	cylindrical	–
8, posthole	9.0	9.0	32.0	2.0	cylindrical	lithic cache
9, pit	17.0	15.0	10.0	2.0	cylindrical	–
10, posthole	10.0	10.0	12.0	0.9	cylindrical	–
11, posthole	8.0	6.0	6.0	0.2	cylindrical	–
12, pit	21.0	13.0	19.0	17.3	cylindrical	–
13, posthole	19.0	12.0	31.0	5.5	cylindrical	–
14, posthole	18.0	12.0	5.0	0.9	cylindrical	near hearth

contained a small number of artifacts. Three pieces of animal bone were recovered from the tunnel fill: two small-mammal bones and one large-mammal bone fragment. A single retouched/utilized chert core flake was present in the tunnel.

Contained in the upper layer of deposition in the tunnel were charred grass caryopses, including ricegrass, an important spring food crop because of its early maturing seeds.

The fill of the storage cist (Feature 2) consisted of one uniform strata of fine, sandy-silty eolian soil containing a small amount of charcoal. A small number of artifacts was collected from this fill. Faunal remains from Feature 2 consisted of one bird bone, one small mammal bone, and one large mammal bone fragment. Twenty lithic artifacts were in the fill of the cist: 18 core flakes, none of which showed any utilization; a core; and a hammerstone. The lithic material from this feature is primarily chert (n = 7) and siltstone (n = 6), with small amounts of silicified wood (n = 2) and quartzitic sandstone (n = 3).

This fill extended into the tunnel for its entire length, filling the upper half. This deposit also formed the eolian aspects of Strata 4 and 5 in the pit structure. Nothing associated with either of these two features indicated how they were used.

**Hearth (Feature 3).** Feature 3, a prepared hearth, was slightly south of the center of the floor. It was a simple oval, slightly saucer-shaped hearth (Figs.

16.19, 16.22). This feature had sloping walls and a flattened base. Its clay lining included a prepared lip that extended completely around the feature's edge. Little oxidation was present on the hearth's interior, suggesting it saw little use.

Two strata of fill were in the hearth. Layer 1 was a sandy soil containing some clay and small amounts of charcoal. This material averaged 6 cm deep. Layer 2, below this, was a deposit of fine white ash containing some charcoal. This material also averaged 6 cm deep. Few artifacts were recovered from the hearth. Four chert and one siltstone core flake, none utilized, were collected from the fill of the hearth. One small mammal bone was also collected from the feature's fill. Layers 1 and 2 contained corn cupules, and Layer 1 also contained corn kernels and ricegrass seeds. Juniper, greasewood, willow/cottonwood, *Ephedra*, and composite charcoal were all present in the hearth.

A slot in the clay lip, on the south side of the hearth (toward the ventilator opening), may have held a stone slab that functioned as a simple deflector for the pit structure's ventilator system, but no slab was found. The slot measured 33 cm long by 5 cm wide and was 7 cm deep.

**Ash pit (Feature 4).** Feature 4 was a small circular pit on the floor between the hearth and the ventilator tunnel opening (Figs. 16.19, 16.22). The location of this pit, combined with its ashy fill, suggests it was the ash pit for the hearth. The pit

Table 16.20. LA 37598, pollen, counts by taxon, floors/layers/features, and major provenience.

Prov.	Feat. No. (Type)	FS No.	Family (n*/pollen sum)	Arboreal		Cheno-am Concentration	Composite		Grasses		Domesticates		Shrubs		Other			
				Type	Concen.		Type (Aster-aceae)	Concen.	Concentration	Type	Concen.	Type	Concen.	Type	Concen.			
<b>Rooms</b>																		
Room 202, Floor 1	1 (hearth)	411	0 / 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Extramural Areas</b>																		
EA 2, entry room, Level 5	1 (major cist)	180	4 / 40	Pinus	651	814	high-spine	41	-	Zea	41	-	-	-	-	-	-	
EA 2, Level 3	4 (major cist)	271	10 / 238	Pinus	941	1166	high-spine	13	119	Zea	490	-	Sarcobatus	199	Onagraceae	7	-	
				Juniperus	26	-	low-spine	66	-	-	-	-	-	-	Artemisia	40	-	-
EA 1, Level 5	1 (mealing bin)	333	3 / 13	Pinus	501	167	-	-	-	Zea	56	-	-	-	-	-	-	
<b>Pit Structures</b>																		
Pit Structure 1, Floor 1, fill	-	1020	8 / 220	Pinus	1277	1522	high-spine	49	295	Zea	7316	Artemisia	196	Onagraceae	12	-	-	
							low-spine	49	-	-	-	Sarcobatus	49	-	-	-	-	-
Pit Structure 1, Floor 1, Layer 1	1 (hearth)	1022	9 / 208	Pinus	1161	4681	low-spine	399	218	Zea	798	Artemisia	36	Ephedra	36	-	-	
				Ulmus	36	-	low-spine	-	-	-	-	-	-	-	Sarcobatus	109	-	-
Pit Structure 1, Floor 1, Layer 1	4 (ash pit)	1024	8 / 52	Pinus	2191	2191	high-spine	104	209	Zea	209	Artemisia	104	-	-	-	-	
				Juniperus	104	-	-	-	-	-	-	-	-	-	-	-	-	-
				Quercus	104	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit Structure 2, Bench, Northwest	-	529	10 / 207	Pinus	1288	2671	high-spine	48	95	Zea	72	Sarcobatus	167	Onagraceae	24	-	-	
				Juniperus	24	-	low-spine	310	-	-	-	-	-	-	Ephedra	72	-	-

Table 16.20 (continued)

Prov.	Feat. No. (Type)	FS No.	Family (n*/ pollen sum)	Arboreal		Cheno-am Concentration	Composite		Grasses Concentration	Domesticated		Shrubs		Other	
				Type	Concen.		Type (Aster-aceae)	Concen.		Type	Concen.	Type	Concen.	Type	Concen.
Pit Structure 2, Bench, Southwest	–	532	5 / 36	<i>Pinus</i>	410	438	low-spine	55	–	–	<i>Artemisia</i>	27	–	–	–
Pit Structure 2, Floor 1, Northwest	–	537	3 / 30	<i>Pinus</i>	262	655	–	–	–	–	<i>Artemisia</i>	33	–	–	–
Pit Structure 2, Floor 1, Southeast	–	539	2 / 33	<i>Pinus</i>	238	2305	–	–	–	–	–	–	–	–	–
Pit Structure 2	4 (cist)	542	3 / 7	<i>Pinus</i>	17	50	–	33	–	–	–	–	–	–	–
<b>Total counts, 12 proveniences</b>			<b>13/1084</b>	<i>Pinus</i>	<b>256</b>	<b>472</b>	<b>high-spine</b>	<b>8</b>	<b>31</b>	<b>Zea</b>	<b>215</b>	<b>Artemisia</b>	<b>11</b>	<b>Cactaceae</b>	<b>1</b>
				<i>Juniperus</i>	<b>4</b>	<b>–</b>	<b>low-spine</b>	<b>32</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>Sarcobatus</b>	<b>26</b>	<b>Ephedra</b>	<b>4</b>
				<i>Quercus</i>	<b>104</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>Onagraceae</b>	<b>2</b>
				<i>Ulmus</i>	<b>2</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>

\* Number of families does not include indeterminate or *Cheno-Am* anther fragments; does include unknown as a single genus; though counted as families in the count, *Pinus* haploid, *Pinus* diploid, and *Pinus* undifferentiated are summed. Prov. = Provenience; Concen. = Concentration.





Figure 16.22. LA 37598, Pit Structure 1, Features 3, 4, and 5 (hearth, ash pit, vent shaft); view southeast.

had a flat base and slightly beelling walls. Feature fill consisted of a uniform deposit of fine ash containing small amounts of sand and charcoal. A small number of artifacts were recovered from this feature. One piece of small mammal bone was collected from the feature's fill. One large unmodified cobble was also present. Lithic artifacts collected from Feature 4 included eight core flakes and two hammerstones. Lithic materials included four chert, two siltstone, and four conglomerate flakes.

**Ventilator tunnel opening (Feature 5).** A rectangular opening in the south wall of the pit structure served as the opening for the ventilator tunnel (Figs. 16.19, 16.22). The fill of the ventilator tunnel showed it had partially filled with surface materials and had then collapsed inward. Only the opening of the ventilator tunnel was defined, since the total extent of

the tunnel was not excavated. The opening of the ventilator tunnel was lined with a single layer of plaster applied as part of the wall plastering. Feature fill was a single stratum of uniform sandy silty soil containing lumps of clay and bits of charcoal, material that had originated on the outside ground surface and had blown, washed, or somehow made its way down the ventilator's outside opening. Several thin angular pieces of rock, including one two-hand mano fragment, were also in the ventilator fill. Whether these rocks were lining elements for the ventilator or outside debris is not known. One chert hammerstone was collected from the mouth of the ventilator.

**Niche (Feature 6).** Feature 6 was a prepared wall niche (Fig. 16.19). It was in the north wall of the pit structure, 6 cm above the base of the wall. The base and sides of the feature were intact, although the upper edge exhibited some erosional damage. The niche was sealed with plaster prior to the pit structure's abandonment. Feature fill consisted of a sandy silty soil containing charcoal. The niche was slightly west of alignment with the hearth and ventilator opening. No artifacts were collected from the niche.

**Pits (Features 9, 12).** Two pits were on Floor 1 of the pit structure, both at the juncture of the wall and floor (Fig. 16.19). Feature 9 was in the southeast quadrant of the pit structure. The second pit, Feature 12, was directly across the pit structure from Feature 9 in the northwestern quadrant. The fill of both pits was identical to Layer 5 of the pit structure fill (a combination of roof fall and some eolian material), indicating both pits were open at abandonment. A single lithic artifact, a piece of chert debitage, was found Feature 12. No artifacts were recovered from Feature 9.

**Postholes (Features 7, 8, 10, 11, 13, 14).** A series of five postholes was found along the inside base of the pit structure's west wall (Features 7, 8, 10, 11, and 13) at the juncture of the floor and wall (Fig. 16.19). They vary in size and depth. No wood samples or post impressions were found, suggesting the posts were pulled prior to abandonment. One small-mammal bone was recovered from the fill of one posthole, Feature 13. Lithic artifacts were found in Feature 8.

Posthole 8 was the only posthole containing

a substantial number of artifacts. A cache of lithic artifacts was found in the bottom of this posthole. The cache consisted of seven brown quartzite core flakes, all the product of a single core. Two of the flakes show evidence of utilization. The cache clearly was intentionally placed. Its location and composition suggests it may have served as an offering. As an offering, this lithic cache could have been connected with construction or closure of the pit structure. Alternatively, it may have been placed for future everyday use. A single piece of chert debitage was found in Posthole 11.

The posts contained by these postholes served as part of the roof-support system of Pit Structure 1. They may have provided added support for the roof in an area of alluvial sandy soil. The lack of postholes in the east interior may be related to the presence of the tunnel (Feature 1) in this area of the pit structure. Fear of weakening the east wall could have prevented the placement of posts in this part of the pit structure.

Feature 14 was found on Floor 1, away from the walls, between the ventilator opening and the ash pit. It contained one layer of fill, sand with a small quantity of clay. No artifacts were recovered from Feature 14. The position of this feature in the pit structure suggests it was a ladder rest—an impression left by a ladder leading to a rooftop opening. Only one impression remained, rather than a pair, but the absence of a second impression may reflect the soil condition of the floor.

## Cultural Material

Artifact distribution in Pit Structure 1 reveals little concerning activities that may have taken place there. The number of artifacts is small, indicating that the pit structure saw little use prior to abandonment. Artifacts were recovered from several features, and they may have some bearing on structural utilization. Few artifacts were recovered from the Floor 1 surface. The cache of lithic artifacts in Feature 8 could be an offering connected with pit structure construction.

**Ceramics.** The pottery is dominated by gray jars. Distribution of vessel forms seems unremarkable. Organic and mineral paint are mixed, with a slight prevalence of organic paint near the floor. The unbalanced distribution of mineral and organic painted sherds in the fill is presumably a result of the abundance of earlier sherds around the open structure after abandonment (Table 16.22).

**Chipped stone.** Only two lithic artifacts occurred on the floor surface, though more were in seven of the pit structure's features (Table 16.23). Artifact types are restricted to debitage, with utilized debitage present in greater abundance than the norm. Other lithic tools are limited to hammerstones in the ventilator opening and the ash pit. This variety of locations represents a variety of material types. Chert is the prevalent material type in this assemblage. Quartzite is the only material represented

Table 16.22. LA 37598, Pit Structure 1, vessel form and paint type, counts by fill type.

	General Fill	Above Roof	Below Roof	Roofing	Floor Fill	Floor	Total
<b>Vessel Form</b>							
White bowl	13	31	6	–	2	7	<b>59</b>
Gray jar	75	116	8	10	14	18	<b>241</b>
Decorated jar	24	12	4	–	–	3	<b>43</b>
Ladle	1	1	–	1	–	1	<b>4</b>
Indeterminate	–	1	–	–	–	2	<b>3</b>
<b>Total</b>	<b>113</b>	<b>161</b>	<b>18</b>	<b>11</b>	<b>16</b>	<b>31</b>	<b>350</b>
<b>Paint Type</b>							
None	17	16	4	–	–	4	<b>41</b>
Organic	5	23	–	–	2	5	<b>35</b>
Mineral	16	5	6	1	–	4	<b>32</b>
<b>Total</b>	<b>38</b>	<b>44</b>	<b>10</b>	<b>1</b>	<b>2</b>	<b>13</b>	<b>108</b>

in the cache of lithic artifacts found in Feature 8. The homogeneity of this material shows that it is from a single core. Two of the seven flakes are utilized, suggesting that the flakes may represent a tool kit. None of the utilized lithic artifacts recovered from the floor and features of Pit Structure 1 exhibit more than one use-edge.

**Ground stone.** Four of six axes recovered from the site are associated with Pit Structure 1 (Table 16.24). Two of these are in general fill, and two are from below the roof, showing a stronger association. The other two axes from the site are from

nearby, in Extramural Area 1. Although no strong use-association was discerned, the concentration of hafted tools—axes and tchamahias—in this part of the site is remarkable (Fig. 16.10 [a-d]). Though some are from Pit Structure 1 fill, some from room fill, and some from an extramural context, five of seven are from a 2 by 4 m area, all are from an area of 11 m north-south by 2 m, and hafted tools were not found elsewhere on the site. Clearly, tools for working fields and perhaps for woodcutting are associated with this part of the site. A two-hand trough mano is associated with the pit structure floor.

Table 16.23. LA 37598, Pit Structure 1, chipped stone tool and material types, counts by fill type.

	General Fill	Above Roof	Below Roof	Roofing	Floor Fill	Floor	Total
<b>Tool Type</b>							
Debitage	24	64	12	7	9	39	<b>155</b>
Core	3	–	1	–	–	1	<b>5</b>
Retoucheddebitage	4	5	5	2	2	2	<b>20</b>
Hammerstone	5	–	3	1	1	5	<b>15</b>
<b>Total</b>	<b>36</b>	<b>69</b>	<b>21</b>	<b>10</b>	<b>12</b>	<b>47</b>	<b>195</b>
<b>Material Type</b>							
Chert	16	33	16	6	7	20	<b>98</b>
Chalcedony	–	1	–	–	–	–	<b>1</b>
Silicified wood	–	5	2	1	–	2	<b>10</b>
Quartzite	5	11	1	2	1	7	<b>27</b>
Quartzitic sandstone	4	–	–	–	–	3	<b>7</b>
Rhyolite	–	1	–	–	–	–	<b>1</b>
Sandstone	–	1	–	–	–	–	<b>1</b>
Siltstone	11	16	2	1	4	10	<b>44</b>
Other	–	1	–	–	–	5	<b>6</b>
<b>Total</b>	<b>36</b>	<b>69</b>	<b>21</b>	<b>10</b>	<b>12</b>	<b>47</b>	<b>195</b>

Table 16.24. LA 37598, Pit Structure 1, ground stone tool types, counts by fill type.

	General Fill	Above Roof	Below Roof	Floor	Total
Jar cover	1	–	–	–	<b>1</b>
Mano	–	2	–	–	<b>2</b>
Two-hand mano	–	1	–	–	<b>1</b>
Two-hand trough mano	–	–	–	1	<b>1</b>
Metate	2	–	–	–	<b>2</b>
Slab metate	3	1	–	–	<b>4</b>
Axe	1	–	–	–	<b>1</b>
Two-notch axe	1	–	2	–	<b>3</b>
Ornament	–	1	–	–	<b>1</b>
<b>Total</b>	<b>8</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>16</b>

*Faunal remains.* Turkey is the most abundant type of faunal elements, but most occurred above the roof (Table 16.25). The collection contains five mostly complete left radii, and so not from one individual. Leg bones are absent, and a number of the elements are foot and wing-tip bones. The bone shows minimal cutting or signs of thermal alteration, and none is modified into a tool. The bone is probably the result of food processing. Although minimal macrobotanical corn remains were present in the structure, some of the highest corn pollen counts at the site are from several floor proveniences in this structure (Table 16.20). Visible corn remains are present in small numbers in the hearth, and the high pollen counts suggest ceremonial use of corn pollen. Pit Structure 1 had a wide assortment of cultural seed remains, including ricegrass, ground cherry, cactus, and yucca (Tables 16.26, 16.27, 16.28).

*Sequence and Interpretation Summary:  
Pit Structure 1*

The occupational sequence of the general area of Pit Structure 1 began before the pit structure's construction. A pit (Feature 1, Extramural Area 3) represents the first cultural activity to take place

in this area of the site. Not long after use of the pit had ceased, it was cut and filled before the construction of Pit Structure 1. This construction was part of the extensive Pueblo II occupation of the site that included Pit Structure 2 and Roomblock 2. Pit Structure 1 was abandoned after a relatively short use-life, and the roof beams were pulled. The open pit structure filled through time, with at least one load of ash deposited in the partially filled pit structure. In the Pueblo III period, the construction of Roomblock 1 took place over the filled pit structure.

Pit Structure 1 is unusual in several ways: its irregular outline, small size, and relative shallowness. In some ways it seems to be a combination of a mealing room and a regular "kiva." The absence of mealing bins, its size and depth, and the presence of large amounts of corn pollen and a number of hammerstones are all reminiscent of Pueblo II mealing rooms. The hearth, off-chamber cist, well-prepared floor, and ventilator all point to a regular Pueblo II-III pit structure. Some specialized function related to processing and storage of crops seems likely given the structure's unusual characteristics.

The short use of Pit Structure 1 is indicated by the lack of remodeling or of use-wear of either the pit structure itself, or of the features in it. Abandonment was rapid and occurred not long after Pit Structure 1 was completed, or perhaps traffic in

Table 16.25. LA 37598, Pit Structure 1, faunal remains, taxa counts by fill type.

	General Fill	Above Roof	Below Roof	Roofing	Floor Fill	Floor	Total
Prairie dog	–	–	–	–	1	–	1
Small squirrel	–	1	–	–	–	1	2
Pocket gopher	–	3	–	–	–	–	3
Mouse	–	1	–	–	–	1	2
Cottontail rabbit	–	3	–	–	1	–	4
Jackrabbits	1	1	–	–	–	–	2
Dog, coyote, wolf	–	1	–	–	–	–	1
Deer	3	–	–	–	1	–	4
Mammal	–	1	–	–	–	1	2
Small mammal	2	18	–	–	1	6	27
Medium-large mammal	–	12	–	–	1	–	13
Large mammal	5	4	1	1	7	4	22
Quail	–	–	–	1	–	–	1
Turkey	5	49	–	1	–	–	55
Bird	1	26	1	–	–	1	29
<b>Total</b>	<b>17</b>	<b>120</b>	<b>2</b>	<b>3</b>	<b>12</b>	<b>14</b>	<b>168</b>
Egg shell	–	4	–	2	–	–	6

Table 16.26. LA 37598, Pit Structure 1, plant remains, flotation results by taxon and feature/layer; frequency and abundance per liter.

Feature	1 Tunnel	2 Pit	Floor 1 Fill	3 Hearth		4 Ash Pit	8 Posthole, Cache of Lithics
FS Provenience	1002 Layer 1	1004 Layer 3	1007	1022 Layer 1	1023 Layer 2	1024 Layer 1	1028
<b>Cultural</b>							
Annuals:							
<i>Cheno-Am</i>	1	–	–	–	–	–	–
<i>Cycloloma</i>	–	–	–	–	–	30	–
<i>Portulaca</i>	1	–	–	–	–	–	–
Cultivars:							
<i>Zea mays</i>	+ cupule	–	+ cupule, 4.0 kernel	+ cupule, 1.0 kernel	+ cupule	1.0 cob, + cupule 1.0 kernel	–
Grasses:							
<i>Gramineae</i>	1	–	–	2	–	1	–
<i>Oryzopsis</i>	–	–	8	12	–	–	–
<i>Physalis</i>	1	–	15	–	–	–	–
Perennials:							
<i>Atriplex canescens</i>	–	–	1.0 fruit	–	–	–	–
<i>Echinocereus</i>	2	–	2	–	–	–	–
<i>Yucca</i>	1	–	–	–	–	–	–
<b>Possibly Cultural</b>							
Annuals:							
<i>Chenopodium</i>	63	–	33	33	–	–	–
<i>Nicotiana attenuata</i>	2	1	3	–	–	–	–
<b>Noncultural</b>							
Annuals:							
<i>Amaranthus</i>	–	4	–	–	–	–	10
<i>Chenopodium</i>	–	8	–	–	–	6	2
<i>Cycloloma</i>	3	2	6	3	–	–	–
<i>Descurainia</i>	1	–	–	–	–	–	–
<i>Euphorbia</i>	–	1	12	4	–	–	–
<i>Mentzelia albicaulis</i>	–	–	4	1	–	–	–
<i>Monolepis</i>	–	–	–	–	–	–	17
<i>Portulaca</i>	10	3	–	2	–	4	2
Grasses:							
<i>Sporobolus</i>	2	–	2	–	–	–	–
Other:							
<i>Physalis</i>	1	–	–	–	–	–	–
<i>Sphaeralcea</i>	–	–	–	–	–	1	–

the structure was light. The floor and walls show little sign of staining. A single floor was in the pit structure, a single layer of wall plaster was on the lower walls, and the hearth showed little evidence of use—all indications of short-term use.

Once abandonment of the pit structure took place, the deflector slab was removed from the structure, the interior posts were removed, and the

roof beams were pulled, covering the floor with a mixture of roof fall debris. Eolian deposition filled the partially open tunnel, the cist, and finally the whole lower portion of the pit structure. One load of ash was dumped into the partially filled structure. Eolian deposition continued to take place until the remaining depression was finally filled, perhaps intentionally.



Table 16.27. LA 37598, Pit Structure 1, plant remains, flotation scan results by taxon and feature/layer; abundance per liter.

Feature/Fill	Floor Fill	1 Tunnel	5 Vent Tunnel
<b>FS Provenience</b>	<b>1020 Layer 7</b>	<b>1003 Layer 3</b>	<b>1025</b>
<b>Cultural</b>			
Perennials:			
<i>Juniperus</i>	–	leaf +	–
Grasses:			
Gramineae	+	–	–
<i>Oryzopsis</i>	+	–	–
Cultivars:			
<i>Zea mays</i>	cupule +, kernel +	–	–
<b>Noncultural</b>			
Annuals:			
<i>Amaranthus</i>	+	+	–
<i>Chenopodium</i>	–	++	+
<i>Cycloloma</i>	–	–	+
<i>Euphorbia</i>	–	+	–
<i>Monolepis</i>	–	++	–
<i>Portulaca</i>	+++	+	–
Grasses:			
<i>Oryzopsis</i>	–	–	+

All cultural plant remains are carbonized.  
 Plant remains are seeds unless indicated otherwise.  
 + = less than 10/liter, ++ = 10–25/liter,  
 +++ = 25–100/liter

### PIT STRUCTURE 3

Pit Structure 3 was 4 m southwest of Roomblock 1 and 6 m southwest of Pit Structure 1 (Figs. 16.2, 16.4). There was no visible evidence of this pit structure on the modern ground surface. The upper fill of Pit Structure 3 was exposed to a depth of 90 cm in the walls and bottom of Backhoe Trench 4. A profile and plan view were drawn of this exposed portion. There were no indications of the pit structure's total depth. Pit Structure 3 had a projected diameter of 5 m based on the exposed portion of the pit structure in the backhoe trench.

A single layer of fill was visible in the exposed portion of the pit structure. This was a dense silty sandy soil containing a heavy concentration of cultural material including large numbers of cobbles, adobe, and portions of possible roof and wall fall. Charcoal, and ceramic and lithic artifacts were also present. One segment of standing masonry wall (four courses of cobbles) was visible in the profile. The function of this masonry could not be deduced from the visible portion. This wall segment was heavily oxidized, suggesting that Pit Structure 3 burned.

Artifacts were collected from the backhoed portion of the pit structure. The collected ceramic sample from Pit Structure 3 proved to be too small for an accurate date. The pit structure's association with Roomblock 1 suggests it dates to the Pueblo III period.

Table 16.28. LA 37598, Pit Structure 1, wood charcoal flotation results, weight (g) by taxon and feature/layer.

Feature/Fill	1 Tunnel	2 Pit	Floor 1 Fill	3 Hearth	4 Ash Pit	Total		
<b>FS Provenience</b>	<b>1002 Layer 1</b>	<b>1004 Layer 3</b>	<b>1007</b>	<b>1022 Layer 1</b>	<b>1023 Layer 2</b>	<b>1024 Layer 1</b>	<b>Weight (g)</b>	<b>Col. %</b>
<b>Conifers</b>								
<i>Ephedra</i>	–	–	–	0.01	–	0.01	<b>0.02</b>	<b>&lt;1%</b>
<i>Juniperus</i>	0.10	0.01	0.10	0.50	0.30	0.20	<b>1.21</b>	<b>16%</b>
<b>Nonconifers</b>								
<i>Amelanchier</i>	0.20	0.20	0.10	0.10	–	0.01	<b>0.61</b>	<b>8%</b>
Chenopodiaceae	–	–	0.10	–	–	–	<b>2.20</b>	<b>30%</b>
Compositae	–	–	–	0.10	–	0.50	<b>0.60</b>	<b>8%</b>
Salicaceae ( <i>Populus/Salix</i> )	–	0.01	0.20	0.50	0.20	0.10	<b>1.01</b>	<b>14%</b>
<i>Sarcobatus</i>	0.20	0.01	0.10	0.10	0.10	0.50	<b>1.01</b>	<b>14%</b>
Unknown nonconifer	–	–	–	–	0.01	0.70	<b>0.71</b>	<b>10%</b>
<b>Total</b>	<b>0.50</b>	<b>0.23</b>	<b>2.70</b>	<b>1.31</b>	<b>0.61</b>	<b>2.02</b>	<b>7.37</b>	<b>100%</b>

Pit Structure 3 was not excavated because the NMDOT decided to move the western right-of-way line 4 m to the east to preserve the pit structure and any features and deposits that might be associated with it.

## EXTRAMURAL AREA 2

Extramural Area 2 was the area east of the highway with east grid coordinates greater than 71 (Figs. 16.2, 16.23). The depositional sequence exposed in the backhoe trenches on the east side of the highway was essentially the same sequence of alluvial deposition observed in Extramural Area 1, to the west: a series of four horizontal bands consisting of fine alluvial silt and sand varying only slightly in thickness, texture, and color.

Eight backhoe trenches were dug across the portion of the site east of NM 170. Each trench was dug to a depth of 1.4 m and oriented on grid north (Table 16.2). Seven of these were exploratory trenches dug to locate subsurface structures and extramural features not visible on the modern ground surface. Backhoe Trench 14 was dug to define the interior stratigraphy and form of Pit Structure 2. A major two-room storage cist (Features 1 and 4) was discovered in Backhoe Trench 9 48N/78E. Charcoal lenses visible near the surface in Backhoe Trench 8 were later determined to be recent.

An example of channeling in the alluvial fan deposit was visible in the profile of Backhoe Trench 12, 56N/83.30E. Similar to that visible in Backhoe Trench 1, west of the highway, it consisted of a series of alluvial deposits cut by a sand and gravel watercourse that in turn filled with alluvial material. Another example of this alluvial action was visible in Backhoe Trench 9, 48N/78E. Here the original terrace material was cut by a later water channel that filled with alluvium.

### Surface Scraping

Mechanical surface scraping was employed in several areas of Extramural Area 2 to expose additional features not visible on the modern ground surface.

**74N/80E.** An area of 9.5 by 8.5 m was scraped to locate possible features and structures not visible on the modern ground surface. One 10 cm level was removed from the modern ground surface. Soil anomalies exposed in this area were later shovel tested, revealing Pit Structure 2.

**84N/90E.** An area of 4 by 7 m was scraped to locate possible features in the area between Roomblock 2 and Pit Structure 2. A single level, 10 cm thick, was stripped off the modern ground surface. No features or structures were found.

### Shovel Tests

Soil anomalies exposed by mechanical surface scraping suggested the possible presence of a subsurface feature or pit structure in this part of the site. Three shovel tests were excavated to locate possible features or structures in the area directly south of Roomblock 2: 77.75N/92E (Shovel Test 1), 77.2N/84E (Shovel Test 2), and 75N/89.75E (Shovel Test 3). Shovel Test 1 was dug in three levels to a depth of 30 cm. Shovel Tests 2 and 3 were dug as full cuts to a depth of 30 cm. Shovel Test 1 exposed a segment of waterline trench. Shovel Tests 2 and 3 encountered phone cables. Shovel Test 2, dug in the area of curious soil anomalies and mottling, also revealed Pit Structure 2.

### Test Trenches

Seven test trenches were dug in Extramural Area 2 to find additional features associated with Roomblock 2, Pit Structure 2, or the other known features. No additional features were located.

Test Trenches 81.2N/82.75E, 2 by 1.5 m; and 83N/83.75E, 1 by 3 m were dug to find possible structures associated with the major storage cist (Features 1 and 4). Both trenches were dug in arbitrary 10 cm levels. The upper 40 cm of each trench contained redeposited artifacts and charcoal; the lower four levels (40 cm) of both trenches were culturally sterile. No additional features were located.

Test Trenches 100N/90.50E, 114N/92E, and 118N/87E (1 by 3 m) were nonrandomly selected and excavated to find possible features and structures in areas not backhoed. Two trenches were dug in arbitrary 10 cm levels to a total depth of 30 cm. Test Trench 100N/90.50E was dug in four levels to a depth of 40 cm. The upper layer of material from 100N/90.50E was a mixed deposit containing artifacts. The lower three layers were culturally sterile alluvial material. Two utility lines crossed the trench perpendicular to its long axis. An auger hole was dug in the trench bottom to an additional depth of 1 m. No cultural material was found in any of the trenches.

Test Trench 114N/92E was dug in seven arbitrary 10 cm levels (70 cm). Artifacts were present in

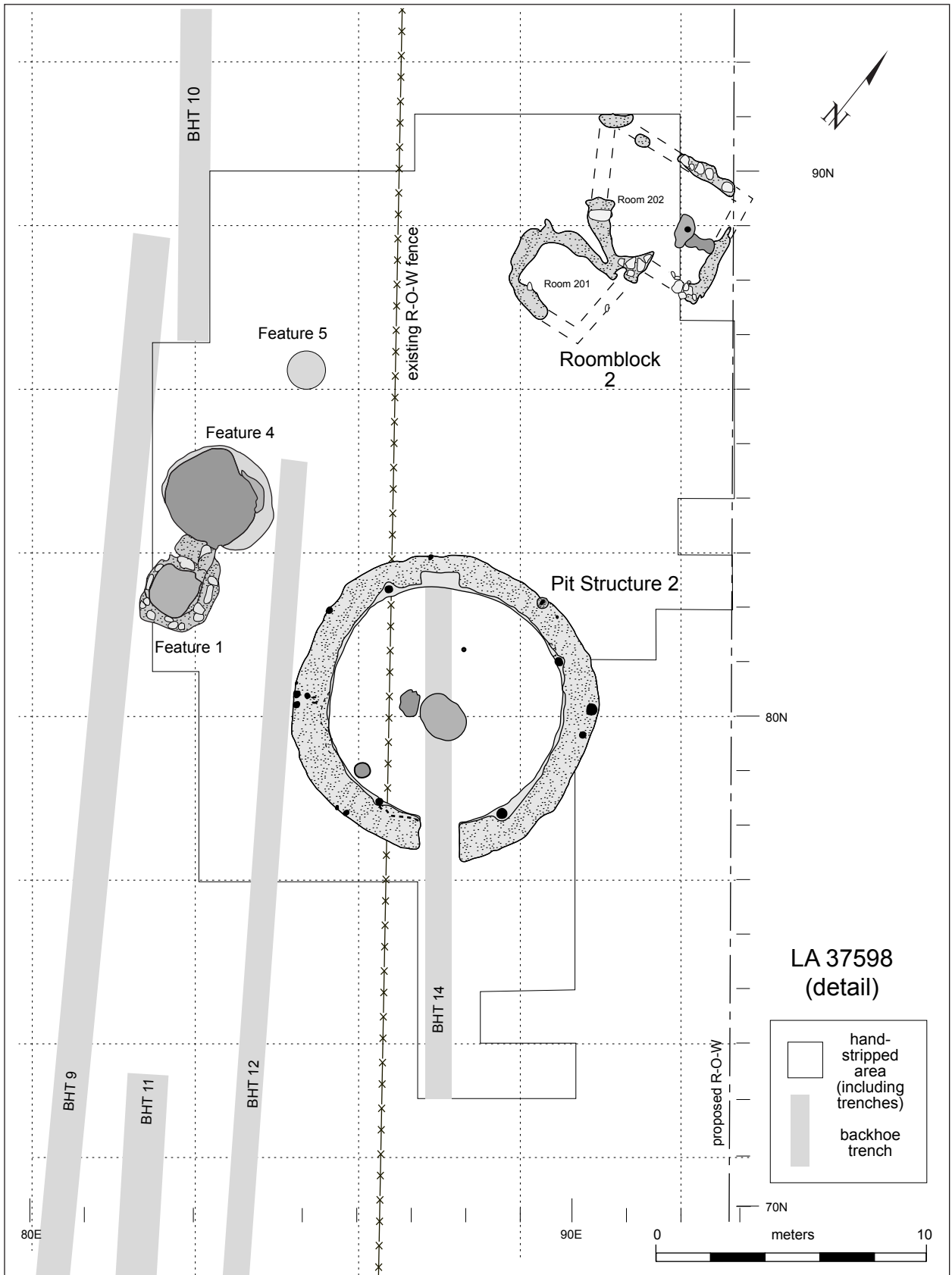


Figure 16.23. LA 37598, Extramural Area 2 (east of NM 170), detail: Roomblock 2 and Pit Structure 2, with extramural Features 1 and 4 (cist with entry); plan.

Levels 2, 3, and 6. The undisturbed material in the trench was alluvial sandy soil or a sandy clay deposition. Two utility lines crossed the trench perpendicular to its long axis, one through the middle of the trench, the second along the western edge. Most of the artifacts, especially the sherds from Level 6, are from this trench fill. An auger hole was dug to an additional depth of 28 cm, but no cultural material or features were found.

Test Trench 118N/87E was dug in four levels to a depth of 40 cm. Material composition in the trench was a consistent, mixed silty material with some gravel lensing near the base of the trench. Artifacts and charcoal were present in all four levels excavated. Two utility lines crossed this trench perpendicular to its long axis. The probable origin of the recovered artifacts was the redeposited fill from these utility trenches. Two auger holes were dug in the bottom of the trench. Auger Hole 1 in the east portion of the trench went to a depth of 40 cm. The auger hole in the western end of the trench went to a depth of 15 cm. Neither auger hole revealed any cultural material.

Test Trenches 123N/86E (5 by 5 m) and 124N/88E (3 by 3 m) were large areas stripped to define two burnt surfaces in the northeast portion of the site. These overlapping burnt areas were designated Features 2 and 3.

### Features (Extramural Area 2)

A number of extramural features were found in Extramural Area 2, in the portion of the site east of the highway (Fig. 16.23; Table 16.29).

#### *Complex major storage cist (Features 1 and*

4). This storage cist was first exposed in Backhoe Trench 9 (Figs. 16.24a, 16.24b). It consisted of two distinct parts, a subsurface masonry room (Feature 1) connected to a bell-shaped cist (Feature 4).

Feature 1 is a subfloor masonry chamber that formed the south portion of the storage cist. The masonry walls were primarily of cobble construction, although some angular sandstone and concretion fragments were also present. These walls are 20 cm thick. Prepared stone used in construction was restricted to pieces of shaped green shale used to build the pilasters and a reinforcing wall constructed in the bell-shaped cist (Feature 4). Two masonry pilasters extended outward into the room. Constructed of shaped blocks of green shale and mud plaster, the pilasters flanked a doorway on the north wall leading into the bell-shaped cist. The western pilaster collapsed prior to the filling of the feature, probably soon after abandonment and possibly in connection with the removal of the roof. This masonry room (Feature 1) contained a well-prepared clay floor 2 cm thick. The floor area between the two pilasters was paved with sandstone slabs. This paving was tied into a masonry reinforcing wall below the doorway in the bell-shaped cist. No floor or wall features were present in Feature 1, suggesting that this combination of features served as a storage facility.

No indication of roof form or construction was found, although a cribbed wooden and earth roof is likely to have been used. The lack of an entryway or entrance tunnel suggests a roof entry was originally present. No activity surface associated with this complex storage feature was found, although the top of the wall masonry suggests that the original

Table 16.29. LA 37598, Extramural Area 2, features; summary table.

Feature	Type	Grid Location	Length (m/cm)	Width (m/cm)	Depth (m/cm)	Vol. (l)	Shape	Comments
1	masonry room	81N/83E	1.0 m	1.0 m	0.80 cm	628.3	rectangular	complex major storage cist with entry room, Burial 1
4	bell-shaped cist	81N/83E	2.15 m	1.85 m	1.5 m	4,713	upright cone	—
2	burnt surface	124N/88E, 87E	—	—	—	—	—	noncultural burns
3	burnt surface	124N/88E, 87E	—	—	—	—	—	—
5	fire pit	86N/85E	49.0 cm	42.0 cm	20.0 cm	32.3	oblong curvilinear	—

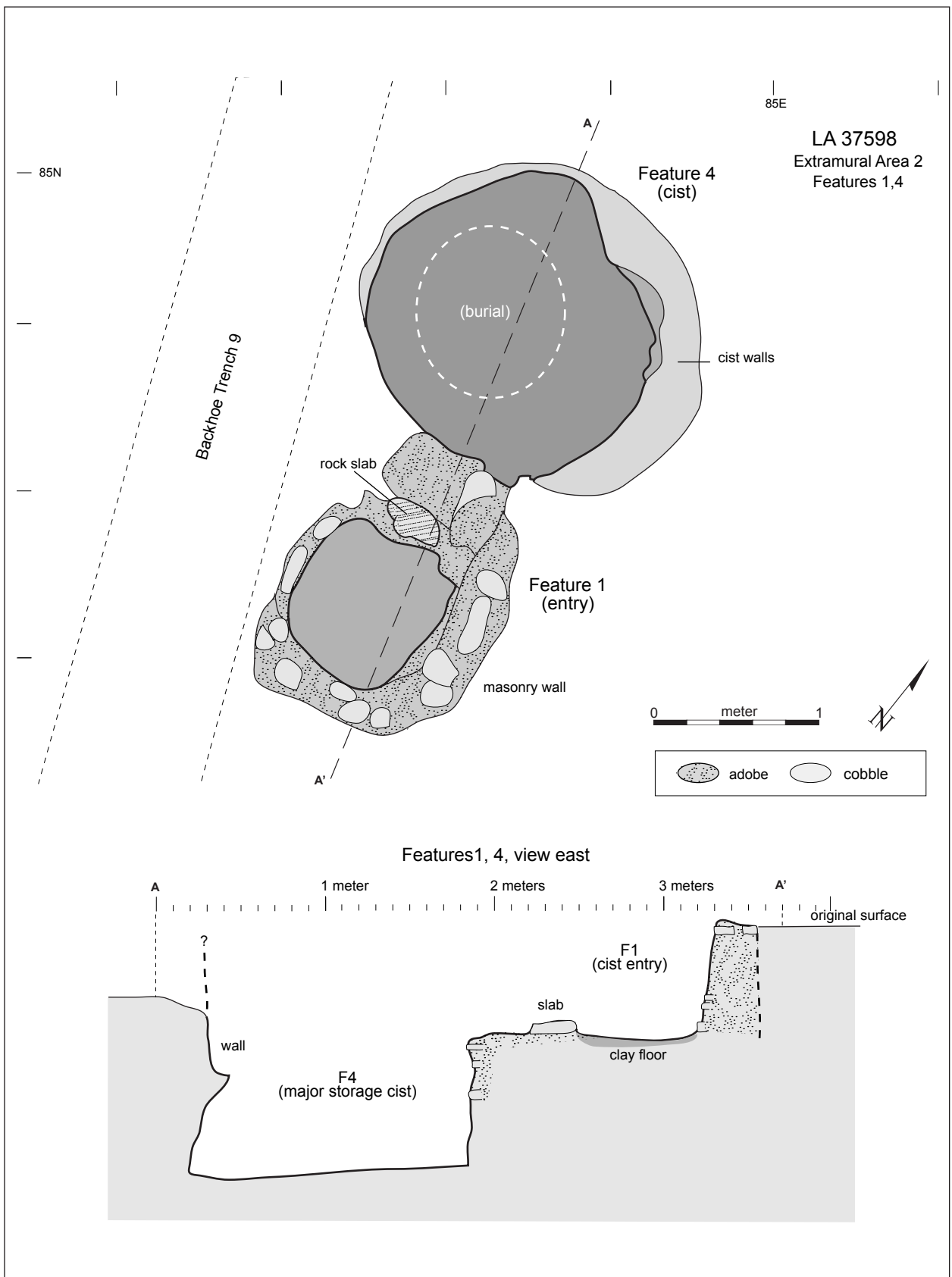


Figure 16.24a. LA 37598, Extramural Area 2, Features 1 and 4 (cist with entry), plan and profile, view east.





Figure 16.24b. LA 37598, Extramural Area 2, Features 1 and 4 (cist with entry), view east.

ground surface was close to the current ground surface.

A bell-shaped cist with an oval floor measuring 1.85 by 2.15 m formed the north portion of this complex storage cist. Originally believed to be a separate feature, it was called Feature 4. The cist was not lined, and there was no evidence of a prepared floor. Fill in the cist suggests it had a domed clay roof. The roof would have presumably been added after construction, since the sandy nature of the soil makes it unstable for tunneling. The only opening in the cist during the feature's period of use would have been the connecting doorway from the subsurface masonry room to the south. This room in turn would have been entered through a doorway in its roof. Although the constricted upper portion of the cist had collapsed, we postulate a height of 1.5 m above the floor.

The doorway from Feature 1 entered this cist on its south side at a height of 66 cm above the floor. The cist wall below the doorway was reinforced with an insert of stone and clay masonry measuring 50 cm wide and 40 cm high. This construction consisted of shaped pieces of green shale similar to those used

for the pilasters and extended 40 cm down from the floor of Feature 1. Sometime after abandonment, the cist was used as an expedient burial pit. An articulated burial was found in this feature, in fill above the floor.

The fill of Feature 1 reflects the processes that affected it after abandonment. Layer 1 in Feature 1 is a combination of light alluvial and eolian material that collected in the remaining depression, after most of the feature had filled with eolian sand. Layer 2, an eolian deposit, filled most of the feature with a fine sandy silt, containing some charcoal and a few small sherds and lithic artifacts from the surface. The finer portion of this eolian material found its way into the bell-shaped cist. This material sloped upward from the area of the connecting doorway, reaching the top of the walls on the south side of the room.

Prior to filling, but early after abandonment, the western pilaster collapsed, probably when the roof was removed. The position of this collapsed element beneath the internal deposition of Feature 1 suggests abandonment in an empty and relatively intact state.

The fill sequence for Feature 4 is somewhat dif-

ferent. Layer 1 consists of the collapsed roof of the bell-shaped cist. This material was a combination of clay, alluvial sandy soil and gravel, and some surface soil. Layer 2, the next layer of material in the cist, consisted of clean fine silty sand. This material exhibited its greatest depth against the south wall of the cist, sloping downward from the connecting doorway between the two features. Eolian in origin, this deposit had entered through the connecting doorway from Feature 1 prior to the collapse of the cist roof. Ten disarticulated human bones were also recovered from this layer of this feature, including hand and foot bones and some teeth. Layer 3 was a 10 cm thick layer of laminated sandy silt and clay, the result of combined standing water and alluvial deposition on the floor of the cist (Feature 4).

A total of 45 ceramic artifacts were collected from the two distinct areas constituting this feature. Thirty-five sherds were collected from Feature 1, the subsurface masonry room. Of these, 2 are Deadmans Black-on-red, 3 are Pueblo II–III Black-on-white, 1 is polished white ware, 28 are corrugated gray ware, and 1 is plain gray ware. Faunal remains recovered from the feature consist of one large-mammal bone and one small-mammal bone.

A total of 82 lithic artifacts were recovered from the fill of the masonry portion (Feature 1) of the complex storage cist. One hundred and fifteen lithic artifacts were collected from the two parts of the feature. Of this total, 80 lithic artifacts were recovered from the masonry room fill, including 75 pieces of debitage, 3 pieces of retouched/ utilized debitage, 1 core, and 1 hammerstone. A majority of these artifacts are composed of chert, with quartzitic sandstone a distant second in occurrence. A number of other materials are also present in smaller amounts. Two lithic artifacts, both debitage, were found on the floor of the masonry room – one chert, the other chalcedony.

The bell-shaped cist (Feature 4) yielded 10 ceramic artifacts. One sherd is Mancos Black-on-white, one is Pueblo II–III black-on-white, two are polished white ware, and six are corrugated gray ware. The ground stone artifacts associated with this complex feature are two shale pendants, one one-hand mano, and two mano fragments. Faunal artifacts from this portion of the feature consist of two bird bones (turkey?) and three small-mammal bones. Thirty-three lithic artifacts were collected from the fill of the cist, including 29 pieces of debitage and

3 pieces of retouched/ utilized debitage. The one formal tool collected from this complex storage cist, a drill, came from the fill of Feature 4. Two of the retouch/ utilized debitage exhibit two used edges. Materials in this assemblage are primarily chert; large amounts of silicified wood, quartzite, and siltstone are also present. Smaller amounts of other materials also occur.

A burial (Burial 1) was found in the cist (Feature 4) above the floor on top of Layer 3. It was an articulated semiflexed burial, positioned on its back and right side. It was placed directly on the existing layer of fill. There was no evidence of any formal grave preparation. No grave goods or artifacts were found in association with the burial. Partially covering the burial was a scatter of rock (21 pieces) that included the three manos collected. The good overall condition of the bone and the lack of bone damage attributable to the rock suggest the rock went into the cist after the burial was in place but before decomposition had occurred.

Ceramics associated with this feature showed a Pueblo II or Pueblo III (AD 900–1300) component. However, architectural association with both Pit Structure 2 and Roomblock 2 supports a Mid Pueblo II (AD 1000–1100) date for this complex storage cist. Some disarticulated human bone was present in the fill of the bell-shaped cist. This may be associated with the burial present in the lower portion of the cist, representing some rodent disturbance.

The deeper portion of the feature (Feature 4) contained a relatively broad spectrum of pollen, including a relatively high concentration of corn pollen. In addition to the usual pine and cheno-am pollen, there were relatively high counts of grasses and greasewood (Table 16.20). Observed outside the systematic count in this feature's sample were grains of squash and morning glory (*Onagraceae*) pollen. The upper part of the feature (Feature 1) contained less pollen, and corn was present in low frequency. Flotation and macrobotanical remains included only juniper wood and seeds from noncultivars, making the corn pollen the strongest suggestion of the type of storage that occurred in this feature (Tables 16.30, 16.31). The pollen assemblage is complicated by the presence of Burial 1, which may have had pollen or plants introduced at the time of interment.

**Burnt surfaces (Features 2 and 3).** Features 2 and 3 were in the northeast portion of the site (Fig.

16.2). Each consists of an irregularly shaped burnt surface. One of these burnt surfaces overlapped the second. Burnt surfaces were in 20 cm of the modern ground surface. After excavation it was determined that neither surface was of prehistoric origin. The burns probably are the result of weed burning connected with ditch clearing.

**Fire pit (Feature 5).** Feature 5 was a shallow basin-shaped depression (Figs. 16.2, 16.23). This feature served as a well-prepared but basic fire pit that experienced limited use. The walls and base of the feature were constructed of packed sand. A confined area of charcoal and oxidation was in the feature's center. Feature fill consisted of a charcoal-filled sandy soil containing a number of sherds and lithic artifacts.

Nine sherds were in the feature's fill. Two sherds are corrugated, one is Pueblo II corrugated (Mancos Corrugated), two are plain gray ware, two are polished white ware, one is Pueblo II-III black-on-white, and one is Pueblo II black-on-white (Chaco-style Mancos Black-on-white). No use-surface associated with this feature was evident, although the feature's vertical position suggests a prehistoric ground surface at the same level as the tops of the walls of the major storage cist (Features 1 and 2). The proximity of this feature to the major storage cist (Features 1 and 4) 1 m to the southwest also suggests associated use. A ceramic date supported by this architectural association suggests a date of Mid Pueblo II (AD 1000–1100) for this feature.

## ROOMBLOCK 2

Roomblock 2 is a two-room structure in the east portion of the site (Figs. 16.2, 16.23, 16.25). The roomblock is 4 m northeast of Pit Structure 2 and 6 m northeast of the major storage cist (Features 1 and 4). Roomblock 2 is separated from Roomblock 1 by 40 m. Very little remains of Roomblock 2, since most of the roomblock was removed by scraping connected with highway construction. Additional rooms may have been present. One waterline trench cut through the western side of the structure. Two additional utility lines cut through the east portion. Each room was constructed as a single unit, with all four walls being built at once. One result of this is a double wall where the two rooms are adjacent to

each other. How these two adjacent walls may have been tied together is not known. No evidence for a doorway is present between the rooms, although it would have been structurally higher (one or two courses) in the wall.

The double wall between the two rooms argues against both rooms having been constructed at the same time. Room 202 was constructed first and Room 201 second. Little is known of the wall or roof construction of Roomblock 2, since even the wall fall had been removed.

Roomblock 2 was partially constructed over an intact cultural deposit comprised of a sandy silty soil containing cultural material decreasing with depth. The southwestern half of Room 201 was built over this cultural material, which also extended under the western and north walls. This cultural deposit did not extend under Room 202, and a western limit to the deposit was not defined. The depth of this layer was not determined. The intact nature of this layer argues against it being fill added to level the prehistoric ground surface prior to construction. Cultural material in this deposit consisted of habitation debris associated with Room 202 and Pit Structure 2, deposited before the construction of Room 201 and its addition to the roomblock.

## Room 201

Room 201 was the south room of the pair constituting Roomblock 2. This room measured 1.25 m wide and a minimum of 1.75 m long, an area of 2.18 sq m; the long axis of the room ran northwest-southeast. Room orientation is present true north. A trench measuring 30 cm wide was dug in Room 201 along the interior of the north wall. This trench was dug in two arbitrary 10 cm levels that confirmed the lack of any remaining interior stratigraphy. The wall footings adjacent to this trench were found to extend 0.5 to 3 cm below their defined surfaces. The lack of a definable floor surface indicates the footings were defined below the level of the room's original floor. The footings of the west and south walls were dug into an underlying cultural deposit consisting of ashy soil containing charcoal and a number of artifacts, present in the southwest half of the structure. This deposit was found to extend under both the west and south walls.

Table 16.30. LA 37598, Extramural Areas 1-3, plant remains, flotation full sort and scan results by taxon; frequency and abundance per liter.

Feature Number	Extramural Area 1					Extramural Area 2				Extramural Area 3	
	Scan		Full Sort			Scan				Full Sort	
	1	1	1	1	1	2	2	2	4	4	1
Feature Type	Mealing Bin		Roasting Pit			Feature		Major Cist		Pit	
Layer	Layer 3	Layer 4	Layer 4	Layer 5	General	Layer 4	Layer 4	Layer 2	Layer 3	General	
FS No.	331	332	333	333	329	195	199	271	271	358	
<b>Cultural</b>											
<b>Annuals:</b>											
<i>Amaranthus</i>	-	-	-	-	-	-	-	-	-	-	1.0
<i>Chenopodium</i>	-	-	-	-	-	-	-	-	-	-	1.0
<i>Portulaca</i>	-	-	-	-	-	-	-	-	-	-	1.0
<b>Cultivars:</b>											
<i>Zea mays</i>	-	-	-	-	-	+ glume	-	-	-	-	? kernel
<b>Other:</b>											
<i>Physalis</i>	-	-	1.0	-	-	-	-	-	-	-	-
<b>Possibly Cultural</b>											
<b>Annuals:</b>											
<i>Mentzelia albicaulis</i>	+++	-	-	-	-	-	-	-	-	-	-
<b>Noncultural</b>											
<b>Annuals:</b>											
<i>Amaranthus</i>	-	-	-	-	-	-	-	-	++	-	11.0
<i>Chenopodium</i>	-	-	-	-	-	-	+	+	+	-	14.0
<i>Cycloloma</i>	-	-	-	-	-	-	+	+	-	-	-
<i>Euphorbia</i>	-	-	-	-	-	+	-	-	+	-	15.0
<i>Portulaca</i>	+	-	-	-	3.0	+	-	-	+	-	2.0
<b>Other:</b>											
Malvaceae	-	-	-	-	-	-	-	-	-	-	1.0
<i>Sphaeralcea</i>	+	+	-	-	-	-	-	-	+	-	-

All cultural plant remains are carbonized.  
 Plant remains are seeds unless indicated otherwise.  
 + less than 10/liter, ++ 1-25/liter, +++ 25-100/liter.



Table 16.31. LA 37598, Extramural Areas 1–3, wood charcoal flotation results, weight (g) by taxon and feature.

Feature	Extramural Area 1		Extramural Area 2	Extramural Area 3	Total	
	Mealing Bin Layer 5	Roasting Pit	Fire Pit	Pit	Weight (g)	Col. %
<b>FS</b>	<b>333</b>	<b>329</b>	<b>273</b>	<b>358</b>		
<b>Conifers</b>						
<i>Juniperus</i>	0.4	0.7	0.6	1.34	<b>3.04</b>	81.1%
<i>Pinus edulis</i>	0.3	–	–	0.15	<b>0.45</b>	12.0%
<b>Nonconifers</b>						
<i>Artemisia tridentata</i>	0.01	–	0.01	–	<b>0.02</b>	<b>0.5%</b>
<i>Atriplex canescens</i>	–	0.1	–	0.01	<b>0.11</b>	<b>2.9%</b>
<i>Quercus</i>	–	–	0.01	–	<b>0.01</b>	<b>0.3%</b>
Salicaceae	0.1	0.01	–	–	<b>0.11</b>	<b>2.9%</b>
Unknown nonconifer	–	–	–	0.01	<b>0.01</b>	<b>12.0%</b>
<b>Total</b>	<b>0.81</b>	<b>0.81</b>	<b>0.62</b>	<b>1.51</b>	<b>3.75</b>	<b>100.0%</b>

## Walls

Most of the remaining walls of Room 201 were reduced to their clay wall footing trenches (Table 16.32). The other walls were entirely gone. The remaining portions of the walls showed the room was constructed as a single unit, in a single episode. The wall footings consisted of a light-colored clay mortar in a shallow trench. The remaining depth of these trenches ranged from 0.5 cm to 3 cm below their defined surface. No coursing remained from any of the walls. There were no indications of any doorways at Room 201. These would have occurred one or two courses above the base of the walls and were no longer in place. The footing trenches were somewhat irregular in thickness, although it is likely that masonry would have extended and evened the thickness of the walls.

*North wall.* Only the west section of the north wall remained in place. This wall remnant extended 1.75 m. It consisted solely of the footing trench containing clay mortar. This footing trench varied in width from 15 to 35 cm.

*East wall.* The east wall of Room 201 was entirely gone, removed by a utility trench.

*South wall.* Most of this wall was reduced to the clay-filled footing trench. This wall varied in width from 15 to 30 cm, with the thinner measurement resulting from cutting by a utility trench. A single piece of angular rock remained from the base course

of masonry. The south wall footing trench was dug into an earlier cultural deposit associated with Pit Structure 2 and Room 202.

*West wall.* The remaining portion of the west wall also consisted of the clay-filled footing trench. The width of this trench ranged from 15 cm to 40 cm, with the variation in thickness resulting from cutting by a utility trench. Despite this cutting, the entire length of the footing trench remained intact. The west wall footing trench was dug into the earlier cultural deposit associated with Pit Structure 2 and Room 202.

## Corners

The reduced state of the walls of Room 201 meant that little remained of the room's corners. The continuous construction of the footing trenches indicated that Room 201 was built as a single unit, in a single construction episode. This form of construction would result in a structure with bonded corners.

## Floors

No areas of intact floor were found in Room 201. The currently defined room was below the level of the original floor surface. Because of this, artifacts collected from this area reflected the cultural material underlying the room, not the room's contents.



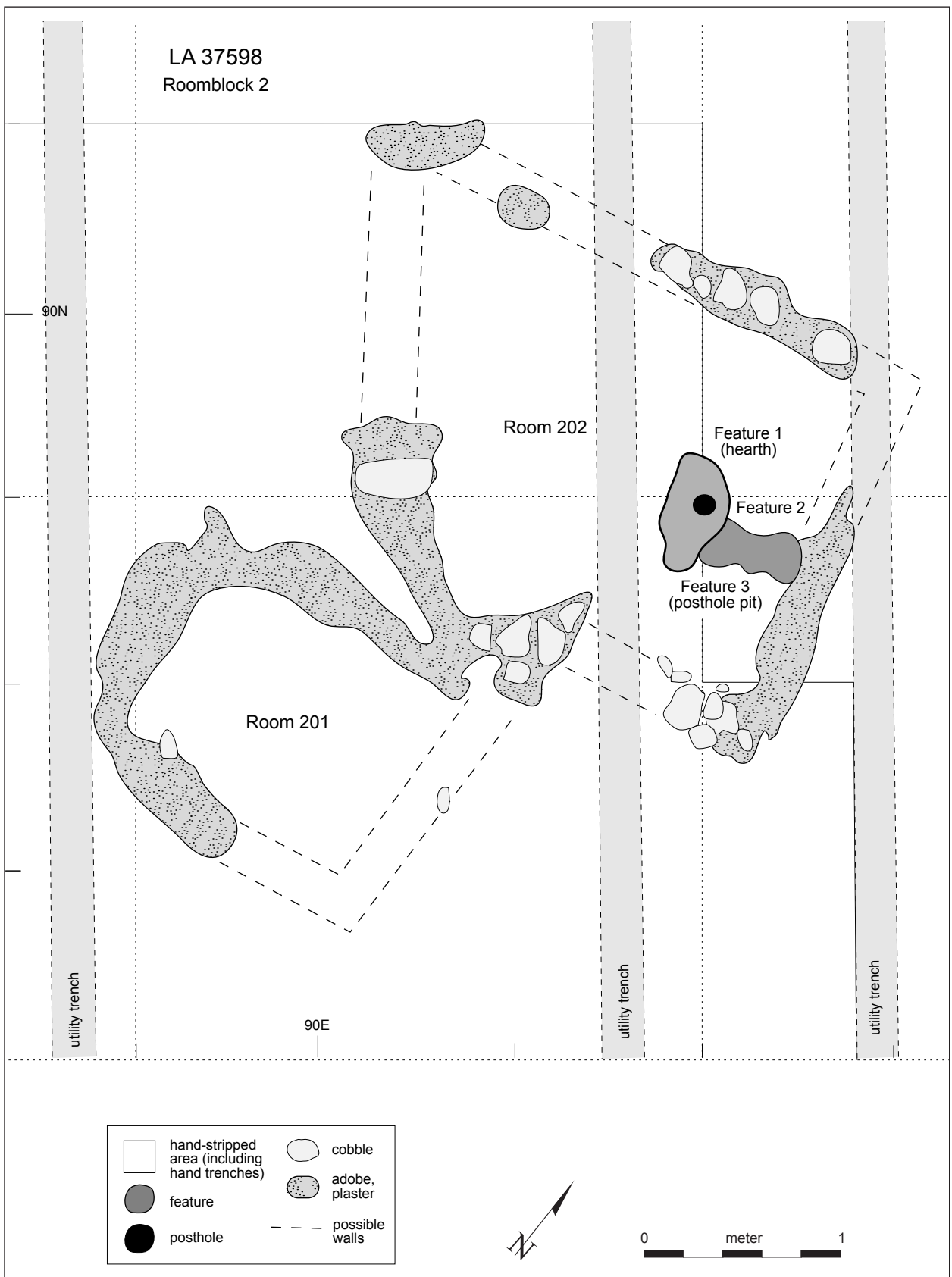


Figure 16.25. LA 37598, Roomblock 2, plan.

Table 16.32. LA 37598, Roomblock 2, Rooms 201 and 202, wall dimensions.

	Courses	Height (cm)	Length (m)	Thickness (m)
<b>Room 201</b>				
North	footing	1.0 to 3.0	1.75	.19 to .42
East	none	–	–	–
South	footing	1.0 to 7.0	.80 minimum	.30 to .32
West	footing	1.0 to 7.0	1.25	.30 to .36
<b>Room 202</b>				
North	1	1.0 to 8.0	1.80 minimum	.12 to .23
East	footing	0.0	1.80 minimum	.16 to .23
South	1	0 to 9.0	1.9	.12 to .38
West	none	0 to 1.0	.80 minimum	.27 to .60

### Room 202

Room 202 was the north room of the pair constituting Roomblock 2 (Fig. 16.25). This room was almost square, measuring 1.90 m east-west by 1.80 m north-south, an area of 3.42 sq m. The long axis of the room was northeast-southwest, with room orientation true north. A trench 50 cm wide was dug the length of Room 202, in the room, along the interior of the north wall. This trench was dug in two arbitrary 10 cm levels. Although a partial floor surface was present in Room 202, no structural fill or floor surface was found in this trench.

One strata of material was found in Room 202. This consisted of a culturally sterile homogenous sandy soil. The same deposit, part of the original terrace material, was recorded extending beneath the Room 202 area, continuing under all four of the room's walls. It forms the original ground surface. The presence of this natural material beneath Room 202 was in marked contrast to the cultural material found beneath part of Room 201. This suggests that the cultural material was associated with the earlier room (Room 202) and Pit Structure 2.

Intact floor surface was present in part of the room, although not in the area of the exploratory trench. Intact floor surface was present in the area of the hearth and in the southeast corner of the room. The footing trench of the north wall was found to extend 1 to 4 cm below its defined surface. Footing trench depth in relation to the room's original interior is not known. Lack of intact floor in areas of the room indicates the footing trench, as defined in this area of the room, was below the original floor

surface. It is also evidence of the unevenness of the floors in Room 202, sloping downward toward the east.

### Walls

The walls of Room 202 were in marginally better shape than the other walls of Roomblock 2 (Table 16.32). The construction of Room 202 was similar to that of Room 201. Portions of the base course remained in place for both the north and south walls. Enough of this masonry remained to illustrate the variability in actual rock and cobble placement.

Walls were constructed with their base courses placed in shallow clay-filled footing trenches. Placement of rocks and cobbles in the footing trenches showed a great deal of variation. Some placement consisted of tightly packed rock and cobbles filling the width of the trench, while other areas of masonry consisted of loosely placed cobbles in large quantities of clay mortar. Coursing usually consisted of a single row of large cobbles placed with their long dimensions spanning the thickness of the wall. However, some sections of the walls consisted of double rows of cobbles or pieces of rock, placed side by side, providing the wall's thickness.

The largest piece of construction material present was a cobble measuring 25 by 20 cm. Most of the cobbles averaged 20 by 15 cm, although cobbles and pieces of rock as small as 5 by 10 cm were not uncommon. A breakdown of construction material (of admittedly a small sample) suggests a two-to-one ratio of cobbles to pieces of angular rock. The rock used was sandstone or conglomerate in naturally occurring angular pieces. The irregular

nature of the remaining base courses and footing trenches suggests masonry was used to even out the upper portions of the walls. All four walls of Room 202 were built at the same time, as a single unit, in a single construction episode.

North wall. The north wall was reduced to a fragment of the west end and the midsection. This included both remaining portions of the footing trench and the base course of masonry. The wall footing varied in depth from 1 to 4 cm below its defined surface. Wall thickness ranged from 20 cm to 35 cm. The existing wall masonry consisted of large cobbles and pieces of angular rock set in clay mortar, in a shallow footing trench. The base course of the north wall was placed below the level of the room's floor. Rock and cobbles used in this wall varied from 20 by 20 cm to 10 by 10 cm. The cobbles tended to be in the larger category, and angular rock in the smaller category. The cobbles tended to be placed with their long axis spanning the thickness of the wall. Even these large cobbles tended to be loosely placed in the footing trench, in large quantities of clay mortar. The base course of wall construction was based on large cobbles alternating with combinations of small angular rock and clay for the length of the wall. Despite this alternation, however, no actual pattern was discernible.

East wall. Only the south half of the footing trench of the east wall remained in place. This footing trench consisted of a shallow trench filled with clay, similar to the others in the roomblock. Trench width was 35 cm. No rock or cobbles from the wall's base course remained in place. Intact floor adjacent to this footing trench showed it to be shallower than other footing trenches associated with the room. A base course laid in this trench would have been positioned slightly higher than the adjacent floor surface.

South wall. The south wall was the only curved wall in Roomblock 2. This wall curved to the north as it went west. Wall thickness ranged from 17 to 45 cm. The south wall was present for its entire length, except for a 60 cm gap toward the east end caused by a recent utility trench. The west segment of the wall was reduced to the footing trench. The east portion of the wall consisted of both the footing trench and the base course of masonry. The remaining base course was constructed of mixed angular rock and cobbles of varying sizes, set in clay mortar in a shallow clay-filled footing trench.

A single large cobble was placed with its long dimension spanning the thickness of the wall. The adjacent masonry consisted of a triple row of small pieces of construction material (one cobble, two angular pieces of rock). The base masonry was loosely laid in the footing trench in large quantities of clay mortar. There was an area at the east end of the wall, however, where the base course was tightly packed into the footing trench. The presence of intact floor surface in the southeast corner of the room next to intact base course shows that in this area of the room the base course was at floor level. Further west the remaining base course was slightly below floor level. The irregularity of the remaining masonry would have been evened out with masonry.

The west 1.5 m section of wall paralleled the existing north wall of Room 201, with the space between the two varying from 10 to 25 cm. This remaining space between the two walls may have remained open. There was nothing to indicate this area had been filled with masonry.

West wall. The only remaining portion of the west wall was a small portion of the clay-filled footing trench in the southwest corner (Table 16.32).

## **Corners**

The walls of Room 202, as showed by the uniform appearance of their footing trenches, were the result of a single building episode. Though only the two south corners of the room were still even slightly intact, both showed evidence of single-unit construction for the room. Construction of the room as a single unit resulted in bonded corners, the walls actually being a single unit that changed direction. The varying position of the remaining base courses of the walls in relation to the position of the floor emphasizes the uneven nature of the floor surface.

## **Floors**

Most of Room 202 was scraped to a depth below the level of the floor surface. An area of floor was present in the southeast portion of the room. This area survived because of its lower elevation.

### **Floor 1**

Floor 1 was a prepared compacted mottled-clay surface, distinct from the material above it. This surface was mottled with ash. A small amount of charcoal was also apparent on the remaining floor.

This remaining floor was in the area immediately around the hearth, extending to the east wall, and remained in place in the southeast corner of the room. Floor artifacts were concentrated in the southeast portion of the room, although this reflects the remaining floor area rather than prehistoric reality.

Floor 1 artifacts consist of lithic artifacts, although one mano fragment was also present. The lithic assemblage on Floor 1 consists of four hammerstones. Two of these cores were composed of chert, the other two of quartzite. No ceramics were collected from the Floor 1 surface. A number of hammerstones suggests these items were curated in Room 202 near the end of its use-life. This took place after the change in room use, indicated by the modification of the hearth, from habitation area to a storage or activity area, or a combination of the two.

**Features (Floor 1)**

Three floor features were found in Room 202, all associated with Floor 1 (Table 16.33). These features were in the east portion of the room, clustered in the area of the existing floor. Additional shallow features that may have once existed in the west portion of the room had been removed by the intense mechanical activity known to have occurred in that area.

**Hearth (Feature 1).** This feature was in the east-central area of the room. The hearth was oval in shape, with the long axis on grid north-south. The feature had a vertical south wall, and the other sides had steep gradients. The hearth was dug into the culturally sterile alluvial material beneath the Floor 1. This feature was not lined, although the soil forming the base and sides may have been packed. The denseness of the feature’s walls may be a by-product of heating.

Most of the hearth was covered with a cap of hard sandy clay up to 5 cm thick. This clay is all

that remained of a later remodeling of Room 202. The total extent of this remodeling is not known; however, it did include the sealing over of the hearth. The extent of this clay deposit and its form of articulation with the floor surface were not determined. This material was not dealt with separately, since not enough remained for a positive determination of its function. A later posthole piercing this clay layer combined with a lack of oxidation on the clay’s surface argues against a second hearth use. The actual feature fill consisted of a single strata of sandy ash with some charcoal, 7 cm thick. The interior of the hearth was lightly oxidized over most of its surface, suggesting light or limited use. A sample from this hearth contained no pollen, and the flotation sample contained only unburned *Chenopodium* (Table 16.34).

**Posthole (Feature 2).** Feature 2 was a posthole just north of the center of the sealed hearth (Feature 1). The feature was cylindrical in shape, its base even with the base of the hearth. The fill of the feature was a single deposit of clean sandy clay. This posthole clearly postdated the hearth, although the clay deposit and the posthole are both associated with each other in connection with later hearth use. This suggests a change in room function took place with the remodeling noted for the hearth. Room 202 may have been transformed from a habitation structure to storage where the use of a hearth was not required. No artifacts were found in the features fill. No use was assigned to this feature.

**Posthole (Feature 3).** Feature 3 was visible as a long oval shallow depression. The long axis of the feature runs between the hearth (Feature 1) and the east wall of the room. Feature fill consisted of small rocks and cobbles packed in a uniform fine sandy clay. The center third of the feature was empty except for a sandy clay. Feature 3 was a reused posthole. A large post, originally in this location, was later re-

Table 16.33. LA 37598, Room 202, Floor 1, features; summary table.

Feature	Length (cm)	Width (cm)	Depth (cm)	Volume (l)	Shape	Comments
1, hearth	58	37	12	20.2	oblong, curvilinear	remodeled
2, posthole	6	6	12	0.3	cylindrical	located within hearth
3, posthole	34	17	6	2.7	oblong, curvilinear	–

Table 16.34. LA 37598, Rooms 201 and 202, plant remains, flotation results by type; frequency and abundance per liter.

	Room 201	Room 202
Sample Type	Scan	Full Sort
Feature Number		1
Feature Type	Test	Hearth
Layer	Layer 1	General
FS No.	409	411
<b>Possibly Cultural</b>		
<b>Annuals:</b>		
<i>Mentzelia albicaulis</i>	+++	–
<b>Noncultural</b>		
<b>Annuals:</b>		
<i>Chenopodium</i>	+	3.0
<i>Helianthus</i>	+	–
<i>Portulaca</i>	+	–
<b>Other:</b>		
Compositae	+++	–
<i>Polygonum</i>	++	–
<i>Sphaeralcea</i>	+	–

Plant remains are seeds unless indicated otherwise.  
+ less than 10/liter, ++ 11–25/liter, +++ 25–100/liter.

placed with one of a considerably smaller diameter. The resulting shallow posthole was filled with clay and rock to provide additional support. Artifacts found in this feature’s fill consisted of two large corrugated sherds and a mano.

#### *Sequence and Interpretation Summary: Roomblock 2*

The ceramic sample from Roomblock 2 at LA 37598 proved to be too small to help date the structure. Yet the association of Roomblock 2 with Pit Structure 2 and extramural Features 1 and 4, based on proximity and prehistoric ground surface, supports a Mid Pueblo II (AD 1000–1100) date for the roomblock.

Roomblock 2 was constructed in two phases; each room was built as an individual effort. Little evidence of use of the hearth in Room 202 before remodeling and light cultural deposition predating Room 201 suggest a short time span between construction periods. Evidence from the remaining portion of the roomblock indicates Room 202 was the first of the two rooms built. It was subsequently remodeled, and its use changed, after the construction of Room 201. The construction of Room 202 was contemporary with that of Pit Structure 2.

Room 201 was built at a later date over habitation debris associated with these two previously constructed structures. The shift in Room 202 room usage from habitation to a storage or activity area suggests Room 201 served as the new habitation space, becoming in effect the new “front” room. The lack of interior features in Room 202, coupled with its location as a north, or “back” room, suggests storage combined with specialized storage, and a possible activity area became its new function. Lack of a hearth in Room 201 is problematic but may reflect the poor state of the room’s preservation. Later, the use of Room 202 included storage and possibly the curation of lithic artifacts.

#### PIT STRUCTURE 2

Pit Structure 2 was east of NM 170 in the east portion of the site, 4 m south of Roomblock 2 (Figs. 16.2, 16.23). No evidence of this pit structure was visible on the modern ground surface. A 1 by 3 m north-south trench (76N/88.75E) was dug into an area of sandy-clay mottling exposed by Shovel Test 2. This trench was dug in eight arbitrary 10 cm levels. A backhoe was then used to deepen this trench, which was then designated Backhoe Trench 14 for this phase. The trench was dug an additional 1 m and extended to a length of 5 m. The lengthened trench (still 76N/88.75E) was then hand dug six additional arbitrary 10 cm levels. The exposed east profile of the trench was drawn and the remaining fill of the pit structure carefully removed with a backhoe to within 10 cm of the floor. This remaining 10 cm of material was designated as a floor fill layer.

The outside dimensions of Pit Structure 2 measured 5.50 m east-west by 5.10 m north-south, an overall area of 22.06 sq m, floor area of 11.5 sq m, and 2.80 m deep (Figs. 16.26, 16.27). Dug into natural alluvial deposits, the structure was circular. The walls were vertical above the bench. The lower walls below the bench slightly belled out between the bench surface and the floor. Above the bench the average intact wall height was 60 cm. The structure did not have a southern recess. The ventilator tunnel opening was directly beneath the bench. Alignment of the pit structure through the ventilator opening and the center of the hearth was 354 degrees true north. A bench, varying in width from 55 cm to 60 cm, completely circled the inside of the structure at



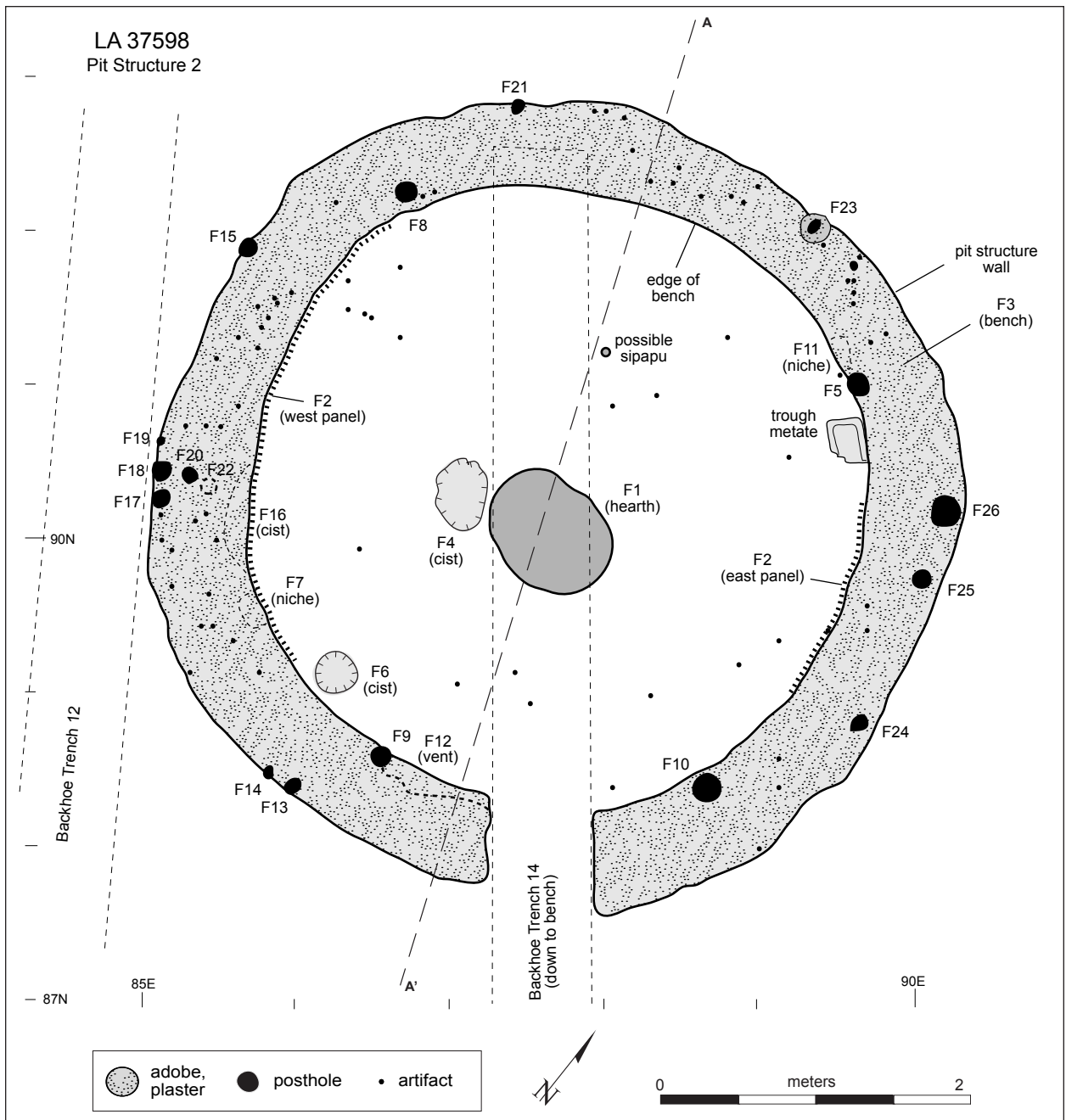


Figure 16.26. LA 37598, Pit Structure 2, Floor 1, plan.

1.25 m above the floor. No pilasters occurred on the bench, although a series of posts in six clusters on the bench surface may have functioned as roof supports. A single prepared floor surface was present in Pit Structure 2.

Erosion and the collapse of the upper walls made the location of the original ground surface dif-

ficult. Based on remaining wall height and Layer 1 fill deposition angles, it may have been 20 cm below the modern ground surface. This suggests the pit structure was contemporary with Roomblock 2 and extramural Features 1 and 4 (the major storage cist). The interior walls of Pit Structure 2 were covered with a single layer of plaster, with an additional



Figure 16.27. LA 37598, Pit Structure 2, view west.

layer, present only in isolated areas of patching or replastering, filling and evening the walls. Little wall plaster remained above the bench. The only masonry occurrence in the pit structure was a patch or wall support in the north wall directly above the bench surface. This area, 25 cm wide by 20 cm high, was comprised of three stacked angular rocks set into the wall. Each course was a single unmodified piece of sandstone. The blocks varied in width, were all 25 cm long, and ranged in thickness from 8 to 12 cm. The face of this masonry was flush with the plastered pit structure wall. No niche or feature of any kind was behind this area of masonry. The masonry did not articulate with the bench surface.

Very little remodeling took place in Pit Structure 2. What did occur was primarily limited to the replastering of the upper surface of the bench and walls. The surface of the bench exhibited a plaster finish that has been replaced three times, resulting in three layers of plaster. Some post replacement is also suggested by the clustering of postholes on the bench surface. The hearth was also remodeled, and its configuration changed.

### Stratigraphy

Four strata of fill were present in Pit Structure 2 (Fig. 16.28). These were defined in the west profile of Trench 76N/87E (Backhoe Trench 14). The strata are discussed in order of their occurrence from the modern ground surface down to the floor of the pit structure.

Layer 1 was a thick layer of alluvial material composed of alternating fine alluvial clay and sand lensing. This material sloped downward toward the center of the pit structure depression, which it ultimately filled, to a maximum thickness of 1.2 m. Artifacts and charcoal did occur in this deposit, but the nature of the deposit indicated they were redeposited from the original ground surface.

Layer 2 was a thick alluvial deposit of fine to medium laminated sand. One prominent clay lens was present. Artifacts and charcoal occurred in this material, but as with Layer 1, they were redeposited from outside the structure. Layer 2 was 50 cm thick in the center of the pit structure. It widened to a thickness of 1 m against the north wall and 90 cm against the south wall.

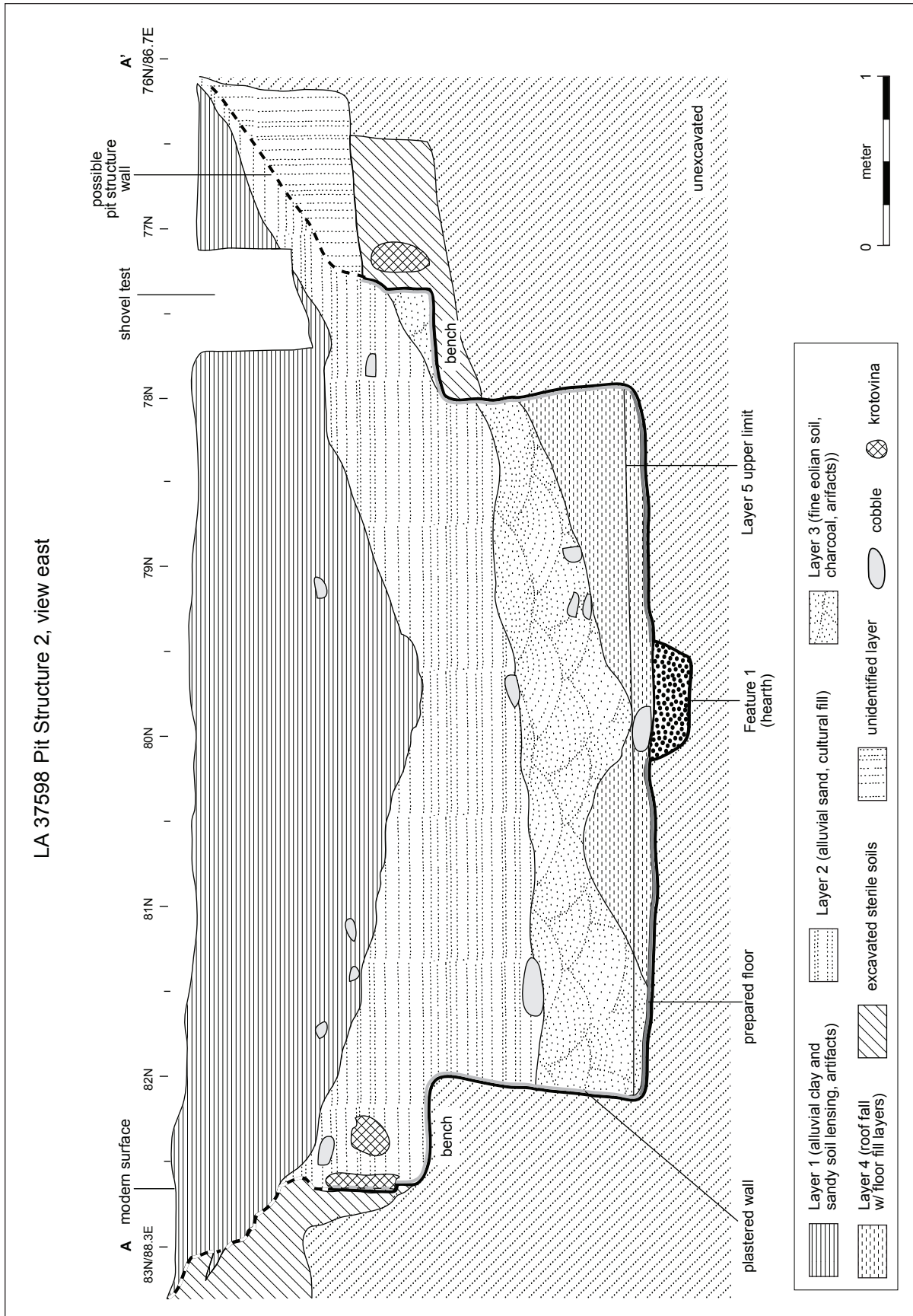


Figure 16.28. LA 37598, Pit Structure 2, profile, view east.

Layer 3 was a fine to coarse eolian sand deposit containing some charcoal and artifacts. Several thin ash lenses, also eolian in origin, were present in this material. The deposit was 60 cm thick at the north wall, sloping upward to a depth of 90 cm at the south wall of the pit structure. In the north portion of the pit structure, Layer 3 was directly on the surface of the Floor 1 surface.

Layer 4 was an uneven layer of roof fall. Primarily in the south portion of the pit structure, this material measured from 5 cm to 25 cm thick. Layer 4 was composed of elements of the roof, sooty clay containing some wood impressions, and coarse sand and mixed gravel. Eolian deposits were also present in this material. Few artifacts were recovered from this stratum. Several roof beam fragments were recovered, but none proved helpful in dating the structure. The preponderance of roof fall in the south part of the pit structure indicates that the pit structure roof was disassembled from the north side, the beams pulled from that direction. Our designated floor fill layer (Layer 5) consisted of the lowest 10 cm of this material.

Layer 5 was the floor fill layer of Pit Structure 2, an arbitrary designation applied to the lowest 10 cm of structural fill. The material comprising Layer 5 was identical to that of Layer 4, primarily composed of roof fall, with some eolian material also present. This eolian material, associated with Layer 3, was primarily present in the north portion of the pit structure.

### Floors: Floor 1

The single floor in Pit Structure 2, Floor 1, is a prepared surface made of a fine sandy clay, with a sooty surface. This floor material is between 0.4 and 1 cm thick. The surface of Floor 1 abuts the walls of the pit structure (Fig. 16.28). It is uneven, but generally slopes downward toward the center of the pit structure in the area of the hearth. The hearth area is thus the lowest point on the floor. The center of the pit structure is 2.80 m below the modern ground surface (12.98 m bsd). The rest of the floor had a depth of 2.70 m (12.88 m bsd) below the modern ground surface.

Nineteen floor artifacts were recorded for Floor 1 of Pit Structure 2 (Table 16.35). Half the floor artifacts were in the area of the floor between the hearth and ventilator opening. The rest occurred in two clusters, one by the east wall, the other by the

northwest wall. Ceramics were all corrugated body sherds. Of special note is the bone tool assemblage associated with Floor 1: 17 awls or awl fragments, 2 tibia tinklers, and some bone tool production scrap (Figs. 16.29 [a–j], 16.30 [a–e]; Tables 16.35, 16.36, 16.37, 16.38). Tinklers occur primarily in pit structures, and usually there are only a few in any site assemblage (although there were 19 at LA 65030). The abundance of awls is striking and suggests the possibility of manufacture; almost certainly they were used here. Awls were recovered principally from the north half of the structure; 13 of the specimens were from the bench, and 7 of those were from the northeast quadrant. Eleven of the awls are classified as coarse point tools, but a few finer tools are also present. At least 6 awls exhibit use-wear, all of it visible as a combination of polish with rotary striations, but wear could not be observed on all specimens. Although the large bone fragments (*Odocoileus* sp. and unidentified large mammal) and utilized lithic flakes on the floor surface suggest awl manufacturing took place in the pit structure, wear on at least half the awls and the variety of awl shapes indicate other activities such as basketry and leather work (Figs. 16.29 [a–j], 16.30 [a–d]; Tables 16.35–16.38). Replication studies have not yet identified activities responsible for rotary wear on bone awls (Bullock 1991).

An abundance of bone tools was also found in Pithouse B at 29SJ1360, a Pueblo II residential site in Chaco Canyon (McKenna 1984:323–345, 360). The use of Pithouse B also showed two concentrations of bone tools, also principally on the northeast and northwest quadrants of the bench. The assemblage at 29SJ1360 contained a greater variety and number of tools, including scrapers and punches, but it was also dominated by awls. Tool preforms and two tinklers were present in this structure, as well. The use of benches for tool storage and work is clearly indicated.

Manos and metate fragments are included in the Pit Structure 2 floor assemblage, most of them in the west half of the structure (Table 16.39). Although the manos may have had a secondary use associated with bone awl production, the metate fragments appeared discarded. The lithic artifacts and sherds were scattered across the floor. There were five lithic artifacts in four locations. Three of the lithic artifacts are debitage (core flakes). The other two are formal tools—a denticulate and a late-stage biface



Table 16.35. LA 37598, Pit Structure 2, Floor 1, point-provenienced artifacts; summary table.

Point Provenience	Quadrant	Material Class	Comments
1	northwest	lithic	chert projectile point
2	southeast	lithic	chert core flakes (2)
3	southwest	lithic	chert core flake utilized as a denticulate
4	southwest	lithic	chert core flake
5	northwest	ground stone	sandstone metate fragment, 789 g
6	northeast	ground stone	sandstone trough metate, one end open, 13.8 kg
7	southwest	ground stone	sandstone mano fragment, two uses, 185 g
8	southwest	ground stone	sandstone two-hand trough mano, additional use as two-hand mano, 762 g
9	–	ceramic	corrugated gray, jar body sherds (2)
10	–	ceramic	corrugated gray, jar body sherds (5)
11	–	ceramic	corrugated gray, jar body sherd
12	–	faunal	large-mammal long-bone fragment, awl fragment
13	–	faunal	deer metacarpal, coarse-point awl
14	–	faunal	jackrabbit tibia, tinkler
15	–	faunal	deer radius, preform, indeterminate
16	–	faunal	jackrabbit tibia, tinkler
17	–	faunal	jackrabbit scapula, unmodified
18	–	faunal	large mammal long-bone fragment, unmodified
19	–	faunal	cottontail rabbit mandible, unmodified
20	northwest	other	small ball of kaolin (pigment or slip), 18 x 16 x 12 mm*

\*81.25N/86.21E at 3.92 mbd

or projectile point. The biface was in the northwest quadrant of Floor 1. The denticulate and one core flake were in the southwest quadrant. Two additional core flakes were in the southeast quadrant. Floor 1 of Pit Structure 2 has a firm ceramic date of Mid Pueblo II AD 1000–1100.

### Features (Floor 1)

A total of 26 features were found associated with Floor 1 (Fig. 16.26; Table 16.40), including a hearth (Feature 1), a bench (Feature 3), two cists (Features 4 and 6), two niches (Features 7 and 11), a ventilator opening (Feature 12), and four large post-holes on the pit structure floor (Features 5, 8, 9, and 10). Thirteen postholes (Features 13–26) were on the bench surface. These features were open except one cist (Feature 4), which was closed sometime during the use-life of Floor 1. Features 13–26 were not excavated.

**Hearth (Feature 1).** The central hearth in Pit Structure 2 was a circular (or rounded square) feature measuring 65 by 79 cm and 23 cm deep (Fig. 16.26). The hearth was in the center of the pit structure's floor. It had unprepared sides except for the

lip, which was plastered. This feature extended into culturally sterile deposits below Pit Structure 2. Although the sides exhibited heavy oxidation, the base was only slightly oxidized. The base of the hearth may also have been deepened as an aspect of remodeling. Other obvious remodeling of the hearth included changing its configuration by enlarging it toward the northwest by 4 cm. Three depressions, each measuring 10 cm in diameter, were along the south rim of the hearth in the direction of the ventilator. These holes were left by the removal of an earlier partial cobble lining or deflector. This may have originally been covered by plaster. The hearth's new plastered and enlarged edge extended over Feature 4. There was no evidence of a deflector, unless a cobble deflector had been placed in the hearth. Feature fill consisted of a uniform light gray ash containing some charcoal and artifacts, primarily nonhuman bone. Other artifacts in the fill included a two-hand mano and one broken travertine bead.

**Bench (Feature 3).** Feature 3 was a formal bench completely encircling the inside of the pit structure. Bench surface height varied between 1.15 m and 1.25





Figure 16.29 [a-j]. LA 37598, Pit Structure 2, worked bone from the northern portion of the bench. Northwest quadrant: a.-b. awls (point provenience 32); c. awl (point provenience 33); i. awl (point provenience 34); j. partial deer mandible (point provenience 49, bench surface). Northeast quadrant: d.-e. awls (point proveniences 36 and 39, bench surface); f. awl, deer metapodial; g. fine-point awl (point provenience 38); h. awl, deer metatarsal (point provenience 37).



Figure 16.30 [a-e]. LA 37598, Pit Structure 2, worked bone: a. perforated split metapodial awl (northeast quadrant, Floor 1); b. splinter awl (northwest quadrant, Floor 1); c.-d. jackrabbit tinklers ([d. 145 mm]; point proveniences 59 and 61, northeast and southeast quadrants, Floor 1); e. deer radius with longitudinal grooves and cuts (point provenience 60, northeast quadrant, Floor 1).

m above Floor 1 (Fig. 16.26). Bench width varied from 50 to 70 cm. The bench had a plastered surface, which was flat but not level. The bench surface slanted slightly downward away from the pit structure's wall. Three layers of plaster were present on the bench surface. There were no pilasters on the bench. A series of postholes (Features 13-15, 17-26), were on the bench surface in six roughly equally spaced clusters (Figs. 16.26, 16.31). The posts in these holes probably served as structural elements, supporting the cribbed pit structure roof elements like pilasters.

The bench surface contained a remarkable in situ artifact assemblage. There were 56 piece-plotted artifacts on the bench surface (Fig. 16.26; Tables 16.35, 16.36). Most of the artifacts were lithic artifacts or animal bone and bone tools. The main bench artifact concentrations occurred adjacent to the main floor artifact clusters. These two areas are on the west central side of the structure and in the northeast quadrant. Lithic artifacts make up the largest category of bench artifacts (Table 16.36). Of the 32 point-provenienced lithic artifacts on the bench surface, most were in the west half. Twenty-two lithic artifacts were debitage; eight pieces of retouched/utilized debitage and two hammer-

stones were found on the bench surface. The lithic artifact assemblage was primarily composed of chert; siltstone was a distant second. Small amounts of quartzite and rhyolite were also present. In addition to the point-provenienced chipped stone, 67 pieces of chipped stone were associated with the bench surface. This material is primarily chert debitage but also includes three cores and five utilized flakes. The lithic assemblage suggests expedient lithic tool production and use connected with considerable activity and material processing.

Ground stone on the bench consisted of two stacked manos and one mano fragment in the southeast and northeast quadrants. Sherds occur on the bench surface except in the northwest quarter. The few sherds on the bench surface date to the Pueblo II period.

There was a large bone assemblage on the bench. Of the 17 bone tools and bone fragments on the bench surface, 7 were on the west half of the bench, and 10 were on the east half (Fig. 16.29 [a-j]; Tables 16.36-16.38). Five pieces of worked bone were on the bench surface. Thirteen of these were bone awls. One awl showed evidence of wear (polish and rotary striations). Other worked bone

Table 16.36. LA 37598, Pit Structure 2, point-provenienced artifacts; summary table.

Point Prov.	Quadrant	Material Class	Comments
1	northwest	lithic	siltstone core flake
2	northwest	lithic	chert core flake
3	northwest	lithic	chert core flake
4	northwest	lithic	chert core flake, utilized, rounding and unidirectional wear
5	northwest	lithic	chert multidirectional core, utilized as a hammerstone
6	northwest	lithic	siltstone core flake, utilized
7	northeast	lithic	chert core flake
8	northeast	lithic	chert core flake
9	northeast	lithic	chert core flake
10	northeast	lithic	chert core flake
11	northeast	lithic	siltstone core flake and two chert core flakes,
12	southeast	lithic	siltstone core flake, utilized
13	southeast	lithic	two siltstone core flakes
14	southwest	lithic	chert undifferentiated core, utilized as a hammerstone
15	southwest	lithic	quartzite core flake, siltstone core flake
16	southwest	lithic	four chert core flakes, one utilized, bidirectional wear and rounding
17	southwest	lithic	siltstone core flake, chert core flake with unidirectional wear
18	southwest	lithic	siltstone core flake
19	southwest	lithic	chert core flake
20	southwest	lithic	four chert core flakes, one with unidirectional wear
21	southwest	lithic	quartzite core flake, utilized
22	northeast	ground stone	sandstone one-hand mano, secondary use as one-hand trough mano, whole, 718 g
23	southeast	ground stone	sandstone two-hand mano, corner missing, 813 g
24	southeast	ground stone	sandstone, indeterminate metate fragment/shaped slab, 516 g
25	northeast	ceramic	corrugated gray, necked-body sherd
26	northeast	ceramic	Pueblo II corrugated, cooking/storage rim sherd
27	northeast	ceramic	Pueblo II Black-on-white, jar body sherd
28	southeast	ceramic	corrugated gray, jar body sherd
29	southeast	ceramic	three corrugated gray, jar body sherds
30	southeast	ceramic	Pueblo II-III corrugated, cooking/storage rim sherd
31	southeast	ceramic	polished white ware, seed jar rim sherd
<b>Feature 3, Bench, bone and bone tools</b>			
32	northwest	faunal	large mammal long-bone fragment and metapodial, coarse-point awls
33	northwest	faunal	large mammal long-bone fragment, coarse-point awl
34	northwest	faunal	large mammal long-bone fragment, coarse-point awl
35	northeast	faunal	deer ulna, awl fragment
36	northeast	faunal	large mammal long-bone fragment, splinter awl
37	northeast	faunal	deer metatarsal, coarse-point awl
38	northeast	faunal	deer metapodial coarse-point awl and large mammal long bone, fine-point awl
39	northeast	faunal	large mammal long-bone fragment, coarse-point awl
40	northwest	faunal	deer ulna, unmodified
41	northwest	faunal	large mammal long-bone fragment, unmodified
42	northwest	faunal	small mammal long-bone fragment, unmodified
43	northwest	faunal	turkey, tibiotarsus, unmodified
44	northwest	faunal	jackrabbit metatarsal, unmodified
45	northwest	faunal	cottontail rabbit humerus, unmodified
46	northeast	faunal	two cottontail rabbit cranial fragments, unmodified
47	northeast	faunal	jackrabbit thoracic vertebra, unmodified

Table 16.36 (continued)

Point Prov.	Quadrant	Material Class	Comments
48	northeast	faunal	cottontail rabbit mandible and scapula, and small mammal plate/blade fragment, unmodified
49	northeast	faunal	deer mandible, unmodified
50	northeast	faunal	jackrabbit radius, unmodified
51	northeast	faunal	jackrabbit mandible, unmodified
52	northeast	faunal	deer humerus, unmodified but processing marks present
53	northeast	faunal	cottontail rabbit mandible, unmodified
54	southwest	faunal	cottontail rabbit tibia, unmodified
55	southwest	faunal	cottontail rabbit radius, unmodified
56	northeast	faunal	deer mandible, unmodified
<b>Structure Floor, bone and bone tools</b>			
57	northwest	faunal	large mammal long bone indeterminate awl
58	northeast	faunal	deer metacarpal coarse point awl
59	northeast	faunal	jackrabbit tibia tinkler
60	northeast	faunal	deer radius indeterminate awl
61	southeast	faunal	jackrabbit tibia tinkler
62	northwest	faunal	jackrabbit unmodified scapula
63	northwest	faunal	large mammal unmodified long bone
64	southeast	faunal	cottontail unmodified horizontal ramus
<b>Feature 1, Hearth, point located bone</b>			
800	–	faunal	mammal indeterminate element
800	–	faunal	birds
800	–	faunal	small mammal long bone fragment
800	–	faunal	small mammal long bone fragment
800	–	faunal	mammal indeterminate tooth
800	–	faunal	small mammal rib
800	–	faunal	small mammal long bone fragment
800	–	faunal	small mammal rib
<b>Feature 3, Bench, point located bone not on map</b>			
800	northwest	faunal	rodent occipital condyle
800	northwest	faunal	mouse calcaneous fibular tarsus
800	northwest	faunal	rodent calcaneous fibular tarsus
800	northwest	faunal	mouse ascending ramus
<b>Feature 16, Cist, point located bone</b>			
800	–	faunal	small mammal rib

included a partially cut bone tool preform. The unused awl was in the northwest quarter of the pit structure. Three bone items, the second awl, and the bone tool preform were in the northeast quarter of the bench surface.

This wealth of bench surface artifacts suggests specialized activity areas in use just before abandonment. The lithic assemblage contains everything needed for expedient tool production: cores, hammerstone, core flakes, and utilized flakes. The variety of awls suggests specialized activity such as basketry or leatherwork. Large bones (*Odocoileus*

sp. and unidentified large mammal) and large bone fragments make up half of the bone on the bench surface (Table 16.36). These concentrations of bone, in combination with the bone awls, suggests some bone awl manufacturing may have been taking place in the pit structure in combination with other activities. The rest of the bones on the bench are a mixture of rabbit, turkey, and unidentified Aves. Six faunal artifacts, not piece plotted, were also collected from the bench surface. This assemblage of animal bone includes four small-mammal bones, one large-mammal bone, and one unidentified mammal tooth.

Table 16.37. LA 37598, Pit Structure 2, Floor 1, bone tools and tool waste, counts by floor quadrant and bench location.

	Northeast Quad	Southeast Quad	Southwest Quad	Northwest Quad	Whole Bench	Northeast Bench	Northwest Bench	Total
Waste with polish, striations	–	–	1	–	–	–	–	1
Preform, indeterminate	1	–	–	–	–	–	–	1
Perforated tibia tinkler	1	1	–	–	–	–	–	2
Awl fragment, indeterminate point	1	–	–	1	–	1	–	3
Awl, fine point	–	–	1	–	–	1	–	2
Awl, coarse point	1	–	–	–	1	4	6	12
Splinter awl	–	–	–	–	–	1	–	1
<b>Total</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>7</b>	<b>6</b>	<b>22</b>

Table 16.38. LA 37598, Pit Structure 2, modified bone, counts by fill type.

	Above Roof	Roofing	Floor Fill	Floor	Total
Waste (polished, striae)	–	–	1	–	1
Indeterminate preform	1	–	–	1	2
Bone bead fragment	–	1	–	–	1
Tinkler	–	–	–	2	2
Indeterminate awl fragment	–	–	–	2	2
Fine-point awl	–	–	–	2	2
Coarse-point awl	1	1	–	11	13
Splinter awl	–	–	–	1	1
Spatulate	1	–	–	–	1
Spatulate fragment	1	–	–	–	1
<b>Total</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>19</b>	<b>26</b>

Table 16.39. LA 37598, Pit Structure 2, ground stone tool types, counts by fill type.

	Above Roof	Roofing	Floor	Feature	Total
Indeterminate fragment	1	–	–	–	1
Shaped slab	1	1	3	–	5
Jar cover	1	–	1	1	3
Palette	1	–	–	–	1
Mano	7	2	2	–	11
One-hand mano	–	–	1	–	1
Two-hand mano	2	1	1	–	4
Two-hand trough mano	–	1	2	–	3
Two-hand slab mano	–	–	5	–	5
Metate	–	–	1	–	1
Trough metate	1	–	–	–	1
One-end-open trough	–	–	1	–	1
Slab metate	1	–	–	–	1
<b>Total</b>	<b>15</b>	<b>5</b>	<b>17</b>	<b>1</b>	<b>38</b>



Table 16.40. LA 37598, Pit Structure 2, Floor 1, features; summary table.

Feature	Type	Length (cm)	Width (cm)	Depth (cm)	Volume (l)	Shape	Comments
1	hearth	79.0	65.0	23.0	92.7	oblong, curvilinear	remodeled
2	mural	–	–	–	–	two-dimensional	on lower wall
3	bench	–	50.0–70.0	–	–	cylindrical	circles pit structure
4	cist	55.0	50.0	55.0	118.7	spherical	partially under hearth
5	posthole	25.0	25.0	35.0	17.1	cylindrical	cuts wall at wall base
6	cist	34.0	31.0	36.0	29.8	oblong, curvilinear	–
7	niche	50.0	–	13.0	–	rectangular	plastered base
8	posthole	similar to 5	–	–	–	–	–
9	posthole	similar to 5	–	–	–	–	–
10	posthole	similar to 5	–	–	–	–	–
11	niche	–	–	–	–	rectangular	not excavated
12	vent	–	–	–	–	rectangular	not excavated
13	bench posthole, southwest	–	–	–	–	cylindrical	not excavated
14	bench posthole, southwest	–	–	–	–	cylindrical	not excavated
15	bench posthole, northwest	–	–	–	–	cylindrical	not excavated
16	cist, wall-floor junction	–	–	–	–	cylindrical	not excavated
17	bench posthole, southwest	–	–	–	–	cylindrical	not excavated
18	bench posthole, southwest	–	–	–	–	cylindrical	not excavated
19	bench posthole, southwest	–	–	–	–	cylindrical	not excavated
20	bench posthole, southwest	–	–	–	–	cylindrical	not excavated
21	bench posthole, northwest	–	–	–	–	cylindrical	not excavated
22	bench posthole, northwest	–	–	–	–	cylindrical	not excavated
23	bench posthole, northeast	–	–	–	–	cylindrical	not excavated
24	bench posthole, northeast	–	–	–	–	cylindrical	not excavated
25	bench posthole, northeast	–	–	–	–	cylindrical	not excavated
26	bench posthole, southeast	–	–	–	–	cylindrical	not excavated

Because of the large bone-tool assemblage, the frequency of animal bone in Pit Structure 2 is highest near the floor (Table 16.41).

Pollen samples from the northwest and southwest quadrants of the bench are notable mostly for grass and greasewood pollen, giving little functional information. The northwest quadrant has notably more pollen on it than the southwest quadrant, and corn and cactus pollen. Flotation results from the bench are also sparse. Chenopods,

amaranth, and portulaca are present, in addition to small amounts of corn remains (glume) and cactus seed (Table 16.20).

**Cist (Feature 4).** Feature 4 was on the northwest side of the hearth, just west of the pit structure center (Fig. 16.26). The sides of the cist belled out from a constricted opening partially covered by the plaster lip of the hearth. The cist measured 50 by 55 cm at its widest point and 55 cm deep.



Figure 16.31. LA 37598, Pit Structure 2, Feature 23 (bench posthole).

Table 16.41. LA 37598, Pit Structure 2, faunal taxa, counts by fill type.

	Above Roof	Roofing	Floor Fill	Floor	Feature	Total
Mouse	–	2	–	2	–	4
Rodent	–	–	–	2	–	2
Cottontail rabbit	2	4	–	12	3	21
Jackrabbit	7	–	4	14	–	25
Deer	12	1	1	12	1	27
Artiodactyl	–	–	–	1	–	1
Mammal	1	–	–	8	–	9
Small mammal	1	2	–	16	–	19
Medium–large mammal	2	–	–	–	–	2
Large mammal	11	–	1	12	–	24
Turkey	30	1	–	12	–	43
Bird	11	–	–	23	–	34
<b>Total</b>	<b>77</b>	<b>10</b>	<b>6</b>	<b>114</b>	<b>4</b>	<b>211</b>
Eggshell	11	–	1	–	–	12

Feature 4 contained two strata of fill:

Layer 1 was an ashy, sandy soil containing some charcoal, fragments of floor plaster, and several broken pieces of burnt sandstone. One ground stone artifact, a jar cover, was in this layer. Three pieces of animal bone (two small-mammal bones and one

large-mammal bone) were also collected from the fill of this feature. Layer 1 was 20 cm thick.

Layer 2 extended the remaining 35 cm to the feature's base. It was a medium sand containing a few charcoal flecks, but no ash. A chert core flake was in this feature. There was no indication that

this cist ever served as an ash pit. Remodeling of the hearth caused a partial closing of this feature's opening. With the cist partially covered by the remodeled plaster lip of the hearth, the use of Feature 4 ceased, and it was filled.

**Cist (Feature 6).** Feature 6 was in the southwest quadrant of the pit structure, 4 cm away from the wall. From a constricted opening measuring 20 by 28 cm, this cist belled out to 34 by 31 cm at its widest. The cist was 36 cm deep. There were two distinct strata of fill in this feature:

**Layer 1** extended down 10 cm from the feature's opening on Floor 1. It was a dark silty soil containing charcoal and ash.

**Layer 2** extended the remaining 25 cm to the base of the feature. This second deposit was a dark medium sand containing a few bits of charcoal. One artifact, a large mammal bone, was recovered from the fill.

**Niche (Feature 7).** Feature 7 was in the southwest quadrant of the pit structure, 60 cm west of the ventilator opening. The niche was positioned slightly west of present true north and west of the pit structure axis. It extended into the wall 13 cm and was 50 cm high. The floor surface extended into the niche, the same material serving as the pit structure floor and the base of the feature. This niche had irregular sides and roof, the result of erosion and a partial interior wall collapse during the period of pit structure use. The niche was then filled with mud plaster and plastered over, and an attempt was made to smooth it even with the existing wall. This patching showed no evidence of sooting or discoloration, although it was adjacent to soot-stained plastered wall. This indicates that patching occurred shortly before abandonment.

**Niche (Feature 11).** Feature 11 was in the east area of the pit structure, at the junction of the lower wall and floor. The position of Feature 11 places it east of the pit structure axis. This feature was not excavated.

**Ventilator opening (Feature 12).** Feature 12 was beneath the bench in the southwest portion of the pit structure. This feature was defined but not excavated.

**Pit (Feature 16).** Feature 16 was a pit at the base of the structure wall in the southwest quadrant of

the structure. It contained a cache of ground stone artifacts consisting of seven ground stone artifacts: one jar cover, two shaped slabs, three complete two-hand sandstone manos ranging from 19.3 to 21.6 cm long, and one partial mano. Ten lithic artifacts in a variety of materials were also present in this feature: eight core flakes (three of which had been retouched and utilized), one piece of angular debris, and one unidirectional core that had also been used as a hammerstone.

**Postholes (Features 5, 8, 9, 10).** Four large postholes were on Floor 1 of Pit Structure 1 (Fig. 16.26). Each one was in a separate quadrant of the pit structure. Positioned at the floor/wall juncture, each posthole partially extended through the front of the bench. Feature 5 was in the northeast quadrant of the pit structure, directly in front of the bench (Fig. 16.32). The posthole was cut partly into the base of the wall. This posthole measured 25 by 25 cm and 35 cm deep. The post depression was visible an additional 14 cm above the floor in the face of the bench. The walls were uneven but tended to slope inward toward the base of the feature. This posthole had set at a slight angle, slanting inward toward the pit structure's interior. Feature fill was a uniform layer of medium sand containing charcoal and adobe. The cultural material in this fill suggests the post was intentionally removed, presumably at abandonment. One artifact, a large-mammal bone fragment, was in the feature fill of Feature 5, and a large portion of a trough metate (52 by 31 by 9.6 cm, corner broken) was on the floor next to the wall and the post (Fig. 16.32, and see Fig. 20.11 [Chapter 20, Vol. 2, this report]). Were the metate whole, it would have been impossible to use in this location; thus, it had been stored here or deposited at abandonment.

Features 8, 9, and 10 were configured like Feature 5. The posts were all of similar size and partially set into the front of the bench. They had a much more pronounced slant or tilt inward toward the pit structure center than Feature 5. The configuration and large size of the four posts and their articulation with the bench indicate they served as the main structural supports for the pit structure's roof. Feature 9 was directly to the left of the ventilator opening. Whether it also served in a structural capacity for the ventilator is not known.

The skull of a two-year-old child was found in Feature 8. Although the bone was in extremely frag-



Figure 16.32. LA 37598, Pit Structure 2, Floor 1, Feature 5 (posthole) at the floor-wall juncture, showing how the post would have been slightly set into the wall; note the trough metate on the floor adjacent to the posthole (see Chapter 20, Fig. 20.11, for metate detail).

mentary condition, most of the skull was present. No other human bones were recovered from this feature.

One interesting aspect of Feature 9 is the amount of faunal material in the feature's fill. The fill of Feature 9 contained nine turkey bones and two other bird bones. Legs and wings were the primary skeletal elements. No faunal artifacts were recovered from any other posthole in Pit Structure 2. These faunal remains may have been an offering placed in the feature at construction. Four lithic artifacts were also present in Feature 9—two retouched and utilized core flakes, and two cores (one bidirectional and one undifferentiated).

**Postholes (Features 13-15, 17-26** [clockwise groups 13-14, 17-20+22, 15, 21, 23, 25-26]; also see "Postholes, Features 5, 8, 9, 10," text above). Features 13-15 and 17-26 were minimally recorded, apparently because of the expiring field season and poor weather (Figs. 16.26, 16.32). Postholes were

present in two locations: four main larger posts at the juncture of the lower wall and the floor (Features 5, 8, 9, 10) and a series of 13 smaller postholes at the back of the bench surface against the wall (Features 13-15, 17-26). The large postholes at floor level were probably primary roof supporting posts (Features 5, 8, 9, 10). The smaller postholes at bench level varied in size and occurred in clusters, in seven locations. The number of postholes in each cluster varied from one to four. Distances of around 2 m separated the clusters on the bench surface. This spacing suggests that an eighth cluster in the south part of the pit structure between Features 24 and 13 may have been removed by the backhoe. The single postholes tend to be larger than those in clusters. The most common occurrence of these postholes was in pairs. A pair of smaller posts may have served as a substitute for one large post. The cluster of four, with a possible fifth (17-20+22), on the west side may have been in an area of post replacement. These features served as supports for roof cribbing, like pilasters.



## Non-Floor Features: Mural

*Mural (Feature 2).* A mural on the plastered walls of Pit Structure 2 occurred as two panels on the lower pit structure walls, below the surface of the bench (Figs. 16.26, 16.33, 16.34, 16.35, 16.36, 16.37, 16.38, 16.39, 16.40). The two panels were in the pit structure directly opposite each other on the west-northwest and east-southeast. Although the walls were in a greatly deteriorated state, the undecorated nature of most of the remaining plaster suggests most of the murals were intact.

Mural designs included geometric shapes, lines, and both anthropomorphic and zoomorphic figures painted in three colors. A white pigment, a black pigment, and a tan clay paint were used. The figures were bold and appear to have been drawn with a human finger. This method of painting has been recorded historically at the pueblos (Silver 1987:65). Historically the Hopis applied paint with a finger wrapped in corn husk (Fewkes and Stephen 1892). Both panels showed two distinct painting episodes, with the later designs painted directly over some of the earlier decorations. The earlier designs tended to be geometric in form and done in a white pigment. The second application of painted decora-

tions was done primary in tan clay, although black and white pigments were also used. This second application consisted primarily of anthropomorphic and zoomorphic figurative forms, with some modifications to earlier geometric designs also occurring as part of this painting episode. Both painting episodes were present on a single layer of wall plaster. A small ball of kaolin, useful for slipping pottery or making the white figures in this mural, was found on the northwest quadrant of the floor (Table 16.35). The small amount of sooting on the mural's surface suggests its creation occurred while the structure was still in use, but shortly before abandonment. No visible sooting occurs between pigment applications, suggesting the period between them was short.

Panel 1 was on the west-northwest (grid north) interior of the pit structure (Figs. 16.26, 16.33, 16.34, 16.35, 16.36, 16.37, 16.38). This was the larger of the two panels, the intact portion extending for 3.4 m in length. The painting in this panel was near the top of the lower wall immediately below the bench, and the better preservation of this lower wall plaster was a factor in its survival. Panel 1 can be divided into three discrete parts, based on the design groupings. The southern 1.5 m of the panel was decorated with

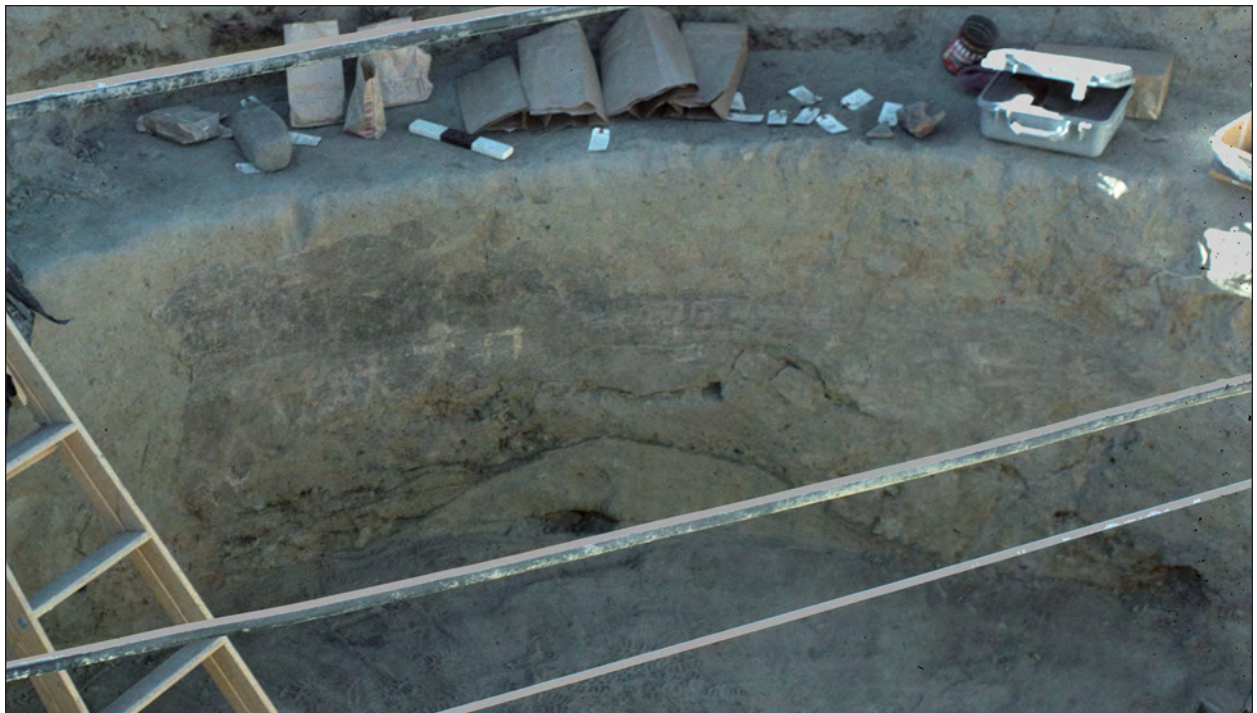


Figure 16.33. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1 (west), view west.



a row of five anthropomorphic figures. Portions of a sixth figure suggest this panel originally extended slightly farther toward the south. Painted in tan clay, these figures range from 20 to 45 cm high. Each had its arms raised, with each arm terminating in a hand with three fingers. Each leg of each figure ended in a three-toed bird-like foot. Included in this grouping of figures was a crude representation of a human foot. (Hence, LA 37598 came to be known as Three Fingers Up, Three Toes Down.) Painted in tan clay, this was a subrectangular shape with a row of small protrusions along its upper edge representing toes. This design was 20 cm high. A small bird figure in white pigment, 10 cm tall, was in the lower left-hand area of this panel almost at floor level. These figures all formed part of the second, or later, series of wall paintings. No evidence of earlier painted decorations was visible in this section of Panel 1.

The center 1 m section of Panel 1 contained two layers of nested outlined squares. The white squares remained from the original wall mural. The tan squares were later additions, forming part of the second painting episode. To the left was a single square painted in white pigment that was part of the earlier painting episode. A cluster of squares occurred to the right. Two earlier small squares painted in white pigment were present, reduced to faint ghostly images. Larger later squares painted in tan clay surrounded both of these earlier squares. A third square painted in tan clay was adjacent to the other two. These three tan squares measured roughly 26 by 16 cm.

The remaining 1 m section of Panel 1 contained several widely spaced zoomorphic forms. Painted in tan clay were the head of a deer, a full figure of

a deer, and a bird (possibly a turkey). To the lower right of these figures are a number of random lines in tan clay and an indistinct figure (possibly faunal) in white pigment. These designs were part of the second application of painted decorations.

Panel 2 was on the east-southeast (grid north) interior of the pit structure (Figs. 16.26, 16.34, 16.39, 16.40). The designs of this panel were bolder and simpler than those of Panel 1. The designs forming Panel 2 tended to be toward the top of the lower wall, immediately below the bench. The increased deterioration on this portion of the wall had eliminated part of this panel. Panel 2, 1.5 m long, was considerably smaller than Panel 1. The principal decorations on Panel 2 were a row of double nesting squares. This patterning represented both painting periods. The earlier painting episode included the fainter inner squares, measuring 20 by 20 cm and drawn in white pigment; and a single large outer square 60 cm high by 1.20 m long, also appearing as faint white pigment and surrounding the total design. The second episode of painting was represented by two inner squares measuring 50 by 50 cm and painted in tan clay. They were inside the large square, each surrounding an earlier smaller inner square. A solid circle in black pigment (coal? charcoal?) was placed between two inner tan squares, next to their lower corners. Later additions to this panel included a row of triangles along the bottom of the right square and a large anthropomorphic figure. This figure, at 55 cm, is the largest on the entire mural.

Whether the mural was painted as a formal, "official" activity or was the product of informally executed graffiti is problematic. Both appear to be

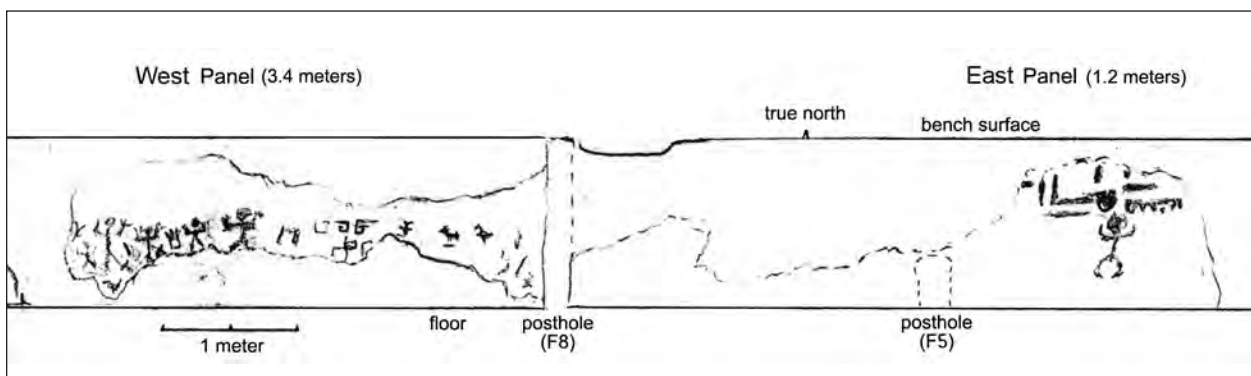


Figure 16.34. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1 (west) and Panel 2 (east); field drawing (full schematic).



Figure 16.35. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1, southern extent.



Figure 16.36. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1; field drawing, southern extent detail.



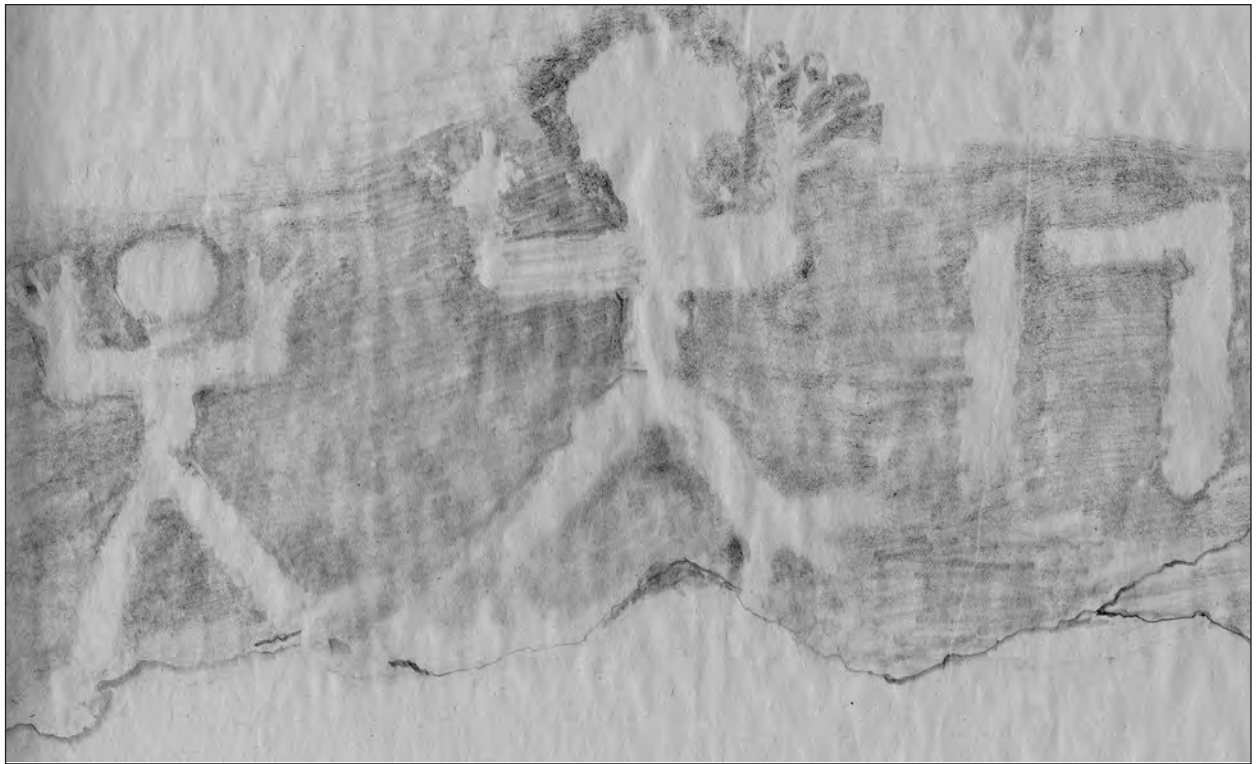


Figure 16.37. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1; field drawing, midpoint detail.



Figure 16.38. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 1, northern extent.





Figure 16.39. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 2.

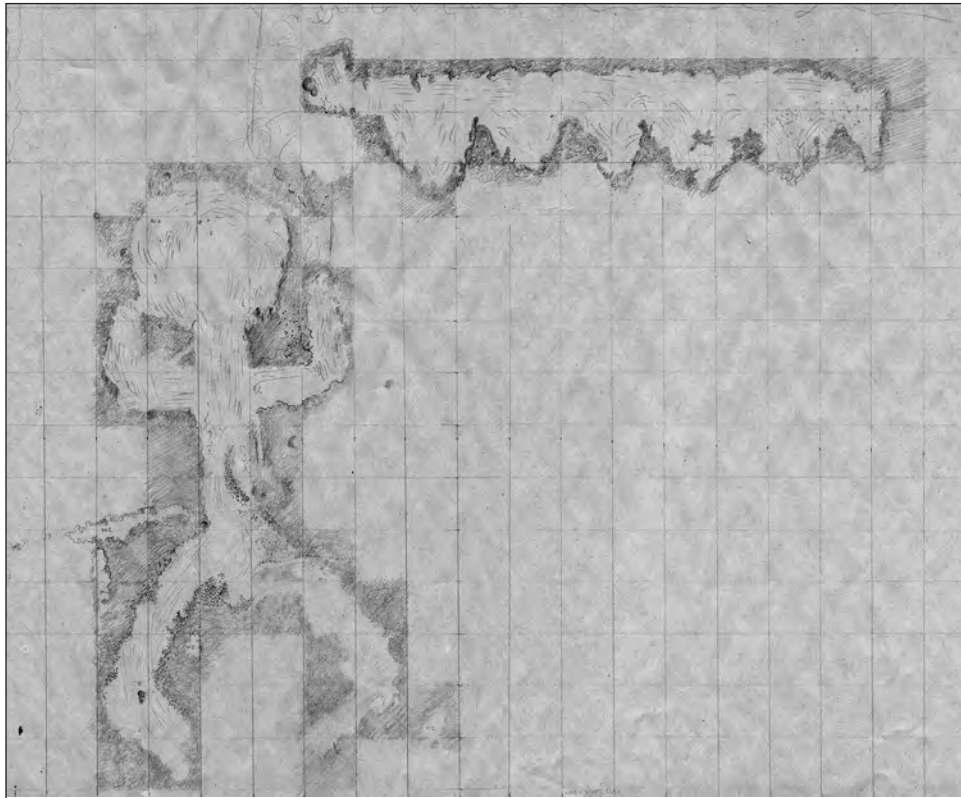


Figure 16.40. LA 37598, Pit Structure 2, Feature 2 (wall murals), Panel 2; field drawing, southern extent figure detail.

the case. "Official activities are those instigated as part of a larger conceptual vision of structural use" (Brody 1991). The informal nature of the mural's later figurative paintings suggests execution based on a concept of "expedient" decoration, or graffiti. This contrasts with the earlier division of the mural into opposing panels and its geometric design elements, both of which suggest a degree of planning presumed to be associated with "official" acts. A brief official use is suggested by their presence, followed by prehistoric defacement in the form of the figurative paintings and modifications to some of the geometric designs.

Other Pueblo II pit structures with painted geometric decorations include one at Lowry Ruin, which contained murals of a large geometric size and nature in a stepped triangle design (Smith 1952:57). A painted Pueblo II pit structure at Alkali Ridge contained diagonal stripes on its walls (Smith 1952:55-56).

Painted anthropomorphic and zoomorphic figurative decorations tend to have a less formal appearance than the geometrical designs. Anthropomorphic and zoomorphic figurative forms occurred in a number of Pueblo II pit structures in Chaco Canyon, such as Bc 51, Kiva 5 (Kluckhohn 1939:38); and Tseh So, Kiva 3 (Brand et al. 1937:78-79). Figures similar in form and execution were present in a specialized room at Pueblo Alto. (Windes 1987c: 95, 114). These include a three-fingers-up, toes-down figure (Windes 1987c: 114). One exception to this informality was a painted late Pueblo II-period pit structure in the Gallup area, Ram Mesa Site 423-130 (Burchett 1993:94-95). This mural was divided into three panels, two of which contained a formalized repeated animal design.

The anthropomorphic figures in the mural in Pit Structure 2 closely resembled Pueblo II-period style rock art figurative forms. The rectilinear forms, the upraised arms, and the bird-foot feet are all aspects of Pueblo II-period late rectilinear styles of rock art (Schaafsma 1972: Fig. 15; Schaafsma 1980:155, Figs. 115, 116). Anthropomorphic forms of this type formed part of the Pictured Cliffs rock art assemblage (Farwell and Wening 1985:64-71), along the San Juan River downstream from its junction with the La Plata River.

Kokopelli figures above a red dado occurred on a painted Late Pueblo II-Early Pueblo III-period pit structure at LA 17360, near Chaco Canyon and

dating to AD 1190 (Doyel et al. 1989; McAnany 1982:604-640; Silver 1982). This mural combined anthropomorphic figurative designs with the formality of a solid red dado. The red dado became a common design element in painted Pueblo III-period pit structures (Brody 1991; Smith 1952). A red dado was present in Pit Structure 1, LA 65030 (Pueblo III), one of the Barker Arroyo sites. The number of painted pit structures and surface rooms increased dramatically in the Pueblo III period (Brody 1991; Smith 1952). Painted interior walls were recorded for Chaco Canyon (Brody 1991) and Mesa Verde sites (Brody 1991; Silver 1987; Smith 1952).

### *Cultural Material*

Artifacts associated with Floor 1 in Pit Structure 2 centered on the bench and floor surfaces. Although artifacts were present in the fill (including a bone bead from the floor fill layer), few artifacts were recovered from the features in the pit structure. Sherds, although they do occur, are a minority in the artifact assemblage. Only three features (Feature 4, cist; Feature 9, posthole; and Feature 16, pit) contained artifacts. Still, the sherds present, used in combination with the sites construction sequence, date the structure to the Pueblo II period (AD 1000 to 1100). In contrast to the large quantity of lithics attributed to the bench, few were found on the floor and in the floor fill of the structure.

Bone and bone tools were present on the bench surface and on the north portion of Floor 1 in large numbers (Tables 16.35-16.38). Lithic artifacts comprise the largest single category of artifacts on the bench surface, concentrated in the south half of Floor 1. As previously mentioned, the artifacts on the bench surface occurred in two concentrations. Formal lithic tools, limited to one projectile point and a denticulate, were all on the Floor 1 surface. However, no hammerstones were on the Floor 1 surface; they were limited to the bench surface, and one other hammerstone was in the pit (Feature 16). Cores were also present on the bench surface and in a posthole (Feature 9). Lithic debitage, the most widely distributed lithic artifacts, were on the floor, the bench, and in a number of pit structure features. About 75 percent of the lithic debitage in the pit structure was on the bench surface. Retouched/ utilized debitage was restricted to the bench surface and the interior of Features 9 and 11.



A majority of the lithic artifacts in Pit Structure 2 were chert, with siltstone a distant second. All of the formal tools present are chert. A number of other materials occurred in small quantities across the structure (Table 16.42). Expedient lithic production was taking place on the bench of Pit Structure 2 just prior to abandonment. The presence of a significant amount of utilized debitage indicates that this production was directed toward the creation of expedient tools for immediate use. Bone awl production may have been taking place in this pit structure.

Several pieces of ground stone occurred on the bench surface on the south side, and one piece was in the northeast quadrant. On Floor 1, ground stone occurrence was concentrated in the west half of the pit structure (Table 16.39). Bone tool distribution on Floor 1 parallels the distribution of bone tools on the bench surface, with concentrations in the same areas of the pit structure. The differences in artifact distribution by type suggests specialized use-areas for particular activities at the time of abandonment, including possible bone awl production.

The flotation results from Floor 1 and its features contain only scant evidence of activity in the structure (Tables 16.43, 16.44, 16.45). Minor amounts

of corn are present, and tobacco occurs in two features. The features and floor exhibit a number of unburned seeds from common annuals. The hearth contained burned cheno-am seeds and a large number of corn remains (Table 16.44). The principal fuel in the hearth was juniper, but nine other taxa are also represented, showing an opportunistic fuel gathering strategy (Table 16.45). Pollen on Floor 1 is mostly notable for its scarcity. No cultigens are represented, and the number of families present is small. The same sparse botanical record observed on the bench is repeated on the floor, with no corn remains, and small weed seeds constituting the main remains. The only cultural botanical remain from the floor is a portulaca seed. Tobacco seeds (unburned) were in a posthole and the floor cist (Feature 6).

#### *Sequence and Interpretation: Pit Structure 2*

Pit Structure 2 was part of the Pueblo II-period occupation at LA 37598 that includes Pit Structure 1, Roomblock 2, and Features 1, 4, and 5 in Extramural Area 2. This pit structure saw a period of use that included a degree of renovation. Replacement of some

Table 16.42. LA 37598, Pit Structure 2, chipped stone tool and material types, counts by fill type.

	General Fill	Above Roof	Roofing	Floor Fill	Floor	Feature	Total
<b>Tool Type</b>							
Debitage	7	91	29	17	88	1	<b>233</b>
Core	–	7	1	–	4	–	<b>12</b>
Retouched, utilized debitage	1	7	3	1	18	–	<b>30</b>
Retouched, utilized core	–	1	1	–	–	–	<b>2</b>
Graver	–	1	–	–	–	–	<b>1</b>
Denticulate	–	–	–	–	1	–	<b>1</b>
Projectile point	–	–	–	–	1	–	<b>1</b>
Hammerstone	–	5	2	–	3	–	<b>10</b>
<b>Total</b>	<b>8</b>	<b>112</b>	<b>36</b>	<b>18</b>	<b>115</b>	<b>1</b>	<b>290</b>
<b>Material Type</b>							
Chert	6	53	20	14	71	1	<b>165</b>
Chalcedony	–	2	1	1	1	–	<b>5</b>
Silicified wood	1	31	5	1	11	–	<b>49</b>
Quartzite	–	8	–	–	4	–	<b>12</b>
Quartzitic sandstone	–	3	4	–	2	–	<b>9</b>
Igneous	–	1	–	–	–	–	<b>1</b>
Rhyolite	–	2	–	–	–	–	<b>2</b>
Siltstone	1	12	6	2	26	–	<b>47</b>
<b>Total</b>	<b>8</b>	<b>112</b>	<b>36</b>	<b>18</b>	<b>115</b>	<b>1</b>	<b>290</b>

Table 16.43. LA 37598, Pit Structure 2, plant remains, flotation scan results by taxon and floor/feature; abundance per liter.

Feature	3 Bench				Floor 1				4 Cist	5 Post-hole	6 Cist		8 Post-hole
	529	530	531	532	537	538	539	540	542	543	544	545	548
Quadrant	NW 1/4	NE 1/4	SE 1/4	SW 1/4	NW 1/4	NE 1/4	SE 1/4	SW 1/4					
Layer											1	2	
<b>Cultural</b>													
Annuals:													
<i>Portulaca</i>	-	-	-	-	-	+	-	-	-	-	-	-	-
Cultivars:													
<i>Zea mays</i>	-	+ cupule	-	-	-	-	-	-	-	-	-	-	-
Other:													
<i>Sphaeralcea</i>	-	-	-	-	-	-	-	-	+	-	-	-	-
<b>Possibly Cultural</b>													
Annuals:													
<i>Nicotiana attenuata</i>	-	-	-	-	-	-	-	-	-	+	+	-	-
<b>Noncultural</b>													
Annuals:													
<i>Amaranthus</i>	-	+	-	-	-	-	-	+	-	-	-	-	-
<i>Chenopodium</i>	++	+	++	+	+	+	+	+	-	+	-	+	+
<i>Cheno-Am</i>	-	-	-	-	-	-	-	-	+	-	-	-	-
<i>Cycloloma</i>	+	-	++	-	+	-	+	-	-	+	-	-	-
<i>Portulaca</i>	-	+	+	-	-	-	+	-	+	+	+	-	-
<i>Suaeda</i>	-	+	-	+	-	-	-	-	-	-	-	-	-
Perennials:													
<i>Echinocereus</i>	-	-	-	+	-	-	-	-	-	-	-	-	-
Other:													
<i>Physalis</i>	-	-	-	-	-	-	-	-	+	-	-	-	-

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = less than 10/liter, ++ = 11–25/liter

secondary roof supports occurred at least once. Re-modeling was limited to a slight reconfiguration of the hearth and some feature closures. Although the bench surface had three layers of plaster, only a single layer was present on the floor and walls.

No roof elements were recovered, but the roof structure can be reasonably reconstructed from the posthole placements. The roof of Pit Structure 2 consisted of a timber superstructure based on four major upright posts (Features 5, 8, 9, and 10; Fig. 16.26). These posts were roughly equidistant from each other, forming a quadrilateral that is slightly tipped from the structure axis. Each post was partially enclosed in the lower bench wall, with this enclosed portion originally plastered over. All four posts were set tilting slightly inward toward the pit

structure center (Fig. 16.32). These four main upright posts supported the main roof beams, which in turn supported the central roof cribbing. This would have served as a base for the rest of the roof construction. The two eastern posts (Features 5 and 10) and the two western posts (Features 8 and 9) would have framed wall art Panels 1 and 2 respectively. Several structures excavated by the project include a post set into the floor and the wall as well as a pilaster (Pit Structures 1 and 2, LA 37600 [Vols. 3–4, this report], for example) and these four posts suggest a similar arrangement without the masonry pilaster (Fig. 16.32). A series of posts, also forming part of the roof support system, were set into the surface of the bench. These posts functioned as pilasters, supporting the secondary cribbing asso-

Table 16.44. LA 37598, Pit Structure 2, Features 1 and 16, plant remains, flotation results by taxon; frequency and abundance per liter.

Feature	1 Hearth	16 Pit
FS	541	549
<b>Cultural</b>		
Annuals:		
<i>Cheno-Am</i>	4.0	–
Cultivars:		
<i>Zea mays</i>	++ c, + g, 10.0 cob	+c
<b>Noncultural</b>		
Annuals:		
<i>Chenopodium</i>	–	6.0
<i>Portulaca</i>	–	2.0
Other:		
<i>Sphaeralcea</i>	–	1.0

All cultural plant remains are carbonized.  
 Plant remains are seeds unless indicated otherwise.  
 c = cupule, g = glume, k = kernel  
 + = less than 10/liter, ++ = 11–25/liter

Table 16.45. LA 37598, Pit Structure 2, Features 1 and 16, wood charcoal flotation results, weight (g) by taxon.

Feature	1	16	Total	
	Hearth	Pit	Weight (g)	Col. %
FS	541	549		
<b>Conifers</b>				
<i>Ephedra</i>	–	0.40	0.40	9.9%
<i>Juniperus</i>	1.80	0.01	1.81	44.8%
<i>Pinus edulis</i>	0.10	0.01	0.11	2.7%
<b>Nonconifers</b>				
<i>Amelanchier</i>	0.20	–	0.20	5.0%
<i>Artemisia tridentata</i>	0.60	0.10	0.70	17.3%
<i>Purshia</i>	0.30	–	0.30	7.4%
<i>Quercus</i>	0.10	–	0.10	2.5%
Salicaceae	0.10	–	0.10	2.5%
<i>Sarcobatus</i>	0.30	0.01	0.31	7.7%
Unknown nonconifer	–	0.01	0.01	0.2%
<b>Total</b>	<b>3.50</b>	<b>54.00</b>	<b>4.04</b>	<b>100.0%</b>

ciated with the roof superstructure. In time, some of these posts were replaced. All four of the main supports, and possibly the smaller ones as well, were removed at abandonment.

Floor 1 seems to indicate a traditional pit structure. A ventilator, hearth, and bench were present, although there did not appear to be a sipapu. Wall niches occurred, though none was opposite the ventilator. A mural of geometric designs

was painted on a portion of the lower walls. The structure, as constructed, is in the range of variability recorded for Pueblo II-period pit structures and fits the conceptual model of a pit structure.

Subtle changes occurred on Floor 1, suggesting a difference in the way the pit structure was used. The hearth was enlarged, and its form changed. The deflector was removed. Because of this remodeling, one cist (Feature 4) was closed. Despite the effort put into this hearth remodeling, the pit structure showed little evidence of subsequent use. The artifact assemblage suggests that what little pit structure use did occur, was specialized. Activities requiring the use and possible production of bone tools took place. Pit structures with extensive bone tool assemblages are found throughout the region, but far from every structure has such an assemblage, showing that certain groups—including the families using Pit Structure 2—performed some activities more than others. Ground stone and lithic artifacts were also being used, but whether for related or additional activities is unclear. Ceramic use was limited. Informal murals were painted on the lower walls, sometimes over the existing decorations, before abandonment. The pit structure was abandoned, and artifacts were left lying on the bench and floor. Little eolian material collected in the structure before the roof and main supports were removed, depositing the roofing material on the floor.



### LA 37598: MATERIAL CULTURE

Material culture distribution across LA 37598 was heavily filtered by subsequent modification to the surface. The principal modifications were along the highway edges, where construction and maintenance of the road and drainage area were most severe; and in the utility corridors along the east side of the highway. Thus, Roomblock 2 had only a scant material assemblage due to its nearly complete reduction and the removal of surrounding deposits. The most nearly intact deposits were, of course, the deepest ones, near the floors of the pit structures and in deeper extramural features.

For purposes of discussing material occurrence, the site has been divided into spatial groups. These

major proveniences are not equal in volume, but they do represent discrete units. The samples from Roomblock 2 were unfortunately so small that it cannot be validly compared with the other groups.

The most material in all classes comes from the area west of the highway, including Extramural Area 1 (the general area around Roomblock and Pit Structure 1), Roomblock 1 itself, and Pit Structure 1. In spite of the disturbance, and partly because of its large area, Extramural Area 2—everything east of the highway not included in Roomblock 2 or Pit Structure 2—regularly accounts for a half to a third more material than Extramural 1. Primarily because it was larger, Pit Structure 2 usually contained more material than Pit Structure 1, especially in the modified bone and ground stone categories.

### *Ceramic Artifacts*

The ceramic tabulations throughout this report use condensed type names, but Table 16.46 shows all the detailed type assignments. The ceramic assemblage at LA 37598 contains only a few nonlocal items. Three different kinds of red ware are present: San Juan Red Ware, from the Pueblo II part of the site (Pit Structure 2 and Extramural Area 2); White Mountain Red Ware, from Extramural Area 1; and Tsegi Orange Ware, mainly from the west side of the site (Tables 16.47, 16.48). There is only one sherd of Reserve Smudged pottery, found in Pit Structure 2. The half dozen Chuskan sherds are from all portions of the site, showing a continuous but low-level connection to that area (Table 16.46). There are also just a few sherds attributed to the Cibola series, which are likely to have come from other areas south of the San Juan River. The temper sample, about 13 percent of the total site collection (Table 16.49), tells much the same tale: 87 percent of the sherds examined contain igneous rock temper likely to be local. This is especially remarkable, since sherds thought to contain unusual temper are more likely to have temper recorded than other sherds in the course of their identification.

Ware occurrence is fairly even, though Pit Structure 1 and Extramural Area 2 show more white ware than the other provenience groups (Tables 16.50, 16.51). Extramural Area 2 has high relative frequencies of both white and gray jars (Table 16.51). Pit Structure 1 has a higher frequency of bowls than other provenience groups. The temporal

distinctiveness of Pit Structure 2 is clearly visible in the much higher percentage of mineral paint (46 percent) as compared to other proveniences, especially the later Roomblock 1 (19 percent mineral paint; Table 16.50).

### *Chipped Stone Artifacts*

Chert debitage accounts for about half of the chipped stone count (Tables 16.52, 16.53) at LA 37598. Though greatly outnumbered, the total weight of siltstone artifacts is greater than that of chert artifacts, reflecting larger nodule sizes and more use as hammerstones. Quartzite and quartzitic sandstone (gradients of the same materials) also occur as larger artifacts, and the weights of these materials are disproportionate to counts. Pit Structure 2 has higher than average occurrences of silicified wood and chert, but not of debitage, as one might expect with these more workable materials (Table 16.54). The difference is compensated by less quartzite and quartzitic sandstone; this could be a temporal difference, but it is more likely to be functional, perhaps tying into the activity relating to the bone tool assemblage.

As is true of most La Plata collections, formal tools are minuscule percentages of the collection. There are only five projectile points (whole or fragmented; Fig. 16.21), and even fewer completely reworked tools (notches, denticulates, and, here, drills) were identified. Perhaps in keeping with suggestions of maize processing, Pit Structure 1 has a higher relative occurrence of hammerstones than the other provenience groupings (Table 16.54). Debitage is practically everywhere; some of this is background disposal and postabandonment noise, but some reflects activity at the site. It is notable that the ratios of debitage to utilized debitage indicates more used edges in the pit structures than elsewhere, and that the average flake size is also larger in those locations (Table 16.54). This at least suggests that manufacturing activity—though of an unspecific type—was taking place more in pit structures than elsewhere.

### *Ground Stone Artifacts*

Sixty-five percent of all ground stone at LA 37598 is manos and fragments (Tables 16.55, 16.56). Of 93 manos, only 22 are complete in the long dimension.

Table 16.46. LA 37598, pottery types (all); count, weight (g), and percent.

	Count	Col. %	Weight (g)	Col. %
Pueblo II corrugated	37	0.6%	548	1.6%
Pueblo II-III corrugated	26	0.4%	357	1.0%
Pueblo III corrugated	7	0.1%	78	0.2%
Plain gray	731	12.2%	3190	9.0%
Corrugated gray	3037	50.8%	15485	43.8%
Red Mesa-style black-on-white	11	0.2%	40	0.1%
Pueblo II black-on-white	93	1.6%	714	2.0%
Sosi-style black-on-white	4	0.1%	92	0.3%
Dogoszhi-style black-on-white	36	0.6%	256	0.7%
Chaco-style black-on-white	4	0.1%	73	0.2%
Pueblo II-III black-on-white	393	6.6%	2007	5.7%
Pueblo III black-on-white	16	0.3%	194	0.5%
Painted black-on-white	1	0.0%	3	0.0%
Polished white	668	11.2%	3641	10.3%
Polished black-on-white	128	2.1%	415	1.2%
Transitional Pueblo III black-on-white	31	0.5%	82	0.2%
Squiggle hachure black-on-white	12	0.2%	109	0.3%
Mancos Gray	2	0.0%	2	0.0%
Mancos Corrugated	16	0.3%	275	0.8%
Dolores Corrugated	8	0.1%	359	1.0%
Mesa Verde Corrugated	9	0.2%	418	1.2%
Mesa Verde Plain Gray	30	0.5%	188	0.5%
Mesa Verde Corrugated Gray	437	7.3%	4109	11.6%
Mancos Black-on-white	47	0.8%	755	2.1%
Mancos Black-on-white, Sosi	6	0.1%	192	0.5%
Mancos Black-on-white, Dogoszhi	4	0.1%	41	0.1%
McElmo Black-on-white	16	0.3%	357	1.0%
Mesa Verde Black-on-white	4	0.1%	53	0.1%
Mesa Verde Pueblo II-III Black-on-white	26	0.4%	99	0.3%
Mesa Verde Pueblo III Black-on-white	10	0.2%	82	0.2%
Mesa Verde Polished White	55	0.9%	255	0.7%
Mesa Verde Polished Black-on-white	8	0.1%	16	0.0%
Mesa Verde Transitional Pueblo III Black-on-white	17	0.3%	296	0.8%
Mancos Black-on-white (squiggle hachure)	5	0.1%	17	0.0%
Deadmans Black-on-red	3	0.1%	16	0.0%
Mesa Verde Black-on-red	1	0.0%	9	0.0%
Gallup Black-on-white	1	0.0%	71	0.2%
Chaco Black-on-white	3	0.1%	8	0.0%
Cibola indeterminate red ware	3	0.1%	6	0.0%
Wingate Black-on-red	2	0.0%	2	0.0%
Chuska Black-on-white	1	0.0%	46	0.1%
Toadlena Black-on-white	5	0.1%	123	0.3%
Kayenta indeterminate red	7	0.1%	29	0.1%
Kayenta plain black-on-red	2	0.0%	4	0.0%
Reserve Smudged	1	0.0%	32	0.1%
Plain gray*	1	0.0%	7	0.0%
Pueblo II black-on-white*	5	0.1%	65	0.2%
Sosi-style black-on-white*	1	0.0%	35	0.1%
Early Pueblo III black-on-white	1	0.0%	3	0.0%
Pueblo II-III black-on-white*	2	0.0%	26	0.1%
Polished white*	5	0.1%	13	0.0%
Squiggle hachure black-on-white*	3	0.1%	59	0.2%
<b>Total</b>	<b>5982</b>	<b>100.0%</b>	<b>35352</b>	<b>100.0%</b>

\* Temper examined but not placeable by tradition.



Table 16.47. LA 37598, pottery types by major provenience type; counts and percents.

	Surface Room		Pit Structure		Extramural Area		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Pueblo II corrugated	6	0.4%	34	3.6%	14	0.4%	<b>54</b>	<b>0.9%</b>
Pueblo II–III corrugated	9	0.5%	15	1.6%	10	0.3%	<b>34</b>	<b>0.6%</b>
Pueblo III corrugated	9	0.5%	1	0.1%	6	0.2%	<b>16</b>	<b>0.3%</b>
Plain gray	256	15.5%	46	4.8%	460	13.7%	<b>762</b>	<b>12.7%</b>
Corrugated gray	918	55.4%	591	61.8%	1967	58.4%	<b>3476</b>	<b>58.1%</b>
Red Mesa-style black-on-white	–	–	2	0.2%	9	0.3%	<b>11</b>	<b>0.2%</b>
Pueblo II black-on-white	23	1.4%	59	6.2%	66	2.0%	<b>148</b>	<b>2.5%</b>
Sosi-style black-on-white	1	0.1%	1	0.1%	10	0.3%	<b>12</b>	<b>0.2%</b>
Dogoszhi-style black-on-white	14	0.8%	6	0.6%	20	0.6%	<b>40</b>	<b>0.7%</b>
Chaco-style black-on-white	–	–	3	0.3%	5	0.1%	<b>8</b>	<b>0.1%</b>
Early Pueblo III black-on-white	7	0.4%	–	–	10	0.3%	<b>17</b>	<b>0.3%</b>
Late Pueblo III black-on-white	–	–	–	–	4	0.1%	<b>4</b>	<b>0.1%</b>
Pueblo II–III black-on-white	93	5.6%	59	6.2%	270	8.0%	<b>422</b>	<b>7.1%</b>
Pueblo III black-on-white	9	0.5%	–	–	17	0.5%	<b>26</b>	<b>0.4%</b>
Painted black-on-white	–	–	–	–	1	0.0%	<b>1</b>	<b>0.0%</b>
Polished white	202	12.2%	124	13.0%	401	11.9%	<b>727</b>	<b>12.2%</b>
Polished black-on-white	49	3.0%	7	0.7%	81	2.4%	<b>137</b>	<b>2.3%</b>
Transitional Pueblo III black-on-white	40	2.4%	2	0.2%	6	0.2%	<b>48</b>	<b>0.8%</b>
Squiggle hachure black-on-white	12	0.7%	4	0.4%	4	0.1%	<b>20</b>	<b>0.3%</b>
Deadmans Black-on-red	–	–	1	0.1%	2	0.1%	<b>3</b>	<b>0.1%</b>
Mesa Verde Black-on-red	–	–	–	–	1	0.0%	<b>1</b>	<b>0.0%</b>
Cibola indeterminate red ware	2	0.1%	1	0.1%	–	–	<b>3</b>	<b>0.1%</b>
Wingate Black-on-red	2	0.1%	–	–	–	–	<b>2</b>	<b>0.0%</b>
Kayenta indeterminate red	4	0.2%	–	–	3	0.1%	<b>7</b>	<b>0.1%</b>
Kayenta Plain Black-on-red	–	–	–	–	2	0.1%	<b>2</b>	<b>0.0%</b>
Reserve Smudged	–	–	1	0.1%	–	–	<b>1</b>	<b>0.0%</b>
<b>Total</b>	<b>1656</b>	<b>100.0%</b>	<b>957</b>	<b>100.0%</b>	<b>3369</b>	<b>100.0%</b>	<b>5982</b>	<b>100.0%</b>

As with other ground stone, most of the manos are sandstone, a few granite and diorite, and a couple of siltstone. Unlike other categories, Pit Structure 2 stands out as having a high count of ground stone relative to the other provenience groups (Table 16.57). Manos and mano fragments are the most abundant ground stone category in most locations; where identifiable, almost all are two-hand manos.

Two short, specialized manos from Roomblock 1 appear to be reshaped pieces of a slab metate (Fig. 16.18; quite possibly the same metate). The high points show some polishing, again suggesting use on materials such as hide. Both of these tools, which are 135 and 138 mm long, show some abrasion on the convex face opposite the slightly concave, flat face with squared edges. Their occurrence in Roomblock 1 along with other specialized tools again suggests that these rooms had unusual or ritual functions, among others.

Whole metates are again absent, though large pieces are present in Pit Structure 2; nearly all of the pieces of metates came from the pit structures. Four of five slab metates were in Pit Structure 1; the fifth was in Roomblock 1 (Table 16.56). Trough metates were all recovered from Pit Structure 2 (Table 16.39). Only the two specimens from Pit Structure 2 are nearly complete, and even those two specimens are broken. One is a closed-end trough metate from Floor 1 (Point Provenience 6), with a substantial piece missing from the corner (Fig. 16.32, and see Fig. 20.11 [Chapter 20, Vol. 2, this report]). The base of the trough at the open end is worn quite thin, and the metate was close to “exhausted,” probably leading to its breakage. There is little doubt that it was no longer in service as a corn-grinding tool. This specimen is one of only two examples of one-end, open-trough metates from the project. The other nearly whole metate is a large (43 by 35 cm) slab

Table 16.48. LA 37598, pottery types by major provenience group; counts and percents.

	Roomblock 1		Roomblock 2		Pit Structure 1		Pit Structure 2		Extramural Area 1		Extramural Area 2		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Pueblo II corrugated	6	0.4%	-	-	1	0.3%	33	5.5%	6	0.2%	8	0.9%	54	0.9%
Pueblo II-III corrugated	9	0.5%	-	-	7	2.0%	8	1.3%	7	0.3%	3	0.3%	34	0.6%
Pueblo III corrugated	9	0.5%	-	-	-	-	1	0.2%	6	0.2%	-	-	16	0.3%
Plain gray	256	15.6%	-	-	38	10.9%	8	1.3%	378	15.3%	82	9.2%	762	12.8%
Corrugated gray	904	55.2%	14	82.4%	195	55.7%	390	65.4%	1456	58.9%	510	57.0%	3469	58.1%
Red Mesa-style black-on-white	-	-	-	-	2	0.6%	-	-	-	-	9	1.0%	11	0.2%
Pueblo II black-on-white	23	1.4%	-	-	20	5.7%	38	6.4%	43	1.7%	23	2.6%	147	2.5%
Sosi-style black-on-white	1	0.1%	-	-	-	-	1	0.2%	4	0.2%	6	0.7%	12	0.2%
Dogozhi-style black-on-white	14	0.9%	-	-	2	0.6%	4	0.7%	16	0.6%	4	0.4%	40	0.7%
Chaco-style black-on-white	-	-	-	-	1	0.3%	2	0.3%	4	0.2%	1	0.1%	8	0.1%
Early Pueblo III black-on-white	7	0.4%	-	-	-	-	-	-	6	0.2%	4	0.4%	17	0.3%
Late Pueblo III black-on-white	-	-	-	-	-	-	-	-	3	0.1%	1	0.1%	4	0.1%
Pueblo II-III black-on-white	93	5.7%	-	-	35	10.0%	24	4.0%	200	8.1%	70	7.8%	422	7.1%
Pueblo III black-on-white	9	0.5%	-	-	-	-	-	-	10	0.4%	7	0.8%	26	0.4%
Painted black-on-white	-	-	-	-	-	-	-	-	-	-	1	0.1%	1	0.0%
Polished white	199	12.1%	3	17.6%	42	12.0%	80	13.4%	250	10.1%	151	16.9%	725	12.1%
Polished black-on-white	49	3.0%	-	-	4	1.1%	2	0.3%	73	3.0%	8	0.9%	136	2.3%
Transitional Pueblo III black-on-white	40	2.4%	-	-	-	-	2	0.3%	5	0.2%	1	0.1%	48	0.8%
Squiggle hachure black-on-white	12	0.7%	-	-	3	0.9%	1	0.2%	4	0.2%	-	-	20	0.3%
Deadmans Black-on-red	-	-	-	-	-	-	1	0.2%	-	-	2	0.2%	3	0.1%
Mesa Verde Black-on-red	-	-	-	-	-	-	-	-	-	-	1	0.1%	1	0.0%
Cibola indeterminate red ware	2	0.1%	-	-	-	-	-	-	-	-	-	-	2	0.0%
Wingate Black-on-red	2	0.1%	-	-	-	-	-	-	-	-	-	-	2	0.0%
Kayenta indeterminate red	4	0.2%	-	-	-	-	-	-	1	0.0%	2	0.2%	7	0.1%
Kayenta Plain Black-on-red	-	-	-	-	-	-	-	-	2	0.1%	-	-	2	0.0%
Reserve Smudged	-	-	-	-	-	-	1	0.2%	-	-	-	-	1	0.0%
<b>Total</b>	<b>1639</b>	<b>100.0%</b>	<b>17</b>	<b>100.0%</b>	<b>350</b>	<b>100.0%</b>	<b>596</b>	<b>100.0%</b>	<b>2474</b>	<b>100.0%</b>	<b>894</b>	<b>100.0%</b>	<b>5970</b>	<b>100.0%</b>
Ratio of sherds to lithics	3.4		1.9		1.8		2.1		3.2		2.4		2.8	

Extramural Area 3 and Pit Structure 3 not included.

Table 16.49. LA 37598, temper type by major provenience; counts and percents.

	Roomblock 1		Pit Structure 1		Pit Structure 2		Extramural Area 1		Extramural Area 2		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Indeterminate	–	–	2	1.0%	–	–	1	0.7%	–	–	3	0.4%
Igneous	177	79.7%	183	87.6%	161	78.5%	94	65.7%	9	39.1%	624	77.8%
Igneous and sand	2	0.9%	2	1.0%	–	–	4	2.8%	7	30.4%	15	1.9%
Quartzite	1	0.5%	1	0.5%	–	–	–	–	–	–	2	0.2%
Fine sandstone	1	0.5%	–	–	–	–	2	1.4%	–	–	3	0.4%
Sherd	12	5.4%	10	4.8%	21	10.2%	15	10.5%	–	–	58	7.2%
Igneous and sherd	18	8.1%	8	3.8%	17	8.3%	7	4.9%	5	21.7%	55	6.9%
Igneous, sand, sherd	2	0.9%	–	–	–	–	3	2.1%	–	–	5	0.6%
Fine sandstone, sherd	–	–	1	0.5%	–	–	–	–	–	–	1	0.1%
Quartz sand	2	0.9%	–	–	4	2.0%	4	2.8%	–	–	10	1.2%
Quartz sand, sherd	6	2.7%	1	0.5%	1	0.5%	10	7.0%	2	8.7%	20	2.5%
Trachybasalt	1	0.5%	–	–	1	0.5%	3	2.1%	–	–	5	0.6%
Trachybasalt, sherd	–	–	1	0.5%	–	–	–	–	–	–	1	0.1%
<b>Total</b>	<b>222</b>	<b>100.0%</b>	<b>209</b>	<b>100.0%</b>	<b>205</b>	<b>100.0%</b>	<b>143</b>	<b>100.0%</b>	<b>23</b>	<b>100.0%</b>	<b>802</b>	<b>100.0%</b>

Table 16.50. LA 37598, pottery paint type and ware group by major provenience; counts and percents.

	Roomblock 1		Roomblock 2		Pit Structure 1		Pit Structure 2		Extramural Area 1		Extramural Area 2		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Pigment</b>														
None	199	44.3%	3	100.0%	41	38.0%	80	51.9%	246	40.1%	150	52.6%	719	44.6%
Organic	164	36.5%	–	–	35	32.4%	4	2.6%	212	34.5%	60	21.1%	475	29.4%
Mineral	86	19.2%	–	–	32	29.6%	70	45.5%	156	25.4%	75	26.3%	419	26.0%
<b>Total</b>	<b>449</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>108</b>	<b>100.0%</b>	<b>154</b>	<b>100.0%</b>	<b>614</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>	<b>1613</b>	<b>100.0%</b>
<b>Ware Group</b>														
Gray ware	1184	72.2%	14	82.4%	241	68.9%	440	73.8%	1853	74.9%	603	67.4%	4335	72.6%
White ware	447	27.3%	3	17.6%	109	31.1%	154	25.8%	618	25.0%	286	32.0%	1617	27.1%
Red ware	8	0.5%	–	–	–	–	1	0.2%	3	0.1%	5	0.6%	17	0.3%
Brown smudged ware	–	–	–	–	–	–	1	0.2%	–	–	–	–	1	0.0%
<b>Total</b>	<b>1639</b>	<b>100.0%</b>	<b>17</b>	<b>100.0%</b>	<b>350</b>	<b>100.0%</b>	<b>596</b>	<b>100.0%</b>	<b>2474</b>	<b>100.0%</b>	<b>894</b>	<b>100.0%</b>	<b>5970</b>	<b>100.0%</b>

N = count

Table 16.51. LA 37598, vessel form by ware group and major provenience; counts and percents.

	Roomblock 1		Roomblock 2		Pit Structure 1		Pit Structure 2		Extramural Area 1		Extramural Area 2		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Gray Ware</b>														
Indeterminate	–	–	–	–	–	–	–	–	3	0.2%	1	0.2%	4	0.1%
Bowl rim	1	0.1%	–	–	–	–	–	–	–	–	–	–	1	0.0%
Bowl body	2	0.2%	–	–	–	–	–	–	1	0.1%	–	–	3	0.1%
Olla rim	2	0.2%	–	–	–	–	–	–	–	–	–	–	2	0.0%
Cooking, storage rim	49	4.1%	–	–	9	3.7%	46	10.5%	64	3.5%	18	3.0%	186	4.3%
Necked jar body	88	7.4%	4	28.6%	27	11.2%	74	16.8%	143	7.7%	45	7.5%	381	8.8%
Jar body	1042	88.0%	10	71.4%	205	85.1%	320	72.7%	1641	88.6%	539	89.4%	3757	86.7%
Ladle handle	–	–	–	–	–	–	–	–	1	0.1%	–	–	1	0.0%
<b>Total</b>	<b>1184</b>	<b>100.0%</b>	<b>14</b>	<b>100.0%</b>	<b>241</b>	<b>100.0%</b>	<b>440</b>	<b>100.0%</b>	<b>1853</b>	<b>100.0%</b>	<b>603</b>	<b>100.0%</b>	<b>4335</b>	<b>100.0%</b>
<b>White Ware</b>														
Indeterminate	–	–	–	–	3	2.8%	3	1.9%	11	1.8%	3	1.0%	20	1.2%
Bowl rim	49	11.0%	–	–	15	13.8%	12	7.8%	60	9.7%	31	10.8%	167	10.3%
Bowl body	214	47.9%	1	33.3%	44	40.4%	46	29.9%	242	39.2%	77	26.9%	624	38.6%
Seed jar rim	–	–	–	–	–	–	1	0.6%	–	–	1	0.3%	2	0.1%
Olla rim	2	0.4%	–	–	–	–	3	1.9%	2	0.3%	2	0.7%	9	0.6%
Olla neck	–	–	–	–	1	0.9%	–	–	–	–	–	–	1	0.1%
Cooking, storage rim	1	0.2%	–	–	–	–	–	–	1	0.2%	–	–	2	0.1%
Necked jar body	5	1.1%	–	–	3	2.8%	1	0.6%	13	2.1%	8	2.8%	30	1.9%
Mug	–	–	–	–	–	–	–	–	1	0.2%	–	–	1	0.1%
Jar body	169	37.8%	2	66.7%	39	35.8%	80	51.9%	276	44.7%	159	55.6%	725	44.8%
Ladle	2	0.4%	–	–	–	–	–	–	–	–	–	–	2	0.1%
Ladle bowl	5	1.1%	–	–	3	2.8%	1	0.6%	3	0.5%	1	0.3%	13	0.8%
Ladle handle	–	–	–	–	–	–	7	4.5%	6	1.0%	1	0.3%	14	0.9%
Open gourd dipper	–	–	–	–	1	0.9%	–	–	3	0.5%	3	1.0%	7	0.4%
<b>Total</b>	<b>447</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>109</b>	<b>100.0%</b>	<b>154</b>	<b>100.0%</b>	<b>618</b>	<b>100.0%</b>	<b>286</b>	<b>100.0%</b>	<b>1617</b>	<b>100.0%</b>
<b>Red Ware</b>														
Bowl rim	3	37.5%	–	–	–	–	–	–	–	–	3	60.0%	6	35.3%
Bowl body	4	50.0%	–	–	–	–	–	–	3	100.0%	–	–	7	41.2%
Seed jar rim	–	–	–	–	–	–	1	100.0%	–	–	–	–	1	5.9%
Jar body	1	12.5%	–	–	–	–	–	–	–	–	2	40.0%	3	17.6%
<b>Total</b>	<b>8</b>	<b>100.0%</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>1</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>5</b>	<b>100.0%</b>	<b>17</b>	<b>100.0%</b>
Polished smudged bowl	–	–	–	–	–	–	1	–	–	–	–	–	1	–
<b>Total</b>	<b>1639</b>	<b>–</b>	<b>17</b>	<b>–</b>	<b>350</b>	<b>–</b>	<b>596</b>	<b>–</b>	<b>2474</b>	<b>–</b>	<b>894</b>	<b>–</b>	<b>5970</b>	<b>–</b>

N = count

Table 16.52. LA 37598, chipped stone material and tool types; counts, weight (g), and percents.

	Count	Col. %	Weight (g)	Col. %
<b>Material Type</b>				
Chert	1152	54.2%	18396.0	34.2%
Chalcedony	28	1.3%	118.0	0.2%
Silicified wood	240	11.3%	1270.0	2.4%
Quartzite	164	7.7%	8462.0	15.8%
Quartzitic sandstone	149	7.0%	8288.0	15.4%
Igneous	5	0.2%	463.0	0.9%
Rhyolite	12	0.6%	606.0	1.1%
Sandstone	8	0.4%	90.0	0.2%
Siltstone	362	17.0%	16027.0	29.8%
Other	6	0.3%	6.0	0.0%
<b>Total</b>	<b>2126</b>	<b>100.0%</b>	<b>53726.0</b>	<b>100.0%</b>
<b>Artifact Type</b>				
Debitage	1812	85.2%	16429.0	30.6%
Core	65	3.1%	12902.0	24.0%
Retouched, utilized debitage	163	7.7%	2272.0	4.2%
Retouched, utilized core	2	0.1%	643.0	1.2%
Drill	3	0.1%	18.0	0.0%
Graver	1	0.0%	4.0	0.0%
Notch	2	0.1%	67.0	0.1%
Denticulate	1	0.0%	3.0	0.0%
Projectile point	5	0.2%	5.0	0.0%
Hammerstone	67	3.2%	19411.0	36.1%
Chopper, plane	4	0.2%	1518.0	2.8%
Hoe	1	0.0%	454.0	0.8%
<b>Total</b>	<b>2126</b>	<b>100.0%</b>	<b>53726.0</b>	<b>100.0%</b>

Table 16.53. LA 37598, chipped stone tool types, counts by material type.

	Chert	Chalcedony	Silicified Wood	Quartzite	Igneous	Siltstone	Other	Total
Debitage	1005	23	196	250	12	312	14	<b>1812</b>
Core	32	–	4	12	2	15	–	<b>65</b>
Retouched, utilized debitage	83	4	37	18	–	21	–	<b>163</b>
Retouched, utilized core	–	–	–	2	–	–	–	<b>2</b>
Notch	2	–	–	–	–	–	–	<b>2</b>
Perforator	3	–	1	–	1	–	–	<b>5</b>
Projectile point	–	1	2	2	–	–	–	<b>5</b>
Hammerstone	26	–	–	28	2	11	–	<b>67</b>
Large hafted	–	–	–	–	–	1	–	<b>1</b>
Heavy	1	–	–	1	–	2	–	<b>4</b>
<b>Total</b>	<b>1152</b>	<b>28</b>	<b>240</b>	<b>313</b>	<b>17</b>	<b>362</b>	<b>14</b>	<b>2126</b>

Quartzite and quartzitic sandstone combined; other includes 8 sandstone.



Table 16.54. LA 37598, chipped stone material and tool type by major provenience.

	Roomblock 1		Roomblock 2		Pit Structure 1		Pit Structure 2		Extramural Area 1		Extramural Area 2		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Material Type</b>														
Chert	252	52.2%	4	44.4%	98	50.3%	165	56.9%	418	54.6%	211	55.8%	1148	54.2%
Chalcedony	5	1.0%	–	–	1	0.5%	5	1.7%	10	1.3%	7	1.9%	28	1.3%
Silicified wood	53	11.0%	–	–	10	5.1%	49	16.9%	84	11.0%	43	11.4%	239	11.3%
Quartzite	34	7.0%	4	44.4%	27	13.8%	12	4.1%	57	7.5%	29	7.7%	163	7.7%
Quartzitic sandstone	35	7.2%	–	–	7	3.6%	9	3.1%	70	9.2%	28	7.4%	149	7.0%
Igneous	3	0.6%	–	–	–	–	1	0.3%	1	0.1%	–	–	5	0.2%
Rhyolite	5	1.0%	–	–	1	0.5%	2	0.7%	4	0.5%	–	–	12	0.6%
Sandstone	2	0.4%	–	–	1	0.5%	–	–	2	0.3%	3	0.8%	8	0.4%
Siltstone	94	19.5%	1	11.1%	44	22.6%	47	16.2%	119	15.6%	57	15.1%	362	17.1%
Other	–	–	–	–	6	3.1%	–	–	–	–	–	–	6	0.3%
<b>Total</b>	<b>483</b>	<b>100.0%</b>	<b>9</b>	<b>100.0%</b>	<b>195</b>	<b>100.0%</b>	<b>290</b>	<b>100.0%</b>	<b>765</b>	<b>100.0%</b>	<b>378</b>	<b>100.0%</b>	<b>2120</b>	<b>100.0%</b>
<b>Artifact Type</b>														
Debitage	412	85.3%	5	55.6%	155	79.5%	233	80.3%	669	87.5%	335	88.6%	1809	85.3%
Core	9	1.9%	–	–	5	2.6%	12	4.1%	22	2.9%	17	4.5%	65	3.1%
Retouched, utilized debitage	34	7.0%	–	–	20	10.3%	30	10.3%	58	7.6%	19	5.0%	161	7.6%
Utilized core	–	–	–	–	–	–	2	0.7%	–	–	–	–	2	0.1%
Drill	2	0.4%	–	–	–	–	–	–	–	–	1	0.3%	3	0.1%
Graver	–	–	–	–	–	–	1	0.3%	–	–	–	–	1	0.0%
Notch	1	0.2%	–	–	–	–	–	–	–	–	1	0.3%	2	0.1%
Denticulate	–	–	–	–	–	–	1	0.3%	–	–	–	–	1	0.0%
Projectile point	3	0.6%	–	–	–	–	1	0.3%	1	0.1%	–	–	5	0.2%
Hammerstone	18	3.7%	4	44.4%	15	7.7%	10	3.4%	14	1.8%	5	1.3%	66	3.1%
Chopper, plane	3	0.6%	–	–	–	–	–	–	1	0.1%	–	–	4	0.2%
Hoe	1	0.2%	–	–	–	–	–	–	–	–	–	–	1	0.0%
<b>Total</b>	<b>483</b>	<b>100.0%</b>	<b>9</b>	<b>100.0%</b>	<b>195</b>	<b>100.0%</b>	<b>290</b>	<b>100.0%</b>	<b>765</b>	<b>100.0%</b>	<b>378</b>	<b>100.0%</b>	<b>2120</b>	<b>100.0%</b>
Debitage, utilized	12.1	–	–	–	7.8	–	7.8	–	11.5	–	17.6	–	11.2	–
Mean debitage weight (g)	8.70	–	16.20	–	12.80	–	12.70	–	8.10	–	8.90	–	9.40	–

N = count

Table 16.55. LA 37598, ground stone tool and primary ornament types; counts, weight (g), and percents.

	Count	Col. %	Weight (g)	Col. %
Indeterminate fragment	2	1.4%	176	0.2%
Indeterminate	1	0.7%	610	0.5%
Shaped slab	7	4.9%	1035	0.9%
Sandal last	1	0.7%	494	0.4%
Jar cover	4	2.8%	1367	1.2%
Palette	1	0.7%	1600	1.4%
Lapidary stone	1	0.7%	1750	1.5%
Mano	55	38.7%	19486	16.9%
One-hand mano	6	4.2%	1665	1.4%
Two-hand mano	15	10.6%	14019	12.2%
Two-hand trough mano	5	3.5%	4273	3.7%
Two-hand slab mano	12	8.5%	15380	13.4%
Metate	8	5.6%	5982	5.2%
Basin metate	1	0.7%	910	0.8%
Trough metate	1	0.7%	975	0.8%
One-end-open trough	1	0.7%	13800	12.0%
Slab metate	6	4.2%	26472	23.0%
Axe	2	1.4%	3156	2.7%
Two-notch axe	4	2.8%	1491	1.3%
Tchamahia	2	1.4%	320	0.3%
Ornament	2	1.4%	10	0.0%
Pendant	4	2.8%	6	0.0%
Fossil	1	0.7%	3	0.0%
<b>Total</b>	<b>142</b>	<b>100.0%</b>	<b>114980</b>	<b>100.0%</b>

with a flat ground surface. The grinding is heavier in one part of the large grinding area, and the end is broken off. This object was clearly a grinding tool, but the shape and size are unusual for a slab metate, and it may have had a function other than grinding corn. This tool was from a backhoe trench in the structure.

Four of the six recovered axes were found in Pit Structure 1; the other two were recovered from Extramural Area 1. As discussed above, the whole tchamahias and the sandal last are an intriguing association in the roomblock.

### Ornaments

Ornaments are split between bone and stone items (Table 16.58). Bone tubes were found in Roomblock 1 and Pit Structure 2; two jackrabbit tibia “tinklers” were also found in Pit Structure 2. Stone-ornament debris was found in several locations, and the single bead from the site was in Pit Structure 2.

### Faunal Remains

Animal bone is heavily concentrated in the better-preserved contexts of the pit structures, particularly when it comes to economically important species (Tables 16.59, 16.60, 16.61). As mentioned, Pit Structure 2 is notable for its bone tool assemblage in use-contexts (Tables 16.38, 16.61), and it is the location of the largest amounts of all large species except for turkey. Turkey is abundant there, as well, but turkey elements are the major constituent of the faunal assemblage in Pit Structure 1. Canine species are restricted to one element from Pit Structure 1. The beautiful bone tool assemblage from the Pit Structure 2 bench and floor contains representatives of 18 awls of a variety of types, dominated by coarse-pointed tools and a pair of tinklers (Figs. 16.29 [a-j], 16.30 [a-e]; Tables 16.35–16.38, 16.61). Eggshell occurs in small quantities in both pit structures and in Roomblock 1; though represented in both temporal components of the site, turkey remains are more abundant in the later areas.

Table 16.56. LA 37598, ground stone tool and primary ornament types by major provenience; counts and percents.

	Roomblock 1		Roomblock 2		Pit Structure 1		Pit Structure 2		Extramural Area 1		Extramural Area 2		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Indeterminate fragment	–	–	–	–	–	–	1	2.6%	1	3.1%	–	–	2	1.4%
Indeterminate	1	2.7%	–	–	–	–	–	–	–	–	–	–	1	0.7%
Shaped slab	1	2.7%	–	–	–	–	5	13.2%	1	3.1%	–	–	7	5.0%
Sandal last	1	2.7%	–	–	–	–	–	–	–	–	–	–	1	0.7%
Jar cover	–	–	–	–	1	6.3%	3	7.9%	–	–	–	–	4	2.8%
Palette	–	–	–	–	–	–	1	2.6%	–	–	–	–	1	0.7%
Lapidary stone	1	2.7%	–	–	–	–	–	–	–	–	–	–	1	0.7%
Mano	16	43.2%	1	50.0%	2	12.5%	11	28.9%	17	53.1%	7	43.8%	54	38.3%
One-hand mano	1	2.7%	–	–	–	–	1	2.6%	2	6.3%	2	12.5%	6	4.3%
Two-hand mano	6	16.2%	1	50.0%	1	6.3%	4	10.5%	3	9.4%	–	–	15	10.6%
Two-hand trough mano	–	–	–	–	1	6.3%	3	7.9%	–	–	1	6.3%	5	3.5%
Two-hand slab mano	3	8.1%	–	–	–	–	5	13.2%	2	6.3%	2	12.5%	12	8.5%
Metate	1	2.7%	–	–	2	12.5%	1	2.6%	4	12.5%	–	–	8	5.7%
Basin metate	–	–	–	–	–	–	–	–	–	–	1	6.3%	1	0.7%
Trough metate	–	–	–	–	–	–	1	2.6%	–	–	–	–	1	0.7%
One-end-open trough	–	–	–	–	–	–	1	2.6%	–	–	–	–	1	0.7%
Slab metate	1	2.7%	–	–	4	25.0%	1	2.6%	–	–	–	–	6	4.3%
Axe	1	2.7%	–	–	1	6.3%	–	–	–	–	–	–	2	1.4%
Two-notch axe	–	–	–	–	3	18.8%	–	–	1	3.1%	–	–	4	2.8%
Tchamahia	2	5.4%	–	–	–	–	–	–	–	–	–	–	2	1.4%
Ornament	1	2.7%	–	–	1	6.3%	–	–	–	–	–	–	2	1.4%
Pendant	1	2.7%	–	–	–	–	–	–	1	3.1%	2	12.5%	4	2.8%
Fossil	–	–	–	–	–	–	–	–	–	–	1	6.3%	1	0.7%
<b>Total</b>	<b>37</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>16</b>	<b>100.0%</b>	<b>38</b>	<b>100.0%</b>	<b>32</b>	<b>100.0%</b>	<b>16</b>	<b>100.0%</b>	<b>141</b>	<b>100.0%</b>

### Human Remains

Only one intact burial, a mature male, was recorded at LA 37598, from the large cist in Extramural Area 2. A second burial, that of a child, was identified from a cist in Roomblock 1 during analysis. Disarticulated human remains were present in the entry room (Feature 4), associated with the cist containing Burial 1 (Table 16.62). According to inventories, the hand and foot elements in that location could have been part of the burial, but all four second molars are present in the burial, so that at least the tooth is not from the burial. The separation of the proveniences

and the presence of one excluded element argues against these elements' being from the burial. The large count of human elements from Pit Structure 2 results from the fragmentary condition of much of a juvenile cranium, which had been placed in a posthole. This placement of course begs explanation. It seems possible that it was a subfloor burial that was not completely exposed, in keeping with the rushed stage of the field season and the common placement of children under floors. The cranium is unlikely to have been an incidental deposition, and it may have been an offering of some kind.

Almost all the turkey remains come from the

Table 16.57. LA 37598, ground stone tool and primary ornament types, counts by material type

	Igneous	Granite	Sandstone	Siltstone	Shale	Quartz Sandstone	Crinoid	Total
Indeterminate fragment	–	–	1	1	–	–	–	2
Indeterminate	–	–	1	–	–	–	–	1
Shaped slab	–	–	7	–	–	–	–	7
Sandal last	–	–	1	–	–	–	–	1
Jar cover	–	–	3	1	–	–	–	4
Palette	1	–	–	–	–	–	–	1
Lapidary stone	1	–	–	–	–	–	–	1
Mano	2	4	46	1	–	2	–	55
One-hand mano	–	1	4	1	–	–	–	6
Two-hand mano	–	1	14	–	–	–	–	15
Two-hand trough mano	–	–	5	–	–	–	–	5
Two-hand slab mano	–	1	10	–	–	1	–	12
Metate	–	–	8	–	–	–	–	8
Basin metate	–	–	1	–	–	–	–	1
Trough metate	–	–	1	–	–	–	–	1
One-end-open trough	–	–	1	–	–	–	–	1
Slab metate	–	–	6	–	–	–	–	6
Axe	–	–	1	1	–	–	–	2
Two-notch axe	2	1	–	1	–	–	–	4
Tchamahia	–	–	–	1	1	–	–	2
Ornament	–	–	–	–	2	–	–	2
Pendant	–	–	–	–	4	–	–	4
Fossil	–	–	–	–	–	–	1	1
<b>Total</b>	<b>6</b>	<b>8</b>	<b>110</b>	<b>7</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>142</b>

Table 16.58. LA 37598, ornament types, counts by major provenience.

	Roomblock 1	Pit Structure 1	Pit Structure 2	Extramural Area 1	Extramural Area 2	Total
Bone bead tube	2	–	1	–	–	3
Tinkler	–	–	2	–	–	2
Manufacturing debris	2	1	–	1	2	6
Disc bead	–	–	1	–	–	1
<b>Total</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>12</b>

two pit structures, with a wide array of elements represented in each structure (Table 16.63). Only 8 percent of the elements in Pit Structure 1 are heat altered, and none in Pit Structure 2. Because of the number of bone tools in Pit Structure 2, more turkey bone is modified there than in Pit Structure 1, but frequencies of modification of any type are low. Few elements are identified as conjoining, but the distribution of sides is similar between left and right, and most of the birds are mature. Five complete or nearly complete left radii are present in Pit Structure 1, but otherwise there is little indication that many birds are represented in either structure.

### Botanical Remains

Mollie S. Toll and Pamela J. McBride

*Early-Mid Pueblo II occupation.* In Extramural Area 3 at LA 37598, a simple pit dug into sterile soil predates Room 102 and Pit Structure 1; it probably derives from the Early or Mid Pueblo II era. The feature contained charred corn kernels (FS 358) and burned and unburned seeds of goosefoot, purslane, and pigweed (Table 16.30). Wood was predominately juniper, with small amounts of piñon and saltbush (Table 16.31).

Early construction and occupation at this site

Table 16.59. LA 37598, faunal taxa by major provenience; counts and percents.

	Roomblock 1		Pit Structure 1		Pit Structure 2		Extramural Area 1		Extramural Area 2		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Prairie dog	2	3.6%	1	0.6%	–	–	1	2.9%	–	–	4	0.8%
Small squirrel	–	–	2	1.2%	–	–	–	–	–	–	2	0.4%
Pocket gopher	1	1.8%	3	1.8%	–	–	–	–	–	–	4	0.8%
Mouse	–	–	2	1.2%	4	1.9%	–	–	–	–	6	1.3%
Northern grasshopper mouse	1	1.8%	–	–	–	–	–	–	–	–	1	0.2%
Rodent	–	–	–	–	2	0.9%	–	–	–	–	2	0.4%
Cottontail rabbit	3	5.5%	4	2.4%	21	10.0%	–	–	–	–	28	5.8%
Jackrabbit	4	7.3%	2	1.2%	25	11.8%	5	14.3%	2	20.0%	38	7.9%
Dog, coyote, wolf	–	–	1	0.6%	–	–	–	–	–	–	1	0.2%
Deer	1	1.8%	4	2.4%	27	12.8%	–	–	1	10.0%	33	6.9%
Artiodactyl	1	1.8%	–	–	1	0.5%	–	–	–	–	2	0.4%
Mammal	3	5.5%	2	1.2%	9	4.3%	–	–	1	10.0%	15	3.1%
Small mammal	15	27.3%	27	16.1%	19	9.0%	4	11.4%	1	10.0%	66	13.8%
Medium–large mammal	8	14.5%	13	7.7%	2	0.9%	1	2.9%	–	–	24	5.0%
Large mammal	4	7.3%	22	13.1%	24	11.4%	10	28.6%	3	30.0%	63	13.2%
Quail	–	–	1	0.6%	–	–	–	–	–	–	1	0.2%
Turkey	4	7.3%	55	32.7%	43	20.4%	5	14.3%	1	10.0%	108	22.5%
Bird	8	14.5%	29	17.3%	34	16.1%	9	25.7%	1	10.0%	81	16.9%
<b>Total</b>	<b>55</b>	<b>100.0%</b>	<b>168</b>	<b>100.0%</b>	<b>211</b>	<b>100.0%</b>	<b>35</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>479</b>	<b>100.0%</b>
Eggshell	12	–	6	–	12	–	–	–	–	–	30	–

Table 16.60. LA 37598, major faunal groups by major provenience; counts and percents.

	Roomblock 1		Pit Structure 1		Pit Structure 2		Extramural Area 1		Extramural Area 2		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Large mammal	5	20.0%	22	18.8%	25	14.3%	10	35.7%	3	37.5%	65	18.4%
Cottontail rabbit	3	12.0%	4	3.4%	21	12.0%	–	–	–	–	28	7.9%
Jackrabbit	4	16.0%	2	1.7%	25	14.3%	5	17.9%	2	25.0%	38	10.8%
Dog, coyote, fox, wolf	–	–	1	0.9%	–	–	–	–	–	–	1	0.3%
Deer	1	4.0%	4	3.4%	27	15.4%	–	–	1	12.5%	33	9.3%
Turkey	12	48.0%	84	71.8%	77	44.0%	13	46.4%	2	25.0%	188	53.3%
<b>Total</b>	<b>25</b>	<b>100.0%</b>	<b>117</b>	<b>100.0%</b>	<b>175</b>	<b>100.0%</b>	<b>28</b>	<b>100.0%</b>	<b>8</b>	<b>100.0%</b>	<b>353</b>	<b>100.0%</b>

Assumes unidentified bird is turkey.



Table 16.61. LA 37598, faunal remains (modified) by major provenience; counts and percents.

	Roomblock 1		Pit Structure 1		Pit Structure 2		Extramural Area 1		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
Waste (multiple, striae)	–	–	1	33.3%	–	–	–	–	1	3.0%
Drilled	–	–	–	–	–	–	1	50.0%	1	3.0%
Waste (polished, striae)	–	–	–	–	1	3.8%	–	–	1	3.0%
Indeterminate preform	–	–	–	–	2	7.7%	–	–	2	6.1%
Bone bead	1	50.0%	–	–	–	–	–	–	1	3.0%
Bone bead fragment	1	50.0%	–	–	1	3.8%	–	–	2	6.1%
Tinkler	–	–	–	–	2	7.7%	–	–	2	6.1%
Indeterminate tool fragment	–	–	–	–	–	–	1	50.0%	1	3.0%
Indeterminate point awl fragment	–	–	–	–	2	7.7%	–	–	2	6.1%
Fine point awl	–	–	–	–	2	7.7%	–	–	2	6.1%
Coarse point awl	–	–	1	33.3%	13	50.0%	–	–	14	42.4%
Projectile point	–	–	1	33.3%	–	–	–	–	1	3.0%
Splinter awl	–	–	–	–	1	3.8%	–	–	1	3.0%
Spatulate	–	–	–	–	1	3.8%	–	–	1	3.0%
Spatulate fragment	–	–	–	–	1	3.8%	–	–	1	3.0%
<b>Total</b>	<b>2</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>26</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>33</b>	<b>100.0%</b>

Table 16.62. LA 37598, human remains (disarticulated), counts by provenience and stratigraphic group.

	General Fill	Extramural Area	Floor	Total
Pit Structure 2, Feature 8	–	–	43	43
Roomblock 1	–	2	–	2
Extramural Area 2, Feature 4	–	–	–	10
Room 101 Feature 1, Burial 0.1	65	–	–	65
Room 102	1	–	–	1
Room 103, Feature 4 (heating pit)	–	–	7	7
<b>Total</b>	<b>76</b>	<b>2</b>	<b>50</b>	<b>128</b>

is documented by samples from Rooms 201 and 202, Pit Structure 2, and Extramural Areas 1 and 2 (Table 16.64). Generally, preservation of culturally significant floral remains was poor in these earlier contexts. In Pit Structure 2, just one-third of the 15 samples produced any cultural plant remains. Corn parts were found in the hearth, bench, and the pit (Tables 16.43, 16.44). The hearth also yielded carbonized cheno-am seeds, a charred globemallow seed was recovered from a cist, and charred purslane seeds were identified in the northeast quadrant of Floor 1. These Pit Structure 2 plant remains, along with a single burned groundcherry seed and some corn glumes in two extramural mealing bins, constitute the sole cultural nonwood floral remains from Mid Pueblo II proveniences. That leaves 19 of 26 samples with herbaceous floral

remains limited to probable contaminants (unburned weedy annual and perennial seeds; Tables 16.43, 16.44, 16.64).

Five Mid Pueblo II proveniences had a sufficient density of charcoal in flotation samples to allow identification of a 20-piece sample. Juniper was the dominant wood taxon recovered from the hearth and pit from Pit Structure 2, followed by big sagebrush. Piñon, serviceberry, Mormon tea, oak, greasewood, cottonwood/willow, and antelope brush were also present (Table 16.45). In Extramural Area 1, a mealing bin and a roasting pit contained small amounts of big sagebrush, cottonwood/willow, four-wing saltbush, and piñon, while juniper comprised 68 percent of the wood assemblage by weight (Table 16.64). In Extramural Area 2, 97 percent of wood was juniper, with the

Table 16.63. LA 37598, faunal elements, counts by major provenience.

	Roomblock 1	Pit Structure 1	Pit Structure 2	Extramural Area 1	Extramural Area 2	Total
Indeterminate fragment	2	2	2	1	–	7
Long-bone fragment	25	48	53	15	1	142
Plate, blade fragment	5	21	11	1	4	42
Cancellous tissue	–	–	6	–	–	6
Tooth fragment	–	1	1	–	–	2
Cranial complex	–	–	1	–	–	1
Occipital condyle	–	–	1	–	–	1
Temporal	–	–	1	–	–	1
Zygomatic	1	1	–	–	–	2
Auditory bulla	–	1	–	–	–	1
Maxillary region	–	–	1	–	–	1
Maxilla	–	–	3	–	–	3
Maxilla dentition	1	1	2	–	–	4
Mandible	–	3	6	–	1	10
Ascending ramus	–	1	3	–	–	4
Horizontal ramus	1	–	3	–	–	4
Horizontal ramus dentition	–	1	–	–	–	1
Indeterminate tooth	–	–	6	–	–	6
Permanent incisor	–	1	1	–	–	2
Vertebra	–	–	8	–	–	8
Atlas (C1)	–	1	3	–	–	4
Cervical vertebra	–	2	5	2	–	9
Cervical 3	–	–	1	–	–	1
Thoracic vertebra	2	–	5	1	–	8
Thoracic 6	–	–	1	–	–	1
Lumbar vertebra	–	–	–	1	–	1
Sterebra sternum	–	–	–	1	–	1
Rib	9	17	7	6	1	40
Scapula	1	1	5	–	–	7
Single pelvis	1	1	2	–	–	4
Acetabulum	–	6	1	–	–	7
Humerus	2	2	5	1	–	10
Radius	–	5	8	1	–	14
Ulna	–	–	4	–	–	4
Carpal	–	1	1	–	–	2
Metacarpal	1	–	2	–	–	3
Femur	–	2	9	2	–	13
Tibia	1	2	8	–	1	12
Fibula	–	1	–	–	–	1
Tibiofibula	1	–	–	–	–	1
Astragalus (tibial tarsus)	–	1	1	–	2	4
Calcaneous (fibular tarsus)	–	–	4	–	–	4
Metatarsal	–	1	3	–	–	4
Metatarsal 2	–	–	2	–	–	2
Metatarsal 3	–	–	1	–	–	1
Metatarsal 5	–	–	1	–	–	1
Ossified tendon	–	9	–	–	–	9
Vestigial phalanx	–	–	1	–	–	1
Metapodial	–	1	3	–	–	4
Vestigial metapodial	–	–	1	–	–	1
Second phalanx	–	1	1	–	–	2
Third phalanx	–	–	1	–	–	1

Table 16.63 (continued)

	Roomblock 1	Pit Structure 1	Pit Structure 2	Extramural Area 1	Extramural Area 2	Total
Beak maxilla, premaxilla nasal	–	1	–	–	–	1
Coracoid	–	1	3	1	–	5
Furculum	–	1	–	–	–	1
Carpometacarpus	–	3	1	–	–	4
Pollex	–	1	–	1	–	2
Digit iii	–	–	1	–	–	1
Digit ii, phalanx ii	–	1	–	1	–	2
Synsacrum	–	–	1	–	–	1
Tibiotarsus	1	1	4	–	–	6
Tarsometatarsus	–	5	2	–	–	7
Phalanx	–	1	3	–	–	4
First phalanx	–	6	–	–	–	6
Second phalanx	1	7	–	–	–	8
Third phalanx	–	1	–	–	–	1
Ungual phalanx, claw	–	4	1	–	–	5
Eggshell	12	6	12	–	–	30
<b>Total</b>	<b>67</b>	<b>174</b>	<b>223</b>	<b>35</b>	<b>10</b>	<b>509</b>

Table 16.64. LA 37598, Extramural Areas 1 and 2 and Room 102, macrobotanical plant remains, weight (g) by taxon, time period, and feature.

Feature	Mid Pueblo II						Pueblo III	
	Extramural Area 1			Extramural Area 2		Total		Room 102
	2 Roasting Facility	1 Mealing Bin	6 Pit	1 Major Storage Cist	5 Fire Pit	Weight (g)	Col. %	2 Layer 2, Fire Pit
<b>FS</b>	<b>329</b>	<b>333</b>	<b>394</b>	<b>180</b>	<b>273</b>			<b>338</b>
<b>Conifers</b>								
<i>Juniperus</i>	9.13	–	–	3.0	6.6	<b>18.73</b>	<b>38.8%</b>	40.34
<i>Pinus edulis</i>	–	26.65	–	–	–	<b>26.65</b>	<b>55.2%</b>	–
<b>Nonconifers</b>								
<i>Artemisia</i>	–	–	–	–	0.09	<b>0.09</b>	<b>0.2%</b>	–
<i>Atriplex</i>	1.6	–	0.81	–	–	<b>2.41</b>	<b>5.0%</b>	1.28
Unknown nonconifer	–	–	0.42	–	–	<b>0.42</b>	<b>0.9%</b>	–
<b>Total</b>	<b>10.73</b>	<b>26.65</b>	<b>1.23</b>	<b>3.0</b>	<b>6.69</b>	<b>48.3</b>	<b>100.0%</b>	41.62

addition of small amounts of big sagebrush and oak (Table 16.64). Macrobotanical wood specimens from Mid Pueblo II contexts included a hefty concentration of piñon from a single extramural mealing bin; otherwise, macrobotanical wood was heavily juniper, as in the flotation charcoal assemblage (Table 16.45).

**Late Pueblo II occupation.** Walled subterranean or semisubterranean structures such as Pit Structure 1 often display a pattern where numerous economic plant taxa are found in a central hearth, and then lower-frequency echoes of this economic assemblage are found dispersed about the room in floor fill and collected in any feature or depression left open while the structure was in use. In Pit Structure 1, corn debris and ricegrass caryopses are the principal floral materials that follow this pattern. We know that spent cobs were widely reused as fuel, and the evidence is everywhere. Cupules, and less often larger cob fragments or kernels, were recovered from both layers of the hearth, as well as the ash pit, floor fill, and both layers of the nonvent tunnel (Tables 16.26, 16.27). Ricegrass similarly occurred in the upper hearth layer, the ash pit, and floor fill. Note that the subsistence importance of ricegrass occurs at the opposite end of the growing season from corn: the seeds, relatively large and nutritious for a grass, mature in late May or early June, when there's very little else available, and stored crops from the previous year are likely at a low level (Bohrer 1975). Floor fill and the nonvent tunnel together contained a considerable diversity of economic taxa, including four-wing saltbush fruit, cheno-am, purslane, ricegrass, groundcherry and hedgehog cactus seeds, and a yucca leaf fragment. Uncarbonized tobacco seeds were present in three Pit Structure 1 contexts (floor fill, cist, and nonvent tunnel). Wood taxa were identifiable in six of the seven full-sort samples. Greasewood and juniper were found in all samples; other taxa included composite family, cottonwood/willow, Mormon tea, and serviceberry (Table 16.28).

**Early Pueblo III occupation.** Cultural plant debris was rare in Roomblock 1 samples (Tables 16.16, 16.17). A variety of intrusive weed seeds overshadowed the four occurrences of corn (fire pit and heating pit in Room 102, heating pit in Room 103, and posthole in Room 104), an unidentifiable burned seed (pit in Room 103), and burned purslane

(fire pit in Room 102, and heating pit in Room 103). Wood from Early Pueblo III proveniences was spread among a variety of shrubby taxa, including big sagebrush, cottonwood/willow, four-wing saltbush, goosefoot family, greasewood, juniper, mountain mahogany, rabbitbrush, and rose family (Table 16.18). Macrobotanical wood consisted only of 40.34 g of juniper and 1.28 g of saltbush from the fire pit in Room 102.

Evidence of maize agriculture and weedy annual exploitation was present throughout the occupation of LA 37598. During Late Pueblo II and Early Pueblo III occupations, grasses, hedgehog cactus, tobacco, and yucca were also recovered. Wood assemblages consisted of taxa from desert scrub, piñon/juniper woodland, foothills, and riparian biotic communities. A single sample from the earliest occupation of the site documents a shorter list of woody taxa, likely an artifact of sample size rather than less varied wood selection.

### *Pollen*

Pollen results from LA 37598 are summarized in Table 16.20. While maize pollen is present in Extramural areas and Pit Structure 2 the provenience highlighted as a maize area is Pit Structure 1. Though there are few trees in proximity to the site today, pine pollen clearly dominates the arboreal pollen rain, with much smaller amounts of juniper, oak, and elm family. Sage and greasewood, common in the area today, are the most common shrubs. Of course, chenopod and amaranth pollen are most common taxa in every sample.

### **LA 37598: SITE RECONSTRUCTION AND SUMMATION**

The dating of LA 37598 is based on interpretation of the ceramic assemblage (Tables 16.1, 16.48-16.51), its relationship to the stratigraphy of the site, and its architectural associations. The ceramics suggest two distinct components. Pueblo II black-on-white varieties dominated by mineral paint and Deadmans Black-on-Red indicate an occupation dating to AD 1000-1100. A second occupation dating to the Pueblo III period, AD 1180-1300, is suggested by the presence of Early Pueblo III black-on-white, Late Pueblo III black-on-white, Pueblo III black-on-white, and Pueblo III transitional black-on-white.

No unmixed assemblages dating to this later period were recognized. In these cases, architectural association and stratigraphy were used to determine relative dates for the proveniences in the Pueblo III component. The quantity of Early Pueblo III may indicate the presence of an occupation dating between Pueblo II and Late Pueblo III. The high degree of mixture in the assemblages from most proveniences makes it difficult to determine if the occupation was continuous or not (Wilson, personal communication; Tables 16.47, 16.48, 16.50), but the Pit Structure 2 assemblage is well defined, containing little organic paint, making it clearly a Pueblo II feature. The presence of late sherds outside the right-of-way fence to the west, and the higher frequencies of organic-painted pottery in Roomblock 1 and Extramural Area 1, indicate that the later occupation of the site was principally to the west.

Although the area encompassing LA 37598 may have been utilized by the Anasazi at an earlier period, actual site construction did not occur prior the Pueblo II period. This original Pueblo II period occupation included construction of Roomblock 2, Pit Structure 2, associated extramural features in both Extramural Areas 1 and 2, and the feature in Extramural Area 3.

The actual construction sequence for the Pueblo II period, based on ceramics and stratigraphic association, begins with the construction of Room 202. Pit Structure 2 was then constructed, followed by Room 201. Room 202 was remodeled after the construction of Room 201, changing its use and focus from a “front” to a “back” room. The extramural features in Extramural Area 2 (major storage

cist, fire pit), were constructed during this period, as was the feature (pit) in Extramural Area 3.

Pit Structure 2 was transformed from formal to informal use (religious to secular?) during the Pueblo II period. This pit structure was transformed into a shelter for material processing of some kind, becoming a target for prehistoric graffiti. At abandonment, the roof and supports of the structure were removed. Pit Structure 1 was constructed about this time in the late Pueblo II period, while Roomblock 2 was probably still in use. Pit Structure 1 was used for a short period of time, as indicated by the single layer of wall plaster and single floor. Roomblock 2 was abandoned prior to the Pueblo III period, ending use at the east area of the site. A hiatus in occupation occurred in the west portion of LA 37598 during the late Pueblo II to early Pueblo III period, when Pit Structure 1 filled in.

Renewed use of the portion of LA 37598 in the right-of-way during the Pueblo III period shifted to the west, as shown by the high frequency of Early Pueblo III ceramics in the west portion of the site. Roomblock 1 (Pueblo III) was constructed at this time, partially over the filled-in Pit Structure 1. Pit Structure 3 may have been built at the same time (this structure was not excavated). Roomblock 1 was expanded with the addition of another row of rooms. Subsequent remodeling followed. During remodeling, a cist was dug into fill added to Room 101 before the construction of a second floor. A second floor was added to Rooms 101–103, probably in association with the addition of the south row of rooms. LA 37598 was abandoned after this occupation during the Mid Pueblo III period.





## 17 LA 37591 (Runoff Ditch Pueblo)

Charles A. Hannaford

Runoff Ditch Pueblo, LA 37591, is a multicomponent habitation site with Late Pueblo II, Early Pueblo III, and Late Pueblo III ceramic components (Figs. pf.1, 1.1). The site is one of numerous similar cobble mounds characterizing residential use of the prehistoric Jackson Lake community. The site includes a small cobble surface structure with an estimated two to six rooms, a small pit structure with a Pueblo III midden deposit in the upper fill, and six extramural storage features. The highway right-of-way was moved to avoid the cobble roomblock, and the structure is preserved intact outside of the project area.

The Late Pueblo II and Early Pueblo III ceramic components may represent a single Transitional Pueblo II–III occupation represented by the surface roomblock, pit structure, and extramural features. These primary site elements are probably related and roughly contemporaneous. The main temporal distinction is depicted by the Late Pueblo III midden deposit in the upper fill of the pit structure.

The site is at the immediate base of the steep Jackson Lake terrace. The cobble surface structure had previously been cut by a ditch dug along the terrace base to prevent runoff onto the highway. This runoff ditch had cut through the cobble mound, exposing two walls of the structure. The name Runoff Ditch Pueblo was derived from this ditch.

The site is on land managed by the NM Department of Game and Fish. OAS archaeological excavations were conducted from November 17 through December 23, 1988, with a labor expenditure of 73 person-days. The field crew was supervised by Chuck Hannaford, and at various times included Fred Alfred (San Juan College), Pat Alfred (San Juan College), Kate Fuller, Susan Moga, Penny Whitten (San Juan College), and Leonard Yazzie.

### ENVIRONMENTAL SETTING

LA 37591, or Runoff Ditch Pueblo, rests on on a terrace on the extreme west side of the valley bottom (Figs. 17.1, 17.2, 17.3). The site is uniquely positioned at the immediate base of the steep Jackson Lake terrace, and the lower floodplain and active channel of the La Plata River are about 300 m east. Site elevation is 5,438 ft (1,658 m). Cobbles and gravels of Pleistocene origin mantle the steep Jackson Lake terrace slope and actually extend onto the site as the result of colluvial and alluvial action. The terrace slope was a readily available source for building cobbles and a variety of materials for lithic tool production.

Local alluvial soils include compact sandy clay and lenses of sandy clay mixed with gravel and cobbles. High-velocity runoff is indicated by the plentiful gravel and cobbles mixed with the sandy soil. The construction of the contemporary runoff ditch demonstrates that alluvial wash down the terrace slope is a current problem at this locality. The site inhabitants must have faced similar runoff quandaries because of the site location. The site surface is currently covered by a dense growth of sage and greasewood.

In common with other sites in the Jackson Lake community, the site is immediately adjacent to favorable agricultural land along the floodplain of the La Plata River and a reliable water source. A variety of floral and faunal species are concentrated in the riparian zone along the nearby floodplain. Additional resources, including wood, lithic material, and various game species were available from the higher elevations of Piñon Mesa to the west. We were privileged to observe soaring bald eagles on two occasions during our winter excavations.

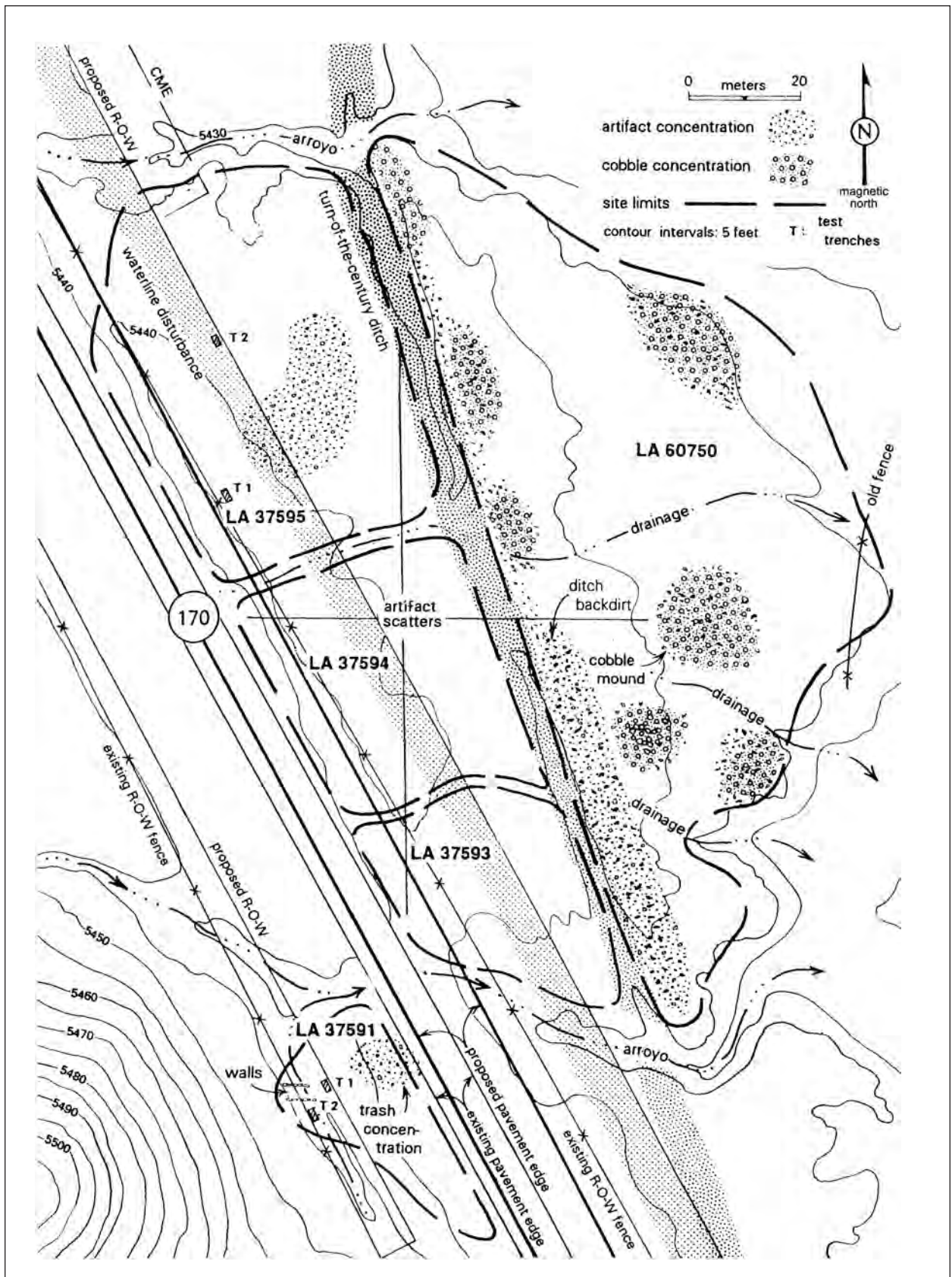


Figure 17.1. LA 37591, site area map (adapted from OAS survey map, Toll and Hannaford 1997).



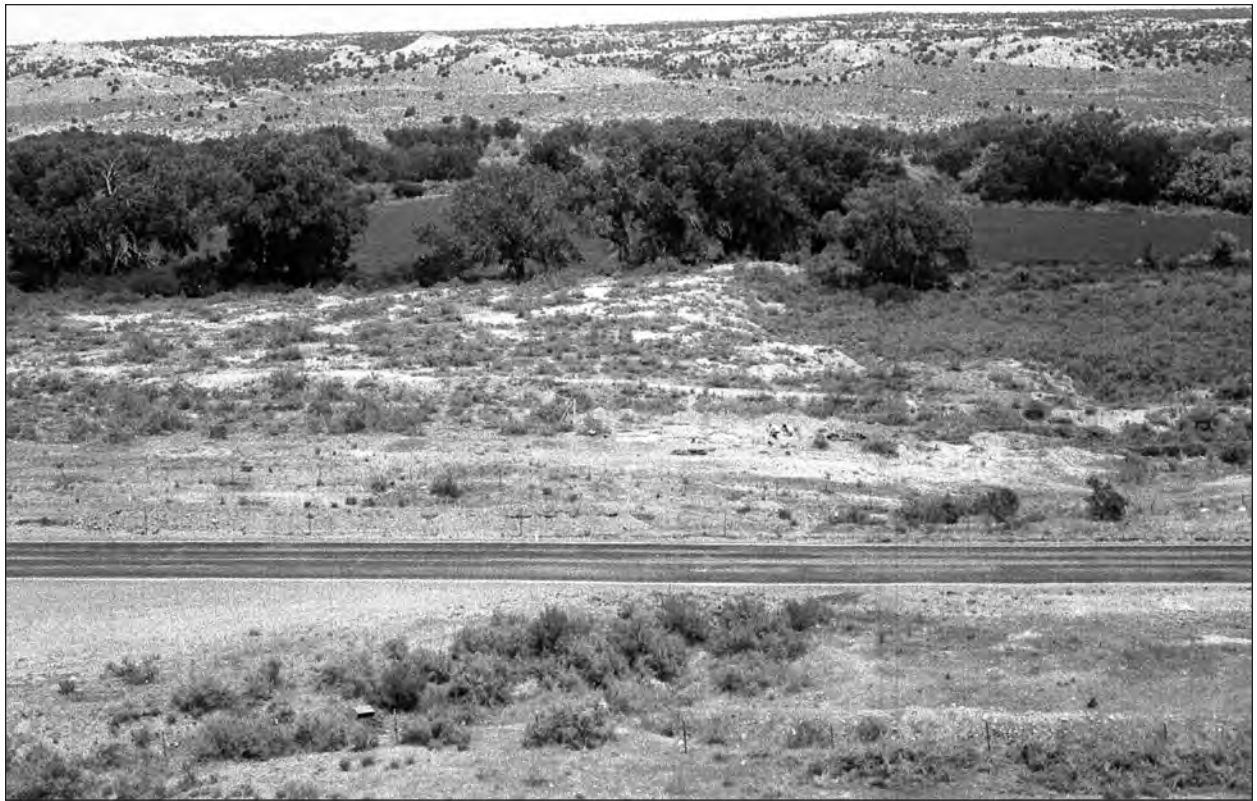


Figure 17.2. LA 37591, site overview (foreground), view northeast, pre-excavation. LA 37591 features are located between the edge of the highway pavement and the drainage ditch berm next to the fence.



Figure 17.3. LA 37591, view south, pre-excavation (site area runs from the fence to the highway).

## ARCHAEOLOGICAL SETTING

Runoff Ditch Pueblo (LA 37591) is on the west side of the highway, in the midst of the prehistoric Jackson Lake community (Figs. 17.1, 17.4). The community reflects long-term Anasazi use from Basketmaker III to the Pueblo III abandonment of the region. Cobble mounds, cobble scatters, artifact scatters, and other cultural manifestation are nearly continuous, testifying to heavy and repeated residential use of the locality. Sites are present on both sides of the La Plata River, and the locality also contains a possible great house and great kiva. The concentration of cultural manifestations and age components composing the community suggests that Runoff Ditch Pueblo was contemporaneous with a number of close neighbors.

The topographic location of Runoff Ditch Pueblo at the immediate terrace base contrasts with the majority of the site locations in the community, but the setting is similar to those of LA 65030 and LA 37606, which are both in the Barker Arroyo community (Vols. 3–4, this report). The terrace Runoff Ditch Pueblo is sited on, east of NM 170, is the location of the majority of the cultural manifestations comprising the Jackson Lake community. However, additional cultural material is probably also beneath the highway. In addition to LA 37591, the highway, which dates back to an 1880s wagon road, crosses north–south through a series of contiguous sites within the project right-of-way, including LA 37598, LA 60753, LA 37597, LA 60752, LA 37596, LA 37595, LA 37594, LA 37593, LA 60751, LA 60751, LA 37592, LA 60749, LA 60747, LA 60745, and LA 60743. The highway arbitrarily separates Runoff Ditch Pueblo from LA 60751 and LA 37593 (Chapters 11 and 14 respectively, Vol. 1, Books 1 and 2, this report) directly to the east. Additional unrecorded cultural material extends further east from the sites along the highway corridor to the edge of the terrace the site is associated with.

Three sites are close to Runoff Ditch Pueblo on the west side of the highway. LA 60747 (Chapter 5, Vol. 1-Book 1, this report) and LA 60748 contain Pueblo II–III cobble structural remains and artifact scatters; these sites are on the terrace slope about 120 m south of Runoff Ditch Pueblo. LA 60746, a probable great kiva, overlooks the entire Jackson Lake community from the terrace top directly above these sites. Both LA 60748 and LA 60746 were outside the project right-of-way.

The surrounding sites consist primarily of contemporaneous Pueblo II–III structural sites with extramural features, but LA 37594 and LA 60751 (Chapters 10 and 11 respectively, Vol. 1-Book 1, this report) also exhibit Basketmaker III components with architecture. The early components of these sites were not detectable from surface materials, and other early components are likely to be present in the area (Toll and Wilson 2000). The Pueblo II–III ceramic components manifested at Runoff Ditch Pueblo overlap occupations with most of the sites. Components with Pueblo III ceramic artifacts include LA 37592 and LA 37593 (Chapters 13 and 14 respectively, Vol. 1-Book 2, this report), but nearby Pueblo III habitation sites, which may have been directly associated with the site elements, were not readily identified.

## PREVIOUS ARCHAEOLOGICAL WORK

Nusbaum's 1935 survey recorded 42 sites on the west side of the La Plata River and within one mile of LA 37591. His recorded sites document the heavy prehistoric residential use of the immediate area, but none of the sites could be confidently associated with Runoff Ditch Pueblo.

Runoff Ditch Pueblo was originally recorded by Lancaster (1982a:78–79) as part of the initial survey for the NM 170 realignment. Two 1 by 2 m test trenches were dug during the following limited testing program. Lancaster (1983:27–30) described the site as a small one- to two-room cobble roomblock and associated prehistoric trash measuring 22 by 19 m. Ceramics suggested a Pueblo II–III temporal affiliation.

Based on the surface artifact scatter, the site area was expanded to 46 by 25 m (151 by 82 sq ft), or 1,150 sq m (12,378 sq ft), during reevaluation for the present project (Toll and Hannaford 1997). In general, however, surface indications were difficult to see because of backdirt from the runoff ditch, and a dense growth of sage and greasewood. The site appeared to have changed very little from the time of Lancaster's original recording.

## SITE CONDITION

The proximity of LA 37591 to NM 170 has made it easily accessible to the traveling public and to long-term highway maintenance activities. A small drainage along the north site boundary is currently



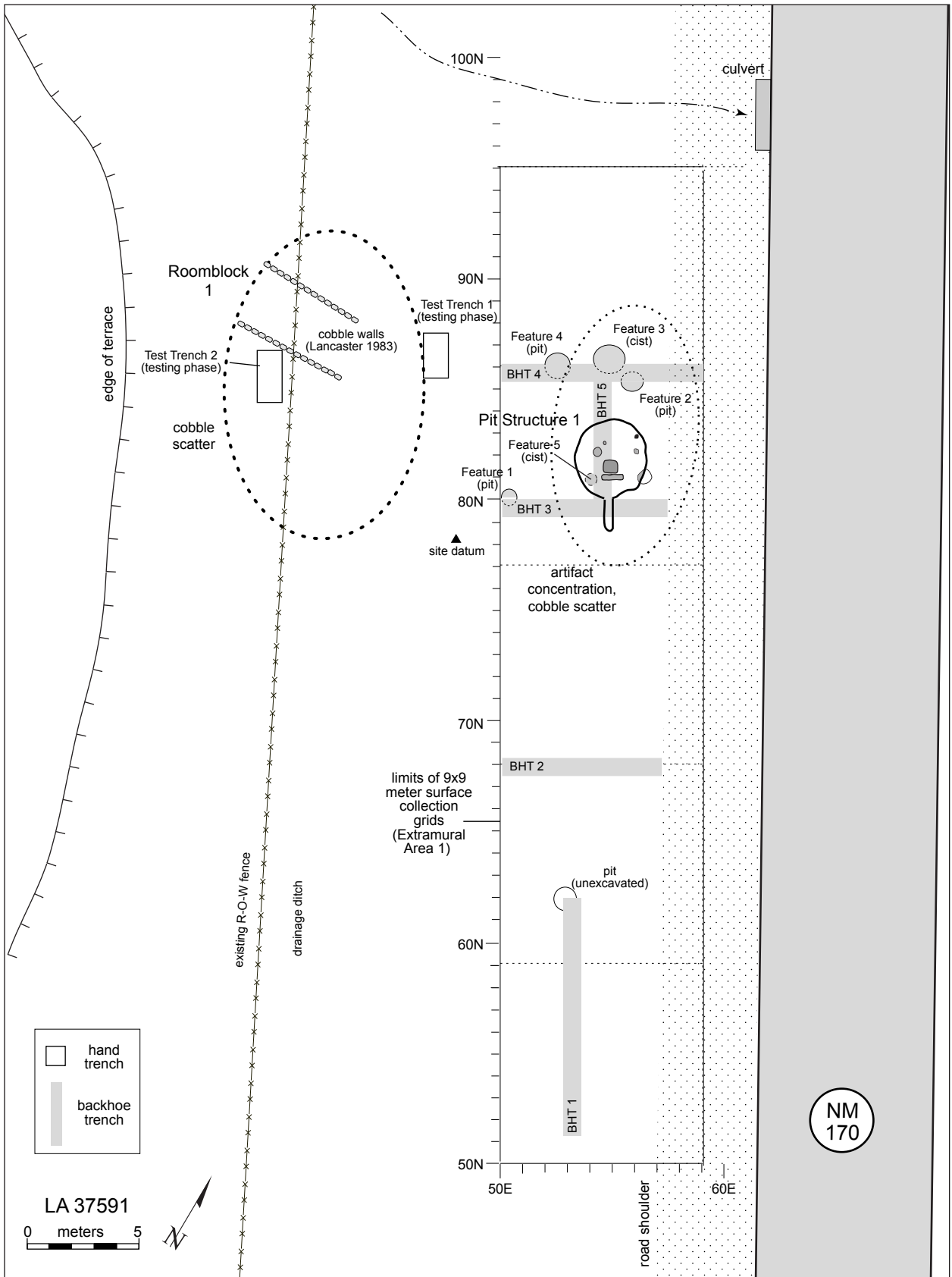


Figure 17.4. LA 37591, plan.

channeled through a culvert beneath the highway. Cultural material along the north site boundary has undoubtedly been lost as a result of erosion and the maintenance of the drainage channel.

A runoff-control ditch was mechanically dug just inside the right-of-way fence the entire length of the site (Fig. 17.4). The trench is contoured to drain into the drainage channel at the north end of the site. The trench is 45 m long, 2 m wide, and 1 m deep. Trench fill was deposited in a 3 m wide strip along the entire east side of the trench. The runoff ditch cuts completely through the length of the cobble mound, exposing two wall segments in the west ditch profile. The trench has removed a substantial strip through the center of the structure, but significant intact deposits still remain.

The surface of the entire site area east of the existing right-of-way fence has been partially bladed and driven over by heavy machinery associated with highway shoulder and runoff ditch maintenance. Glass and metal fragments associated with these activities were found throughout the initial 20 to 30 cm of fill across the site.

A high-pressure gas line trench passes through the site area between the right-of-way fence and the terrace base. The utility placement affected a 3 to 5 m wide strip west of the fenceline.

## FIELD METHODS

The edge of the original right-of-way was along the existing fenceline. The construction boundary was subsequently reduced to avoid the cobble surface structure. The inset construction boundary measured 11 m west of the pavement edge, and the cobble structure and both trench locations from the testing program were avoided (Figs. 17.1, 17.4). The remaining site surface within the construction zone consisted of scattered prehistoric artifacts with no indications of features.

The primary site datum was established at 78N/48E with an arbitrary elevation of 0.00 m (Fig. 17.4). The datum, slightly west of the construction boundary, was marked with rebar for future reference. The 50E line served as the edge of the construction zone. This baseline, aligned with the right-of-way fence, does not designate magnetic or true north. The surface area in the remaining project area was collected with 9 by 9 m grids provenienced from the southwest corner.

Runoff Ditch Pueblo was the last site excavated in the Jackson Lake field phase. The late date in the field season and inclement weather conditions necessitated methods that would have been different if the site had been excavated earlier in the year. Basically, an accelerated methodology aimed at recovering as much material from the site as possible within the time and weather constraints was employed.

Subsurface investigations were initiated with the excavation of five backhoe trenches that were judgmentally placed based on surface artifact counts, to evaluate the nature and extent of subsurface material (Fig. 17.4). Considering the poorly preserved surface appearance of the construction inset, we were surprised when the backhoe trenches encountered a pit structure (Pit Structure 1) and six extramural features. Since the site surface was not bladed, a few additional small extramural features may have gone undetected.

Backhoe trenches were profiled, and four of the six extramural features were excavated. Small (usually 1 by 2 m) excavation units were established over the features to aid in proveniencing while the plan of the feature was determined. When the feature outline was ascertained, the feature was excavated according to natural layers determined in the profile. The features were excavated by hand, and fill was screened through 1/4-inch mesh.

Pit structure collection and excavation methodology details are described in the "Pit Structure 1" section below.

## STRATIGRAPHY

The backhoe trenches encountered similar soil profiles across the site. Soils are characterized by alluvial fan sediments originating from terrace runoff, and the proximity of the terrace slope is evident in higher frequency of gravels and cobbles than in sediments east of the highway.

With the exception of the findings in the pit structure (discussed separately, below), cultural material associated with the prehistoric occupation was confined to Layer 1. The cultural layer was shallow, extending from the surface to a maximum depth of 30 cm below the surface. The soil matrix was a moderate to compact sandy clay (10YR 5/3-6/3) containing abundant pebbles averaging less than 5 cm. Numerous small rivulets filled with coarse

sand and pebbles flow north-south across the site, attesting to runoff episodes from the terrace. Cultural material was typically light charcoal flecking and a low density of sherds and chipped stone. The prehistoric material was thoroughly mixed with abundant recent trash associated with long-term road maintenance.

The cultural layer was followed by natural alluvial sediments composed of sand, and silty sand with mixed gravel and cobbles of various sizes. The natural alluvium extended from 30 cm below the surface to a depth of 1.50 to 1.80 m below the surface. The south end of the site contained more sand, while the north end had more gravel and cobbles apparently associated with higher-energy discharge from the north drainage. Prehistoric features were dug into this alluvial sediment, but no other cultural material was noted.

#### TEMPORAL COMPONENTS

The absence of absolute dates and the limited nature of the excavations preclude a comprehensive understanding of the occupation history of this site. An archaeomagnetic sample collected from the hearth in Pit Structure 1 was too weak for measurement, and a dendrochronological date was not obtained from a juniper roof beam sample submitted to the tree-ring lab. The adjusted construction inset preserved the surface roomblock and little-understood subsurface cultural material outside of the right-of-way. No additional subsurface excavations were conducted in this area of the site, and insight into this important site area is restricted to limited artifacts recovered from two testing-phase test trenches. The tentative occupation outline, based on ceramics and feature associations, awaits refinement by future investigations in the preserved site area west of the construction zone.

Site elements and their suggested temporal affiliation are outlined in Table 17.1. Surface material and the general cultural layer reflect a mixed Pueblo II-III deposit; more refined occupation surfaces within these units were not delineated. The proximity of the roomblock, pit structure, and surrounding extramural features points to a contemporary grouping of site elements with an east-west unit-type alignment. An associated midden area was not observed to the west, but it may have been previously removed during highway construction.

In broad terms, the suite of architectural elements and features is viewed as roughly contemporaneous with the Transitional Pueblo II-III (AD 1075-1150) ceramic component. This overarching temporal designation is most appropriate for viewing the site elements given our current understanding of the site, but tentative Late Pueblo II and Early Pueblo III groupings have been postulated.

The initial site occupation may date from the Late Pueblo II period (AD 1075-1125) based on the small sample of Pueblo II Black-on-white and mineral-painted sherds recovered from a test trench in the cobble roomblock that was recorded earlier (Lancaster 1983), and we referred to as Roomblock 1 (Fig. 17.4). Ceramics from the extramural features also reflect this trend, and I have also placed these features with the Late Pueblo II ceramic component.

The small sherd assemblage from the lower fill of Pit Structure 1 has a moderately higher frequency of carbon-painted sherds, suggesting that the structure and the initial fill units may have an Early Pueblo III (AD 1100-1150) date. However, proximity to the surface roomblock suggests that the architectural elements are related, and the carbon-painted pottery may suggest an overlapping date of ca. 1100 for the structures. A single storage cist (Feature 5) was dug into the postabandonment lower fill of the pit structure. This cist is probably the latest of the excavated extramural features, but the few sherds from the fill provide little dating information. However, the feature does indicate use of the abandoned pit structure cavity prior to its subsequent use as a refuse receptacle.

The abandoned upper cavity of the pit structure was filled with midden containing ceramics dating from the Late Pueblo III period (AD 1200-1300). These Late Pueblo III sherds contrast with those from the structures and extramural features regardless of how they are temporally placed. Unfortunately, the actual source of this Late Pueblo III midden deposit is not known, although other occupations from this period are known in the immediate area.

In summary, the site exhibits at least two periods of use characterized by Transitional Pueblo II-III and Late Pueblo III ceramic components. The Transitional Pueblo II-III ceramic component may be split into Late Pueblo II and Early Pueblo III ceramic components, but this division is tentative. It remains unclear whether the site reflects continuous occupation from Late Pueblo II to Late Pueblo III.

Table 17.1. LA 37591, ceramic assemblages, primary proveniences by time period; presence/absence.

Primary Provenience	Pueblo II–III Mixed	Late Pueblo II	Early Pueblo III	Mostly Late Pueblo III, Some Pueblo II
Surface collection	present	–	–	–
General cultural layer	present	–	–	–
<b>Roomblock 1</b>				
Trench 2 (Lancaster 1983 testing)	–	present	–	–
<b>Unknown Cultural Deposit</b>				
Trench 1 (Lancaster 1983 testing)	–	present	–	–
<b>Extramural Area 1</b>				
Feature 1, pit	–	present	–	–
Feature 2, pit	–	present	–	–
Feature 3, major storage cist	–	present	–	–
Feature 4, pit	–	present	–	–
<b>Pit Structure 1</b>				
Layer 4	–	–	present	–
Roof fill	–	–	present	–
Floor fill	–	–	present	–
Floor 1 artifacts and features	–	–	present	–
<b>Extramural Area 1</b>				
Feature 5, cist	–	–	present	–
<b>Pit Structure 1</b>				
Midden layer	–	–	–	present
Layer 3	–	–	–	present

## EXCAVATION RESULTS

### ROOMBLOCK 1

The adjusted construction inset avoided Roomblock 1, and no excavations or collections were conducted in this area (Figs. 17.1, 17.4). The following observations concerning the roomblock are from field notes and information from Lancaster’s (1983) testing program. The north–south-orientated roomblock parallels the terrace base and measured 14 by 8 by 0.25 m tall. The roomblock is probably two tiers wide and contained an estimated two to six one-story rooms. Two cross-wall segments exposed in the runoff ditch indicate a room length of 2.75 m, but no other wall alignments were observed. The exposed cross-wall segments are three courses tall and constructed of single north–south-aligned

cobbles measuring 0.25 m. Lancaster (1983:27) encountered the probable floor at a depth of 70 cm below the surface. The limited sherd sample from the test trench suggests a Late Pueblo II ceramic component (Table 17.2). Subfloor cultural material continued to a depth of 1.10 m below the surface, but no temporally diagnostic sherds were recovered.

Lancaster placed Test Trench 1 (1 by 2 m) at the east edge of the structure. A hard compact surface was encountered at 90 cm below the present surface; fill included sherds, chipped stone, burned corncobs, and abundant charcoal and ash. Lancaster (1983:29) interpreted the surface as the floor of a possible pit structure, but I don’t agree with this interpretation, considering the greater depth of the excavated pit structure to the east. The exact nature of this subsurface material remains unknown. The small sample of recovered sherds depict a mixed Pueblo II–III assemblage.

Table 17.2. LA 37591, pottery types, counts from Lancaster (1983) testing program.

	Roomblock	Extramural Area	Total
Pueblo II–III corrugated	–	3	3
Plain gray	1	5	6
Corrugated gray	8	53	61
Pueblo II black-on white	8	–	8
Early Pueblo III black-on-white	–	1	1
Late Pueblo III black-on-white	–	2	2
Pueblo II–III black-on-white	1	10	11
Pueblo III black-on-white	–	1	1
Polished white	6	8	14
Polished black-on-white	1	–	1
Transitional Pueblo III black-on-white	–	1	1
<b>Total</b>	<b>25</b>	<b>84</b>	<b>109</b>

### EXTRAMURAL AREA 1

The site measured 45 by 25 m, an area of 1,125 sq m (Fig. 17.4). The portion of the site within the construction zone was arbitrarily designated Extramural Area 1, a peripheral area east of Roomblock 1. Its poorly preserved surface appearance is a good example of highly modified surface material concealing buried and intact cultural features. Archaeological investigations encountered Pit Structure 1 and six associated extramural features in this area.

#### Surface Collection

The site surface was obscured by a rather dense growth of sage, saltbush, and snakeweed. There were no visible surface features in the construction inset, and artifacts were mixed with abundant road refuse. The surface collection covered a 45 by 9 m, or 405 sq m area. The surface of five 9 by 9 m grids was examined. Sherds and lithic artifacts were found in each of the grids, and artifact frequencies ranged from 14 to 115 artifacts (Fig. 17.5; Table 17.3).

Grid 77N/50E, east of Roomblock 1, contained 115 artifacts. The high artifact count led to the placement of Backhoe Trenches 3 and 4. It resulted from mechanically dispersed artifacts from the pit structure's upper midden fill, but surface artifacts were highly mixed.

In addition to grid-provenienced sherds, Lancaster's general site surface collection of 16 sherds is included with the surface assemblage (Table 17.4). The surface collection consists of 169 sherds and 61 chipped stone artifacts (Tables 17.4, 17.5).

### Cultural Layer

Subsurface artifacts collected from backhoe trenches and hand-dug feature-definition trenches are combined within the fill unit called the cultural layer. These artifacts are associated with the mixed Pueblo II–III occupation, and the fill is identical with Layer 1 of the stratigraphic soil profile. The cultural layer was a maximum of 30 cm deep, and recent road refuse was mixed throughout. An occupation surface was not delineated within the layer. The artifact assemblage included 145 sherds, 20 chipped stone artifacts, 18 faunal elements, and 2 ground stone artifacts, including a red shale pendant (Tables 17.4, 17.5, 17.6, 17.7).

#### Features (Extramural Area 1)

Five extramural features were discovered in backhoe trenches, and four of the five were selected for excavation (Fig. 17.4). A sixth feature (Feature 5), a cist, was found in the lower fill of the pit structure and is discussed in that section. Ceramics suggest that the features are roughly contemporaneous and may date from the Late Pueblo II occupation. They appear to be positioned mainly in an activity area surrounding the pit structure. Feature 5, probably the latest of the extramural features, was constructed in the lower fill of the abandoned pit structure. The few ceramics from the feature fill reflect only the broad Transitional Pueblo II–III occupation. Artifacts recovered from the five excavated extramural features are presented in Tables 17.8, 17.9, 17.10.

*Pit (Feature 1).* This pit was exposed in the north profile of Backhoe Trench 3 after the southern



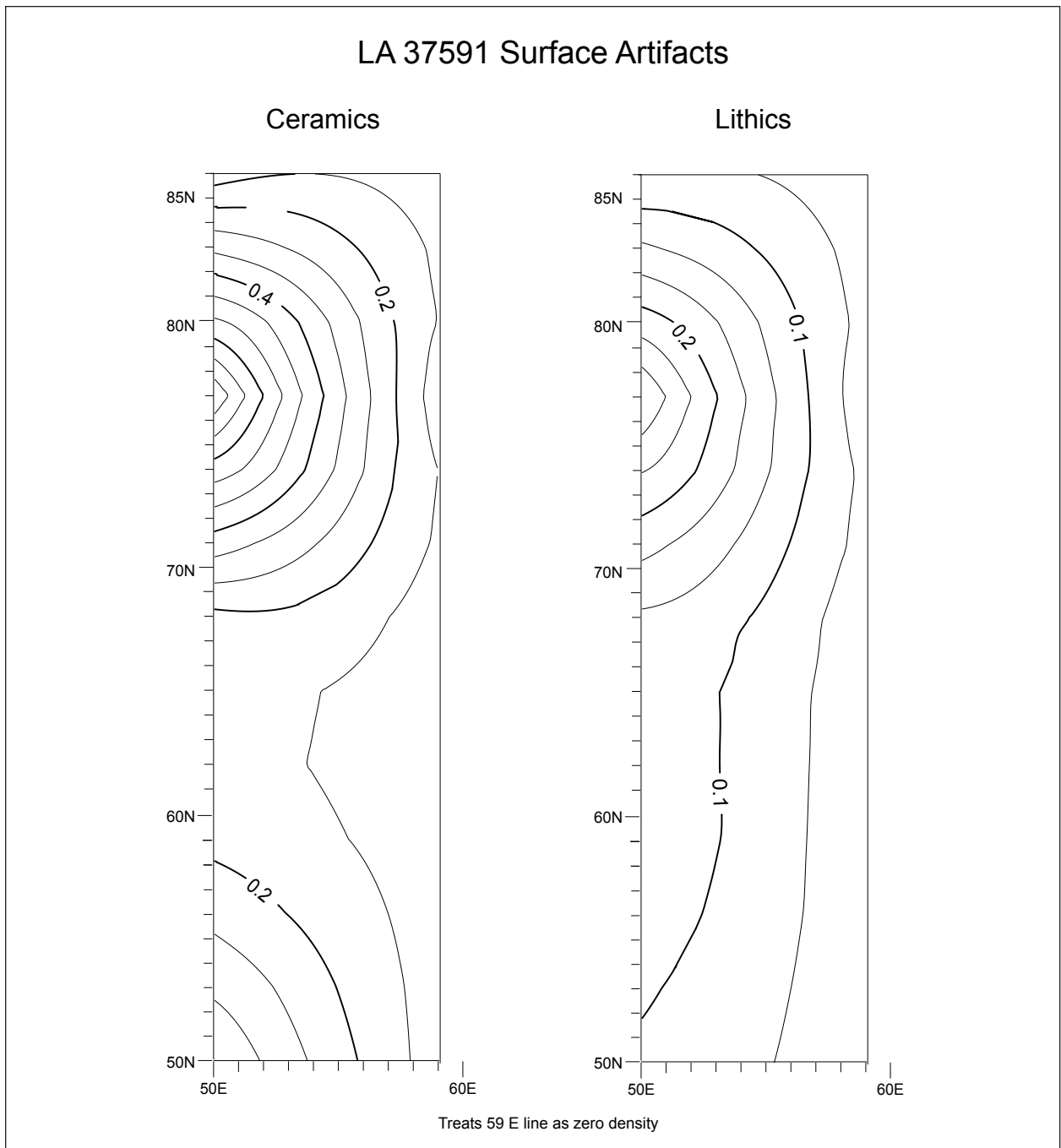


Figure 17.5. LA 37591, surface collection area, distribution and density, ceramics and lithics.

half of the pit had been removed by the backhoe. The feature was about 5 m west of Pit Structure 1 and is provenienced in reference to hand trench 79N/50E (1 by 2 m). The circular mouth was delineated at a depth of 10 cm below the present ground surface with a maximum east-west diameter of 70 cm. The pit had a cylindrical profile with a level floor at a depth of 52 cm below the defined opening.

Table 17.3. LA 37591, ceramics and lithics, counts by surface collection grid.

Grid (9 x 9 m)	Ceramics	Lithics	Total
50N/50E	37	6	43
59N/50E	10	11	21
68N/50E	11	10	21
77N/50E	84	31	115
86N/50E	11	3	14

Table 17.4. LA 37591, pottery and paint types by extramural provenience (including surface collection); counts and percents.

	Surface Collection		Cultural Layer		Extramural Area		Backhoe Trench		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
<b>Ceramic Type</b>										
Pueblo II corrugated	–	–	1	1.2%	–	–	–	–	1	0.1%
Pueblo II–III corrugated	–	–	3	3.7%	3	0.5%	–	–	6	0.7%
Pueblo III corrugated	–	–	–	–	19	3.3%	–	–	19	2.2%
Plain gray	22	14.4%	6	7.3%	40	6.8%	8	12.7%	76	8.6%
Corrugated gray	91	59.5%	43	52.4%	312	53.4%	20	31.7%	466	52.8%
Pueblo II black-on-white	1	0.7%	–	–	27	4.6%	3	4.8%	31	3.5%
Black Mesa–style black-on-white	1	0.7%	–	–	–	–	–	–	1	0.1%
Dogoszhi-style black-on-white	–	–	1	1.2%	16	2.7%	–	–	17	1.9%
Early Pueblo III black-on-white	–	–	–	–	6	1.0%	–	–	6	0.7%
Late Pueblo III black-on-white	–	–	–	–	2	0.3%	1	1.6%	3	0.3%
Pueblo I–III black-on-white	15	9.8%	5	6.1%	69	11.8%	8	12.7%	97	11.0%
Pueblo III black-on-white	1	0.7%	1	1.2%	7	1.2%	10	15.9%	19	2.2%
Polished white	11	7.2%	16	19.5%	74	12.7%	8	12.7%	109	12.4%
Polished black-on-white	9	5.9%	5	6.1%	8	1.4%	3	4.8%	25	2.8%
Transitional Pueblo III black-on-white	1	0.7%	–	–	–	–	2	3.2%	3	0.3%
Deadmans Black-on-red	–	–	1	1.2%	–	–	–	–	1	0.1%
Cibola indeterminate red ware	1	0.7%	–	–	–	–	–	–	1	0.1%
Kayenta indeterminate red	–	–	–	–	1	0.2%	–	–	1	0.1%
<b>Total</b>	<b>153</b>	<b>100.0%</b>	<b>82</b>	<b>100.0%</b>	<b>584</b>	<b>100.0%</b>	<b>63</b>	<b>100.0%</b>	<b>882</b>	<b>100.0%</b>
<b>Pigment Type</b>										
None	11	27.5%	16	57.1%	74	35.2%	17	48.6%	118	37.7%
Organic	27	67.5%	5	17.9%	64	30.5%	16	45.7%	112	35.8%
Mineral	2	5.0%	7	25.0%	72	34.3%	2	5.7%	83	26.5%
<b>Total</b>	<b>40</b>	<b>100.0%</b>	<b>28</b>	<b>100.0%</b>	<b>210</b>	<b>100.0%</b>	<b>35</b>	<b>100.0%</b>	<b>313</b>	<b>100.0%</b>

N = count

Its volume may be 200 liters. The feature was unlined and showed no evidence of burning.

The single layer of dense trashy fill included 201 sherds, 46 lithic artifacts, 1 two-hand mano, and 66 faunal elements, including 4 bone tool fragments. The bone tools included three bone awl fragments. The soil matrix was a compact sandy clay with abundant charcoal flecks. The refuse deposit was mixed with 45 cobbles. Twenty cobbles measured less than 10 cm, and 25 cobbles measured between 15 to 20 cm. None of the cobbles was oxidized. This pit most likely functioned originally as a generalized storage facility, and after abandonment it served as a refuse receptacle. Ceramics in the secondary refuse deposit suggest a Late Pueblo II affiliation.

*Pit (Feature 2).* This small pit was exposed in the south profile of Backhoe Trench 4. The northern half of the feature had been removed by the backhoe

trench. The pit was 2 m north of Pit Structure 1 and within 1 m of the major storage cist (Feature 3). The feature was provenienced in reference to hand trench 85N/55E (1 by 2 m). The circular mouth was defined at a depth of 26 cm below the present ground surface with a maximum east-west diameter of 80 cm. The unlined pit had a shallow 16 cm basin profile and an estimated volume of about 80 liters. There was no evidence of thermal use. The fill consisted of lightly stained sandy clay with moderate charcoal flecks. Artifacts included four sherds, one flake, one shaped sandstone slab fragment, and one woodrat bone. The shallow pit is morphologically similar to a hearth, but the feature type is coded not further specified because of the absence of thermal modification. The few sherds suggest a Late Pueblo II affiliation.

*Major storage cist (Feature 3).* A major storage

Table 17.5. LA 37591, chipped stone tool and material types by extramural provenience (including surface collection); counts and percents.

	Surface Collection		Cultural Layer		Extramural Area		Backhoe Trench		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Artifact Type</b>										
Debitage	52	85.2%	11	84.6%	207	91.2%	6	85.7%	<b>276</b>	<b>89.6%</b>
Core	6	9.8%	1	7.7%	12	5.3%	–	–	<b>19</b>	<b>6.2%</b>
Retouched, utilizeddebitage	1	1.6%	1	7.7%	2	0.9%	–	–	<b>4</b>	<b>1.3%</b>
Retouched, utilized core	1	1.6%	–	–	–	–	–	–	<b>1</b>	<b>0.3%</b>
Notch	–	–	–	–	1	0.4%	–	–	<b>1</b>	<b>0.3%</b>
Bifacial knife, scraper	–	–	–	–	1	0.4%	–	–	<b>1</b>	<b>0.3%</b>
Projectile point	–	–	–	–	1	0.4%	–	–	<b>1</b>	<b>0.3%</b>
Hammerstone	1	1.6%	–	–	3	1.3%	–	–	<b>4</b>	<b>1.3%</b>
Chopper, plane	–	–	–	–	–	–	1	14.3%	<b>1</b>	<b>0.3%</b>
<b>Total</b>	<b>61</b>	<b>100.0%</b>	<b>13</b>	<b>100.0%</b>	<b>227</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>308</b>	<b>100.0%</b>
<b>Material Type</b>										
Chert	30	49.2%	6	46.2%	136	59.9%	4	57.1%	<b>176</b>	<b>57.1%</b>
Silicified wood	10	16.4%	1	7.7%	13	5.7%	–	–	<b>24</b>	<b>7.8%</b>
Quartzite	7	11.5%	–	–	15	6.6%	2	28.6%	<b>24</b>	<b>7.8%</b>
Quartzitic sandstone	–	–	–	–	13	5.7%	–	–	<b>13</b>	<b>4.2%</b>
Rhyolite	–	–	–	–	1	0.4%	–	–	<b>1</b>	<b>0.3%</b>
Siltstone	14	23.0%	6	46.2%	49	21.6%	1	14.3%	<b>70</b>	<b>22.7%</b>
<b>Total</b>	<b>61</b>	<b>100.0%</b>	<b>13</b>	<b>100.0%</b>	<b>227</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>308</b>	<b>100.0%</b>

Table 17.6. LA 37591, ground stone tool types, counts by provenience group.

	Cultural Layer	Extramural Feature	Midden			Pit Structure			Total
			Unscreened	Layer 1	Layer 2	Layer 3	Roof Dirt	Floor	
Indeterminate fragment	–	–	–	1	–	–	–	–	<b>1</b>
Shaped slab	1	1	–	1	5	–	–	–	<b>8</b>
Anvil	–	–	–	–	1	–	–	–	<b>1</b>
Mano	–	–	3	1	6	–	1	1	<b>12</b>
One-hand mano	–	1	–	–	–	–	–	–	<b>1</b>
Two-hand slab mano	–	–	–	–	1	–	1	1	<b>3</b>
Metate	–	2	–	–	1	–	–	–	<b>3</b>
Slab metate	–	–	–	1	–	–	–	–	<b>1</b>
Axe	–	–	–	–	–	1	–	–	<b>1</b>
Two-notch axe	–	–	–	–	1	–	–	–	<b>1</b>
Full-grooved axe	–	–	–	–	1	–	–	–	<b>1</b>
Tchamahia	–	–	–	2	–	–	–	–	<b>2</b>
Ornament	–	–	–	–	1	–	–	–	<b>1</b>
Pendant	1	–	–	–	–	–	–	–	<b>1</b>
<b>Total</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>6</b>	<b>17</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>37</b>

Table 17.7. LA 37591, faunal remains, counts by taxon and provenience group.

	Cultural	Extramural Feature	Midden		Pit Structure			Backhoe Trench 3 General Midden	Total
			Level 1	Level 2	Level 3	Roof Dirt	Floor		
Prairie dog	–	–	–	–	6	1	–	–	7
Rock squirrel	–	–	–	–	7	–	–	–	7
Small squirrel	–	–	–	2	1	–	–	–	3
Pocket gopher	–	–	–	1	7	–	–	–	8
Woodrat	–	1	–	1	3	–	–	–	5
Cottontail rabbit	–	–	–	15	162	5	3	22	207
Jackrabbit	–	5	7	17	167	2	8	13	219
Weasel and allies	–	–	–	–	–	–	–	1	1
Gray fox	–	–	–	–	3	–	–	–	3
Dog, coyote, wolf	–	2	–	2	3	–	–	1	8
Dog, coyote, fox, wolf	–	–	–	–	1	–	–	–	1
Deer	–	–	1	1	11	2	3	–	18
Artiodactyl	–	–	–	–	–	–	1	1	2
Mammal	–	5	1	–	–	1	–	–	7
Small mammal	1	26	16	4	153	2	10	99	311
Medium–large mammal	–	9	–	57	24	2	1	1	94
Large mammal	1	6	–	4	16	2	16	6	51
Quail	–	–	–	1	5	–	–	–	6
Jay, magpie, crow	–	–	1	–	6	–	–	–	7
Sparrow hawk	–	–	–	–	–	–	1	–	1
Turkey	–	2	18	96	169	5	19	7	316
Bird	–	4	12	119	94	–	4	2	235
Toad and frog	–	–	–	2	2	–	–	–	4
River carpsucker	–	–	–	–	4	–	–	–	4
Bird eggshell	–	–	–	–	–	–	2	–	2
<b>Total</b>	<b>2</b>	<b>60</b>	<b>56</b>	<b>322</b>	<b>844</b>	<b>22</b>	<b>68</b>	<b>153</b>	<b>1527</b>

cist was exposed in the north profile of Backhoe Trench 4. The southern one-third of the feature had been removed by the backhoe. The feature was provenienced in reference to hand trench 87N/54E (1 by 2 m). The opening of the cist was fully delineated at a depth of 25 cm below present ground surface. The irregular circular opening measured 1.40 m across the intact east–west dimension. The level pit floor was 1.24 m below the delineated opening, and the undercut walls tapered to a maximum diameter of 1.90 m north–south. A small remnant of the lower south wall survived at floor level, allowing a complete north–south dimension. The feature had an estimated volume of about 2,651 liters, calculated from the averaged maximum mouth and base dimensions. The walls and floor consisted of the native alluvial sediments, and there was no evidence of plaster or oxidation.

The single layer of trashy fill included 153

sherds, 20 lithics including a projectile point, and 9 faunal elements, including one indeterminate bone tool fragment. The soil matrix was a compact sandy clay with abundant charcoal flecks. The secondary domestic type refuse was mixed with 319 construction cobbles. The majority of the cobbles (n = 283) measured around 10 cm, and the remaining 36 cobbles were in the range of 15 to 30 cm. Very few of the cobbles were oxidized. An irregular sandstone slab fragment measuring 15 by 25 cm was the only artifact on the floor. A flotation sample from the floor included carbonized *Cycloloma* and *Juniperus*.

This major storage cist apparently functioned originally as a storage facility, although the unplastered alluvial walls seem fairly porous. After abandonment the cist was used as a convenient refuse receptacle for both domestic and construction debris.

*Pit (Feature 4).* This small pit was exposed in

Table 17.8. LA 37591, Extramural Area 1 (Features 1–4) and Pit Structure 1 (Feature 5), pottery, chipped stone, ground stone, and faunal remains, type counts by feature.

	Ceramics		Chipped Stone		Ground Stone		Faunal Remains	
	Type	Count	Type	Count	Type	Count	Type	Count
Feature 1, pit	Pueblo III Corrugated	19	Debitage	37	–	–	–	–
	Plain Gray	10	Core	4	–	–	Mammal	4
	Corrugated Gray	124	Retouched, utilized debitage	1	–	–	Small mammal	1
	Pueblo II B/w	11	Notch	1	–	–	Medium mammal	2
	Dogoszhi Style B/w	2	Hammerstone	1	–	–	Large mammal	4
	Early Pueblo III B/w	3	–	–	–	–	Jackrabbit	2
	Pueblo II–III B/w	10	–	–	–	–	Bird	1
	Polished White	10	–	–	–	–	–	–
	Polished B/w	5	–	–	–	–	–	–
	Corrugated	2	–	–	–	Shaped slab	1	Pack rat
Feature 2, pit	Pueblo II–III black-on-white	2	–	–	–	–	–	–
	Pueblo II–III Corrugated	2	Debitage	17	–	–	Mammal	1
Feature 3, major storage	Plain Gray	20	Core	1	–	–	Small mammal	3
	Corrugated Gray	77	Bifacial knife, scraper	1	–	–	Medium mammal	1
	Pueblo II B/w	3	Projectile point	1	–	–	Jackrabbit	1
	Dogoszhi Style B/w	3	–	–	–	–	Bird	3
	Pueblo II–III B/w	20	–	–	–	–	–	–
	Pueblo III B/w	3	–	–	–	–	–	–
	Polished White	22	–	–	–	–	–	–
Feature 4, pit	Polished B/w	2	–	–	–	–	–	–
	Pueblo II–III Corrugated	1	Debitage	149	One-hand mano	1	Small mammal	22
	Plain Gray	10	Core	7	Metate fragment	2	Medium mammal	6
	Corrugated Gray	108	Retouched, utilized debitage	1	–	–	Large mammal	2
	Pueblo II B/w	13	Hammerstone	2	–	–	Jackrabbit	2
	Dogoszhi Style B/w	11	–	–	–	–	Bird	1
	Early Pueblo III B/w	3	–	–	–	–	Turkey	2
	Late Pueblo III B/w	2	–	–	–	–	–	–
	Pueblo II–III B/w	35	–	–	–	–	–	–
	Pueblo III B/w	4	–	–	–	–	–	–
Feature 5, cist	Polished White	41	–	–	–	–	–	–
	Polished B/w	1	–	–	–	–	–	–
	KA Indeterminate Red	1	–	–	–	–	–	–
	Corrugated	1	Flake	3	–	–	–	–
	Pueblo II–III black-on-white	2	–	–	–	–	–	–
<b>Total</b>		<b>584</b>		<b>227</b>		<b>4</b>		<b>59</b>



Table 17.9. LA 37591, Extramural Area 1, Features 1, 3, and 4, pottery type counts by vessel form.

	Bowl	Jar	Ladle	Total
<b>Extramural Feature 1</b>				
Pueblo III corrugated	–	19	–	<b>19</b>
Plain gray	–	10	–	<b>10</b>
Corrugated	–	124	–	<b>124</b>
Pueblo II Sosi style	11	–	–	<b>11</b>
Pueblo II Dogoszhi style	–	2	–	<b>2</b>
Early Pueblo III black-on-white	3	–	–	<b>3</b>
Pueblo II–III black-on-white	9	1	–	<b>10</b>
Polished white	11	3	1	<b>15</b>
<b>Total</b>	<b>34</b>	<b>159</b>	<b>1</b>	<b>194</b>
<b>Extramural Feature 3</b>				
Pueblo II–III corrugated	–	2	–	<b>2</b>
Plain gray	–	20	–	<b>20</b>
Corrugated	–	77	–	<b>77</b>
Pueblo II Sosi style	3	–	–	<b>3</b>
Pueblo II Dogoszhi style	3	–	–	<b>3</b>
Pueblo II–III black-on-white	15	4	1	<b>20</b>
Polished white	15	12	–	<b>27</b>
<b>Total</b>	<b>36</b>	<b>115</b>	<b>1</b>	<b>152</b>
<b>Extramural Feature 4</b>				
Pueblo II–III corrugated	–	1	–	<b>1</b>
Plain gray	–	10	–	<b>10</b>
Corrugated	–	108	–	<b>108</b>
Pueblo II Sosi style	5	8	–	<b>13</b>
Pueblo II Dogoszhi style	–	11	–	<b>11</b>
Early Pueblo III black-on-white	1	1	1	<b>3</b>
Late Pueblo III black-on-white	2	–	–	<b>2</b>
Pueblo II–III black-on-white	21	11	3	<b>35</b>
Polished white	13	33	–	<b>46</b>
Tsegi Orange	1	–	–	<b>1</b>
<b>Total</b>	<b>43</b>	<b>183</b>	<b>4</b>	<b>230</b>

the north profile of Backhoe Trench 4. The southern half of the feature had been removed by the backhoe trench. The feature was 2 m northwest of Pit Structure 1 and 1 m west of the major storage cist. The pit was provenienced in reference to 1 by 3 m hand trench 84N/52E. Abundant refuse from the cultural layer was encountered in this trench south of Backhoe Trench 4, but the feature limits did not extend south of the backhoe trench. The circular plan of the feature was defined at 25 cm below the present ground surface, with a maximum east–west diameter of about 120 cm. The pit was straight-sided with a level floor 30 cm below the defined opening. I estimate the volume at 339 liters. The pit was unlined, and there was no evidence of burning.

The single layer of dense trashy fill included 230 sherds, 159 lithic artifacts, 3 ground stone artifacts including two metate fragments, and 35 faunal

elements (Tables 17.8–17.10). The soil matrix was a compact sandy clay with abundant charcoal flecks. The refuse was mixed with 45 cobbles. Twenty cobbles measured less than 10 cm, and 25 cobbles measured between 15 to 20 cm. None of the cobbles were oxidized.

The exact function of the shallow pit is unknown, but it probably served as a storage facility. The pit was utilized as a trash receptacle after its abandonment.

*Unexcavated pit.* The edge of a pit was encountered at the north end of Backhoe Trench 1 in grid 62N/52E. The feature was not excavated. The pit is 15 m south of the pit structure and roomblock. The small section of profile suggests a pit similar to Feature 1. The opening, about 30 cm below the surface, was an estimated 1 m in diameter. The pit was straight-sided with a level floor at a depth of 55 cm below the opening. The feature was unlined, and there was no evidence of burning. The single layer of fill was sandy clay with charcoal flecks and light refuse. The fill in the exposed profile seemed to differ from that of the other extramural features mainly through lower artifact content and the absence of cobbles. The pit probably functioned as a storage facility. A few mineral-painted sherds in the fill suggested a Late Pueblo II affiliation.

#### PIT STRUCTURE 1

Pit Structure 1 was discovered in Backhoe Trench 3, which had been judgmentally placed to determine the depth of higher artifact counts in surface grid 77N/50E (9 by 9 m; Fig. 17.5). The south edge of the structure was exposed in the north profile of the backhoe trench. Pit Structure 1 measured 3.50 m north–south and 3.35 m east–west, with a floor area of 9.20 sq m and a maximum defined wall height of 80 cm (Figs. 17.4, 17.6).

#### *Artifact Collection and Excavation Methodology*

Only a sample of artifacts was collected from the upper stratigraphic fill sequence of the structure (Fig. 17.7). The controlled artifact sample was collected from two screened 1 by 3 m hand trenches. Midden Layer 1 was recovered from trench 80N/55E (1 by 3 m). A backhoe was then used to extend the trench to the structure floor. The controlled artifact

Table 17.10. LA 37591, Extramural Features 1, 3, and 4, chipped stone tool type counts by material type.

	Chert	Silicified Wood	Quartzite	Quartzitic Sandstone	Quartzitic Rhyolite	Siltstone	Total
<b>Extramural Feature 1</b>							
Debitage	20	2	1	1	–	13	<b>37</b>
Core	2	–	–	–	–	2	<b>4</b>
Utilized debitage	1	–	–	–	–	–	<b>1</b>
Notch	1	–	–	–	–	–	<b>1</b>
Hammerstone	–	–	1	–	–	–	<b>1</b>
<b>Total</b>	<b>24</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>–</b>	<b>15</b>	<b>44</b>
<b>Extramural Feature 3</b>							
Debitage	9	2	2	2	–	2	<b>17</b>
Core	–	–	–	–	–	1	<b>1</b>
Bifacial knife, scraper	1	–	–	–	–	–	<b>1</b>
Projectile point	1	–	–	–	–	–	<b>1</b>
<b>Total</b>	<b>11</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>–</b>	<b>3</b>	<b>20</b>
<b>Extramural Feature 4</b>							
Debitage	93	8	10	10	1	27	<b>149</b>
Core	3	1	1	–	–	2	<b>7</b>
Utilized debitage	1	–	–	–	–	–	<b>1</b>
Hammerstone	1	–	–	–	–	1	<b>2</b>
<b>Total</b>	<b>98</b>	<b>9</b>	<b>11</b>	<b>10</b>	<b>1</b>	<b>30</b>	<b>159</b>

collection from Midden Layer 2, along with Layers 3 and 4, exposed in the Backhoe Trench 5 profile, were collected from trench 80N/54E (1 by 3 m). Midden Layers 1 and 2 have been combined for discussion since the proveniences are actually part of the same midden deposit but arbitrarily separated by excavation procedures. Artifacts collected from the general midden layer remain separated by the controlled screened sample, and artifacts collected on an encounter basis from the general deposit.

After the controlled sample of artifacts was collected from trench 80N/54E, the remaining portion of the pit structure fill was removed by the backhoe to within 30 cm of the floor. Hand excavation continued from this point, and all remaining structure fill was screened through 1/4-inch mesh. The pit structure was utilized as the excavation unit, and the remaining fill was arbitrarily divided into roof fill and floor fill units. Floor artifacts were assigned point-specific locations. A central hearth, sipapu, and miscellaneous floor pit were hand excavated (Figs. 17.6, 17.7, 17.8). A posthole, wall cist, miscellaneous pit, and ventilator system were not excavated. The unexcavated floor features are probably

preserved intact, because construction activities did not reach the deep pit structure floor.

### *Architecture*

Pit Structure 1 was dug prehistorically into the undisturbed alluvial sediments characterizing the site location. The depth of the single floor was 2.73 m below the present ground surface (Fig. 17.6). The original prehistoric surface was not determined but probably averaged about 10 to 20 cm below the present ground surface, judging from the ventilator shaft and the surrounding extramural features. The poorly preserved earthen walls were traced with difficulty to a maximum of about 80 cm above the floor. The surviving wall segments were nearly vertical and articulated with the floor at nearly right angles. No evidence of plaster was encountered on the walls or in the fill.

The only masonry encountered was confined to coursed cobbles framing the ventilator, and two wall patches. The majority of a patch on the north wall had been removed by the backhoe. The remaining portion measured about 20 by 20 cm and

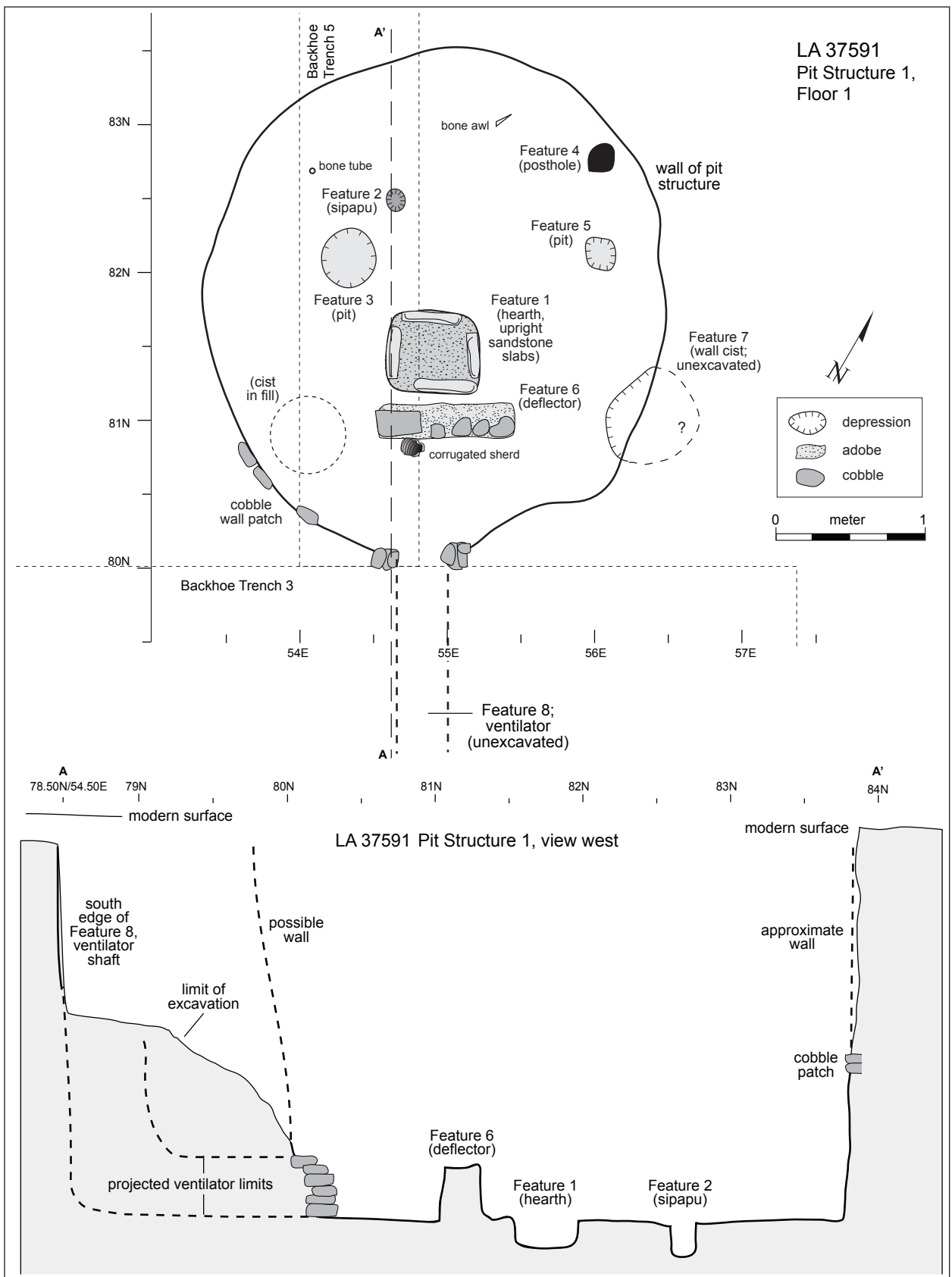


Figure 17.6. LA 37591, Pit Structure 1, Floor 1, plan and architectural profile (view west).

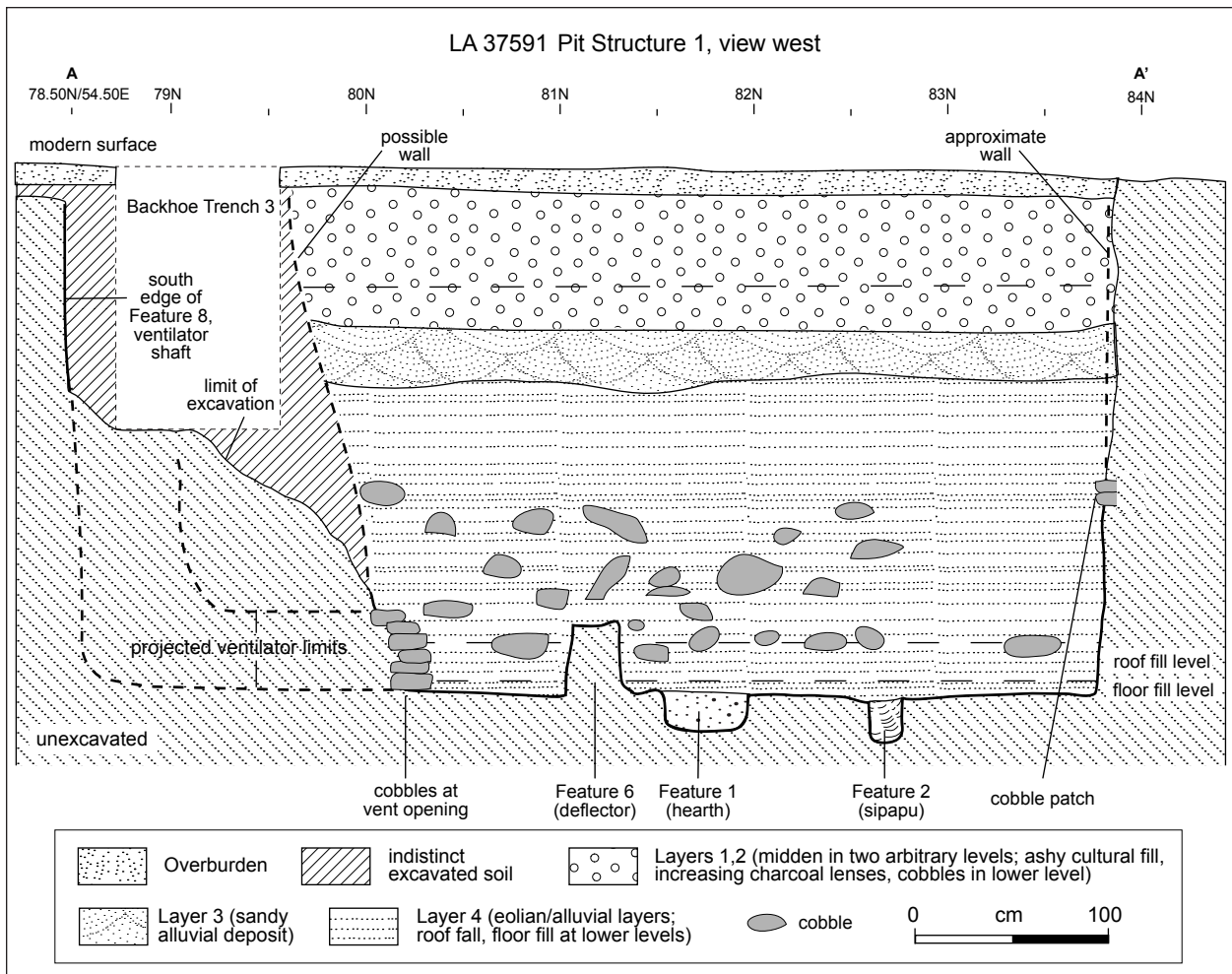


Figure 17.7. LA 37591, Pit Structure 1, profile (view west).

consisted of four cobbles. The cobbles were 80 cm above the floor, and two courses were present. The other patched area was an area 1.0 m wide extending along the wall just west of the ventilator opening. This area extended from floor level to a height of about 30 cm and consisted of irregularly coursed cobbles. No cultural disturbance was noted at either locality to account for the patches.

A single unexcavated posthole may be attributed to an internal roof-support system, but otherwise there was a near absence of roof-support features and roofing material in the pit structure. Only two pieces of unburned juniper recovered from the floor fill are attributed to roof remains. One specimen measuring 1.07 m by 3 cm was analyzed by the Laboratory of Tree-Ring Research, University of Arizona, Tucson, but a date was not obtained.

The other fragment measured 50 cm long by 10 cm, but poor preservation precluded the recovery of a tree-ring specimen. Because of the small size of the pit structure, the roof may have rested on the prehistoric surface and spanned the structure without the use of internal supports. The roof was removed at abandonment, and with the exception of the two secondary beam fragments no other organic closing materials or roofing dirt were identified in the fill.

The pit structure had a rather simple design. The wall segments could be traced a maximum of 80 cm, but there was no evidence of a bench, pilasters, or wall niches on the surviving walls (Fig. 17.6). There was only one occupation and no evidence of remodeling. Features consisted only of a ventilator, deflector, central hearth, sipapu, and four pits.

The compass bearing of an axis passing through



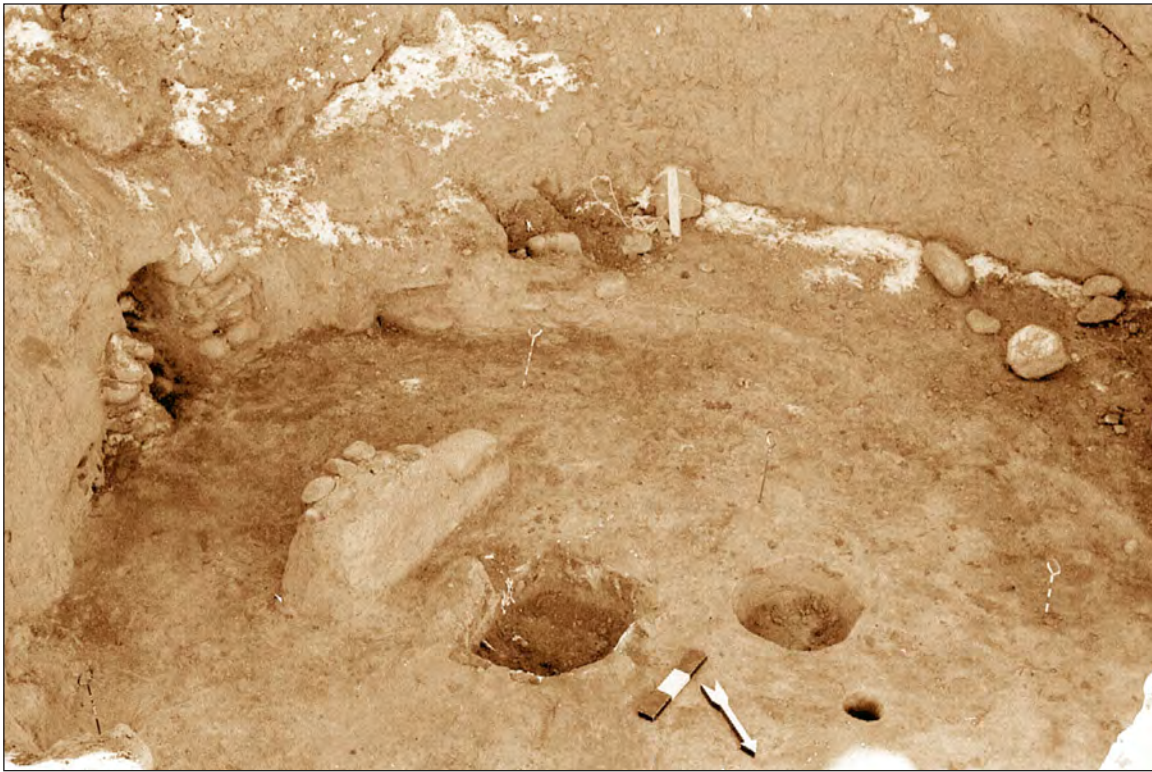


Figure 17.8. LA 37591, Pit Structure 1, Floor 1, Features 1 (hearth), 2 (sipapu), 3 (pit), 6 (deflector), and 8 (vent); view southwest.

the center of the ventilator and hearth is about 160 degrees true north. The sipapu is offset about 20 cm west of the axis. The structure has a south-southeast orientation, roughly parallel to the nearby terrace base.

### *Stratigraphy*

The fill of Pit Structure 1 consisted of cultural and natural deposits (Fig. 17.7). Layers 1 and 2 are arbitrary excavation divisions of a single dense midden layer and are combined in the midden layer discussion. Layers 3 and 4 are mainly natural alluvial deposits. The fill sequence is discussed in order from the modern surface to the pit structure floor.

**Midden layer.** The midden layer represents the latest depositional event in the filling of the pit structure and is characterized by an accumulation of culturally deposited refuse (Fig. 17.7). The deposit was encountered from just below the modern surface and extended to a depth of 80 cm below the surface. Occasional glass and metal fragments were

present in the initial 20 cm of fill, but with the exception of numerous rodent burrows, the integrity of the deposit was intact.

The midden layer was cylindrical with an essentially level bottom. The edges of the layer were originally bounded by the pit structure walls, but the poorly preserved walls were no longer evident at this level. The trashy fill contrasted with the natural sediments outside the structure, and fill layers were slightly upturned at the edges. The soil matrix was a loose, light (10YR 6/3) silty sand with abundant ash but little actual charcoal content. The soil matrix was mixed with large quantities of artifacts. Occasional thin charcoal lenses were noted, but in terms of artifact and soil composition, the midden was both vertically and horizontally homogeneous.

The midden is composed primarily of domestic refuse with minor quantities of construction cobbles. Diagnostic ceramics indicate a Late Pueblo III affiliation, and the midden seems to have accumulated over a rather short time during this period. The origin of this Late Pueblo III midden component is unknown. I conjecture that the intentionally dis-



carded refuse is associated with prehistoric activities from around the inadequately understood surface roomblock and the surrounding area west of the right-of-way.

Figured as a cylinder with a maximum diameter of 3.5 m and height of 0.80 m, the midden layer had a volume of 7.7 cu m. The control trench sampled 2.40 cu m of fill, or about 31 percent of the deposit. Using the 2.40 cu m control sample and 3,171 recovered artifacts, the midden layer had a density of 1,321 artifacts per cubic meter. Artifacts (from the screened sample) in decreasing order of abundance included 1,768 sherds, 762 chipped stone artifacts, 626 faunal elements including 7 bone tools, and 15 ground stone artifacts (Tables 17.6, 17.7, 17.8, 17.9, 17.10, 17.11, 17.12). A single rib from a one-year-old infant was also recovered from the midden layer. A flotation sample contained carbonized *Chenopodium*, *Portulaca*, *Oryzopsis*, and *Zea mays*. Wood

charcoal was dominated by *Juniperus*. Thirteen corncobs and corncob fragments were recovered from the midden. The midden artifact assemblage (combined screened and unscreened proveniences) comprises 70 percent of the artifacts recovered from the site and the major portions of each of the artifact categories.

**Layer 3.** Layer 3 represents a transition from the dense overlying midden layer to natural alluvial sediment (Fig. 17.7). The contact boundary was smooth and diffuse. The soil matrix was compact fine- to medium-grained sand containing almost no cultural staining and very little charcoal flecking. The layer varied from 30 to 40 cm thick. Artifact frequencies decreased across all artifact categories, and much of the material was probably introduced through rodent burrows from the midden layer (Tables 17.6, 17.7, 17.13, 17.14). This is evidenced by the recovery of a complete parietal from a one-

Table 17.11. LA 37591, Pit Structure 1, pottery and paint types by midden layers; counts and percents.

	Midden						Total	
	Unscreened		Layer 1		Layer 2		Count	Col. %
	Count	Col. %	Count	Col. %	Count	Col. %		
<b>Ceramic Type</b>								
Pueblo II corrugated	1	0.5%	4	0.4%	3	0.2%	<b>8</b>	<b>0.3%</b>
Pueblo II–III corrugated	4	2.0%	4	0.4%	20	1.3%	<b>28</b>	<b>1.0%</b>
Pueblo III corrugated	–	–	–	–	16	1.0%	<b>16</b>	<b>0.6%</b>
Plain gray	12	6.1%	67	6.7%	214	13.5%	<b>293</b>	<b>10.5%</b>
Corrugated gray	111	56.3%	554	55.0%	616	38.8%	<b>1281</b>	<b>45.9%</b>
Mudware	–	–	–	–	2	0.1%	<b>2</b>	<b>0.1%</b>
Pueblo II black-on-white	3	1.5%	10	1.0%	16	1.0%	<b>29</b>	<b>1.0%</b>
Dogozhi-style black-on-white	1	0.5%	2	0.2%	8	0.5%	<b>11</b>	<b>0.4%</b>
Chaco-style black-on-white	–	–	–	–	1	0.1%	<b>1</b>	<b>0.0%</b>
Early Pueblo III black-on-white	–	–	9	0.9%	6	0.4%	<b>15</b>	<b>0.5%</b>
Late Pueblo III black-on-white	3	1.5%	20	2.0%	37	2.3%	<b>60</b>	<b>2.1%</b>
Pueblo II–III black-on-white	13	6.6%	164	16.3%	186	11.7%	<b>363</b>	<b>13.0%</b>
Pueblo III black-on-white	28	14.2%	51	5.1%	191	12.0%	<b>270</b>	<b>9.7%</b>
Painted black-on-white	–	–	–	–	3	0.2%	<b>3</b>	<b>0.1%</b>
Polished white	16	8.1%	93	9.2%	195	12.3%	<b>304</b>	<b>10.9%</b>
Polished black-on-white	3	1.5%	26	2.6%	63	4.0%	<b>92</b>	<b>3.3%</b>
Transitional Pueblo III black-on-white	1	0.5%	2	0.2%	8	0.5%	<b>11</b>	<b>0.4%</b>
Squiggle hachure black-on-white	–	–	–	–	3	0.2%	<b>3</b>	<b>0.1%</b>
Deadmans Black-on-red	–	–	1	0.1%	–	–	<b>1</b>	<b>0.0%</b>
Kayenta indeterminate red	1	0.5%	–	–	1	0.1%	<b>2</b>	<b>0.1%</b>
<b>Total</b>	<b>197</b>	<b>100.0%</b>	<b>1007</b>	<b>100.0%</b>	<b>1589</b>	<b>100.0%</b>	<b>2793</b>	<b>100.0%</b>
<b>Paint Type</b>								
None	17	25.0%	93	24.7%	205	28.6%	<b>315</b>	<b>27.1%</b>
Organic	47	69.1%	260	69.0%	466	67.6%	<b>773</b>	<b>66.5%</b>
Mineral	4	5.9%	24	6.4%	46	6.4%	<b>74</b>	<b>6.4%</b>
<b>Total</b>	<b>68</b>	<b>100.0%</b>	<b>377</b>	<b>100.0%</b>	<b>717</b>	<b>100.00%</b>	<b>1162</b>	<b>100.0%</b>

Table 17.12. LA 37591, Pit Structure 1, chipped stone tool and material types by midden layers; counts and percents.

	Pit Structure 1, Midden						Total	
	Unscreened		Layer 1		Layer 2		Count	Col. %
	Count	Col. %	Count	Col. %	Count	Col. %		
<b>Tool Type</b>								
Debitage	91	92.9%	366	91.7%	694	89.0%	<b>1151</b>	<b>90.1%</b>
Core	1	1.0%	9	2.3%	54	6.9%	<b>64</b>	<b>5.0%</b>
Biface	–	–	–	–	2	0.3%	<b>2</b>	<b>0.2%</b>
Retouched, utilizeddebitage	2	2.0%	15	3.8%	11	1.4%	<b>28</b>	<b>2.2%</b>
Graver	–	–	1	0.3%	–	–	<b>1</b>	<b>0.1%</b>
Notch	–	–	3	0.8%	1	0.1%	<b>4</b>	<b>0.3%</b>
Denticulate	–	–	1	0.3%	1	0.1%	<b>2</b>	<b>0.2%</b>
Bifacial knife, scraper	–	–	–	–	1	0.1%	<b>1</b>	<b>0.1%</b>
Projectile point	–	–	–	–	3	0.4%	<b>3</b>	<b>0.2%</b>
Hammerstone	4	4.1%	3	0.8%	13	1.7%	<b>20</b>	<b>1.6%</b>
Chopper, plane	–	–	1	0.3%	–	–	<b>1</b>	<b>0.1%</b>
<b>Total</b>	<b>98</b>	<b>100.0%</b>	<b>399</b>	<b>100.0%</b>	<b>780</b>	<b>100.0%</b>	<b>1277</b>	<b>100.0%</b>
<b>Material Type</b>								
Chert	42	42.9%	184	46.1%	424	54.4%	<b>650</b>	<b>50.9%</b>
Chalcedony	–	–	–	–	6	0.8%	<b>6</b>	<b>0.5%</b>
Silicified wood	6	6.1%	30	7.5%	25	3.2%	<b>61</b>	<b>4.8%</b>
Quartzite	2	2.0%	32	8.0%	19	2.4%	<b>53</b>	<b>4.2%</b>
Quartzitic sandstone	2	2.0%	28	7.0%	44	5.6%	<b>74</b>	<b>5.8%</b>
Igneous	2	2.0%	–	–	6	0.8%	<b>8</b>	<b>0.6%</b>
Sandstone	1	1.0%	–	–	7	0.9%	<b>8</b>	<b>0.6%</b>
Siltstone	43	43.9%	125	31.3%	248	31.8%	<b>416</b>	<b>32.6%</b>
Other	–	–	–	–	1	0.1%	<b>1</b>	<b>0.1%</b>
<b>Total</b>	<b>98</b>	<b>100.0%</b>	<b>399</b>	<b>100.0%</b>	<b>780</b>	<b>100.0%</b>	<b>1277</b>	<b>100.0%</b>

year-old infant that probably corresponds with the rib recovered from the midden layer.

**Layer 4.** Layer 4 was a thick (1.6 to 1.7 m) deposit of natural sediment in the form of laminated sand and clay (Fig. 17.7). The homogenous layer extended to floor contact, but the lower 30 cm was excavated using arbitrarily assigned roof fill and floor fill proveniences. The layer is an accumulation of finely sorted alluvial material introduced by terrace runoff. Thin clay lenses attest to occasional ponding. The layer had almost no cultural staining, and artifacts are considered a mixed assemblage introduced from several sources, including heavy rodent activity from the midden layer, low-level discard, and erosional runoff (Tables 17.6, 17.7, 17.13, 17.14). Construction-size cobbles as large as 30 cm in diameter were encountered throughout the layer, apparently introduced as discarded or fallen construction materials. The cobbles were not counted, but I estimate about 100 for the entire layer. The absence of gravel and assorted cobble sizes argues against alluvial

deposition for the cobbles. There was no evidence of roofing material in the fill, suggesting that the cobbles were related to roof remains.

#### *Features (Layer 4, Pit Structure 1)*

**Cist (Feature 5).** In addition to the intermittent use of the abandoned pit structure as a refuse receptacle, a cist was found in the nearly half-filled depression (Fig. 17.7). The cist was encountered during the digging of Backhoe Trench 5, and the necessity of completing the backhoe trench precluded excavation of the feature. The cist was close to the south edge of the pit structure in grid 80N/55E (1 by 1 m) and was dug into the alluvial fill characterizing Layer 4. An associated us-surface was not identified. The circular mouth, 30 cm in diameter, was 1.40 m below the surface. The cist had an estimated depth of about 50 cm and a basal diameter of about 50 cm. The unlined, undercut sides were poorly preserved, and no oxidation or burning was noted. The fill consisted of a single layer of alluvial sediment similar

Table 17.13. LA 37591, Pit Structure 1, pottery and paint types by lower fill proveniences; counts and percents.

	Pit Structure 1 Level 3		Roof Dirt		Floor and Floor Fill		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Ceramic Type</b>								
Pueblo III corrugated	1	0.8%	–	–	–	–	1	0.2%
Plain gray	23	18.9%	62	17.9%	1	2.1%	86	16.7%
Corrugated gray	45	36.9%	138	39.9%	34	72.3%	217	42.1%
Pueblo II black-on-white	–	–	2	0.6%	–	–	2	0.4%
Dogoszhi-style black-on-white	1	0.8%	2	0.6%	–	–	3	0.6%
Early Pueblo III black-on-white	–	–	6	1.7%	–	–	6	1.2%
Late Pueblo III black-on-white	4	3.3%	–	–	–	–	4	0.8%
Pueblo II–III black-on-white	18	14.8%	40	11.6%	2	4.3%	60	11.7%
Pueblo III black-on-white	6	4.9%	16	4.6%	–	–	22	4.3%
Polished white	18	14.8%	66	19.1%	10	21.3%	94	18.3%
Polished black-on-white	4	3.3%	12	3.5%	–	–	16	3.1%
Transitional Pueblo III black-on-white	1	0.8%	–	–	–	–	1	0.2%
Squiggle hachure black-on-white	1	0.8%	2	0.6%	–	–	3	0.6%
<b>Total</b>	<b>122</b>	<b>100.0%</b>	<b>346</b>	<b>100.0%</b>	<b>47</b>	<b>100.0%</b>	<b>515</b>	<b>100.0%</b>
<b>Pigment Type</b>								
None	18	34.0%	66	45.2%	10	83.3%	94	44.5%
Organic	30	56.6%	62	42.5%	2	16.7%	94	44.5%
Mineral	5	9.4%	18	12.3%	–	–	23	10.9%
<b>Total</b>	<b>53</b>	<b>100.0%</b>	<b>146</b>	<b>100.0%</b>	<b>12</b>	<b>100.0%</b>	<b>211</b>	<b>100.0%</b>

Table 17.14. LA 37591, Pit Structure 1, chipped stone tool and material types by lower fill proveniences; counts and percents.

	Pit Structure I Level 3		Roof Dirt		Floor and Floor Fill		Total	
	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col. %
<b>Artifact Type</b>								
Debitage	43	89.6%	101	90.2%	9	90.0%	153	90.0%
Core	2	4.2%	4	3.6%	–	–	6	3.5%
Retouched, utilized debitage	–	–	2	1.8%	1	10.0%	3	1.8%
Projectile point	–	–	1	0.9%	–	–	1	0.6%
Hammerstone	3	6.3%	4	3.6%	–	–	7	4.1%
<b>Total</b>	<b>48</b>	<b>100.0%</b>	<b>112</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>170</b>	<b>100.0%</b>
<b>Material Type</b>								
Chert	20	41.7%	43	38.4%	4	40.0%	67	39.4%
Chalcedony	–	–	1	0.9%	–	–	1	0.6%
Silicified wood	10	20.8%	14	12.5%	–	–	24	14.1%
Quartzite	1	2.1%	1	0.9%	–	–	2	1.2%
Quartzitic sandstone	2	4.2%	4	3.6%	1	10.0%	7	4.1%
Siltstone	15	31.3%	49	43.8%	5	50.0%	69	40.6%
<b>Total</b>	<b>48</b>	<b>100.0%</b>	<b>112</b>	<b>100.0%</b>	<b>10</b>	<b>100.0%</b>	<b>170</b>	<b>100.0%</b>

to the surrounding pit structure fill. Artifact content was low; recovered artifacts included four sherds, three pieces of lithic debitage, and a corncob. A flotation sample included carbonized *Zea mays*. The cist apparently functioned as a storage facility, but use must have been opportunistic and restricted, considering the evidence for runoff and ponding in the depression. The cist is probably the latest of the excavated extramural features and shows use of the abandoned pit structure cavity prior to the subsequent Late Pueblo III midden deposition.

**Roof Fill.** The roof fill was an excavation provenience designating the lower portion of Layer 4 from 30 to 5 cm above the floor. The unit was excavated across the entire pit structure, but no actual roofing material was encountered. The natural fill is identical to Layer 4, but without cobbles. Two unburned secondary closing beams of juniper were recovered from the lower floor fill, and these were the only evidence of roofing material encountered in the pit structure. The roof had been removed at abandonment, and the pit structure was subjected to immediate natural fill. Some of this material may have been roof dirt, a layer of fill covering the constructed roof, and often seen at the base of pit structures whose roofs have been removed.

**Floor Fill.** The floor fill was another excavation provenience designating the lower portion of Layer 4 from 5 cm above the floor to floor contact. The unit was excavated across the entire pit structure. Refuse from the roof fill and floor fill were the earliest postoccupational artifacts introduced into the abandoned pit structure (Tables 17.6, 17.7, 17.13, 17.14). The small ceramic assemblage is represented by nearly equal numbers of Pueblo III Black-on-white and Pueblo II-III Black-on-white sherds, and all decorated white wares have organic pigments.

#### **Floors: Floor 1**

The single floor in Pit Structure 1 was composed of use-compacted native sandy clay. The unplastered surface was covered by a thin dark stain of ash and charcoal associated with everyday use of the pit structure. No oxidation or burning was noted. The floor was flat and level with no evidence of patching or remodeling. The dark surface was fairly easy to follow and was usually immediately covered by a lighter laminated clay lens. This suggests that ponding occurred in the structure soon after abandonment.

Three artifacts were point-provenienced on Floor 1: a bone awl, a bone bead tube, and eight corrugated sherds from the same vessel. The small assemblage indicates a leisurely abandonment of the structure.

Eight floor features were recognized, including a central hearth, a deflector, and a ventilator system (Figs. 17.6, 17.7, 17.8). Time constraints did not permit the excavation of a wall cist (Feature 7), the ventilator system (Feature 8), a possible posthole (Feature 4), and an unburned pit (Feature 5). Floor features and artifacts recovered from the excavated floor features are presented in Table 17.15.

#### **Features (Floor 1)**

**Central hearth (Feature 1).** The central hearth was south of center. It was square/oval in plan and basin in profile, and was dug into the sterile alluvial sandy clay below the floor. Four vertical sandstone slabs and one cobble were set around the perimeter and protruded 3 cm above the floor. The hearth lacked an applied adobe rim and was not plastered between the slabs. The perimeter of the hearth was heavily oxidized, but an archaeomagnetic sample obtained from the 2 cm thick oxidized rind was too weak for measurement.

The hearth fill consisted almost entirely of white ash (10YR 7/1) with slightly increased charcoal content toward the bottom. Four oxidized cobble firedogs with an average size of 20 by 10 cm rested on the floor. The fine ashy fill was screened through 1/8 in mesh. Artifacts recovered from the fill consisted of 7 corrugated gray jar body sherds, 2 pieces of siltstone debitage, a sandstone two-hand slab mano fragment, and 52 small faunal bone fragments. The faunal assemblage consisted of 48 small mammal and 4 desert cottontail fragments, representing food refuse in the pit structure. A flotation sample included carbonized *Zea mays*. Fuelwood charcoal was dominated by *Juniperus*.

**Sipapu (Feature 2).** Feature 2 consisted of a circular, unlined hole 68 cm north of the hearth. The cylindrical profile tapered to a point and was intentionally filled with an almost sterile reddish sand. A few flecks of charcoal were present in the fill, but no artifacts were recovered. We interpreted this feature as a sipapu, but it was about 20 cm west of an axis passing through the center of the ventilator and hearth.

Table 17.15. LA 37591, Pit Structure 1, Floor 1, features; summary table.

Feature	Type	Length (cm)	Width (cm)	Depth/Height (cm)	Artifact Type	Count	Comment
1	hearth	50.0	55.0	25.0	sherd, corrugated	7	–
					siltstone flake	2	
					two-hand mano	1	
					small mammal	48	
					cottontail rabbit	4	
2	sipapu	12.0	12.0	23.0	–	–	–
3	pit	39.0	39.0	16.0	sherd, plain gray	1	–
4	posthole?	20.0	20.0	unknown	–	–	unexcavated
5	pit	22.0	13.0	unknown	–	–	unexcavated
6	deflector	80.0	25.0	unknown	–	–	–
7	wall cist	56.0	unknown	unknown	–	–	unexcavated
8	ventilator	–	–	–	–	–	unexcavated

**Pit (Feature 3).** This unlined pit was circular in plan, basin in profile, and located about 28 cm northwest of the hearth. The alluvial fill contained small flecks of charcoal, but there was no evidence of burning. Artifacts consisted of a single plain gray jar fragment. The function of the pit is not known.

**Posthole (Feature 4).** An unexcavated circular stain was close to the wall in the northeast quadrant of the pit structure. The alluvial fill was slightly darker than the surrounding floor, but there was no indication of oxidation or burning. The feature was interpreted as a probable posthole.

**Unburned pit (Feature 5).** Another unexcavated stain was about 50 cm south of Feature 4. There was no evidence of oxidation or burning. The irregular oval stain was assigned a feature number, but the unexcavated feature may be a rodent burrow.

**Deflector (Feature 6).** The deflector consisted of a simple cobble wall 10 cm south of the hearth and 75 cm in front of the ventilator opening. An ash pit was not present in the area between the hearth and the deflector. The deflector rested on the floor and was constructed of uncoursed cobbles averaging 20 by 15 by 10 cm set in abundant mortar. The entire deflector was covered with a single layer of brown plaster. The truncated height of the deflector was 40 cm, but the top had been removed by the backhoe.

**Wall cist (Feature 7).** A wall cist was cut into the southeast wall of the pit structure directly east of the ventilator opening. The circular opening extended

30 cm onto the floor and 25 cm up the wall of the pit structure. No oxidation or burning was noted. The alluvial sandy clay fill was identical to Layer 4 of the pit structure. The feature probably functioned as a storage facility.

**Ventilator system (Feature 8).** The tunnel and the shaft of the ventilation system was not excavated (Figs. 17.6, 17.7, 17.8, 17.9). The opening of the ventilator tunnel was defined inside the pit structure, and the backhoe was used to determine the southern extent of the shaft. The majority of the shaft had been previously removed by Backhoe Trench 3.

The ventilation system consisted of a horizontal tunnel entering the pit structure near the center of the south wall at floor level. The tunnel opening measured 20 cm wide by 50 cm tall and was framed on the sides with coursed cobbles. Six courses of cobbles were present on the west side of the opening, and five courses on the east side. The cobble coursing was limited to a veneer at the entrance of the vent and did not extend back into the tunnel. The cobbles used for the coursing averaged 15 by 10 by 4 cm. A lintel was not present, and no other roofing material was identified. The tunnel extended south about 1.75 m, where a segment of the south edge was encountered. The south edge of the shaft was traced to within 10 cm of the present surface, but the diameter of the mouth was not determined. Fill was identical to Layer 4 of the pit structure, consisting entirely of alluvially deposited laminated sands and clays with occasional cobbles.





Figure 17.9. LA 37591, Pit Structure 1, Floor 1, Feature 8 (vent) opening, view southeast.

Artifact content was low, and no diagnostic artifacts were recorded.

#### *Temporal Affiliation*

Pit Structure 1 is tentatively assigned an Early Pueblo III temporal affiliation based on the ceramic assemblage (but see discussion of temporal components, above). Ceramics from Layer 4 and the lower roof fill and floor fill excavation proveniences furnish the only diagnostic artifacts for dating the pit structure. Ceramics from the Layer 4 control trench portray mostly an assemblage of Pueblo III with some Pueblo II sherds. The few Pueblo II-III Black-on-white sherds from the unexcavated cist (Feature 5) in Layer 4 provide little dating material, although these sherds were commonly encountered in the other extramural features. The roof fill unit excavated across the entire pit structure shows a general Pueblo III ceramic assemblage. All white ware sherds are decorated with organic pigment, and no earlier Pueblo II sherds were encountered (Table 17.13). The scanty floor fill and Floor 1 assemblage contributes little additional diagnostic material.

The early Pueblo III ceramic date is based on the absence of Late Pueblo III Black-on-white, found in the upper midden deposit, and the similar absence of Pueblo II mineral-painted sherds. Pit structure floor artifacts contribute little temporal evidence for determining the actual use of the structure.

#### *Summary: Pit Structure 1*

Pit Structure 1 was a rather small, unburned, circular structure 14 m east of Roomblock 1. Pit Structure 1 is interpreted as a pit structure or “kiva” associated with the surface structure. The small size, lack of segregated work areas, and presence of a sipapu suggest that the structure served ceremonial or, at least in part, specialized functions. Similarly, the small size and simple feature layout indicate restricted habitation and domestic use and/or a small domestic unit. The single floor and absence of remodeling is suggestive of a limited, short-term occupation. The few floor artifacts revealed little about structure activities, but the small assemblage does indicate a leisurely abandonment. Abandonment involved the total dismantling of the

roof, but there was no evidence of burning or other special closing ceremonies.

The abandoned structure accumulated almost 2 m of alluvial fill before the remaining depression was filled with Late Pueblo III refuse. However, there does appear to have been light artifact discard into the depression throughout the roughly 75-year interval of alluvial fill accumulation, and the construction of Feature 5 shows that some activities continued at the site before the final AD 1200 midden deposition. The dense midden deposit characterizes a complex range of habitation and domestic activities, contrasting with the rather modest pit structure layout and use. The midden deposit presumably relates to residential activities from around the unexcavated surface roomblock area. If this is the case, the density and range of artifact types suggests the presence of significant subsurface archaeological materials with essentially no surface visibility. Unfortunately, the temporal and behavioral relationships in this important site area are little understood and can only be clarified by excavations west of the right-of-way.



#### LA 37591: MATERIAL CULTURE

The recovered artifact assemblage totaled 4,298 sherds, 1,755 chipped stone artifacts, 37 ground stone artifacts, and 1,527 faunal elements, including 48 modified bone tools.

##### *Ceramic Artifacts*

The ceramic assemblage totaled 4,298 sherds. Sherds were recovered in a ratio of about 2.5 to 1 chipped stone, the next most frequently encountered artifact category. The assemblage is composed of 22 analytic types that are broadly represented by white wares (40 percent), gray wares (60 percent), and red wares (0.1 percent). In terms of ungrouped typological categories, there are 48 types, including a couple of mudware sherds. Just under 60 percent of the decorated sherds have organic pigment, and 11 percent have mineral pigment. The assemblage includes 11 vessel form categories. Gray ware jar sherds account for 60 percent of the sherds, white bowls 25 percent, white jars 14 percent, ladles 1

percent, and other forms only trace quantities (Tables 17.16, 17.17, 17.18).

The assemblage is composed almost entirely of sherds. A single corrugated gray jar is represented by 75 sherds from the same vessel, discarded as secondary refuse in the fill of Feature 1. The heavily sooted cooking jar had a rim diameter of 26 cm, but the vessel was too incomplete for measurements and reconstruction.

Ceramic distributions suggest that site elements are related to three temporal affiliations (Table 17.1). However, the Late Pueblo II and Early Pueblo III ceramic components are best viewed as an overlapping, transitional occupation.

The earliest context, Late Pueblo II (AD 1075–1125), contains contamination from later Pueblo III occupations. The sherds from this context represent 16 percent of the site ceramic assemblage. This ceramic component includes Features 1 through 4 and the small testing-phase sherd samples from the roomblock and nearby subsurface material. White wares are represented by Pueblo II black-on-white and Dogoszhi-style black-on-white. Painted white wares tend to have somewhat higher frequencies of mineral paint. Corrugated rim sherds are represented by Pueblo II–III corrugated and Pueblo III corrugated. The only red ware type is a single sherd belonging to the Tsegi Orange ware tradition. The ratio of white wares to gray wares is 1:1.85. The gray ware is represented almost entirely by corrugated cooking/storage jars, and the white wares include mainly bowls, jars, and ladles. The assemblage embodies a variety of household cooking, storage, and serving tasks, and the broken vessels were mainly discarded as secondary refuse in the extramural features.

The Early Pueblo III (AD 1125–1180) ceramic component includes the cist (Feature 5) in the lower fill (Layer 4; Fig. 17.7) units of the pit structure (Table 17.19). The ceramic component makes up about 2.3 percent of the site assemblage. White wares include Early Pueblo III black-on-white and Pueblo III black-on-white. Painted white wares trend toward higher frequencies of organic paint. No diagnostic gray ware rim sherds were recovered from this sample. The ratio of white ware to gray ware is 1:1.47. The gray ware is composed of cooking/storage vessels, and the white ware by a similar pattern of bowls, jars, and ladles. Few sherds were associated with the pit structure floor and floor features, and most of

Table 17.16. LA 37591, pottery types (all), by count, weight (g), and percent.

	Count	Col. %	Weight (g)	Col. %
Pueblo II corrugated	7	0.2%	69.0	0.2%
Pueblo II-III corrugated	25	0.6%	307.0	0.9%
Pueblo III corrugated	4	0.1%	90.0	0.3%
Plain gray	310	7.2%	6.1	0.0%
Corrugated gray	1487	34.6%	9944.0	30.1%
Mudware	2	0.0%	13.0	0.0%
Pueblo II black-on-white	44	1.0%	350.0	1.1%
Black Mesa-style black-on-white	1	0.0%	8.0	0.0%
Dogoszhi-style black-on-white	23	0.5%	157.0	0.5%
Early Pueblo III black-on-white	1	0.0%	22.0	0.1%
Late Pueblo III black-on-white	15	0.3%	228.0	0.7%
Pueblo II-III black-on-white	430	10.0%	2990.0	9.1%
Pueblo III black-on-white	172	4.0%	2341.0	7.1%
Painted black-on-white	1	0.0%	22.0	0.1%
Polished white	392	9.1%	2445.0	7.4%
Polished black-on-white	120	2.8%	682.0	2.1%
Transitional Pueblo III black-on-white	2	0.0%	13.0	0.0%
Squiggle hachure black-on-white	4	0.1%	39.0	0.1%
Mancos Corrugated	2	0.0%	10.0	0.0%
Dolores Corrugated	12	0.3%	99.0	0.3%
Mesa Verde Corrugated	31	0.7%	704.0	2.1%
Mesa Verde Plain Gray	135	3.1%	947.0	2.9%
Mesa Verde Corrugated Gray	464	10.8%	3857.0	11.7%
Mancos Black-on-white	24	0.6%	306.0	0.9%
Mancos Black-on-white, Dogoszhi	8	0.2%	98.0	0.3%
Mancos Black-on-white, Chuska	1	0.0%	6.0	0.0%
McElmo Black-on-white	24	0.6%	496.0	1.5%
Mesa Verde Black-on-white	53	1.2%	1084.0	3.3%
Mesa Verde Pueblo II-III Black-on-white	100	2.3%	584.0	1.8%
Mesa Verde Pueblo III Black-on-white	134	3.1%	1127.0	3.4%
Mesa Verde Painted Black-on-white	2	0.0%	31.0	0.1%
Mesa Verde Polished White	122	2.8%	781.0	2.4%
Mesa Verde Polished Black-on-white	14	0.3%	102.0	0.3%
Mesa Verde Transitional Pueblo III Black-on-white	14	0.3%	252.0	0.8%
Mancos Black-on-white (squiggle hachure)	2	0.0%	35.0	0.1%
Deadmans Black-on-red	2	0.0%	9.0	0.0%
Cibola indeterminate red ware	1	0.0%	1.0	0.0%
Hunter Corrugated	1	0.0%	11.0	0.0%
Nava Black-on-white	2	0.0%	32.0	0.1%
Chuska Polished White	2	0.0%	6.0	0.0%
Kayenta indeterminate red	3	0.1%	12.0	0.0%
Corrugated gray	90	2.1%	433.0	1.3%
Pueblo II black-on-white	2	0.0%	19.0	0.1%
Early Pueblo III black-on-white	1	0.0%	10.0	0.0%
Late Pueblo III black-on-white	1	0.0%	29.0	0.1%
Pueblo II-III black-on-white	1	0.0%	4.0	0.0%
Pueblo III black-on-white	6	0.1%	134.0	0.4%
Polished white	5	0.1%	59.0	0.2%
<b>Total</b>	<b>4299</b>	<b>100.0%</b>	<b>33025.0</b>	<b>100.0%</b>

Table 17.17. LA 37591, pottery and paint types, counts by vessel form.

	Bowl	Jar	Closed	Ladle	Specialized	Miniatures	Indeterminate	Total
<b>Ceramic Type</b>								
Pueblo II corrugated	–	9	–	–	–	–	–	<b>9</b>
Pueblo II–III corrugated	–	36	1	–	–	–	–	<b>37</b>
Pueblo III corrugated	–	36	–	–	–	–	–	<b>36</b>
Plain gray	–	458	–	–	2	–	1	<b>461</b>
Corrugated gray	–	2022	–	–	–	–	3	<b>2025</b>
Mudware	1	–	–	–	–	–	1	<b>2</b>
Pueblo II black-on-white	51	14	–	3	–	1	1	<b>70</b>
Black Mesa–style black-on-white	–	1	–	–	–	–	–	<b>1</b>
Dogoszhi-style black-on-white	14	16	–	1	–	–	–	<b>31</b>
Chaco-style black-on-white	1	–	–	–	–	–	–	<b>1</b>
Early Pueblo III black-on-white	22	1	–	5	–	–	–	<b>28</b>
Late Pueblo III black-on-white	67	–	–	2	–	–	–	<b>69</b>
Pueblo II–III black-on-white	380	128	2	16	–	–	5	<b>531</b>
Pueblo III black-on-white	225	84	1	1	1	–	–	<b>312</b>
Painted black-on-white	1	2	–	–	–	–	–	<b>3</b>
Polished white	199	312	–	6	–	–	4	<b>521</b>
Polished black-on-white	102	25	–	5	–	–	2	<b>134</b>
Transitional Pueblo III black-on-white	16	–	–	–	–	–	–	<b>16</b>
Squiggle hachure black-on-white	3	2	–	1	–	–	–	<b>6</b>
Mesa Verde Deadmans Black-on-red	2	–	–	–	–	–	–	<b>2</b>
Cibola indeterminate red ware	1	–	–	–	–	–	–	<b>1</b>
Kayenta indeterminate red	2	1	–	–	–	–	–	<b>3</b>
<b>Total</b>	<b>1087</b>	<b>3147</b>	<b>4</b>	<b>40</b>	<b>3</b>	<b>1</b>	<b>17</b>	<b>4299</b>
<b>Paint Type</b>								
None	208	323	–	6	–	–	4	<b>541</b>
Organic	757	198	3	25	1	–	6	<b>990</b>
Mineral	118	64	–	9	–	1	2	<b>194</b>
<b>Total</b>	<b>1083</b>	<b>585</b>	<b>3</b>	<b>40</b>	<b>1</b>	<b>1</b>	<b>12</b>	<b>1725</b>

*Closed* includes seed jar, pitcher, canteen, and kiva jar. *Jar* includes jars and ollas. *Specialized* includes a mug and a tray.

the assemblage was apparently introduced as light secondary refuse mixed with the naturally filling pit structure. The presence of this cist (Feature 5) in the pit structure fill and the light refuse suggests that household tasks continued at or near the site after the abandonment of the pit structure.

The Late Pueblo III (AD 1200–1300) ceramic component includes the midden deposit and Layer 3 of the pit structure. Layer 3 is predominantly alluvial fill immediately below the midden layer, and many of the artifacts from this provenience unit were probably introduced from the upper midden by rodent action and other natural processes. The Late Pueblo III ceramic component makes up 68 percent of the site ceramic assemblage. White ware indicators are Pueblo III types including McElmo,

Nava, and Mesa Verde Black-on-white (Table 17.16). Painted white wares are commonly decorated with organic (66 percent) rather than mineral (27 percent) pigment. Associated gray ware rim sherds were classified as Pueblo II–III, Pueblo III, and Pueblo II in decreasing order of occurrence. Two red ware sherds include single examples each of White Mountain Redware and Mesa Verde red bowls. Infrequent Pueblo II sherds mixed throughout the deposit were apparently introduced as discarded refuse along with the Late Pueblo III material.

The ratio of white ware to gray ware is 1:2.1. Gray wares and white wares both manifest wider ranges of types and vessel forms than in the earlier ceramic components. Two plain gray ware tray fragments are unusual additions to the gray ware forms.

Table 17.18. LA 37591, pottery types, counts by temper type.

	Igneous	Igneous and Sandstone	Fine Sandstone	Sherd	Igneous and Sherd	Igneous, Sandstone, Sherd	Fine Sandstone, Sherd	Quartz Sand	Quartz Sand, Sherd	Trachybasalt	Total
Pueblo II–III corrugated	14	–	–	–	–	–	–	–	–	–	14
Pueblo II corrugated	31	–	–	–	–	–	–	–	–	1	32
Plain gray	151	–	–	–	–	–	–	–	–	–	151
Corrugated	447	1	–	–	–	–	–	90	–	–	538
Pueblo II, Sosi style	15	3	–	2	6	–	1	–	1	–	28
Pueblo II, Dogoszhi style	4	1	–	3	4	2	–	–	–	–	14
Early Pueblo III black-on-white	27	6	–	1	5	–	–	1	–	2	42
Late Pueblo III black-on-white	45	6	1	–	1	–	–	1	–	–	54
Pueblo II–III black-on-white	100	–	–	21	3	–	–	1	–	–	125
Polished white	247	14	2	76	8	2	1	5	2	2	359
San Juan Red	2	–	–	–	–	–	–	–	–	–	2
White Mountain Red	–	–	–	1	–	–	–	–	–	–	1
Tsegi	1	–	–	1	–	–	–	–	1	–	3
<b>Total</b>	<b>1084</b>	<b>31</b>	<b>3</b>	<b>105</b>	<b>27</b>	<b>4</b>	<b>2</b>	<b>98</b>	<b>4</b>	<b>5</b>	<b>1363</b>

One polished white with indeterminate temper, and two mudware with no temper (not shown).

The diagnostic Late Pueblo III black-on-white is dominated by bowl sherds. Household tasks are abundantly represented by corrugated storage/cooking vessels and white ware bowls, jars, and ladles. The single squiggle hatchure black-on-white open gourd dipper is a new ladle form in this component. Of interest, olla rims are represented by only two white ware sherds and a single gray ware sherd.

In addition to abundant testimony of household support, the assemblage contains a few examples of exotic forms suggesting symbolic ritual activities. These include the single Pueblo III mug sherd, two Pueblo II–III kiva jar rim sherds, and possibly the single Pueblo II miniature necked jar sherd. A Late Pueblo III rim sherd, a late white ware body sherd, and a dimpled jar base have all been fashioned into circular shapes with drill holes, suggesting use as pendants. The Late Pueblo III use of the pit structure depression as a refuse receptacle represents the final known use of the site. The ceramic assemblage alone embodies a complex range of activities that are not associated with the excavated site elements. The source of the material remains unidentified.

Temper was identified in 1,365 sherds—32 percent of the site ceramic assemblage. The larger portion of the sample (76 percent) was derived from the Late Pueblo III midden deposit. Twelve temper categories were recognized, including two mudware sherds that lacked temper. Igneous accounts for 79 percent of the tempers, followed in order of abundance by sherd (7.7 percent) and quartz sand (7.2 percent). The igneous temper can be considered a locally available material, and the temper is abundantly represented across wares, types, and temporal components. Nonlocal tempers exemplified by quartz sand, quartz sand and sherd, and trachybasalt account for less than 8 percent of the sherds. The majority of these were from the Late Pueblo III midden deposit. Trachybasalt temper indicating a Chuska Valley origin is present in only five sherds.

#### *Chipped Stone Artifacts*

The chipped stone assemblage totaled 1,755 artifacts weighing 41.92 kg. The assemblage includes 1,582 pieces of debitage (90.1 percent), 89 cores (5.1 percent), and 84 tools (4.9 percent). The



Table 17.19. LA 37591, vessel form by ware group, sherds with definitive time-period association compared to complete assemblage; counts and percents.

	Chronologically Placed Sherds				Full Assemblage	
	Early Pueblo III		Late Pueblo III		n =	%
	n =	%	n =	%		
<b>Gray Ware</b>						
Indeterminate	3	0.8	2	0.1	<b>5</b>	<b>0.1</b>
Bowl rim	–	–	1	0.0	<b>1</b>	<b>0.0</b>
Seed jar rim	–	–	–	–	<b>1</b>	<b>0.0</b>
Olla rim	–	–	1	0.0	<b>1</b>	<b>0.0</b>
Cooking, storage rim	5	1.3	75	2.6	<b>120</b>	<b>2.8</b>
Necked jar body	15	3.8	140	4.8	<b>232</b>	<b>5.4</b>
Jar body	212	53.9	1465	50.6	<b>2208</b>	<b>51.4</b>
Tray rim	–	–	2	0.1	<b>2</b>	<b>0.0</b>
<b>White Ware</b>						
Indeterminate	–	–	9	0.3	<b>11</b>	<b>0.3</b>
Bowl rim	19	4.8	185	6.4	<b>261</b>	<b>6.1</b>
Bowl body	80	20.4	586	20.2	<b>820</b>	<b>19.1</b>
Olla rim	1	0.3	2	0.1	<b>5</b>	<b>0.1</b>
Cooking, storage rim	–	–	1	0.0	<b>2</b>	<b>0.0</b>
Pitcher	–	–	1	0.0	<b>1</b>	<b>0.0</b>
Necked jar body	4	1.0	21	0.7	<b>28</b>	<b>0.7</b>
Mug	–	–	1	0.0	<b>1</b>	<b>0.0</b>
Kiva jar rim	–	–	2	0.1	<b>2</b>	<b>0.0</b>
Jar body	52	13.2	372	12.8	<b>550</b>	<b>12.8</b>
Bowl or jar body	–	–	1	0.0	<b>1</b>	<b>0.0</b>
Ladle	1	0.3	5	0.2	<b>7</b>	<b>0.2</b>
Ladle bowl	1	0.3	8	0.3	<b>15</b>	<b>0.3</b>
Ladle handle	–	–	13	0.4	<b>17</b>	<b>0.4</b>
Open-gourd dipper	–	–	1	0.0	<b>1</b>	<b>0.0</b>
Miniature-necked jar	–	–	1	0.0	<b>1</b>	<b>0.0</b>
<b>Red Ware</b>						
Bowl body	–	–	2	0.1	<b>5</b>	<b>0.1</b>
Jar body	–	–	1	0.0	<b>1</b>	<b>0.0</b>
<b>Total</b>	<b>393</b>	<b>100.0</b>	<b>2898</b>	<b>100.0</b>	<b>4299</b>	<b>100.0</b>

tool category consists primarily of utilized and retouched debitage and hammerstones. Bifacially manufactured tools are minimally represented. Five projectile points were the most common formal tool type (Tables 17.20, 17.21).

The chipped stone assemblage is classified into 10 material types. Chert and siltstone are the most commonly used materials, followed in descending order of abundance by silicified wood, quartzitic sandstone, quartzite, igneous, sandstone, chalcidony, rhyolite, and other (Table 17.20). Except for one piece of debitage identified as Brushy Basin chert, the assemblage is composed of local materials that are widely available and easily procured from the La Plata Valley alluvial terraces. Cherts are available in the terrace gravels, but a more abundant

chert source is the Animas Formation, where chert lag gravels are easy to procure from surface contexts. The largest exposure of the Animas Formation in the vicinity of the site is on the slopes of Piñon Mesa, 1.6 km to the west. Yellow silicified wood is also found in this formation, but it occurs less abundantly than cherts.

The majority of the assemblage consists of by-products of core reduction in the form of debitage, cores, and hammerstones. The more frequently utilized material types exhibit similar patterns of reduction and usage. Cores are common, indicating both the local availability of the materials and the primary stages of reduction. The nearly equal counts of chert (38, 3,136 g) and siltstone (40, 6,055 g) cores contrast with the nearly double weight of

Table 17.20. LA 37591, chipped stone material and tool types; counts, weight (g), and percents.

	Count	Col. %	Weight (g)	Col. %
<b>Material Type</b>				
Chert	893	50.9%	13407.0	32.0%
Chalcedony	7	0.4%	12.0	0.0%
Silicified wood	109	6.2%	942.0	2.2%
Quartzite	79	4.5%	2337.0	5.6%
Quartzitic sandstone	94	5.4%	3452.0	8.2%
Igneous	8	0.5%	262.0	0.6%
Rhyolite	1	0.1%	40.0	0.1%
Sandstone	8	0.5%	152.0	0.4%
Siltstone	555	31.6%	21305.0	50.8%
Other	1	0.1%	1.0	0.0%
<b>Total</b>	<b>1755</b>	<b>100.0%</b>	<b>41910.0</b>	<b>100.0%</b>
<b>Artifact Type</b>				
Debitage	1580	90.0%	21500.0	51.3%
Core	89	5.1%	10975.0	26.2%
Biface	2	0.1%	11.0	0.0%
Retouched, utilizeddebitage	35	2.0%	889.0	2.1%
Retouched, utilized core	1	0.1%	2.0	0.0%
Graver	1	0.1%	6.0	0.0%
Notch	5	0.3%	429.0	1.0%
Denticulate	2	0.1%	19.0	0.0%
Bifacial knife, scraper	2	0.1%	9.0	0.0%
Projectile point	5	0.3%	5.0	0.0%
Hammerstone	31	1.8%	7154.0	17.1%
Chopper, plane	2	0.1%	911.0	2.2%
<b>Total</b>	<b>1755</b>	<b>100.0%</b>	<b>41910.0</b>	<b>100.0%</b>

the siltstone cores. This discrepancy in weight can be attributed to larger natural cobbles of siltstone.

The principal material types follow similar patterns of material use, including core reduction, flake production, and the low-frequency use of various formal tool types (Table 17.21). The chipped stone technology emphasizes the production of informal tools. Mostdebitage lacks evidence of use or modification and was probably expediently used for a broad range of activities and discarded before the edges were altered. Hammerstones are also a multipurpose tool used for a wide range of activities such as plant processing, ground stone sharpening, and core reduction. The more siliceous materials—cherts, chalcedony, and silicified woods—were used for projectile point manufacture, while the coarser siltstone was represented by more hammerstones.

Five projectile points make up the largest formal tool category. Along with the notches, these artifacts may indicate the production or maintenance of hunting equipment or weaponry. Three points

were collected from the unscreened sample of the Late Pueblo III midden deposit in Pit Structure 1, one was from the lower alluvial fill (Layer 4) of the pit structure, and one was from the Extramural Mural Area 1 major storage cist (Feature 3). Two of the points recovered from the midden deposit—FS 54-1, a tiny white chalcedony point with a dulled tip and a base broken off at the neck, and FS 54-2, a whole yellow-brown silicified wood side-notched point—are made on flakes with little additional retouch, and large portions of the original dorsal and ventral surfaces are present on both. The third from the midden deposit, FS 54-3, is a quartzite point with dulled tip and sides, and is broken at the neck with the base missing. The point from Layer 4 of the pit structure was not found in the laboratory. FS 154-14, from Feature 3 (major storage cist) in Extramural Area 1, is a gray chert side-notched point with an asymmetrically formed tip, possibly the result of resharpening after breakage during use. The dorsal and ventral areas of this point are

Table 17.21. LA 37591, chipped stone tool types by material type; counts and percents.

	Chert		Chalcedony		Silicified Wood		Quartzite		Quartzitic Sandstone		Siltstone		Other		Total
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	
Debitage	816	51.6%	5	0.3%	92	5.8%	71	4.5%	88	5.6%	490	31.0%	18	1.1%	1580
Core	38	42.7%	-	-	6	6.7%	3	3.4%	2	2.2%	40	44.9%	-	-	89
Biface	2	100.0%	-	-	-	-	-	-	-	-	-	-	-	-	2
Retouched, utilized	21	60.0%	-	-	7	20.0%	1	2.9%	-	-	6	17.1%	-	-	35
Utilized core	-	-	-	-	1	100.0%	-	-	-	-	-	-	-	-	1
Graver	1	100.0%	-	-	-	-	-	-	-	-	-	-	-	-	1
Notch	2	40.0%	-	-	1	20.0%	-	-	-	-	2	40.0%	-	-	5
Denticulate	2	100.0%	-	-	-	-	-	-	-	-	-	-	-	-	2
Knife, scraper	1	50.0%	-	-	1	50.0%	-	-	-	-	-	-	-	-	2
Projectile point	1	20.0%	2	40.0%	1	20.0%	1	20.0%	-	-	-	-	-	-	5
Hammerstone	9	29.0%	-	-	-	-	2	6.5%	4	12.9%	16	51.6%	-	-	31
Chopper, plane	-	-	-	-	-	-	1	50.0%	-	-	1	50.0%	-	-	2
<b>Total</b>	<b>893</b>	<b>50.9%</b>	<b>7</b>	<b>0.4%</b>	<b>109</b>	<b>6.2%</b>	<b>79</b>	<b>4.5%</b>	<b>94</b>	<b>5.4%</b>	<b>555</b>	<b>31.6%</b>	<b>18</b>	<b>1.0%</b>	<b>1755</b>

"Other" includes 8 igneous, 8 sandstone, 1 rhyolite, and 1 other.

ground or polished by an unknown agent. All four points (Fig. 17.10) fall into the size range typical of Puebloan points, commonly considered arrow points.

The bulk of the chipped stone artifacts were discarded as secondary refuse in extramural features or the Late Pueblo III midden deposit (Table 17.22). Over 75 percent of the chipped stone artifacts were recovered from the midden deposit. In addition to the higher frequency of artifacts, the midden also contained the widest range of material and artifact types. However, patterns of material selection and use were similar across the temporal components. The sample from Early Pueblo III contexts is small, but suggests less chert and more siltstone than the Late Pueblo III midden. The Late Pueblo III deposit compensates for less siltstone with more quartzitic materials (Table 17.22).

### Ground Stone Artifacts

The ground stone assemblage totaled 37 artifacts. The ground stone artifacts were manufactured from locally available material types, and native sandstones were utilized for 25 of the items (Tables 17.6, 17.23). Over 70 percent (n = 26) of the ground stone artifacts were discarded as refuse in the Late Pueblo III trash midden. All of these artifacts were broken with the exception of one two-hand mano. The midden-derived artifacts exhibit the widest range of artifact types and activities. Mealing equipment in the form of manos and metates constitute half (n = 13) of the items, followed in abundance by various miscellaneous shaped slab fragments (n = 6). Two axe fragments may characterize construction, field clearing, or fuel-processing. Two tchamahia fragments may be related to agricultural activities or have symbolic/ritual connotations. A single broken ornament of red dog shale was also recovered from the midden.

Mealing equipment also comprised 7 of the 11 remaining ground stone artifacts. Four manos and an axe were recovered from the lower alluvial fill of the pit structure, and all but one of the remaining items were discarded as refuse in the extramural features. A red dog shale ornament fragment was recovered from mixed fill above extramural Feature 4. There are so few ground stone tools in the earlier components that temporal comparisons are not possible.



Figure 17.10. LA 37591, projectile points. Left to right, Pit Structure 1: yellow-brown silicified wood (midden deposit); white chalcedony; quartzite; far right, Extramural Area 1, Feature 3: gray chert.

Table 17.22. LA 37591, chipped stone tool and material types by definitive time-period association compared to complete assemblage; counts and percents.

	Early Pueblo III		Late Pueblo III			
	Count	Col. %	Count	Col. %	Count	Col. %
<b>Artifact Type</b>						
Debitage	110	90.2%	1189	90.3%	<b>1580</b>	<b>90.0%</b>
Core	4	3.3%	65	4.9%	<b>89</b>	<b>5.1%</b>
Biface	–	–	2	0.2%	<b>2</b>	<b>0.1%</b>
Utilized debitage	3	2.5%	28	2.1%	<b>35</b>	<b>2.0%</b>
Retouched, utilized core	–	–	–	–	<b>1</b>	<b>0.1%</b>
Graver	–	–	1	0.1%	<b>1</b>	<b>0.1%</b>
Notch	–	–	4	0.3%	<b>5</b>	<b>0.3%</b>
Denticulate	–	–	2	0.2%	<b>2</b>	<b>0.1%</b>
Bifacial knife, scraper	–	–	1	0.1%	<b>2</b>	<b>0.1%</b>
Projectile point	1	0.8%	3	0.2%	<b>5</b>	<b>0.3%</b>
Hammerstone	4	3.3%	20	1.5%	<b>31</b>	<b>1.8%</b>
Chopper, plane	–	–	1	0.1%	<b>2</b>	<b>0.1%</b>
<b>Total</b>	<b>122</b>	<b>100.0%</b>	<b>1316</b>	<b>100.0%</b>	<b>1755</b>	<b>100.0%</b>
<b>Material Type</b>						
Chert	47	38.5%	669	50.8%	<b>893</b>	<b>50.9%</b>
Chalcedony	1	0.8%	6	0.5%	<b>7</b>	<b>0.4%</b>
Silicified wood	14	11.5%	71	5.4%	<b>109</b>	<b>6.2%</b>
Quartzite	1	0.8%	54	4.1%	<b>79</b>	<b>4.5%</b>
Quartzitic sandstone	5	4.1%	76	5.8%	<b>94</b>	<b>5.4%</b>
Igneous	–	–	7	0.5%	<b>8</b>	<b>0.5%</b>
Rhyolite	–	–	–	–	<b>1</b>	<b>0.1%</b>
Sandstone	–	–	8	0.6%	<b>8</b>	<b>0.5%</b>
Siltstone	54	44.3%	424	32.2%	<b>555</b>	<b>31.6%</b>
Other	–	–	1	0.1%	<b>1</b>	<b>0.1%</b>
<b>Total</b>	<b>122</b>	<b>100.0%</b>	<b>1316</b>	<b>100.0%</b>	<b>1755</b>	<b>100.0%</b>

Table 17.23. LA 37591, ground stone tool types by material type; counts and percents.

	Igneous		Sandstone		Siltstone		Shale		Quartzitic Sandstone		Total
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	
Indeterminate fragment	–	–	1	100.0%	–	–	–	–	–	–	1
Shaped slab	–	–	8	100.0%	–	–	–	–	–	–	8
Anvil	–	–	1	100.0%	–	–	–	–	–	–	1
Mano	2	16.7%	8	66.7%	1	8.3%	–	–	1	8.3%	12
One-hand mano	1	100.0%	–	–	–	–	–	–	–	–	1
Two-hand slab mano	–	–	3	100.0%	–	–	–	–	–	–	3
Metate	–	–	3	100.0%	–	–	–	–	–	–	3
Slab metate	–	–	1	100.0%	–	–	–	–	–	–	1
Axe	–	–	–	–	1	100.0%	–	–	–	–	1
Two-notch axe	–	–	–	–	1	100.0%	–	–	–	–	1
Full-grooved axe	1	100.0%	–	–	–	–	–	–	–	–	1
Tchamahia	–	–	–	–	2	100.0%	–	–	–	–	2
Ornament	–	–	–	–	–	–	1	100.0%	–	–	1
Pendant	–	–	–	–	1	100.0%	–	–	–	–	1
<b>Total</b>	<b>4</b>	<b>10.8%</b>	<b>25</b>	<b>67.6%</b>	<b>6</b>	<b>16.2%</b>	<b>1</b>	<b>2.7%</b>	<b>1</b>	<b>2.7%</b>	<b>37</b>

### Faunal Remains

Faunal remains from the site totaled 1,527 elements. The assemblage consists of disarticulated bone mostly discarded as secondary refuse in the various proveniences. No articulated animal burials were encountered. The assemblage is composed almost entirely of skeletal elements with the exception of two eggshells, one each of bird and turkey. The faunal remains are represented by 31 taxonomic categories, although turkey, small mammal, bird, black-tailed jackrabbit, and desert cottontail (in descending order of frequency) account for 85 percent of the elements (Table 17.24).

The assemblage is broadly represented by mammals (62 percent), birds (37 percent), and amphibians and fish (0.6 percent). Rabbits are the most abundant mammal in terms of elements, and small-sized mammals in general constituted a major source of meat. Larger animals are mainly unidentified large-mammal elements (n = 51) and deer (n = 18). Canines are not abundant; nine elements were not distinctive enough to separate them from the coyote, fox, and wolf category. Three elements were identified as gray fox.

Turkey (n = 317) accounts for over half of the bird bone, second only to rabbits as the most abundant bone element. Unidentified bird bones (n = 236) are the next most prevalent bird elements. While turkey

is represented by 48 different skeletal parts, the bird taxa contains only five different skeletal parts, and over 60 percent of these are long-bone fragments. Some of these long-bone fragments are probably turkey, but the La Plata Valley contains a variety of migratory birds that could also supply elements for this grouping. Combining turkey and bird elements results in the largest faunal element count.

The few amphibian elements may be intrusive in the midden deposit because of the riparian context or burrowing, but one of the four fish bones is lightly heat-altered, suggesting use as food.

Just over 80 percent (1,222) of the faunal remains were recovered from the Late Pueblo III midden deposit (Tables 17.7, 17.24). The midden contained both the widest range of taxonomic categories and higher frequencies of element occurrence. Somewhat less than half of the faunal remains could be assigned to age categories. Most of the individuals in the midden were mature, although younger specimens of both types of rabbit and a few turkeys are present (Table 17.25). Heat alteration ranging from light to calcined was recorded on 371 bone elements from the midden, including 23 percent (n = 66) of the turkey, 39 percent (n = 141) of the rabbits, 16 percent (n = 36) of the generic birds, and 50 percent (n = 86) of the small mammals (Table 17.26). Turkey elements occur most frequently in the midden deposit, followed by the lower fill units



Table 17.24. LA 37591, faunal remains, element types counts by taxon and major provenience.

		Extramural	Midden	Pit Structure	Total
Prairie dog	mandible	–	1	–	1
	humerus	–	1	–	1
	radius	–	–	1	1
	ulna	–	1	–	1
	femur	–	3	–	3
Rock squirrel	squamosal	–	1	–	1
	maxilla	–	1	–	1
	mandible	–	1	–	1
	scapula	–	1	–	1
	tibia	–	3	–	3
Small squirrel	radius	–	1	–	1
	femur	–	2	–	2
Pocket gopher	maxilla	–	1	–	1
	maxilla dentition	–	1	–	1
	mandible	–	1	–	1
	horizontal ramus	–	3	–	3
	ulna	–	1	–	1
	tibia	–	1	–	1
Woodrat	maxilla	–	1	–	1
	mandible	–	1	–	1
	horizontal ramus	–	1	–	1
	single pelvis	–	1	–	1
	ilium, acetabulum, ischium	1	–	–	1
Cottontail rabbit	parietal	–	2	–	2
	temporal region	–	1	–	1
	zygomatic	–	5	–	5
	frontal	–	6	–	6
	orbital region	–	1	–	1
	maxillary region	–	4	1	5
	maxilla	–	1	1	2
	maxilla dentition	–	–	1	1
	premaxilla dentition	–	–	1	1
	palatine	–	1	–	1
	mandible	–	7	1	8
	ascending ramus	–	2	1	3
	horizontal ramus	–	14	1	15
	horizontal ramus dentition	–	2	1	3
	symphysis	–	1	–	1
	cervical 4	–	1	–	1
	lumbar vertebra	–	–	3	3
	rib	–	4	–	4
	scapula	–	12	1	13
	single pelvis	–	16	–	16
	ilium	–	1	–	1
	ischium	–	1	–	1
	acetabulum, ischium	–	1	–	1
	acetabulum, pubis	–	1	–	1
	humerus	–	12	4	16
	radius	–	15	1	16
	ulna	–	13	1	14
metacarpal 3	–	–	1	1	
metacarpal 4	–	–	1	1	
metacarpal 5	–	–	1	1	

Table 17.24 (continued)

		Extramural	Midden	Pit Structure	Total
	first phalanx (manus)	–	–	1	1
	femur	–	9	1	10
	tibia	1	28	5	34
	fibula	1	–	–	1
	calcaneous (fibular tarsus)	–	2	–	2
	metatarsal	–	11	–	11
	metatarsal 3	–	1	–	1
	metatarsal 4	–	1	–	1
	phalanx	–	1	–	1
Jackrabbit	occipital condyle	–	1	–	1
	temporal region	–	1	–	1
	zygomatic	–	1	1	2
	petrous temporal	–	1	–	1
	frontal	–	2	–	2
	maxillary region	–	7	–	7
	maxilla	–	4	–	4
	maxilla dentition	–	2	–	2
	premaxilla	–	1	–	1
	mandible	–	5	–	5
	ascending ramus	–	3	–	3
	mandibular condyle	–	1	–	1
	horizontal ramus	–	4	–	4
	horizontal ramus dentition	–	1	–	1
	symphysis	–	5	1	6
	vertebra	–	2	–	2
	atlas (C 1)	–	1	–	1
	cervical 4	–	1	–	1
	thoracic vertebra	–	5	–	5
	lumbar vertebra	–	4	1	5
	rib	1	5	–	6
	scapula	–	20	1	21
	single pelvis	1	12	1	14
	ilium	–	2	–	2
	acetabulum	–	1	–	1
	humerus	1	14	2	17
	radius	–	14	1	15
	ulna	–	9	4	13
	metacarpal	–	1	–	1
	metacarpal 3	–	1	–	1
	femur	3	21	3	27
	tibia	2	27	3	32
fibula	–	1	–	1	
calcaneous (fibular tarsus)	–	7	–	7	
metatarsal	–	2	–	2	
metatarsal 2	–	–	1	1	
metatarsal 5	–	2	–	2	
first phalanx	–	–	1	1	
Weasel and allies	ulna	–	–	1	1
Gray fox	humerus	–	1	–	1
	radius	–	1	–	1
	ulna	–	1	–	1

Table 17.24 (continued)

		Extramural	Midden	Pit Structure	Total
Dog, coyote, wolf	temporal	–	1	–	1
	ascending ramus	–	1	–	1
	permanent incisor	1	–	–	1
	canine	1	–	–	1
	cervical vertebra	–	1	–	1
	radius	1	–	–	1
Dog, coyote, fox, wolf	metacarpal	–	2	–	2
	humerus	–	1	–	1
Deer	thoracic vertebra	–	1	–	1
	single pelvis	–	1	–	1
	ischium	–	3	–	3
	ilium, acetabulum	–	2	–	2
	humerus	–	–	2	2
	metacarpal	–	1	1	2
	femur	–	1	–	1
	astragalus (tibial tarsus)	–	1	–	1
	phalanx	–	–	1	1
	first phalanx	–	1	–	1
	second phalanx	–	1	–	1
	third phalanx	–	1	1	2
Artiodactyl	rib	–	–	1	1
	metapodial	–	–	1	1
Mammal	long-bone fragment	–	–	1	1
	plate, blade fragment	1	1	–	2
	cancellous tissue	4	–	–	4
Small mammal	long-bone fragment	12	144	77	233
	plate, blade fragment	10	20	12	42
	cancellous tissue	–	2	–	2
	cranial fragment	–	–	1	1
	indeterminate tooth	7	–	9	16
	permanent incisor	–	1	–	1
	lumbar vertebra	–	2	–	2
	rib	2	4	5	11
	acetabulum	–	–	1	1
femur	–	–	1	1	
first phalanx	–	–	1	1	
Medium–large mammal	long-bone fragment	4	60	2	66
	plate, blade fragment	–	15	–	15
	cancellous tissue	5	–	–	5
	rib	1	5	1	7
	baculum (os penis)	–	1	–	1
Large mammal	indeterminate	1	–	–	1
	long-bone fragment	5	10	13	28
	plate, blade fragment	2	6	4	12
	cancellous tissue	1	3	5	9
	rib	–	1	–	1
Quail	acetabulum	–	1	–	1
	humerus	–	1	–	1
	femur	–	1	–	1
	coracoid	–	1	–	1
	tarsometatarsus	–	1	–	1
	urostyle	–	1	–	1

Table 17.24 (continued)

		Extramural	Midden	Pit Structure	Total
Jay, magpie, crow	sternebra sternum	–	2	–	2
	dentary	–	1	–	1
	coracoid	–	2	–	2
	tarsometatarsus	–	2	–	2
Sparrow hawk	humerus	–	–	1	1
Turkey	long-bone fragment	–	3	–	3
	plate, blade fragment	–	1	–	1
	cranial complex	–	1	–	1
	basisphenoid	–	1	–	1
	squamosal	–	1	–	1
	temporal	–	1	–	1
	frontal	–	1	–	1
	orbital region	–	1	–	1
	palatine	–	2	–	2
	nasal	–	5	1	6
	mandible	–	2	1	3
	axis (C 2)	–	1	–	1
	cervical vertebra	–	11	1	12
	caudal vertebra	–	1	–	1
	posterior caudal vertebra	–	1	–	1
	sternebra sternum	2	4	–	6
	rib	–	30	2	32
	scapula	–	6	–	6
	acetabulum	–	1	–	1
	ischium	–	1	–	1
	humerus	–	10	1	11
	radius	–	8	2	10
	ulna	1	10	–	11
	carpal	–	2	–	2
	femur	–	8	1	9
	tibia	–	2	–	2
	fibula	–	3	1	4
	ossified tendon	–	14	–	14
	quadrate	–	5	1	6
	beak maxilla	–	5	–	5
	dentary	–	1	1	2
	angular, articular	–	3	–	3
	coracoid	–	4	–	4
	furculum	–	1	–	1
	carpometacarpus	–	12	–	12
	pollex	–	1	1	2
	digit ii, phalanx ii	–	6	–	6
	digit iii	–	1	–	1
	digit ii, phalanx ii	–	6	–	6
	symsacrum	–	3	–	3
tibiotarsus	–	12	3	15	
tarsometatarsus	–	13	8	21	
phalanx	–	2	–	2	
first phalanx	1	24	2	27	
second phalanx	–	31	2	33	
third phalanx	–	12	–	12	
ungual phalanx, claw	–	8	1	9	
caudal vertebra	–	1	–	1	
eggshell	–	–	1	1	

Table 17.24 (continued)

		Extramural	Midden	Pit Structure	Total
Bird	long-bone fragment	4	133	5	142
	plate, blade fragment	–	39	–	39
	rostrum	–	1	–	1
	rib	1	19	–	20
	ossified tendon	–	33	–	33
	eggshell	–	–	1	1
Toad and frog	long-bone fragment	–	1	–	1
	occipital region	–	1	–	1
	clavicle	–	1	–	1
	humerus	–	1	–	1
River carpsucker	sphenoid	–	1	–	1
	cleithrum	–	1	–	1
	caudal vertebra	–	2	–	2
<b>Total</b>		<b>78</b>	<b>1222</b>	<b>227</b>	<b>1527</b>

Table 17.25. LA 37591, faunal remains, counts by taxon and age.

	Indeterminate	Juvenile	Immature	Young	Mature	Total
Prairie dog	–	1	2	–	4	7
Rock squirrel	3	–	1	–	3	7
Small squirrel	–	–	1	–	2	3
Pocket gopher	2	–	1	–	5	8
Woodrat	–	–	–	–	5	5
Cottontail rabbit	21	–	34	4	148	207
Jackrabbit	28	7	29	6	149	219
Weasel and allies	–	–	–	–	1	1
Gray fox	–	–	–	1	2	3
Dog, coyote, wolf	1	–	2	–	5	8
Dog, coyote, fox, wolf	–	–	1	–	–	1
Deer	7	–	1	3	7	18
Artiodactyl	1	–	–	–	1	2
Mammal	7	–	–	–	–	7
Small mammal	295	–	15	–	1	311
Medium–large mammal	92	–	1	–	1	94
Large mammal	51	–	–	–	–	51
Quail	1	–	–	–	5	6
Jay, magpie, crow	2	–	–	–	5	7
Sparrow hawk	–	–	–	–	1	1
Turkey	72	6	11	4	223	316
Bird	229	–	2	–	4	235
Toad and frog	4	–	–	–	–	4
River carpsucker	–	–	–	–	4	4
<b>Total</b>	<b>816</b>	<b>14</b>	<b>101</b>	<b>18</b>	<b>576</b>	<b>1525</b>



of the pit structure. Two turkey elements were recovered from the earlier extramural feature contexts (Feature 4).

The bone tool assemblage consists of 48 artifacts (Table 17.27). Over 75 percent of the artifacts were recovered as secondary refuse from the Late Pueblo III midden deposit, with similar small counts of modified bone from secondary refuse in the extramural features and near the floor of the pit structure. As in the other artifact categories, the assemblage from the midden displays the widest range of types and frequency of occurrence. Six taxonomic categories were used for the manufacture of bone tools. Black-tailed jackrabbit and turkey were the most commonly used of the identified animals. Over 37 percent ( $n = 18$ ) of the assemblage is represented by waste elements exhibiting grooves, cuts, and striae. Bone awls are the most common artifact type, comprising 40 percent of the tools. Ornaments in the form of bone bead tubes and tinklers make up 13 percent of the artifacts. Tinklers are generally a rare artifact, and there were three in the midden. That bone awls are the most commonly recovered bone tool suggests a broad range of domestic punching and piercing tasks, as well as possibly plaiting mats and coiling basketry.

### *Botanical Materials*

Mollie S. Toll

Proveniences dating to the Pueblo II-III period included features and floor associated with the occupation of Pit Structure 1, and extramural pits. Flotation samples from these areas were characterized by relatively low density of cultural floral remains (averaging 1-2 seeds per liter of soil) and limited taxonomic diversity. Most carbonized remains were annuals (pigweed, goosefoot, winged pigweed, globemallow, and patata, with some occurrence of ricegrass, juniper twigs, and corn cupules (Tables 17.28, 17.29). Charcoal from the pit structure hearth was weighted towards juniper (60 percent) but included significant amounts of cottonwood/willow, chokecherry, and oak (Table 17.30).

The Late Pueblo III midden deposited as the upper fill of Pit Structure 1 was distinct temporally and botanically from all other proveniences at LA 37591. As is also true of artifacts, carbonized specimens of economic plant taxa are distinguished by greater density (concentrations of pigweed,

purslane, and ricegrass; Tables 17.28, 17.29) and diversity (eight types in this location, compared to an average of 1.3 in earlier site proveniences). Two taxa, tobacco and ricegrass, occurred only in this time period. Charcoal was heavily weighted towards conifers (92 percent juniper), with minor amounts of sage and wolfberry (Table 17.30). Macrobotanical corn remains were also confined to this provenience (Tables 17.31, 17.32). Corn from Layers 1 and 2 included 8-12-row specimens with an average diameter of 10.7 mm. The single cob from Layer 4 (construction) had 14 rows and was larger (16.9 mm diameter). Given the small sample sizes and the variability of corn, this apparent difference may not be significant.

### *Human Remains*

The only human remains encountered during the archaeological investigations consisted of two disarticulated elements, most likely from the same one-year-old infant. Both elements were recovered from Pit Structure 1 fill units. Most of a rib was recovered from the Late Pueblo III midden deposit, and a complete parietal was recovered from the Layer 3 alluvial deposit. The parietal appeared to have been introduced into the lower fill by rodent action and probably originated from the upper midden deposit. Both elements were recovered from the screened control-trench samples. Since these fill units were only sampled and not completely excavated by hand, I do not know whether the skeletal material is associated with a dispersed formal burial represents random disarticulated elements introduced into the midden by natural or rodent disturbance. The association with the midden suggests a Late Pueblo III affiliation for the human remains.

### **LA 37591: SUMMARY**

Runoff Ditch Pueblo, LA 37591, appeared on the landscape as a typical small cobble surface structure, one of many similar cobble structures within the prehistoric Jackson Lake community. Unlike the other sites investigated, the site is against the immediate base of the western terrace. It is now arbitrarily separated from other cultural elements in the community by the highway. The investigated portion of the site yielded an unexpected pit structure along with six extramural features.

Table 17.26. LA 37591, faunal remains, burning extent counts by taxon, major provenience and stratigraphic context.

		Extra-mural Features	Midden			Pit Structure			Total
			Un-screened	Level 1	Level 2	Level 3	Roof Dirt	Floor and Floor Fill	
Prairie dog	light (tan, brown)	–	–	–	2	1	–	–	3
	graded, light to heavy	–	–	–	1	–	–	–	1
	heavy (black)	–	–	–	1	–	–	–	1
Rock squirrel	heavy (black)	–	–	–	1	–	–	–	1
	graded, heavy to calcined	–	–	–	1	–	–	–	1
Small squirrel	light (tan, brown)	–	–	–	1	–	–	–	1
Cottontail rabbit	light (tan, brown)	–	–	–	34	–	–	–	34
	graded, light to heavy	–	–	–	8	–	–	1	9
	heavy (black)	–	–	1	7	1	–	–	9
	graded, heavy to calcined	–	–	–	1	–	–	–	1
	calcined	–	–	–	–	–	–	3	3
Jackrabbit	light (tan, brown)	–	4	–	71	1	2	–	78
	graded, light to heavy	–	–	–	4	–	1	–	5
	heavy (black)	–	–	–	5	–	1	2	8
	graded, heavy to calcined	–	–	–	2	–	–	–	2
	calcined	–	–	–	4	–	–	–	4
Gray fox	graded, light to heavy	–	–	–	1	–	–	–	1
	heavy (black)	–	–	–	1	–	–	–	1
Dog, coyote, wolf	heavy (black)	–	–	–	1	–	–	–	1
Dog, coyote, fox, wolf	light (tan, brown)	–	–	–	1	–	–	–	1
Deer	light (tan, brown)	–	1	–	2	–	1	–	4
Mammal	light (tan, brown)	–	1	–	–	–	–	–	1
Small mammal	light (tan, brown)	–	10	–	35	–	–	–	45
	graded, light to heavy	–	1	–	11	–	–	5	17
	heavy (black)	–	2	–	16	–	–	9	27
	graded, heavy to calcined	–	–	–	3	–	–	23	26
	calcined	1	–	–	8	–	–	34	43
Medium–large mammal	light (tan, brown)	–	–	1	4	–	–	–	5
	graded, light to heavy	–	–	–	3	1	–	–	4
	heavy (black)	1	–	4	3	–	–	–	8
	graded, heavy to calcined	–	–	–	1	–	–	–	1
	calcined	1	–	3	–	–	–	–	4
Large mammal	light (tan, brown)	–	–	–	5	–	–	–	5
	graded, light to heavy	–	–	–	1	–	–	–	1
	heavy (black)	1	–	1	–	–	–	1	3
	calcined	1	–	–	–	–	–	–	1
Turkey	light (tan, brown)	–	6	1	32	1	2	–	42
	graded, light to heavy	–	–	3	8	–	–	–	11
	heavy (black)	–	–	4	6	–	–	–	10
	graded, heavy to calcined	–	–	–	3	–	–	–	3
	calcined	–	–	2	1	–	1	–	4
Bird	light (tan, brown)	–	9	1	15	–	1	–	26
	graded, light to heavy	–	–	–	3	–	–	–	3
	heavy (black)	–	1	2	5	–	–	–	8
River carpsucker	light (tan, brown)	–	–	–	1	–	–	–	1
Bird eggshell	light (tan, brown)	–	–	–	–	–	1	–	1
<b>Total</b>		<b>5</b>	<b>35</b>	<b>23</b>	<b>313</b>	<b>5</b>	<b>10</b>	<b>78</b>	<b>469</b>

Table 17.27. LA 37591, faunal remains (modified), modification type, counts by taxon, major provenience and stratigraphic context.

		Extramural Features	Midden			Pit Structure		Total
			Unscreened	Level 2	Level 3	Roof Dirt	Floor and Floor Fill	
Jackrabbit	waste (polished, striae)	–	–	1	–	–	–	1
	perforated and ground	–	1	–	–	–	–	1
	waste (polished)	–	2	1	–	–	–	3
	bone tube	–	–	1	–	–	–	1
	tinkler	–	–	3	–	–	–	3
	indeterminate tool fragment	–	–	1	–	–	–	1
Deer	indeterminate point awl fragment	–	–	–	–	1	–	1
	coarse-point awl	–	–	1	–	–	–	1
Small mammal	spatulate fragment	–	–	–	1	–	–	1
	waste (multiple, striae)	–	–	1	–	–	–	1
	waste (polished, striae)	–	–	1	–	–	–	1
	waste (polished)	–	2	4	–	–	–	6
	indeterminate tool fragment	1	1	–	–	–	–	2
Medium–large mammal	medium-point awl	–	–	–	–	1	–	1
	waste (polished)	–	–	2	–	–	–	2
	bone bead	–	–	1	–	–	–	1
	indeterminate tool fragment	1	–	–	–	–	–	1
	indeterminate-point awl fragment	1	–	–	–	–	–	1
	fine-point awl	–	–	1	–	–	–	1
	coarse-point awl	–	–	1	–	–	–	1
Large mammal	splinter awl	–	–	3	–	–	–	3
	waste (polished, striae)	–	–	2	–	–	–	2
	indeterminate-point awl fragment	2	–	–	–	–	–	2
	fine-point awl	–	–	1	–	–	1	2
Turkey	coarse-point awl	–	–	1	–	–	–	1
	multiple cuts, groove waste	–	–	–	–	1	–	1
	bone tube bead	–	–	–	–	–	1	1
	fine-point awl	–	2	2	–	–	–	4
<b>Total</b>		<b>5</b>	<b>8</b>	<b>28</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>48</b>

None of the cultural elements was visible from the surface. The pit structure, surrounding extramural features, and unexcavated cobble surface structure are roughly contemporaneous and are interpreted as a related suite of site elements constituting a habitation site with a unit-type layout orientated west-east. Ceramics indicate three possible temporal components: Late Pueblo II, Early Pueblo III, and Late Pueblo III.

The architectural elements suggest that the site functioned as a permanent habitation site with year-round occupation. The architectural elements were possibly constructed during the Late Pueblo II period; however, Lancaster's 1983 testing encountered fill beneath the roomblock of unknown cul-

tural and temporal affiliation. The unexcavated roomblock was evidently constructed on earlier cultural material.

The small surface structure and rather simple pit structure plan indicate the support of a discrete household social unit. The various artifact types show generalized household activities commensurate with the size of the architectural elements. The absence of pit structure remodeling argues for a relatively short-term occupation. A formal refuse mound was not identified, although the proposed west-east site orientation would place a refuse mound at the current location of the highway. Most of the artifacts were discarded as secondary refuse in the extramural generalized pits, but the general

Table 17.28. LA 37591, plant remains, flotation results by taxon and time period, major provenience and features; frequency and abundance per liter.

Feature	Pueblo II-III				Pueblo III
	Pit Structure 1		Extramural to PS1		Pit Structure 1 Fill
	1 Hearth	2 Sipapu	5 Cist	3 Major Storage Cist	Midden Layer 2
<b>FS</b>	<b>67</b>	<b>160</b>	<b>63</b>	<b>157</b>	<b>59</b>
<b>Cultural</b>					
Annuals:					
<i>Amaranthus</i>	–	–	–	–	66.0
<i>Chenopodium</i>	1.0	–	–	–	–
<i>Cycloloma</i>	–	–	–	1.0	1.0
<i>Monolepis</i>	–	–	1.0	–	–
<i>Nicotiana</i>	–	–	–	–	1.0
<i>Portulaca</i>	–	–	–	–	9.0
Cultivars:					
<i>Zea mays</i>	++ cupule	–	+ cupule	–	1.0
Grasses:					
<i>Oryzopsis</i>	–	–	–	–	6.0
Other:					
Malvaceae	–	–	1.0	–	–
Unidentifiable	–	–	–	1.0	1.0
Perennials:					
<i>Juniperus</i>	+ twig	–	–	+ twig	+ twig
<b>Noncultural</b>					
Annuals:					
<i>Amaranthus</i>	–	3.0	3.0	10.0	2.0
<i>Chenopodium</i>	–	–	1.0	–	1.0
<i>Euphorbia</i>	–	–	1.0	–	–
<i>Monolepis</i>	–	–	6.0	–	–
<i>Portulaca</i>	–	–	1.0	1.0	–
<i>Suaeda</i>	–	–	–	1.0	–
Grasses:					
Gramineae	–	–	–	–	1.0
Other:					
Malvaceae	–	–	2.0	–	–
Perennials:					
<i>Juniperus</i>	+ twig	–	–	–	–

All cultural plant remains are carbonized.

Plant remains are seeds unless indicated otherwise.

+ = less than 10/liter, ++ = 11–25/liter

mixed Pueblo II-III culture layer evidenced moderate artifact accumulation, conforming with a pattern of permanent habitation.

Higher occurrences of organic-painted pottery in the lower fill units of the pit structure complicate the interpretation of temporal affiliations. No diagnostic dating material was associated directly with the floor, but organic-painted sherds outnumber mineral sherds in the arbitrarily defined floor fill and roof fill provenience units. This may indicate a more transitional occupation rather than discrete

Late Pueblo II and Early Pueblo III components. Cultural material preserved in the area of the unexcavated roomblock should help to rectify this temporal quandary. In any event, carbon-painted sherds continued to accumulate in the natural alluvial fill of the abandoned pit structure. The light Pueblo III refuse combined with an extramural cist built in the alluvial fill testify that little-understood site activities continued after the abandonment of the pit structure.

The final Late Pueblo III use of the abandoned

Table 17.29. LA 37591, plant remains, flotation scan results by taxon and major provenience/stratigraphic context; abundance per liter.

	Pit Structure 1	Extramural Area 1			
		Feature 1	Feature 3		
Feature type	floor	pit	major storage cist		
Layer/level	–	Layer 2 Fill	Level 1 Fill	Level 2 Fill	Level 3 Fill
FS No.	68	53	152	153	154
<b>Cultural</b>					
<b>Annuals:</b>					
<i>Amaranthus</i>	–	–	–	–	+
<i>Cycloloma</i>	–	+	–	–	–
<b>Grasses:</b>					
<i>Oryzopsis</i>	–	+	–	–	–
<b>Cultivars:</b>					
<i>Zea mays</i>	–	–	+ cupule	–	–
<b>Noncultural</b>					
<b>Annuals:</b>					
<i>Amaranthus</i>	+	–	+	+	+
<i>Chenopodium</i>	+	+	–	+	–
<i>Cycloloma</i>	–	+	–	–	–
<i>Euphorbia</i>	–	–	–	+	–
<i>Monolepis</i>	–	+	+	+++	–
<i>Portulaca</i>	+	+	+	+	+
<i>Suaeda</i>	+	–	+	–	+
<b>Other:</b>					
Malvaceae	–	–	+	–	+

All cultural plant remains are carbonized. Plant remains are seeds indicated otherwise.

+ less than 10/liter, ++ 11–25/liter, +++ 25–100/liter.

Table 17.30. LA 37591, Pit Structure 1, wood charcoal, flotation results by taxon and time period and feature/fill layer; counts and weight (g).

	Pueblo II–III	Pueblo III	Total	
	Pit Structure 1 Feature 1 (Hearth)	Pit Structure 1 Fill Midden Layer 2	Weight (g)	Col. %
<b>FS</b>	<b>67</b>	<b>59</b>		
<b>Conifers</b>				
<i>Juniperus</i>	12/.39	17/.60	<b>0.99</b>	<b>76.2%</b>
<b>Nonconifers</b>				
<i>Artemisia</i>	–	1/.02	<b>0.02</b>	<b>1.5%</b>
<i>Lycium</i>	–	1/.01	<b>0.01</b>	<b>0.8%</b>
Salicaceae ( <i>Populus/Salix</i> )	1/.08	–	<b>0.08</b>	<b>6.2%</b>
<i>Prunus</i>	5/.10	–	<b>0.10</b>	<b>7.7%</b>
<i>Quercus</i>	2/.08	–	<b>0.08</b>	<b>6.2%</b>
Unknown nonconifer	–	1/.02	<b>0.02</b>	<b>1.5%</b>
<b>Total</b>	<b>20/.65</b>	<b>20/.65</b>	<b>1.30</b>	<b>100.0%</b>

Table 17.31. LA 37591, Pit Structure 1, carbonized *Zea mays* remains, counts by midden layer.

	Midden Layer 1	Midden Layer 2	Midden Layer 4
<b>FS</b>	<b>51</b>	<b>59</b>	<b>64</b>
Measurable cob specimens	3	4	1
Cob fragments	5	–	–



pit structure as a refuse receptacle poses an interesting interpretive challenge. The Late Pueblo III sherds are confined mainly to the midden deposit, and very few sherds are scattered across the general site surface or the cultural layer. This suggests that material was not originating exclusively from general site occupation dynamics. The midden manifests a complex range of household and rare symbolic/ritual artifacts that are seemingly out of proportion with the size of the visible site elements. Additional, undiscovered site elements may be present around the unexcavated roomblock, or beneath the highway. However, the range of artifact types and frequencies of occurrence seems to contrast with the intensity of occupation demonstrated by simple household use. Cultural material was presumably generated by descendant off-site households in the nearby Jackson Lake community, and refuse was intentionally collected and discarded in the pit structure cavity. LA 37591 and LA 37592 are two examples of midden-filled pit structures encountered in the highway construction transect through the Jackson Lake community, and both examples were essentially invisible from the surface. The phenomenon is currently difficult to quantify from surface indications, and the immediate sources of late material in general are not readily identified.

Prime agricultural land along the La Plata Valley encouraged long-term and complicated settlement patterns such as the Jackson Lake community. Structures were repeatedly built and abandoned, but regional occupation continued for a long time. The highly settled context induced daily resource interactions by community members, and long-used farmlands in the valley were undoubtedly important household and community assets. I conceptualize the trash-filled pit structures as manifesting an important aspect of community social/behavioral dynamics, probably related somehow with land and resource claims across generations.

I think that Kohler's (1992) scenario of field-houses as visible symbols of land ownership and resource restriction is a useful analog for viewing the pit structure midden deposits. The abandoned or ancestral houses could denote resource ownership or privilege rights granted to a specific descendant social group within the community. Continued association with the ancestral structure symbolically represented by continued refuse disposal could be a

Table 17.32. LA 37591, Pit Structure 1, Zea mays cob morphometrics (mm) by stratigraphic context.

FS/Context	Row	Row Type	Intact Glumes			Partially Eroded Glumes			No Glumes		
			Cob Diameter (mm)	Glume Width (mm)	Rachis Segment Length (mm)	Cob Diameter (mm)	Cupule Width (mm)	Rachis Segment Length (mm)	Rachis Diameter (mm)	Cupule Width (mm)	Cupule Height (mm)
51 Midden, Layer 1 Pit Structure 1	10	irregular	10.5	5.1	2.2	-	-	-	-	-	-
	10	undeveloped	-	-	-	-	-	-	9.8	5.4	2.7
	8	undeveloped	-	-	-	-	-	-	9.8	5.5	2.8
59 Midden, Layer 2 Pit Structure 1	12	irregular	-	-	-	-	-	-	11.6	4.6	3.3
	10	straight	-	-	-	-	-	-	10.4	5.2	2.8
	12	straight	-	-	-	10.3	5.2	3	-	-	-
64, Layer 4, Pit Structure 1	12	irregular	-	-	-	12.5	6.8	3.2	-	-	-
	14	straight	16.9	6.4	3.3	-	-	-	-	-	-
Average	11	38% irregular, 38% straight, 25% undeveloped	13.7	5.8	2.8	11.4	6	3.1	10.4	5.2	2.9

visible means of reinforcing the claim by living descendants. This claim might be intensified by discard into the ritually/socially charged pit structure context. Toll and Schlanger (1998) propose a similar model for human interments, where burials appearing in abandoned pit structures might reflect

strong claims of ownership or an interest in maintaining long-term affiliations with abandoned settlements. I believe the midden-filled pit structures embody similar settlement considerations and are not simply manifestations of fortuitous refuse disposal practices.







Archaeology Notes 242  
2017



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