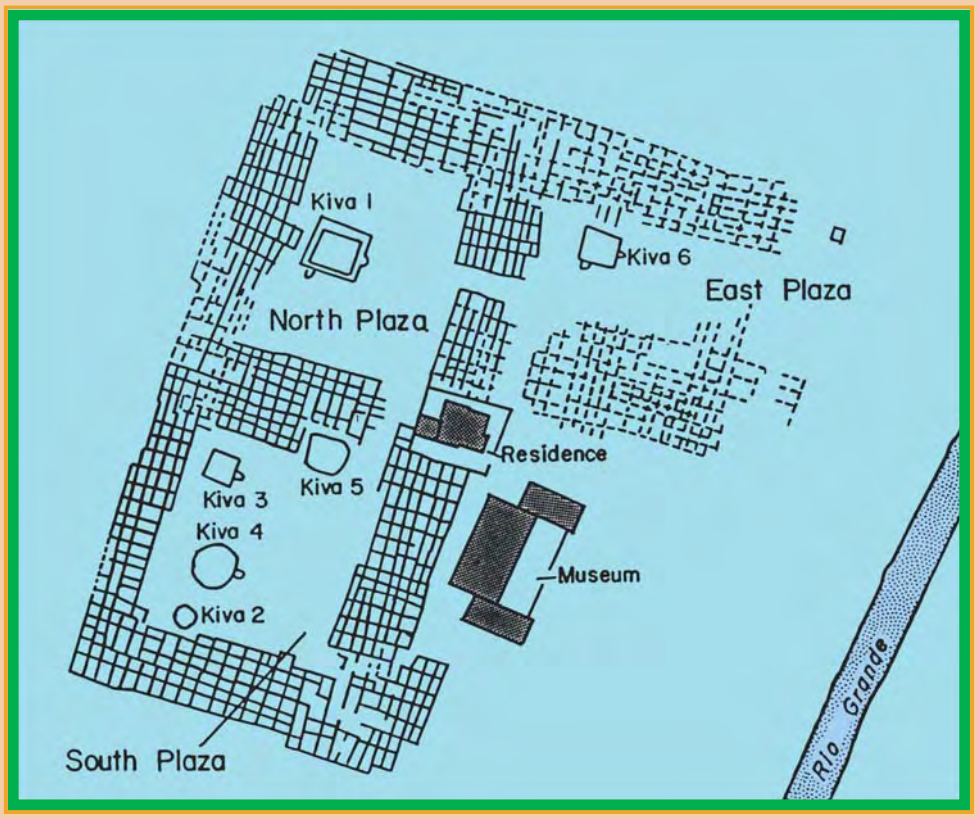
Archaeological Testing at Kuaua Pueblo, Coronado State Monument, New Mexico

Nancy J. Akins and Charles A. Hannaford



Office of Archaeological Studies

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OFFICE OF ARCHAEOLOGICAL STUDIES

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Administrative Summary

In 1994 the New Mexico State Monuments Division of the Museum of New Mexico, Department of Cultural Affairs, requested technical aid in determining methods of earthen wall construction at Kuaua Pueblo (LA 187). In July and September, previously excavated rooms in the western, northern, and central sections were cleared to observe and record construction techniques. Intact deposits were found in both the southern and central areas, and artifacts were collected. The small sample of walls uncovered during the test excavations indicate variability in how walls were constructed but little definitive information.

MNM Project No. 41.696 (Coronado Monument).
State Permit No. SE-103.

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Introduction

At the request of Thomas Caperton, then director of New Mexico State Monuments, the Office of Archaeological Studies (OAS), Museum of New Mexico, conducted a limited testing program at Kuaua Pueblo (LA 187) in Coronado State Monument, Sandoval County, New Mexico. Kuaua Pueblo is in the northeastern quadrant of [redacted]; at an elevation of 5,080 ft (Fig. 1). The limited testing was conducted on July 12 and 13, and September 20 to 23, 1994. Six person-days were expended during the fieldwork. The purpose of the limited testing program was to reexamine wall architecture and determine the nature of earthen-wall construction from rooms excavated in the 1930s for management and interpretation of the resource. Kuaua Pueblo is on land owned by the Museum of New Mexico.

The fieldwork was conducted by Nancy Akins and Charles Hannaford. Eric Blinman was principal investigator. The limited testing program was conducted under State of New Mexico Archaeological Excavation Permit SE-103. Kuaua Pueblo (LA 187) is listed on the *State Register of Cultural Properties* and the *National Register of Historic Places* (No. 225). The museum building and visitor's center, designed by John Gaw Meem, is also listed on the *State Register of Cultural Properties* (No. 1515).

This report complies with the provisions of the Historic Preservation Act of 1966, as amended.

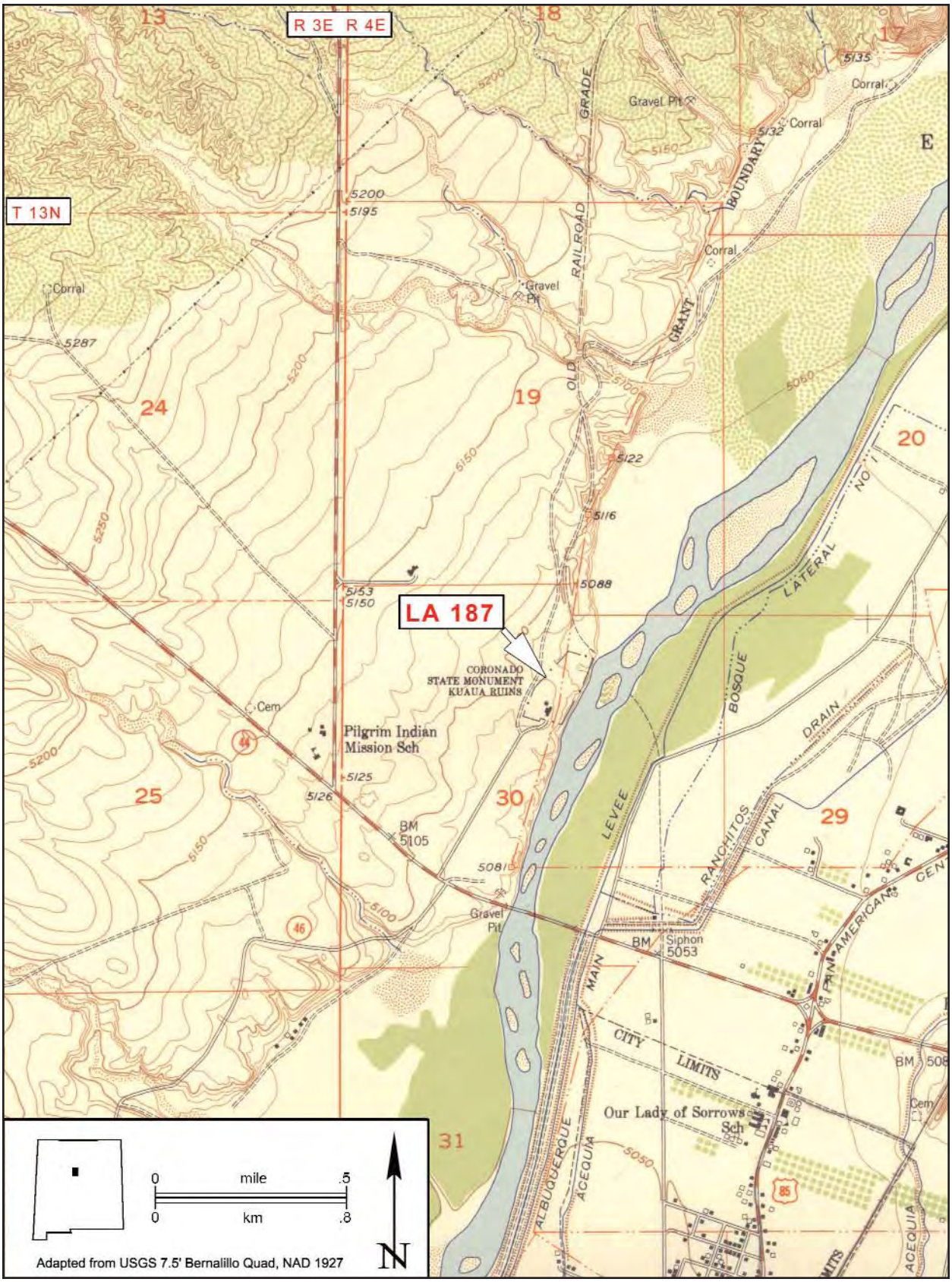

Figure 1. Location of Kuaua Pueblo (LA 187).

Setting

Kuaua Pueblo (LA 187) overlooks the west bank of the Rio Grande at the north edge of Bernalillo. The predominant plant community is grass (Indian ricegrass, giant dropseed, spike dropseed, blue grama, and galleta) along with dispersed junipers and occasional shrubs (four-wing saltbush and winterfat). Snakeweed, prickly pear, narrowleaf yucca, cholla, and tumbleweed also occur. Cottonwoods and tamarisk grow along the river. Alluvial soils in the floodplain range from sand to clay and are suitable for agriculture. On the upland surfaces, soils are loamy sand formed by a mix of alluvial and eolian deposition (Vierra 1987:10).

The mean annual precipitation for the area is 20.8 mm, and the frost-free period averages 180 days per year (Scurlock 1998:11,17). Almost half of the average precipitation falls from July to September, often as high-intensity rainstorms. Flooding from spring runoff or intense summer rains was common up until the 1930s, when major flood-control structures were constructed along the Rio Grande and its tributaries (Scurlock 1995:12-13).

Archaeological Background

Built in the late 1300s, Kuaua has 935 ground-floor rooms and once had up to three stories (Fig. 2). Constructed of adobe with mainly cottonwood beams, much of the adobe from the upper story rooms melted and formed a protective cap over the lower rooms. The rooms enclose three plazas with six plaza kivas. The village was probably abandoned before 1680, but a few inhabitants may have continued to live there. A small portion of the site has evidence of occupation during the late seventeenth century (Elliot 1993:19).

Kuaua was the northernmost of the Tiguex villages reported by early explorers. The Spanish name for Kuaua is unclear. It may be the "Guagua" of the Espejo expedition of 1583, and it has been identified as the "La Palma" of the Chamuscado-Rodríguez expedition. Kuaua was once identified as Alcanfor, a Tiguex pueblo that Coronado used as a base in the winter of 1540-41, but some historians disagree (Dutton 1963:20; Elliot 1993:18). It was also once thought to be Puaray, until the excavation of the kivas at the site failed to find the mural depicting Indians killing two priests reportedly seen by one of Oñate's officers in 1598 (Dutton 1963:19; Hammond and Rey 1966:22-23).

Major excavations at Kuaua were conducted around the turn of the century by Charles F. Lummis of the Archaeological Institute of America and the Southwest Museum of Los Angeles, and between 1934 and 1938 by the School of American Research and the University of New Mexico. Lummis excavated in the southeastern portion of the site, but none of his records have been found. Most of the site was excavated by the School of American Research and the University of New Mexico under the direction of Edgar Hewett with funds from the New Mexico Relief Administration. Other than Bertha Dutton's book (1963) on the kiva murals, no comprehensive report of these excavations has been produced. Clearing the rooms and removing the artifacts exposed the walls, and heavy rain severely damaged what remained. Walls were rebuilt and stabilized, but the exact relationship between the original and rebuilt walls cannot be determined (Dutton 1963:20; Elliot 1993:22, 24). The only other documented excavation at Kuaua was an OAS project in which two test trenches preceded the construction of utility trenches in 1986 (Vierra 1987).

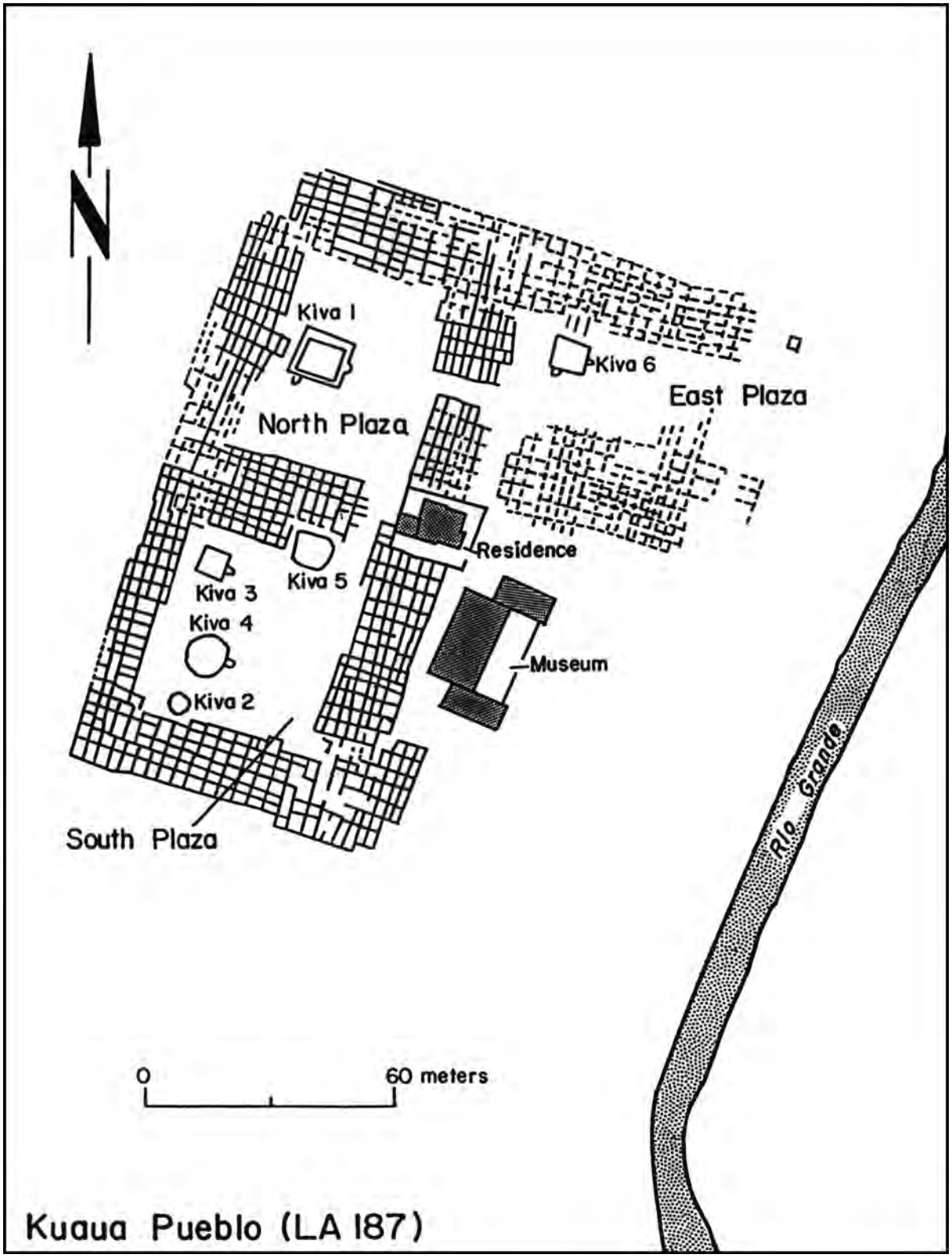

Figure 2. Site plan of Kuaua Pueblo (LA 187).

Testing Results

West Wing of the South Plaza

In June 1994, Thomas Caperton, director of New Mexico State Monuments, requested that OAS assist in the reexcavation of a room at Kuaua (LA 187). The purpose of the excavation was to collect data on prehistoric construction techniques prior to building a replica of an adobe room. A workshop on adobe construction was to follow. The OAS provided technical advice in excavating a previously excavated room in which the deposits were believed to consist solely of backdirt.

Monument personnel selected Room 1994, a burned room in the west wing of the South Plaza in the area known as the Lummis section for the initial excavations. The precise location of the room with respect to the general site map was not determined, in part because the structures and walls on the site map are no longer clearly defined. It is due west of the Museum, probably a second-tier room just west of Kiva 3 (see Fig. 9).

Methods

The west wall of Room 1994 was burned and had been preserved by a thin layer of soil. Excavations were conducted on July 12 and 13, 1994, by Nancy Akins aided by Monument personnel. Starting with a good section of the burned west wall, we scraped the surface with flat shovels to locate the cross walls. When this proved unsuccessful, the room was divided into quadrants based on estimates of where the walls were thought to be, and excavation began in the southwest quadrant, an area measuring 1.6 by 1.2 m (Fig. 3). A subdatum was established outside of the northwest corner of the room and eleva-

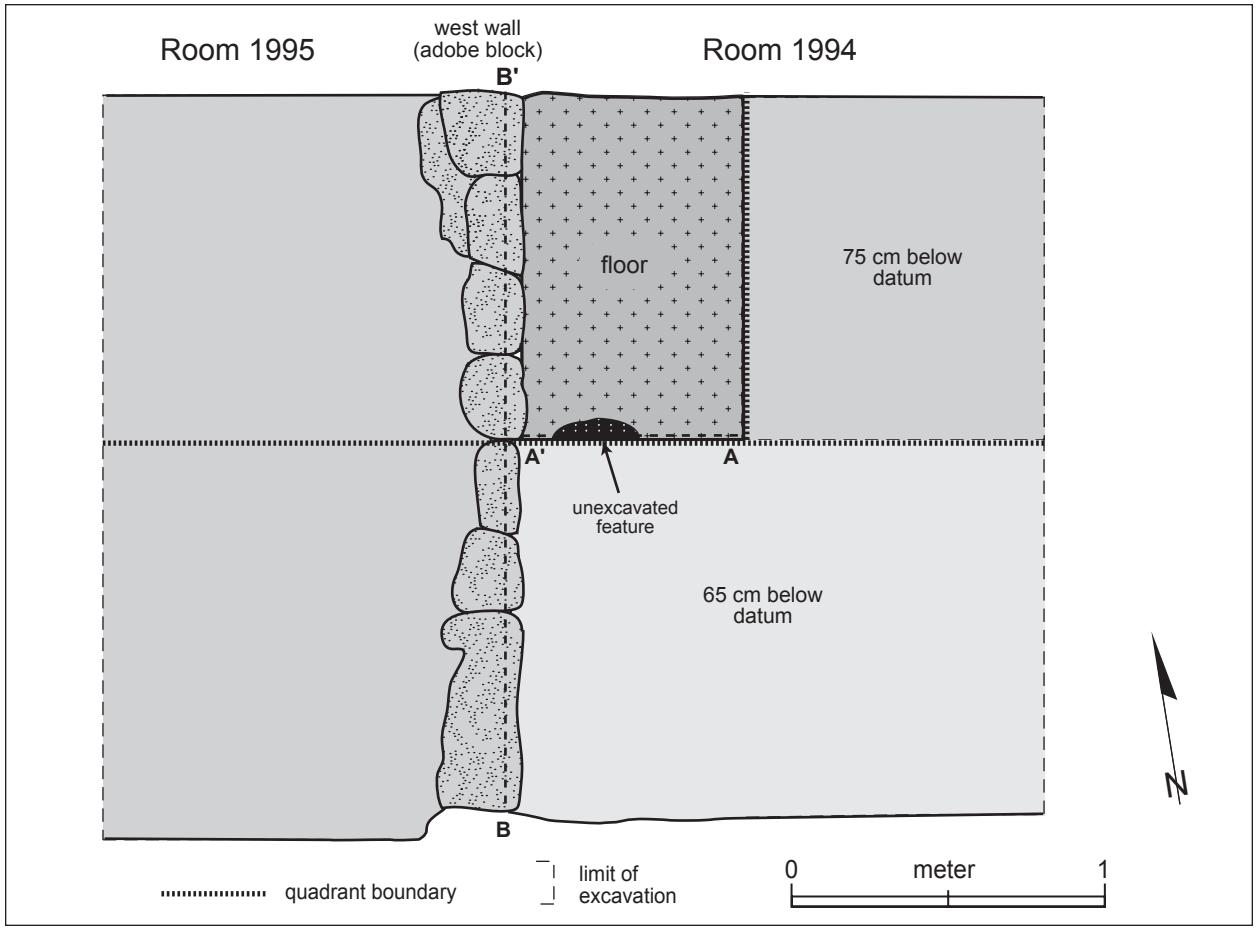

Figure 3. Plan of excavated area, Rooms 1994 and 1995.

tions recorded in cm below this datum. The first level of fill defined the southwest corner of the room. Because of the slope, as much as 20 cm of soil was removed. No fill was removed from the eastern part of the quadrant in the first level, and none from the southeast corner in the next level, again due to the slope. Lower fill was generally removed in 10 cm levels. All fill was screened through 1/4 inch mesh. Fill in the upper two levels was fairly loose, with no structure, sparse artifacts, and very little charcoal; it probably was backfill. The soil became harder with depth. At the base of Level 2, a small test excavation revealed a distinct break in fill at 10 cm. The remainder of fill in this quadrant was removed to this level but no deeper.

Excavations then moved to the northwest quadrant. Again, the upper level of fill was uneven because of the slope. While 20 cm of fill was removed from the southwest corner, none was removed from the northeast and northwest corners, and only 4 cm from the southeast corner. At the base of the third level, the fill became harder and resembled a surface, probably the interface between intact room fill where the previous excavations had stopped. After Level 4 only the west half of the quadrant was excavated. Within Level 5, fill changed to a fine sand with charcoal grading into a layer containing charcoal, roofing material, wall plaster, and clay. A partially exposed feature filled with the same burned material as on the floor at the south end of the quadrant was not excavated. Sterile soil was revealed by a small test in the southeast corner.

To expose the back side of the west wall, one to two levels of fill were removed from the adjoining room (Room 1995). The northeast quadrant (1.0 by 1.2 m) was excavated in two levels, the first to achieve a uniform level. The second was a standard 10 cm level. The fill was a loose eolian soil with wall slump in the northeast corner. Up to 20 cm of similar fill was removed from the southeast quadrant.

Plans of the excavated area and a stratigraphic profile were drawn. Profiles and an elevation of the west wall were drawn, and the excavation area and walls were photographed.

Stratigraphy

Six distinct strata were encountered in Room 1994 (Fig. 4). The uppermost fill (Stratum 1) was loosely compacted sand with some clay content (Munsell 10 YR 5/4) interspersed with lenses of laminated clay and sand (Stratum 2). The abrupt change in fill between Strata 2 and 3 could be either the base of the 1930s excavations or the top of an actual backfill layer in which Strata 1 and 2 represent deposition from natural processes in rooms that were only partially backfilled. Stratum 3 was a harder, slightly browner (but still 10 YR 5/4) sandy clay with small (0.5 to 2.0 cm) lumps of clay and sparse charcoal and artifacts that was more like intact fill than backfill. Beneath this and in pockets within Stratum 3, a thick (10-20 cm) layer of clean, possibly eolian sand (again 10 YR 5/4) had some laminations and occasional charcoal flecks (Stratum 4). Stratum 5 was similar to Stratum 3 but had burned clay inclusions, probably from disintegrating burned walls, along with dark charcoal and burned clay roofing material, especially just above the floor. In some areas, lenses of washed clay directly overlay the surface, suggesting the room was partially open before the roof and walls began to disintegrate. The floor was a thin clay lens stained dark gray by charcoal worked into the surface. Beneath the floor was a hard-packed sterile silty clay (10 YR 6/4) containing a burned roofing impression, suggesting some disturbance. The fill in Room 1995 was Stratum 1 eolian and backfill material.

Wall Construction

The west wall of Room 1994 was comprised of a constructed portion and an irregular base formed by excavating into the residual soil. Upper walls were probably constructed first, then 20 to 25 cm of fill were removed and leveled to create a floor (Fig. 4). From Room 1994, the wall appears to have been constructed of puddled adobe blocks from 20 to 30 cm long and up to 20 cm tall (Fig. 5). The vertical surface of each block is flattened but not necessarily on the same plane (Fig. 6). On the Room 1995 side the wall is eroded, suggesting that the larger blocks were composed of smaller balls or columns of clay that eroded differentially (Fig. 7). These clay balls are far from regular in size or shape and were used to form individual blocks rather than complete walls (Fig. 8).

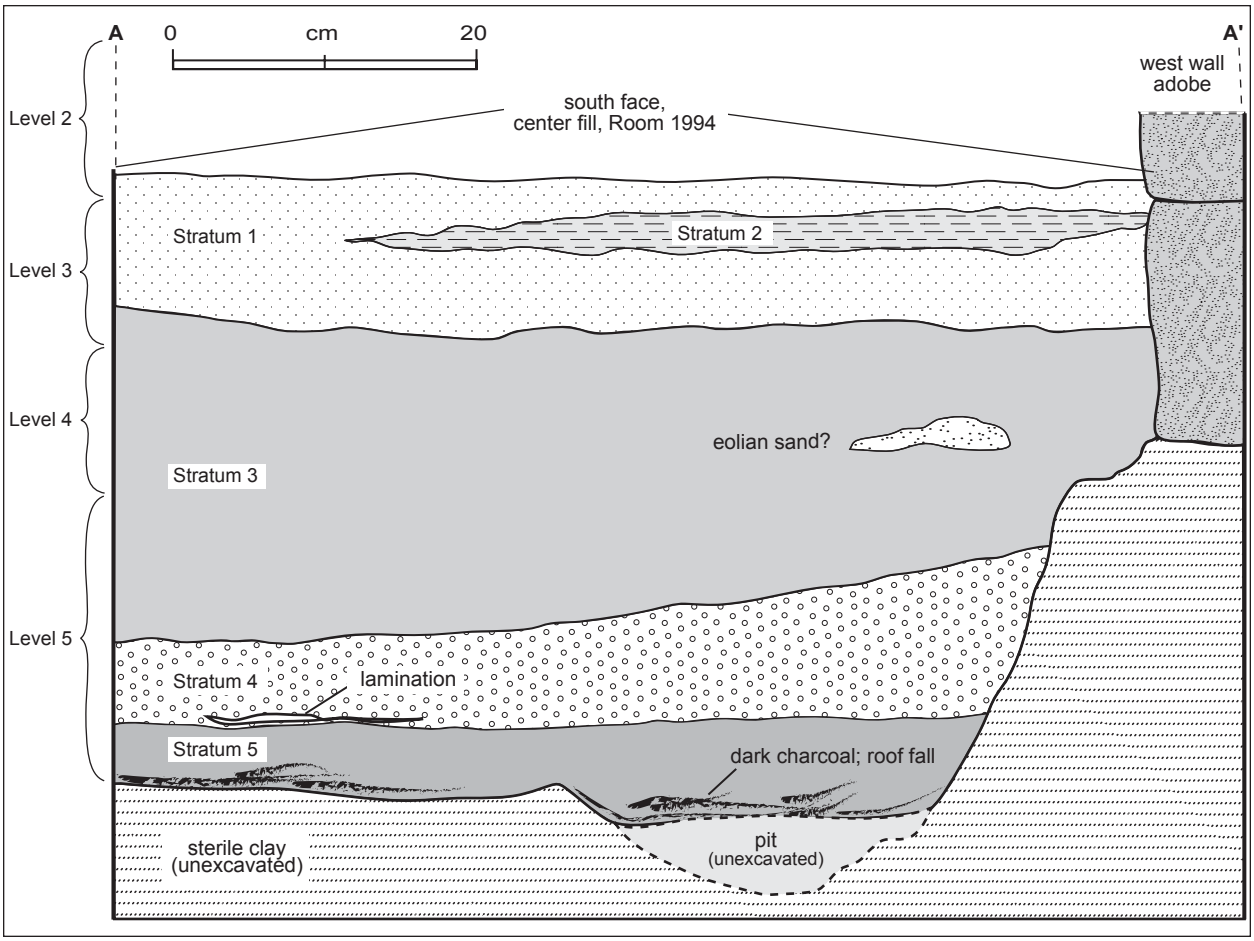

Figure 4. Profile of fill in Room 1994.

Figure 5. West wall of Room 1994.

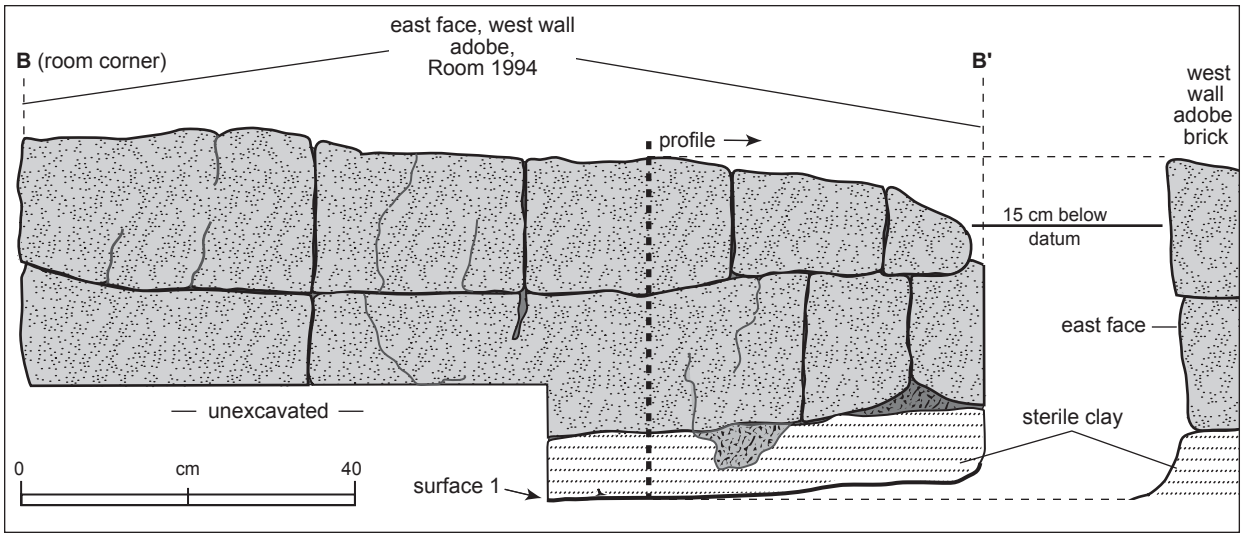

Figure 6. Profile and end view of west wall, Room 1994.

Figure 7. East wall of Room 1995.

Figure 8. Top of wall between Rooms 1994 and 1995.

Artifacts

A variety of artifacts were recovered from excavations in Rooms 1994 and 1995. For tabulation, Room 1994 is divided into upper fill or probable backfill; and eolian and lower, possibly intact fill (Stratum 3 and lower).

Ceramic artifacts are more numerous than any other artifact type (Table 1). The majority (69.0 percent) are from the upper fill of the two rooms (43.6 percent from Room 1994 and 25.4 percent from Room 1995). All of the sample sizes are fairly small, but the upper and lower fill differ somewhat, especially in temper type. Considerably larger proportions of the upper fill have latite temper. One Puaray Glaze-on-red sherd and the Puaray Glaze-on-yellow sherds were recovered from the lowest level of fill in Room 1994, suggesting the room may have been last used during Glaze E times.

Lithic artifacts (Table 2) have a somewhat different distribution. A larger proportion of the artifacts were recovered from the lower fill (45.2 percent). Other than the relatively high proportion of obsidian in the upper fill of Room 1995, the assemblages are similar. Both hammerstones and the chopper/ax are from the lowest level of fill in Room 1994. They could be related to the last use of the room. The strike-a-light flake is probably from the Spanish use of this portion of the site (Vierra 1987:2).

Few bones were recovered (Table 3). The large mammal bone from Level 1 could be prehistoric or historic because its size is consistent with some sheep bones. Those from the lower fill are probably a combination of prehistoric and intrusive bones. The complete rabbit bone with a purple stain is the most likely candidate for an intrusive bone. The others are fragmented and more consistent with what is expected of a prehistoric assemblage.

A few other items were collected. Two pieces of a white material with micaceous flecks, probably wall plaster, were found in the second level of fill in the northwest portion of Room 1994. Both pieces are triangular in cross section with two finished faces, one smooth and one with a vegetal (wood or leaf) impressed surface. In Level 2 of the northwest corner of Room 1994, an aqua trilobed plastic bead attests to relatively recent soil disturbance. A piece of a blue-on-white majolica in Level 3 of the same room and quad represents an earlier disturbance. Several pieces of decayed conifer wood were collected from Level 5 of the northwest quad of Room 1994, as was an unusual piece of material that is soft and organic and may be part of an insect nest or partitioned egg mass. The final artifact is a burned adobe impression from beneath the floor in Room 1994. It measures 3 by 3 by 2 cm and has an impression of what may be a small stick or pole (0.6 cm diameter) in one face and two somewhat

Table 1. Ceramic artifacts recovered from Rooms 1994 and 1995

	Room 1994				Room 1995		Total	
	Upper/Backfill		Lower Fill		Upper/Backfill			
	Count	Col %	Count	Col %	Count	Col %	Count	Col %
Ceramic Type								
Plain body	-	-	5	2.9%	-	-	5	0.9%
Utility ware	83	34.6%	74	43.3%	52	37.1%	209	37.9%
Rio Grande gray plain corrugated	1	0.4%	-	-	1	0.7%	2	0.4%
Rio Grande gray smeared plain corrugated	3	1.3%	2	1.2%	-	-	5	0.9%
Glaze red body (unpainted)	45	18.8%	15	8.8%	26	18.6%	86	15.6%
Glaze yellow body (unpainted)	22	9.2%	10	5.8%	9	6.4%	41	7.4%
Glaze unslipped body	41	17.1%	32	18.7%	32	22.9%	105	19.1%
Glaze polychrome body (undifferentiated)	1	0.4%	13	7.6%	1	0.7%	15	2.7%
Glaze-on-red body (undifferentiated)	17	7.1%	6	3.5%	4	2.9%	27	4.9%
Glaze-on-yellow body (undifferentiated)	21	8.8%	9	5.3%	10	7.1%	44	8.0%
Glaze-on-unslipped body	6	2.5%	-	-	-	-	6	1.1%
Aqua Fria Glaze A	-	-	1	0.6%	1	0.7%	2	0.4%
Puaray Glaze-on-red	-	-	2	1.2%	-	-	2	0.4%
Puaray Glaze-on-yellow	-	-	1	0.6%	-	-	1	0.2%
Espinosa Glaze-on-yellow	-	-	1	0.6%	-	-	1	0.2%
Total	240	100.0%	171	100.0%	140	100.0%	551	100.0%
Temper Type								
Sand	-	-	9	5.3%	-	-	9	1.6%
Fine tuff or ash	-	-	15	8.8%	-	-	15	2.7%
Fine tuff and sand	-	-	1	0.6%	-	-	1	0.2%
Gray crystalline basalt	26	10.8%	28	16.4%	6	4.3%	60	10.9%
Dark sand	3	1.3%	2	1.2%	-	-	5	0.9%
Latite	211	87.9%	116	67.8%	134	95.7%	461	83.7%
Vessel Form								
Bowl rim	10	4.2%	3	1.8%	2	1.4%	15	2.7%
Bowl body	52	21.7%	49	28.7%	20	14.3%	121	22.0%
Jar neck	4	1.7%	9	5.3%	3	2.1%	16	2.9%
Jar rim	4	1.7%	6	3.5%	2	1.4%	12	2.2%
Jar body	100	41.7%	97	56.7%	62	44.3%	259	47.0%
Body sherd polished int/ext	70	29.2%	7	4.1%	51	36.4%	128	23.2%

Table 2. Lithic artifacts from Rooms 1994 and 1995

Material	Morphology	Function	Room 1994				Room 1995		Total	
			Upper/Backfill		Lower Fill		Upper/Backfill			
			Count	Col %	Count	Col %	Count	Col %	Count	Col %
Chert	angular debris	unutilized	1	2.7%	-	-	1	5.0%	2	1.9%
c	ore flake	retouched	1	2.7%	-	-	-	-	1	1.0%
		unutilized	-	-	4	8.5%	-	-	4	3.8%
Chalcodonic chert	angular debris	unutilized	7	18.9%	6	12.8%	1	5.0%	14	13.5%
c	ore flake	unutilized	16	43.2%	21	44.7%	9	45.0%	46	44.2%
	strike-a-light flake	utilized/ retouched	-	-	-	-	1	5.0%	1	1.0%
ham	merstone		-	-	2	4.3%	-	-	2	1.9%
Silicified wood	core flake	unutilized	-	-	1	2.1%	-	-	1	1.0%
Obsidian	core flake	utilized	1	2.7%	-	-	-	-	1	1.0%
		unutilized	3	8.1%	6	12.8%	7	35.0%	16	15.4%
Igneous	core flake	unutilized	2	5.4%	1	2.1%	-	-	3	2.9%
c	hopper		-	-	1	2.1%	-	-	1	1.0%
Rhyolite	core flake	unutilized	1	2.7%	-	-	-	-	1	1.0%
Aphanitic rhyolite	angular debris	unutilized	2	5.4%	-	-	-	-	2	1.9%
c	ore flake	unutilized	1	2.7%	1	2.1%	-	-	2	1.9%
Sedimentary	core flake	unutilized	-	-	-	-	1	5.0%	1	1.0%
Quartzite	core flake	unutilized	2	5.4%	4	8.5%	-	-	6	5.8%
Total			37	100.0%	47	100.0%	20	100.0%	104	100.0%

Table 3. Animal bone from Room 1994

FS No.	Provenience	Taxon	Element	Fragment	Taphonomy	Comments
2	SW quadrant, Level 1, upper fill	large mammal	long bone	shaft fragment	root etched	medium artiodactyl-sized; mature
9	NW quadrant, Level 5, floor fill	*Sylvilagus audubonii* (desert cottontail rabbit)	left innominate	complete	root etched; purple stain	mature
			lumbar vertebrae	body fragment		young adult
		Lepus californicus (black-tailed jackrabbit)	right innominate	ischium fragment	pitted	mature
		small mammal	long bone	shaft fragment	root etched	rabbit-sized; mature

smoothed faces opposite and adjacent but perpendicular to the impression. It is burned black.

North Roomblock of the East Plaza

Two rooms were sampled in the north roomblock of the East Plaza (Fig. 9). The rooms were named Rooms 1 and 3 because they could not be correlated with room names from earlier excavations.

Room 1

Room 1 is in the north roomblock of the East Plaza. The room is in the second tier of rooms south of the maintenance road running just north of the roomblock. The west wall is aligned with a common wall running north from the northwest corner of the plaza (Fig. 9). This room was selected for study because of the high, capped-adobe brick walls standing 50 to 75 cm above the surface.

The room measured 3.2 m along the north wall, 1.6 m along the east wall, 3.15 m along the south wall, and 1.80 m along the west wall. It is rectilinear but becomes slightly narrower from west to east.

A single 40 to 60 cm layer of homogenous windblown sand was removed from the entire room. No artifacts were recovered from the fill, and no cultural staining was noted in the clean sand. The apparent floor was defined simply by contact with the compact sandy clay and caliche representing the natural sterile soil. The floor was poorly preserved, and no good floor contact was noted with the surrounding walls.

Wall construction. The prehistoric walls consist of only 10 to 20 cm tall foundation stubs that provide little architectural detail. The foundation stubs are present under the north, west, and south adobe-capped walls. However, the eastern

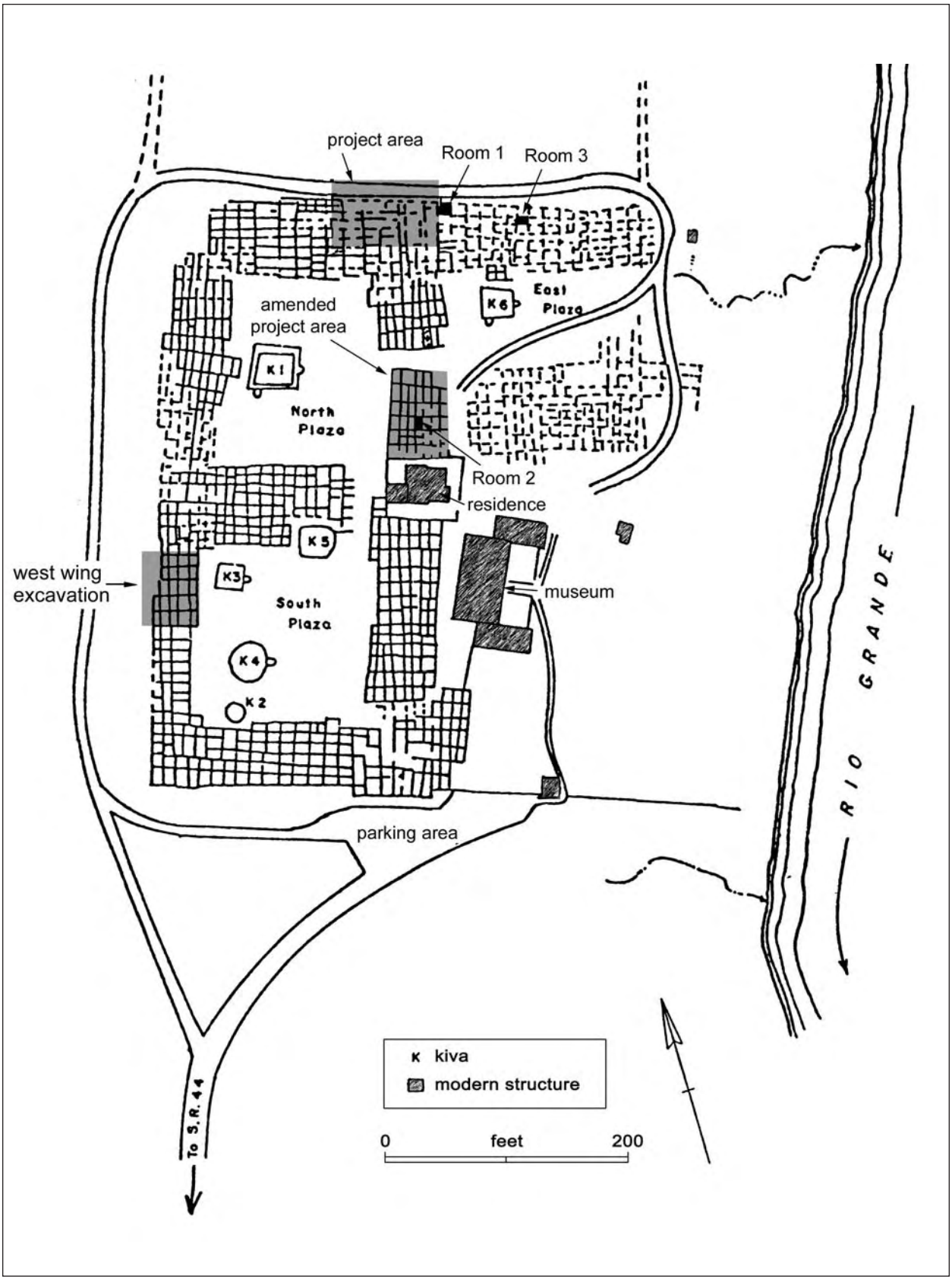

Figure 9. Plan of Kuaua Pueblo, showing reexcavated rooms.

stabilized adobe cap rests on windblown sand rather than a prehistoric wall. Evidence of a prehistoric wall was not observed on the east side of the room. The west wall has a line of cobbles averaging 7 cm long by 5 cm thick pressed into the adobe about 2 or 3 cm above the apparent floor (Fig. 10). Only two cobbles were observed in the medial section of the north wall, and no cobbles were noted in the south wall. There was no oxidation or other evidence that the room had burned.

Summary. Excavation showed that only small prehistoric wall stubs survived in the room, with no prehistoric foundation under the capped east wall. The remaining wall stubs revealed little architectural detail. The walls are about 10 cm thick, and the remaining segments were apparently composed of a single layer of puddled adobe, with cobbles sometimes pressed into walls in the area of floor contact. No evidence of bricks or balls was noted in the prehistoric wall remnants.

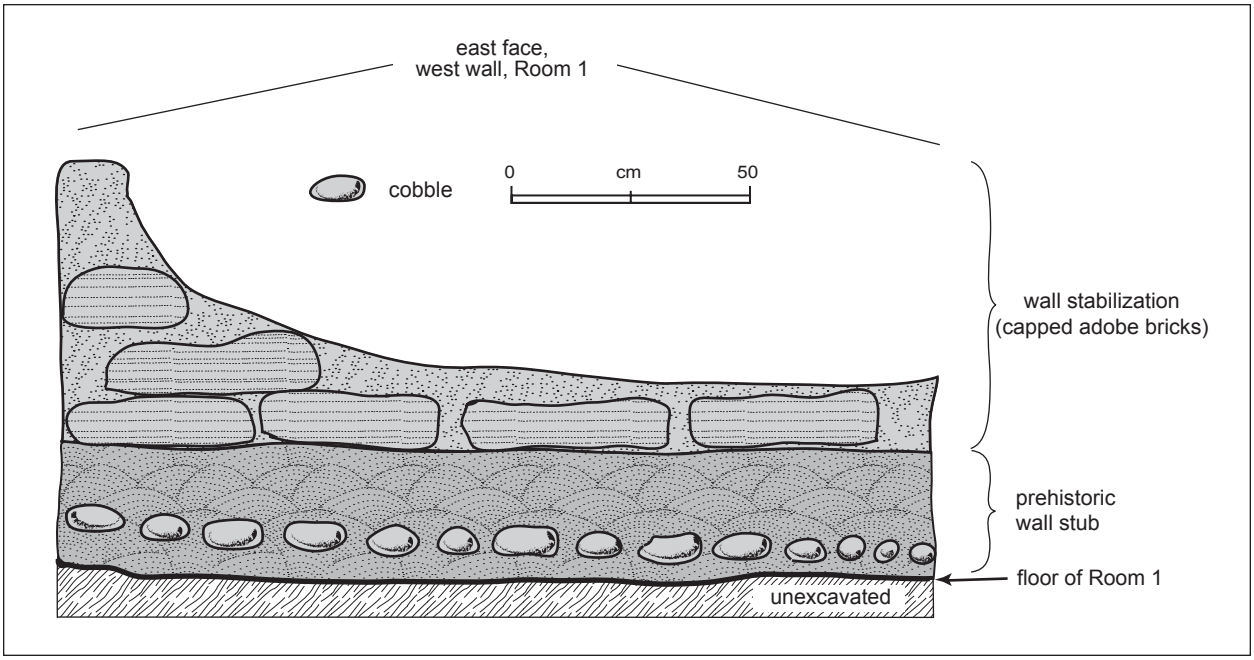

Figure 10. Profile of west wall, Room 1.

Room 3

Room 3 is in the north roomblock of the East Plaza. The room is also in the second tier of rooms south of the maintenance road running north of the roomblock (Fig. 9). The room is six rooms east of Room 1. This room was selected because of the suggestion of tall wall segments in earlier excavation photos. The rectangular room measures 3.7 m east-west by 2.1 m north-south.

A 1 m wide trench was excavated adjacent the north wall of the room. The south half of the room was not excavated. Fill consisted of a single 30 cm layer of clean windblown sand. No artifacts or cultural staining was observed in the fill. No evidence of a floor was encountered. Natural compact sandy clay with caliche was encountered 30 cm below the surface.

Wall construction. No prehistoric walls were found in this room. The north, east, and west stabilized adobe caps were set on an 8 cm layer of mortar, which rested directly on the natural soil. Undercutting the walls failed to reveal any evidence of prehistoric walls.

Summary. Excavation showed that no prehistoric walls underlie the adobe stabilization caps in this room. Prehistoric walls were apparently completely dismantled after excavation. The room provides no architectural detail, and the excavation suggests that stabilized wall caps in this area of the site may not reflect prehistoric wall locations.

Central Roomblock, North and East Plazas

A single room was excavated in the central roomblock separating the North and East Plazas. The room could not be correlated with a specific room name from earlier excavations and was arbitrarily named Room 2.

Room 2 is in the central roomblock dividing the North and East Plazas. The area is just north of the monument residence, four rooms south of the north maintenance road passing through the roomblock and four rooms west of the east maintenance road. It was selected based on the high walls appearing in 1930s excavation photographs.

This rectangular room measures 3.5 m north-south by 2.0 m east-west. The room contained two layers of fill. An initial 60 to 70 cm layer of clean windblown sand with occasional recent tin cans was removed from the entire room. No evidence of a floor was observed. In Room 1, the floor was just below the cobbles in the wall, but this observation was not verified in this room. At a depth of about 70 cm below the surface an orange sand with charcoal flecks, ash, and prehistoric artifacts was encountered across the entire room. A 60 cm wide trench adjacent the north wall showed that this fill was an undisturbed midden layer measuring about 20 to 25 cm thick. The room was built upon this midden layer. Sterile compact sandy/clay with caliche flecks was encountered at about 90 cm below the surface.

In addition to the midden layer, two circular pits with estimated diameters of about 1.0 m were partially exposed in the 60 cm wide test trench along the north wall (Fig. 11). These pits were exposed at the contact between the midden layer and the natural sterile soil. The pits are beneath both the east and west walls of Room 2 and are apparently earlier features that had been dug into the natural soil and over time were covered by the midden layer. The roomblock was then constructed upon the midden layer. The two partially exposed pits were not excavated.

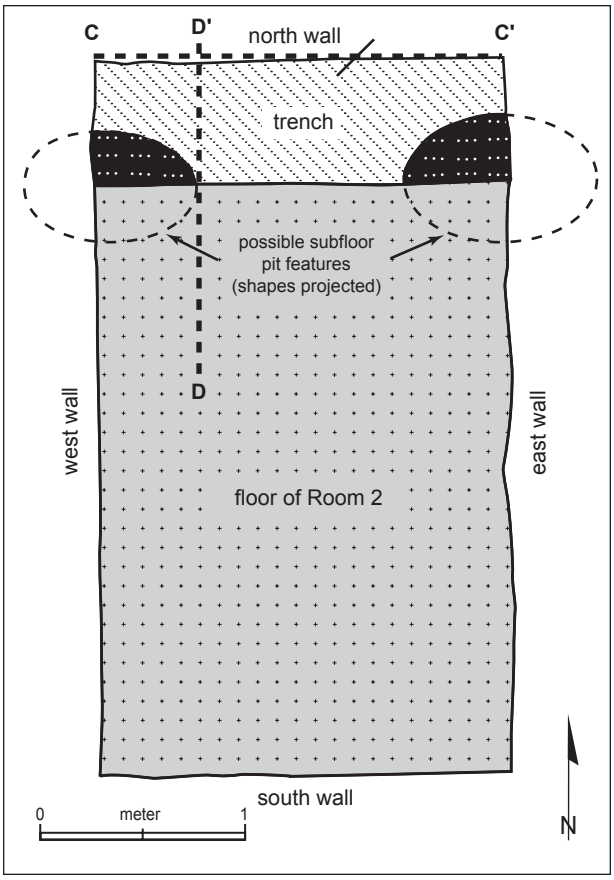

Figure 11. Plan of Room 2 showing placement of subfloor pit features.

Wall Construction

Prehistoric walls consisted of stubs about 25 cm tall. The remaining stub exposed in the north wall is similar to the west wall in Room 1 (Figs. 12-13). The wall rests directly on the midden layer with no evidence of a footing or foundation trench. The bottom bulges out and then tapers to a vertical wall after about 10 cm. The wall thickness was not determined. A row of cobbles measuring about 7 by 5 cm were pressed into the adobe along the area of the bulge. These cobbles were similar to those observed in the construction of the west wall of Room 1, but the Room 1 wall lacked the noticeable bulge at the base. The small stub provided little additional architectural detail. The wall remnant appeared to be a single course of puddled adobe. There was no evidence of prehistoric adobe bricks or balls. There was no oxidation or evidence that the room had burned.

The prehistoric wall stub had been capped by two episodes of stabilization. An initial three courses of adobe bricks rest directly on the prehistoric wall stub. A second cap of two adobe brick courses offset about 10 cm was then placed over the lower bricks (Fig. 13).

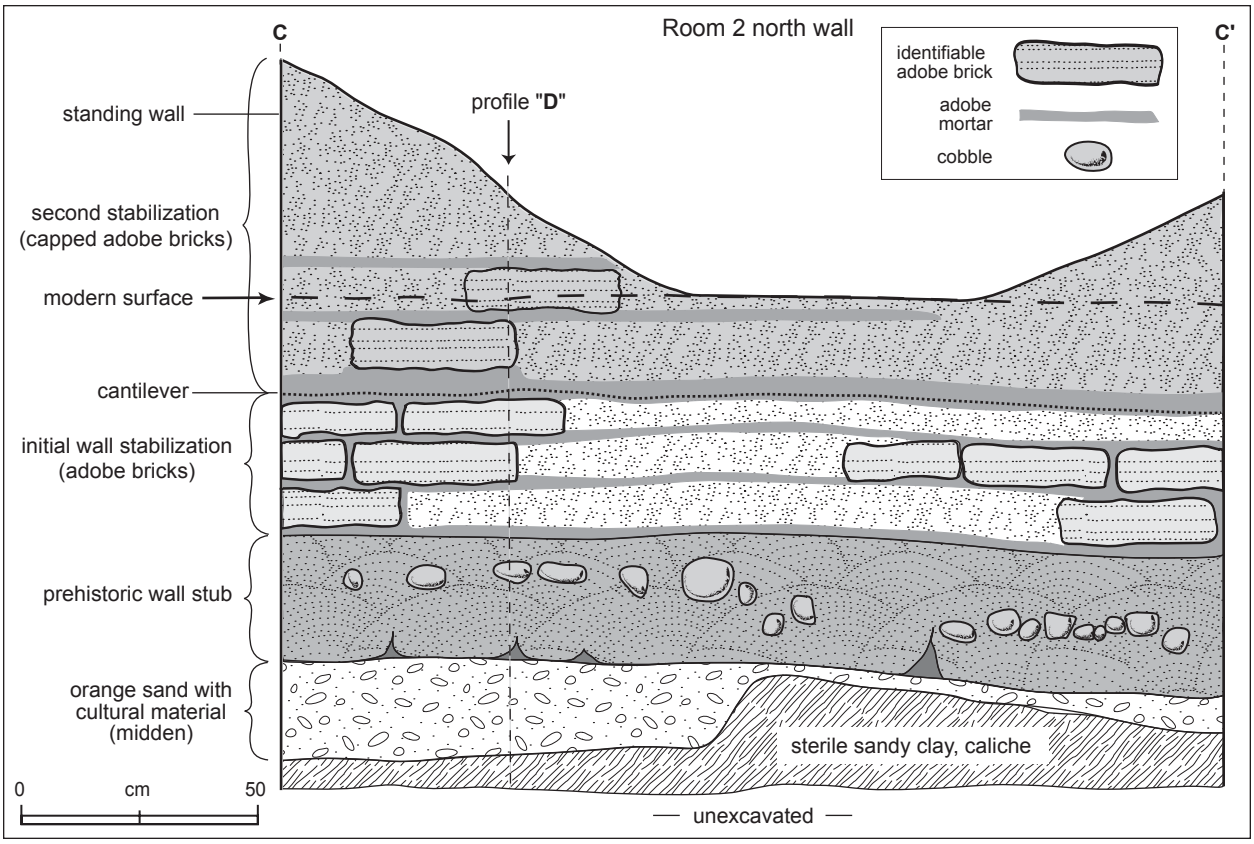

Figure 12. Profile of north wall, Room 2.

Artifacts

Ceramic artifacts (n = 62), chipped stone debris (n = 14), and animal bones (n = 5) were confined to the midden layer exposed in the 2.0 by 0.6 m trench along the north wall of the room. No artifacts were removed from the two circular pits.

The ceramic sample consists mainly of glaze ware bowl and jar sherds with a minority of utility ware jar sherds (Table 4). The glaze-decorated pottery shows that the midden dates to the Classic period, with a few sherds of Espinosa Glaze Polychrome and San Lazaro Glaze Polychrome. This pottery may date to the late 1400s. The small ceramic assemblage suggests that the roomblock was constructed over late 1400s artifacts.

Six material types were used in the small chipped stone assemblage (Table 5). Chert was the most prevalent material. One flake of obsidian was found. The assemblage is composed mainly of core reduction flakes. No retouched flakes or formal tools were recovered from the midden.

Bones of black-tailed jackrabbit, desert cottontail, and badger were found (Table 6). Three of the five rabbit elements are burned or roasted. The complete badger tibia had five cut marks.

Summary

The excavation showed that only small prehistoric wall stubs survived in the room. The 25 cm remnants provide little architectural detail. They were similar to walls exposed in Room 1. The builders may have employed puddled adobe in wall construction and pressed small cobbles into the lower sides of the walls. The room walls rested on about 20 cm of midden material apparently dating from the late 1400s. In turn, the midden covered two circular pits seemingly dating from an even earlier period.

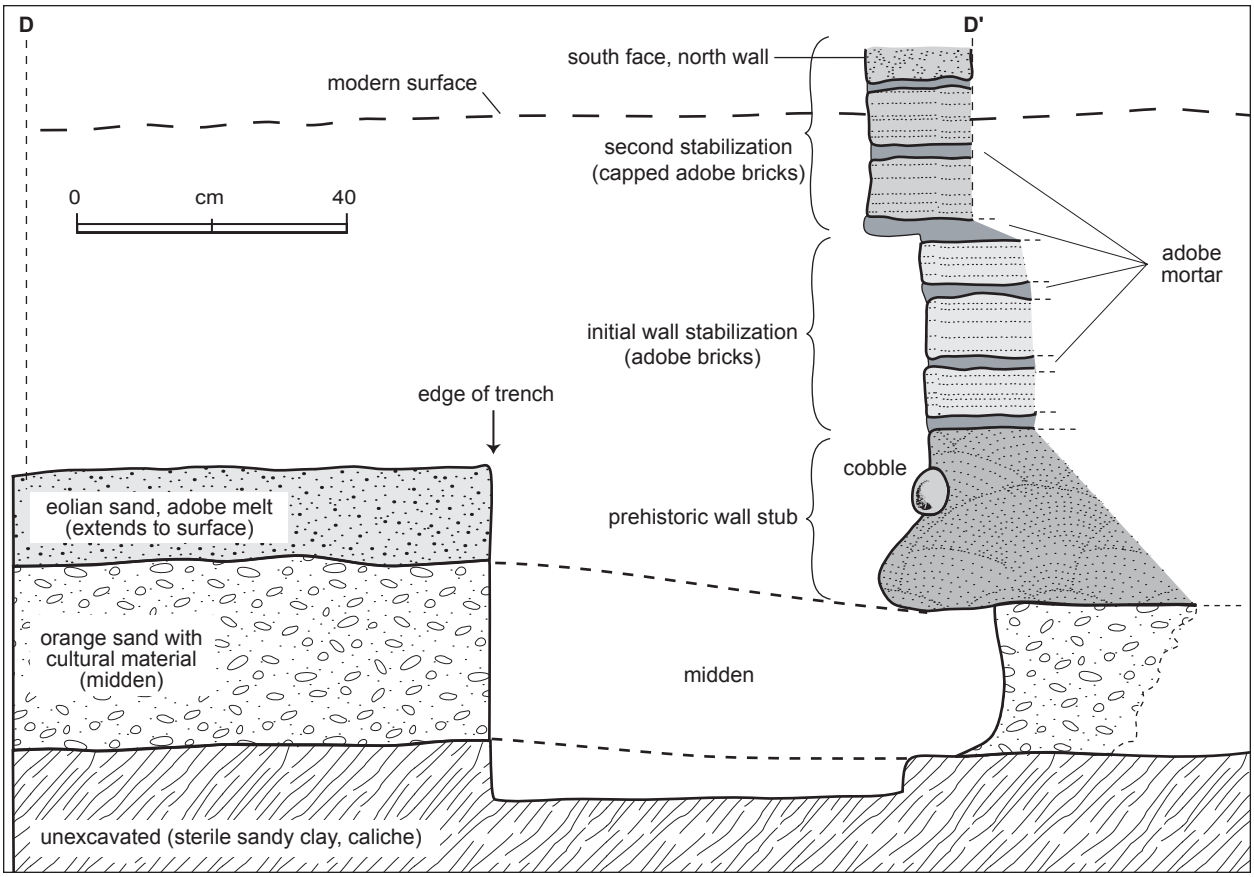

Figure 13. Profile of north wall, Room 3.

Table 4. Ceramic artifacts recovered from Room 2

	Count	Column %
Ceramic ware		
Utility ware	19	30.6%
Glaze red body (unpainted)	8	12.9%
Glaze yellow body (unpainted)	6	9.7%
Glaze unslipped body	1	1.6%
Glaze polychrome body (undifferentiated)	5	8.1%
Glaze-on-red body (undifferentiated)	13	21.0%
Glaze-on-yellow body (undifferentiated)	5	8.1%
Aqua Fria Glaze A	1	1.6%
Espinosa Glaze Polychrome	2	3.2%
San Lazaro Glaze Polychrome	2	3.2%
Total	62	100.0%
Temper		
Leucocratic igneous or granite (El Paso area)	1	1.6%
Gray crystalline basalt	6	9.7%
Latite	55	88.7%
Vessel form		
Bowl rim	6	9.7%
Bowl body	17	27.4%
Jar neck	5	8.1%
Jar rim	2	3.2%
Jar body	25	40.3%
Body sherd polished interior/exterior	7	11.3%

Table 5. Lithic artifacts recovered from Room 2

Material	Morphology	Function	Count	Column %
Chalcedonic chert	angular debris	unutilized	2	14.3%
	core flake	unutilized flake	8	57.1%
Obsidian	angular debris	unutilized	1	7.1%
Igneous	core flake	unutilized flake	1	7.1%
Sedimentary	core flake	unutilized flake	1	7.1%
Quartzite	core flake	unutilized flake	1	7.1%
Total			14	100.0%

Table 6. Animal bone from Room 2 trench, subfloor (FS 20)

Taxon	Element	Fragment	Taphonomy	Comments
Taxidea taxus (badger)	left tibia	complete	root etched; carnivore punctures proximal	mature; 5 cut marks, transverse just above distal end, anterior
Lepus californicus (black-tailed jackrabbit)	left ulna	proximal and 2/3 shaft	slight root etching	mature
	left mandible	body and partial ramus	lightly burned/roasted	mature
	lumbar vertebra	complete except for left transverse process	lightly burned/roasted	young adult; epiphysis unfused
Sylvilagus audubonii (desert cottontail)	cranium	right maxilla	lightly burned/roasted	mature

Lithic Artifacts

Jessica A. Badner

Chipped Stone

A total of 118 pieces of chipped stone were recovered from excavations at Kuaua Pueblo. The assemblage was made up of 93 core flakes, 21 pieces of angular debris, two hammer stones, a possible strike-a-light, and a possible ax. Three of the core flakes are informal tools that exhibit evidence of retouch or use. Because of the disturbed nature of much of the room fill, artifacts were subjected to a rough sort analysis following OAS guidelines (1994a). Each artifact was examined using a binocular microscope at 20 power. Artifacts were sorted by material type and divided into three categories according to morphology: core flakes, angular debris, and tools. Formal and informal tools were then fully analyzed in accordance with OAS standards.

Material

Twelve material types were identified in the chipped stone artifact assemblage: chalcedony (61.9 percent), obsidian (15.3 percent), quartzite (5.9 percent), chert (5.9 percent), gray aphanitic rhyolite (4.2 percent), undifferentiated igneous materials (2.0 percent), siltstone (1.7 percent), and silicified wood (0.8 percent). Chalcedony may have originated at Pedernal, but the waterworn cortex indicates that it was probably collected from the Rio Grande gravel. All materials are considered local because they are among material types available from river-transported cobbles (Warren 1979).

Distribution

The results of the chipped stone analysis are summarized in Tables 7 and 8. The only isolated stratum within a room is the floor fill from Room 1994; otherwise, strata within rooms are lumped. The overall assemblage indicates an emphasis on secondary core reduction. Almost 79 percent of chipped stone artifacts are core flakes, and about 18 percent are angular debris. Chipped stone tools include a chopper, a possible strike-a-light flake, and three small hammerstones. Three pieces of utilized and or retouched debitage were also recovered.

The Room 2 trench fill contained 14 artifacts. Chalcedony is the most common material (71 percent of the assemblage). Obsidian, undifferentiated igneous and quartzite, and siltstone are also present. There are no tools or utilized angular debris.

Room 1995 fill was dominated by chalcedony. Obsidian, chert, and siltstone were also present. This assemblage has only 10 percent angular debris, the smallest of any grouping. One piece is chalcedony; the other is chert. One possible strike-a-light flake was recovered. The artifact is shaped correctly and exhibits extensive battering along one edge but has no rusted adhesions—a sign of striking against metal. One fragmentary piece of a sandstone slab was also found on the surface.

Room 1994 fill has the largest artifact assemblage. Every material type in the site assemblage except for siltstone is represented. Like the rest of the assemblage, an emphasis on secondary core reduction is evident. Chalcedony is the most common material type, followed by obsidian. Angular debris makes up a much larger part of the assemblage (22 percent as opposed to 11 percent from floor fill). No formal tools were found, but two modified core flakes were recovered. One obsidian core flake exhibits evidence of unidirectional utilization, and a chert core flake has evidence of unidirectional retouch and wear.

Chipped stone from Room 1994 floor fill exhibits a emphasis on secondary core reduction, with evidence of primary core reduction. Materials include obsidian, chert, quartzite, and undifferentiated igneous materials, but chalcedony is the most common type, exhibiting evidence of primary and secondary core reduction. Two of the 27 core flakes have over 90 percent waterworn dorsal cortex. Three of the five pieces of angular debris show evidence of battering. Other evidence of primary reduction includes

two core flakes longer than 4 cm with over 75 percent cortex, one of chert, another of rhyolite. Battered pieces of angular debris are accompanied by two small chalcedony hammerstones measuring 5.3 and 4.0 cm. The smaller is fractured. Other tools include the distal end of a fragmentary biface, possibly an ax. Another small hammerstone of quartzitic material was found.

Ground Stone

Four ground stone artifacts were recovered from excavations at Kuaua Pueblo. Ground stone was analyzed in accordance with standard OAS analysis methods (OAS 1994b) The artifacts are made of sandstone, vesicular basalt, and granite. They are discussed below by provenience.

Room 1994, Surface

FS 1 is a medium-grained, fully shaped ground stone slab edge fragment of indeterminate use. Both surfaces are ground and flat. There are no visible striations on either ground surface and no evidence of sharpening or maintenance. The thickness of the slab tapers from 4.0 cm at the fracture to 2.7 cm along the manufactured edge. The maximum dimension is 7.7 cm, and the weight is 534 g.

Room 1994, Level 5 (FS 9, Lots 1-3)

Made of large-grained vesicular basalt, this artifact is a ground stone slab edge fragment similar to FS 1. The edge is fully shaped with two flat ground surfaces. No use striations are visible, and there is no evidence of sharpening or maintenance. The thickness of the slab tapers from 2.65 cm at the break to 1.4 cm at the manufactured edge. The maximum dimension is 5.8 cm, and the weight is 92.9 g.

A fragment of gray and white granite may be shaped. No striations or pecking are visible on the surface, and the fragment is too small to determine morphology. The rock is split lengthwise. It measures 6.0 by 5.8 by 15 .0 cm and weighs 69 g.

A small oval hammer stone is made of quartzite. The cobble is unmodified and somewhat disk shaped. Battering is evident along the rounded edge of the rock and is heaviest on an edge that is opposite from a slightly flatter end. Unlike the chalcedony examples found in the same context, no flakes were removed from this artifact as a result of battering. It measures 6.0 by 5.8 by 1.5 cm and weighs 69 g.

Conclusions

Comparison of material types and artifact morphology across provenience units is problematic because of the disturbed nature of much of the fill. However, some generalizations can be made. The emphasis was on the use of local materials probably procured from Rio Grande cobbles with some evidence of secondary core reduction. Chalcedony is the most commonly used material in the lithic artifacts, consistently followed by obsidian. The possible strike-a-light flake found in Room 1995 fill indicates activity at the site during historic times.

The floor fill assemblage from Room 1994 floor fill has evidence of early stages of secondary core reduction, some primary core reduction, and possible ground stone sharpening and maintenance. The distal portion of an ax was also recovered from floor fill and could have had a secondary use as another tool. There was no evidence of chipped stone tool maintenance or end-stage production.

Table 7. Lithic artifacts

Material	Morphology F	unction	Room 1994 Floor Contact		Room 1995 Fill		Room 2 Trench		Room 1994 Fill		Total	
			Count	Col %	Count	Col %	Count	Col %	Count	Col %	Count	Col %
Chert	angular debris	unutilized	-	-	1	5.0%	-	-	1	2.0%	2	1.7%
c	ore flake	retouched	-	-	-	-	-	-	1	2.0%	1	0.8%
		unutilized	4	11.4%	-	-	-	-	-	-	4	3.4%
Chalcedonic chert	angular debris	unutilized	5	14.3%	1	5.0%	2	14.3%	8	16.3%	16	13.6%
	core flake	unutilized	13	37.1%	9	45.0%	8	57.1%	24	49.0%	54	45.8%
s	trike-a-light flake	utilized/retouched	-	-	1	5.0%	-	-	-	-	1	0.8%
c	obble-tool, bidirectional	hammerstone	2	5.7%	-	-	-	-	-	-	2	1.7%
Silicified wood	core flake	unutilized	-	-	-	-	-	-	1	2.0%	1	0.8%
Obsidian	angular debris	unutilized	-	-	-	-	1	7.1%	-	-	1	0.8%
c	ore flake	utilized	-	-	-	-	-	-	1	2.0%	1	0.8%
		unutilized	5	14.3%	7	35.0%	-	-	4	8.2%	16	13.6%
Igneous	core flake	unutilized	1	2.9%	-	-	1	7.1%	2		4	3.4%
ear	ly-stage biface	chopper/axe	1	2.9%	-	-	-	-	-	-	1	0.8%
Rhyolite	core flake	unutilized	-	-	-	-	-	-	1	2.0%	1	0.8%
Aphanitic rhyolite	angular debris	unutilized	-	-	-	-	-	-	2	4.1%	2	1.7%
	core flake	unutilized	1	2.9%	-	-	-	-	1	2.0%	2	1.7%
Sedimentary	core flake	unutilized	-	-	1	5.0%	1	7.1%	-	-	2	1.7%
Quartzite	core flake	unutilized	3	8.6%	-	-	1	7.1%	3	6.1%	7	5.9%
Total			35	100.0%	20	100.0%	14	100.0%	49	100.0%	118	100.0%

Table 8. Chipped stone tools

Provenience	Artifact Type	Material Type	Dimensions (cm)	Wear and Retouch	Comments
Room 1994 fill	Utilized core flake	Chalcedony	2.1 x 1.6 x 0.9	Unidirectional wear	Distal flake fragment; unidirectional ware is expedient.
	Retouched core flake	Chert	2.8 x 2.0 x 0.8	Unidirectional retouch	Retouch occurs along the lateral edge of this proximal flake; edge angle 65 degrees.
	Utilized core flake	Obsidian (Pedernal)	1.7 x 2.1 x 1.3	Unidirectional ware	Small obsidian flake with a cortical platform exhibits unidirectional ware along one lateral concave edge.
Room 1994 floor fill	Possible ax (distal end fragment)	Igneous points	6.6 x 7.1 x 1.9 6.6 x 7.1 x 1.9	Grinding at hafting points	Manufactured from a flat river cobble this biface exhibits bidirectional flaking and grinding at corner notched hafting points. Cortex remains on all but the notches and a bidirectionally flaked edge remnant. A crack running lengthwise and a step fracture at the proximal end of the tool indicate a probable impact fracture that traveled from the ax head to the haft.
	Hammerstone, pecking stone	Chalcedony	5.3 cm diameter	Battering	Small irregularly shaped hammerstone with 95 percent waterworn cortex exhibits battering wear on nearly every protruding surface. One projecting end may have been used to sharpen ground stone.
	Hammerstone	Chalcedony	4 cm	Battering	This fragmentary hammer stone is irregularly shaped. Waterworn cortex is visible on 80 percent of the artifact. Nodule is fractured along natural cleavage plane and shows extensive evidence of battering on all intact edges.
Room 1995 fill	Possible strike-a-light flake	Chalcedony	1.9 x 1.8 x 0.7	Abrasion	This artifact is shaped like a strike-a-light flake and is well ground on one lateral edge and crushed on the other. However, it does not exhibit rusted adhesions, and its identification is tentative.

Ceramic Artifacts

C. Dean Wilson

A total of 613 sherds were analyzed. Of this sample, 240 (39.2 percent) were assigned to gray utility ware types, and 373 (60.8 percent) were assigned to glaze ware types (Table 9). The great majority of these sherds are tempered with a fine tuff latite. This temper is characterized by dull buff, light gray, to dark, dull tuff particles and shiny black and white quartz particles (Table 10).

Utility Ware Types

Utility wares were distinguished by the absence of painted decorations and unpolished to lightly polished surfaces. The great majority of the utility ware sherds exhibit combinations of temper and paste common in utility wares found in Classic period assemblages from the Middle Rio Grande region. Pastes tend to be dark gray, gray-brown, or dark red and appear to reflect the use of silty high-iron clays. Tempers identified in gray ware sherds include sand, fine tuff, gray crystalline basalt, and local tuff latite (Table 10). Forms noted in these utility ware jars include jar neck, jar rim, and jar body (Table 11). All gray ware sherds exhibit plain interior surfaces. The great majority (97.1 percent) of these sherds have plain exterior surfaces. The remaining sherds exhibit either plain corrugated (0.8 percent) or smeared corrugated (2.1 percent) exterior surfaces.

Four types of gray ware sherds were recognized based on temper and exterior surface manipulation. A low number (2.1 percent of the utility wares) were placed into a distinct tradition based on the presence of large sand temper. These sherds exhibit plain gray surfaces, like the other utility wares, and were assigned to *sand-tempered plain gray ware*. The great majority (95 percent) of the gray ware pottery was assigned to *plain utility ware* based on plain or slightly textured exterior surfaces typical of Classic phase Middle Rio Grande utility wares. A few sherds exhibiting exterior surface textures were assigned to *plain corrugated* or *smeared plain corrugated*.

Glaze Ware Types

Glaze ware pottery reflects a distinct pottery technology long employed in areas of the Middle and Southern Rio Grande regions. Glaze wares have painted decorations with glaze or derive from vessels that presumably are decorated with glaze paint. This ware is defined by the use of lead-glaze paint or paste reflecting pottery produced in the Middle Rio Grande from about A.D. 1325 to the early 1700s (Franklin 1997; Kidder and Shepard 1936; Mera 1933).

The basic system of classification of glaze rim sherds developed by Mera (1933) was used in this study. This system, however, is only applicable to rim sherds. Thus, body sherds that could not be assigned to a specific type were assigned to types based on surface treatments known to have changed through time, following the conventions of other Middle Rio Grande studies (Franklin 1997). Unpainted body sherds thought to have derived from glaze-painted sherds were assigned to a descriptive categories based on the presence or type of slip. They include *glaze red body (unpainted)*, *glaze yellow body (unpainted)*, and *glaze unslipped body (unpainted)*. Painted glaze ware body sherds were differentiated based on slip and paint-color combinations. Categories recognized for glaze body sherds include *glaze-on-red (undifferentiated)*, *glaze-on-yellow slipped (undifferentiated)*, *glaze unslipped (undifferentiated),* and *glaze polychrome (undifferentiated)*.

Bowl rim sherds were assigned to the types defined by Mera (1933). Bowl sherds with straight even walls were assigned to Glaze A (Mera 1933). Sherds with similar rims exhibiting decorations in glaze paint on a red-slipped surface were assigned to Agua Fria Glaze-on-red. Pottery exhibiting characteristics of these types appears to be similar to early glaze ware pottery recovered over a wide area (Franklin 1997; Habicht-Mauche 1993; Kidder and Shepard 1936; Lambert 1954). Pastes are usually oxidized, and surfaces and cross sections are usually orange or red. Bowls interiors are usually covered with a

Table 9. Ceramic artifacts

Num	ber	Percent
Plain body	5	0.8%
Rio Grande utility ware	228	37.2%
Rio Grande plain corrugated	2	0.3%
Rio Grande smeared plain corrugated	5	0.8%
Glaze red body (unpainted)	94	15.3%
Glaze yellow body (unpainted)	47	7.7%
Glaze unslipped body	106	17.3%
Glaze polychrome body (undifferentiated)	20	3.3%
Glaze-on-red body (undifferentiated)	40	6.5%
Glaze-on-yellow body (undifferentiated)	49	8.0%
Glaze-on-unslipped body	6	1.0%
Aqua Fria Glaze A	3	0.5%
Espinosa Glaze Polychrome	2	0.3%
San Lazaro Glaze Polychrome	2	0.3%
Puaray Glaze-on-red	2	0.3%
Puaray Glaze-on-yellow	1	0.2%
Largo Glaze-on-yellow	1	0.2%
Total	613	100.0%

Table 10. Temper by ware

Count Row %	Sand	Fine Tuff or Ash	Fine Tuff and Sand	Leucocratic Igneous	Gray Crystalline Basalt	Dark Sand	Local Tuff Latite	Total
Gray	5	1	-	-	7	-	227	240
	2.1%	0.4%	-	-	2.9%	-	94.6%	100.0%
Middle Rio Grande Glaze	4	14	1	1	59	5	289	373
	1.1%	3.8%	0.3%	0.3%	15.8%	1.3%	77.5%	100.0%
Total	9	15	1	1	66	5	516	613
1.	5%	2.4%	0.2%	0.2%	10.8%	0.8%	84.2%	100.0%

Table 11. Vessel form by ware

Count Row %	Bowl Rim	Bowl Body	Jar Neck	Jar Rim	Jar Body	Body Sherd Polished	Total
Gray	-	-	19	6	215	-	240
	-	-	7.9%	2.5%	89.6%	-	100.0%
Rio Grande Glaze	21	138	2	8	69	135	373
5.	6%	37.0%	0.5%	2.1%	18.5%	36.2%	100.0%
Total 21		138	21	14	284	135	613
3.	4%	22.5%	3.4%	2.3%	46.3%	22.0%	100.0%

deep red, well-polished slip. Painted decoration associated with Aqua Fria Glaze-on-red is usually black paint with limited evidence of vitrification to a distinct glaze. Applications of the paint pigment tend to be well executed compared to later glaze forms and often resemble earlier matte pigment. In addition, designs are usually even and well executed, and the dripping and other defects common in later glazed types tend to be absent.

Glaze C bowl rim forms vary in the degree of slope and shape. The Glaze C rim form consists of gradual inversion, beginning with a slight beveling on the interior. Later forms are more exaggerated, resulting in a concave depression below the outer edge of the rim. Glaze rims were assigned to two types based on combinations of slip color. They include Espinosa Glaze Polychrome and Espinosa Glaze-on-yellow. It is likely, however, that sherds assigned to both these types were derived from glaze polychrome vessels.

Espinosa Glaze Polychrome is characterized by bold red matte designs outlined in glaze paint on a light-slipped background. This type is distinguished by a bold stylistic design and rim shape.

San Lazaro or Glaze D Polychrome or Glaze represents a slight modification on earlier glaze C rim forms. San Lazaro Glaze Polychrome is characterized by a dark glaze paint with red matte design highlights on various red, brown, and tan-slipped backgrounds, a shift from the lighter slips used during Glaze C. Slips are generally thin. Light colored backgrounds are considered rare and the type is consistently polychrome.

Puaray (or Glaze E) is characterized by light or red-slipped backgrounds with dark glaze designs, sometimes with red matte interiors. Rim forms are also highly variable. Puaray glaze types are distinguishable by an elongated rim with some thickening above the base, and a shift back to lighter slips. The rim is clearly differentiated from the bowl walls by a curve in the angle of the rim (Mera 1933). Sherds in the present study were assigned to both Puaray Glaze-on-red and Puaray Polychrome.

The majority of glaze ware sherds from Kuaua are tempered with local tuff latite. Some glaze ware sherds were tempered with basalt, dark sand, fine tuff, fine tuff and sand, and leucocratic igneous rock (Table 10). A mixture of bowl and jar forms characterize glaze ware vessels (Table 11). Glaze wares exhibit a wide mixture and combinations of surface exteriors, including those that are unpolished, polished unslipped, red slipped, and white slipped (Table 12).

Pottery Trends

Types exhibiting a wide range of slip and paint treatments as well as a mixture of Glaze A, C, D, and E forms reflect a combination of pottery spanning the Early to Late Classic periods (Table 9). The occurrence of similar variability in most contexts also indicates a mixture of pottery derived from different components. Still, the nature of such variation in the distribution of slip and paint types and Glaze C and D rim forms indicate that most of this pottery was actually derived from contexts dating to the Middle Classic period, or the fifteenth century.

The dominance of similar tuff latite pottery in a wide range of gray ware and glaze forms indicates that the great majority of the pottery manufactured during the occupational span was locally produced. The dominance of glaze ware forms is also noteworthy and reflects the importance of such forms in local production.

Table 12. Surface manipulation of glaze-painted sherds

Interior Manipulation	Exterior Manipulation				Total
	Plain P Unpolished	lain Polished	Polished White Slip	Polished Red Slip	
Plain unpolished	-	5	12	19	36
Row %	-	13.9%	33.3%	52.8%	100.0%
Column %	-	4.2%	18.5%	13.8%	9.7%
Plain polished	45	85	11	17	158
Row %	28.5%	53.8%	7.0%	10.8%	100.0%
Column %	86.5%	72.0%	16.9%	12.3%	42.4%
Polished white slip	3	22	36	20	81
Row %	3.7%	27.2%	44.4%	24.7%	100.0%
Column %	5.8%	18.6%	55.4%	14.5%	21.7%
Polished red slip	4	6	6	82	98
Row %	4.1%	6.1%	6.1%	83.7%	100.0%
Column %	7.7%	5.1%	9.2%	59.4%	26.3%
Total	52	118	65	138	373
Row %	13.9%	31.6%	17.4%	37.0%	100.0%
Column %	100.0%	100.0%	100.0%	100.0%	100.0%

Conclusions

The primary goal of this testing project was to determine the nature of earthen-wall construction to aid in interpreting and managing the resource. Historical descriptions differ somewhat on how adobe walls were constructed. Observing the Tiguex, Castañeda described the process as follows:

They all work together to build the villages, the women being engaged in making the mixture and the walls, while the men bring the wood and put it in place. They have no lime, but they make a mixture of ashes, coals, and dirt which is almost as good as mortar, for when the house is to have four stories, they do not make walls more than a half a yard thick. They gather a great pile of twigs of thyme and sedge grass and set it afire, and when it is half coals and ashes they throw a quantity of dirt and water on it and mix it all together. They make round balls of this, which they use instead of stones after they are dry, fixing them with the same mixture, which comes to be like a stiff clay. (quoted in Dutton 1963:6)

Gallegos offered this description of the same pueblos:

> The way they build their houses, which are square, is as follows. They bake the clay; they build the walls narrow, they make adobes for the doorways. (quoted in Dutton 1963:8)

Based on excavations at Kuaua, Dutton (1963:22) states:

> The Indians packed the mixture into large balls, allowed them to dry, then placed them firmly with adobe mortar for walls of their structures. . . . After a course about twelve inches in height was put in place this was allowed to dry, then the procedure was carried on until the desired wall height was achieved.

The small sample of walls uncovered during the test excavations indicate variability in how walls were constructed but little definitive information. Wall construction in the western area agrees best with Dutton's observations. Larger balls (or columns) were used to form "bricks" in distinct layers. These were laid in similar mortar so that the nature of construction is suggested only when exposed to erosional processes. Interior surfaces were finished into flat planes as individual rows. Finally, a recessed floor was constructed by removing soil from within the walls. The northern and central room excavations found that little remained of some walls, that actual walls had cobbles impressed into the base and none had foundations. These walls appeared to be of puddled adobe, but construction methods could have differed at the wall base. Construction details like those revealed by erosion in the western room may be present but remain obscured. This small sample also reveals some confusion over which rooms have been completely excavated. In some areas, only reconstructed walls exist, without any remnants of the original walls.

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