An early Twentieth-Century Homesite near Rio Grande Boulevard, Albuquerque, New Mexico

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Office of Archaeological Studies

Museum of New Mexico

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OFFICE OF ARCHAEOLOGICAL STUDIES

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Administrative Summary

Test excavations were conducted at LA 78945 by the Office of Archaeological Studies (OAS), Museum of New Mexico, in cooperation with the New Mexico Department of Transportation Department (DOT, formerly the New Mexico State Highway and Transportation Department). The DOT intends to establish bike trails, parklands, and ponds along I-40.

LA 78945 was first recorded during a cultural resource inventory in 1989 (Marshall and Marshall 1990). It was described as a late nineteenth-century adobe house mound with an artifact scatter and two trash middens. Between 1989 and 1995, the surface of the site was mechanically bladed, removing much of the physical evidence of the adobe house mound or middens that were originally recorded. The entire site, now defined as a surface artifact scatter and several mounds of debris, is within project limits on private land acquired by the DOT.

Testing consisted of limited surface collections and the excavation of five 1 by 1 m test pits within the area of the artifact scatter and the rubble mound. No definite evidence of a structure was found at any of these locations, and subsurface testing indicates that cultural remains have been affected by the earth-moving activities in the area. The artifact assemblage is a mixture of construction materials and domestic refuse dating from ca. 1880 or earlier to the present.

The resource is not likely to yield information beyond what has already been documented. Preservation in place is not necessary, and no additional cultural resource management is recommended.

MNM Project No. 41.607 (Rio Grande Boulevard).
DOT Project IM-NH-040-3(97)155, CN 2640.
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Introduction

At the request of the New Mexico Department of Transportation (DOT), the Office of Archaeological Studies (OAS), Museum of New Mexico, conducted test excavations at LA 78945 in Bernalillo County, New Mexico (Fig. 1 and Appendix 1). The site is on private land southeast of the intersection of I-40 and Rio Grande Boulevard. The fieldwork, conducted between August 25 and August 30, 1995, was directed by James L. Moore, assisted by Macy Mensel. Kelly Hoodenpyle analyzed the historic artifacts. Yvonne R. Oakes, assistant director of the OAS, served as principal investigator. The site is situated at the intersection of the Albuquerque Main Ditch and the Los Griegos Lateral Canal within the John Baron Burg Park. These drainage channels form the east and south boundaries of the site, respectively; the north boundary is the I-40 right-of-way fence. The west boundary of the site was defined as the edge of the artifact scatter and a mound of debris designated as Feature 1.

LA 78945 was recorded in 1989 during a cultural resource inventory of land along major canal systems (Marshall and Marshall 1990). It was described as a late nineteenth-century house mound with an associated artifact scatter and two trash middens. During a survey conducted in 1995, structural remains were no longer evident, and the site was described as an artifact scatter containing a mound of construction debris (ARMS site records). During the testing program, the site was redefined as two mounded features and an artifact scatter contained within an area measuring 64 m east-west by 18 m north-south. The entire site is within highway project limits, in an area that has been mechanically leveled, probably during ditch maintenance.

Work performed by the OAS was conducted in compliance with Section 106 of the National Historic Preservation Act (36 CFR Part 800), Executive Order 11593 (1972), and the Environmental Policy Act of 1969 (91. Stat 852). LA 78945 is not listed in the *State Register of Cultural Properties* or the *National Register of Historic Places.*

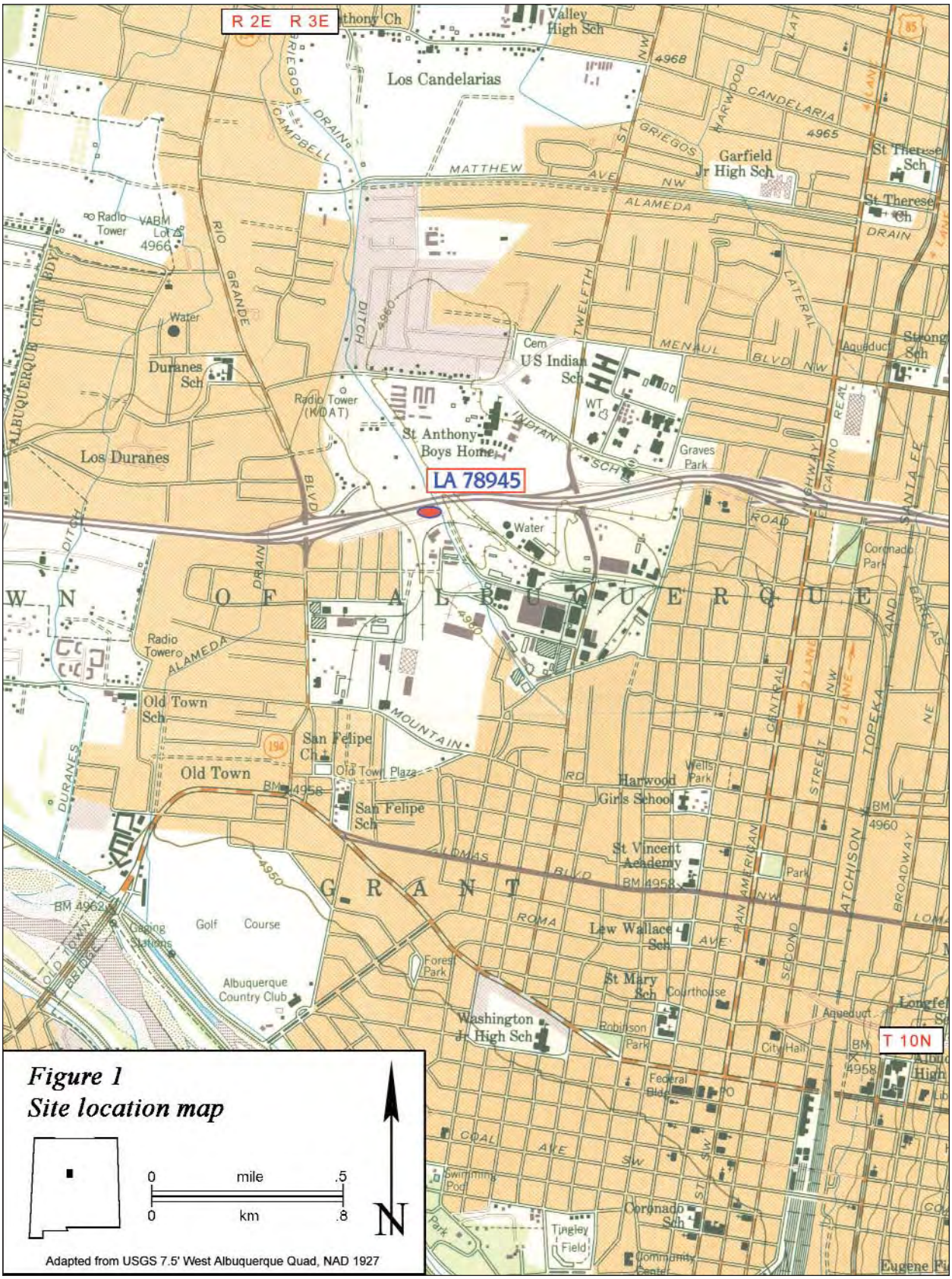


Figure 1
Site location map

Adapted from USGS 7.5' West Albuquerque Quad, NAD 1927

Environment of the Project Area

Physiography, Relief, and Drainage

LA 78945 is in the Mexican Highland section of the Basin and Range Province, a physiographic division characterized by isolated ranges and desert plains (Northrop 1961:7). More specifically, it is in the Belen–Albuquerque–Santo Domingo Basin, one of several north-trending basins in the Rio Grande Trough (Anderson 1961:68). The basin is bordered on the east by the Sandia and Manzano Mountains, and on the west by the Lucero uplift and a portion of the Colorado Plateau.

The Rio Grande, which flows from north to south through a valley in the central part of the basin, had established its course by the mid-Pleistocene (Anderson 1961:69). The basin contains several thousand feet of poorly consolidated sediments collectively known as the Santa Fe Formation, formed by the erosion of sediments from the highlands into the basin. The Santa Fe Formation consists of a complex series of gravel, sand, silt, clay, and caliche deposits that have been subjected to erosion and further deposition by the Rio Grande. Elevations in the basin vary from 1,463 m (4,800 ft) in the southern portion of the basin, near Belen, to 1,829 m (6,000 ft) in the northern portion, near Española (Anderson 1961:63).

The Rio Grande floodplain is recent alluvium deposited by the river and can be as thick as 37 m in some places (Pease 1975:118). Immediately adjacent to the river are the Rio Grande alluvial terraces. The terraces range from 37 m to 104 m above the current river level and have formed from the successive downcutting of the river. Slopes in this area vary from 1 to 9 percent, with elevations of 1,524 m (5,000 ft) to 2,134 m (7,001 ft) (Pease 1975:118). The Sandia Mountains are approximately 7.5 km east of the project area and range in elevation from 1,829 m (6,000 ft) to 2,591 m (8,500 ft). They are mostly comprised of Precambrian granitic igneous rocks, and metamorphic schist, gneiss, and quartzites occur on the west face.

Nineteenth-century mission records document frequent flooding and the destruction of historic settlements in the Valley (Ellis 1955). In 1928 a comprehensive review of the irrigation system in the valley was undertaken by the Rio Grande Conservancy District (RGCD), and a plan for the coordination and control of this system was proposed (Burkholder 1928). The project area is at the confluence of the Albuquerque Main Ditch and the Los Griegos Lateral Canal, two water diversion features that irrigate local farmland.

Climate

Temperature and precipitation levels in the Albuquerque area are determined by local topography and air mass movements from outside New Mexico (Anderson 1961:63). The arid climate is characterized by clear, sunny weather with low humidity and a great range in daily temperatures. In the valley and on the mesas, the average daily temperatures range from 27.2 to 6.7 degrees C in May, to 23.3 to 2.8 degrees C in October (Pease 1975:119). Diurnal temperature changes of 14 degrees C are common.

Average annual rainfall in the valley (elevation 1,620 m, or 5,315 ft) is 17.8 to 25.4 cm (Pease 1975:119). In the warmer months, infrequent and brief but heavy rainfall accounts for about 1.3 to 3.8 cm of precipitation in a day, and summer monsoons are sometimes accompanied by hail. Summer moisture usually comes from the Gulf of Mexico. Average annual snowfall is less than 12.7 cm in the valley (Pease 1975:119), and snowstorms rarely exceed 5.1 cm. Winter moisture, which originates in Pacific storm systems, generally falls in the eastern mountains before it reaches the valley.

The growing season is about five and a half months long in the valley, generally beginning in May and ending in October, with an average 190 frost-free days per year (Hacker 1977:95). The evaporation rate during the growing season is more than 190.5 cm. In the late nineteenth century, the primary crops were squash, melons, beans, fruit, wheat, chile, and corn. Cotton was grown in the southern valley. In 1928 agricultur-

al experimentation indicated that certain varieties of tobacco were well adapted to local conditions, and a factory was built near Albuquerque to extract nicotine for commercial purposes (Burkholder 1928:41). At present, agricultural land is primarily used for permanent pastures and to raise alfalfa.

Vegetation in the basin consists of desert shrubs including alkali sacaton, cat's claw, fourwing saltbush, white sage, vine mesquite, and rabbitbrush, along with various species of cacti and short grasses. Russian olive, tamarisk and the native Rio Grande cottonwood are common along the watercourses. The arid climate is considered the determining factor in the sparse grassland vegetation that dominates the area (Pease 1975:113).

Soils

The project area is on the Rio Grande floodplain, where most soils are formed in recent alluvium. Alluvial deposits on the floodplain range from 1.5 to 36.6 m thick. Because the river has changed its course many times, the deposition of sands, silts, and clays is complex (Pease 1975:112). Although major flooding has been controlled since the 1920s, irrigated croplands still receive silt in irrigation water from the Rio Grande.

In the project area, the soils are characteristic of the well-drained, alluvial soils of the Gila-Vinton-Brazito association (Hacker 1977). The predominant soil group is the Gila Series, which consists of deep, well-drained soils formed in recent alluvium. The Gila Series is characterized by loams, sandy loams, and sands ranging in color from brown to yellowish-brown with moderate alkali content and permeability. These soils are currently used for irrigated alfalfa, row crops, and pastureF lands.

The water table varies from 2.1 to 2.7 m deep on the floodplain but can range from 0.6 to 5.5 m in some places. The vertical fluctuation of the water table is responsible for the saline and alkaline content of the soils, which also contain varying amounts of wind-laid carbonates. In general, soils in the project area are low in organic matter and available nitrogen, and additional phosphorus is needed to sustain alfalfa or fruit crops.

Basically, Gila soils formed in stratified, calcareous loam and silty sediments on the floodplain, and their use for irrigated crops greatly affects the process of soil formation. They are very granular soils with weak structure, a factor that inhibits the stratification process (Pease 1975:115).

Historical Overview

Janet E. Spivey

The historic period in the Middle Rio Grande Valley and Albuquerque area spans more than 400 years of interaction among Native American, Spanish, and Euroamerican cultures. Many sources describe the events and patterns of the historical period (Jenkins and Schroeder 1974; Lamar 1966; Larson 1981; Bannon 1979; Twitchell 1925; Swadesh 1974; Athearn 1989; Simmons 1969 and 1982).

Spanish Colonial Period (1540-1821)

The history of the Middle Rio Grande Valley and Albuquerque began long before the Spaniards came to New Mexico. By A.D.1300, the Rio Grande Valley was supporting a large Indian population. The Anasazi population had grown to perhaps 15,000 people living in the Tiguex Province between Bernalillo and Isleta. Many of these communities lasted over 300 years (Sargent and Davis 1986:13).

The command of Francisco Vásquez de Coronado came upon the pueblos of Zuni and Acoma when they ventured north from Compostela, Mexico, in 1540 in search of the mythical Seven Cities of Cibola. Coronado stayed in one of the pueblos, perhaps Kuaua, near Bernalillo, through the winter. The journal of the expedition, kept by Captain Castañeda, describes twelve large Indian villages of the Tiguex Province built on both sides of the Rio Grande (Sargent and Davis 1986:13).

When the Spaniards settled in the Rio Grande Valley during the late sixteenth century, they established approximately 20 small farms (*estancias)* and livestock ranches (*ranchos*) near present- day Albuquerque. These isolated dwellings were scattered along the river valley between Sandia Pueblo on the north and Isleta Pueblo on the south (*The Founding of Albuquerque* 1990). Although the Spaniards were driven from the Rio Grande Valley and all of New Mexico in the Pueblo Revolt in 1680, they returned in twelve years and resumed the process of colonization.

Access to water was important to the Spanish colonists during the seventeenth and eighteenth centuries. Water dictated the location of large settlements such as Santa Fe and Albuquerque, as well as individual sites, ranchos, and *placitas* (a small settlement built around a central plaza) (Post and Snow 1992:23).

The first Spanish settlement near modern Albuquerque was a farm, ranch, and orchard built by Diego de Trujillo in present-day Old Town in 1632. He named his small estate Paraje de las Huertas (Place of Gardens). After his death, the property, which was noted for its stands of cottonwood trees, was bequeathed to his wife, Doña Luisa de Trujillo (*The Founding of Albuquerque* 1990).

Although no real community existed in the Middle Rio Grande Valley, the region had its own *alcalde mayor*, or district magistrate, who handled minor judicial cases and measured the boundaries of land grants assigned by the governor. The office was customarily filled by one of the local *estancieros* (ranchers). In about 1660, it became the practice to divide New Mexico into two major administrative units, the Rio Arriba and the Rio Abajo, that is, the upper and lower portions of the Rio Grande Valley, each with its neighboring districts. The dividing line between the two was the east-west escarpment known as La Bajada, situated about 20 miles (32.18 km) below Santa Fe. The lieutenant- governor of New Mexico was given direct command of the Rio Abajo, mainly to handle a growing problem with hostile Apaches. The governor focused his attention on affairs in the northern district (Simmons 1982:38).

After the Pueblo Revolt, in which more than 120 Rio Abajo colonists were killed, Pueblo Indians controlled the Rio Grande Valley. In 1691 the Spanish Crown appointed Don Diego de Vargas Zapata y Luján to reconquer and resettle the province. In August 1692 de Vargas made an expedition into New Mexico to obtain peaceful cooperation from the Pueblos. In the fall of 1693, when de Vargas departed from El Paso for Santa

Fe, his expedition had more than 800 people. As the expedition passed through the Middle Rio Grande Valley, the governor gave some of the colonists permission to drop out in the vicinity of Alameda and Sandia and begin to establish homes (Simmons 1982:45). By 1693 the colonists had begun to settle new farms and ranches and resettle homesteads abandoned during the Pueblo Revolt. The task proved to be difficult since New Mexico was a province parched by a six-year drought, embattled by Apache and Navajo raids, and isolated from governmental and military aid (*The Founding of Albuquerque* 1990).

In early 1695 de Vargas begin founding new towns. The first town he formed was the villa of Santa Cruz de la Cañada, just east of modern Española. Later that year, he founded Bernalillo, south of Santa Fe, at a site several miles north of present-day Bernalillo (Simmons 1982:45).

Governor de Vargas died in 1704 in Bernalillo while on an expedition to punish Apache Indians who had been raiding farms in the Rio Grande Valley. In March of 1705, a temporary acting governor arrived in Santa Fe. Francisco Cuervo y Valdez had been appointed acting governor of the province by the viceroy of New Spain, Francisco Fernández de la Cueva Enrique, the duke of Alburquerque (note original spelling). Early in 1706, Acting Governor Cuervo y Valdez decided to found an administrative center in the Middle Rio Grande Valley. The area known as El Bosque Grande de Doña Luisa, near the present site of Old Town, was selected. This wooded area was named for the widow of Diego de Trujillo, who had built the first farm in the area in about 1632. On April 23, 1706, Acting Governor Cuervo y Valdez notified the King and Viceroy that he had founded the Villa de San Francisco de Alburquerque. The Viceroy approved the request but changed the name to San Felipe de Alburquerque to gain favor from the king, whose patron saint was Saint Philip.

In 1712, during Governor Chacón's administration, an inquiry was ordered by the viceroy into the circumstances surrounding the founding of the Villa of Alburquerque. Cuervo y Valdez had stated that 252 persons were present at the founding, that a church and government buildings had been built, and that a proper plaza and streets had been laid out (*The Founding of Albuquerque* 1990). However, the transcript of the inquiry revealed a different account. Apparently there were 19 original families, plus 10 soldiers with their families—a total of 129 people. The settlers had moved into the houses abandoned in 1680 by the Spaniards. The commission of inquiry found that Cuervo had provided land and pre-Revolt houses and farms to colonists who came in small groups from settlements such as Bernalillo. There was no plaza and no government buildings, as required by law. The church was not as elaborate as Cuervo had stated. At the close of the inquiry, the viceroy reviewed the proceedings and agreed to let the name Alburquerque stand (*The Founding of Albuquerque* 1990).

By 1790 an official Spanish census had listed six plazas (defined settlements) north of Albuquerque (as it had become known), from south to north, Plaza de Señor San José de los Duranes, Plaza de los Candelarias, Plaza de Nuestra Señora del Guadalupe de los Griegos, Plaza del Señor de los Gallegos, Plaza de San Antonio de Los Poblanos, and Plaza de San José de Los Ranchos. Alameda was listed as a separate settlement on the east side of the river, and Corrales was on the west side of the river. Historically, all these villages were linked by the Camino Real, the trail from Chihuahua, Mexico, to Santa Fe, which wound through the North Valley and then on to Bernalillo. An alternate route, the Camino de Bernalillo or Camino de la Ladera (foothills), edged along the sandhills, a useful route in muddy conditions or during floods. Many nineteenth-century outgrowths of the riverside plaza grew up along the Camino de Bernalillo, now called Edith Boulevard (Sargent and Davis 1986:15-17).

In the center of the South Valley was Pajarito, land granted in 1746 to the Baca family. During the eighteenth century, settlers who had no farmland on the Rio Grande established small villages on the Rio Puerco, twenty miles (32.2 km) west, and Tijeras Creek, twelve miles (19.3 km) east of the main Albuquerque plaza. These villages did not last very long due to Apache and Navajo raids in the 1770s. The population of Albuquerque and the surrounding settlements was approximately 1,670 in 1790 (*The Founding of Albuquerque* 1990).

Mexican Period (1821-1846)

In 1821 the Viceroyalty of New Spain broke with Spain and took the name Mexico. As Mexico declared its independence from Spain, the new nation ended Spain's policy of isolation, opening the frontier to trade with the United States. The Rio Grande Valley slowly began to change as Americans traveled into the area over the Santa Fe Trail. Local residents became involved in trading, and some families began to prosper. In September 1822, a detailed census was taken of Albuquerque. The Albuquerque area was defined as extending three leagues from north to south and thirteen leagues from east to west, and it had a population of 2,302 (Simmons 1982:129).

Territorial Period (1846-1912)

In 1846 New Mexico was claimed by General Stephen Kearny as a United States territory. One of Kearney's men, who was keeping a daily journal, wrote, "On both banks of the river, the towns, villages, and ranchos cluster so thickly together that it presents the appearance of one continuous village from Algodones to San Tomé, a distance of nearly sixty miles. Albuquerque itself stretched some 7 or 8 miles up and down the river" (Simmons 1982:139). Soon after the arrival of American troops, Albuquerque experienced its first growth boom as an outpost of the US military. The presence of American troops helped provide protection from Apache and Navajo raiders and increased the market for the agricultural produce of local residents (Simmons 1982:139).

The growth of the Santa Fe trade and Kearney's conquest of 1846 marked the beginning of the Americanization of Albuquerque. A modern grist mill was in operation by 1850 to provide flour to the army. In 1851 the mill was closed down and dismantled, and the pieces were shipped to Fort Union, where they were converted into a sawmill. The Peralta Mills, owned by Antonio José Otero and located a few miles south of Albuquerque, supplied the army with 145,000 pounds of flour in 1852. The Peralta Mills and others were probably furnished with equipment from the East (Simmons 1982:153).

After the Mexican War, wagon routes were established across the Southwest territories. Well-defined and passable roads had to be laid out to expedite military supply to new forts and for emigrants on their way to the Pacific coast. Beyond Albuquerque, a direct route to California was slowly developing. Most westbound travelers in the late 1840s and early 1850s, upon reaching the Rio Grande, continued downriver until they could pick up the Gila Trail running from El Paso to Tucson and San Diego. A route directly west from Albuquerque along the 35th parallel had the energetic backing of Albuquerque's business community. They were anxious to see it surveyed and marked as a wagon road. The survey of Lt. Amiel W. Whipple in 1853-54 along the 35th parallel proved to be the most advantageous, and it was followed a few decades later by the Santa Fe Railroad (Simmons 1982:211).

However, hope for a railroad had to be put aside during the Civil War. In the spring of 1862, Albuquerque found itself under the muzzles of the Union and Confederate armies. Most native New Mexicans had little interest or stake in the conflict. When hostilities seemed inevitable, the territorial delegate to Congress, Miguel Antonio Otero, suggested publicly that New Mexico take the lead in forming a separate confederation of western states, which could stand aloof from the coming fight in the East (Simmons 1982:171).

Governor Abraham Rencher, a North Carolinian, professed to be neutral, but other officials, like Territorial Secretary Alexander Jackson and Surveyor General William Pelham, worked openly to push New Mexico into southern ranks. Even more damaging to the Union cause was the strength of succession sentiment among military officers. With the organization of the Confederacy, many of them resigned their commissions. Among the most prominent were Colonel William W. Loring and the quartermaster at Albuquerque, Major James Longstreet, who became one of the foremost generals in the Confederate Army. Another of the defectors was Colonel Henry Hopkins Sibley, who had served at Albuquerque and at the time of his resignation was in command of Fort Union (Simmons 1982:172).

Henry H. Sibley, now promoted to brigadier general in the Confederate Army, made plans to seize New Mexico for the Confederacy. He especially wanted the strategic Fort Union for the

South. Sibley knew that the quartermaster's depots at Albuquerque and Fort Union bulged with war supplies. He planned to make a swift drive up the Rio Grande to take Albuquerque and Fort Union, and from there move on to Colorado and California, whose productive goldfields could help finance the South's struggle (Simmons 1982:173).

In January 1862, after organizing a force in San Antonio, Texas, Sibley began ascending the Rio Grande Valley. He met swift resistance from Union civil and military forces. Sibley defeated the Union troops at Valverde and proceeded to Albuquerque. News of Sibley's approach was met with fear and dismay. Ranchers and farmers gathered their sheep and cattle and drove them across the East Mesa to places of concealment in the Manzano Mountains (Simmons 1982:176-77). To Captain Herbert M. Enos, assistant quartermaster and ranking Union officer in Albuquerque, fell the task of evacuating as many supplies as possible from the military depot and destroying what he could not move. Enos was unable to move most of the supplies before the Confederate troops were discovered only 20 miles (32.186 km) away at Los Lunas. On March 2, 1862, Enos put a torch to the buildings and evacuated the Union troops from Albuquerque. As Sibley's army approached the plaza, they saw the wreckage of the warehouses. However, Sibley's forces were able to find supplies in Cubero and from a twenty-three wagon caravan from Fort Union going through Carnue Pass (Simmons 1982:179).

Some of the Albuquerque merchants welcomed Sibley, but most of the town residents remained strict partisans of the Union cause. Sibley put his soldiers to confiscating any property that might be needed. Great quantities of corn, wheat, flour, sugar, coffee, beans, brandy, and whiskey were taken from merchants. The Franz Huning house was occupied by Confederate troops, who proceeded to slaughter cattle in the open courtyard (Simmons 1982:182).

By the middle of March 1862, Sibley left Albuquerque and marched to take Santa Fe, and then on to Fort Union. However, while traversing Glorieta Pass on March 26, 1862, Sibley's forces met the Union Army, made up of federal regulars and Colorado volunteers. On March 28 the Confederate forces received a devastating blow when the Union Army, assisted by local New Mexicans, burned the large train of supply wagons. Without supplies and a Union force in front of him, Sibley marched his forces back to Santa Fe and then onto Albuquerque and finally down the Rio Grande River and out of New Mexico (Simmons 1982:185).

The ill-fated attempt by Sibley to take New Mexico Territory left the Middle Rio Grande Valley devastated. Inside and outside of Albuquerque, families had been uprooted, the livestock population reduced, and much personal property lost (Simmons 1982:188).

The Civil War and the resolution of the Navajo raids highlighted Albuquerque history in the 1860s. The warring Navajos and Apaches took advantage of the Confederate invasion. By the late fall of 1862, Colonel Kit Carson had forced the Mescalero Apaches to a new reservation at Bosque Redondo on the Pecos River. In 1865 the Navajos were also forced to the Bosque Redondo Reservation. These two events curtailed Indian raids in the Middle Rio Grande Valley (Simmons 1982:193).

One of the most dramatic changes occurred with the coming of the railroad to the Rio Grande Valley in 1880. By the end of 1879, the Atkinson, Topeka & Santa Fe Railway (AT&SF) was within 80 miles (129 km) of Albuquerque. The AT&SF had planned to build a depot, offices, a railroad yard, and a roundhouse at Bernalillo, then head south in a straight line to avoid a bend in the river marking the old Albuquerque plaza. The town was approximately a mile and half (2.4 km) west of the straight line. Francisco Perea, whose family owned most of the land in Bernalillo, offered to sell the railroad all the acreage it needed for $425 an acre. However, the actual value was about $3 an acre.

In Albuquerque, a German immigrant, merchant, and real estate developer, Franz Huning, saw the railroad as critical in the making of the town. Huning operated a steam-powered flour mill southeast of the plaza, had cofounded the Bridge Company (which had built the first modern bridge across the Rio Grande), and served as first president of the *Albuquerque Journal*. Local businessmen, including Huning, began buying up the land where the tracks would lie. These businessmen made an offer to the railroad it could not refuse. They sold the railroad all the

land they needed for $1, including some extra land along the right-of-way which the railroad was free to sell to developers, although it had to split the profits with the businessmen. Early in January 1880, Chief Engineer Albert Robinson made the official announcement that the AT&SF would build its depot and yards almost two miles (3.2 km) east of the old plaza.

The last rail was laid to the depot grounds on April 5, 1880 (Simmons 1982:217-219). The center of life shifted from the plaza of Old Town to an area that became known as New Town. Within two years the population was concentrated heavily in New Town. The arrival of the railroad and the newcomers who came with it brought major changes. Within five years the Albuquerque Gas Company was formed, the telephone system was in place, the Albuquerque Water Company was formed, and incandescent lights were shining in some houses. In 1889 the University of New Mexico was founded a mile and a half (2.4 km) east of New Town (Price 1992).

The first serious breach between Old Town and New Town was caused by the United States Post Office in February 1881. The Post Office issued a charter establishing a post office in New Town. The office was on Third Street across from the Armijo House. It contained only twelve mailboxes. Incoming mail addressed only Albuquerque could be meant for either the plaza post office or the Third Street office. A postal inspector recommended closing down the plaza post office. The US Post Office ordered the plaza post office to be named Armijo and granted New Town the sole right to use the name Albuquerque. In 1886 a compromise was reached by calling the west station Old Albuquerque and the east station New Albuquerque (Simmons 1982:230).

The magnitude of Albuquerque's growth in the post-railroad period is evident in census figures. The US Census for 1870 gave the number of inhabitants at 1,307. By 1880, with the coming of the railroad, the figure was 2,135, not including smaller communities like Barelas, Atrisco, and Los Griegos. The population of New and Old Towns combined had grown to 6,059 by 1890 (Simmons 1982:284).

As early as 1854, the legislative assembly of New Mexico appointed Albuquerque as the site of an annual fair; however, no fair was held until October 1881. The fair was called the New Mexico Agricultural, Mineral, and Industrial Exposition. Among the favorite entertainments were periodic balloon ascensions. The town's pioneer balloonist was Professor Park A. Van Tassel, a saloon keeper. His maiden flight occurred at the Fourth of July celebration in 1882. The 30,000 cubic-foot balloon bore the name City of Albuquerque. It took two days to inflate it with coal gas from the Albuquerque Gas Works (Simmons 1982:322).

By 1900 Albuquerque had displaced Santa Fe as the commercial center of the territory. The census that year placed New Albuquerque's population at 6,326, with an additional 1,191 in Old Town and 12,042 in Bernalillo County as a whole. While the Santa Fe Railway drove a large part of the economy, a separate manufacturing and merchandising industry also existed. It included brickyards, tanneries, flour mills, packing houses, laundries, woolen mills, bottling works, and a cement plant (Simmons 1982:332).

The largest of the plants was the Albuquerque Lumber Company. Founded in the early 1880s, the company was listed in 1908 as the largest manufacturing firm in the Southwest. The main plant, on 160 acres (64.7 ha), had sawmills, a box factory, and sash and door factories. Inside the yard were 5 miles (8 km) of railroad track, huge ponds capable of holding 4 million feet of logs, and a self-contained electric plant. The company started its own fire-fighting corps and medical department. It sponsored social and musical organizations and athletic clubs. During the first years of the 1900s, the company had more than a thousand men on its payroll (Simmons 1982:332). The coming of the automobile made necessary the long-delayed surfacing of streets and roads. In the 1890s some effort was made to pave the streets in the downtown area, but it was 1908 before any serious improvements occurred. As late as the 1930s, portions of US 85 north and south through the valley, and US 66, a primary transcontinental route, remained unpaved (Simmons 1982:337).

By 1910, Albuquerque, including Old Town, had a population of 13,000. President William H. Taft visited Albuquerque in the fall of 1909 and assured New Mexico citizens that he was a staunch supporter of statehood for New Mexico. True to his word, on August 21, 1911, Taft signed

a statehood bill. After administrative delays, New Mexico was admitted to the Union in 1912 (Simmons 1982:352).

In April 1917, the United States entered World War I. News of the conflict swept through Albuquerque, and patriotic fervor swept the city. When the fall session of the university opened, 70 percent of the male students, including the entire football squad, failed to appear because they had enlisted. During the summer, Camp Funston had risen on vacant university land and contained soldiers barracks and tents, Red Cross hospitals, supply houses, and horse corrals. More than 1,500 members of Battery A, New Mexico Guard, marched there daily. In 1918 the National Guard departed to fight in the war (Simmons 1982:354).

In the 1920s Albuquerque managed to pull out of a recession that came on the heels of World War I. After the stock market crash of 1929, the Great Depression hit. The full brunt of the depression was somewhat contained by Albuquerque's geographical location and relatively small number of industrial enterprises. However, there were still business failures, bank closings, lines of unemployed, and bulging welfare rolls. Hard hit were small businesses, the motor courts, gas stations, and cafes along Central Avenue, which depended upon the tourist trade from Highway 66. In place of the tourists, a stream of broke and hungry hitchhikers and entire families passed through, most on their way to California (Simmons 1982:358).

With the coming of World War II, Albuquerque again began a major transformation in physical appearance and economic character. In 1942 the US Army Air Corps established Kirtland Field adjacent to the airport. Many New Mexicans, part of the New Mexico National Guard, were detailed to the 200th and 515th Coast Artillery Antiaircraft regiments stationed in the Philippines. When Bataan Peninsula fell to the Japanese in April 1942, many New Mexicans (Native American, Hispanic, and Anglo) were in the Bataan Death March and suffered more than three years of prison camp internment and as slave laborers in Japan (Jenkins and Schroeder 1974:77). In 1945, a military-industrial complex was established at Sandia Base. A huge boom occurred as Sandia Laboratory became the center of America's nuclear war machine, a dominant site of weapons research, management, and testing (Price 1992).

The expansion of trucking and air freight service during World War II led to a decline in the railroad business. The railroad's place as a top employer was soon taken over by the military and space industry. The city's urban look began in the early 1960s. There was an upswing in freeway construction. Alignment began in 1956 for the north-to-south Interstate 25 and the east-to-west Interstate 40, which replaced US 66. The interchange, where the two crossed northeast of the old commercial district, was completed in 1966. Central Avenue's businesses once again fell into a slump. All these changes had an impact on the downtown area. By the late 1970s, Albuquerque sprawled across 92 square miles. Many retailers opened shops in the outlying areas, but most federal, state, county and municipal offices remained headquartered in the downtown area (Simmons 1982:373).

While the New Town (downtown) of Albuquerque had developed and grown throughout the twentieth century, the plaza of Old Town had become more of a tourist attraction. It continued, in its quiet way, as a commercial and residential center for the surrounding community. Renovation of the historic buildings began in the 1930s. Old town remained outside the Albuquerque city limits until 1949, when it was annexed to boost the metropolitan population for the 1950 census (Simmons 1982:374). To protect the area and honor its cultural importance in the city's history, Old Town was designated a historic district in 1957.

Today we know Albuquerque as a cosmopolitan city with a population of a half million, as a university town, and as a place of several cultures. Its history goes back almost 300 years, but the Middle Rio Grande Valley had been populated thousands of years before the Spaniards came into the region.

Historical Research

Janet E. Spivey

Special thanks are extended to the following people for their assistance in this research: John Grassham, curator of history of the Albuquerque Museum; Anabel Gallegos, records manager of the Middle Rio Grande Conservancy District; and Mary Davis of the City of Albuquerque Planning Department. Thanks also to Meres García Brown and Joe N. and Carmen Sais for information about LA 78945, a historic adobe structure.

Methods

Janet E. Spivey, OAS ethnohistorian, conducted a study of LA 78945 in September and October 1995. The purpose of the study was to document the land-use history of the site, including its past owners and its place in a larger sociocultural context. Research methods included a site visit and a study of records at the Middle Rio Grande Conservancy, the Bernalillo County Court House, and the New Mexico Records Center and Archives. Interviews were also conducted with knowledgeable individuals such as Mary Davis of the City of Albuquerque; Meres Garcia Brown, a local resident; and Joe N. Sais, whose grandfather built the historic adobe house on the site.

Findings

LA 78945 is near Rio Grande Boulevard and I-40. When recorded in 1989, it consisted of the remains of a historic adobe residence and an accompanying trash midden. Presently, only a trash midden with historic trash and building materials remains. The structure is not evident. It may have been disturbed during ditch maintenance. According to the earliest archival documents found, which include Middle Rio Grande Conservancy documents and maps, City of Albuquerque maps, and Bernalillo County tax records, the historic adobe structure appears to have been built after 1907 and had been partially demolished by 1941. According to Joe Sais, whose grandfather, Casamiro Sais, built the house, the adobe structure was completely demolished when the freeway was built in the 1960s. The 1906 Bernalillo County tax records show that "Casimiro" Sais (as the name was recorded then) owned the land. An Albuquerque abstract map dated 1907 shows a house on the Sais property, but it is not where the adobe house remains were found (Fig. 2). This suggests that LA 78945 did not exist before 1907.

Meres García Brown, a local resident born in 1911, recalled that in 1919, when she was a little girl, she used to walk by the Sais house on her way to the mill pond to watch the sawmill cut trees into lumber. She said the house was made of adobe and not in good condition; it looked old to her. A family lived there with several children. She believed it was a rental house. Her description of this house matches the location of LA 78945. Ms. Brown's grandfather was Antonio José García, who was born in the 1850s and owned land north of what is today I-40. Ms. Brown lived with her grandparents in 1918 after her mother died. She did not know the Sais family and left Albuquerque around 1930 to attend college in Virginia. Ms. Brown stated that she believed the adobe house was still standing in 1930.

The Middle Rio Grande Conservancy District (MRGCD) appraisal records for 1926 name Palmira Montoya de Sais as the owner of the land and indicate an adobe house at the site of LA 78945 (Fig. 3). The appraisal describes a three-room, one-story dwelling with outside dimensions of 20 by 60 ft (6 by 18 m) and notes that it was in poor condition. The homesite consisted of 1.2 acres (0.5 ha), and it was appraised at $150. There were 11.23 acres (4.54 hectares) of land under irrigation, including a 1-acre (0.40 ha) garden and an average crop of 9 acres (3.64 ha) of alfalfa and grain. The land was said to have good inherent fertility with an average crop condition and an appraised value of $2,246. All of the land was irrigated. The nearest road was Old Town Boulevard, 0.2 miles (0.32 km) away. The river

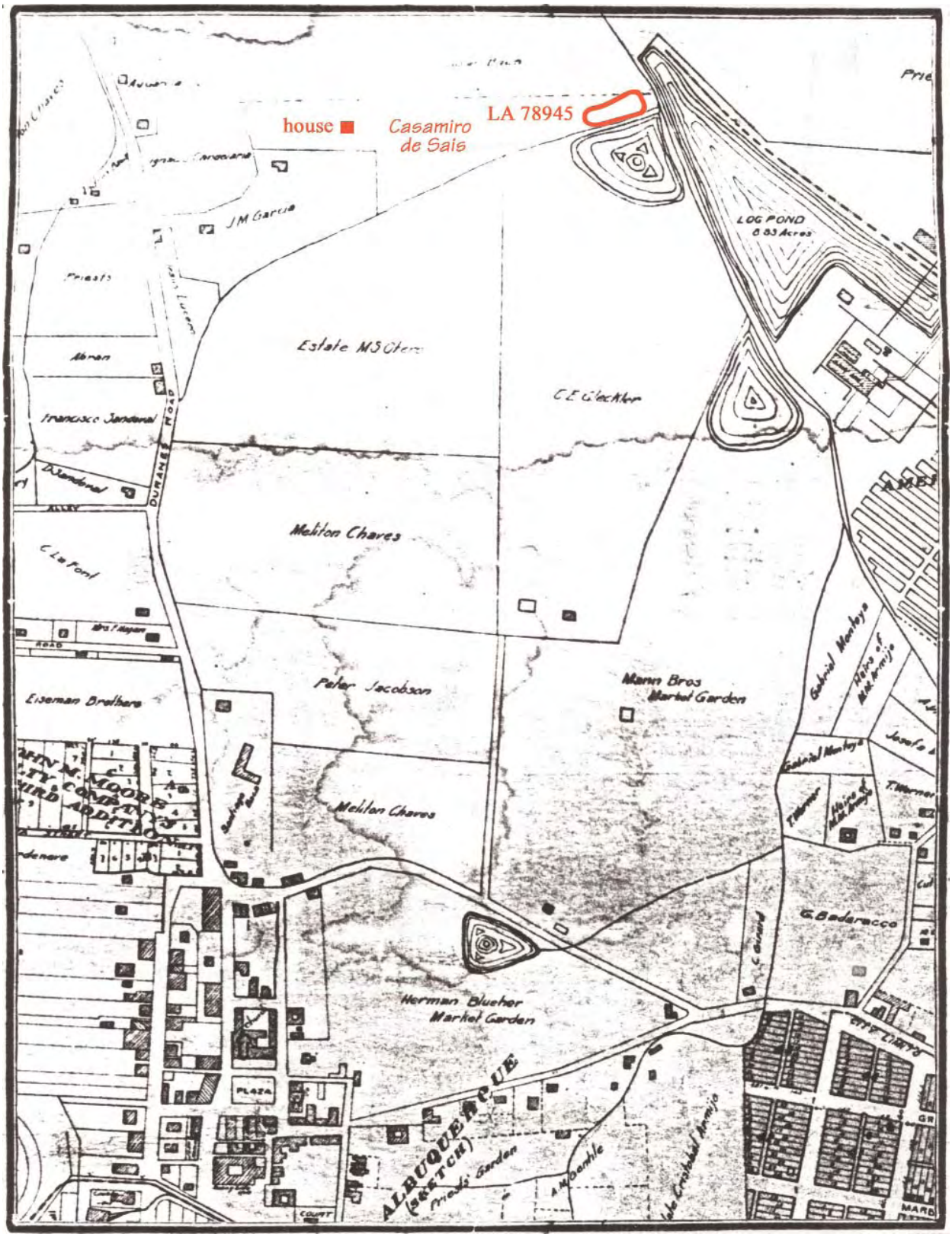
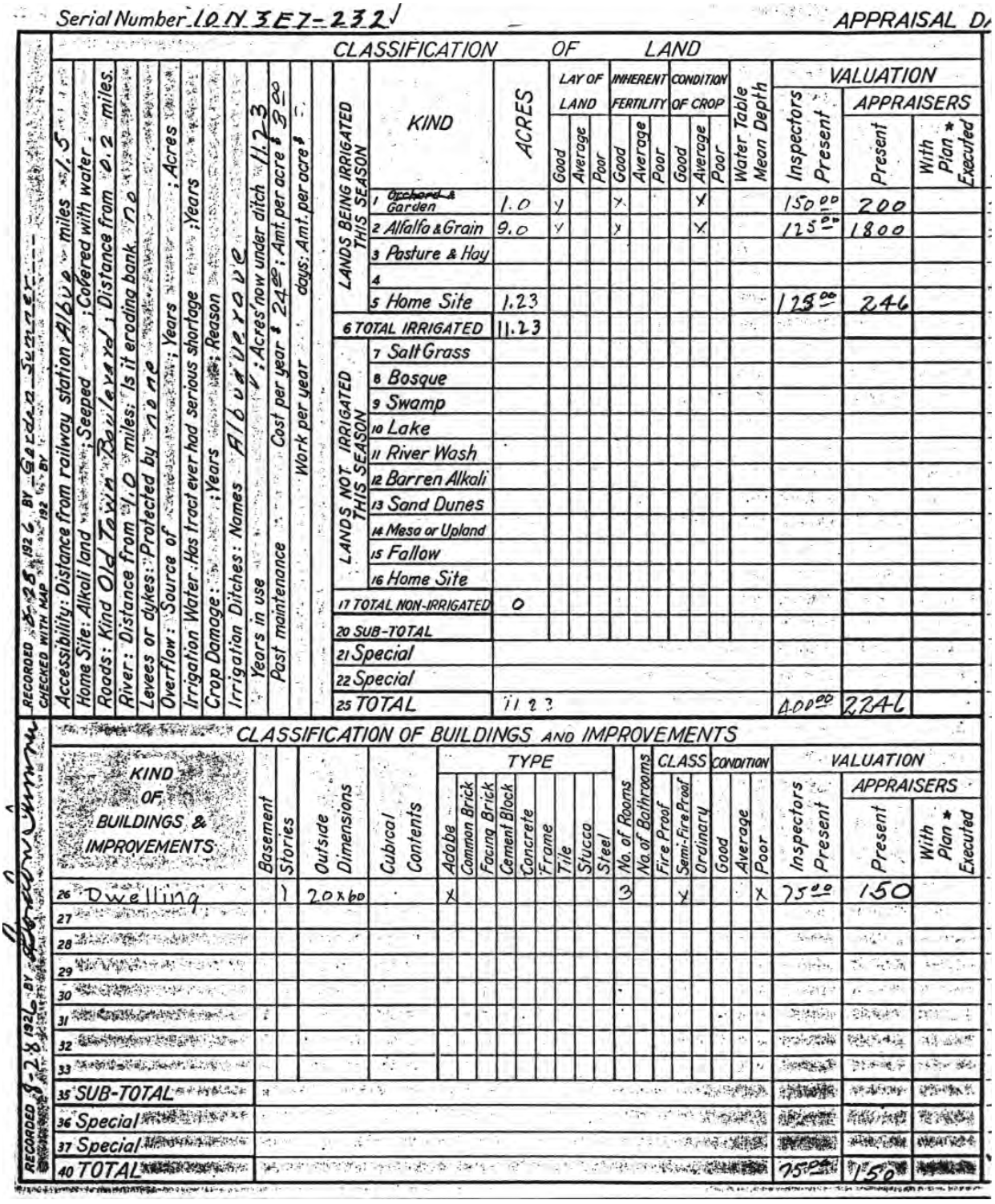


Figure 2. The vicinity of LA 78945 in 1907. City Planning Department, Albuquerque.



Serial Number 10.N.3E7-232

APPRAISAL D

CLASSIFICATION OF LAND

	KIND	ACRES	LAY OF LAND: Good	Average	Poor	INHERENT FERTILITY: Good	Average	Poor	CONDITION OF CROP: Good	Average	Poor	Water Table Mean Depth	VALUATION: Inspectors Present	APPRAISERS: Present	With Plan * Executed
LANDS BEING IRRIGATED THIS SEASON	1 Orchard & Garden	1.0	X			X				X			150.00	200	
	2 Alfalfa & Grain	9.0	X			X				X			125.00	1800	
	3 Pasture & Hay														
	4														
	5 Home Site	1.23											125.00	246	
	6 TOTAL IRRIGATED	11.23													
LANDS NOT IRRIGATED THIS SEASON	7 Salt Grass														
	8 Bosque														
	9 Swamp														
	10 Lake														
	11 River Wash														
	12 Barren Alkali														
	13 Sand Dunes														
	14 Meso or Upland														
	15 Fallow														
	16 Home Site														
	17 TOTAL NON-IRRIGATED	0													
	20 SUB-TOTAL														
	21 Special														
	22 Special														
	25 TOTAL	11.23											400.00	2246	

RECORDED 8-25 1926 BY Gordon Summers
CHECKED WITH MAP 1926 BY

Accessibility: Distance from railway station Albuq miles 1.5
Home Site: Alkali land ; Seeped ; Covered with water
Roads: Kind Old Town Bailey rd ; Distance from 0.2 miles.
River: Distance from 1.0 miles; Is it eroding bank no
Levees or dykes: Protected by none ; Years ; Acres
Overflow: Source of ; Years ; Acres
Irrigation Water: Has tract ever had serious shortage ; Years
Crop Damage: ; Years ; Reason
Irrigation Ditches: Names Albuquerque ; Acres now under ditch 11.23
Years in use ; Cost per year $ 24.00 ; Amt. per acre $ 2.00
Past maintenance ; Work per year ; days; Amt. per acre $

CLASSIFICATION OF BUILDINGS AND IMPROVEMENTS

	KIND OF BUILDINGS & IMPROVEMENTS	Basement	Stories	Outside Dimensions	Cubical Contents	TYPE: Adobe	Common Brick	Facing Brick	Cement Block	Concrete	Frame	Tile	Stucco	Steel	No. of Rooms	No. of Bathrooms	CLASS: Fire Proof	Semi-Fire Proof	Ordinary	CONDITION: Good	Average	Poor	VALUATION: Inspectors Present	APPRAISERS: Present	With Plan * Executed
26	Dwelling		1	20x60		X									3			X				X	75.00	150	
27																									
28																									
29																									
30																									
31																									
32																									
33																									
35	SUB-TOTAL																								
36	Special																								
37	Special																								
40	TOTAL																						75.00	150	

RECORDED 8-28 1926 BY Gordon Summers

Figure 3. Middle Rio Grande Conservancy District appraisal data, 1926.

was 1 mile (1.6 km) to the west, and the land was irrigated from the Albuquerque Ditch at a cost of $24 a year. The MRGCD appraiser's map, dated October 30, 1928 (Fig. 4), shows that the land still belonged to Palmira Montoya de Sais, but it does not indicate a standing structure on the land. That does not mean a structure did not exist. The 1941 MRGCD Appraisal Data (Fig. 5) shows that "Carmilo" Sais owned the 11.23 acres (4.54 ha); however, the revised appraisal shows that the house had been demolished and gives it no value. There is no indication that any of the land was being used for crops or garden in 1941. It appears that the homesite was partly demolished before 1941.

A warranty deed dated June 27, 1966, in the Bernalillo County Courthouse indicates that "Claromilo" and Mary M. Sais, his wife, sold the land to Toby G. García. Toby G. García died in February 1967, and his wife, Annie N. García, became the owner.

Unfortunately, detailed information on the Sais family has not been found. However, one family member was interviewed and provided the following information. Joe N. Sais is a grandson of Casamiro Sais, who built the adobe structure. Joe Sais did not know when the structure was built but recalled that even though it was in a run-down condition and the roof had collapsed, it was not completely demolished until the freeway was built in the 1960s. The house had been used by his grandfather as rental property. Casamiro Sais was born in the 1850s. Claromilo Sais was born in 1900 and raised by his grandfather, Casamiro, and Casamiro's second wife, Palmira Montoya de Sais. Joe N. Sais was born in 1928 to Claromilo and Mary Margaret Sais. Claromilo Sais died in 1992. A search of the Albuquerque city directories from 1900 to 1950 gave the following information. In 1919, Casimiro Sais lived in Old Albuquerque on Trimble Street, and in 1924 several family members lived at the same address, including "Carmilo" (probably Claromilo). Claromilo continued to live on Trimble Street in Old Albuquerque until 1937. He was listed at the address in the warranty deed of 1966.

According to information collected from archival documents and informants, it appears that LA 78945 was built after 1907, had been partly demolished by1941, and was finally destroyed during the construction of I-40 in the 1960s.

Ditches and Irrigation

The land-use history of LA 79845 includes irrigation agriculture in the Middle Rio Grande Valley, and specifically the area north of Old Albuquerque. The site is at the intersection of the Albuquerque Main Ditch and the Los Griegos Lateral Canal. These drainage channels form the east and south boundaries of the site, respectively. The 1926 MRGCD Apprisal Data shows that the 11.23 acres (4.54 ha) where the adobe house was located were irrigated by the Old Albuquerque Ditch, which runs to the east. A lateral ditch runs south of the property. The 1926 MRGCD Appraisal Records indicate that Mrs. J. R. Galusha, a neighbor on Tract 237, immediately west of Palmira Montoya de Sais, also used the Albuquerque Ditch for irrigation. According to Albuquerque City Planning and the MRGCD, the lateral ditch coming off the Albuquerque Ditch existed for community irrigation prior to the establishment of the Middle Rio Grande Conservancy District Act in 1923 and was acquired by the MRGCD in 1934.

According to the *Report of the Chief Engineer*, written by Joseph L. Burkholder of the MRGCD in 1928, the Albuquerque Ditch was built in 1706. These drainage channels form the east and south boundaries of the site, respectively, indicating that the ditch was built by the Spaniards when Albuquerque was founded as a villa. Irrigation systems were necessary in colonial agriculture because of the introduction of Euroamerican crops such as wheat, barley, oats, and fruit. Colonial settlers occupied lands where enough water was available to sustain subsistence agriculture.

Spanish farmers are thought to have sometimes enlarged ditches used by the Pueblo Indians. The Spanish system brought water into the fields, but there were no ditches to act as drains. The fields in time became so waterlogged that cultivation was impossible. Flooding of the Rio Grande and a water table that was too high to allow excess water to sink into the ground made the situation worse. Swamps, more properly termed marshes or *ciénagas*, were numerous. The Spanish patterns of land use, which persisted in the Rio Grande Valley for over 200 years, includ-

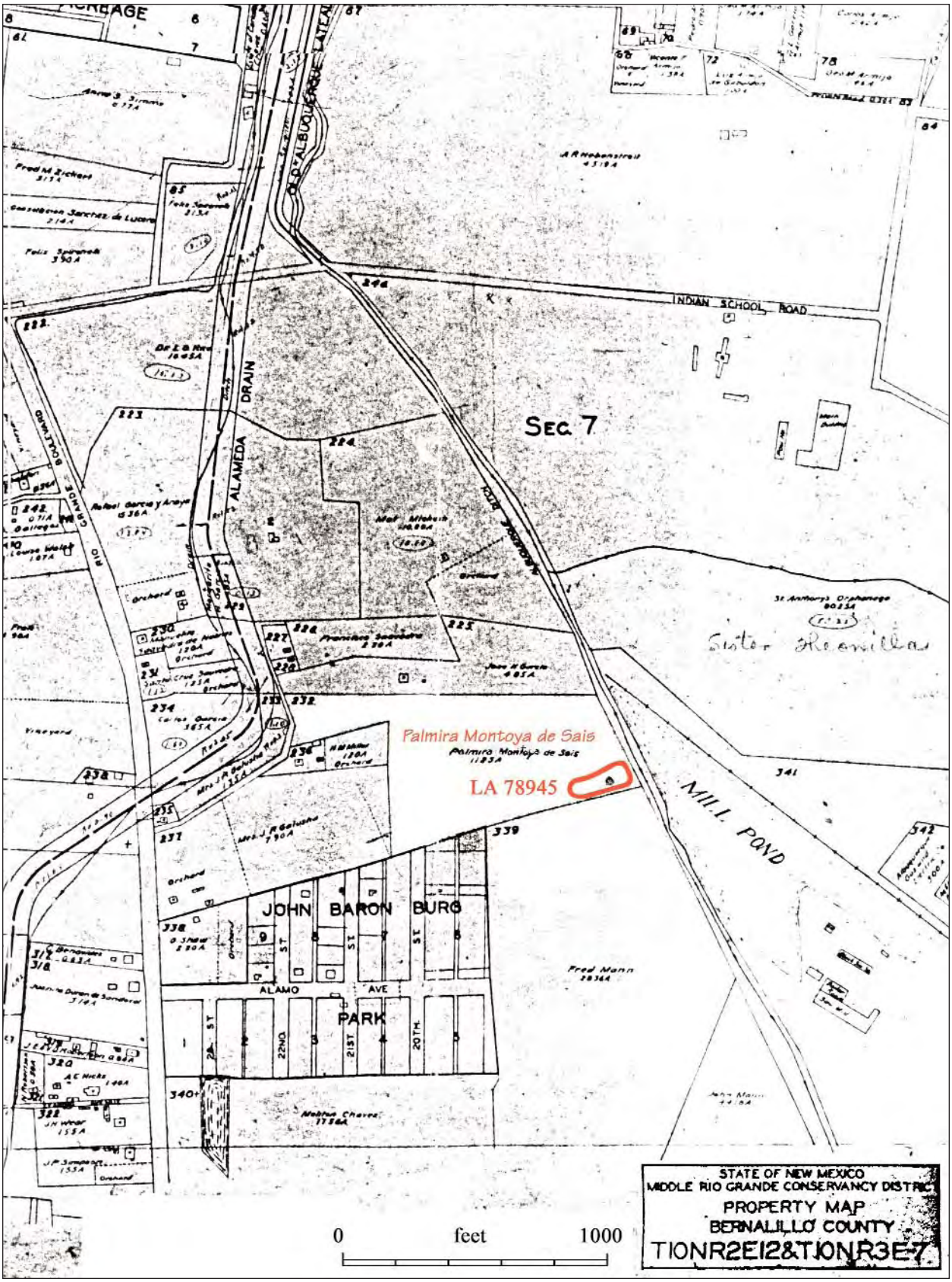


Figure 4. Map of Sais property, 1928.

MIDDLE RIO GRANDE CONSERVANCY DISTRICT

REAPPRAISAL DATA

ACCT. No. _____

CLASSIFICATION AND APPRAISAL OF LANDS

GINAL APPRAISAL			REVISED APPRAISAL FOR CONSTUCTION FUND LEVY							
			INACTIVE ASSESSMENT				ACTIVE ASSESSMENT			
VALUE	BEN PER ACRE	APPRAISED BENEFITS	VALUE	ACRES	BEN PER ACRE	APPRAISED BENEFITS	ACRES	VALUE	BEN PER ACRE	APPRAISED BENEFITS
(200)	80	80 00					1.03			
(209)	80	720 00					@ 9.82			
				1.41			1.41			
200	80	99.40					@ .141			
		898.40		1.41			@ 11.23			
AINTENANCE FUND LEVY				-1			@ 11.23		95	1066.85

FICATION AND APPRAISAL BUILDINGS AND IMPROVEMENTS

CUBIC FEET CONTENT	NO. OF ROOMS	BASEMENT	STORIES	TYPE: ADOBE	COM. BRICK	FACE BRICK	CEMENT BLK.	CONCRETE	FRAME	TILE	STUCCO	STEEL	CLASS: FIREPROOF	AVERAGE	POOR	ORIGINAL APPRAISAL: CONDITION GOOD	AVERAGE	POOR	VALUE	APPRAISED BENEFITS	REVISED APPRAISAL: CONDITION GOOD	AVERAGE	POOR	VALUE	APPRAISED BENEFITS
	13			X										X				X	150	15 00				Demol.	
																			150	15					

PROPERTY DESCRIPTION

OWNER Leonilo Baca

SCHOOL DIST. 13 COUNTY Bern.

MAP 35 TRACT 23 Y

ADDITION

BLOCK LOT

CONSTRUCTION FUND ASSESSMENT RECORD

ITEM	ORIGINAL APPRAISAL	REVISED APPRAISAL: INACTIVE ASSESSMENT	REVISED APPRAISAL: ACTIVE ASSESSMENT
ACRES	11.23		
BENEFITS TO LAND	898.40		
BENEFITS TO IMP'S	15 00		
TOTAL BENEFITS	913.40		
ASSESSMENT	401.90		
CAPITALIZED INTEREST	85.94		
TOTAL PRINCIPAL LIEN	487.84		
BAL. LIEN DUE	473.14		

MAINTENANCE FUND ASSESSMENT RECORD

ITEM	ORIGINAL APPRAISAL	REVISED APPRAISAL: INACTIVE ASSESSMENT	REVISED APPRAISAL: ACTIVE ASSESSMENT
ACRES	11.23	1.41	11.23
BENEFITS TO LAND	898.40		1066.85
BENEFITS TO IMP'S	15.00		-0-
TOTAL BENEFITS	913.40		1066.85

VERIFICATION ORIGINAL DATA

ITEM	COPIED	CHECKED
CONSTRUCTION FUND RECORD	JM	
ORIGINAL APPRAISAL DATA	COA	

VERIFICATION REVISED APPRAISAL

APPROVED

DATE SEE BACK FOR SKETCHES.

Figure 5. Middle Rio Grande Conservancy District reappraisal data, 1941.

ed acequias for irrigation, division of land into long narrow strips to allow each heir access to water from the ditches, intensive agriculture, communal use of mesa grazing lands, and family settlements which grew into small villages (Sargent and Davis 1986:14-15).

When Euroamericans occupied New Mexico in 1846, they found a largely agrarian society concentrated in the Rio Grande Valley that depended on irrigation agriculture for its survival (Wozniak 1987:85). Josiah Gregg visited New Mexico on several occasions in the 1830s and noted that nearly all the farms and settlements were in valleys with perennial streams. One *acequia madre* (mother, or main, ditch) was usually sufficient to convey water for the irrigation of the entire valley or fields of one town or settlement (Wozniak 1987:85). Community ditches were the most common. Repair and maintenance of ditches were the responsibility of the community and were carried out under the supervision of the *mayordomo*. Individual landowners took water from the acequia by means of lateral ditches running to their own land (Wozniak 1987:85).

There was very little change in irrigation systems between 1846 and 1900. In 1900 the fertility of the valley fields was considerably less than it had been 50 years earlier. In 1917 half of the land in the North Valley was depicted as alkaline, marshland, sand hills, or sagebrush. This deteriorated condition was caused by two related elements: flooding and a rising water table (Sargent and Davis 1986:19).

During the last quarter of the nineteenth century and well into the twentieth, major flooding occurred in the Albuquerque area almost every ten years. The flood of 1874 destroyed almost every building between Alameda and Barelas. The flood of 1904 washed away most of the bridges on the Rio Grande. Until a major dike was built north of Alameda in 1885, the river would leave its bed at this point and pour down along the low east side of the valley in an old channel between the railroad tracks and Fourth Street. Although the Alameda dike protected New Town, it did not protect the settlements near the river (Wozniak 1987:112).

Between 1850 and 1925, thousands of acres of land were abandoned and became known as "alkali flats." The flooding problem in the Middle Rio Grande Valley was not dealt with until the organization of the Rio Grande Conservancy District in 1925. Even then, while a master plan for drainage was devised, several decades passed before large sums of money became available for the needed work. As late as 1941, a segment of the levees gave way, funneling a mighty stream of water down First Street and causing one million dollars worth of damage (Simmons 1982:302).

The Middle Rio Grande Conservancy District was created with the enactment of the New Mexico Conservancy Act of 1923. The purpose of the district was to lower the water table in the valley so that land could be rehabilitated for commercial, residential, or agricultural use and to provide flood protection from the Rio Grande and irrigation to farmlands. When the district was organized, two-thirds of the arable bottom lands within its boundaries were subject to seepage or waterlogged. The estimated cost of the entire project was ten million dollars (Wozniak 1987:134).

The district took over some 70 community acequias in the late 1920s, 1930s, and 1940s, including the Old Albuquerque Ditch in 1928. The community acequias had their own headings from the Rio Grande. The district discontinued the community ditch headings and provided diversions to the acequias from new irrigation networks. This provided centralized control by the district and alleviated continuous maintenance problems. The district dug 404 miles (1,046 km) of drains and built 150 miles (241 km) of levees to control the flow of water from the Rio Grande (Shah 1991:1).

The Albuquerque Main Ditch (LA 112423 and LA 114200) was the major Conservancy District ditch. It joined the old Chamisal Acequia, the Griegos-Candelaria Acequia, and the Alameda Lateral in carrying water from north to south in the valley. A landmark ditch in the North Valley is the Gallegos Ditch, which runs east to west across the middle of the valley south of Osuna and Chavez Roads (Sargent and Davis 1986:8).

In the 1930s subdivisions of new stucco houses quickly filled in lots that were once swampland. Second Street was built during the 1930s along with the construction of the Alameda Drain. West of Fourth Street, Rio Grande Boulevard remained a narrow dirt road until the

1930s, when it was graded. Adobes from the plaza in Los Ranchos, which had been reduced to mounds by the flood of 1904, were used for its foundation (Sargent and Davis 1986:19-20).

Not until mid century, after the Air Force and Atomic Energy Commission had decided on Albuquerque as the site for installations, did the US government assault the flood problem on a large scale. In 1950 the Army Corps of Engineers initiated work on the Jemez Canyon Dam to check flash floods on the Jemez River. That was followed by construction of Abiquiu Dam on the Rio Chama, a tributary of the Rio Grande. In the late 1970s the huge Cochiti Dam was completed on the Rio Grande itself (Simmons 1982:302).

Only two of the drains dug by the Conservancy District still drain the valley lands. The Alameda Drain runs along Second Street until it curves west and south toward the Rio Grande, and the Albuquerque Riverside Drain absorbs the river waters as it closely parallels the Rio Grande along its route through the city (Sargent and Davis 1986:8). The Los Griegos Lateral Canal, which forms the south boundary of the site, is listed at the Archeological Records Management Section (ARMS), Historic Preservation Division, as LA 6858.

Test Excavations

LA 78945 was initially identified as a nineteenth-century adobe house mound with an associated artifact scatter and two middens (Marshall and Marshall 1990). The structure was defined as a low adobe mound at the east edge of the site, extending 12 m west from edge of the Albuquerque Main Ditch bank. No wall alignments were visible. Two middens, both measuring less than 10 m in diameter, were also noted. One midden was directly south of the house mound, and the second was 20 m west of the house mound (Fig. 6). Late nineteenth- and early twentieth-century artifacts were scattered over an area of 50 by 30 m. Ash-laden fill on the surface suggested that cultural deposits were intact. At that time, it was observed that the site had been marginally affected during the maintenance of the ditches.

The site was examined again in 1995 as part of the current project. It was described as an artifact scatter measuring 60 m east to west by 25 m north to south containing a mound of construction materials (ARMS). There was no evidence of the house mound or the southern midden. The western midden identified in the 1989 survey (Marshall and Marshall 1990) may or may not be associated with the mound of construction debris. At the time of the 1995 survey, it was observed that recent maintenance work on the acequia system may have compromised the integrity of the site as recorded in 1989.

LA 78945 is on the Rio Grande floodplain 2.5 km east of the river in an area that has undergone commercial and private development. The site is at the intersection of the Albuquerque Main Ditch (north to south) and the Los Griegos Lateral Canal (east to west), which form the eastern and southern boundaries of the site, respectively (Fig. 6). The site is bordered on the north by the I-40 right-of-way fence (Fig. 7). The west boundary of the site is designated as the west edge of the surface artifact scatter that terminates at Feature 1. The area is currently accessed by a dirt road that runs east to west north of the Los Griegos Lateral Canal (Fig. 8). It is likely that the site was mechanically bladed during maintenance of the access road or the canal banks.

Historical research (Spivey, this volume) documents a structure at the site, probably built after 1907 and used as a rental property by the landowners at that time. In 1926 the house was described as a three-room adobe structure in poor condition, measuring 6 by 18 m on the exterior. MRGCD records indicate that the house had been demolished by 1941, and it was not given a listed value. In 1966 the land was sold to Toby García and became the site of an automobile and truck junkyard (H. García, pers. comm., September 1996).

The condition of LA 78945 at the time of the testing program was essentially the same as that noted during the 1995 survey. At the beginning of the testing program, site boundaries were redefined, and surface artifacts were examined. The site consisted of a scatter of late historic artifacts mixed with recent trash with two mounds of debris in an area measuring 64 m east to west and 18 m north to south. The artifact scatter is concentrated within a triangular area measuring 26 m east to west by 14 m north to south, which corresponds to the location of the house mound and middens as defined during the 1989 survey. There was no longer any evidence of either a house mound or midden within this area, but signs of fairly recent mechanical disturbance indicated that the surface had been bladed, and the mound and midden may have been dispersed across the site or pushed into a pile.

Methods

At LA 78945, a main site datum, consisting of rebar, was established within site boundaries and arbitrarily designated as the intersection of the 100 m north line and the 100 m east line. All horizontal and vertical measurements were tied to the main site datum, which was given an arbitrary elevation of 10 m below datum. The surface of the site was inspected to locate and mark diagnostic artifacts, site limits, artifact clusters, and features. A total of five 1 by 1 m test pits were then dug on the site. A transit, stadia rod, and 50 m tape were used to produce maps. The locations

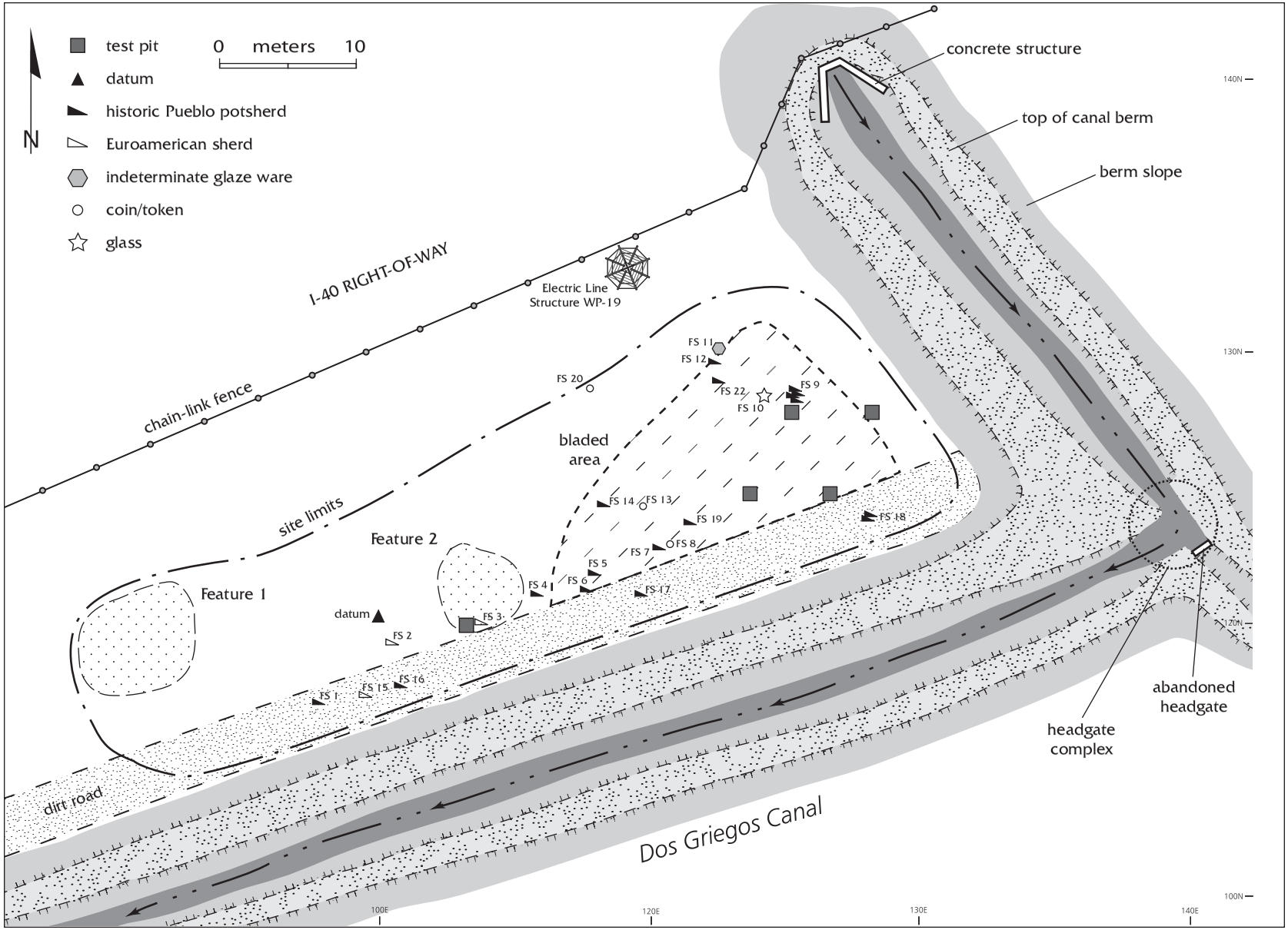


Figure 6. Site map, LA 78945.

Figure 7. Site area, facing east.

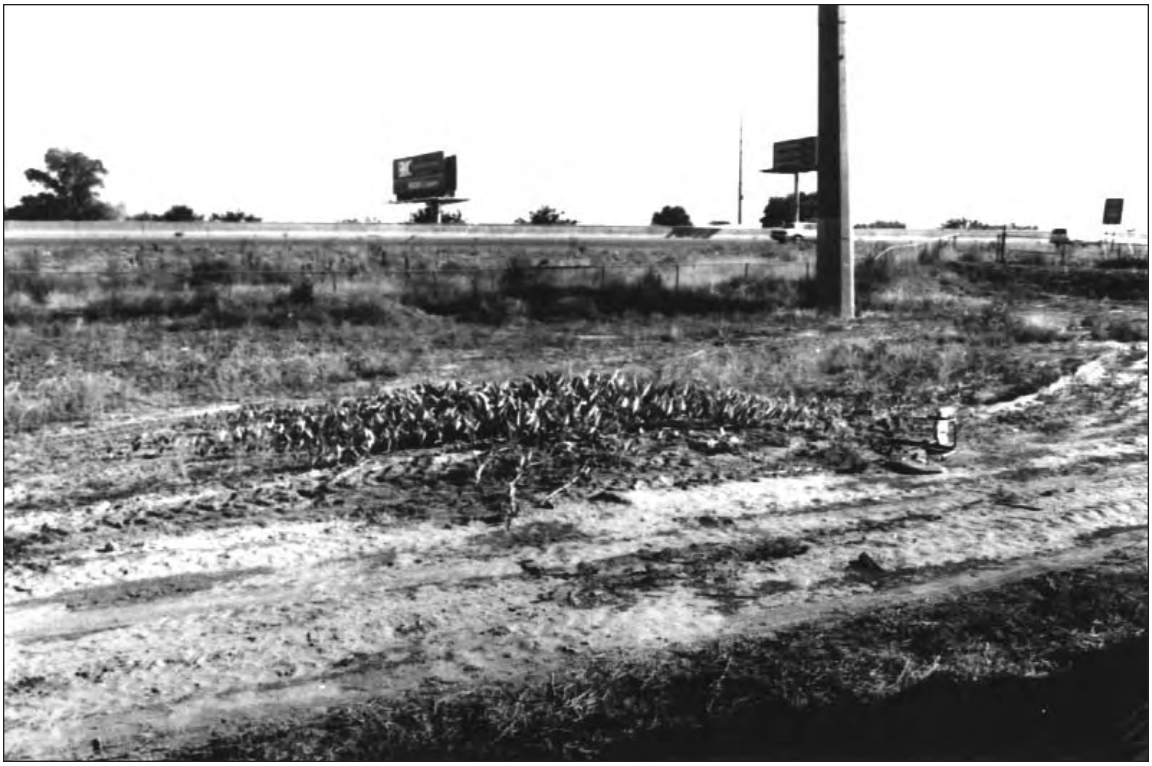


Figure 8. Access to site, facing north.

of all test pits, features, collected surface artifacts, artifact concentrations, and current topographic and cultural features were plotted on site plans (Fig. 5). Topographic contours were also plotted to provide an accurate depiction of site structure in relation to the immediate physical environment.

Diagnostic artifacts on the surface of the site were point-provenienced and drawn or collected. All other artifacts within project limits were collected only when recovered from test pits. Test pits were 1 by 1 m excavation units placed in areas of high artifact density, in the probable location of the house mound, and in a mounded area (Feature 2). Pits were excavated in arbitrary 10 cm levels using hand tools. Soil removed from test pits was screened through 1/4-inch mesh hardware cloth. Artifacts recovered during screening were bagged, assigned a field specimen number, and taken to the OAS laboratory for analysis. A standard OAS form describing the subsurface characteristics and listing ending depths and field specimen numbers was completed for each 10 cm excavation unit. Excavations reached an average depth of 66 cm. Test pits were terminated when culturally sterile strata were encountered. An auger test was bored into the bottom of one grid unit to verify that sterile strata had indeed been reached.

Stratigraphic profiles were drawn for each test pit. Soil colors were determined using a Munsell soil color chart, and each profile was photographed. Test pits were backfilled when the profiles were completed. Cultural materials recovered during these investigations are curated at the Laboratory of Anthropology, Museum of New Mexico. Field and analysis records are on file at ARMS.

Features

Two mounds in the west part of the site were defined as Features 1 and 2.

Feature 1 formed the west boundary of the site and measured 13 m north to south by 11.7 m east to west (Fig. 6). It consisted of a mound comprised of several piles of dirt representing different depositional episodes, recent construction debris, and sections of uprooted tree trunks. The materials in or near the mound included historic white ware ceramics, wire mesh fencing, aluminum foil, metal paint cans, clear glass bottle fragments, 3/4-inch cable, scraps of rubber, concrete, wood, window screen, and window glass, and a steering wheel. While it is possible that some of these materials are related to LA 78945, very few artifacts dating to the early twentieth century were noted, and most dated to the second half of the twentieth century. Because most of the trash in Feature 1 was more recent than surface artifacts noted in deposits in the main part of the site, and the mound was not described during the 1989 survey, it seems likely that this mound formed more recently during earth-moving activity in the site area. No test grids were excavated in Feature 1.

Feature 2 was east of Feature 1 and consisted of a pile of dirt and debris measuring 7 m north-south by 7 m east-west. Feature 2 matches the description of the mound of construction debris recorded in the 1995 survey. Large fragments of fiber insulation, asphalt, aggregate, and concrete were embedded in the mound, and bottle glass, Euroamerican white ware ceramics, bone fragments, amethyst or purple glass, a 78 rpm record, and a plastic and metal dinette chair were noted in the immediate vicinity. Feature 2 did not appear to be a trash midden associated with the structure because few artifacts were observed on the surface and recent construction debris was found in the area. It is more likely that it represents materials derived from the demolition of the structure that were mechanically pushed into this location. The mound was actively disturbed by rodents at the time of testing. A 1 by 1 m test unit (101N/107E) was placed in this feature.

Test Pits

Test Pit 101N/107E was placed on the south side of Feature 2 to determine if there were any subsurface cultural deposits beneath the mound. Artifacts were sparsely scattered across the surface, and large fragments of construction debris were evident in the mound. The test pit was excavated to a depth of 1.32 m below the present ground surface, and five soil units were encountered (Fig. 9).

Stratum 1 was a layer of pale brown, fine silty sand that contained a combination of melted

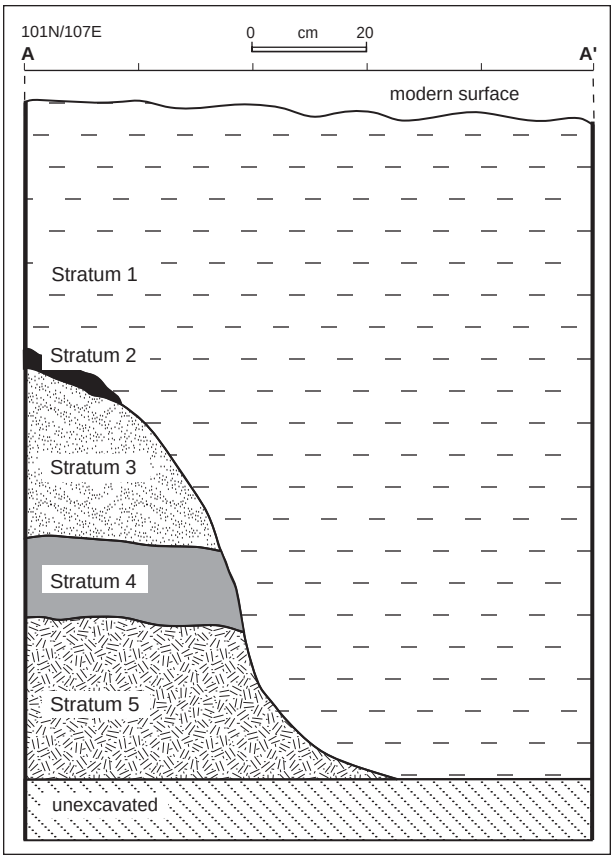


Figure 9. East wall of Test Pit 101N/107E.

adobe, charcoal, historic artifacts, and recent trash. This layer contained the only cultural deposits within this test pit, and the fill was contained within a pit or channel that had been excavated into the natural stratigraphy. The pit was evident from the surface of the unit and was found to slope to the south. Cultural materials recovered from this stratum were a mixture of recent trash and historic artifacts. A white plastic tarp, still supple and in good condition, was encountered at the bottom of this layer in the southeast corner of the test pit at 1.32 m below present ground surface. The tarp was probably laid at the bottom of the channel before the fill was mechanically pushed into the pit. This layer was 1.32 m thick, did not exhibit any stratification, and does not represent an in situ accumulation of debris. The test pit was terminated at the base of this stratum when the plastic tarp was encountered.

Natural alluvial deposits from the floodplain were evident in the northern portion of this test pit, consisting of four layers of alternating sands and clay. These strata were interrupted in the south part of the test grid by the pit or channel. From the ground surface down, the strata included Stratum 2, a pale olive, silt lens that was less than 5 cm thick and culturally sterile. Stratum 3 was a 30 cm thick deposit of yellow-brown, fine silty sand that was also sterile except for a few artifacts that were probably deposited through bioturbation. Stratum 4 was a 14 cm thick layer of brown clay that contained no artifacts or charcoal. Stratum 5 was a 36 cm thick layer of pale brown sand that had caliche flecks forming at its base and was also culturally sterile.

Test Pit 110N/128E was placed in an area of moderate surface artifact density to determine if there were any intact subsurface cultural deposits in that area. This grid was within the portion of the site that appeared to be recently bladed, just west of the estimated location of the house mound identified in the 1989 survey (Marshall and Marshall 1990). The surface of the test unit contained numerous artifacts and several fragments of asphalt. Excavation continued to a depth of 60 cm below the present ground surface and terminated when culturally sterile deposits were encountered. The uppermost 35 cm was Stratum 1, the same layer of pale brown, fine silty sand identified in Test Pit 101N/107E. Stratum 1 rested on a 19 cm thick layer identified as Stratum 6, a brown, fine, silty sand that was laminated from successive episodes of water inundation. Stratum 6 contained charcoal and a few artifacts. A piece of drywall was found at the base of this layer. Below Stratum 6 was a layer of brown silty sand with pockets of light gray clay, which was designated as Stratum 7. Stratum 7 was 12 cm thick, contained minor amounts of charcoal and artifacts, and was visibly disturbed by rodents. This test pit rested on top of the non-cultural alluvial deposit defined as Stratum 3, a layer of yellow-brown, fine silty sand that is culturally sterile.

Test Pit 116N/131E was placed in an area of moderate surface artifact density that appeared to be slightly higher in elevation than the rest of the bladed area, corresponding to the northwest corner of the house mound as defined by the 1989 survey map (Marshall and Marshall 1990). Excavation continued to a depth of 50 cm below present ground surface and terminated when a culturally sterile deposit was encountered. Three

strata were defined in this grid. The uppermost stratum, Stratum 6, was 18 cm thick and consisted of brown, fine silty sand with charcoal and mixed trash. The base of this layer showed evidence of discontinuous lamination from wash episodes. Stratum 6 rested on Stratum 7, a 10 cm thick layer of brown, silty sand containing charcoal, mixed trash, and several fragments of plaster. Stratum 7 rested on Stratum 3, an alluvial deposit of yellow-brown, fine silty sand that did not contain any charcoal or artifacts.

Test Pit 110N/134E was placed in an area of moderate surface artifact density that corresponded to a trash midden south of the house mound identified during the 1989 survey (ARMS Site Record 78945). This pit was excavated to a depth of 60 cm below present ground surface and terminated when culturally sterile alluvial deposits were encountered (Fig. 10). Stratum 6 was the uppermost layer, 12 cm of brown, fine silty sand containing charcoal and mixed trash. This layer was laminated from successive washes. Stratum 6 rested on Stratum 7, a 25 cm thick deposit of brown silty sand that contained large amounts of melted adobe, decaying wood, burned, milled wood, historic artifacts, and recent trash. Evidence of rodent disturbance was noted in this stratum. Below Stratum 7 was Stratum 3, an alluvial deposit of yellow-brown, fine silty sand, which contained no artifacts, although small flecks of charcoal had percolated down into this layer.

Test Pit 116N/137E was the easternmost excavation unit at the site, in the central portion of the area designated as a house mound during the 1989 survey (Marshall and Marshall 1990). This grid was excavated to a depth of 30 cm below present ground surface and contained two strata. Excavation ended when natural alluvial deposits were encountered. The upper layer, Stratum 7, was a 20 cm thick deposit of brown silty sand containing charcoal and artifacts. A large piece of asphalt was found at the base of this layer. Stratum 7 rested on Stratum 3, a deposit of yellowish-brown, fine silty sand that contained no charcoal or artifacts. Only 10 cm of Stratum 3 was excavated before the test pit was terminated.

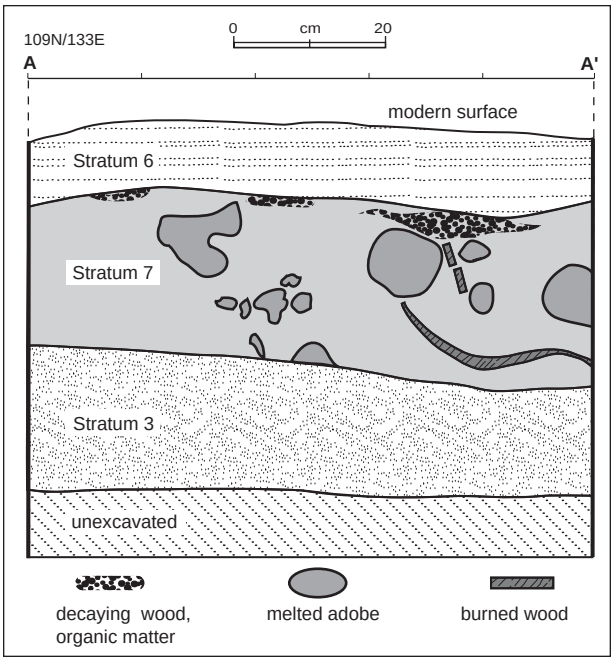


Figure 10. West wall of Test Pit 110N/134E.

Summary of Stratigraphy

Three cultural and four noncultural strata were defined at LA 78945. Strata 1, 6, and 7 were pale brown to brown, silty sands containing charcoal, recent trash, and historic artifacts. Stratum 1 ranged in thickness from 35 to 126 cm in Test Pit 101N/107E, where it was deposited or redeposited in a pit or channel. Stratum 6 ranged in thickness from 10 to 18 cm, occurred at the surface or beneath Stratum 1, and consistently rested on Stratum 7. Stratum 6 showed evidence of lamination, which indicates that the area has been subjected to intervals of flooding or washing that may have deposited layers of silt and sand in the area. Stratum 7, which ranged in depth from 10 to 25 cm, represented the deepest layer of cultural deposition. It was consistently found above Stratum 3, a natural alluvial deposit of fine, silty sand. With the exception of the channel fill in Test Pit 101N/107E, cultural deposition ranged in thickness from 20 to 46 cm below present ground surface.

The natural stratigraphy was best represented in Test Pit 101N/107E, where the deposits were a complex mixture of sands, silts, and clays characteristic of the Gila-Vinton-Brazitos soil association (see Fig. 9). This association is com-

mon on floodplains, where soils are formed in recent alluvium and modified by wind and water (Hacker 1977:88). All of these soils are structurally weak and had little or no horizon differentiation.

Soils in the project area are characteristic of Gila soils, which form in silty floodplain sediments and have a dark surface layer, indicating organic materials. Gila soils are weak in structure and appear as thin, platy strata. Strata 2, 3, 4, and 5 represent the noncultural floodplain deposits at the site. Stratum 2, a lens of pale-olive silt, only occurred in Test Pit 101N/107E. Stratum 3, which was present in all test pits, was the uppermost layer of noncultural deposition. Strata 4 and 5 were only documented in Test Pit 101N/107E, the deepest test unit at the site. Stratum 4 was a layer of brown clay, and Stratum 5 was a layer of pale-brown sand containing white flecks of caliche. The test pit was terminated at 36 cm into Stratum 5, so the full thickness of this layer is unknown.

Summary of Testing Results

LA 78945 is immediately south of the I-40 right-of-way fence and north of the intersection of two irrigation canals. The condition of the site surface at the time of testing indicated that the area had been mechanically bladed, which may have occurred during maintenance to the ditch banks or the access road. Major alteration of this area probably occurred after 1989, when the remains of an adobe house mound were still visible on the property (Marshall and Marshall 1990).

The survey conducted in 1989 (Marshall and Marshall 1990) documented the presence of an adobe house mound, two middens, and an artifact scatter extending over an area 50 m east to west by 30 m north to south. There was no longer evidence of the mound or middens at the time of testing, and it is likely that they were dispersed when the area was mechanically bladed. During testing, the surface artifact scatter was identified within a triangular area measuring 26 m east to west by 14 m north to south, and a number of diagnostic artifacts were point-provenienced and collected. However, the scatter was within the bladed area, and the surface artifact densities were not reliable indicators of subsurface cultural deposition, or the location of the house mound or middens. Recent trash (construction debris, shopping carts, and furniture) at the site indicates that this area is periodically used for trash disposal, which also complicated the interpretation of surface and subsurface deposits.

Testing at LA 78945 demonstrated that, while there were subsurface cultural deposits in the area, they had been subjected to recent mechanical disturbance and are no longer in situ. The mixture of recent trash and construction debris with historic artifacts throughout the cultural layers supports this observation. Testing in the area of the house mound and trash midden recorded in 1989 showed that no intact cultural features (middens, wall alignments, surfaces, or floors) are present. Test Pit 101N/107E, on the south side of Feature 2, contained a pit or a channel filled with up to 1.3 m of recent trash and historic artifacts. The possibility that this pit represents a trash midden associated with the occupation at the site was eliminated when a modern plastic tarp was encountered at the base of the cultural deposits. It is likely that the pit or channel was filled with deposits pushed across the site, or with earth brought in from an unknown location. The presence of a mound on top of this feature indicates that the fill in the pit or channel was pushed there mechanically.

Historical research (Spivey, this volume) found that one and possibly two structures were documented at the site. Discrepancies between the location of these structures shown on a City of Albuquerque Planning Department map (dated 1907) and a MRGCD appraisal map (dated 1926) indicate that two structures were present at different times and in different locations on the same parcel of property. However, the location of the structure on the 1926 map more closely approximates the location of the adobe house mound described in the 1989 survey (Marshall and Marshall 1990). It is assumed that the 1926 structure is the adobe house built by the Sais family, which is associated with the early twentieth-century occupation at LA 78945.

The structure described in the 1926 MRGCD documents is a one-story, three room adobe in poor condition, measuring 20 by 60 (no scale indicated). Interviews with descendants of the original owners state that the house was built by

Casamiro Sais and used as a rental property, but it is not known when the house was built or who rented it.

The mixture of recent trash with historic artifacts throughout the deposits and the absence of intact cultural features confirms that the physical condition of the site has been altered, compromising the integrity of the archaeological remains.

Historic Artifacts

The artifact assemblage as a whole (n = 5,743) is dominated by fragments of tin cans, glass, animal bone, and ferrous metal, but it also includes an assortment of Euroamerican ceramic artifacts, Pueblo pottery, lithic artifacts, and one macrobotanical sample (Table 1). The subsurface distribution of artifacts at the site indicates that formerly in situ deposits have been redistributed and mixed with more recent surface trash. The presence of Pueblo ceramics is particularly interesting, because most of these ceramics are associated with ceramic production from the nineteenth century. Although the source of these ceramics is unknown, it is not likely that they are associated with the twentieth-century occupation of the site. These artifacts were found on the surface and in subsurface deposits and may have been mixed in or redeposited on the surface during earth-moving activities. Euroamerican ceramic artifacts, historic Pueblo pottery, lithic artifacts, faunal remains, and macrobotanical remains will be discussed in subsequent chapters.

Table 1. Artifact categories

Category	Number	Percent
Metal	4154	72.3%
Glass	989	17.2%
Ceramics	57	1.0%
Fauna	468	8.1%
Miscellaneous	75	1.3%
Total	5743	100.0%

Within the larger artifact assemblage, 5,205 historic artifacts were collected from the surface of the site or recovered from the excavation of five 1 by 1 m test pits. Several temporally diagnostic artifacts were identified in the historic assemblage, and some of these date to the late 1800s or early 1900s. Although these artifacts were not found in situ, they provide some information about the settlement and subsistence in the Old Town area during the early twentieth century.

The analysis was performed according to standard Office of Archaeological Studies methods (Boyer et al. 1994:2). This approach results in a hierarchy of classifications for each artifact, ranging from general descriptive attributes such as material type, manufacturing technique, and color to more specific attributes of form and function. The OAS analytical format emphasizes the functional associations of artifacts to derive information about site function, economic status and scaling, and access to commodities in the marketplace.

The condition of the archaeological deposits and the extended use of the site as a disposal area make it difficult to determine what portion of the artifact assemblage directly relates to the early twentieth-century occupation of LA 78945. The 36 temporally diagnostic historic artifacts date to between 1880 and 1920. This is consistent with other indications that a small domestic structure on the land was used as a rental property by the landowners during the early twentieth century.

Functional Categories

The historic assemblage was assigned to nine functional categories (Table 2).

Table 2. Functional categories of historic artifacts

Category	Number	Percent
Unassignable	4190	80.5%
Construction/maintenance	630	12.1%
Indulgences	296	5.7%
Personal effects	25	0.5%
Domestic	22	0.4%
Furnishings	16	0.3%
Economy/production	11	0.2%
Entertainment/leisure	8	0.2%
Food	4	0.1%
Transportation	3	0.1%
Total	5205	100.0%

Unassignable artifacts account for 79.6 percent of the assemblage. A total of 3,323 tin can fragments were placed in this category.

Construction/maintenance artifacts represent 12.2 percent of the assemblage, the second most numerous association after unassignable artifacts. The relatively high frequency of artifacts in this category probably results from the fact that at least one building was demolished on the site (Spivey, this volume), and the material debris from this house may not have been removed from the area. However, the recent trash deposited on the surface of the site also includes building materials, which indicates that some of the construction materials are not associated with the former occupation of the domestic structure at the site.

Artifacts in the indulgences category represent 5.7 percent of the assemblage and are dominated by the remains of soda, alcohol, and beverage bottles and a metal crown cap. Crown caps, or the crown seal, was patented by William Painter in Baltimore, Maryland, in 1892 (Talbot 1974:59). Originally designed as a closure for glass bottles, the crown cap operated on bottle lips with a slight relief, so that when the cap was crimped, a locked seal formed on the bottle opening. Although introduced in 1892, crown caps did not receive full acceptance immediately because they could not be reused, and also because a special opener was required to extract the cap. However, increasing concern with the earlier, unsanitary Hutchinson stoppers led to their elimination in 1912, and the crown cap closure subsequently increased in popularity.

Each of the remaining functional categories (personal effects, domestic, furnishings, economy/production, entertainment/leisure, food, and transportation) represents less than 2 percent of the assemblage. One shoe sole (personal effects) was recovered. The item was so deteriorated that it could not be determined if it was made of leather or rubber. Complete rubber soles were first made in the early 1900s (Burke 1947:358). In the entertainment/leisure category, two fragments of 78 rpm records and four marbles were recovered.

Material Types

The historic artifact assemblage is dominated by tin cans, glass, ferrous metal, paper and metal, and indeterminate metal, which together represent 98.5 percent of the historic assemblage (Table 3). The majority of the metal (tin cans) was corroded.

Table 3. Material type of historic artifacts

Material Type	Number	Percent
Tinned steel (cans)	3323	63.8%
Glass	989	19.0%
Ferrous metal	506	9.7%
Paper and metal	280	5.4%
Indeterminate metal	31	0.6%
Leather	12	0.2%
Rubber	11	0.2%
Copper	10	0.2%
Plastic	9	0.2%
Lead	5	0.1%
Unidentifiable	4	0.1%
Brass	4	0.1%
Indeterminate cloth	4	0.1%
Cotton	3	0.1%
Shell	3	0.1%
Clay	2	0.0%
Steel	2	0.0%
Paper	2	0.0%
Silver plate	2	0.0%
Metal, wood, and plastic	1	0.0%
Chrome-plated metal	1	0.0%
Slate	1	0.0%
Total	5205	100.0%

Tinned Steel

A total of 3,323 tinned-steel can fragments (63.8 percent of the historic assemblage) were recorded. Usually, cans dating to the late 1800s would be considered food-related. But because later dates are also indicated at LA 78945, the possibility that some of the cans originally held motor oil cannot be ruled out.

Glass

Glass artifacts comprise 19.0 percent of the historic assemblage. Within this group, 59.3 per-

cent of the fragments could not be associated with a specific function and are categorized as unassignable. The remainder includes beverage bottles, domestic glassware, food-storage containers, window glass, and lighting fixtures. They have been classified by color for dating (Table 4).

The eighteen fragments of amethyst/purple glass are considered temporally diagnostic. The purplish hue in old glass results from the addition of manganese into glass composition formulas to create clear glass. The addition of manganese causes clear glass to turn a purplish hue after extended exposure to ultraviolet rays. Harder than iron, the element was first isolated by J. G. Gahn in 1774. The use of manganese in the glass manufacturing process in the United States occurred around the 1880s, when production methods changed. Amethyst (or purple) glass generally occurs in the United States up to the 1920s (Newman 1970:74). However, in Europe, the use of manganese as a decolorizer in glass may date back to Greco-Roman times or before.

Three glass jars with marks or labels were recovered from the LA 78945 deposits. The first is a perfume bottle embossed with "Hazel-Atlas Glass Co." The Hazel-Atlas Glass Co. was in operation in Wheeling, West Virginia, from 1920 to 1963 (Toulouse 1971:239). A food jar base with a Carr-Lowry Glass Co. mark is associated with a

Table 4. Glass artifacts

Artifact	Beginning Date	End Date	Number
Glass, undifferentiated			
Amethyst/purple	pre-1880s	1920	6
Other colors	-	-	2
Bottles, undifferentiated			
Amethyst/purple	pre-1880s	1920	8
Other colors	-	-	423
Jars, undifferentiated			
Purple	1880	1920	1
All colors	-	-	34
Libbey Glass Company	1895	-	1
Food jar, undifferentiated			
Carr-Lowry Glass Company	1920	1964	1
Milk bottle	1924	-	1
Indulgences bottles, undifferentiated, all colors	-	-	122
Soda bottles, all colors	-	-	13
Beer bottles, all colors	-	-	152
Alcohol bottles, all colors	-	-	7
Perfume bottle, Hazel-Atlas Glass Company	1920	1963	1
Medicine bottle, clear	-	-	1
Amethyst/purple	pre-1880s	1920	1
Glassware, domestic, other than amethyst	-	-	2
Amethyst/purple	pre-1880s	1920	1
Vessel, domestic, other than amethyst	-	-	16
Amethyst/purple	pre-1880s	1920	2
Flashlight bulb	-	-	1
Kerosene lamp chimney	-	-	15
Window glass	1920s	present	150
Marbles	1890s	present	2
Windshield glass	-	-	2
Total			989

date of 1920 to 1964, when the company was in operation in Baltimore, Maryland (Toulouse 1971:135-136). This company has been a subsidiary of Anchor Hocking Glass Corporation since 1944. A third glass jar bottom has a mark on the bottom of the jar that appears to be from the Libbey Glass Company; however, the mark is worn and difficult to read. The Libbey Glass Company operated out of Toledo, Ohio, beginning in 1955 (Toulouse 1971:327).

Two glass marbles were found at LA 78945 (Fig. 11). Both are machine-made and have opaque spiral decorations. The first marble has an opaque white base with nested spirals in tan, reddish-brown, and grayish-green. The swirls cover only one half of the marble. The second marble is completely covered by orange and yellow interlocking swirls. Marbles with opaque multicolor spirals are generally characterized by two interlocking spirals that cover the marble completely. Little information is available about the specific production range of these marbles, but one type of orange and yellow swirl marble from the Kahle Collection is dated to 1929-38

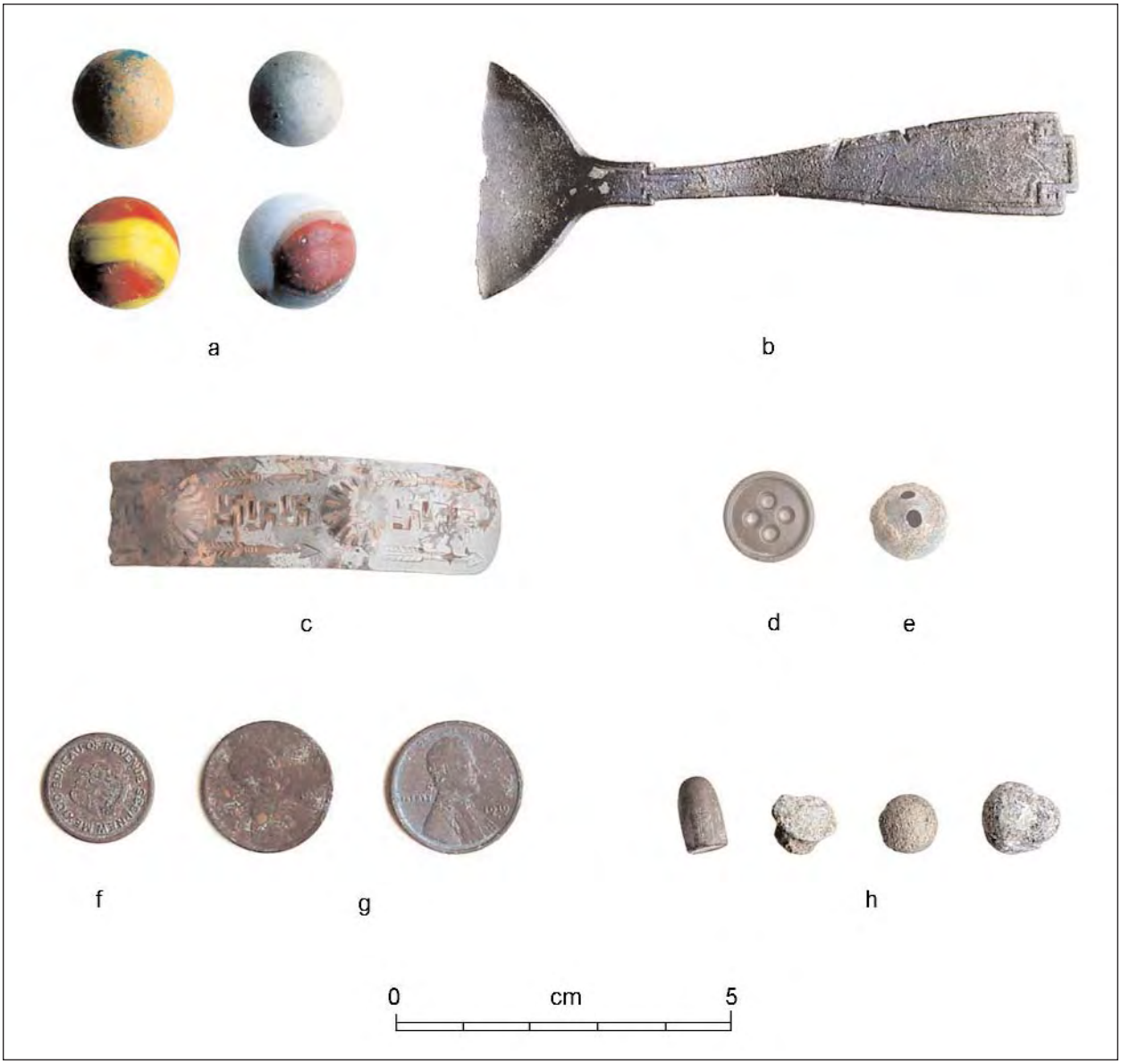


Figure 11. Historic artifacts: (a) clay and glass marbles; (b) sterling silver spoon; (c) silver bracelet with stamped swastika design; (d-e) metal buttons; (f) New Mexico School Tax token; (g) two pennies; (h) lead slugs.

(Randall 1977:16). Glass machine-made marbles were first manufactured in the 1890s, and production was increased in North America after World War I cut off supplies from Europe (Imperial Toy Corporation n.d.). The marbles may date from the 1920s-1930s.

While only 27 glass artifacts could be dated, they were averaged to produce a mean date of 1907, consistent with the date the house was occupied.

Ferrous Metal

The third most abundant material type is ferrous metal, which comprises 9.7 percent of all material types (Table 5). In this classification, 94 percent of all artifacts are associated with a construction/maintenance function, including assorted hardware, wire, and fencing. Five metal buttons were also identified.

Table 5. Ferrous metal artifacts

Artifact	Number
Indeterminate	12
Can	6
Strip/strap	1
Wire	3
Plate	2
Bracket or brace	1
Nails	
Indeterminate	9
Roofing	3
Wire, indeterminate	426
Finish	2
Box	11
Nut	1
Spikes	4
Staples	5
Fence staples	3
Screw, flathead , wood	1
Screening	9
Barbed wire	1
Tubing	1
Buttons	5
Total	506

Paper and Metal

Fragments of paper labels on 280 of the tin can fragments (5.4 percent of the assemblage) suggest modern discard. None of the labels were readable.

Indeterminate Metal

Indeterminate metal artifacts represent less than 1 percent of the historic assemblage and include an assortment of hardware, buttons, and cutlery. Hardware items include tubing, a wire spring, screening, a rivet, and an oil cup from some type of machinery. A portion of a small, sterling silver spoon, probably used for a child, was also identified (Fig. 11b). The spoon was manufactured by Gorham Sterling and displays the Etruscan pattern, which was manufactured between 1900 and 1940. Also, a section of a sterling silver push-on bracelet was recovered from the site (Fig. 11c). It has a stamped swastika design that was commonly used by the Navajos in the early 1900s.

Five metal buttons were collected (Figs. 11d and 11e). Before 1810 most metal and shell buttons were produced in Birmingham, England, but by 1810, a few button manufacturers had opened in the United States. In 1850, 59 button manufacturers were operating in the country, and this number had increased to 238 by 1900 (Pool 1991:1).

The first metal buttons produced were of solid metal, usually pewter or brass. Tin was used as a base for fabric-covered buttons or to back a brass button. In the 1800s metal buttons were most commonly used as fly buttons or for suspender attachments on military pants. By the 1900s metal buttons had been developed for overalls and work clothing (Pool 1991:2).

Metal buttons are generally differentiated by their shank, manufacturer backmark, or construction, but the buttons at LA 78945 did not exhibit any particular attributes that would aid in identification. Two of the metal buttons were extremely corroded and appeared to be metal covers, because no shank or method of attachment was evident. They may have been attached by a thread or string loop. A third metal button was shaped like a small pea with two eyelets for attachment (Fig. 11e). The final metal button was

a self-shank button, 2 cm in diameter.

Nonferrous Metals

Three coins or tokens, six .22 cartridges (one unfired), and five slugs were collected. One coin is a copper New Mexico School Tax token, dated 1935 (Fig. 11f). The other two coins were pennies minted in 1919 (Fig. 11g).

Headstamps on the base of the cartridge casings include one XR (for "Extra Range"), probably sold by Sears Roebuck; three "Super X" (one unfired); and one base marked "HP" (for "High Power"). HPs were produced post-1875 by the Federal Cartridge Co. and in significant quantities from 1916 to the present (Barnes 1962). There was also a steel "Hi Speed U," possibly manufactured during World War II by Remington. Super X casings were manufactured by the Western Cartridge Co. and are still sold today. Most high-velocity ammunition, such as that described above, dates to after 1930. One metal-plated .22 shell caliber casing was found at the site. This casing has a Remington headstamp that is associated with an introductory manufacturing date of 1910 (Barnes 1962). Rimfire cartridges were manufactured for both rifles and handguns, and the .22 caliber rimfire is considered one of the most common. Rimfire cartridges were cheaper to manufacture than the centerfire cartridge but were not reloadable. The .22 short, first introduced in 1857, is the oldest American self-contained metallic cartridge that was produced commercially. However, because of its popularity, most firearm manufacturers developed at least one model that utilized the .22 rimfire line. Modern rimfire cartridges are intended for target shooting or small game because of their limited range, which decreases in accuracy after about 50 yards (Barnes 1962:271). Since there were a variety of shells on the site, it is likely that they represent more than a single episode of target practice. Rodent control, defense, slaughtering farm animals, or scaring off predators are also possibilities.

Five lead slugs (the projectile part of a bullet) are also present in the historic assemblage (Fig. 11h). Since they are all misshapen, they probably hit a hard object when fired.

Clay

Two clay marbles were found at LA 78945 (see Fig. 11a). The first is a single-color clay marble produced from a light tan, natural clay that contains veins of dark gray in it. The second marble was also made from a light tan, natural clay with the remains of dark green coloring on the surface.

Single and multicolored clay marbles were produced commercially as early as the 1700s and as late as 1919 (Randall 1977:4). These marbles were produced in bulk beginning in the 1870s. Most were German-made, but they were also produced in the United States from 1884 to 1918. The marbles at LA 78945 are well-formed and were probably commercially made, since handmade marbles generally contain imperfections. Clay marbles became less popular after the introduction of machine-made glass marbles in 1847, aided by the invention of marble scissors, which could cut lengths of glass into rough marble shapes. Marbles then became mass-produced and inexpensive.

Cloth and Cotton

Three fragments of red cloth were recovered at LA 78945 but could not be associated with a particular function. One piece of a cloth strap and three pieces of black cotton of unknown use were also collected. Cloth can deteriorate quickly and is not usually found in archaeological contexts. However, cotton cloth has been found in some Southwestern prehistoric contexts, and the presence of cloth at LA 78945 does not necessarily indicate that it was disposed of recently.

Plastic

Nine pieces of plastic were identified in the historic assemblage. Plastic was first discovered in 1869 by John Hyatt, but it did not come into modern industrial use until after 1909 with the production of Bakelite by L. H. Baekeland. One of these artifacts was a small plastic button with the brand name Canotex. This company began manufacturing buttons around 1920 (Pool 1991). One fragment of a plastic comb was also present, and the remaining seven fragments of plastic are classified as unidentifiable.

Rubber

Eleven pieces of rubber were also collected from the deposits. Synthetic rubber did not come into use until World War I, when it was used by the Germans. In 1931 neoprene was made in the United States and widely distributed. One piece of rubber from a shoe heel contains evidence that the heel was attached by screws. In shoe manufacturing, screws replaced nails in heels around 1892, when heel attachment became automated (Anderson 1968:55-56). The final rubber artifact, identified as a rubber finger tip, is commonly placed on the tip of the finger to more efficiently sort through papers or turn pages. The remaining rubber artifacts were not identifiable.

Slate

One piece of slate of unknown function was also present in the assemblage. Common uses for slate include a surface for chalkboards, a roofing material (mainly on the East Coast), and for landscaping. Until the mid-twentieth century, many schoolchildren carried small slates for doing schoolwork.

Shell

All of the shell artifacts are buttons. Two of these are two-hole buttons, and one is a self-shank button. On a self-shank button, the shank is attached as part of the button, generally of the same material as the button, in this case shell.

Shell buttons are made from a freshwater shell, unlike pearl buttons, which are made from the iridescent lining of marine shells (Pool 1991:6). At the turn of the century, a primary source of shell in the United States was the abundant freshwater mussels in the Mississippi and Ohio Rivers (Pool 1991:6). Shell buttons were made mostly by hand and remained popular until the introduction of plastic imitations. Two-hole shell buttons, in particular, were commonly on shirts, undergarments, and children's clothes. The self-shank shell button was more likely from some type of women's clothing, such as a dress or coat.

Summary of the Historic Artifact Assemblage

The historic assemblage is dominated by the remains of tinned steel cans, beverage bottles, domestic glassware and food storage containers, construction refuse, and hardware. Most of the temporally diagnostic artifacts in this group are glass artifacts, including food jars, perfume and medicine bottles, and marbles dating from the 1880s to the 1920s or 1930s. This range is consistent with the domestic occupation at the site in the early twentieth century.

In addition to these items, an assortment of hardware—gun casings and slugs, coins, and a tax token—were also present. A number of brass cartridges and bullet casings, two pennies, and one New Mexico school tax token are all associated with the first half of the twentieth century. This interval is also consistent with the occupation at LA 78945.

The functional analysis of the historic artifact assemblage indicates that most items were unassignable (79.6 percent), construction/maintenance (12.2 percent), or indulgences (5.7 percent). The unassignable artifacts are primarily the remains of indeterminate types of cans that may represent trash disposed of recently, or it may be derived from the occupation at the site. The construction/maintenance artifacts are mostly fragments of wire nails (84 percent), but they also include brackets, spikes, staples, screws, and screening. These materials may be from the demolition of the structure at LA 78945, but construction materials were also evident on the surface of the mounds at the site that were deposited more recently. Indulgence artifacts are primarily the remains of soda, alcohol, or beer bottles.

Euroamerican Ceramic Artifacts

A total of 42 Euroamerican ceramic artifacts were identified. The assemblage was classified according to paste type, glaze type, and decoration. It consists of the earthenwares (refined and unrefined), stonewares, and porcelains.

Although the majority of these artifacts were crockery or tableware associated with a domestic function, there was also one porcelain fragment that may be from a sink or toilet bowl, and one unrefined earthenware piece from a brick or floor tile (Table 6).

Ceramic Types

Refined earthenware, consisting exclusively of white ware, constitutes the largest portion of the assemblage (64 percent) and contains both decorated and undecorated pieces. Smaller amounts of unrefined earthenware (n = 3), stoneware (n = 2), and semiporcelain (n = 2) were also identified. Four pieces of porcelain constitute 10 percent of the assemblage. Two pieces of an indeterminate type of decorated ware with multicolored slips and glazes were not classified as a specific pottery type.

Earthenware, Unrefined

Three sherds of red ware are present at LA 78945. Red wares are soft paste earthenwares that were commonly produced with the same local clays that were used to manufacture bricks. Red wares are the earliest type of American pottery to be made and were decorated with lead glazes, Albany slips, salt glazes, and colored enamels (Berge 1980:179).

Red ware, salt glazed. This sherd has a light red semiporous paste with a salt-glazed exterior surface that fired gray. This ceramic is very small,

Table 6. Euroamerican ceramic artifacts by vessel fragment

Ceramic Type	Associated Dates	Vessel Fragment						Total
		Indeterminate	Base	Rim	Body	Rim, Body, and Base	Other	
Earthenware, unrefined								
Redware, salt-glazed		1	-	-	-	-	-	1
White slip under clear glaze,		1	-	-	-	-	-	1
reverse side vitrified black		-	-	-	-	-	-	-
Red ware, dark brown glaze	ca. 1750-1900+	1	-	-	-	-	-	1
Earthenware, refined								
White ware, undecorated	1870-present	2	4	3	14	-	-	23
White ware, decalomania	nineteenth century	-	-	1	-	-	-	1
White ware, molded	nineteenth century	-	-	-	2	-	-	2
White ware, molded and gilded	1855+	-	-	1	-	-	-	1
Stoneware								
Duochrome salt-glaze slips	late nineteenth century	-	-	-	2	-	-	2
Semiporcelain								
Hotel china, banded design	1931	-	1	-	-	1	-	2
Porcelain								
Undecorated		-	-	1	-	-	-	1
Banded design, overglaze		-	-	1	-	-	-	1
Molded and banded, overglaze		-	-	1	-	-	-	1
Hand-painted, floral		-	-	-	1	-	-	1
Indeterminate glaze ware		-	-	-	2	-	-	2
Other								
Brick or floor tile		-	-	-	-	-	1	1
Utilitarian porcelain		-	-	-	-	-	1	1
Total		5	5	8	21	1	2	42

and the interior surface is eroded, making it difficult to determine vessel form or function. Red wares with salt-glazed exteriors and possibly unglazed interiors are estimated to have been produced between 1825 and1850 in the United States (Berge 1980:170). It is not known if the interior of this sherd was unglazed, however.

Red ware, enamel slip with clear glaze. The sherd has a dark red semiporous paste with a white enamel slip and clear glaze on one surface. Because the sherd is small and one surface is missing, it is difficult to determine vessel form or function. Red wares with buff or cream-colored slips and clear lead glazes are estimated to have been produced between 1825 and 1875 in the United States (Berge 1980:170). This slip is white, however.

Red ware, dark brown glaze. The red ware sherd has a light red, slightly porous paste and a dark brown, almost black, glossy slip on the interior. The slip is not similar to a Rockingham slip because it does not have a mottled or irregular pattern and looks densely black as opposed to dark brown. The exterior surface of the sherd is missing. Red wares with black or dark brown lead glazes were introduced ca. 1750 and continued to be produced after 1900 (Berge 1980:170).

Earthenware, Refined

White ware, undecorated. A total of 23 pieces of undecorated white ware are represented by body, rim, and base sherds. These ceramics are characterized by hard-bodied, white pastes and clear glaze and are generally representative of the mass production of refined white wares that were produced in the United States after 1870 (Fontana et al.1962:93).

Two pieces exhibited small portions of makers' marks, but the source of these partial marks could not be determined. One plate base with a slightly crackled glaze contained a partial green-stamped mark of "-rge." A thick, ringed base, possibly from a shaving mug, contained the marks "-ina" (probably "china") and "-rranted" (probably "warranted").

White ware, decalcomania. Decalcomania is a form of overglaze printing that was introduced in the1800s and became very popular in the early twentieth century as an inexpensive method of producing polychrome designs. With this method, paper decals of ink designs are transferred to the glazed vessel surface. Decal designs allowed a wider variety of colors to be used and are sharper in detail than transfer-printed designs. The use of shading within an element, generally in a contrasting color, can be used effectively in decal designs.

There is only one white ware sherd with a decal design at LA 78945. The paste of this sherd is white and nonporous with a crackled clear glaze. The sherd contains a floral design of pink flowers with dark red shading and green leaves and is set within a pastel blue background. Stippling is present in this design and is most evident in the blue background. The design was applied in a banded pattern set 1/4 inch from the rim edge.

White ware, molded. Two white ware sherds at LA 78945 have molded designs. The first sherd has a white paste and thick clear crackled glaze. Although there is not enough of the molded design to determine the overall pattern, a raised oval offset by a thin ring is evident on the exterior surface. The second sherd also has a nonporous white paste and a clear glaze. This sherd bears a molded design of grapes and leaves on the exterior surface.

Molded designs of vegetables, flowers, or scalloping, became popular on dish sets in the United States in the mid-1800s. Plain molded designs, without any color accents, appeared frequently on "ironstone" or "white granite" ceramics (Habicht-Mauche 1988). After 1855, when the process of gilding was perfected (Bernard and Hughes 1952:76), gold accents often accompanied molded designs.

White ware, molded and gilded underglaze. One sherd of white ware has a combined decoration of edge molding with gilded accents. This rim sherd appears to be from a small plate or saucer and has a molded, scalloped edge with an elaborate gilded design of what appears to be a chain of alternating leaves and stars.

Gilded accents were often hand painted or stenciled designs that were applied over the glazed surface by suspending the gold in liquid, painting it on the piece, and then firing at a temperature low enough so as not to burn off the gold on the glazed surface (Berge 1980:201). The liquid gilding process was perfected around 1855 (Bernard and Hughes 1952:76) and was relatively

inexpensive. In general, ceramics with gilded designs are considered more decorative than useful, because the gilded design is not particularly resistant to wear.

Stoneware

Stoneware, duochrome salt glazes. Two sherds with cream-colored pastes and salt-glazed surfaces were classified as stonewares. These sherds have a dark brown, possibly salt-glazed interiors with bluish-white, salt-glazed exteriors. Stoneware, dipped or partly dipped in a thin brown slip before salt-glazing, was produced in the U.S. after 1725. By the late 1800s, however, brown stonewares were largely replaced by gray stonewares, which were not slipped but salt-glazed directly on the clay (Webster 1971:21). On these sherds, the dark brown slip appears on the interior, and the unslipped gray appears on the exterior. The dark brown interior slip is not considered an Albany slip because it was salt-glazed after the slip was applied, and generally, Albany slips are not salt-glazed (Webster 1971:41).

Because of the sherd thickness and paste type, it is obvious that these fragments came from a utilitarian type of vessel such as a crock or jug. Salt-glazed stonewares were ideal for storage, salting, and pickling, especially prior to the advent of refrigeration in the late 1800s. By 1910 salt-glazed stoneware was virtually obsolete as an industrial process, but stoneware is still manufactured today in limited amounts, often by crafts persons (Webster 1971:21).

Semiporcelain

Hotel china, banded design. Two fragments (not from the same vessel) of probably small fruit dishes were identified as hotel china, a general term for a type of semiporcelain manufactured for hotels and restaurants. This type of semiporcelain is characterized by its hard, nonporous paste and was valued for its toughness, durability, and low cost. At LA 78945 the paste of these pieces is characterized by a highly vitrified paste with a clear glaze surface that retains the same creamy color as the paste. They are spaced 2 cm apart and encircle the plate about 5 cm below the rim (Fig. 12). The china may have been discarded from a passing train.

The maker's mark on the base of these pieces identifies them as "Desert Ware, Wallace China" with the symbol "Jo." A large, picturesque scene of a saguaro cactus and a barrel cactus in the foreground, with hills and clouds in the background, accompanies this mark. The Wallace China Company, in Vernon, California, was founded in 1931 and liquidated in 1964 after being purchased by the Shenango China Company in 1959 (Lehner 1988:498, 511). The company specialized in the production of hotel china, in the form of plates, cups, saucers, serving dishes, mugs, and teapots, and is perhaps best known for the dinnerware series Westward Ho. Desert Ware may have been a similar series marketed in the Southwest or Midwest.

Porcelain

Four pieces of porcelain were recovered from LA 78945. The first porcelain sherd is a very thin-walled rim sherd from an indeterminate type of vessel. The interior rim is decorated with a pastel pink band about 1/2 inch thick. The pink color has worn off the surface, indicating that it is probably an overglaze design or a gilding ghost. The second porcelain sherd is a thin body sherd from an indeterminate vessel form. This fragment has a hand-painted floral design of pink flowers and small green leaves on the interior surface. The flowers and leaves are delicately shaded in darker tones.

The remaining two sherds had white pastes and appear slightly waxy. One sherd is from the rim of a circular vessel and is not decorated. The other sherd is also a rim sherd from a circular vessel and contains a molded, feather-edged design highlighted by a pastel pink band around the rim. The pink band has begun to wear off the surface, an indication that it may be an overglaze design. These items could not be associated with a specific source or period of manufacture.

Indeterminate Glaze Ware

Two sherds of an indeterminate type were present in the assemblage. Both sherds had soft, gray, porous pastes with a reddish-brown striped glaze design over a yellowish slip. The interiors of both sherds were smoothed, but unfinished, which suggests that they are probably from some

Figure 12. Hotel china, Desert Ware series.

type of jar or container. In general, these ceramics are reminiscent of the contemporary Mexican or South American decorated pottery that is produced for export or tourism. These artifacts may not represent deposition during the early twentieth-century occupation of the area.

Other

One ceramic fragment with a dark brown paste and coarse temper may be from a tile or small brick. Although one surface is missing, the other surface is flat with a brown-glazed edge.

One very large fragment of porcelain was classified as utilitarian because it is likely from a sink or toilet bowl. This piece has a grainy, cream-colored paste that is slightly absorbent and a clear glaze that contains small fleck of gray. This piece is a very thick rim sherd that increases in thickness away from the rim.

Summary

The Euroamerican ceramic artifacts at LA 78945 consist of a range of decorated and undecorated tableware and crockery, with small amounts of hotel china, tile, and utilitarian porcelain fragments. The tableware is mostly undecorated chinaware, with a few fragments of porcelain. The crockery at the site includes several sherds of red ware and stoneware. In general, these ceramic artifacts represent a utilitarian assemblage of affordable and durable tableware and storage containers. Apart from the few gilded and molded dish plate fragments, there is a conspicuous absence of delicate or expensive tableware or collectibles in the assemblage.

The temporal ranges that have been associated with certain decorative techniques or ware classifications are generally based on the introduction of the manufacturing process or technique. This approach to dating has certain disadvantages because it does not account for the time

lag between the manufacture of the item and its subsequent deposition into the archaeological record. In one particular study, it was found that the average time lag between manufacture and deposition of ceramic artifacts from a farming community in southeastern Washington was 22 years (Adams and Gaw 1977:218). The effects of time lag were not integrated into the dates assigned to ceramics at LA 78945.

Historic Pueblo Pottery

A total of 25 ceramic artifacts were attributed to historic Pueblo manufacture, and several distinctive ceramic types could be identified. The ceramics were found throughout the cultural deposits and in association with recent trash and are not likely to be associated with the twentieth-century occupation of the site. Because the subsurface deposits at the site are not intact and the sample size is small, it was not possible to derive any meaningful conclusions regarding the overall ceramic artifact distribution.

The largest percentage (n = 10, or 40 percent) of the ceramics are plain, polished wares of the Tewa ceramic type, Kapo (Harlow 1973), but also produced outside of the Tewa region. The assemblage also contains plain gray and smudged gray wares and an assortment of historic decorated ceramics (Table 7).

Table 7. Pueblo ceramic artifact assemblage by vessel form

Ceramic Type	Jar Body	Jar Rim	Bowl Body	Bowl Rim	Bowl or Jar	Total
Gray ware, unpolished utility	1	-	-	-	-	1
Smudged gray ware	-	-	-	-	5	5
Gray ware, polished	7	1	2	-	-	10
Red ware, unpolished	1	-	-	-	-	1
Red ware, red and white slip	1	-	-	-	-	1
Buff ware, unpolished	2	-	-	-	-	2
Buff ware, red slip	1	-	-	1	-	2
Mineral-on-white with red slip	1	-	-	1	-	2
Carbon-on-cream	-	-	-	-	1	1
Total	14	1	2	2	6	25

Utility Wares

Gray Ware, Unpolished Utility

One sherd of plain gray utility ware is a jar sherd with a dark, black outside surface. This sherd contains sand temper in a gray paste. Because the site is on the Rio Grande floodplain, it is likely that sand temper was used in local pottery production, and this sherd is probably from a vessel that was produced locally. Sand temper traditions have also been documented at Pecos Pueblo (Kidder and Shepard 1936) and historic Santa Ana Pueblo (Ferg 1984). Plain gray utility ware was produced in the Rio Grande Valley throughout the prehistoric and historic periods and cannot be associated with a specific period of production.

Smudged Gray Ware

Five sherds of smudged gray ware representing two vessels were found. Smudged gray ware is distinguished from smudged black ware by the presence of one unsmudged surface. In general, black ware is smudged on all surfaces, regardless of vessel form.

These gray ware sherds exhibit smudging on the interior surface of the sherd. On many smudged ceramic types, the presence of smudging on the interior surface occurs on both bowl and jar forms, making vessel form identification difficult. All of the smudged gray ware sherds contain sand temper in pastes that have been oxidized, resulting in a gray paste with a thick reddish-orange or pinkish core. The interior surfaces are well polished, with a dense, black burnish. The exterior surfaces are smoothed, and tool-scraping is evident on one sherd, although it does not appear to be intentionally striated. Gray ware ceramics with smudged interiors appear in historic assemblages throughout the Rio Grande

Valley, and smudging has been documented on plain-surfaced gray ware (Warren 1976:B49), striated gray ware (Kidder and Shepard 1936), and Carnue Plain (Dick 1968). The smudged gray ware in this project is associated with a historic occupation in the area, although the specific dates of its production are not known.

Plain, Polished Gray Ware (Kapo Gray)

Ten sherds of plain, polished gray ware are primarily from jars (n = 8), but two sherds are from bowls (Table 8). Vessel form is determined by surface manipulation. Jar sherds have well-polished exteriors and smoothed but unpolished interiors. Bowl sherds are well polished on both surfaces. One jar rim sherd is everted with a rounded lip.

Table 8. Temper material by paste color, plain, polished gray ware

Temper Material	Gray	Grayish Brown	Gray and Red	Total
Sand	2	1	2	5
Basalt	-	1	-	1
Pumice and tuff	3	-	1	4
Total	5	2	3	10

Although the sample is small, the temper and paste characteristics of the plain, polished gray ware indicates that these sherds were produced in many locations.

Five sherds are tempered with sand and exhibit gray, gray-brown, or gray and red pastes. The sand temper present in different sherds appears to be from multiple sources, because the grain size and composition vary. One sherd contains basalt temper in a gray-brown paste. Basalt-tempered ceramics are generally associated with the Zia area. Pumice and tuff temper generally indicates historic pottery production on the Pajarito Plateau or in the Tewa Basin.

Plain, polished gray ware was produced throughout the central Rio Grande, but it is commonly associated with the Tewa Basin, where plain, polished red ware, gray ware, and smudged black ware were produced in abundance. Although gray ware is not well dated, the Kapo Gray type is thought to precede the production of smudged black ware in the Tewa tradition, indicating a date prior to 1700 for the initial production of gray ware. Unslipped gray ware was documented at Cuyamungue, Sakona, and Tunyo Pin, three sites in the Tewa basin that were abandoned before 1700 (Harlow 1973:40), and these ceramics continued to be produced after the introduction of polychrome ceramics in the mid-1600s.

Historic Decorated Ceramics

Unslipped, Unpainted Ceramics

Three sherds of unslipped, unpainted ware were classified according to their surface colors. Two sherds are buff, and one sherd has a red surface. Although these sherds are undecorated, they are likely from the unslipped underbodies of historic polychrome ceramic vessels. All of these sherds are from jars with polished exteriors and smoothed but unpolished interiors. The buff sherds contain sand temper in buff pastes, and one sherd has a gray core. The red sherd contains sand temper in an orange-red paste. The paste and abundant sand temper of this sherd are similar to those found in historic Santa Ana polychromes.

Slipped, Unpainted Ceramics

Two sherds of historic decorated ware are slipped but unpainted and were classified according to their slip and paste colors. One sherd from a bowl rim has a buff paste with the faint remains of a red slip on the interior and exterior surface just below the rim. The sherd has a rounded rim, contains sand temper, and is polished on both surfaces. The second sherd, from a

jar neck, has a red paste with a white-slipped exterior and a partial red slip on the interior neck. The exterior surface is lightly polished, and the interior surface is smoothed but unpolished. This sherd contains abundant sand temper in a red paste with a gray core and traces of mica. It might have originated near San Juan Pueblo.

Mineral-painted Polychromes

Two sherds with mineral-painted designs on white-slipped backgrounds were found. One sherd, from a bowl rim, exhibits a mineral-painted design on a white-slipped background with a red slip on the outside. The painted design is very light and has oxidized to a reddish color; however, a line of mineral paint along the rim is black. This ceramic is unusual because the design, a checkerboard band below the rim, is not typical of historic polychrome ceramics. The sherd contains sand and tuff temper in a buff paste. This ceramic style is typical of the area around Santa Ana Pueblo.

The second sherd, from a jar, is basalt-tempered in a red paste with a gray core. The design could not be distinguished because most of the paint has worn off the surface; however, the paint is carbon-based. The remains of a red slip are evident below the white-slipped design area. Basalt-tempered ceramics with mineral-painted designs are generally associated with the Puname area, near Zia Pueblo.

Carbon-painted Polychromes

One polychrome sherd with a carbon-painted design on a cream-slipped background was identified . The sherd is decorated on the exterior, but the remains of a cream slip on the interior indicates that the sherd is from a bowl. Most of the design has worn off the surface, but it appears to be a large solid-filled geometric element. This sherd contains sand temper (perhaps self-tempered) in a buff paste with a brown-gray core. The carbon paint, temper, and soft paste indicate that this sherd may have originated from a vessel produced in the pueblos near Santa Ana.

Summary

The small Pueblo ceramic assemblage at LA 78945 (n = 25) comprises less than 1 percent of the total artifact assemblage at the site. These artifacts represent pottery types that were produced from ca.1650 to the late 1800s, although none of the decorated ceramic artifacts could be associated with a specific tradition or production range. The temper, paste, and paint combinations identified during analysis indicate that this pottery assemblage represents both local and nonlocal historic pottery traditions, primarily from the nineteenth century. Many of the identifiable ceramic artifacts at LA 78495 may have derived from south along the Rio Grande from the Keres (Santa Ana, Zia, Santa Ana, Cochiti) pueblos to the Old Town area. Traces of mica, evident on several utility wares and a polychrome sherd from the San Juan area, also suggest contact with Tewa groups further north.

The Native American ceramics were consistently found in association with recent trash in the cultural fill, a distribution that suggests that the cultural deposits are mixed. During Colonial and Territorial times and even later, historic Euroamerican groups were known to have commissioned, purchased, or bartered for Native American pottery as an inexpensive substitute for European or U.S. manufactured tableware and vessels. However, given the founding date (ca. 1907) of LA 78945 and the preponderance of Euroamerican ceramic artifacts (porcelain, chinaware, etc.), it is likely that the historic pueblo pottery was deposited before the twentieth-century occupation.

Lithic Artifacts

James L. Moore

Two lithic artifacts were recovered from the deposits at LA 78945. The first was a Pedernal chert strike-a-light flint. Strike-a-light flints are identified by their wear patterns. Strike-a-lights originated with the first Spanish *entradas* in the 1600s but were used by most ethnic groups occupying New Mexico through the early twentieth century. These artifacts could be associated with the early twentieth-century occupation of this site, but they were probably used before then.

The second artifact is a complete Pedernal chert flake with a multifacet platform and no evidence of secondary use. This flake has wear on the back edge of the platform consistent with inadvertent removal from a strike-a-light flint. It is possible that the flake originated from the strike-a-light flint, since they are both from Pedernal chert.

Faunal Remains

Linda Mick-O'Hara

Test excavations at LA 78945 resulted in the recovery of 468 pieces of animal bone and eggshell. Since most contexts at LA 78945 have been mechanically mixed there was no attempt to separate the bones by current features or units. Instead, they were interpreted on an assemblage basis for the entire site.

Of the 468 faunal specimens recovered, 417 (89 percent) of the assemblage could be assigned to the general class of mammal or bird. All bone assigned to the class of mammals was divided into the categories of small, medium, or large body size when possible, and by the thickness of cortical tissue and the projected circumference of any long-bone segment. The identified specimens and the complete assemblage are presented separately in Table 9.

Medium mammal remains account for 62.8 percent of the generally identifiable bone, while the small and large mammal remains constitute only a small portion of the assemblage. This trend reflects the frequencies noted in the identified remains, where sheep/goat and pig, common historic period species, comprise 70.6 percent of the sample.

The identified taxa include a single vertebra assigned to Mexican woodrat. This specimen and the few specimens assigned to the small mammal category suggest that little use was made of small mammals at this site. In fact, the vertebra assigned to woodrat had been carnivore-impacted and suggests that most of the small-mammal remains at this site were there as a result of predation and scavenging by canids in the vicinity (Binford 1978). This inference gains some support from the fact that a partial mandible, a single tooth, and a phalange were assigned to *Canis* sp. (dog, coyote, wolf), suggesting that canids were at the site during its occupation.

All of the bone that could be identified to species reflects the use of several common domestic animals. Archaeological evidence in North America indicates that the primary domestic animals were cattle, sheep, goats, and chickens (Reitz 1992). The frequency of their occurrence has been used to argue for and against suitable local environments, animal behavioral differences, and the ethnic or religious differences of archaeological populations (Huelsbeck 1991; Henry 1987). Numbers of identified bones recovered from LA 78945 could suggest that certain faunal parameters existed; however, the lack of stratigraphic integrity prevents any strong inferences on their meaning or function.

Domestic pig (*Sus scrofa*) is represented by the greatest number of specimens. Elements from

Table 9. Faunal remains

Taxon	Identified Specimens		Complete Assemblage	
	Number	Percent	Number	Percent
Mammal (indeterminate)			64	13.7%
Small mammal			10	2.1%
Medium mammal			294	62.8%
Large mammal			46	9.8%
Neotoma mexicana (Mexican woodrat)	1	2.0%	1	0.2%
Canis sp. (wolf, coyote, dog)	4	7.8%	4	0.9%
Artiodactyla (even-toed hoofed mammals)	3	5.9%	3	0.6%
Bos taurus (domestic cattle)	5	9.8%	5	1.1%
Ovis/Capra (sheep or goat)	11	21.6%	11	2.4%
Sus scrofa (domestic pig)	25	49.0%	25	5.3%
Aves (birds)			2	0.4%
Gallus gallus (domestic chicken)	2	3.9%	2	0.4%
Eggshell (probably chicken)			1	0.2%
Total	51	100.0%	468	100.0%

both the axial and appendicular skeleton suggest that the whole carcass was at the site at one point and that the pig was butchered and used at this location. This is also true of those specimens assigned to the combined family *Ovis/Capra* (sheep or goat), which is represented by 11 elements from both the axial and appendicular skeleton. The presence of cattle (*Bos taurus*) at this site was confirmed by the identification of five elements of that species, while chicken (*Gallus gallus*) is represented by only two elements in the assemblage (Table 9).

Historic archaeological sites in the Southwest often exhibit a low number of cattle and chicken bones, though their presence is usually noted (Reitz 1992). Although we cannot resolve the problem of sample biases that may be affecting this assemblage, the predominance of pig bone with smaller numbers of other species in this assemblage is not a typical pattern for northern New Mexican Hispanic *estancias*. Sheep/goat remains usually dominate samples from Hispanic farmsteads, while cattle dominate the samples from Anglo farmsteads (Henry 1987; Huelsbeck 1991). Pigs were raised at both Hispanic and Anglo farmsteads, but the species occurs in low numbers in most related archaeological assemblages. The increased presence of this bone in the current testing assemblage may be a result of the sampling strategy during testing more than a real increase in species utilization, since the remains are from one individual. This is also true of the other domestic species. This testing sample demonstrates the utilization of all of these domestic species in the area of the site.

No information is available on the animals at this farmstead when it was actively occupied. The Galusha farmstead, west of LA 78945, had chicken coops and a barn on the property, which suggest that domestic animals similar to those recovered from the test excavations at LA 78945 were present in the area of the site. Blading activity throughout this area may have mixed deposits to such a degree that we can only conclude that these species were raised in the vicinity of the site.

In addition to species identification, 289 pieces of bone (61.7 percent of the total sample) assigned to the general mammalian categories exhibited evidence of burning. Burning ranged from light tanning to calcination, but most specimens were black to calcined. This suggests that animal bone was burned after meat consumption and before being discarded. This, too, is a typical pattern in small independent farmsteads of New Mexico during the historic period.

Macrobotanical Remains

Mollie S. Toll

A single kernel of corn was recovered during testing at LA 78945. The kernel is not swollen, but it is charred, and it has lost its embryo. The kernel measures 8.5 mm long, 7.6 mm wide, and 4.2 mm thick.

Summary of Artifact Analysis

The artifact assemblage contains 5,743 artifacts which includes historic artifacts (90.6 percent), faunal remains (8.1 percent), Euroamerican ceramics (<1 percent), Native American historic ceramic artifacts (<1 percent), and lithic artifacts (<1 percent). A brief analysis of the depositional sequence of the artifacts shows that the cultural strata contain a mixture of recent and early twentieth-century materials. Because of the condition of the deposits at LA 78945, and because recent trash has been deposited in this area, it is difficult to determine the source of the cultural material at LA 78945.

The historic artifact assemblage is dominated by the remains of tinned steel cans (63.8 percent), with smaller amounts of glass bottles and food storage containers (19 percent), ferrous metal (5.4 percent), and metal cans with paper labels (5.4 percent). Much of this assemblage is likely to have been discarded at the site recently and is not necessarily related to the early twentieth-century domestic occupation. However, portions of the assemblage related to domestic, personal effects, and entertainment/leisure functions are more likely to have been associated with the site occupation.

The few temporally diagnostic Euroamerican ceramics cluster in a range from the late 1800s to the 1930s. The majority of this assemblage is earthenware or stoneware ceramics, which suggests that much of this assemblage functioned as storage or serving vessels in daily use. The low frequency of porcelain or finely decorated white ware is consistent with this observation. Some of the Euroamerican ceramics at the site could be associated with the domestic occupation, but some, like the hotel china pieces, may be associated with activities aboard the railroad trains that passed just south of the site.

The presence of 25 native historic ceramics is of interest because most historic Pueblo pottery traditions had gradually declined by the early twentieth century or had shifted to the production of pottery for tourism. The majority of the ceramics found at the site were utilitarian and were probably deposited before the use of the area as a homestead, or less likely, were curated and used for storage vessels by the rental occupants in the early 1900s.

Only two lithic artifacts were found. Both probably derived from the Euroamerican use of the site. The first lithic artifact is a strike-a-light flint, and the second is a flake from a strike-a-light flint. This technology dates from the sixteenth century to the early twentieth century and may be associated with the domestic occupation at the site.

The faunal assemblage is dominated by unidentified mammal or bird bone. Much of it was classified as medium mammals. Such remains are commonly associated with sheep/goat or pig. Sheep/goat is more common than pig in northern New Mexico Hispanic estancias. While there may not be any direct relationship between this pattern and the cultural affiliation of the site occupants, it should be noted that while the property owners were of Hispanic descent, the adobe home on the property was rented, and the cultural affiliations of the occupants are not known.

The single macrobotanical sample, a kernel of slightly charred corn, is not sufficient to provide information about agriculture at the site.

Summary and Recommendations

LA 78945 is in Albuquerque on the Rio Grande floodplain, approximately 2.5 km east of the river in an area that has undergone extensive development. The site is at the intersection of the Albuquerque Main Ditch (running north to south) and the Los Griegos Lateral Canal (flowing east to west) on a parcel of private property acquired by the DOT.

The site was originally recorded in 1989 during a cultural resource inventory of land along major canal systems and was described as a nineteenth-century adobe house mound with an associated artifact scatter and two middens (Marshall and Marshall 1990). Between 1989 and 1995, when the site was resurveyed, earth-moving activities, probably associated with the maintenance of the ditches, had substantially altered the condition of the site. The 1995 survey documents (ARMS site records) describe the site as an artifact scatter and a mound of construction debris. No remains of the structure were visible at that time.

A testing program was conducted at LA 78945 by the OAS in August 1995. At that time, the site was defined as two mounded features and an artifact scatter contained within an area of 64 m east to west by 18 m north to south. Testing confirmed that there were no subsurface remains of a structure, and cultural deposits were redistributed by earth-moving activities that mixed the more recent surface trash with the older deposits.

Archaeological test results were supplemented by extensive historical research to complete the archaeological investigations at LA 78945. A small three-room adobe structure was built on the land between 1907 and 1926 and used as a rental property. Although nothing is known about the occupants of the house, the surrounding land was used for subsistence gardening and to farm alfalfa and grains. By 1941 the house had been partially demolished, and in 1966 the land was sold and became the site of an automobile and truck junkyard. The structure described in the 1926 Middle Rio Grande Conservancy documents is a one-story, three-room adobe in poor condition. The Albuquerque Main Ditch and the Los Griegos Lateral Canal are listed as the only irrigation features nearby.

Although the range of occupancy is unknown, interviews with descendants of the original landowners indicated that the house was built by Casamiro Sais for rental purposes and was never inhabited by the property owners. Based on MRGCD appraisal records, it is likely that the structure was built after 1907, and by 1941 the house had been partly demolished and then completely removed during the construction of I-40 in the 1960s.

The majority of the artifacts recovered during the testing program are fragments of metal and glass. Most of these artifacts could not be specifically identified and are not considered temporally diagnostic. However, a subset of artifacts that could potentially provide more specific information about the occupation at the site were separated and subjected to more detailed analysis. The few temporally diagnostic artifacts cluster in the range of 1880 (or earlier) to the 1930s. The dates associated with the temporally diagnostic artifacts and the principal component of the site indicated an early twentieth-century occupation.

The testing program at LA 78945 demonstrated that the subsurface cultural deposits in the area lack stratigraphic integrity. No intact cultural features (middens, wall alignments, surfaces, or floors) are present. The physical condition of the site has been altered, which severely limits the information potential of the archaeological remains that were recovered. Preservation in place is not necessary, and no additional investigations are recommended.

The resource has been investigated and is not likely to yield information beyond what has already been documented. Given the amount of mechanical disturbance to the site, it is unlikely that it would be considered eligible for inclusion in the *State Register of Cultural Properties* or the *National Register of Historic Places* on the basis of criterion "D" (34 CFR 60.4).

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