Paseo Gateway:

Archaeological Testing of Six Sites in Rio Rancho, New Mexico State Trust Land, Sandoval County, New Mexico

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PASEO GATEWAY:
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ADMINISTRATIVE SUMMARY

The Office of Archaeological Studies (OAS), responded to a request from David Bantz of GSL Properties, Inc. to conduct archaeological testing at six archaeological sites within the Paseo Gateway urban development project in Rio Rancho, New Mexico. The Paseo Gateway project is an urban development project involving commercial, light industrial, residential, and educational development in the Rio Rancho area. Four sites are on State Trust Land transferred specifically for residential and educational development. LA 55504 and LA 55505 are on private land. The six sites were initially recorded by Patrick Hogan (1986) and the site forms were updated in 2005 by the Office of Archaeological Studies (NMCRIS Activity No. 96898). The purpose of the test excavation plan was to provide information on the nature, condition, and extent of subsurface deposits. In turn, this information would aid in assessing the site's potential to contribute information on New Mexico's heritage. Specifically, the testing results provide information that may be used to determine eligibility for listing on state or national registers, or as the basis for developing an excavation or data recovery plan in advance of the proposed urban development project.

Based on the testing program, five sites (LA 55498, LA 55500, LA 55501, LA 55504, and LA 55505) can be characterized as briefly occupied special activity sites with temporal components from various time periods, but with all occupations focused on the reduction of local lithic material. LA 55501 stands out because of the higher frequency of basalt rather than the local chalcedony. The sites manifest a limited number of subsurface artifacts and no buried features or cultural deposits. Artifacts are confined to the surface or the upper 10 cm of wind-blown sand. The current testing program and Hogan's original 1986 survey have sufficiently documented these sites and they provide little additional information important to the understanding of regional subsistence and settlement patterns. No further work is recommended for these sites.

LA 55499, the sixth site, is the largest of the investigated sites. The site consists of raw material exposed on the higher hilltops in the central project area. Topography and wind have combined to expose Santa Fe Formation gravels and nodules of local chalcedony. The local chalcedony dominated the chipped stone assemble at this moderate-sized quarry site. The quarry has been utilized from at least the Archaic period, through the Formative period, and into the Historic period. The testing program indicated that artifacts were confined to the surface or upper 10 cm of loose wind-blown sand. Artifact density is low to moderate in this wind blown sand layer and no buried features or cultural deposits were identified. The site is important for how local lithic materials were assimilated into the subsistence strategies and mobility patterns of populations living near this area during the different time periods. LA 55499 should be avoided or a data recovery plan implemented to recover this relevant information.

The following report provides background information for the study and describes the results of the testing program. This report complies with the provisions of Section 18-6-5 (NMSA 1978) of the Cultural Properties Act [4.10.15.3 NMAC-N, 1/01/06].

MNM Project No. 41.818 Rio Rancho
NMCRIS Activity Number 100449
New Mexico State Lands Survey Permit NM-01-027

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INTRODUCTION

The Office of Archaeological Studies (OAS), responded to a request from David Bantz of GSL Properties, Inc. to conduct archaeological testing at six archaeological sites within the Paseo Gateway Project area (Fig. 1, Appendix 2). The six sites are located in Section 32, T13 N, R3 E, Sandoval County, New Mexico. Four sites are on State Trust Land transferred specifically for residential and educational development. LA 55504 and LA 55505 are on private land (Fig. 2).

The archaeological testing program was conducted from May 5 to June 19, 2006. Charles A. Hannaford was project director, assisted by OAS archaeologists Jessica Badner, Candace Lewis, Marlene Owens, and Dean Wilson. About 107 worker-days were expended during the field phase. Eric Blinman, director of OAS, was the principal investigator. Jessica Badner analyzed the chipped stone assemblage. Maps were drafted by Jessica Badner and Rob Turner.

Before the fieldwork, the *National Register of Historic Places* and *State Register of Cultural Properties* were consulted. No properties listed on, nominated to, or approved for submission to either inventory are within the project boundaries.

This report complies with the provisions of Section 18-6-5 (NMSA 1978) of the Cultural Properties Act [4.10.15.3 NMAC-N, 1/01/06].

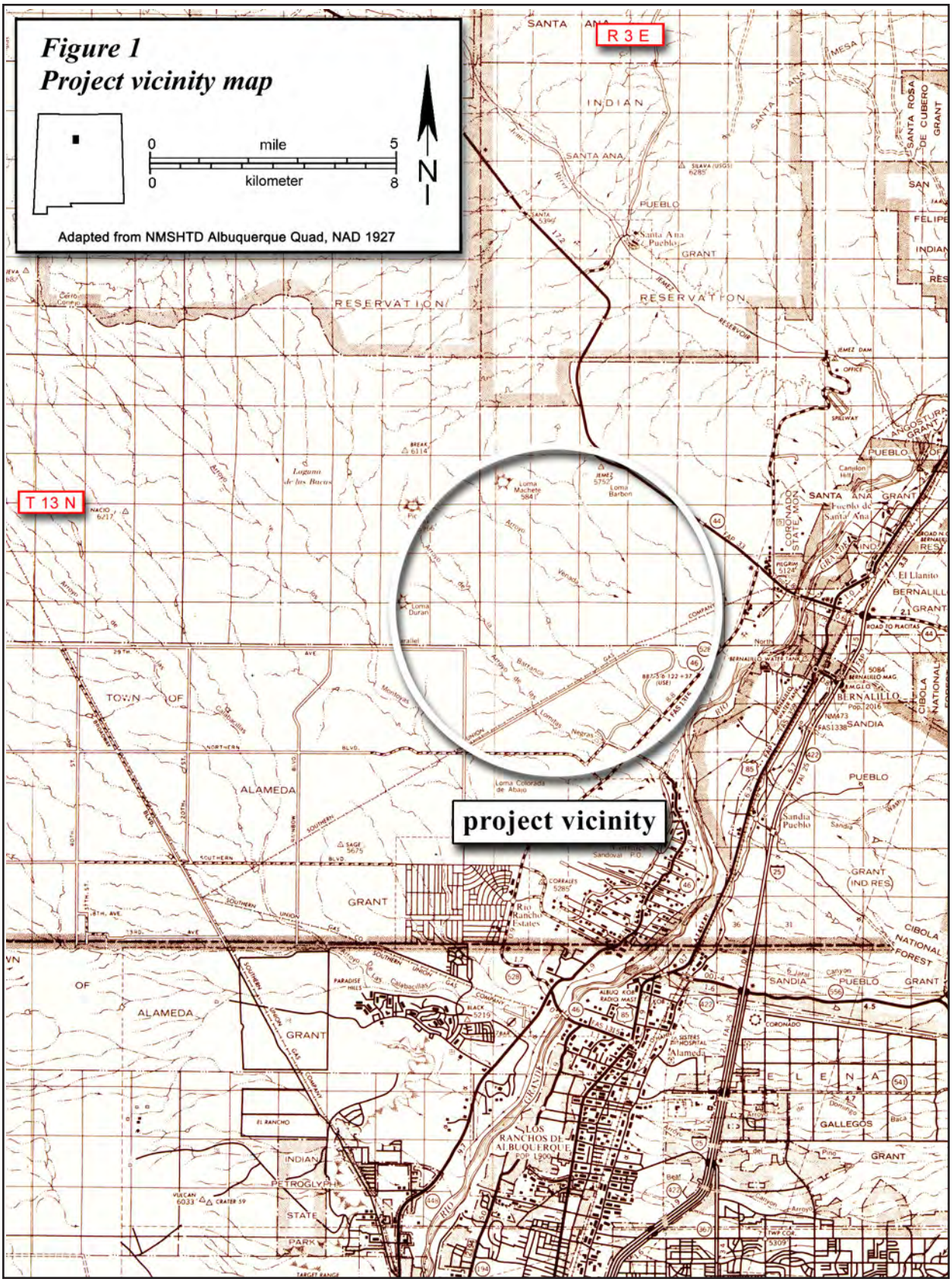
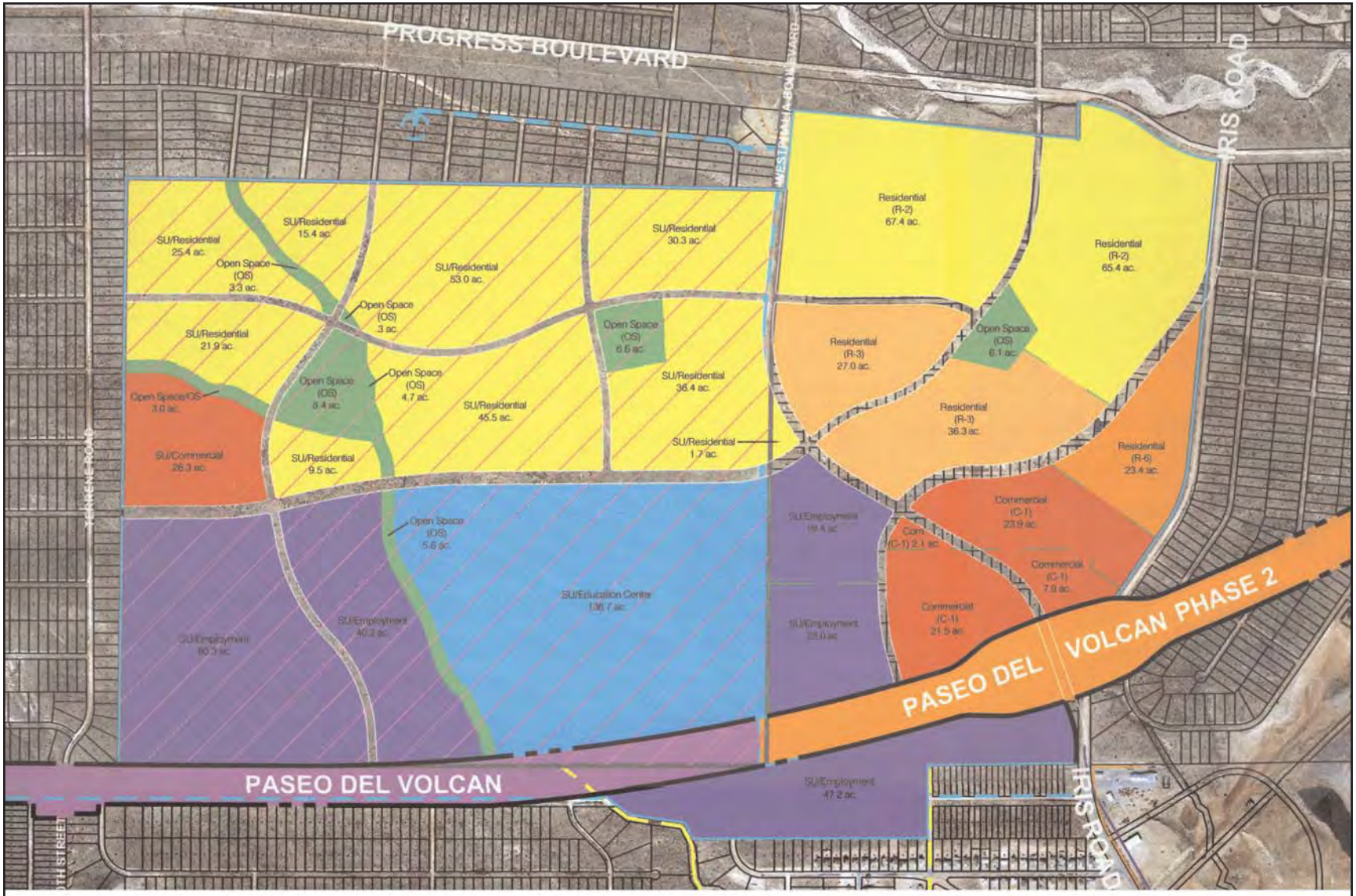


Figure 1
Project vicinity map
0
mile
5
0
kilometer
8
N
Adapted from NMSHTD Albuquerque Quad, NAD 1927
R 3 E
T 13 N
project vicinity
SANTA ANA
INDIAN
RESERVATION
PUEBLO
GRANT
ALAMEDA
TOWN OF
SANDIA
BERNALILLO
CORONADO
ELENA
GALLEGOS
LOS RANCHOS DE ALBUQUERQUE
PETROGLYPH
STATE
PARK
CIBOLA NATIONAL FOREST



PASEO GATEWAY PROJECT

Figure 2. The Paseo Gateway project boundaries.

ENVIRONMENTAL SETTING

Natural Environment

The study area is situated on, or in the vicinity of several large survey projects with detailed overviews of the regional natural environment (Hogan 1986; Brandi and Dilley 1998; Raymond et al. 2004). The following natural environmental setting is abstracted primarily from these sources.

The project area is within the Albuquerque Basin, which constitutes the central section of the Rio Grande Valley. The Albuquerque Basin is drained by two principal longitudinal streams, the Rio Puerco in the western part and the Rio Grande in the eastern part. The project area lies along the eastern slope of Ceja Mesa, a north-south trending interfluve between the Rio Puerco and Rio Grande. Ceja Mesa is circumscribed by dissected slope terrain resulting in broad swales and intervening narrow ridge-line remnants. The altitude and relief on the east side of the Rio Grande is more pronounced, characterized by major uplifting reaching 10,678 ft at Sandia Crest. The general setting of the project area is within a system of intermittent drainages generally separated by higher hills and ridges. The small drainages have their origins in the higher elevations of Ceja Mesa to the north and west. Elevations in the study area range from 5,380 ft (1,640 m) to 5,500 ft (1,676 m). The north-central portion of the project area is dominated by a higher hill, which provides a panoramic view of the surrounding landscape (Fig. 3). The remaining topography is characterized by lower, more

Figure 3. General project overview.

gently rolling terrain sloping generally southward toward the Arroyo de la Barranca. The Arroyo de la Barranca is an intermittent drainage flowing into the Rio Grande about 6 miles from the project area.

The surficial soil deposits are dominated by the Haplargids-Calciorthids-Torripsamments Greater Soil Association. These soils occur on gently to strongly undulating plains. The soils are forming in coarse to moderately fine-textured alluvium. Sandy eolian sediments comprise a part of the parent materials. The soils commonly have sandy surface layers that are susceptible to wind erosion. Haplargids account for 35 percent of the soil association and occupy more level landscapes. Surface soil is a light brown loamy fine sand. The subsoils are a pale brown to light reddish brown sandy clay loam grading into a pinkish white loam, high in lime, at depths of 20 to 36 inches. Calciorthids make up 20 percent of the soil association. The soils commonly occur in swales or slight depressions. Surface soils are fine sand or fine sandy loam followed by underlying subsoils with a fine sandy texture and very high lime content. Torripsamments constitute 20 percent of the soil association. The soil occurs on gently sloping to rolling and dunal landscapes. Surface layers consist of light brown loamy sand followed by a deep layer of light brown loamy sand or sand. These sandy soils are only weakly calcareous.

The surface soils are generally underlain by the Santa Fe Formation. This geologic formation provides the bulk of the sediments filling the Albuquerque Basin. It contains a wide variety of gravels and cobbles, which are a readily available source of knappable material. Deposits with suitable raw materials are often exposed by deflation of the surface sands on higher ridges, such as the higher exposures in the central project area.

The project area has a semiarid environment. Rainfall averages 20–26 cm annually, mostly delivered in brief, violent summer storms. The annual frost-free period averages 180 days. The sandy soils support a mixed scrub-grassland vegetative cover including grama grass, galleta grass, dropseed, ricegrass, snakeweed, sand sage, fourwing saltbush, yucca, and cholla. A few widely spaced junipers are scattered across the project area. Fauna in the area currently include cottontail, jackrabbit, prairie dog, and coyote.

In summary, the project area can be described as a resource area where higher ridges provided the prehistoric inhabitants with panoramic views of the surrounding landscape and exposures of potentially usable lithic resources. The local lithic resources aided the prehistoric inhabitants in hunting and gathering the various plant and animal resources in the area. Water was a critical resource affecting local settlement and subsistence. Water was available locally only during very wet periods from the surrounding small intermittent drainages. The Rio Grande flood plain, about 6 miles from the project area, is currently the only year-round water source. Planned water availability and usage would have been a prerequisite for exploiting the local resources by the prehistoric inhabitants. Finally, the mantle of eolian sand covering the project area is sensitive to blowing wind, which tends to howl during the spring months. Artifacts are subjected to a continual pattern of exposure and reburial over the course of time.

Cultural Environment

Land use in the project area was largely restricted to ranching and grazing activities during the twentieth century. By 1960, the area was part of the Rio Rancho housing development project, one of the most widely marketed land-developing programs in the U.S. (Raymond et al. 2004:12). As a part of this land development, two-track roads in large grid patterns were constructed over the area. The roads allow access to large sections of the Paseo Gateway project area. The roads have been used to dump refuse on the tract and for recreational activities such as hiking, 4-wheeling, and target practice. The sites have most likely been exposed to surface relic collectors.

The project area is bounded on the south by residential development and the newly constructed Paseo del Volcan roadway. Increased visitation of the project area is evidenced by the close proximity of new construction and urban development. However, except for the dirt tracks that cross the property, the project area is remarkably stable and intact.

Records Check

Archaeological site data from the NMCRIS files were summarized for a 1,300 m radius around the investigated sites (Table 1, Appendix 2). These summarized data provide additional settlement context and an understanding of the range of temporal and functional site types that might contribute archaeological material to the project area. Ten projects have recorded archaeological sites in the sample area. Surveys range in size from about 19 acres up to the large 900-acre survey that encompasses the project area and recorded 13 sites, including the six sites investigated during the current project (Hogan 1986). A total of 31 sites have been recorded in the sample area, representing 37 temporal components. The bulk of the sites outside of the original 900-acre survey block were recorded southwest of the project area in relation to a 160-acre landfill project, which reported 12 sites (Cunningham and Seymour1994), along with smaller utility and road-related projects.

Only two sites fall within the 500-m buffer zone around the investigated sites. LA 126402 and LA 55503 were located along the Paseo del Volcan Roadway at the south end of the project area. Both sites had diagnostic ceramics suggesting Formative period occupations within a broad A.D. 500 to 1600 time frame. Both artifact scatters were removed during the construction of the Paseo del Volcan Roadway. The remaining 29 sites are mainly over 1,000 m from the current project area.

Nearly half of the temporal components (16) are represented by unknown temporal components. These are mainly chipped stone scatters lacking diagnostic artifacts. In most cases the simple artifact scatters lack associated features; however four sites are associated with ash and oxidized soil. Two sites with unknown temporal components functioned as quarries of the local gravels. Of interest is a possible residential occupation represented by a pit feature at LA 107572. This site is about 1,300 m southeast of the project area and is one of only three sites in the surrounding area with possible residential occupations represented by either possible pit structures or small cobble structures.

No Paleoindian manifestations have been recorded in the sample area. The Archaic period is represented by five components. The sites are mainly artifact scatters along with one quarry and one site with thermal features. A shallow pit structure was recorded at LA 107577. This possible residential site dated from 1765 B.C. to 390 B.C. and is located about 1,100 m east of the project area. This is one of the rare residential sites in the sample area.

The Formative period is represented by 13 temporal components. The sites are mainly artifact scatters with diagnostic sherds showing Developmental period (3), Coalition-Classic period (1), Classic period (5), and long-term or unassigned period (4). The sites are primarily simple artifact scatters (9); four sites have associated hearths. LA 103053 has a cobble alignment, which may represent a small cobble structure. This small residential site dates to the Classic period and is about 1,300 m northeast of the project area.

Two sites have recent Anglo-Euroamerican manifestations represented by a hearth and a checkdam.

In summary, the recorded archaeological sites in the sample area are represented mainly by a repeated pattern of small artifact scatters recorded from the various time periods. These sites represent short-term special activity sites associated with the procurement of local lithic, plant, and animal resources. Only a few of the sites are associated with hearths or thermal features, representing additional resource processing and possible longer overnight or multi-night occupations. Lastly,

Table 1. Sites in the 500 to 1,000 m Buffer Zone

Site	Cultural Affiliation	Site Type	Comments
LA 18428	Unknown	Not recorded	
LA 18429	Unknown	Not recorded	
LA 55502	Unknown	Not recorded	
LA 55503	Formative 500 AD to 1600 AD	Not recorded	
	Formative 1 AD to 1600 AD		
LA 55506	Unknown	Not recorded	
LA 55507	Unknown	Unknown features and artifact scatter; quarry	
LA 55508	Archaic Unknown 5500 BC to AD 900	Not recorded	
LA 55509	Archaic 3300 BC to 1800 BC	Artifact scatter	
LA 55510	Unknown	Not recorded	
LA 102933	Unknown	Unknown features and artifact scatter	Midden; stained soil
LA 103037	Unknown	Artifact scatter	
LA 103053	Formative AD 1300 to AD 1400	Artifact scatter and features	Possible small cobble structure
LA 107571	Unknown	Artifact scatter	
LA 107572	Unknown		
	Anglo-Euroamerican 1950 to 1994	Hearth and pit feature	
LA 107573	Formative AD 1395 to AD 1600	Artifact scatter and hearth	
LA 107574	Formative AD 675 to AD 1515	Artifact scatter and features	
	Anglo-Euroamerican AD 1933 to 1942	Checkdams	
LA 107576	Unknown	Artifact scatter	
LA 107577	Archaic 1765 BC to 390 BC	Artifact scatter and hearths	Shallow pit structure associated with Archaic component
	Formative AD 1325 to 1600	Artifact scatter and hearths	
	Unknown AD 1505 to 1950	Hearths	
LA 107578	Unknown	Artifact scatter and features	
LA 107579	Formative AD 1200 to 1425	Artifact scatter	
LA 107580	Unknown	Artifact scatter	
LA 107581	Unknown	Artifact scatter	
LA 107582	Archaic 1800 BC to AD 200	Artifact scatter; quarry	
LA 109582	Archaic 5500 BC to AD 200	Artifact scatter and features	
	Formative AD 1300 to 1600	Artifact scatter	Fire-cracked rock and ash with Archaic component
LA 124261	Formative AD 500 to 700	Artifact scatter	
LA 126402	Formative AD 600 to 1600	Artifact scatter	
LA 126403	Unknown	Artifact scatter	
LA 137319	Unknown	Artifact scatter and features	Exposed gravel quarried for lithic material; ash and oxidized soil
LA 146701	Formative AD 700 to 1100	Artifact scatter	
LA 146702	Formative AD 700 to 900	Artifact scatter	
LA 146703	Formative AD 1300 to 1550	Artifact scatter	

only three sites have possible structures, which suggest longer-term residential occupations. The absence of water in the project area except for during the wettest periods most likely hindered and restricted longer term residential occupations. The project area appears to have been utilized as a resource hinterland over a long period of time.

CULTURE HISTORY AND PREVIOUS RESEARCH

STEPHEN POST

The Paseo Gateway project is in the western portion of the Albuquerque District within the Middle Rio Grande region, which has a culture history that spans the last 11,000 years (Cordell 1979; Stuart and Gauthier 1981). The archaeological past of the region is commonly divided into four broad periods – Paleoindian, Archaic, Pueblo, and Historic. The Pueblo period is typically subdivided into three periods of the Rio Grande Sequence as defined by Wendorf and Reed (1955): Developmental, Coalition, and Classic. Sites with cultural materials or deposits that post-date 1540 are commonly assigned to the post-contact or Historic period. Each of the major temporal periods is typified by changes in settlement and material culture patterns indicative of different cultural adaptations. Subdivisions of the prehispanic periods are based on successive changes in material culture and inferred social and economic developments. Characterization of the post-contact or Historic period relies on material culture and historical documents to infer and interpret social and economic interactions between Native American, Hispanic, and Anglo-American cultures.

The sites identified during recent archaeological inventories for the City of Rio Rancho and the New Mexico State Land Office date to the Archaic and ancestral Pueblo periods. For this reason, this brief overview mainly considers the prehistoric sequence for the area. The prehispanic culture-history has been adapted from Chapter 1: Introduction, in *Archeological Data Recovery at Five Sites along NM 44 in the Lower Jemez River Valley, Sandoval County, New Mexico* by Christine S. VanPool and Patrick Hogan (2003:1–9). The interested reader is referred to Cordell (1979), Anschuetz (1995), and Schmader (1994) for a more comprehensive and detailed discussion of the region's culture history.

PALEOINDIAN (10,000 TO 5500 B.C.)

Based on very limited archaeological evidence, archaeologists characterize Paleoindians in the Southwest as groups consisting of small bands of highly mobile hunters and their families, who preyed on extinct species of Pleistocene megafauna that survived into the early Holocene (e.g., mammoth, archaic bison, sloth, camelids, and Pleistocene horse). Recent investigations in other regions demonstrate that Paleoindian subsistence organization was more balanced than originally postulated, with regular hunting of smaller animals and gathering of wild plant resources. These findings raise the possibility that during this 4,500-year span, some Paleoindian groups in the Middle Rio Grande region also employed a more generalized and seasonally based subsistence strategy.

There are no known Paleoindian sites in the immediate project area, but five Paleoindian complexes have been identified along the Middle Rio Grande and west to the Rio Puerco of the East. Recognition of these five complexes is based on the occurrence of distinctive projectile point styles (Judge 1973). Sandia was named for deposits consisting of lithic and faunal remains purportedly found at Sandia Cave in association with a radiocarbon date of ca. 35,000 B.C. (Cordell 1979:10; Bradley et al. 1999:47). Identification of Sandia Complex sites outside the Albuquerque area is based on a distinctive, single-shouldered point that was also recovered from Sandia Cave. While some researchers believe that the Sandia Complex may evidence a pre-Clovis occupation in the New World (Adovasio 1993), other archaeologists argue that the Sandia artifacts are actually from mixed deposits, probably postdating much of the Paleoindian occupation in the region (Haynes

and Agogino 1986; Stevens and Agogino 1975).

At present, Clovis remains the oldest accepted and most securely dated Paleoindian complex in the American Southwest, dating between 10,000 and 9000 B.C. Known mainly by the distinctive fluted Clovis spear points, other associated stone tools include gravers, shaft straighteners, and a variety of flaked stone scrapers (Collins 1999:35–71; Gunnerson 1987:10). Much of the data on Clovis occupations come from sites with stone artifacts in association with extinct megafauna such as mammoth, camel, bison, or horse. Clovis sites are rare, and only one has been documented in the Middle Rio Grande Valley (Dawson and Judge 1969; Judge 1973).

The Folsom and Midland complexes postdate the Clovis Complex throughout much of the western United States (Frison 1991; Wendorf et al. 1955). Both complexes date from 9000 to 8000 BC with the primary distinction derived from the presence of basal fluting on Folsom points and the absence of fluting on Midland points. Otherwise, their size range and morphology are similar (Frison 1991:50). To date, the Folsom Complex is the most common in the Middle Rio Grande Valley, with three excavated Folsom sites: the Rio Rancho site (Dawson and Judge 1969; Judge 1973); the Folsom component at Sandia Cave (Hibben 1941); and the Boca Negra site (Huckell 2002). Two of those sites, Rio Rancho and Boca Negra, are located near the edge of the Llano de Albuquerque in dual settings.

After about 8000 B.C., fluted points were replaced by new varieties of laterally thinned, constricted-base, and indented-base projectile points. These point styles mark the beginning of the Late Paleoindian period, generally called the Plano Tradition, which extends to 5500 B.C. The laterally thinned point series includes the Plainview, Midland, Meserve, Milnesand, and Frederic types. These styles are diagnostic of the Plainview Complex, the earliest complex of the Plano Tradition, which have wide distribution on the Plains and intermountain regions. In the Middle Rio Grande Valley, Belen points may also be a Plainview variant (Judge 1973), although they are poorly dated. The Planview Complex is followed by the indented-base series, which includes Firstview, Alberta, and points of the Cody Complex – Eden and Scottsbluff. Agate Basin and Hell Gap points are the constricted-base types. Of these, only Cody materials have been found in the Middle Rio Grande Valley (Judge 1973). Two Eden-style point fragments were found during the Venada survey 1.6 km east of the Lionsgate North project area (Hogan 1986).

The end of the Paleoindian period coincides with the protracted demise of the early Holocene winter-dominant precipitation pattern and the onset of a drier and warmer, but temporally variable climatic regime similar to modern conditions. Irwin-Williams (1979) argues that by 5500 B.C. unfavorable climatic conditions in the Southwest forced bison herds onto the central and northern Plains, and with them terminal Paleoindian bands that maintained their focal hunting economy. In her view, the Colorado Plateau and Rio Grande Valley were left empty and eventually filled by hunter-gatherer groups migrating into the Southwest from the western Basin-and-Range Province. Irwin-Williams postulates a population replacement, rather than continuity between Paleoindian and later Archaic populations. However, other researchers (Cordell 1979; Judge 1982; Stuart and Gauthier 1981; Honea 1971; Acklen 1997; Post 2002) contend that the artifacts associated with the Early Archaic period simply reflect technological adjustments made by Late Paleoindian populations in the Southwest to the changing plant and animal resource base.

ARCHAIC (5500 B.C. TO A.D. 400)

The Archaic period is defined as a Desert Culture adaptation that is similar over a large area, but different regional expressions exist that were determined by resource availability, distribution, and frequency that was wide-

spread across western North America (Jennings 1957; Irwin-Williams 1967). Corresponding to climate desiccation that led to a redistribution of the modern bison herds onto the Plains, site types and distributions reflect seasonal movement of small bands exploiting a wide range of plant and animal resources. Group size and composition likely varied in response to changing economic opportunities, as smaller task groups periodically moved out from the residential camps to procure resources in more distant areas. Annual and lifetime territories were probably less extensive than Paleoindian ranges, but were sufficient to encompass riverine, basin-and-range, and plateau physiographic settings of the Rio Grande, Southern Rocky Mountains, and Colorado Plateau.

The temporal framework most commonly employed for the Archaic period in the Middle Rio Grande region is the Oshara Tradition as defined by Irwin-Williams (1973) for the Arroyo Cuervo district, a 520-sq-km area between the Rio Puerco and Jemez River. Select sites within the Northern Rio Grande, such as the Bajada site overlooking the northern margin of the Santo Domingo Basin, were also used by Irwin-Williams to characterize the Oshara Tradition (Hicks 1982; Post 2002). Central to Irwin-Williams's scheme are five phases, each associated with one or more distinctive projectile point style that represents successive adaptations to fluctuating climatic conditions between 5500 B.C. and A.D. 400, which culminated in the emergence of the Anasazi Tradition.

The idea that Southwestern Archaic traditions like the Oshara reflect in-place cultural developments within relatively restricted geographical areas is part of an ongoing debate in the literature (e.g., Berry and Berry 1986; Wills 1988; Matson 1991). The restricted geographic area for in situ development is disputed for methodological reasons and because the contention is inconsistent with ethnographic and ethnohistorical accounts of hunter-gatherer mobility strategies. Given the significant environmental changes that occurred during the middle and late Holocene, any cultural continuity maintained for six millennia probably operated at a pan-regional level. Thus, many archaeologists employ a three-part division of the Archaic that can be applied to the entire American Southwest – the Early Archaic period, the Middle Archaic period, and the Late Archaic/Early Agricultural period. Under this simplified temporal framework, the Oshara phases retain local significance for the Middle Rio Grande Valley.

Early Archaic

The Early Archaic period encompasses the two earliest Oshara phases, Jay (5500–4800 B.C.) and Bajada (4800–3200 B.C.). Jay sites in the Arroyo Cuervo District tend to have limited extent and shallow deposits with lithic assemblages that include Jay points (a large, stemmed, and slightly shouldered projectile point), a distinctive lanceolate bifacial knife, and numerous well-made side scrapers. Sites interpreted by Irwin-Williams (1973) as base camps occur around canyon heads near permanent water, while special activity sites are found near ephemeral ponds and on low mesas. Bajada site distribution suggests a similar settlement pattern. Also, the Bajada type site is a mesa-top site with abundant basalt outcrops from which a high frequency and diversity of tool types were manufactured, used, and discarded. The Bajada site indicates a strong tendency to reoccupy prime locations by Bajada phase groups. Bajada phase sites also may have cobble-filled hearths and earth ovens and lithic assemblages with a larger number of heavy chopping tools and crude side scrapers. Bajada points can be similar in size to Jay points but have increasingly well-defined shoulders, and their stems are basally thinned with indented bases.

Few Early Archaic sites in the Middle Rio Grande Valley have been excavated, and there is relatively little information about the subsistence strategies employed. Judge (1982:49) speculates that Jay and Bajada sites represent a continuation of the Paleoindian, focal-hunting economy adapted to modern faunal

resources. Irwin-Williams (1973), on the other hand, argues for a mixed spectrum of subsistence activities that included hunting of both large and small game. Although milling stones – the hallmark of the Archaic throughout western North America – have not been found at Early Archaic sites in the Arroyo Cuervo District, the presence of large chopping tools and crude flake side scrapers may indicate processing of fibrous plants. Evidence from Bajada sites in the Northern Rio Grande Valley suggest that Irwin-Williams's interpretation is more accurate (Hudspeth 1997; Post 2002).

No canyon-head sites, other than those investigated by Irwin-Williams, have been documented in the Middle Rio Grande region, but a number of smaller Early Archaic sites have been recorded in the Llano de Albuquerque between the Rio Puerco and Jemez River drainages. No Early Archaic sites are reported in the immediate vicinity of the project area.

Middle Archaic

The Middle Archaic period in the Middle Rio Grande region roughly coincides with the San Jose phase (3200–1800 B.C.) of the Oshara Tradition. According to Irwin-Williams, San Jose phase sites occur in locations similar to Early Archaic sites, but they increase in size and frequency. Base camps are more extensive, have dense accumulations of occupation debris, and cobble-filled hearths and earth ovens substantially increase in size and structure. Shallow-basin grinding slabs and one-hand manos also appear during the San Jose phase, suggesting greater reliance on wild plant seeds. This evidence suggests that resource procurement was more intensive than during the Early Archaic, with local populations systematically exploiting the most productive micro-environments of the region over the course of an annual cycle (Irwin-Williams 1973:7–9).

San Jose projectile points are morphologically similar to Bajada points, although they are smaller and have a shorter stem-to-blade ratio and serrated blades. Although diagnostic of the San Jose phase, San Jose points are not the only Middle Archaic projectile points found in the Middle Rio Grande region. Equally common are projectile point styles associated with the southern Cochise and northern Colorado Plateau traditions (Elyea 1999).

Regional patterns can be ascertained from four sites excavated in the lower Jemez River drainage during data recovery for the MAPCO Four Corners Loop Pipeline Project (Brown 1999a, 1999b). LA 109137, located in the Rio Salado drainage, consisted of a small structure remnant suggesting a residential camp and archeobotanical remains pointing to a summer occupation. The site yielded both a San Jose and a Bajada projectile point, although the occupation was radiocarbon dated to the Middle Archaic period. The other three sites consisted of isolated hearths, presumably marking short-term camps. One of these sites, LA 25851, yielded a San Rafael projectile point, a style most commonly associated with Middle Archaic sites on the northern Colorado Plateau.

Late Archaic

The Late Archaic period spans the interval during which cultigens were introduced into the American Southwest and agriculture emerged as a viable subsistence strategy, although late in the sequence in much of the Middle and Northern Rio Grande, with the exception of the Rio Puerco of the East and isolated instances in the Lower Jemez River Valley (Brown 1999a, 1999b) and Jemez Cave (Alexander and Reiter 1935). In northwestern New Mexico, the Late Archaic encompasses the Armijo and En Medio phases of the Oshara Tradition. Locally, the latest developments are assigned to the Rio Rancho and Alameda phases based on sites and associated cultural materials described by Reinhart (1967).

Irwin-Williams contends that the settle-

ment pattern during the Armijo phase (ca. 1800–800 B.C.) was a continuation of the Middle Archaic subsistence focus on a broad-spectrum hunting-and-gathering strategy. The canyon-head sites near the most reliable seeps apparently attracted seasonal aggregations totaling, perhaps, 30–50 individuals. Dense accumulations of structural remains and occupation debris were found in association with maize. She suggests that maize made these seasonal aggregations possible because it supplied a small, but reliable seasonal surplus. Seasonal aggregation, in turn, probably stimulated, increased, and altered social interaction, eventually leading to the development of communal social and ceremonial activities (Irwin-Williams 1973:9–11). This interpretation is consistent with arguments that the introduction of maize would have also involved the introduction of the knowledge of how to plant and care for the crop, some of which would have been embedded in ritual-ceremonial information, and critical to raising it successfully (VanPool and Hogan 2003; Young 1989).

Between 800 B.C. and A.D. 400–600, during the En Medio to Basketmaker II periods in the northern American Southwest, important changes in settlement patterns and subsistence strategies are recognized in material culture and subsistence data, site structure, and site distributions. These changes are commonly attributed to the gradual adoption of cultigens (Wills 1988; Vierra 1985). As a result of a less mobile lifestyle and an increased dependence on cultigens, occupation duration increased, technological organization focused more on expedient tool manufacture, and the construction of more formal facilities, such as pit structures and storage pits (Vierra 1994; Stiger 1986; Fuller 1989; Irwin-Williams 1973). Chipped stone technology, which was dominated by biface manufacture before the En Medio phase, included increasingly more evidence of local raw material use and manufacture of expedient or less formal tools (Kelly 1988; Andrefsky 1994). To date, how and when these changes occurred in the Middle Rio Grande Valley is poorly understood because of the small number of excavated sites that have yielded maize in association with reliable absolute dates. Currently, most explanations and interpretations of upper Middle Rio Grande settlement and subsistence patterns rely heavily on the data from the Middle Rio Puerco Valley (Irwin-Williams 1973; Biella 1992). This situation is further complicated by past research orientations that focused on identifying cultural remains that were comparable to the more "typical" Basketmaker II sites described for the San Juan Basin and Colorado Plateau (Matson 1991).

Based on the Arroyo Cuervo site data, Irwin-Williams viewed the transition from Archaic to Anasazi as continuous. In Arroyo Cuervo, basecamp locations shift from the heads of canyons to rockshelters, cliff bases, and dune ridges. Irwin-Williams (1973:11) interprets the shifts in settlement patterns and ground and chipped stone technology as indicating a broadening of the resource base and the development of a strongly seasonal economic cycle. Cultigens were grown as a seasonal supplement for a diet based primarily on game and wild plant foods. Irwin-Williams argues that a primary dependence on agriculture does not emerge until the Basketmaker III–Pueblo I period.

VanPool and Hogan (2003) summarize data from a number of projects involving excavations at Late Archaic sites in the Middle Rio Grande region in the past 20 years. Based on the project data, they suggest that rather than developing out of a single tradition, the Middle Rio Grande groups were influenced by or may have included groups that moved in from the south. They also suggest that some groups may have been more reliant on agriculture than proposed by Irwin-Williams's model. The projects include the Hawk-Rio Puerco (Gerow 1998) and Macbeth (Elyea 1995) data recovery projects in the Middle Rio Puerco Valley; the Unit 22 (Brandi and Dilley 1998; Dello-Russo 1999) and Hawk Battalion Facility (Hogan and Elyea n.d.) excavations

on the western margins of the Middle Rio Grande Valley; and the MAPCO Four Corners Loop Project (Brown 1999a, 1999b).

Pertaining to the timing of the introduction of and early dependence on agriculture, excavations at San Luis de Cabezon (LA 110946) uncovered a possible agricultural village on the floodplain of the Rio Puerco 50 km northeast of the Lionsgate North project area. Excavations revealed eight house pits and dozens of extramural hearths and storage features. Radiocarbon assays target occupations dating between 1800 and 1265 B.C. The site had structures, features, and layout closely resembling those of contemporary San Pedro phase agricultural villages in southeastern Arizona (Huckell 1990). Two San Pedro-style projectile points were recovered. This site evidence is consistent with arguments that much of the Basketmaker II occupation in the northern Southwest can be attributed to a population intrusion by early agricultural groups from the south (Berry 1982; Huckell 1987; Matson 1991). However, apart from San Luis de Cabezon, cultigens are not common at Late Archaic sites in the region until after about 200 B.C. or later (Elyea 1999; Dello-Russo 1999). Many Late Archaic groups in the region, therefore, appear to have remained hunter-gatherers through much of the period and, perhaps, as late as A.D. 900 (Post 2002).

In the lower Jemez River Valley, two Late Archaic structures were excavated at the Hawk Battalion Facility northwest of Bernalillo (Hogan and Elyea n.d.), and from their descriptions, at least some of the sites associated with the Santa Ana Complex (Agogino and Hester 1953) almost certainly included Late Archaic structures. Eleven sites with Late Archaic components were also excavated on the southwestern margins of the lower Jemez River Valley during data recovery for the MAPCO Four Corners Loop Pipeline (Brown 1999a). Most of these sites evidence multiple episodes of occupation. Four have one or more structures reflecting residential occupations. The remainder are short-term campsites marked by hearths or roasting pits.

Closer to the Lionsgate North project area were the Unit 22 (1.6 km west) and Unit 20 West (8 km northeast) excavations (Brandi and Dilley 1998). Investigation of seven sites within Unit 22 revealed a series of residential and foraging camps consisting of clusters of structures, thermal processing features, fire-cracked rock concentrations, and extensive lithic artifact scatters (Dello-Russo 1999). Using precipitation data from El Malpais climatic reconstruction (Grissino-Mayer 1995), Dello-Russo identifies three major climate regimes during the Late Archaic period; A.D. 81–257 pre-drought, A.D. 258–520 drought, and A.D. 521–660, post-drought (Dello-Russo 1999:50–54). Radiocarbon assays were pooled and adjusted for age-bias and Late Archaic occupation patterns are interpreted relative to mobility and subsistence strategies that responded to the changing climate regimes. In the Unit 22 area, all sites were classified as residential based on inferred structure remains. Five sites had components dating to the pre-drought period (LA 109100, LA 109105, LA 109108, LA 109109, and LA 109113), which overall was the period of most intense occupation in Unit 22 and the Unit 20 West parcel, which was also part of Dello-Russo's study. The Unit 22 sites were on dune ridges overlooking Arroyo Pantadeleon and its confluence with Arroyo de los Montoyas. During the drought period, only LA 109100 and LA 109114 were occupied, but both had residential components. These were small sites located at the arroyo confluence. They were not part of the large site complexes of the pre-drought period suggesting a change in occupation pattern and, perhaps, group identity. Post-drought occupations, which lead into the Early Developmental period introduction of pithouse dwelling agricultural groups, showed no radiocarbon-dated occupation of the Unit 22 area. Occupation focus switches exclusively to the Unit 20 West parcel located 8 km to the west of the Lionsgate North area and less than 3 km north of the Early Developmental period communities in the River's Edge area (Schmader 1994).

The Unit 22 and 20 West studies reaffirm the Late Archaic to Basketmaker III sequence proposed by Reinhart (1967). Reinhart divided this transitional time into the Rio Rancho and Alameda phases, in the interest of establishing cultural and adaptive continuity between Archaic and Basketmaker III or Early Developmental period sites. However, Reinhart's attempt to link hunter-gatherers to the introduction and adoption of agriculture was weakened by the very limited evidence of maize cultivation and consumption, a result that matches the Unit 22 data quite closely (Reinhart 1967:466–468).

The Rio Grande Sequence or Pueblo Period (A.D. 500 to 1541)

The appearance and widespread use of pottery vessels provides a convenient marker for the end of the Archaic and the onset of the Formative period. The Formative period encompasses a continuum of changes in the development of Pueblo culture from its beginnings among early agricultural populations in the Southwest to Spanish contact. Two chronological sequences are commonly used to subdivide this period in the Middle Rio Grande region, the Pecos Classification (Kidder 1924) and the Rio Grande Sequence (Wendorf and Reed 1955). Operationally, the subdivisions of both sequences are defined by changes in pottery styles and, to a lesser extent, architectural forms. Both were originally conceived as developmental sequences charting the major changes in Pueblo culture. In current use, however, they serve primarily as a framework for roughly ordering sites in time. The Pecos Classification was used as the Formative (Agricultural) period chronological sequence for this project with the modifications and dates suggested by Cordell (1979) in her overview of the Middle Rio Grande region.

Early Developmental Period

The Early Developmental period of the Rio Grande Sequence subsumes the Basketmaker III (A.D. 400–700) and Pueblo I (A.D. 700–900) periods of Pecos Classification (Wendorf and Reed 1955). By combining these two Pecos periods, Wendorf and Reed (1955) openly acknowledge a different developmental scheme for the Middle and Northern Rio Grande regions. Their classification also subsumes Irwin-Williams's Trujillo and Sky Village phases (1973) and Reinhart's Alameda phase (1968). It is during this interval that the transition to a predominantly agricultural economy appears to have been completed in the Middle Rio Grande region (Schmader 1994:10). It is also emphasized by all researchers that this a time when material culture attributes characteristic of ancestral Pueblo culture appear, and long-lasting traditions are established (Wilson 2003).

The Early Developmental period is marked by the widespread production and use of pottery vessels. Among the early pottery types that typify this period are Lino Gray, White Mound Black-on-white, and San Marcial Black-on-white (Wilson 2003). Limited quantities of Mogollon Tradition types, such as Alma Plain, Alma Neck-banded, San Francisco Red, and Mogollon Red-on-brown may reflect the importation of trade items, movement of a Mogollon population into the region (Cordell 1979:42), and a blending of Anasazi and Mogollon groups (Stuart and Gauthier 1981:119; Wilson 2003).

In general, decorated pottery occurs in relatively low frequencies throughout the period with the initial small-scale introduction of Red Mesa Black-on-white and neck-banded gray ware pottery by A.D. 900. The occurrence of these types in some cases corresponds to the addition of surface rooms to the architectural repertoire.

Inventories of Early Developmental period sites are provided in numerous sources and will not be enumerated here (Gerow 1999; VanPool and Hogan 2003; Lakatos 2003; Schmader 1994). Early Developmental sites in the Middle Rio Grande Valley are generally located near water sources. They are occasionally found on the river floodplain (Cordell

1979:42–43; Hogan and Gerow 1990:27) but more often occur on dune-covered ridges, gravel bluffs, and low terraces adjacent to major intermittent tributaries of the Rio Grande. Residential sites typically have one to three pit structures with associated exterior hearths, roasting pits, and storage pits. Sites with more than three pithouses (e.g., LA 109129) are known, but consistently evidence multiple occupations. Surface storage and living rooms, common at Pueblo I sites in the Four Corners region, are rare in the Middle Rio Grande and do not appear until late in the Basketmaker III–Pueblo I period.

Pithouses vary in size and depth but are generally circular or oval with a four-post roof support system, a central hearth, and a ventilator system usually oriented to the east or southeast. The occurrence of other interior features, such as storage pits, warming pits, and pot rests, is also highly variable and may indicate differences in function or season of occupation (Gerow 1999; Lakatos 2003). Other architectural traits common at Basketmaker III sites in the Four Corners region, such as antechambers, benches, and deflectors, are rare in Middle Rio Grande Valley pithouses (Cordell 1979:42; Lakatos 2003). One evident Mogollon architectural trait is lateral entry ramps, which occur in about 8 percent of the excavated pithouses in the Middle Rio Grande Valley (Gerow 1999). Another is the occurrence of a regular central posthole pattern (Lakatos 2003). These differences in architectural attributes suggest no clear affinity with Anasazi or Mogollon architectural traits. Ceramic types are more closely aligned with the gray ware tradition of the Anasazi area. Mogollon brown wares have been recovered from most of the excavated sites, and they typically constitute less than 2 percent of the overall ceramic assemblages (Schmader 1994). However, differences in plain gray and brown ware pottery may reflect clay resources rather than cultural choices. Both Mogollon and Anasazi areas have a strong plain ware tradition that lasts for a longer time in the Mogollon area and along the Rio Grande Valley.

Locally, excavations in the River's Edge area in Rio Rancho over the last 40 years documented an occupation sequence spanning the inception of pit structure-pottery-maize-based adaptations to the development of dispersed villages with at least one possible ritual structure (Frisbie 1967; Schmader 1994). Combined with contemporaneous villages in the lower Jemez River Valley, and the Santo Domingo Basin, they formed a dispersed, low population community that interacted with populations in the Rio Puerco of the East, along the Rio San Jose, northern Mogollon Highlands, and eastern margins of the Colorado Plateau from A.D. 700 to 900.

Late Developmental Period

The Late Developmental period is dated between A.D. 900 and 1200 in the Middle Rio Grande region (Cordell 1979; Wendorf and Reed 1955). No major changes in settlement pattern occur during this period, but adobe surface structures become increasingly common and pithouse floor plans become more standardized with four roof support posts, an east-oriented ventilator, a central hearth, and plastered walls and floors (Lakatos 2003). In contrast to the San Juan region, in the Middle Rio Grande region, pit structures continue in use as habitations well into the Late Developmental period (Bradley et al.1999:53; Hammack et al.1982:126). Some differentiation in floor features and size suggest that some pit structures were residential and ritual (Lakatos 2003).

Diagnostic decorated pottery types and associated utility wares change during the Late Developmental period. Early in the period Red Mesa Black-on-white is most common, although rarely abundant. Local varieties are occasionally present, but most of the pottery derives from western sources. San Marcial Black-on-white continue in use into the middle 900s, while plain gray and neckbanded gray utility wares occur into the middle 1000s. During the 1000s, Red Mesa Black-on-white is joined by Cibola Tradition white wares, such

as Gallup and Escavada Black-on-white, and early varieties of Socorro Black-on-white, which has a more southern manufacture origin. This mixing of Cibola White Wares and Socorro Black-on-white indicate that between 1000 and 1100, the Middle Rio Grande experienced some population influx from the two areas and expanded social and economic interaction (Lang 1982). Following A.D. 1100, Kwahe'e Black-on-white, a local mineral-paint decorated white ware, is common throughout the Middle and Northern Rio Grande Valley in association with indented corrugated and decreasing amounts of plain gray utility wares. Smudged and plain brown ware pottery is also very common during the 1100s (Lang 1982; Post 1994). Stylistically, Kwahe'e Black-on-white is similar to Cibola White Ware and Socorro Black-on-white, and may reflect the influences that migrant groups had on local pottery traditions (Lang 1982).

Relatively few Late Developmental sites have been documented in the Middle Rio Grande Valley. The paucity of sites may result in part from an identification problem. A number of excavated Early Developmental sites in the Middle Rio Grande region evidence continued occupation into the Late Developmental period (Anschuetz 1995; Cordell 1979; Hogan and Gerow 1990; Schmader 1994), although Red Mesa Black-on-white sherds were either absent or present in very limited quantities. Nevertheless, there is clearly a population decline in the lowland areas of the region, reflecting a shift in settlement location to higher elevations away from the river valleys.

Three pithouse sites in the lower Jemez River Valley have Late Developmental components – Zia 2 (Vytlacil and Brody 1958), LA 9193 (Allen 1970), and LA 25862 (Brown 1999a). Other notable Albuquerque area sites with Late Developmental components include the Coors Road site (Sullivan and Akins 1994), the Airport Hamlet site at the Albuquerque Sunport (Acklen 1995), and in the Tijeras Canyon area (Cordell 1980).

Coalition Period

The Coalition period is dated to between A.D. 1200 and 1350 in the Middle Rio Grande. During this 150-year period, potters shifted from using mineral paints to organic paints early in the sequence and glaze-paint pottery was introduced late in the sequence (Lang 1982). One of the earliest organic-painted types in the region, Santa Fe Black-on-white, is the diagnostic ceramic type for the Coalition period (Mera 1935; Cordell 1979:44; Wendorf and Reed 1955). Equally characteristic of Coalition ceramic assemblages in the Northern Rio Grande region is the diversity of locally made wares. Many of these ceramic types, including Santa Fe Black-on-white, resemble wares manufactured in the San Juan region and Chaco Canyon. Wiyo Black-on-white, which appears in the latter half of the thirteenth century, has less certain affinities with pottery styles from the Four Corners region (Anschuetz 1995:32). In the Albuquerque District, the occurrence of Chupadero Black-on-white and Socorro Black-on-white suggests a southern affinity, while the presence of small quantities of St. Johns Polychrome indicates interaction with Pueblo groups in the Upper Little Colorado drainage of east-central Arizona (Cordell 1979:44).

Coalition period architecture echoes the regional heterogeneity of the ceramic assemblages. Pithouses continue to be used as dwellings, although the general trend is toward increasing the use of surface pueblos for both living and storage. In the Middle and Northern Rio Grande, clusters of small room blocks with kivas give way to large quadrangular surface pueblos built of adobe, often with above-ground kivas at the corners of the room block (Cordell 1989; Creamer 1993; Lange 1968; Stuart and Gauthier 1981). Coalition period structures in the Pajarito Plateau and Galisteo Basin areas, in contrast, tend to be smaller, linear room blocks of stone masonry (Anschuetz 1995).

Two major demographic changes are

associated with the Coalition period throughout the Northern Rio Grande region. The first is a sharp increase in population evidenced by the increasing number and size of habitation sites. This change is most commonly interpreted as evidence of a population influx from the Four Corners region (Frisbie 1967; Wendorf and Reed 1955), although Cordell (1979) argues that the increase is a result of internal growth. Current thinking attributes site frequency and size increases to a combination of migration and incipient population growth. The second trend is expansion of settlements into higher-elevation areas, and the concurrent resettlement of the river valleys in some areas. In the Albuquerque District, Tijeras Canyon is first occupied during this period, and Coalition period settlements have been documented in the Rio Grande Valley north of Corrales (Cordell 1979). Anschuetz (1984:34, 1987:158) argues that these settlements represent only seasonal occupations of a farming frontier district used intermittently by Pueblo groups from the Socorro District. Obviously, this observation merits further investigation.

Classic Period

The Classic period is dated between A.D. 1300 or 1350 and 1600 (Cordell 1979, 1989; Wendorf and Reed 1955). The Classic period is appropriately named because it marks a period of cultural florescence, with the construction of large, aggregated settlements and elaborate material culture in the Rio Grande Valley (Wendorf and Reed 1955). A distinctive change in pottery production occurs during this period as locals begin to make glaze-decorated, red- and yellow-slipped ceramics.

Marshall (1986, 1989) estimates that between 50 and 75 large pueblos, some with a thousand rooms, were built along the Middle Rio Grande Valley. Large pueblos were also built in higher elevations near reliable springs or seeps (Anschuetz 1984:40; Lintz et al. 1988:14:1). Numerous small, specialized sites are also present (Biella and Chapman 1979; Schmader 1994; Schmader and Hays 1986). These large pueblos reflect an increase in population, which may again be in part due to groups moving into the area from the San Juan Basin (Cordell 1979:103). With population aggregation into large settlements, the social system likely became somewhat unstable as a result of scalar stress and drought, leading to warfare and resource depletion (Cordell 1979:45; Hogan and Gerow 1990:30; Wendorf and Reed 1955). Crown (1994) argues that the Salado Polychromes, which are found across the Southwest, may have been part of a cult institution to minimize social instability during this period. Large villages in the vicinity of the project area that were inhabited during the late Pueblo and early Historic periods include Kuaua Pueblo (LA 187), Santiago Pueblo (LA 326), and Bandelier's Puaray (LA 717) in Bernalillo and Puaray Pueblo (Schroeder 1979; Vierra 1989). Foraging parties from these villages, which were 6 to 12 km from the project area, may have gathered and processed plant resources in the project area leaving behind small-scale, but repeatedly occupied special activity sites. Ridges with lithic raw material outcrops from the Santa Fe Formation may have been targeted for quarrying and tool production in support of relatively long-distance foraging episodes. These villages were inhabited when Coronado passed through the region in 1541.

Historic Period (1540 to 1960)

The Historic period is briefly summarized because only isolated occurrences from the Historic period were identified during the Lionsgate North survey. The project area is peripheral to the Albuquerque and Bernalillo areas that were the focus of Spanish Colonial and later Anglo-American settlement. The major temporal periods are Spanish Colonial (1540 to 1821), Mexican (1821 to 1846), Territorial (1846–1912), and Statehood (1912 to present). The Spanish Colonial period can be subdivided into Contact (1540 to 1599), Early (1599 to 1680), Pueblo Revolt (1680 to

1692), and Middle to Late (1692 to 1821).

During the sixteenth century, travel and resource extraction by Pueblo residents may have continued until Spanish settlers began to exercise control over riparian and open or common lands by the middle 1600s. During the seventeenth century, *encomenderos* would have claimed rights to Pueblo labor and goods and would have exercised control over a considerable amount of land (Riley 1999). One possible hacienda site associated with Santiago Pueblo was suggested to be the remains of a Juan Esteban de Fagoaga's ranch from the 1650s (Snow 1976:167).

Following the Pueblo Revolt in 1680 and Reconquest in 1692, Spanish Colonial settlements were quickly established in Bernalillo (1701), Albuquerque (1706), and the Alameda Grant (1710) (Westphall1983:277). The Alameda Grant was made for 89,346 acres (Sayles and Williams 1986). During the eighteenth century, land use and travel through the project area would have supported Spanish needs and small-scale, transient Pueblo activities. By the middle eighteenth century, additional communities, such as Las Huertas (1765) and Atrisco (1768), were established through Spanish town grants (Westphall 1983:277). The project area would have been used for livestock grazing and resource extraction, since it was unsuitable for agriculture. These communities were well established when the Anglo-American entrepreneurs arrived with the opening of the Santa Fe Trail and the subsequent influx of Anglo-American settlers that followed the ratification of the Treaty of Guadalupe Hidalgo in 1848 (Westphall 1983:74).

The project area is due north of the Alameda Grant boundary. Most of the grant residents would have lived along the river, while common lands would have been used for grazing and retained a rural character throughout the Territorial period. The Alameda Grant was not confirmed by Congress and its lands reverted to private and public holdings.

In 1919, soon after New Mexico statehood and the establishment of public domain lands, the San Mateo Land Company purchased 33,000 acres (which would form the eventual basis for the City of Rio Rancho) for $0.19 per acre as an investment and sold the property several years later in 1948 to Brownfield & Koontz to become the "Koontz Ranch." Over 500 head of cattle grazed on the property. In 1959, the property was sold to Ed Snow, a local investor and developer. The land, located immediately north and west of the City of Albuquerque, continued to increase in value as the Albuquerque metropolitan area grew to just over 200,000 persons in 1960. However, much of the land retained its rural character.

In 1961, Rio Rancho Estates, Inc. (a.k.a. AMREP) purchased an estimated 55,000 acres as an investment. AMREP's success in New York City as a rose flower mail order business afforded the company the financial ability to purchase the property for approximately $10 million. In the years immediately following the purchase, a plan was created to subdivide the property into tens of thousands of lots and sell them using mass marketing and mail order techniques. AMREP platted and sold this land as Rio Rancho Estates in half-acre and one acre lots to thousands of absentee property owners through mail order sales in the 1960s and 1970s. AMREP sold 77,000 lots to 40,000 buyers for $200 million at $795 for one-half acre and $1,495 for one acre, while retaining over 25 percent of the acreage for future development.

In 1966, the 100th family moved into the community and by 1970, "Rio Rancho Estates" had grown to 91,000 acres with the purchase of an additional 35,000 acres of King Ranch property. AMREP continued its interest and involvement in the community and established its role in the development of the emerging city as builder, land developer, economic development coordinator, and leader in the construction of affordable housing (City of Rio Rancho, City History: http://ci.rio-rancho.nm.us/Government/city_history.htm

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FIELD METHODS

The testing program followed field methods outlined in *Test Excavation Plan for Six Sites Located in the Paseo Gateway Project* (HPD Log 775). These field methods are briefly summarized in this section. The intention of the test excavation plan was the recovery of information on the nature, condition, and extent of the cultural deposits and artifact distributions that that may contribute to site significance, while minimizing the impact of testing on site integrity.

Surface artifacts were pin-flagged to aid in defining site limits, identifying artifact concentrations, and determining the placement of test pits. On five sites (LA 55498, LA 55500, LA 55501, LA 55504, and LA 55505) the surface artifact assemblages numbered well under 50 and these artifacts were previously recorded and evaluated during the original 1986 survey. These artifacts were reanalyzed in the field to update artifact information, but surface artifacts were not collected unless their location coincided with a test excavation unit. A larger number of artifacts are present on the surface of the remaining site, LA 55499, and only a sample (32 artifacts) were recorded during the 1986 survey. An additional sample of artifacts on this site were analyzed in the field, but collection was left for a probable future data recovery phase.

Initially, site boundaries were established by pin-flagging surface artifacts. Crew members walked closely spaced transects (2-m intervals) and marked all artifact locations. Artifact distributions were used to confirm, or redefine if necessary, site boundaries, and to aid in selecting the location of hand-excavated test units. Surface artifacts were avoided during the placement of actual test units where possible.

A site datum/mapping station was established at each site and marked with a large 12-inch nail. Baselines were extended from the datum and a grid system was erected. All test units were tied into the grid system and were provenienced from the southwest corner. A total station was used to map site characteristics including artifact concentrations, test excavation units, site boundaries, and the relationship of the site to nearby physiographic and man-made features. All surface artifacts were individually point plotted on five sites with lower frequency surface assemblages. These artifacts were analyzed in the field. Both individual artifacts and artifact concentrations were point plotted at LA 55499 in order to characterize the extent and density of surface cultural material at this larger site. A sample of surface artifacts was analyzed in the field.

The proposed test excavation plan was confined primarily to the subsurface investigation of the integrity and nature of the shifting eolian sheet sand that mantles the sites. Subsurface investigations were accomplished mainly by the excavation of 1-by-1-m test units at each site, with the number of test units determined by site size and surface artifact density. The test units were excavated to noncultural material-bearing soil, and an additional auger test was placed in each test unit to confirm the presence of noncultural sediments. Smaller shovel tests measuring 30-by-30 cm were additionally employed at LA 55504 to increase the amount of area subjected to subsurface exploration.

Excavation was conducted by natural stratigraphy and arbitrary levels until natural strata were defined. Excavation in arbitrary levels or within thick natural layers proceeded in 10 cm increments. All soil and sediment removed from excavation units was systematically passed through steel mesh screens. Two sizes of screen, 1/4-inch and 1/8-inch mesh, were employed depending on the nature of the artifact types and sediments. Recovered

artifacts were assigned a field specimen (FS) number, which were listed in a catalog and recorded on all related excavation forms and bags of artifacts. FS numbers were tied to proveniences, so that all materials collected from the same horizontal and vertical provenience units received the same FS number. The total absence of features, charcoal, and cultural staining in the subsurface sediments precluded the collection of pollen, flotation, and chronometric samples during the testing program.

Field recording employed standard OAS forms. Recorded information included provenience information, test excavation unit context, characterization of strata, and artifact types. Digital photographs were taken of stratigraphic profiles and important site characteristics. All strata and soil horizons were described using standard scientific terms including the use of a Munsell Soil Color Chart.

TESTING RESULTS

The Paseo Gateway project is an urban development project involving commercial, light industrial, residential, and educational development in the Rio Rancho area. The six sites were initially recorded by Patrick Hogan (1986) and the site forms were updated in 2005 by the Office of Archaeological Studies (NMCRIS Activity No. 96898). The purpose of the test excavation plan is to provide information on the nature, condition, and extent of subsurface deposits. In turn, this information would aid in assessing the site's potential to contribute information on New Mexico's heritage. Specifically, the testing results provide information that may be used to determine eligibility for listing on state or national registers, or as the basis for developing an excavation or data recovery plan in advance of the proposed urban development project. The sites are presented in the order in which they were tested.

LA 55504

Cultural/Temporal Affiliation: Unknown/ Unknown

Site Type: Diffuse low-density chipped stone scatter

UTM Coordinates: See Appendix 1.

Environmental Setting: The site is located on an essentially level and open plain (Fig. 4). A mantle of loose eolian sand covers the site. Local vegetation consists mainly of scrub-grassland including sage, snakeweed, yucca, and various mixed grasses. Site elevation is

Figure 4. LA 55504 general overview.

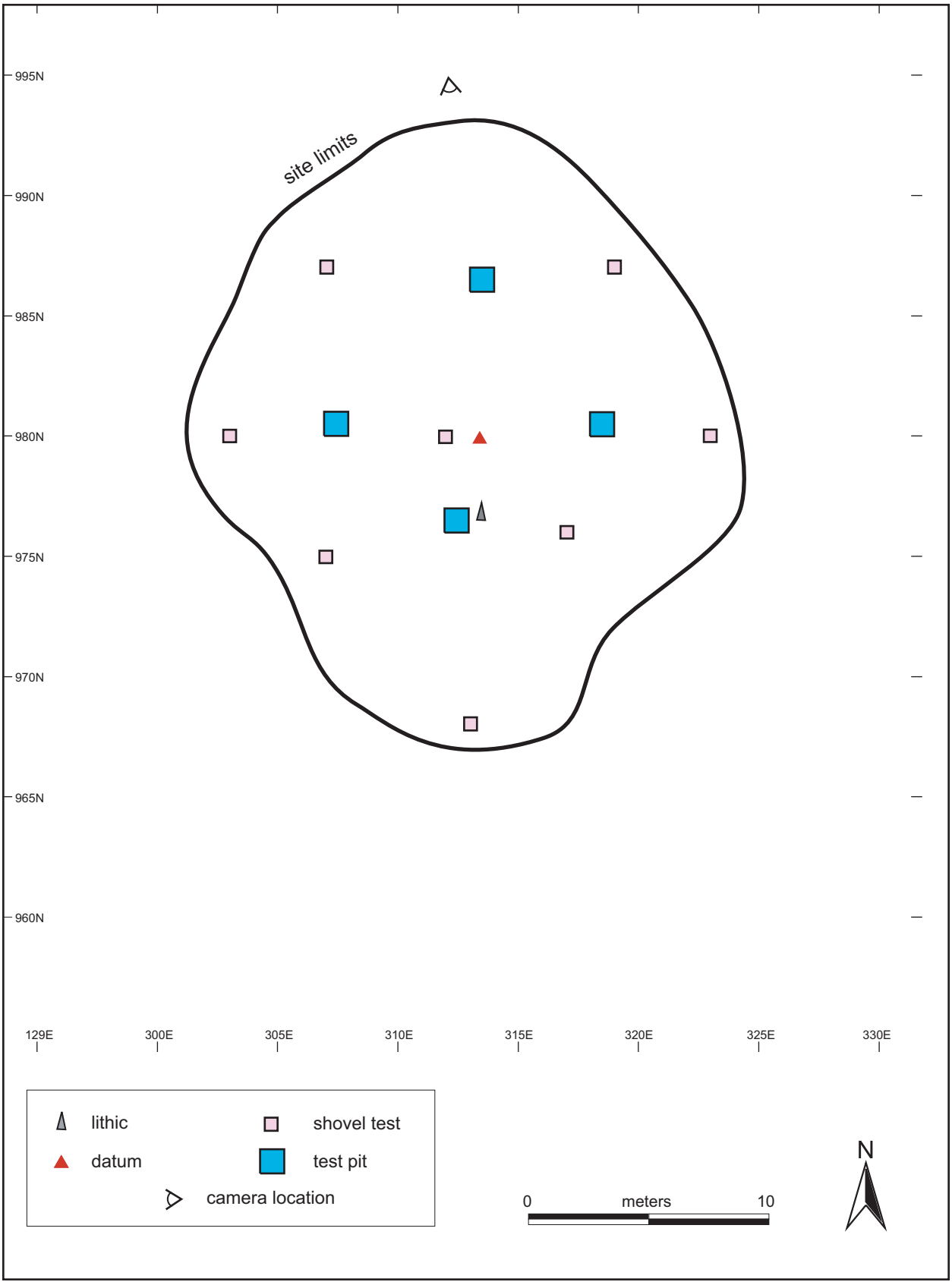

Figure 5. LA 55504 site map.

5,380 ft.

Land Status: Private.

Site Size: 18-by-19 m; 228.63 sq m

Site integrity: The site is subject to wind erosion and probable surface collection because of the close proximity of a nearby residential community. Rodent burrows were common in the test units.

Previous Work: Patrick Hogan originally described the site during the1986 survey as a small chipped stone scatter of unknown cultural affiliation. He located and recorded ten surface artifacts. The assemblage was composed of core reduction flakes of the local chalcedony. No features were identified. Site activities apparently centered around a single episode of lithic reduction.

In 2005, the Office of Archaeological Studies relocated only three of the ten artifacts, but expanded the site dimensions from 13-by-8 m to18-by-19 m. Cultural features were not evident on the surface. All three artifacts were core flakes of the local chalcedony.

Surface artifacts: An intensive resurvey of the site by the OAS archaeologists during the current testing program found only one chipped stone artifact (Fig. 5). No evidence of surface features were found during the surface examination. Nearby neighbors visiting the site during the excavation stated that artifacts had been picked up during walks in the area. The single remaining artifact was a core flake of the local chalcedony (Table 2). The flake had no evidence of utilization.

Test Unit Descriptions: Subsurface investigations included the excavation of four 1-by-1-m test pits, eight 30-by-30 cm shovel tests, and 12 auger tests.

Test Pits. Four 1-by-1-m test pits were excavated accounting for 1.75 percent of the site area (Fig. 5). Test Pit 976N/312E was located adjacent to the single surface artifact found on the site. The remaining three test units were placed along the primary north-south and east-west baselines about 5 m apart. This placed one 1-by-1-m test pit in each quadrant of the site. The test pits were excavated to a depth of 40 cm below the surface (Tables 2, 3). No subsurface artifacts, charcoal, cultural-staining, or features were found in the test pits.

Shovel Tests. Eight 30-by-30-cm shovel tests were excavated and the fill screened through 1/8-inch mesh. The shovel tests were placed to insure that a 1-by-1-m test unit or shovel test were spaced at 5 m intervals across the site (Fig. 5). The shovel tests were dug to a depth of 40 cm below the surface and no subsurface cultural material was encountered.

Auger Tests. An auger test was placed at the base of each 1-by-1-m test unit and each 30-by-30-cm shovel test. The 12 auger tests were excavated to a depth of 1.0 m below the surface and fill was screened through 1/4-inch mesh. The auger tests show that Stratum 2, characterized by the lightly compacted sand layer, continued to a depth of 1.0 m and increased caliche appeared at a depth of 80 cm to 1.0 m. No artifacts or cultural deposits were unearthed.

Table 2. LA 55504 Chipped Stone Surface Artifacts

PP	Material	Texture	Artifact Type	Portion	Cortex %	Platform
1	Chalcedony	Fine-grained and flawed	Core flake	Whole	50	Single facet
Dorsal Scars	**Length (cm)**	**Width (cm)**	**Thickness (cm)**	**Comments**		
1	4.2	3.4	1.5	Unutilized flake		

Table 3. LA 55504 Test Unit Results

Test unit	Level				Artifact Total
	1	2	3	4	
976N/312E					0
980N/307E					0
980N318E					0
987N/313E					0
Shovel Tests					0
980N/303E					0
980N/323E					0
992N/313E					0
968N/313E					0
916N/317E					0
975N/307E					0
987N/319E					0
987N/307E					0
981N/312E					0
Artifact Total	0	0	0	0	0

	Stratum 1
	Stratum 2

Figure 6. LA 55504 typical soil profile.

Stratigraphy: The various test units revealed the presence of a consistent subsurface soil profile across the site (Fig. 6). Stratum 1 extends from the surface to a depth of 10 cm below the surface. Stratum 1 was a loose fine-grained (7.5YR 6/4) eolian sand deposit. It is expected that cultural material would be confined primarily to this surficial stratum, although no subsurface cultural material was actually encountered. Stratum 2 extends from 10 cm to a depth of at least 1.0 m below the surface. The light brown sand (7.5YR 6/4) is slightly consolidated, but with a grainy consistency. Caliche content became more prevalent from around 80 cm to 1.0 m below the surface. Rodent burrows were commonly encountered throughout Stratum 2. No charcoal, artifacts, or cultural deposits were found in the thick sand stratum.

Evaluation: Site testing revealed little additional information beyond what was recorded by Hogan during the original 1986 survey. Testing of just over 2 percent of the site area by 1-by-1-m test pits (4) and shovel tests (8) verified that the site is confined essentially to the surface and no subsurface artifacts or cultural deposits were present. Surface artifacts have diminished in frequency from ten artifacts recorded during the initial 1986 survey to only one at the time of the testing program. This is probably a direct result of the close proximity of the site to the nearby residential neighborhood. The briefly occupied site has an unknown cultural affiliation with activities centering around a single episode of lithic reduction involving locally available chalcedony.

Eligibility: The testing program has determined that LA 55504 is not likely to yield additional information important to the understanding of local or regional history or prehistory. The surface assemblage has been reduced to just one artifact and no subsurface artifacts or cultural deposits were found. The site is considered not eligible and no further archaeological investigations are recommended.

LA 55505

Cultural/Temporal Affiliation: Unknown/ Unknown

Site Type: Diffuse low-density artifact scatter with sherds, chipped stone, and ground stone artifacts.

UTM Coordinates: See Appendix 1.

Environmental Setting: The site is located on an essentially level and open plain. The length of the site has been bisected by 28th Avenue at this locality, which has most likely effected the integrity of most of the site (Fig. 7). A mantle of loose eolian sand covers the site. Local vegetation consists mainly of scrub-grassland including sage, snakeweed, yucca, and various mixed grasses. Site elevation is 5,390 ft.

Land Status: Private.

Site Size: 197.5-by-27 m; 3557.5 sq m (including road bed). A strip of about 790 sq m remains intact along the north and south road shoulders for a total of about 1,580 sq m.

Site integrity: Patrick Hogan (1986) documented that the site was largely damaged by the construction of 28th Avenue. Subsequent widening of the road and repeated road maintenance activity may have adversely altered the remaining integrity of the site. The site is subject to wind erosion. Rodent burrows were commonly encountered throughout test pits.

Previous Work: Patrick Hogan (1986) originally described the site as a diffuse scatter of lithic material exposed in the 28th Avenue road cut. Hogan recorded 36 pieces of chipped stone debitage, 2 sherds, and fire-cracked rock along the road shoulders. The bulk of the chipped stone assemblage was the core reduction of the locally available chalcedony. The site was considered a short-term camp of unspecified age largely damaged by

Figure 7. LA 55505 general overview.

the construction of 28th Avenue.

The Office of Archaeological Studies relocated only five chipped stone artifacts and a basin metate fragment during the 2005 site examination. The OAS expanded the site dimensions from 108 m by 12 m to197.5 m by 27 m at this time based on the spatial distribution of the six artifacts. Five of these artifacts were chalcedony flakes and angular debris located within 3 m of the road. A single basin-like metate fragment was located 9 m south of the road. All of the chipped stone debris was associated with disturbed berm along the road shoulders originating from repeated shoulder blading and road maintenance. The metate fragment was located on the surface of undisturbed eolian sand, suggesting the deposits may be surficial. The OAS did not relocate the sherds and fire-cracked rock and observed no evidence of either surface or subsurface cultural deposits along the road shoulders. The specific cultural and temporal affiliation of the site remained unknown. The OAS concurred with Hogan's assessment that the integrity of the site was largely compromised by the road construction.

Surface Artifacts: An intensive resurvey of the site by the OAS archaeologists during the current testing program found eight chipped stone artifacts and the metate fragment (Fig. 8). The sherds and fire-cracked rock recorded by Hogan were not relocated. No evidence of features or cultural deposits were evident during the surface examination.

The chipped stone assemblage consisted of eight artifacts (Table 4). The chipped stone artifacts were widely scattered across the site and no artifact concentrations were delineated. Two artifacts were pin-flagged on the south side of the road and the remaining six chipped stone artifacts were recorded on the north side of the road. Only artifacts 3, 4, and 5 were located in contexts not disturbed by road construction or maintenance. The remaining five artifacts were located in berm

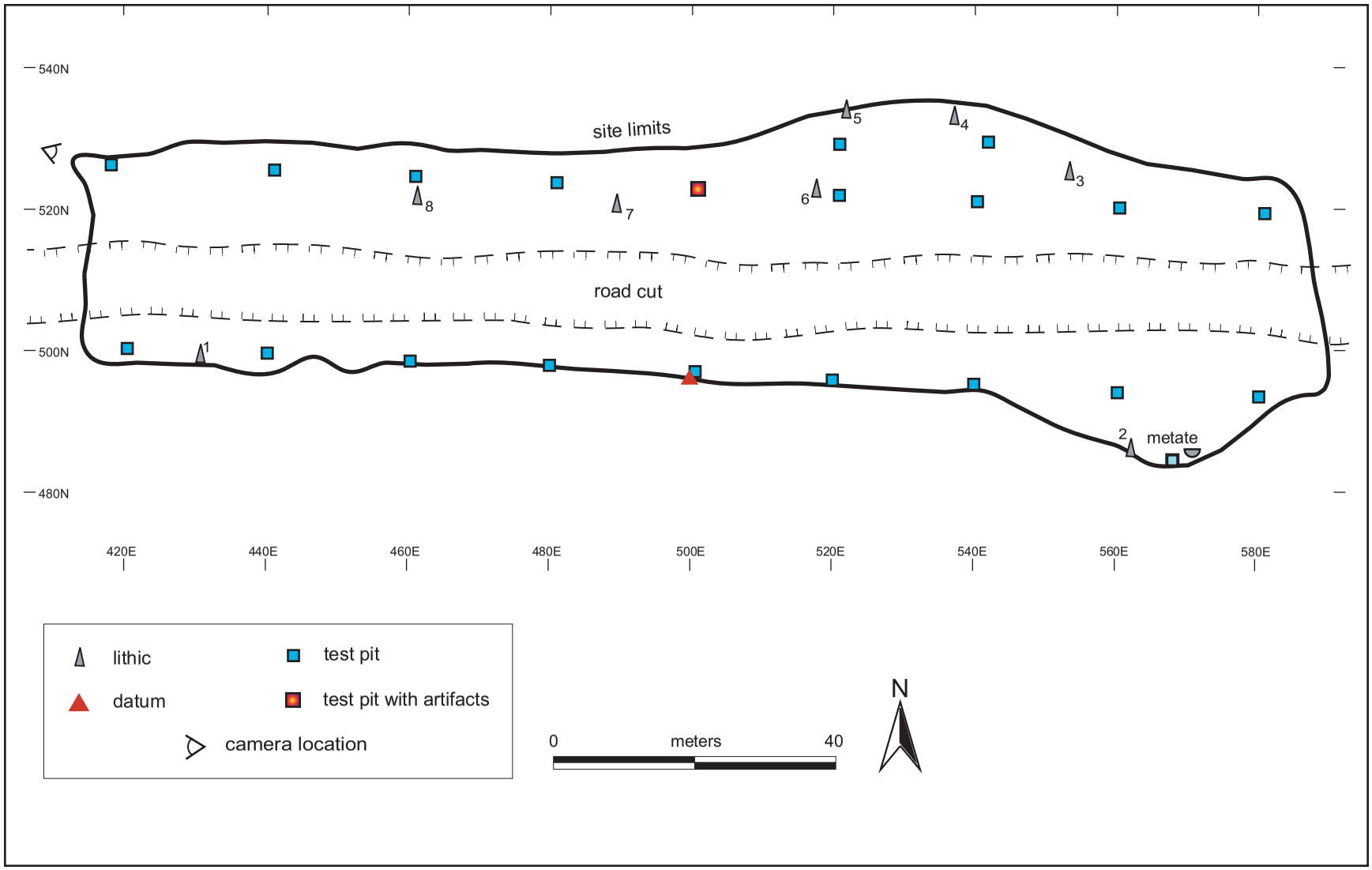

Figure 8. LA 55505 site map.

Table 4. LA 55505 Chipped Stone Surface Artifacts

PP	Material	Texture	Artifact	Portion	Cortex %	Platform	Dorsal scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
1	Chalcedony	Fine-grained and flawed	Core flake	Whole	0	Single facet	1	6.6	4	2.5	Unutilized flak
2	Chalcedony	Fine-grained and flawed	Core flake	Whole	20	Cortical	2	2.3	3.2	1.2	Unutilized flak
3	Chalcedony	Fine-grained and flawed	Core flake	Distal	0	0	1	3.3	4.7	1.4	Unutilized flak
4	Chalcedony	Fine-grained and flawed	Core flake	Proximal	0	Single facet	1	2.1	1.5	0.4	Unutilized flak
5	Chalcedony	Fine-grained and flawed	Angular debris	Indeterminate fragment	0	0	0	5.3	4.4	3	Unutilized ang
6	Chalcedony	Fine-grained and flawed	Angular debris	Indeterminate fragment	50	0	0	4.4	3.4	2.2	Unutilized ang
7	Chalcedony	Fine-grained and flawed	Core flake	Whole	0	Single facet	1	2.5	2	0.5	Unutilized flak
8	Chalcedony	Fine-grained and flawed	Core flake	Whole	50	Single facet	1	4.9	2.5	1.5	Unutilized flak

Table 5. LA 55505 Chipped Stone Subsurface Artifacts

Grid unit	Level	Material	Texture	Artifact type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
526N/ 500E	Surface	Chalcedony	Fine-grained	Core flake	Whole	0	Multif acet	2	1.4	0.8	0.4	Unutilized flake
		Chalcedony	Fine-grained, flawed	Angular debris	Whole	0	0	0	1.1	9..9	4..4	Unutilized angular debris

fill along the road shoulders. The small assemblage consists entirely of the local chalcedony in the form of six core flakes and two pieces on angular debris. One piece of angular debris and one core flake have about 50 percent cortex coverage, but in general the debris lacks cortex. The flakes have cortical and single facet platforms along with low frequency dorsal scarring. The small assemblage can be attributed to core reduction activities using the local chalcedony. None of the chipped stone artifacts showed evidence of utilization.

The single basin-like metate fragment was located south of the road and at the southeast corner of the site (Fig. 8). The fragment was located in an undisturbed context suggesting surficial deposits. The metate was manufactured from a medium-grained quartzite and the remaining fragment measured about 25-by-25 cm by 10-cm thick.

Test Unit Descriptions: Subsurface investigations included the excavation of 21 1-by-1-m test pits and 21 auger tests.

Test Pits. Twenty-one 1-by-1-m test pits were excavated accounting for about 1.4 percent coverage of the intact shoulder areas along the north and south sides of the road (1,580 sq m). Nine test pits were spaced about every 20 m along the 500N baseline established along the south side of the road (Fig. 8). In addition, Test Pit 493N/570E was placed adjacent to the metate fragment. Nine test pits were spaced every 20 m along the 526N baseline established along the north side of the road. Test Pits 533N/520E and 534N/540E were placed in the vicinity of surface artifacts 3, 4, and 5, which appeared to be in undisturbed contexts. The test pits were excavated to a depth of 40 cm below the surface. Artifacts were limited to two flakes recovered from the surface of Test Pit 526N/500E (Table 5). No subsurface artifacts, charcoal, cultural staining, or features were unearthed in the test pits.

Auger Tests. An auger test was placed at the base of each 1-by-1-m test pit. The auger tests were excavated to a depth of 1.0 m below the surface and fill was screened through 1/4-inch mesh. No artifacts or cultural deposits were found in the auger tests.

Stratigraphy: The various test units show that three subsurface soil strata are present on the site. Stratum 1 extends from the surface to a depth of 10 cm below the surface. Stratum 1 consists of a loose, fine-grained (7.5YR 6/4) eolian sand deposit. This was probably the primary cultural layer, although cultural material was confined to two pieces of chipped stone found essentially on the surface of Test Pit 526N/500E. No subsurface artifacts or cultural materials were found during the testing program. Stratum 2 extends from 10 cm below the surface to a depth of at least 1.0 m below the surface. The light brown sand (7.5YR 6/4) is slightly consolidated, but with a grainy consistency. Stratum 2 is confined to the 11 test pits excavated on the south side of the road (Fig. 9) Stratum 3 extends from 10 cm below the surface to a depth of 1.0 m below the surface. The light brown sand has the same color (7.5YR 6/4) as Stratum 2, but is very compact with a blocky consistency (Fig. 10). Stratum 3 was so consolidated that it required a pick to break up the soil during excavation. Caliche flecks often appeared in the 10 to 20 cm level, and caliche content increased with depth. No artifacts or cultural material was recovered from Stratum 3.

Subsurface Artifacts: Only two artifacts were recovered from the 21 test pits and they were actually recovered from the surface, or within 1 cm of the surface in Test Pit 526N/500E. The two artifacts consisted of a chalcedony core flake and a piece of chalcedony angular debris (Table 6). No lower level artifacts or cultural deposits were found in the test pit. The two artifacts remain from reduction activities employing the local chalcedony. Neither artifact was utilized as a tool.

Evaluation: Site testing revealed little additional information beyond what was recorded

Figure 9. LA 55505 typical soil profile, south side of road.

Figure 10. LA 55505 typical soil profile, north side of road.

Table 6. LA 55505 Test Unit Results					
Test unit	Level				Artifact Total
	1	2	3	4	
500N/420E					0
500N/440E					0
500N/460E					0
500N/480E					0
500N480E					0
500N/500E					0
500N/521E					0
500N/540E					0
500N/560E					0
493N/570E					0
500N/580E					0
526N/417E					0
526N/440E					0
526N/460E					0
526N/480E					0
526N/500E	2				2
526N/520E					0
526N/560E					0
526N/580E					0
533N/520E					0
534N/540E					0
Artifact Total	2	0	0	0	2

	Stratum 1
	Stratum 2
	Stratum 3

by Hogan during the original 1986 survey. Testing verified that the cultural deposit is confined essentially to the surface. Surface artifact frequencies and content have decreased from 36 chipped stone artifacts, 2 sherds, and fire-cracked rock recorded during the initial 1986 survey to a total of only 10 chipped stone artifacts and a metate fragment recorded during the present testing program. The decrease in artifacts is probably a direct result of repeated road and shoulder maintenance activities along 28th Avenue. The integrity of the site was largely compromised during the initial construction of the road and yearly maintenance activities have continued to degrade the resource. The total absence of subsurface artifacts and deposits supports the initial site interpretation as a short-term camp with an unknown cultural affiliation. Plant processing activities can be inferred from the basin metate fragment and core reduction utilizing the local chalcedony.

Eligibility: The testing program has determined that LA 55505 is not likely to yield additional information important to the understanding of local or regional history or prehistory. The surface assemblage has been reduced to just 10 chipped stone artifacts and a basin metate fragment. No subsurface artifacts or cultural deposits were found. Site integrity has been totally compromised by both the construction of 28th Avenue and subsequent long-term road and shoulder maintenance activities. The site is considered not eligible and no further archaeological investigations are recommended.

LA 55498

Cultural/Temporal Affiliation: Unknown/ Unknown

Site Type: Diffuse low-density artifact scatter with sherds and lithic artifacts

UTM Coordinates: See Appendix 1.

Environmental Setting: The site is located on a gently sloping open plain (Fig. 11). A mantle of loose eolian sand covers the site. Local vegetation consists mainly of scrub-grassland including sage, snakeweed, yucca, and various mixed grasses. Site elevation is 5,410 ft.

Land Status: State Land Office transferred to Rio Rancho Public Schools.

Site Size: 82-by-25.7 m; 1,518 sq m
Site integrity: The entire site is subject to wind erosion, but otherwise is intact. Rodent burrows were very common in the test units.

Previous Work: Patrick Hogan originally recorded the site during the 1986 survey as a diffuse artifact scatter composed of 15 chipped stone artifacts and 4 sherds. The chipped stone assemblage was characterized by core reduction including irregular cores, a hammerstone, and core flakes of the local chalcedony. The ceramic assemblage consisted of 4 sherds including 1 indeterminate red ware and 3 indeterminate gray ware sherds from a bowl and a jar. Hogan recorded this area as a site only because the artifact density exceeded the number of artifacts allowed in a 10-m-diameter area defining an isolated occurrence. However, he concluded that the cultural material may have accumulated as a result of gradual accretion over a long period of time rather than represent a single activity or event.

The OAS relocated only 3 chalcedony core flakes and the original 4 sherds during

Figure 11. LA 55498 site overview.

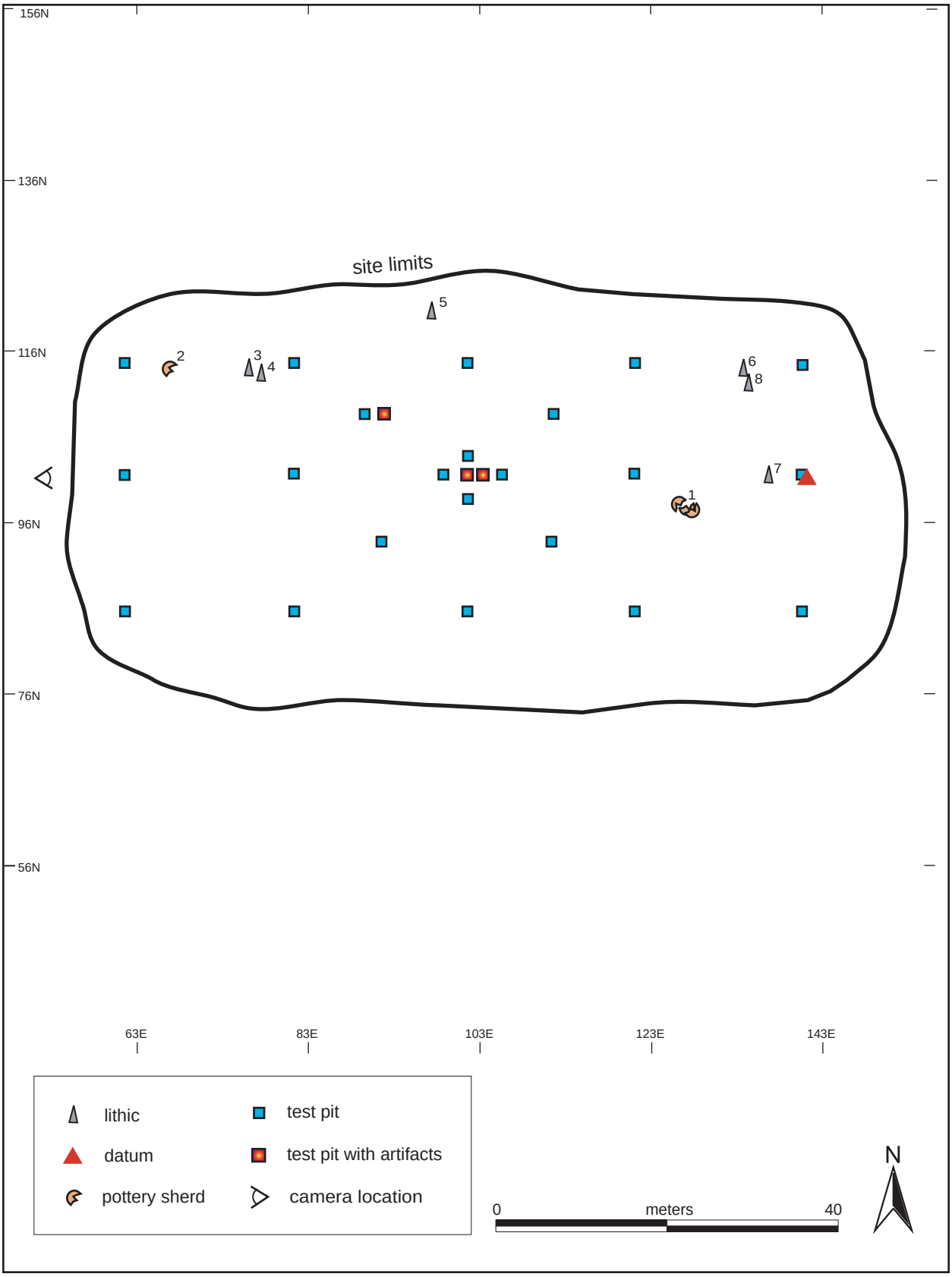

Figure 12. LA 55498 site map.

the 2005 site examination. The artifacts were dispersed over a similar 80-by-25-m area. The OAS archaeologists found no evidence of cultural staining, fire-cracked rock, or features during the re-examination of the site. The relationship between the sherds and the lithic assemblage remained unclear.

Surface Artifacts: An intensive resurvey of the site by the OAS archaeologists during the current testing program identified six chipped stone artifacts and four sherds (Fig. 12). The artifacts are widely dispersed across the site and no concentrations were identified. No evidence of surface features were found during the surface examination.

The six chipped stone artifacts consist mainly of local chalcedony core flakes along with one piece of angular debris (Table 7). The core flakes were generally whole and exhibited single platforms, high percentages of cortex, and low numbers of dorsal scars. The small assemblage is characterized by secondary flakes derived from the initial stages of core reduction utilizing the local chalcedony. None of the chipped stone artifacts were utilized as tools. No pieces of raw material were noted in the immediate vicinity of the site. The site inhabitants apparently transported the material to the site for further reduction.

Four sherds were found on the site (Fig. 12). Three small penny-sized sherds were identified as from the same Santa Fe Black-on-white bowl. The three sherds were clustered in a 50 cm area near the east end of the site. These were probably the unidentified gray ware sherds recorded by Hogan during the 1986 survey. A single unpainted red slipped glaze ware bowl sherd was recorded near the northwest site corner. In general, the temporal periods represented by the four sherds overlap at around A.D. 1350. However, it remains unknown as to whether the sherds designate one period, or separate periods of occupation. Additionally, it remains unclear how the sherds are associated with the small chipped stone assemblage.

Test Unit Descriptions: Subsurface investigations included the excavation of 25 1-by-1-m test pits and 21 auger tests.

Test Pits. Twenty-five 1-by-1-m test pits were excavated across the site accounting for about 1.6 percent coverage of the site area. Initially, test pits were spaced about every 20 m to insure uniform spatial coverage across the site. Six artifacts were recovered from three separate test pits (Table 8). Additional test pits were then placed around test pits containing artifacts to expand the search for subsurface artifacts and cultural deposits. Five of the artifacts were recovered from two (100N/100E and 100N/102) test pits located near the center of the site. Four test pits surrounding these two test pits lacked subsurface cultural material. All six of the subsurface artifacts were unearthed from Stratum 2, and two artifacts were recovered from a depth of 50 cm below the surface. However, all six of the subsurface artifacts were recovered from contexts disturbed by rodent burrows. No subsurface charcoal, charcoal staining, or features were found in the 25 test pits. The test pits show that the occurrence of subsurface artifacts was rare and always associated with rodent burrows.

Auger Tests. An auger test was placed at the base of each of the 25 test pits. The auger tests were excavated to a depth of 1.0 m below the surface and fill was screened through 1/4-inch mesh. No artifacts or cultural deposits were recovered from the auger tests.

Stratigraphy: The various test units indicate a consistent soil profile across the site (Fig. 13). Stratum 1 extends from the surface to a depth of 10 cm below the surface. Stratum 1 is a loose fine-grained (7.5YR 6/4) eolian sand deposit. The cultural horizon was probably confined primarily to the present ground surface and Stratum 1. The test pits show that Stratum 1 essentially lacked cultural material. Stratum 2 extended from 10 cm below the surface to a depth of at least 1.0 m in areas of the

Table 7. LA 55498 Chipped Stone Surface Artifacts

PP	Material	Texture	Artifact type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
1	Chalcedony	Fine-grained and flawed	Core flake	Proximal	0	Single facet	1	1.5	2.3	0.6	Unutilized flake
2	Chalcedony	Fine-grained and flawed	Core flake	Whole	100	Single facet	0	5	3	1.5	Unutilized flake
3	Chalcedony	Fine-grained and flawed	Angular debris	Whole	80	0	0	4.3	3.1	2	Unutilized angular debris
4	Chalcedony	Fine-grained and flawed	Core flake	Whole	80	Single facet	2	4.1	4.4	1.6	Unutilized flake
5	Chalcedony	Fine-grained and flawed	Core flake	Whole	50	Single facet	1	2.8	1.8	0.8	Unutilized flake
6	Chalcedony	Fine-grained and flawed	Core flake	Whole	0	Single facet	2	3.1	1.6	0.5	Unutilized flake

Table 8. LA 55498 Chipped Stone Subsurface Artifacts

Grid unit	Level	Material	Texture	Artifact Type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
100N/ 100E	3	Basalt	Medium-grained	Core flake	Whole	100	Single facet	0	3.8	2.5	0.5	Unutilized flake
		Basalt	Medium-grained	Core flake	Distal	50	Absent	1	2.7	2.3	0.5	Unutilized flake
		Basalt	Medium-grained	Core flake	Proximal	0	Single facet	0	2.3	2.4	0.6	Unutilized flake
100N/ 100E	5	Chalcedony	Fine-grained and flawed	Core flake	Whole	0	Single facet and abraded	3	1.9	3	1.3	Unutilized flake
100N/ 102E	5	Basalt	Medium-grained	Core flake	Distal	0	Absent	0	0.9	1.5	0.4	Unutilized flake
107N/ 90E	2	Basalt	Medium-grained	Core flake	Whole	0	Cortical	4	4.4	4.1	0.8	Unutilized flake

Table 9. LA 55498 Test Unit Results

Test unit	Level							Artifact Total
	1	2	3	4	5	6	7	
84N/60E					--	--	--	
84N/80E						--	--	0
84N/100E					--	--	--	0
84N/120E					--	--	--	0
84N/139E					--	--	--	0
92N/90E					--	--	--	0
92N/110E						--	--	0
97N/100E						--	--	0
100N/60E					--	--	--	0
100N/80E					--	--	--	0
100N/97E						--	--	0
100N/100E			3		1			4
100N/102E					1			1
100N/104E						--	--	0
100N/120E					--	--	--	0
100N/139E					--	--	--	0
102N/100E						--	--	0
107N/88E						--	--	0
107N/90E		1				--	--	1
107N/110E						--	--	0
112N/100E					--	--	--	0
113N/60E					--	--	--	0
113N/80E					--	--	--	0
113N/120E					--	--	--	0
113N/139E					--	--	--	0
Artifact Total	0	1	3	0	2	0	0	6

	Stratum 1
	Stratum 2
	Stratum 3

site. Stratum 2 was a very compact strong brown (7.5YR 4/6) fine-grained sandy clay. The soil had a blocky structure and required a pick for excavation. The six artifacts recovered from Stratum 2 were from disturbed rodent burrow contexts. No charcoal or cultural staining was observed in the soil. Caliche flecks usually began in Level 2 and caliche content increased with depth. Stratum 3 was a compact fine-grained sandy silt with a lighter pink (7.5YR 7/4) color and abundant caliche. Stratum 3 was usually encountered at a depth of about 30 cm below the surface and continued to at least 1.0 m below the surface.

Subsurface Artifacts: Six chipped stone artifacts were recovered from three test pits (Table 9). The majority (4) of the artifacts were recovered from Test Pit 100N/100E located near the center of the site. The six subsurface artifacts were recovered from Stratum 2 heavily disturbed rodent burrow contexts. Five of the subsurface artifacts are represented by basalt followed by a single local chalcedony core flake. Basalt is represented entirely by core flakes with single facet and cortical platforms. Cortex ranged from 0 to 100 percent coverage. Dorsal scars ranged from 0 to 4. The basalt flakes are attributed to primary and secondary core reduction and none of the

Figure 13. LA 55498 typical soil profile.

flakes exhibit utilization as tools.

Evaluation: Site testing revealed little additional interpretive information beyond what was recorded by Hogan during the original 1986 survey. Testing verified that the site is confined to the surface with the six subsurface artifacts recovered from rodent burrows. No charcoal, cultural staining, or features were identified on the surface or in the subsurface sediments. Surface artifact frequencies had decreased from 15 chipped stone artifacts and 4 sherds to 6 surface chipped stone artifacts and 4 sherds recorded during the testing program. Hogan concluded that the cultural material found at the site may have accumulated as a result of gradual accretion over a long period of time rather than depicting an actual site setting. This still seems a reasonable conclusion with individualized activities centered around local chalcedony and basalt core reduction and probable pot drops. The sherds furnish the only temporal information suggesting possible occupation around A.D. 1350. The site could easily be the manifestation of individual episodes of local chalcedony reduction, basalt reduction, and pot drops accumulating material over time. In general, the site retains an unknown cultural affiliation and functioned most broadly as a special activity site associated with the procurement of local lithic artifacts, plants, and animals.

Eligibility: The testing program has determined that LA 55498 is not likely to yield additional information important to the understanding of local or regional history or prehistory. The surface assemblage is essentially a smaller version of the artifacts described by Hogan during the 1986 survey. The testing program has verified the complete absence of

subsurface cultural deposits with only six artifacts recovered from rodent disturbed contexts. The site is considered not eligible and no further archaeological investigations are recommended.

LA 55500

Cultural/Temporal Affiliation: Archaic/ Unknown

Site Type: Low-density artifact scatter.

UTM Coordinates: See Appendix 1.

Environmental Setting: The site is located in a swale near a low sand ridge (Fig. 14). A mantle of loose eolian sand covers the site. Local vegetation consists mainly of scrub-grassland including sage, snakeweed, yucca and various mixed grasses. A small unnamed drainage is about 100 m west of the site. Site elevation is 5,455 ft.

Land Status: State Land Office transferred to Rio Rancho Public Schools.

Site Size: 26.7-by-22.3 m; 468.33 sq m

Site integrity: The site is subject to wind erosion, but the eolian sheet sand at this locality is essentially stable. Rodent burrows were common throughout the test pits and were a source of artifact displacement and mixing.

Previous Work: Patrick Hogan originally described the site during the 1986 survey as a diffuse scatter of 16 pieces of debitage, a mano fragment, and 6 pieces of fire-cracked rock. The presence of biface thinning flakes suggested a residential camp probably dating to the Archaic period.

The Office of Archaeological Studies 2005 site examination also located 16 chipped stone

Figure 14. LA 55500 overview.

artifacts. The assemblage consisted mainly of local chalcedony core flakes and biface flakes. A basalt flake was noted that was not included in Hogan's artifact inventory. The mano was not relocated and only one small piece of fire-cracked rock was noted. The site probably represented a briefly occupied Archaic camp with activities including core reduction and possible tool manufacture, grinding or plant processing evidenced by the mano, and thermal activities suggested by the fire-cracked rock.

Surface artifacts: An intensive resurvey of the site by the OAS archaeologists during the current testing program located 24 chipped stone artifacts and a mano fragment (Fig.15). The majority of the artifacts (13) are within an artifact concentration measuring about 10-by-10 m. All of the surface artifacts are within about 5 m of the concentration perimeter. No charcoal stained soil or features were found during the surface examination. A single fire-cracked mano fragment was found within the artifact concentration, but no additional fire-cracked rock or evidence of thermal features were identified.

The 24 chipped stone surface artifacts were represented primarily by local chalcedony (16) followed by lesser numbers of chert (6), basalt (1), and vesicular basalt (1). The small assemblage is dominated by core flakes (17) along with angular debris (5), and two multidirectional cores (Table 10). The majority (14) of the artifacts lack cortex, but the local chalcedony is represented by cortex coverage ranging from 10 to 60 percent coverage. Chalcedony is represented by a few examples each of six different platform types ranging from cortical to multifaceted. The majority of the flakes are broken (12) and most flakes (14) measured less than 2.0 cm in length. Dorsal scars range from 1 to 4 with most flakes (9) exhibiting two dorsal flake scars. The small assemblage exemplifies core reduction activities employing local chalcedony and cherts. The primary stages of reduction are exemplified by the chalcedony core and three chalcedony flakes with cortical platforms, but no raw material was observed in the immediate site area. All material types were transported to the site for further reduction. In general, the small flakes and lower cortex percentages are characteristic of the secondary reduction stage. None of the chipped stone artifacts were utilized as tools.

A single quartzite mano fragment was recorded from within the artifact concentration. A river cobble fragment measuring 4.0 cm by 3.2 cm by 2.2 cm had polishing on one surface with fine-bidirectional wear. This was probably a one-hand mano fragment, which had also been burned and fire-cracked. This mano was the only piece of fire-cracked rock observed on the site. The fragment was probably part of the same mano found in Level 1 of test pit 800N/400E located about 5 m to the north.

Test Unit Descriptions: Subsurface investigations included the excavation of 12 1-by-1-m test pits and 12 auger tests.

Test Pits. Twelve test pits were excavated across the site accounting for about 2.6 percent coverage of the site area. All fill on the site was screened through 1/8-inch mesh because of the potential for small biface flakes. Initially, test pits were spaced about every 10 m to insure uniform coverage across the site. Two test pits (800N/400E and 795N/404E) were placed within the artifact concentration and several test pits (789N/400E, 800N/395E, and 800N/407E) delimited the perimeter of the artifact scatter. A total of 35 subsurface artifacts were recovered from the test pits (Table 11). In general, the test pits contained low artifact frequencies confined mainly to Levels 1 and 2.

The highest frequency of artifacts (14) were recovered from Level 1 of Test Pit 800N/400E placed within the artifact scatter (Table 12). Test Pit 795N/404E placed within the artifact scatter just to the south and beside a surface mano fragment contained only one artifact in Level 1. Both of these test pits were

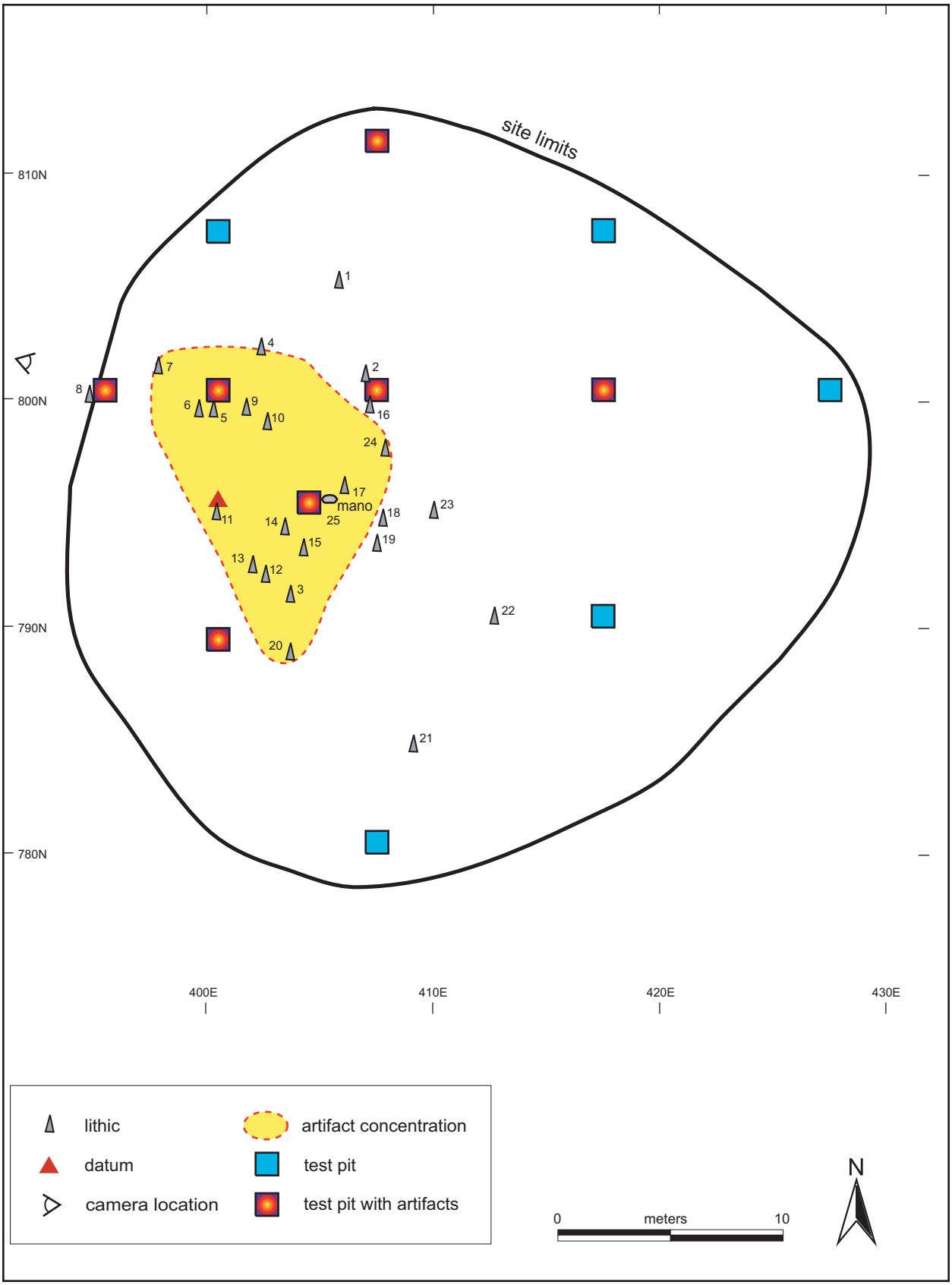

Figure 15. LA 55500 site map.

Table 10. LA 55500 Chipped Stone Surface Artifacts

PP	Material	Texture	Artifact Type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
1	Chalcedony	Fine-grained, flawed	Core flake	Distal	20	Absent	2	3.5	3.1	0.9	Unutilized flake
2	Chalcedony	Fine-grained, flawed	Core flake	Whole	20	Cortical	4	2	2.8	0.8	Unutilized flake
3	Chalcedony	Fine-grained, flawed	Core flake	Proximal	0	Single facet	2	2.3	1.8	0.5	Unutilized flake
4	Chalcedony	Fine-grained	Multidirectional core	Whole	60	0	0	5	4.1	1.4	Unutilized core
5	Chert	Fine-grained	Core flake	Proximal	0	Single facet	3	1.3	0.9	0.2	Unutilized flake
6	Chalcedony	Fine-grained, flawed	Angular debris	Whole	30	0	0	3.3	2	1.4	Unutilized angular debris
7	Chert	Fine-grained	Multidirectional core	Whole	0	0	0	4.9	2.5	4.4	Unutilized core
8	Chalcedony	Fine-grained, flawed	Core flake	Lateral	10	Absent	1	1.4	0.4	0.5	Unutilized flake
9	Chalcedony	Fine-grained, flawed	Core flake	Whole	30	Cortical	2	1.6	2.2	0.8	Unutilized flake
10	Chalcedony	Fine-grained	Core flake	Proximal	0	Single facet	2	1.9	1.1	0.3	Unutilized flake
11	Chalcedony	Fine-grained	Core flake	Lateral	0	Collapsed	2	1.7	1.1	0.2	Unutilized flake
12	Chalcedony	Fine-grained, flawed	Core flake	Lateral	0	0	2	1.5	1	0.4	Unutilized flake
13	Chalcedony	Fine-grained	Core flake	Whole	0	Multifacet	4	1.2	1.4	0.4	Unutilized flake
14	Chalcedony	Fine-grained, flawed	Angular debris	Whole	20	0	0	2.8	1.7	1.2	Unutilized angular debris
15	Chalcedony	Fine-grained, flawed	Core flake	Proximal	10	Cortical	2	1.5	1.4	0.2	Unutilized flake
16	Chert	Medium-grained, flawed	Core flake	Medial	0	Absent	1	1.1	1.2	0.2	Unutilized flake
17	Chalcedony	Medium-grained, flawed	Angular debris	Whole	60	0	0	4.5	3.2	2.2	Unutilized angular debris
18	Chert	Coarse-grained	Angular debris	Whole	0	0	0	2.6	2.2	1.9	Unutilized angular debris
19	Chalcedony	Fine-grained, flawed	Core flake	Whole	10	Crushed	2	1.1	1.7	0.3	Unutilized flake
20	Chert	Fine-grained, flawed	Core flake	Whole	0	Single facet	1	1.3	2.2	0.2	Unutilized flake
21	Chert	Coarse-grained	Core flake	Distal	40	Absent	3	2.4	2.3	1.2	Unutilized flake
22	Basalt	Fine-grained	Angular debris	Whole	0	0	0	1.9	1.7	0.4	Unutilized angular debris
23	Chalcedony	Fine-grained, flawed	Core flake	Distal	0	Absent	2	0.7	1.5	0.4	Unutilized flake
24	Vesicular basalt	Medium-grained	Core flake	Distal	0	Absent	1	0.9	2.4	0.4	Unutilized flake
25	Quartzite	Medium-grained	Ground stone	Indetermi-nate frag.	0	0	0	4	3.2	2.2	Possible mano, burned

Table 11. LA 55500 Chipped Stone Subsurface Artifacts

Grid unit	Level	Material	Texture	Artifact type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments	Thermal Alteration
800N/407E	1	Chalcedony	Fine-grained	Core flake	Lateral	0	Abraded	6	1.6	1.9	0.4	Unutilized flake	
		Chalcedony	Fine-grained, flaw ed	Core flake	Whole	50	Single facet	0	0.6	0.5	0.2	Unutilized flake	
		Chalcedony	Fine-grained, flaw ed	Potlid	Whole	100	0	0	0.6	0.7	0.2	Unutilized angular debris	
800N/400E	1	Chert	Fine-grained	Biface flake	Proximal	0	Collapsed	2	0.5	0.6	0.2	Unutilized flake	
		Silicified w ood	Fine-grained	Core flake	Medial	0	Absent	1	0.6	0.4	0.2	Unutilized flake	
		Chert	Fine-grained	Core flake	Distal	0	Absent	0	0.4	0.7	0.2	Unutilized flake	
		Chalcedony	Fine-grained	Angular debris	Whole	0	0	0	0.7	0.7	0.1	Unutilized angular debris	
		Chalcedony	Fine-grained	Angular debris	Whole	0	0	0	0.9	0.4	0.3	Unutilized	
		Chert	Fine-grained	Angular debris	Whole	0	0	0	1.1	0.8	0.3	Unutilized angular debris	
		Chalcedony	Fine-grained	Angular debris	Whole	0	0	0	0.7	0.4	0.8	Unutilized angular debris	
		Chalcedony	Fine-grained, flaw ed	Core flake	Distal	0	0	0	0.4	1	0.5	Unutilized flake	
		Chalcedony	Fine-grained	Core flake	Whole	0	Single facet	1	0.8	1.1	0.1	Unutilized flake	
		Chalcedony	Fine-grained	Angular debris	Whole	100	0	0	0.6	0.5	0.2	Unutilized angular debris	
		Chalcedony	Fine-grained	Core flake	Whole	0	Crushed	0	0.6	0.6	0.3	Unutilized flake	Crazed
		Chalcedony	Fine-grained, flaw ed	Angular debris	Whole	0	0	0	0.7	0.4	0.3	Unutilized angular debris	
		Chalcedony	Fine-grained	Core flake	Lateral	0	Absent	3	0.6	0.5	0.2	Unutilized flake	
		Quartzite	Medium-grained	Ground stone					5	5.8	0.5	Possible mano fragment	
800N/400E	4	Chert	Fine-grained, flaw ed	Angular debris	Whole	0	0	0	1.9	1.9	1.1	Unutilized angular debris	Crazed
811N/407E	1	Chalcedony	Fine-grained	Core flake	Distal	0	Absent	0	0.5	0.4	0.1	Unutilized flake	
		Chalcedony	Fine-grained, flaw ed	Core flake	Whole	0	Collapsed	1	0.7	1	0.2	Unutilized flake	
811N/407E	2	Chalcedony	Fine-grained	Angular debris	Whole	0	0	0	2	1.6	1.1	Unutilized angular debris	
811N/417E	2	Chalcedony	Fine-grained, flaw ed	Core flake	Whole	100	Single facet	0	2	1.8	0.6	Unutilized flake	
811N/417E	3	Chalcedony	Fine-grained, flaw ed	Core flake	Whole	20	Single facet	2	3.4	4.2	1	Unutilized flake	
800N/395E	2	Chalcedony	Fine-grained	Core flake	Medial	0	Absent	1	0.5	0.6	0.2	Unutilized flake	
		Chalcedony	Fine-grained, flaw ed	Core flake	Whole	10	Single facet	1	2.9	1.8	0.5	Unutilized flake	
789N/400E	2	Chalcedony	Fine-grained	Core flake	Whole	0	Single facet	1	1	1.8	0.3	Unutilized flake	
795N/404E	1	Chalcedony	Fine-grained	Core flake	Proximal	0	Crushed	4	1	1	0.3	Unutilized flake	
795N/404E	2	Chert	Fine-grained	Core flake	Whole	0	Collapsed	0	1.2	1.5	0.3	Unutilized flake	
795N/404E	5	Chert	Fine-grained	Angular debris	Whole	0	0	0	1.3	1.2	0.6	Unutilized angular debris	Crazed
		Chalcedony	Fine-grained	Core flake	Whole	0	Single facet, a	2	0.9	0.8	0.1	Unutilized flake	
807N/417E	1	Chalcedony	Fine-grained	Core flake	Whole	0	Collapsed	0	1.2	2.1	0.5	Unutilized flake	
		Chert	Fine-grained, flaw ed	Core flake	Indeter. Frag.	10	Single facet	3	4.4	2.9	1.3	Unutilized flake	
		Chert	Fine-grained	Angular debris	Whole	0	0	0	1.5	1	0.5	Unutilized angular debris	
		Chert	Fine-grained	Core flake	Lateral	0	Single facet	0	1.2	1	0.5	Unutilized flake	Crazed
		Chalcedony	Fine-grained	Core flake	Whole	0	Single facet, a	2	0.8	0.9	0.2	Unutilized flake	
		Chert	Fine-grained	Core flake	Whole	0	Crushed	0	1	1.6	0.2	Unutilized flake	

excavated to a depth of 1.0 m below the surface to determine whether deeper cultural deposits were present on the site. Three flakes were encountered at depths of 40 cm and 50 cm, but both flakes were from mixed rodent burrow contexts. The eight flakes recovered from four test pits across the site with depths deeper than 20 cm below the surface were all from mixed rodent burrow contexts. Rodent burrows were prolific on the site. No charcoal, cultural-stained soil, or features were encountered in the various test pits. The test pits show that the cultural occupation was confined to the surface and to mainly the initial 10 cm of loose aeolian sand characterizing Stratum 1. Six artifacts extended into Level 2, but all of the lower artifacts are considered of mixed rodent disturbed contexts.

Auger Tests. An auger test was placed at the base of each of the 12 test pits. The auger tests were excavated to a depth of 1.5 m below the surface and fill was screened through 1/8-inch mesh. No artifacts or cultural material were recovered from the auger tests. The auger tests revealed that the massive sand layer characterizing Stratum 2 extended to a depth of at least 1.5 m below the surface.

Stratigraphy: The various test units revealed the presence of a consistent subsurface soil profile across the site (Fig. 16). Stratum 1 extends from the surface to a depth of 10 cm below the surface. Stratum 1 consisted of a loose fine-grained (7.5YR 6/4) eolian sand deposit. This was the primary cultural layer, but all artifacts within this wind blown sand stratum were exposed continually to wind erosion. Artifacts have undoubtedly been continuously exposed and reburied resulting in a mixed assemblage. Stratum 2 extends from 10 cm to a depth of at least 1.5 m below the surface. The light brown sand (7.5YR 6/4) is slightly consolidated, but with a grainy consistency. Stratum 2 is less prone to artifact movement from wind erosion, but rodent

Figure 16. LA 55500 typical soil profile.

Table 12. LA 55500 Test Unit Results											
Test unit	Level										Artifact Total
	1	2	3	4	5	6	7	8	9	10	
780N/407E						--	--	--	--	--	0
789N/400E		1				--	--	--	--	--	1
790N/417E						--	--	--	--	--	0
795N/404E	1	1			2						4
800N/395E		2				--	--	--	--	--	2
800N/400E	14			1							15
800N/407E	3					--	--	--	--	--	3
800N/417E		1	1				--	--	--	--	2
800N/427E						--	--	--	--	--	0
807N/400E						--	--	--	--	--	0
807N/417E	1			4				--	--	--	5
811N/407E	2	1				--	--	--	--	--	3
Artifact Total	21	6	1	5	2	0	0	0	0	0	35

	Stratum 1
	Stratum 2

burrows are prolific throughout the stratum. The integrity of subsurface artifacts have been severely compromised by the rodent burrows and all artifacts are considered of mixed provenience.

Subsurface Artifacts: Thirty-five chipped stone artifacts and one mano fragment were recovered from the 12 test pits (Table 12). The subsurface assemblage is similar to the surface assemblage. Chalcedony accounts for the majority (24) of the material followed by chert (10), and silicified wood (1). No basalt was found in the subsurface assemblage. The assemblage is dominated by core flakes (21) followed by a higher number of angular debris (9), and one chert biface flake. Most (28) of the artifacts lack cortex, but 100 percent coverage is represented by three chalcedony artifacts. A higher number of subsurface artifacts are whole (23) and a majority (22) of the artifacts measure 1 cm or less in length. The recovery of these smaller artifacts is a direct result of the smaller 1/8-inch screen. However, only one chert biface flake was recovered. The small debitage is primarily core flakes and angular debris associated with chalcedony core reduction. Chalcedony is represented by a range of platform types similar to those recorded on the surface artifacts. Dorsal scars range from one to six with most flakes exhibiting two or fewer scars. The assemblage represents primarily core reduction activities. Three artifacts exhibit crazing, including one chert and two chalcedony flakes. Additionally, a chalcedony potlid fracture coupled with the three crazed flakes represent thermally altered material. The mano fragment was also fire-cracked, but no charcoal or other evidence of thermal features has survived at the site.

A single quartzite fire-cracked mano fragment was recorded from Level 1 of Test Pit 800N/400E. The fragment has polish on one surface and is probably from the same mano recorded on the surface some 5 m to the south. The polish suggest use on a soft medium such as a hide rather than plant processing against another hard abrader.

Evaluation: Site testing has largely reinforced the information recorded by Hogan during the original 1986 survey. The testing program has verified that the site is confined to the surface and the initial 10 cm of wind blown sand characterizing Stratum 1. The entire artifact assemblage has been subjected to mixing either from wind erosion or severed rodent

burrow disturbance. No surface or subsurface charcoal, cultural staining, or features were associated with the low-frequency artifact scatter. Hogan initially recorded 16, mainly chalcedony, flakes, a mano, and fire-cracked rock. The testing program recorded 24 surface artifacts, a mano fragment, and no fire-cracked rock; however, four subsurface artifacts exhibited thermal alteration in the form of a potlid fracture and crazing. I assume that any thermal features at the site have been scoured away by the winds of time and entirely lost their integrity. Noticeably absent from the site were small biface flakes evidencing biface manufacture. Small flakes were found through use of the 1/8-inch screen, but they were all attributed to core reduction activities. Core reduction activities, centered around the local chalcedony, was the primary activity. No raw material was observed at the site, so that all material was transported to the site for further reduction. The one-hand mano suggests an Archaic occupation, but no additional diagnostic artifacts were recovered. The assemblage is composed almost entirely of secondary core reduction debitage, with no evidence of utilized tools. The site is most likely not a residential camp as originally recorded by Hogan, but another probable Archaic period special activity site exploiting local lithic, plant, and animal resources.

Eligibility: The testing program has determined that LA 55500 is not likely to yield additional information important to the understanding of local or regional history or prehistory beyond what has been documented. The surface assemblage is essentially identical to the artifacts Hogan recorded during the 1986 survey, although few biface flakes were found. Artifacts in general have been mixed by wind and rodent activity and no intact use surfaces have survived. The testing program has verified the complete absence of subsurface cultural deposits other than low frequency artifacts duplicating the surface assemblage attributes. No additional cultural deposits or features were discovered, which might enhance the dating or interpretation of the simple artifact scatter beyond what has been recorded and described. The site is considered not eligible and no further archaeological investigations are recommended.

LA 55501

Cultural/Temporal Affiliation: Two components: Archaic/San Jose phase, Formative/Classic period

Site Type: Chipped stone artifact scatter with sherds

UTM Coordinates: See Appendix 1.

Environmental Setting: The site is located on the side of a hill just below the crest of a flat-topped ridge (Fig. 17). The terrain slopes to the southwest and the site overlooks a drainage about 250 m to the southwest. A mantle of loose eolian sand covers the site. Local vegetation consists mainly of scrub-grassland including sage, snakeweed, yucca, and various mixed grasses. Site elevation is 5,515 ft.

Land Status: State Land Office transferred for residential development.

Site Size: 78.7-by-43.4 m; 1774.6 sq m

Site integrity: The entire site is subject to wind erosion, but otherwise is intact. Rodent burrows are common in the test pits and are a source of artifact mixing and transport. A two-track road passes near the north site boundary allowing direct access to the site. The area has been used for target practice and bullet casings are common in the area. The site has most likely been exposed to surface relic collecting.

Previous Work: Patrick Hogan described the site as a possible hunting overlook during the 1986 survey based on the view of the drainage to the southwest. The Archaic component consisted of about 50 pieces of basalt debitage. Hogan considered the extensive use of basalt

Figure 17. LA 55501 site overview.

as a characteristic of Archaic assemblages. The artifacts were recorded mainly within two artifact concentrations each measuring about 10-by-10 m. Three gray ware sherds from a sand-tempered vessel were interpreted as a pot drop or a brief Formative period reoccupation of the site.

The Office of Archaeological Studies relocated only 10 scattered basalt flakes during the 2005 site examination. The two artifact concentrations described during the original survey were not relocated. However, the flakes were dispersed over about the same site area. The gray ware sherds were not relocated. The site stands out because of the basalt flake assemblage contrasts with the near absence of local chalcedony, which usually dominates the local assemblages. No features were evident based on the surface examination. The OAS concurred with Hogan's original 1986 hunting camp interpretation.

Surface Artifacts: An intensive resurvey of the site surface by the OAS archaeologists during the current testing program identified 59 pieces of chipped stone debitage, a projectile point base, and three sherds (Fig.18). Forty of the chipped stone artifacts and the three sherds are located within an artifact concentration at the south end of the site. This corresponds with the location of one of the concentrations described by Hogan. However, the concentration measured about 25-by-25 m contrasting with the 10-by-10-m concentration recorded by Hogan. The remaining 19 artifacts are more widely dispersed across the site and Hogan's second artifact concentration was not identified, although it may correspond to the more general dispersed artifact pattern northeast of the primary concentration. No differences were noted between the artifact types within the concentration and the general site scatter. No evidence of features were found during the surface examination.

The 59 pieces of chipped stone debitage are represented primarily by basalt (54) fol-

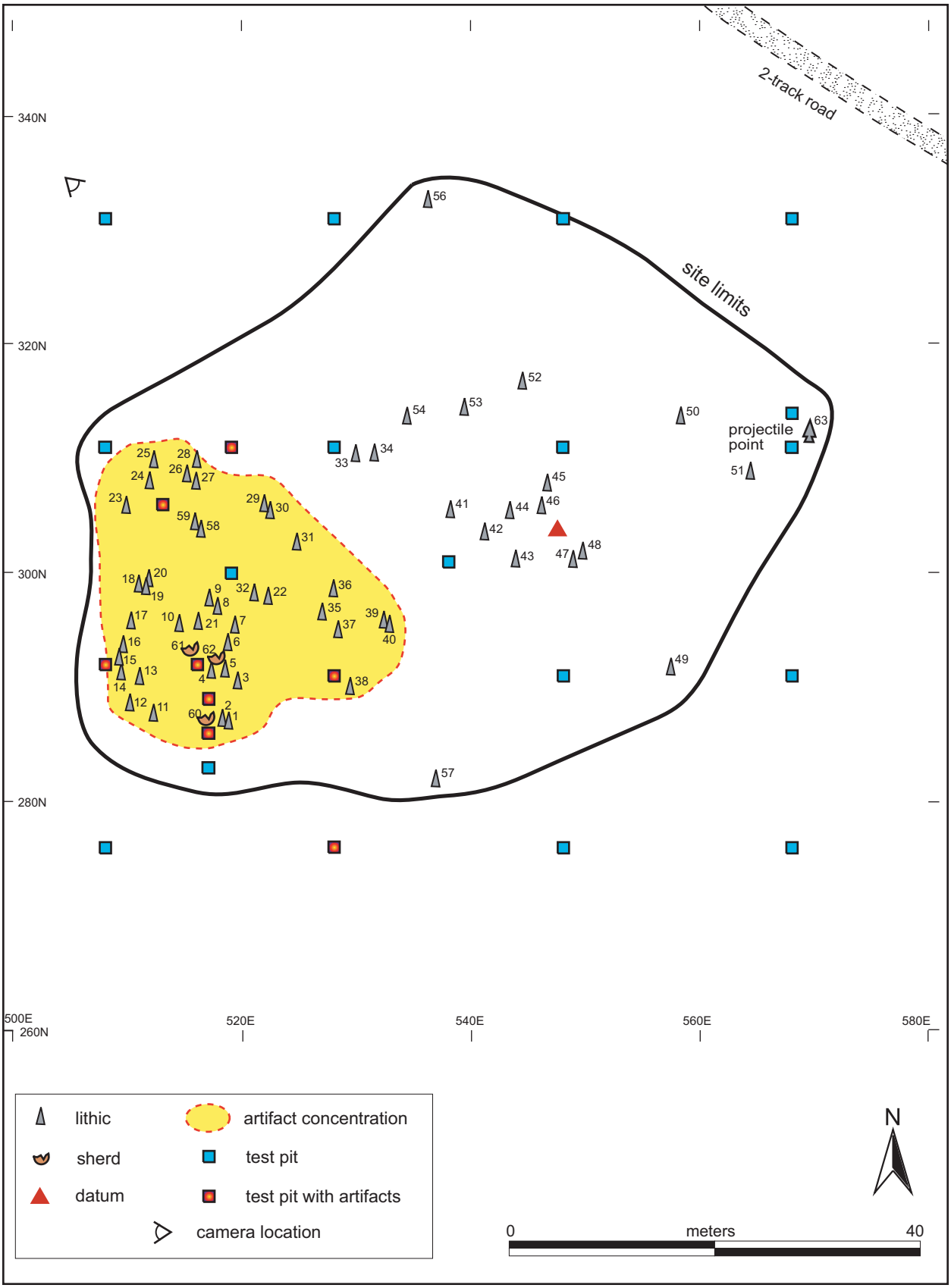

Figure 18. LA 55501 site map.

Table 13. LA 55501 Chipped Stone Surface Artifacts

PP	Material	Texture	Artifact Type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
1	Basalt	Fine-grained	Core flake	Medial	0	0	3	1.1	0.9	0.2	Unutilized flake
2	Basalt	Fine-grained	Biface flake	Whole	0	Crushed	3	2	1.5	0.3	Unutilized flake
3	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	2	1	1.3	0.2	Unutilized flake
4	Basalt	Fine-grained	Core flake	Medial	0	0	3	1.2	2.1	0.3	Unutilized flake
5	Basalt	Fine-grained	Core flake	Whole	0	Single facet	1	0.14	0.19	0.3	Unutilized flake
6	Basalt	Fine-grained	Core flake	Medial	0	0	0	0.9	0.09	0.9	Unutilized flake
7	Basalt	Fine-grained	Biface flake	Proximal	3	0	0	1.1	0.9	0.2	Unutilized flake
8	Basalt	Fine-grained	Core flake	Proximal	0	Single facet, abraded	1	0.6	1.1	0.3	Unutilized flake
9	Basalt	Fine-grained	Biface flake	Whole	0	Collapsed	3	1.7	1.7	0.4	Unutilized flake
10	Basalt	Fine-grained	Core flake	Proximal	0	Crushed	11	2.2	2.4	0.4	Unutilized flake
11	Basalt	Fine-grained	Unidirectional c	Lateral	0	Single facet	2	2	0.9	0.3	Unutilized flake
12	Basalt	Fine-grained	Core flake	Medial	0	0	2	2.4	1.5	0.3	Unutilized flake
13	Basalt	Fine-grained	Core flake	Proximal	0	Single facet, abraded	1	1.2	1.8	0.3	Unutilized flake
14	Basalt	Fine-grained	Biface flake	Whole	0	Multifacet	3	1	1.7	0.3	Unutilized flake
15	Basalt	Fine-grained	Core flake	Medial	0	0	1	1.1	1.7	0.2	Unutilized flake
16	Basalt	Fine-grained	Core flake	Distal	0	0	2	1.3	1.5	0.4	Unutilized flake
17	Basalt	Fine-grained	Core flake	Whole	0	Cortical	3	4.2	3.5	0.7	Unutilized flake
18	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	2	2.9	2	0.4	Unutilized flake
19	Basalt	Fine-grained	Biface flake	Whole	0	Multifacet	3	2.9	3	0.6	Unutilized flake
20	Basalt	Fine-grained	Biface flake	Whole	0	Collapsed	3	3.3	3	0.5	Unutilized flake
21	Basalt	Fine-grained	Core flake	Distal	0	0	3	1.2	1.2	0.3	Unutilized flake
22	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	1	1.5	1	0.3	Unutilized flake
23	Basalt	Fine-grained	Biface flake	Whole	0	Collapsed	3	2.1	2	0.3	Unutilized flake
24	Basalt	Fine-grained	Core flake	Whole	0	Single facet	3	3.8	3	0.5	Spokeshave
25	Basalt	Fine-grained	Core flake	Proximal	10	Cortical	1	1.7	2	0.6	Unutilized flake
26	Chalce-dony	Fine-grained, flawed	Core flake	Medial	0	0	1	1.7	2.4	0.5	Unutilized flake
27	Basalt	Fine-grained	Core flake	Medial	0	0	1	1.1	1.1	0.3	Unutilized flake
28	Basalt	Fine-grained	Core flake	Proximal	0	Cortical	1	1.3	1.9	0.5	Unutilized flake
29	Basalt	Fine-grained	Core flake	Medial	0	0	2	1	1.2	0.2	Unutilized flake
30	Basalt	Fine-grained	Core flake	Whole	0	Single facet	1	1.3	2.2	0.4	Unutilized flake
31	Basalt	Fine-grained	Biface flake	Whole	0	Multifacet	2	1	1	0.3	Unutilized flake
32	Basalt	Fine-grained	Core flake	Medial	0	0	2	1.2	1.3	0.3	Unutilized flake
33	Basalt	Fine-grained	Core flake	Medial	0	0	1	1.7	2.8	0.3	Unutilized flake
34	Basalt	Fine-grained	Core flake	Medial	0	0	1	1.8	1	0.3	Unutilized flake

Table 13. Continued.

PP	Material	Texture	Artifact Type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
35	Basalt	Fine-grained	Core flake	Medial	0	0	1	0.9	1.4	0.2	Unutilized flake
36	Basalt	Fine-grained	Core flake	Medial	0	0	1	1.7	1.3	0.3	Unutilized flake
37	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	1	1.2	1	0.3	Unutilized flake
38	Jemez obsdian	Glassy	Biface flake	Whole	0	Multifacet	4	1	0.9	0.1	Unutilized flake
39	Basalt	Fine-grained	Core flake	Medial	0	0	2	1.4	0.9	0.2	Unutilized flake
40	Basalt	Fine-grained	Core flake	Medial	0	0	2	2.3	1.1	0.4	Unutilized flake
41	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	1	1.3	2.1	0.6	Unutilized flake
42	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	1	1.2	2.1	0.4	Unutilized flake
43	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	2	1.8	1.5	0.3	Unutilized flake
44	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	2	1.9	1.6	0.3	Unutilized flake
45	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	1	1.9	1.9	0.3	Unutilized flake
46	Basalt	Fine-grained	Core flake	Medial	0	0	1	1.1	0.9	0.3	Unutilized flake
47	Basalt	Fine-grained	Biface flake	Whole	0	Multifacet	1	1.4	1	0.4	Unutilized flake
48	Basalt	Fine-grained	Core flake	Medial	0	0	1	1	1.2	0.3	Unutilized flake
49	Basalt	Fine-grained	Core flake	Medial	0	0	1	1.4	1.1	0.2	Unutilized flake
50	Chalce-dony	Fine-grained, flawed	Core flake	Proximal	100	Cortical	0	2.3	1.9	1	Unutilized flake
51	Chert	Medium-grained	Core flake	Whole	0	Single facet	3	4	4	1.1	Unutilized flake
52	Basalt	Fine-grained	Core flake	Medial	0	0	1	1.4	1.1	0.3	Unutilized flake
53	Basalt	Fine-grained	Core flake	Proximal	0	Single facet, abraded	1	1.5	1.7	0.4	Unutilized flake
54	Basalt	Fine-grained	Core flake	Medial	0	0	1	0.6	1.1	0.2	Unutilized flake
55	Basalt	Fine-grained	Core flake	Proximal	0	Single facet	1	0.7	1	0.3	Unutilized flake
56	Jemez obsidian	Glassy	Core flake	Whole	0	Multifacet	3	2.3	1.5	0.5	Unutilized flake
57	Basalt	Fine-grained	Core flake	Distal	0	0	1	0.5	0.4	0.2	Unutilized flake
58	Basalt	Fine-grained	Core flake	Medial	0	0	1	3	2.4	0.4	Unutilized flake
311.70N/ 570.10E	Obsidian	Glassy	Late stage biface	Proximal	0	0	0	1.6	1.3	0.6	San Jose-like

lowed by minor frequencies of Jemez obsidian, local chalcedony, and chert (Table 13). The two pieces of Jemez obsidian are the only definite intrusive material type within the debitage category. Artifact morphology is dominated by core flakes (48) across the material categories with a smaller number of biface flakes (10) and one basalt unidirectional core. The bulk of the debitage (46) had no cortex. The majority of the flakes were broken (24), and single platforms (13) were the most common platform type. Dorsal scarring ranged from 0 to 11 with the bulk (37) of the flakes exhibiting 2 or fewer dorsal scars. The debitage across the material types is rather small and generally measured less than 2 cm or less in length (47). The chipped stone assemblage is composed primarily of secondary core reduction debris with a smaller emphasis on biface reduction. Only one actual core was recovered from the site and only one flake was utilized. This was a basalt flake with rounding on one concave and one straight edge.

Formal chipped stone tools were limited to a single projectile point base found near the eastern edge of the site (Fig. 18). The projectile point fragment was manufactured from a dark opaque indeterminate obsidian (Fig. 19). The fragment is 1.6 cm long by 1.3 cm wide by 0.6 cm thick. The base is indented and ground along each lateral edge for about 0.6 cm. The lateral edges appear to have a slight remnant of serration. The indented base and slight hint of lateral serration give the small fragment the appearance of a Middle Archaic period San Jose-like point dating from around 3000 B.C. to 1800 B.C. The temporally diagnostic point

Figure 19. San Jose-like projectile point.

fragment was collected from the site.

Three quarter-sized sherds were found within the artifact concentration (Fig. 18). The sherds are probably from the same gray ware jar. Exterior surfaces are plain and unpolished, while interior surfaces are slightly polished. Pastes are dark gray and temper is a gray basalt with relatively large and occasionally rounded fragments. Surfaces are tan to gray in color. The sherds are probably associated with a tradition of Middle Rio Grande jars with polished interiors dating to the Classic period. This inference is supported by the similarity of the temper to local glaze ware types produced during the Classic period. These three sherds were probably the same sherds recorded by Hogan during the 1986 survey. Two additional sherds from the same vessel were recovered from nearby test pits (285N/517E and 291N516E) during the site testing.

Test Unit Descriptions

Test Pits. Twenty-five 1-by-1-m test pits covered about 1.4 percent of the site area. Initially, test pits were spaced about every 20 m to insure uniform spatial coverage across the site. Additional test pits were placed within artifact concentrations or near diagnostic artifacts. Six test pits (285N/517E, 288N/517E, 290N/528E, 291N/516E, 299N/519E, and 305N/513E) were placed within the artifact concentration to evaluate the depth of cultural material. An additional six test pits (282N/517E, 291N/508E, 300N/538E, 310N/508E, 310N/519E, and 310N/528E) were spaced to define the limits of the artifact concentration. Finally, two test pits (310N/568E and 313N/568E) were positioned to evaluate subsurface fill in the vicinity of the projectile point. Other than 26 artifacts, no charcoal, charcoal staining, cultural deposits, or features were found in the 25 test pits (Table 14).

The six test pits located within the artifact concentration accounted for 20 of the 26 chipped stone artifacts recovered from the site and two sherds. Artifact frequency ranged from 0 (299N/519E) to 8 (288N/517E) in these

Table 14. LA 55501 Test Unit Results					
Test unit	Level				Artifact Total
	1	2	3	4	
275N/508E					0
275N/528E		1			1
275N/548E					0
275N/568E					0
282N/517E					0
285N/517E	5	1			6
288N/517E	8				8
290N/528E		1			1
290N/548E					0
290N/568E					0
291N/508E	1				1
291N/516E	2				2
299N/519E					0
300N/538E					0
305N/513E	4				4
310N/508E					0
310N/519E	3				3
310N/528E					0
310N/548E					0
310N/568E					0
313N/568E					0
330N/508E					0
330N/528E					0
330N/548E					0
330N/568E					0
Artifact Total	23	3	0	0	26

	Stratum 1
	Stratum 2
	Stratum 3

test pits. The majority of the artifacts (23) were recovered from the initial 10 cm level of loose wind blown sand and three artifacts were recovered from rodent burrows in Level 2.

Four chipped stone artifacts were recovered from the six test pits placed around the perimeter of the artifact scatter. Three artifacts were found in Test Pit 310N/519E at the north edge of the concentration and one artifact was recovered from Test Pit 509N/508E along the western edge. The absence of artifacts and cultural deposits in most of these test pits refined the limit of the artifact concentration. Only one additional artifact was found during the testing program. A single basalt flake was recovered from Test Pit 275N/508 located about 10 m south of the artifact concentration. The flake was recovered from a disturbed Level 2 rodent burrow. No subsurface artifacts or cultural material were found in the two test pits located adjacent to the projectile point fragment.

Auger Tests. An auger test was placed at the base of each of the 25 test pits. The auger tests were excavated to a depth of 1.0 m below the surface and fill was screened through 1/4-inch mesh. No artifacts or cultural material was encountered in the auger tests.

Stratigraphy: The various test units depict

Figure 20. LA 33301 typical soil profile.

almost an identical subsurface soil profile across the site (Fig. 20). Stratum 1 extends from the surface to a depth of 10 cm below the surface. Stratum 1 is a loose grained (7.5YR 6/4) eolian sand deposit. The low frequency of cultural material is confined to the surface and the initial 10 cm of Stratum 1. Stratum 2 is a compact strong brown (7.5YR 4/6) fine-grained sandy clay. The soil had a blocky consistency and required a pick for excavation. Stratum 2 was riddled with rodent burrows and the three flakes recovered from Stratum 2 were from disturbed rodent burrow contexts. Stratum 2 contained a moderate gravel content and caliche flecks usually appeared at the base of Level 2. Stratum 3 was usually encountered at around 30 cm below the surface and was characterized by a compact fine-grained sandy silt with a lighter pink (7.5YR 7/4) color with abundant caliche and moderate gravel content. Auger tests showed that Stratum 3 continued to a depth of at least 1.0 m below the surface.

Subsurface Artifacts: Twenty-six chipped stone artifacts and two sherds were recovered from the 25 test pits excavated during the testing program (Table 15). The majority of the chipped stone artifacts were recovered from the main artifact concentration. The artifacts were confined primarily to the Stratum 1 loose eolian surface sand with only three flakes recovered from lower Stratum 2 rodent burrow contexts.

The 26 chipped stone artifact attributes recovered from the test pits essentially mirror the surface artifacts. The subsurface chipped stone assemblage is composed entirely of basalt consisting of core flakes (24) and angular debris (2). Nearly half of the flakes are incomplete, but proximal portions exhibit nearly equal frequencies of single platforms (4), collapsed platforms (3), and crushed platforms (3). The flakes lack cortex and most

Table 15. LA 55501 Chipped Stone Subsurface Artifacts

Grid Unit	Level	Material	Texture	Artifact Type	Portion	Cortex	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
310N/ 519E	1	Basalt	Medium-grained	Core flake	Proximal	0	Crushed	1	1.8	2.1	0.3	Unutilized flake
		Basalt	Medium-grained	Core flake	Medial	0	Absent	2	2.2	1.1	0.3	Unutilized flake
275N/ 528E	2	Basalt	Medium-grained	Core flake	Whole	0	Single facet	2	1	1.2	0.2	Unutilized flake
290N/ 528E	2	Basalt	Medium-grained	Core flake	Distal	0	Absent	1	1.1	1.1	0.2	Unutilized flake
285N/ 517E	1	Basalt	Medium-grained	Core flake	Proximal	0	Single facet	1	1.1	1.2	0.3	Unutilized flake
		Basalt	Medium-grained	Core flake	Proximal	0	Collapsed	1	1.3	1	0.2	Unutilized flake
		Basalt	Medium-grained	Core flake	Distal	0	Absent	0	0.9	1.5	0.2	Unutilized flake
		Basalt	Medium-grained	Core flake	Proximal	0	Crushed	0	0.8	0.9	0.2	Unutilized flake
285N/ 517E	2	Basalt	Medium-grained	Core flake	Distal	0	Absent	2	1.3	1.2	0.3	Unutilized flake
291N/ 508E	1	Basalt	Medium-grained	Core flake	Whole	0	Collapsed	3	3.3	2.3	0.4	Unutilized flake
291N/ 516E	1	Basalt	Medium-grained	Core flake	Medial	0	Absent	1	15	2.1	0.3	Unutilized flake
288N/517E	1	Basalt	Medium-grained	Core flake	Medial	0	Absent	1	1	1.1	0.3	Unutilized flake
		Basalt	Medium-grained	Core flake	Lateral	0	Absent	1	1.3	1.4	0.3	Unutilized flake
		Basalt	Medium-grained	Core flake	Whole	0	Single facet	2	1.2	1.8	0.4	Unutilized flake
		Basalt	Fine-grained	Core flake	Proximal	0	Crushed	2	0.8	1.1	0.2	Unutilized flake
		Basalt	Medium-grained	Core flake	Distal	0	Absent	1	0.6	0.9	0.3	Unutilized flake
305N/ 513E	1	Basalt	Medium-grained	Core flake	Lateral	0	Single facet	0	1.8	1.3	0.3	Unutilized flake
		Basalt	Glassy	Core flake	Whole	0	Collapsed	0	1.8	3.6	0.8	Unutilized flake
		Basalt	Medium-grained	Core flake	Lateral	0	Absent	1	2.2	3.2	0.9	Unutilized flake
		Basalt	Medium-grained	Core flake	Medial	0	Absent	1	1.9	1.6	0.6	Unutilized flake
		Basalt	Medium-grained	Core flake	Distal	0	0	0	1.1	2.4	0.4	Unutilized flake
		Basalt	Medium-grained, flawed	Core flake	Distal	0	Absent	3	1.5	1	0.2	Unutilized flake
		Basalt	Medium-grained	Core flake	Medial	0	Absent	1	1.2	0.8	0.4	Unutilized flake
		Basalt	Medium-grained	Angular debris	Whole	0	0	0	0.9	0.9	0.3	Unutilized angular debris
		Basalt	Medium-grained	Angular debris	Whole	0	0	0	0.7	1	0.3	Unutilized angular debris

flakes have one to three dorsal flake scars. The assemblage is rather small with all but three flakes measuring less than 2.0 cm in length. The largest flake is 3.3 cm long. The assemblage is composed entirely of debris originating from basalt core reduction. No subsurface biface flakes were recovered and none of the debitage had been utilized as tools.

Two sherds were recovered in Test Pits 291N/516E and 285N/517E. The test pits are in the proximity of the three surface sherds located in the artifact concentration. The sherds were found in Stratum 1 in each grid along with a total of seven basalt flakes. The sherds are from the same gray ware jar described in the surface artifact section. A total of five gray ware sherds from the same vessel were located on the site. The sherds are probably related to a pot drop dating from the Classic period. Whether the sherds are associated with the chipped stone artifact scatter or represent a later pot drop or brief Formative period occupation remains unclear.

Evaluation: Site testing essentially duplicated the interpretive information recorded by Hogan during the original 1986 survey. However, the testing program verified that the site is confined to the surface and the initial 10 cm of wind blown sand characterizing Stratum 1. No surface or subsurface charcoal, cultural staining, or features were associated with the low-frequency artifact scatter. Hogan initially recorded around 50 basalt flakes located in two roughly 10-by-10-m artifact concentrations. Three unknown gray ware sherds were also recorded. The current testing program recorded 59 surface artifacts and three gray ware sherds and defined one 25-by-25-m artifact concentration. The remaining dispersed artifacts probably incorporate Hogan's second artifact concentration. Low frequency artifacts are present in Stratum 1 in the area of the artifact concentration, but the surface and subsurface artifact assemblages are almost identical across the range of recorded attributes. The recovery of a San Jose-like projectile point fragment suggests that the bulk of the chipped stone assemblage is probably associated with a Middle Archaic (3000 B.C. to 1800 B.C.) occupation. The majority of the basalt core reduction appears to be related to a single reduction episode of rather short duration. The absence of features argues against a longer-term occupation. The chipped stone assemblage is redundant in the range of artifact types and consists almost entirely of secondary core reduction debitage and a few biface flakes. Only one flake indicated further utilization in the form of rounded use edges.

The Middle Archaic occupation probably centered around a briefly occupied hunter's overlook as originally recorded by Hogan during the 1986 survey. The five gray ware sherds seem to be associated with the Classic period (A.D.1325 to A.D. 1600) and are probably related to a single pot drop. How the few sherds from the same gray ware jar are related to the chipped stone assemblage remains unclear.

Eligibility: The testing program has determined that LA 55501 is not likely to yield additional information important to the understanding of local or regional history or prehistory beyond what has been documented. The surface assemblage is essentially identical to the artifacts Hogan recorded during the 1986 survey. The testing program has verified the complete absence of subsurface cultural deposits other than low frequency artifacts duplicating the surface assemblage attributes. No additional cultural deposits or features were discovered that might enhance the dating or interpretation of the simple artifact scatter beyond what has been recorded and described. The site is considered not eligible and no further archaeological investigations are recommended.

LA 55499

Cultural/Temporal Affiliation: Three components: Archaic/Unknown, Formative/Unknown, Pueblo/Post-Pueblo Revolt
Site Type: Moderate density artifact scatter/

lithic quarry with sherds.

UTM Coordinates: See Appendix 1.

Environmental Setting: The site is located on a level hill top with a panoramic view of the region (Figs. 21 and 22). A mantle of loose eolian sand covers the site. Wind has deflated the sand in areas, exposing the lower Santa Fe lag gravels. Local vegetation consists mainly of scrub-grassland including sage, snakeweed, yucca, and various mixed grasses. Site elevation is 5,505 ft.

Land Status: State Land Office transferred for residential development.

Site Size: 180.1-by-137.8 m; 15,882.9 sq m

Site integrity: A dirt road runs north-south through the site and another dirt road branches off to the east. The roads allow direct access to the site, which has been the scene of hunting and target practice activities. The site has most likely been exposed to surface relic collecting. The site is subject to wind erosion, but is essentially intact. Rodent burrows were common in the strata examined with test pits.

Previous Work: Patrick Hogan originally described the site during the 1986 survey as a 60-by-40-m scatter of lithic debris along the crest of a low ridge. He analyzed a sample of some 32 chipped stone artifacts within an estimated total of 100+ artifacts. Artifacts included tested cobbles, cores, and chipped stone debitage mainly of the local chalcedony. The sample assemblage consisted primarily of primary and secondary core flakes. Two sherds were also recorded including one indeterminate gray ware and one glaze ware. The site was interpreted as a lithic procurement area exploited by both Archaic and Puebloan groups.

The OAS expanded the site limits from 60-by-40 m to a much larger 180-by-40-m area during the 2005 site examination. This new

Figure 21. LA 55499, general view across Concentration 1.

Figure 22. LA 55499, general view across Concentration 2.

site included the primary artifact concentration at the north end of the site and extended the site limits primarily to the south to include isolated occurrences recorded by Hogan (1986). The OAS defined the isolated occurrence cluster as a discrete artifact concentration connected with the site occupation, rather than an accumulation of artifacts from isolated occupation episodes. Isolated occurrences in the expanded site area included IO-35 (1 core flake), IO-36 (2 gray corrugated sherds), IO-37 (1 core flake and 1 angular debris), IO-45 (8 gray ware sherds with basalt temper), and IO-46 (1 irregular core) (Hogan 1986). The OAS recorded 10 additional chalcedony core flakes in this southern locality along with a historic period sherd tentatively identified as Tewa Polychrome. The presence of this historic period sherd added a third Post-Pueblo Revolt temporal component.. A single glaze ware sherd was recorded, but the gray ware sherds were not relocated.. The chalcedony and Santa Fe lag gravels exposed at this locality were probably quarried over a long period spanning Archaic through historic times.

Surface Artifacts: An intensive resurvey of the site by the OAS archaeologists during the current testing program identified 110 surface artifacts including mainly chipped stone artifacts (103 pieces of debitage and one biface), 5 sherds, and a basalt axe (Fig. 23). This intensive resurvey should provide an accurate representation of the range and frequency of surface artifacts. The artifacts are confined mainly within two artifact concentrations surrounded by more widely dispersed artifacts scattered across the site area. Concentration 2 measured about 50-by-20 m and is located east of the two-track road. Concentration 2 consisted of 30 chipped stone artifacts. An additional eight chipped stone artifacts, one glaze ware sherd, and one gray ware sherd were widely dispersed around the perimeter

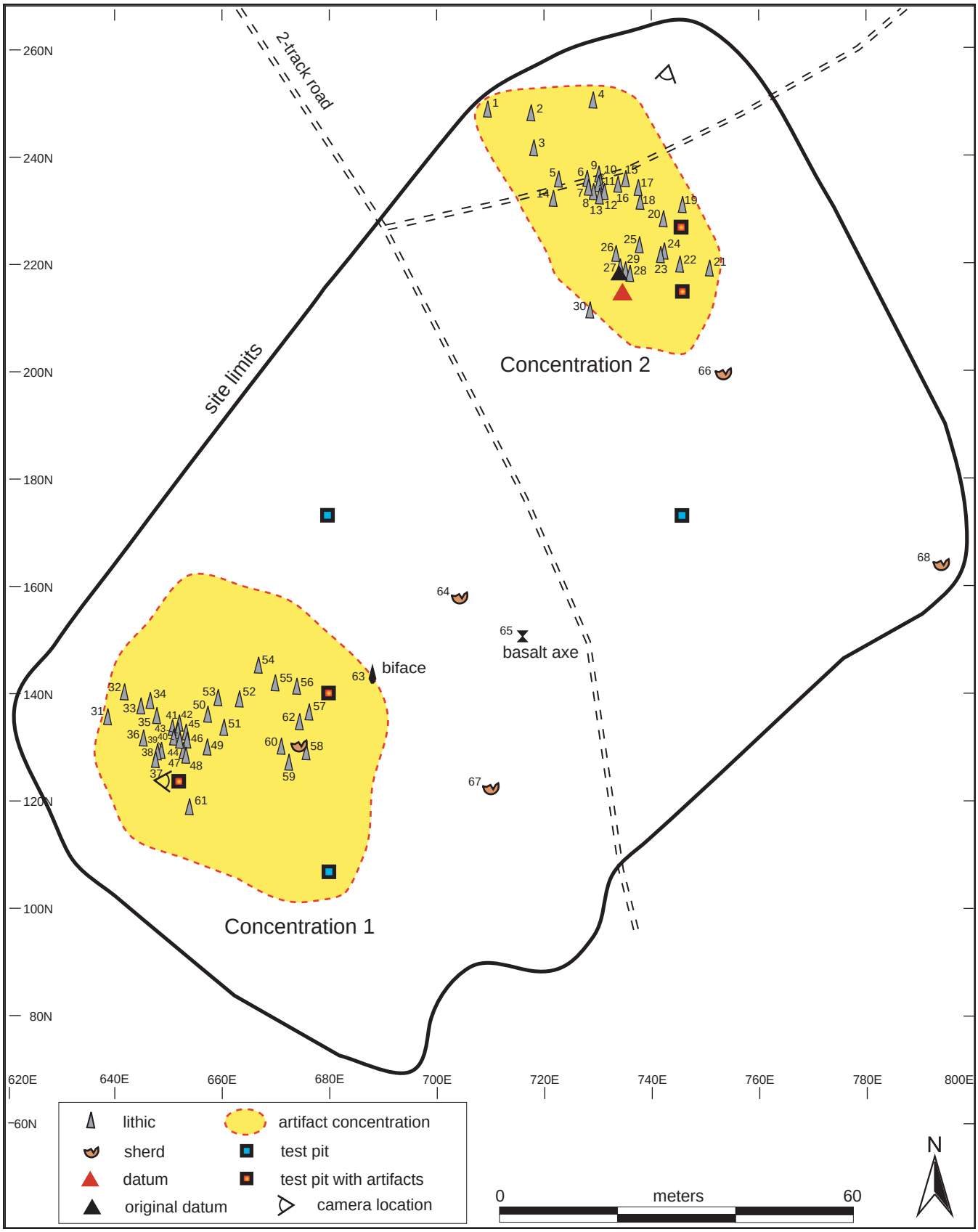

Figure 23. LA 55499 site map.

of the concentration. Concentration 1 measured about 50-by-50 m and was located west of the two-track road. Concentration 1 was composed of 51 chipped stone artifacts and one historic period sherd. An additional 40 artifacts were more widely scattered around the perimeter of the artifact concentration. The two artifact concentrations are separated by about 70 m. No evidence of surface features was found during the intensive surface examination.

Concentration 1 was not included in the site boundary recorded by Hogan during the 1986 survey. However, the current site examination shows that at least 52 artifacts are located within the artifact concentration and an additional 40 artifacts occur within a 30-m zone around the concentration. This western site extension actually contains more artifacts than the original site area east of the two-track road. A sample of 31 (61 percent) of the 51 chipped stone artifacts comprising Concentration 1 were analyzed in the field (Table 16). The Concentration 1 assemblage is composed almost entirely of local chalcedony along with two chert core flakes. The assemblage is dominated by core flakes (28) followed by two pieces of angular debris and one multidirectional core. Chalcedony artifacts include core flakes, angular debris, and a multidirectional core. Cortex ranges from 0 percent (12) to 100 percent (1) coverage with most flakes of both the chert and chalcedony exhibiting 50 percent or less cortex coverage. Five flakes have cortical platforms evidencing the primary stages of core reduction, but most (17) have simple single facet platforms. Only two flakes have multifaceted striking platforms. Flakes range from 1.5 cm to 6.9 cm in length and over half (16) of the flakes are less than 3 cm in length. The sample assemblage is characterized by core reduction using mainly the local chalcedony, but none of the artifacts from Concentration 1 exhibited further modification or utilization as tools. A single biface (PP-63) was noted along the edge of the artifact concentration (Fig. 23). A triangular-shaped chalcedony flake was marginally retouched on both faces producing a rough and expedient projectile point. The projectile point measured 2.2 cm long by 1.7 wide by 0.3 cm thick (Fig. 24). The expedient point was not identified as to type or cultural affiliation.

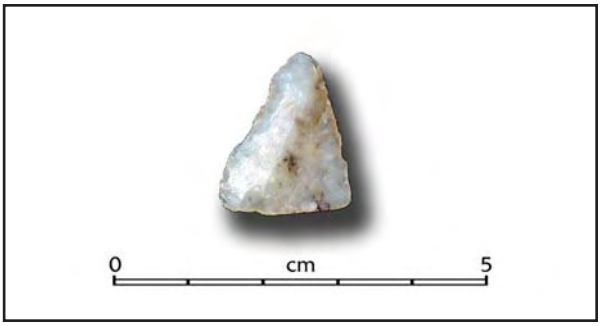

Figure 24. Chalcedony projectile point.

Three sherds were pin-flagged in the vicinity of Concentration 1. Two sherds (PP-57 and PP62) are rim sherds from a single Puname Polychrome jar. The sherds have black and red mineral paint and basalt temper. One sherd (PP-62) is located within Concentration 1. This sherd had originally been identified as Tewa Polychrome during the OAS 2005 site examination. Puname Polychrome has a date of around 1760 to 1900. The remaining sherd (PP-64) was located about 10 m east of Concentration 1. This sherd was identified as a glaze ware body sherd. None of the gray ware sherds identified in the area by Hogan during the 1986 survey were relocated.

A single roughly shaped vesicular basalt axe was located about 10 m east of Concentration 1 (Fig. 25). The axe was manufactured from an unshaped piece of vesicular basalt with two shallow grooves ground on the lateral edges. The axe measured about 13 cm long by 10 cm wide by 5 cm thick. The axe is of unknown temporal affiliation.

Concentration 2 is located at the east end of the site and is the original site location recorded by Hogan during the 1986 survey. Hogan recorded some 36 artifacts at this location. A sample of 30 (100 percent) of the chipped stone artifacts pin-flagged within Concentration 2 were analyzed in the field during the current testing program. Unlike

Table 16. LA 55499 Chipped Stone Surface Artifacts

PP	Material	Texture	Artifact Type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
Concentration 2											
1	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	1	1.9	2.2	1	Unutilized flake
2	Chalcedony	Fine-grained, flawed	Core flake	Whole	90	Cortical	0	2.8	2.9	1.3	Unutilized flake
3	Chalcedony	Fine-grained, flawed	Core flake	Distal	60	0	0	3.6	2.8	0.8	Unutilized flake
4	Chalcedony	Fine-grained, flawed	Core flake	Whole	100	Cortical	0	3.9	3	3.3	Unutilized flake
5	Chalcedony	Fine-grained, flawed	Core flake	Whole	30	Cortical	2	5.3	3.3	1.7	Unutilized flake
6	Chert	Medium-grained	Core flake	Proximal	30	Cortical	1	4	5.5	1	Unutilized flake
7	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	1	0.7	1.2	0.3	Unutilized flake
8	Chalcedony	Fine-grained, flawed	Core flake	Whole	40	Single facet	1	2.5	2.4	1	Unutilized flake
9	Chalcedony	Fine-grained, flawed	Multidirectional core	Whole	60	0	0	6.8	5.6	5.5	Unutilized core
10	Chalcedony	Fine-grained, flawed	Core flake	Whole	10	Single facet	1	4.5	3.8	1.4	Unutilized flake
11	Chalcedony	Fine-grained, flawed	Core flake	Whole	20	Multifacet	1	5	4.4	1.5	Unutilized flake
12	Chalcedony	Fine-grained, flawed	Core flake	Whole	50	Single facet	1	4.6	3.9	1.3	Unutilized flake
13	Chalcedony	Fine-grained, flawed	Core flake	Whole	50	Single facet	1	1.9	2.5	0.8	Unutilized flake
14	Chalcedony	Fine-grained, flawed	Multidirectional core	Whole	60	0	0	8	7.9	5.5	Unutilized core
15	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	2	3.8	2.3	0.8	Unutilized flake
16	Chert	Fine-grained	Core flake	Whole	0	Single facet	2	2.1	1.6	1	Unutilized flake
17	Chalcedony	Fine-grained, flawed	Core flake	Whole	20	Single facet	1	3	2.5	0.9	Unutilized flake
18	Chalcedony	Fine-grained, flawed	Core flake	Whole	100	Cortical	0	2.5	1.8	0.9	Unutilized flake
19	Chalcedony	Fine-grained, flawed	Core flake	Whole	90	Single facet	1	2.5	2.5	1.3	Unutilized flake
20	Chalcedony	Fine-grained, flawed	Core flake	Whole	50	Single facet	1	3	2.9	1.4	Unutilized flake
21	Chalcedony	Fine-grained, flawed	Core flake	Whole	10	Single facet	1	3.4	1.8	0.9	Unutilized flake
22	Quartzite	Medium-grained	Core flake	Whole	20	Multifacet	2	9.5	3.5	3.5	Unutilized flake
23	Chalcedony	Fine-grained, flawed	Core flake	Medial	10	0	1	2.5	2.1	0.9	Unutilized flake
24	Chalcedony	Fine-grained, flawed	Core flake	Whole	90	Single facet	1	4.5	3.5	1	Unutilized flake
25	Chalcedony	Fine-grained, flawed	Core flake	Whole	90	Single facet	1	3	4.9	1.5	Unutilized flake
26	Chalcedony	Fine-grained, flawed	Multidirectional core	Whole	50	0	0	8.4	8	5.5	Unutilized core
27	Chalcedony	Fine-grained, flawed	Angular debris	Whole	50	0	0	3.5	4.5	3	Unutilized angular debris
28	Chalcedony	Fine-grained, flawed	Core flake	Whole	10	Single facet	1	2.3	1.2	0.4	Unutilized flake
29	Chalcedony	Fine-grained, flawed	Core flake	Medial	0	0	1	1.6	1	0.3	Unutilized flake
30	Chalcedony	Fine-grained, flawed	Core flake	Whole	100	Cortical	0	1.9	1	0.3	Unutilized flake

Table 16. LA 55499 Chipped Stone Surface Artifacts

PP	Material	Texture	Artifact Type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
Concentration 1											
31	Chalcedony	Fine-grained, flawed	Core flake	Whole	90	Single facet	0	6.2	3.8	1.7	Unutilized flake
32	Chalcedony	Fine-grained, flawed	Core flake	Whole	30	Cortical	2	5.9	3.8	2	Unutilized flake
33	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Multifacet	3	3	1.9	0.6	Unutilized flake
34	Chalcedony	Fine-grained, flawed	Core flake	Whole	30	Single facet	1	2.5	2.4	1.3	Unutilized flake
35	Chalcedony	Fine-grained, flawed	Core flake	Whole	40	Multifacet	2	4.9	3.5	1.5	Unutilized flake
36	Chalcedony	Fine-grained, flawed	Multidirectional core	Whole	10	0	0	5.4	4.3	4	Unutilized core
37	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	2	1.5	2.1	0.9	Unutilized flake
38	Chalcedony	Fine-grained, flawed	Core flake	Proximal	50	Cortical	1	3.3	5.5	2	Unutilized flake
39	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	2	2.9	2	0.9	Unutilized flake
40	Chalcedony	Fine-grained, flawed	Core flake	Whole	50	Single facet	1	4	2.8	1.5	Unutilized flake
41	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	3	1.5	1.5	1	Unutilized flake
42	Chalcedony	Fine-grained, flawed	Angular debris	Whole	0	0	0	3.5	4.5	2.5	Unutilized angular debris
43	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	2	2.3	2	0.4	Unutilized flake
44	Chalcedony	Fine-grained, flawed	Core flake	Whole	10	Single facet	1	1.9	2.5	0.9	Unutilized flake
45	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	2	3.4	3.4	0.9	Unutilized flake
46	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	2	2.9	2.5	1.2	Unutilized flake
47	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	2	1.6	1.8	0.4	Unutilized flake
48	Chalcedony	Fine-grained, flawed	Core flake	Whole	90	Cortical	1	3.3	2.7	1.2	Unutilized flake
49	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	1	2.3	3	0.4	Unutilized flake
50	Chert	Fine-grained	Core flake	Whole	10	Single facet	2	3	2.4	0.4	Unutilized flake
51	Chalcedony	Fine-grained, flawed	Core flake	Whole	30	Single facet	1	2	1.9	0.5	Unutilized flake
52	Chert	Fine-grained	Core flake	Proximal	30	Cortical	1	1.5	2.4	1.6	Unutilized flake
53	Chalcedony	Fine-grained, flawed	Core flake	Whole	20	Single facet	2	4	4.1	2	Unutilized flake
54	Chalcedony	Fine-grained, flawed	Core flake	Medial	50	0	1	6.9	5.5	2.1	Unutilized flake
55	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	3	2	2	0.4	Unutilized flake
56	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Single facet	1	2.7	1.5	0.9	Unutilized flake
57	Chalcedony	Fine-grained, flawed	Core flake	Distal	50	0	1	4	3	1	Unutilized flake
58	Chalcedony	Fine-grained, flawed	Core flake	Whole	100	Cortical	0	3	2.5	0.9	Unutilized flake
59	Chalcedony	Fine-grained, flawed	Core flake	Whole	0	Crushed	3	2.9	1.9	0.5	Unutilized flake
60	Chalcedony	Fine-grained, flawed	Angular debris	Whole	50	0	.	2.5	2.5	1.5	Unutilized angular debris
61	Chalcedony	Fine-grained, flawed	Core flake	Distal	30	0	1	4.2	2	1	Unutilized flake

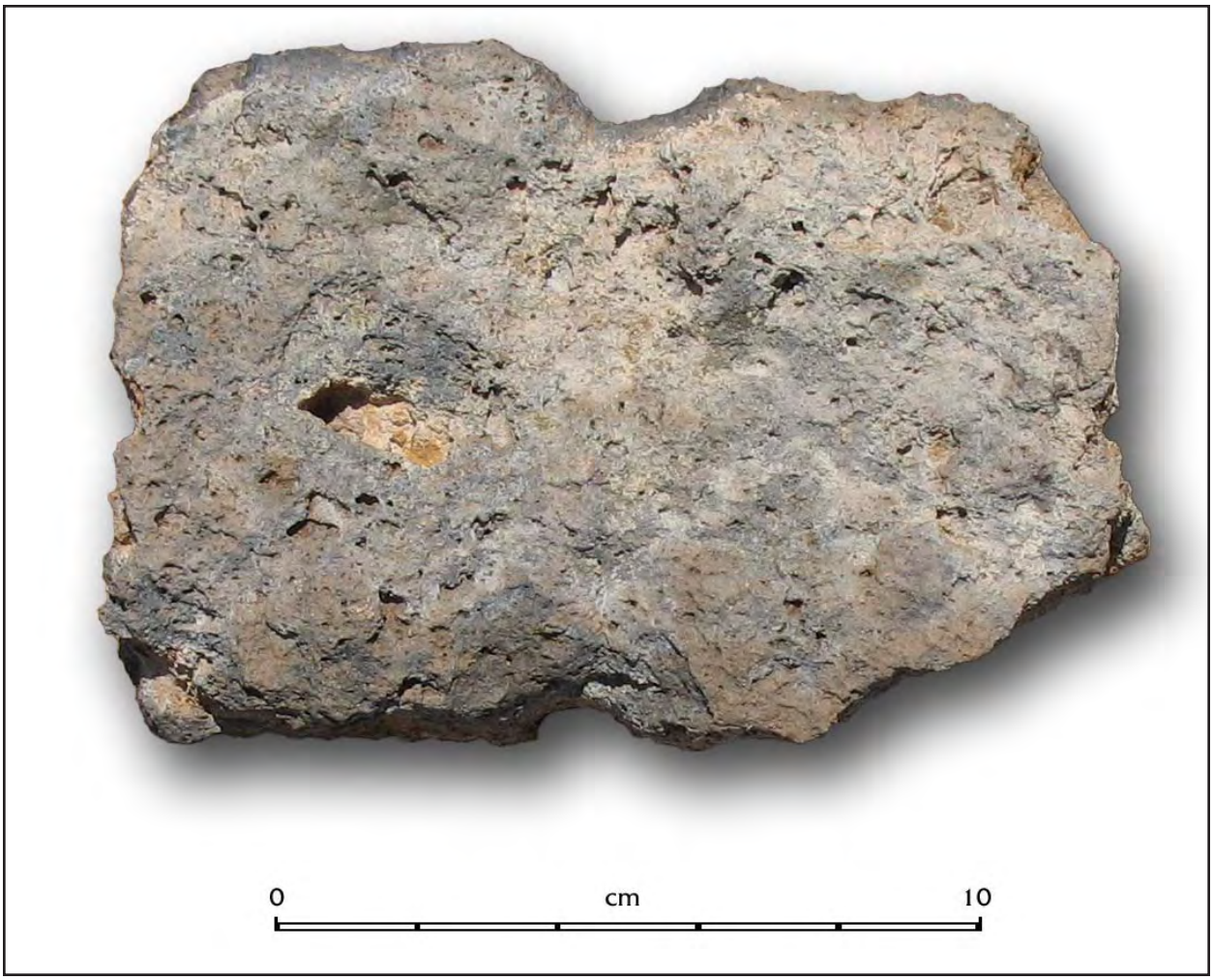

Figure 25. LA 55499, basalt axe.

Concentration 1 where only scattered pieces of raw chalcedony are scattered across the surface, Concentration 2 is characterized by an exposure of abundant raw and unmodified chalcedony nodules. Test Pit 208N/740E placed within Concentration 1 had a surface density of 20 irregular chalcedony nodules within the 1-by-1-m grid. This grid gives an idea of the surface density of raw material covering the ground within Concentration 2. Only definite artifacts were pin-flagged during the current surface resurvey, but a close examination of each piece of raw material would undoubtedly increase the artifact frequency, especially with tested nodules and cores. The raw material size ranged from 5.0-by-4.0-by-3.0-cm to 13.0-by-6.0-by-6.0 cm. The chalcedony is fine grained, but very flawed.

The artifact sample is essentially equivalent to the assemblage analyzed from Concentration 1, but with the addition of three multidirectional cores (Table 16). Chalcedony is the dominant (27) material type with smaller numbers of chert (2) and quartzite (1). Chalcedony artifacts include core flakes, angular debris, and multidirectional cores. The assemblage is composed primarily of core flakes (26) with single facet platforms (15) and two or fewer dorsal scars 17). Cortex ranges from 0 percent (4) to 100 percent (3) coverage with low frequencies from seven separate cortex categories. Artifacts range from 0.7 cm to 9.5 cm with just under half (14) of the artifacts measuring 3 cm long or less. The sample assemblage represented core reduction activities utilizing the local chalcedony exposed at

the locality. Silicified wood, quartzite, and cherts were noted in the vicinity, but chalcedony dominates the exposed material types. None of the artifacts exhibited further utilization and no formal tools were found in this area of the site. Eight additional chipped stone artifacts were recorded on the surface within about a 30-m radius around Concentration 2.

Two sherds were pin-flagged in the vicinity of Concentration 2. An unidentified glaze ware jar body sherd is about 10 m to the south and an unidentified gray ware jar body sherd is about 60 m to the south. The sherds suggest Formative period use of the site, but the relationship of the sherds to the chipped stone assemblage remains problematic.

Test Unit Descriptions: Subsurface investigations included the excavation of seven 1-by-1-m test pits and six auger tests. All fill was screened through 1/8-inch mesh.

Test Pits. Seven 1-by-1-m test pits were excavated across the site. The purpose of the test pits was to determine the depth and range of cultural material within the artifact concentrations and across the general site away from the concentrations. This information will be useful should a data recovery plan be required for the site. The test pits were spaced about every 30 m along the 680E line and the 740E line, which provided transects across the primary east and west site areas.

Thirteen artifacts were recovered from four of the seven test pits (Table 17). Most (12) of the artifacts were recovered from the initial 10 cm of loose wind-blown sand characterizing Stratum 1. The single flake from Stratum 2 at a depth of 11 cm to 20 cm below the surface was from a rodent burrow. The test pits show that subsurface artifacts are relatively sparse and confined to the initial 10 cm of wind-blown sand. No subsurface charcoal, culturally derived deposits, or features were found in any of the test pits. The two test pits (208N/740E and 219N/740E) located along the south end of Concentration 2 accounted for 14 of the 16 artifacts. In contrast, only two artifacts were recovered from the three test pits (140N/680E, 110N/680E, and 125N/655E) located at the center and east end of Concentration 1. Both test pits (170N/680E and 170N/740E) located outside of the artifact concentrations yielded no subsurface artifacts or cultural deposits.

Auger Tests. An auger test was placed at the base of each of the seven test pits. The auger tests were excavated to a depth of 1.0 m below the surface and fill was screened through 1/8-inch mesh. No artifacts or cultural material were encountered in the auger tests. The auger tests showed that Stratum 3 represented by light-colored caliche-laden soil continued to a depth of at least 1.0 m below the surface.

Stratigraphy: The various test units document

Table 17. LA 55499 Test Unit Results

Test unit	Level				Artifact Total
	1	2	3	4	
110N/680E				--	0
125N/655E	1				1
140N/680E		1			1
170N/680E					0
170N/740E					0
208N/740E	7				7
219N/740E	4			--	4
Artifact Total	12	1	0	0	13

	Stratum 1
	Stratum 2
	Stratum 3

Figure 26. LA 55499 typical soil profile.

a consistent subsurface soil profile across the site (Fig. 26). Stratum 1 extends from the surface to a depth of 10 cm below the surface. Stratum 1 is a loose grained (7.5YR 6/4) eolian sand deposit. The site occupation is confined primarily to the surface and to this initial 10 cm of loose wind-blown sand. Cultural material is confined to low frequency artifacts with no evidence of charcoal or cultural staining. Stratum 2 is a compact strong brown (7.5YR 4/6) fine-grained sandy clay. The soil had a blocky consistency and required a pick for excavation. Stratum 2 contained numerous rodent burrows and the single flake recovered from Stratum 2 was from a disturbed rodent burrow context.. Stratum 2 contained moderate gravel content, and caliche flecks usually appeared at the base of Level 2. Stratum 2 continued to a depth of 20 cm to 30 cm below the surface. Stratum 3 began at a depth of 20 cm to 30 cm below the surface and continued to a depth of 1.0 m. Stratum 3 was characterized by a very compact fine-grained sandy silt, lighter pink (7.5YR 7/4) in color, with abundant caliche and moderate gravel content.

Subsurface Artifacts: Thirteen artifacts were recovered from four of the seven test pits (Table 18). The majority (11) of the artifacts were recovered from the two test pits excavated within Concentration 2. The subsurface chipped stone assemblage mirrors the surface assemblage. Chalcedony is the dominant material type along with one piece of silicified wood. All of the artifacts are represented by core reduction debitage in the form of core flakes, cores, and angular debris. None of the chalcedony debitage had utilized edges. The only tool is a silicified wood uniface found near the center of Concentration 1 in Test Pit 125N/655E. The artifact has facial and marginal flake scars along one surface and may

Table 18. LA 55499 Chipped Stone Subsurface Artifacts

Grid unit	Level	Material	Texture	Artifact type	Portion	Cortex %	Platform	Dorsal Scars	Length (cm)	Width (cm)	Thickness (cm)	Comments
208N/ 740E	1	Chalcedony	Fine-grained	Multidirectional core	Whole	40	0	0	5.7	4.9	3.1	Unutilized core
		Chalcedony	Fine-grained	Core flake	Whole	90	Multifacet	2	2.6	2.8	1.5	Unutilized flake
		Chalcedony	Fine-grained, flawed	Core flake	Lateral	50	Absent	1	3.7	1.1	1	Unutilized flake
		Chalcedony	Fine-grained	Core flake	Whole	0	Crushed	3	2	1.4	0.3	Unutilized flake
		Chalcedony	Fine-grained	Core flake	Lateral	0	Single facet, abraded	2	2	1.1	0.6	Unutilized flake
		Chalcedony	Fine-grained	Angular debris	Whole	10	0	0	1.1	1.2	0.5	Unutilized angular debris
		Chalcedony	Fine-grained	Core flake	Distal	0	Absent	1	1.3	1.2	0.6	Unutilized flake
		Chalcedony	Fine-grained	Core flake	Medial	0	0	4	1.1	1.5	0.3	Unutilized flake
		Chalcedony	Fine-grained	Angular debris	Whole	20	0	0	1.1	0.8	0.4	Unutilized angular debris
219N/ 740E	1	Chalcedony	Fine-grained, flawed	Angular debris	Whole	10	Cortical	0	3.2	3.4	1.2	Unutilized angular debris
		Chalcedony	Fine-grained, flawed	Core flake	Distal	10	Collapsed	0	2.3	2	0.6	Unutilized angular debris
140N/ 680E	2	Chalcedony	Fine-grained, flawed	Angular debris	Whole	100	Collapsed	0	3	2.8	1.1	Unutilized angular debris
125N/ 655E	1	Silicified wood	Fine-grained	Early stage uniface	Whole	0	Multifacet, abraded	5	5.2	2.9	0.5	Uniface

have been used either as a knife or a scraper. No use wear was evident. This was the only piece of silicified wood found on the site.

Evaluation: Site testing shows that LA 55499 functioned as a quarry site where exposed local material types were procured by the site occupants. Surface artifacts totaled just over 100 chipped stone, ground stone, and ceramic artifacts. The artifacts are both widely scattered across the large site area and confined within two primary artifact concentrations separated by about 70 m. Concentration 1, located on a hilltop at the west edge of the site, was larger in size and artifact frequency, but contained fewer pieces of exposed raw material. Only scattered gravel and chalcedony nodules were noted in this site area. The hill provided a good view of the arroyo to the southwest. This area may have served as a locality where selected cores and flakes were procured from the main lithic exposure at Concentration 2, moved to Concentration 1 for further reduction, where the surrounding territory could be observed. In turn, Concentration 2 had a smaller surface area based on the distribution of raw material and artifacts. However, chalcedony in the form of irregular nodules is more abundant in the area. The locality also has good views of the surrounding territory which could be monitored while raw materials were obtained and partly reduced for eventual transport off-site. The two test pits in Concentration 2 show that somewhat higher artifact frequencies than is apparent on the surface may be expected in the initial 10 cm of loose wind-blown sand. In general, chipped stone artifacts across the site are characterized by simple core reduction activities centered around the exposures of local chalcedony and other secondary lag gravels. The majority of the chipped stone artifacts are of unknown cultural affiliation and the presence of sherds illustrate repeated use of the area during the Formative period and into the Historic period. Site testing verifies Hogan's original 1986 interpretation of a lithic quarry, where exposures of local raw materials were procured over a long period of time. Site occupation episodes were brief, based on the restricted range of the artifact types and the apparent absence of features. The fine-grained, but very flawed nature of the local chalcedony, resulted in the production of considerable debris in order to produce serviceable flakes or blanks. This labor investment may have been off-site. Low frequency of tools indicate that reduced raw materials were removed from the site for use at other locations as part of a land-extensive foraging pattern.

Eligibility: LA 55499 is a moderately sized quarry and lithic procurement site utilized over a long period of time. The current testing plan has demonstrated that surface artifact frequencies number in the low 100s and that majority of the artifacts are clustered within two artifact concentrations. Different activities associated with lithic procurement, reduction, and surrounding landscape monitoring may have occurred at the two artifact concentrations. Test pits show that cultural material is confined to the initial, loose, 10-cm layer of wind-blown sand. The stripping of this sand layer should yield additional artifacts important to site interpretation. The site was repeatedly used over a long time period including unknown, Formative, and Historic cultural affiliations. National Register eligibility is recommended as eligible under Criterion d (36 CFR Part 60.4 and in conformance with 4.10.15.16 NMAC). The site area should be avoided and preserved in place, or a mitigation plan prepared to recover significant information from the site. The moderately sized artifact assemblage associated with the long-term exploitation of local material types should yield information important to the understanding of long-term resource procurement and extraction strategies and patterns on Ceja Mesa and in the Middle Rio Grande Valley.

SUMMARY

Six archaeological sites are located in the proposed Paseo Gateway project in Rio Rancho, New Mexico. The Paseo Gateway project is an urban development project involving commercial, light industrial, residential, and educational development in the Rio Rancho area. Four sites are on State Trust Land transferred specifically for residential and educational development. LA 55504 and LA 55505 are on private land. The six sites were initially recorded by Patrick Hogan (1986) and the site forms were updated in 2005 by the Office of Archaeological Studies (NMCRIS Activity No. 96898). The purpose of the test excavation plan was to provide information on the characteristics and integrity of subsurface deposits and the potential of the sites to contribute information on New Mexico's heritage. These data would also be used to determine a site's eligibility for listing on state or national registers and as the basis for developing an excavation or data recovery plan for potentially eligible sites in advance of the proposed urban development project.

Prehistoric utilization of the area occurred over a long period of time and centered around the exploitation of lithic resources along the higher hills near the center of the project area. Wind tends to scour the sands exposing the underlying Santa Fe Formation cobbles and gravels. The exposed gravels contain a wide range of potentially useable lithic materials important to prehistoric and historic inhabitants of the area and region. The prehistoric inhabitants were particularly interested in the local chalcedony, but chert, silicified wood, quartzite, basalt, sandstone, and other lithic types appear in the deposits. The exposed lithic resources were valuable for the manufacture of both chipped and ground stone tools by the prehistoric people.

Evidence for use of the area during the Paleoindian period is limited to two isolated Cody Complex projectile point fragments (Hogan 1986). The Archaic period probably saw the earliest intensive use. The San Jose-like point base recovered from LA 55501 suggests occupations as early as the Middle Archaic (3000 B.C. to 1800 B.C.). Additional general Archaic/unknown cultural affiliations are manifested at LA 55499 and LA 55500. The Formative period is represented by the presence of a few sherds at four sites. Unidentified gray ware sherds indicate Formative/unknown components at LA 55499 and LA 55505. Indeterminate glaze ware sherds suggest Formative/Classic period components at LA 55498, LA 55499, and LA 55501. The Historic period is represented by diagnostic types at LA 55499. The absence of diagnostic artifacts indicates general unknown temporal components at LA 55498, LA 55504, and LA 55505.

The sites manifest a repeated pattern of prehistoric and historic period groups passing through the area and utilizing the local raw materials exposed especially on the higher hills in the central project area. The lithic material was probably procured during the pursuit of other subsistence activities including hunting and the gathering of plant resources. The sites can be viewed as briefly occupied special activity sites with similar repeated occupations. The sites and the accumulation of isolated occurrences in the project area can be viewed as an accumulation from numerous episodes of material testing and reduction conducted over a long period of time (Hogan 1986). In general, the absence of water would have prevented more permanent occupation except during the wettest climatic intervals. Residential sites from all time periods are generally concentrated along the Rio Grande about 6 miles south of the study area. However, architecture in the form of pit structures and cobble alignments show possible

residential use with unknown, Late Archaic, and Formative/Classic period affiliations for sites located from 1 to 2 km from the immediate project area. The study area would have served as a resource hinterland for these more permanent residential sites.

The testing program has determined that five of the sites (LA 55498, LA 55500, LA 55501, LA 55504, and LA 55505) can be characterized as briefly occupied special activity sites with temporal components from various time periods, but with all occupations centered around the reduction of local lithic material. LA 55501 stands out because of the higher frequency of basalt rather than the local chalcedony. The sites manifest a minimum number of subsurface artifacts and no associated features or cultural deposits. Artifacts are confined essentially to the surface or the initial 10 cm of wind-blown sand. The current testing program and Hogan's original 1986 survey have sufficiently documented these sites and they provide little additional information important to the understanding of regional subsistence and settlement patterns. No further work is recommended for these sites.

LA 55499 is the largest of the investigated sites. The site consists of raw material exposed on the higher hilltops in the central project area. The topography and wind have combined to expose Santa Fe Formation gravels and nodules of local chalcedony. The local chalcedony dominated the chipped stone assemble at this moderate-sized quarry site. The raw material appeared as irregular clasts of various sizes. The material was flawed, requiring frequent testing to identify suitable parent material. Even though chalcedony flakes were potentially of very high quality and suitable for a wide range of tool production, formal tools were rare on the site. Suitable flakes were most likely transported to other localities, including the surrounding sites for further reduction. No raw material was observed on the surrounding sites. The quarry has been utilized from at least the Archaic period and through the Formative period and into the Historic period. The testing program indicated that artifacts were confined to the surface or the initial 10 cm of loose wind-blown sand. Artifact density is low to moderate in this wind-blown sand layer and no features or cultural deposits were identified. The site is important for how local lithic materials were assimilated into the subsistence strategies and mobility patterns of populations living near this area during the different time periods. LA 55499 should be avoided or a data recovery plan implemented to recover this relevant information.

SITE ELIGIBILITY AND RECOMMENDATIONS

Six previously recorded sites were evaluated during the current testing program. Four sites are on State Trust Land transferred specifically for residential and educational development. LA 55504 and LA 55505 are on private land. The original site recording and current testing program have exhausted the information potential of five sites including LA 55498, LA 55500, LA 55501, LA 55504, and LA 55505. The sites are considered Not Eligible to the *National Register of Historic Places* and *State Register of Cultural Properties* and no additional archaeological investigations are recommended for these sites (Table 19).

LA 55499 is a moderately sized lithic quarry important for understanding the quarrying and procurement of local lithic material. The site is recommended as Eligible for nomination to the *National Register of Historic Places* under Criterion d because the site is likely to yield information important to prehistory and history (36 CFR par 60.4 and in conformance with 4.10.15.16 (NMAC) (Table 19). This site is likely to yield important information on long-term chipped stone procurement patterns from the Archaic period, and with repeated reuse, extending into the Formative and Historic periods. The site should be avoided as part of the planned development or a data recovery plan developed to recover potentially significant information from the site.

Table 19. Summary of Eligibility and Treatment Recommendations

LA Number	Eligibility/Criterion	Treatment Recommendations
LA 55498	Not Eligible	Data potential exhausted and no further work recommended
LA 55499	Eligible/Criterion d	The site should be avoided or a data recovery plan developed to recover potentially significant information
LA 55500	Not Eligible	Data potential exhausted and no further work recommended
LA 55501	Not Eligible	Data potential exhausted and no further work recommended
LA 55504	Not Eligible	Data potential exhausted and no further work recommended
LA 55505	Not Eligible	Data potential exhausted and no further work recommended

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