



## **Appendix I**

---

# **CULTURAL AND ARCHEOLOGICAL RESOURCES**

## **Appendix I**

### **CULTURAL AND ARCHAEOLOGICAL RESOURCES**

---

A cultural resources field survey was undertaken by Taschek Environmental Consultants in Spring 2004 to identify the presence of artifacts or sites eligible for listing on the National Register of Historic Places (NRHP). During the survey, 5,743 acres were evaluated in the vicinity of the airport, including most of airport property. During this survey, seven previously recorded sites and eight new sites were identified. Nine of these sites were recommended potentially eligible for inclusion in the NRHP. None of these sites are located in proximity to any of the alternatives under consideration; therefore, further investigation was not warranted.

A copy of this report is included in this appendix. The locations of the sites have been withheld for confidentiality purposes.

Also included in this appendix are materials related to the Section 106 consultation process for this EA.





U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Federal Aviation Administration  
Airports Division, Southwest Region  
Louisiana/New Mexico Airports Development Office

Fort Worth, Texas 76193-0600

Ms. Katherine Slick  
Department of Cultural Affairs  
Historic Preservation Division  
407 Galisteo Street, Suite 236  
Santa Fe, NM 87501

086109

Dear Ms. Slick:

The purpose of this letter is to formally request consultation under Section 106 of the National Historic Preservation Act (Section 106). The city of Albuquerque's Aviation Department, with the assistance of the consulting firm Coffman Associates, is preparing an Environmental Assessment (EA) for a proposed runway extension at Double Eagle II Airport (AEG), a general aviation facility located on Albuquerque's West Mesa. Since the proposed runway extension would require Federal actions, including Federal Aviation Administration (FAA) approval of airport layout plan revision and the use of Airport Improvement Fund monies, it constitutes a Federal undertaking. The EA will be prepared pursuant to the requirements of Section 102(2) of the *National Environmental Policy Act (NEPA) of 1969* and will conform to the requirements and standards set forth by the FAA as contained in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. The FAA will act as the lead agency and, due to the proximity of Petroglyph National Monument, the National Park Service (NPS) will act as a cooperating agency. We will conduct simultaneous Section 106 and NEPA reviews for the proposed project.

Enclosure 1 is a vicinity map for AEG, showing its location on Albuquerque's West Mesa. The purpose of the proposed improvements is to meet the runway length requirements of business jets that currently experience operating limitations at the airport. Runway 04/22 is 7,400 feet long and Runway 17/35 is 5,999 feet long. Analysis of current turbojet activity at AEG and nearby Albuquerque International Sunport determined that these runway lengths do not meet the needs of many turbojets currently utilizing them. These findings were reinforced through surveys conducted with owners of turbojets operating to the Albuquerque area over the past year. It was determined that a runway length of 9,000 feet is needed to accommodate the types of business jets which currently operate in Albuquerque.

In addition to the required "no action" alternative required in NEPA analysis, two "build" alternatives to accommodate a 9,000-foot runway at AEG are being considered in the EA. The first alternative would extend Runway 17/35 from 7,400 to 9,000 feet. Enclosure 2 depicts an extension of Runway 17/35 on both ends, the northern portion of which would require a realignment of the airport's existing access road and instrument landing system

(ILS). Presently, the airport's ILS is associated with Runway 22. Should Runway 17/35 be extended, the primary runway designation at the airport would change from Runway 04/22 to Runway 17/35. Based on this information, consideration is being given to moving the ILS from Runway 22 to Runway 17, as indicated on Enclosure 2. Doing so would include relocation of the localizer, glide slope, and medium intensity approach lighting system with runway alignment indicator lights (MALSR) to the Runway 17 end.

Enclosure 3 depicts the second airport development alternative. It was evaluated in the airport's 1999 Airport Master Plan and would result in Runway 04/22 being extended by 1,600 feet to a total length of 9,000 feet. Under this alternative, Runway 04/22 would remain the primary runway and relocation of the ILS would not be required.

The overall Area of Potential Effects (APE) for the alternatives is represented on Enclosure 4, and it includes not only those areas subject to project-related physical disturbance, but to airport-related overflights and aircraft noise as well. Physical disturbance would be limited to the paved areas indicated on Enclosure 5.

In 2002, several cultural resource surveys were conducted in areas surrounding the airport by Taschek Environmental Consulting (TEC) of Albuquerque, New Mexico (NMCRIIS Activity Numbers 78805, 81015, and 88713). A total of 5,743 acres were inventoried and 21 archaeological sites were documented and evaluated regarding their eligibility for listing in the National Register of Historic Places (NRHP) (Enclosure 6). At the time of these surveys, the nature of future improvements to the airport was unknown; thus, recommendations could not be made regarding possible project effects to potentially eligible cultural resources. Recently, a proposed scope of work for improvements at the airport was developed by Coffman Associates of Lee's Summit, Missouri, and TEC was contracted by Coffman Associates to provide management recommendations for cultural resources with regard to the proposed undertaking.

After reviewing project maps provided by Coffman Associates, TEC personnel resurveyed areas at the airport where there is the potential for adverse effects to sites recommended eligible to the NRHP. On May 24 and June 7, 2007, Christa Burrus and Jesse Shuck of TEC revisited two sites (LA 71199 and LA 27594, respectively) and, upon field inspection, determined that both of these resources are outside of the area of potential effects (APE) for the proposed improvements.

LA 27594 is located approximately 200 meters (656 ft) to the northeast of an area that may be graded and subject to temporary construction disturbance related the southern extension of Runway 17-35 (see Enclosure 5). This site consists of two large, conjoined basalt rock alignment features of unknown cultural and temporal affiliation. The only artifacts found in association with the features were a single piece of flaked-stone debitage and two brown glass fragments. The New Mexico SHPO entered this site as being of undetermined eligibility to the NRHP on August 5, 2002 (Historic Preservation Division [HPD] Log Number 65357); therefore, it should be managed as if eligible until a determination is made.

TEC recommends that this site be fenced temporarily to assure avoidance during construction activities if the alternative extension of Runway 17-35 is selected. If this recommendation is followed, subject to consultation and comment, the proposed undertaking should have *no effect* on LA 27594.

LA 71199 was revisited because it was initially thought by TEC personnel to be within the current APE, based on preliminary maps provided by Coffman Associates. However, following TEC's revisit to LA 71199, final project scoping information from Coffman Associates clarified that this site is outside of the current project APE. Therefore, no mitigation recommendations are made at this time with regard to this site and the current proposed undertaking. Subject to consultation and comment, the proposed undertaking should have *no effect* on LA 71199.

No other NRHP-eligible sites are within close proximity to the APE of the current proposed undertaking, with the exception of additional sites near the southern extension of Runway 17-35; however, these sites are all protected by barriers such as Paseo del Volcan or by the fence that currently surrounds the airport property.

If the above recommendations are followed, subject to consultation and comment, there should be *no effect* to any cultural resources eligible for inclusion in the NRHP from the current proposed undertaking.

As previously mentioned, the NPS is proprietor of adjacent Petroglyph National Monument and is serving as a cooperating agency for purposes of the EA. That agency has stated its preference for the alternative of extending Runway 17/35 (Enclosure 7).

The FAA initiated government-to-government consultation with 35 native American tribes by letters dated December 5, 2008, and you were provided copies, including the enclosures containing pertinent information about the proposed project. We received responses from three tribes. The Pueblo of Isleta (Enclosure 8) stated that the project would not have an impact on religious or cultural sites with which it is affiliated. However, it requested contact if cultural materials are discovered during construction. The White Mountain Apache Tribe issued a similar statement, likewise requesting contact in the case of emergency discovery and requesting monitoring of ground-disturbance activities if there is reason to believe that human remains or funerary objects may be present (Enclosure 9). The Hopi Tribe expressed its claim of cultural affiliation with prehistoric cultures of New Mexico and stated its interest in reviewing and commenting on the draft EA (Enclosure 10). It also requested that, should prehistoric cultural sites be identified in the project area which would be adversely impacted by project activities, the tribe be provided with copies of the cultural resource survey report on the APE and any proposed draft plans for review and comment. We intend to comply with all of these requests. For your information, we also plan to make the draft EA available on the internet in addition to issuing hard copies for public review.

If you have any questions or require further information, please contact Mr. Tim Tandy at 817-222-5644 or e-mail [tim.tandy@faa.gov](mailto:tim.tandy@faa.gov).

Sincerely,



Andrew D. Velayos, Acting Manager  
Louisiana/New Mexico Airports  
Development Office

9 enclosures

cc w/o enclosures:

Mr. Jim Hinde, Planning Manager  
Aviation Department, City of Albuquerque  
2200 Sunport Boulevard SE  
Albuquerque, NM 87106

Ms. Molly Waller, Coffmann Engineers  
237 NW Blue Parkway, Suite 100  
Lee's Summit, MO 64063

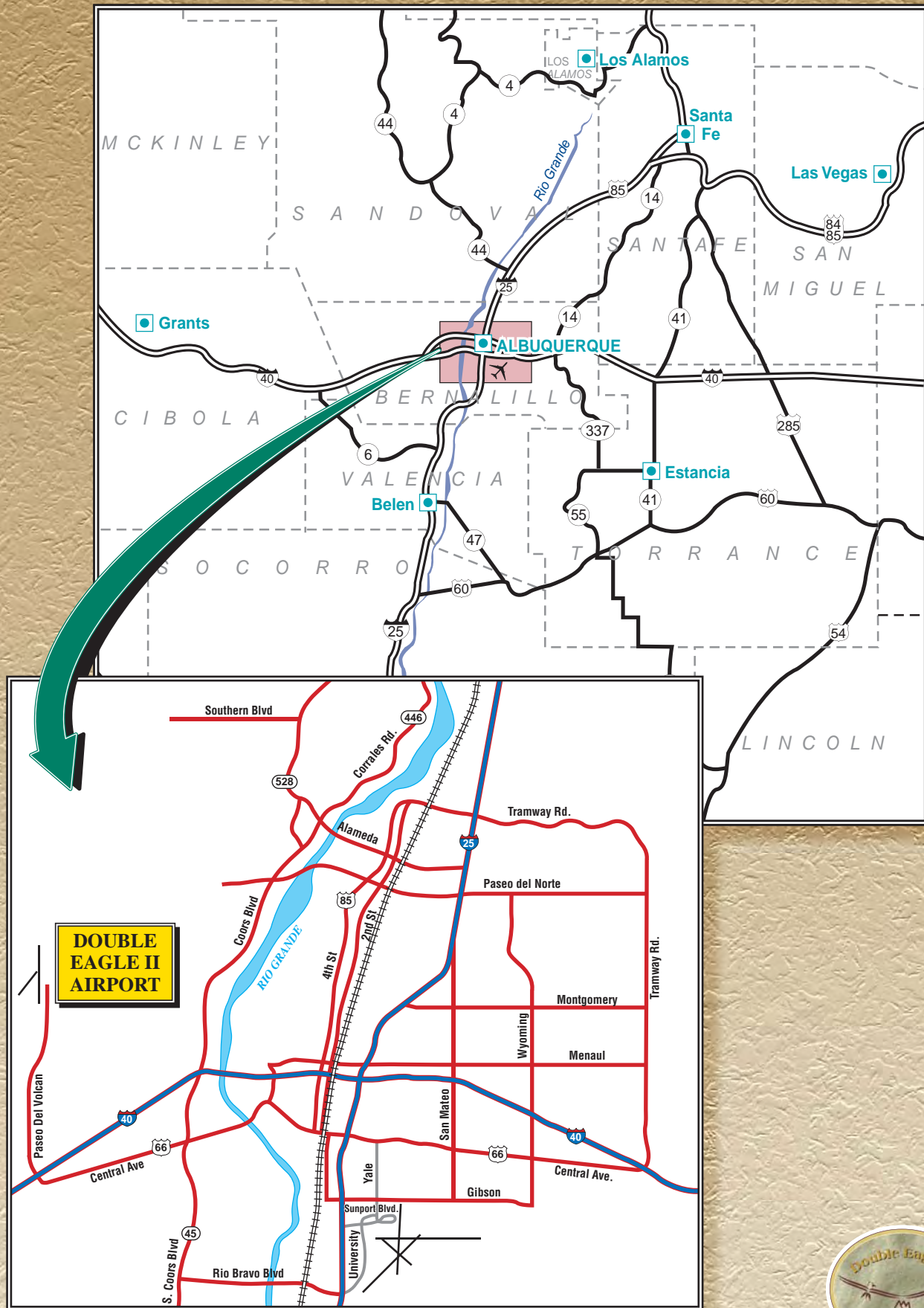
Joseph P. Sanchez, Ph.D., Superintendent  
Petroglyph National Monument  
6001 Unser Boulevard NW  
Albuquerque, NM 87120

COMMENTS

*[Handwritten signature]*  
for NM State Historic Preservation Officer

2/23/09

- The SHPO concurs with the recommendation that the proposed under-taking will not have an effect on the known archaeological sites. However, we will provide a determination of effect for the undertaking as a whole when consultation with the Hopi Tribe is complete. Please forward copies of FAA's additional correspondence with the Hopi and any responses received for our files.





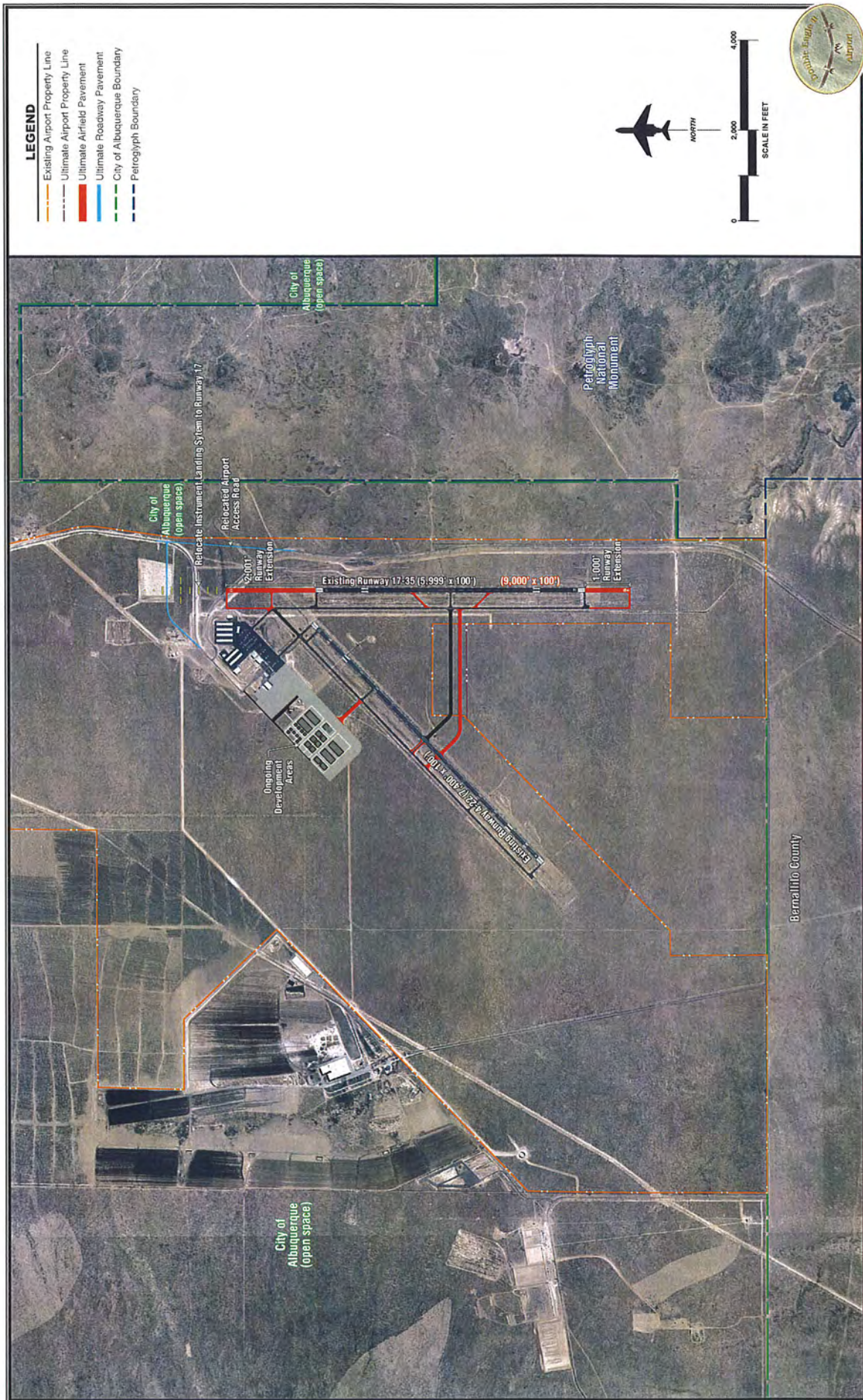


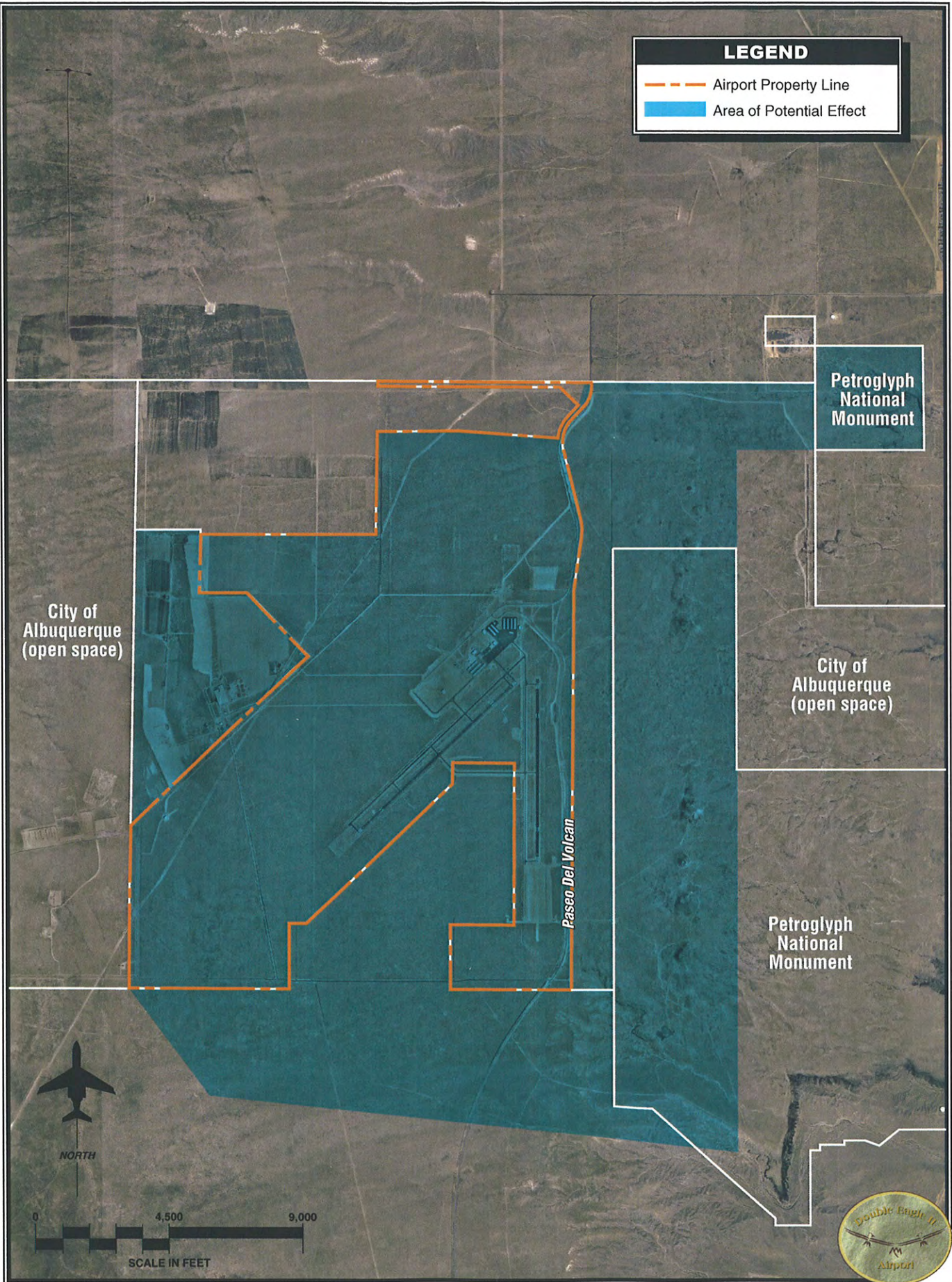
Exhibit B  
ALTERNATIVE A  
IMPROVEMENTS TO RUNWAY 17-35





Exhibit C  
ALTERNATIVE B  
IMPROVEMENTS TO RUNWAY 4-22





This exhibit depicts the location of identified cultural or archeological resources. To ensure these resources are protected, the exhibit containing the precise locations is not included within this EA.

**CULTURAL RESOURCE INVENTORY  
SURVEY OF 5743 ACRES AT DOUBLE  
EAGLE AIRPORT, BERNALILLO  
COUNTY, NEW MEXICO**

Prepared by  
Teresa Hurt, Danny Gregory, Tamara Jager Stewart,  
Christa Burrus, and Kimberly Parker

Submitted by  
Teresa Hurt, Principal Investigator  
Taschek Environmental Consulting  
8901 Adams St. NE, Suite D  
Albuquerque, NM 87110  
505-821-4700

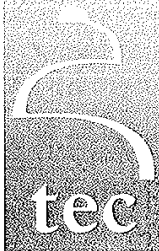
Submitted to  
Molzen-Corbin & Associates  
2701 Miles Road SE  
Albuquerque, NM 87106  
505-242-5700

Survey Conducted Under  
New Mexico Archaeological Survey Permits  
NM-02-121 and NM-04-121

NMCRIS Activity Number: 88713

Taschek Environmental Consulting Report No. 600-183

June 2004



**CULTURAL RESOURCE INVENTORY SURVEY OF  
5743 ACRES AT DOUBLE EAGLE AIRPORT,  
BERNALILLO COUNTY, NEW MEXICO**

Prepared by  
Teresa Hurt, Danny Gregory, Tamara Jager Stewart,  
Christa Burrus, and Kimberly Parker

Submitted by  
Teresa Hurt, Principal Investigator  
Taschek Environmental Consulting  
8901 Adams St. NE, Suite D  
Albuquerque, NM 87110  
505-821-4700

Submitted to  
Molzen-Corbin & Associates  
2701 Miles Road SE  
Albuquerque, NM 87106  
505-242-5700

Survey Conducted Under  
New Mexico Archaeological Survey Permits  
NM-02-121 and NM-04-121

NMCRIS Activity Number: 88713

Taschek Environmental Consulting Report No. 600-183

June 2004

© 2004 Taschek Environmental Consulting



## ABSTRACT

This report documents the results of a 100-percent pedestrian cultural resource inventory survey of approximately 2324 hectares (ha) (5743 acres [ac]) in the vicinity of the Double Eagle II Airport in Bernalillo County, New Mexico, just west of the Petroglyph National Monument. The cultural resource survey was conducted to identify, record, and evaluate all cultural sites within the inventory area for eligibility to the National Register of Historic Places (NRHP). Taschek Environmental Consulting (TEC) conducted the survey at the request of Molzen-Corbin & Associates, which was in turn contracted by the City of Albuquerque to design future infrastructure improvements for the airport.

TEC personnel surveyed 2946 ha (7280 ac) in the vicinity of the airport between January 22 and April 30, 2002, and has previously reported on the results of portions of that survey in three reports and one report addendum (TEC Report Nos. 600-69, 600-69b, 600-69b: Addendum, and 600-160). These reports were written for three proposed undertakings, including (1) a land exchange between the New Mexico State Land Office and the City of Albuquerque (TEC Report No. 600-69, NMCRIS Activity No. 78805), (2) the development of a water and wastewater system to serve future development at the airport (TEC Report No. 600-69b, NMCRIS Activity No. 81015), and (3) the installation of an air-traffic control tower at the airport (TEC Report No. 600-160, NMCRIS Activity No. 86209). In addition, an addendum was made to TEC Report No. 600-69b, to document additional survey conducted for the water and wastewater system project following a change in the project scope that occurred after the report was written (NMCRIS Activity No. 83311 was assigned to the survey documented in the addendum). The current report documents the results of survey of the remaining 2324 ha (5743 ac) not included in these previous reports. NMCRIS Activity No. 88713 was assigned to the current investigation.

The principal investigator for the fieldwork conducted in 2002 was Gerry Raymond and the field supervisor was Christopher Carlson. Field crew members were Adam Sullins, Christa Burrus, and Peter Sheldon. In addition to the 2002 survey, TEC also conducted additional fieldwork in the survey area on March 23 and April 28 and 29, 2004. Fieldwork in 2004 consisted of revisits to a sample of sites recorded during the 2002 survey, for the purpose of quality-control monitoring of the 2002 fieldwork. This quality check was done because of the lag in time between the fieldwork and report preparation and because the supervisory personnel involved in the 2002 survey are no longer employed by TEC. In addition, because of the dynamic aeolian environmental setting of the survey area it was thought that some sites that could not be relocated in 2002 might now be exposed. One additional previously recorded site (LA 103054) was relocated on March 23, 2004 and is documented in this report. Fieldwork in 2002 and 2004 was conducted under New Mexico State Archaeological Survey Permit Nos. NM-02-121 and NM-04-121, respectively.

The survey area is located on land owned by the State of New Mexico in the northwest portion of Township 11 North, Range 1 East, Section 36 (23 ha [58 ac] and Township 10 North, Range 1 East, Section 2 (102 ha [253 ac]). The remaining 2198 ha (5432 ac) of the survey area is located on land owned by the City of Albuquerque in Township 11 North, Range 1 East, Sections 16, 22-24, 25-27, 34 and 36; and in Township 10 North, Range 1 East, Sections 1 and 3. All lands

in the survey area are shown on the *Volcanoes, New Mexico* (1990) 7.5-minute United States Geological Survey quadrangle map. Seven previously recorded sites, eight new sites and 179 isolated occurrences (IOs) were documented within the survey area.

Nine of the sites (LA 45282, LA 71199, LA 103036, LA 103054, LA 134644, LA 144337, and LA 144340–144342) are recommended eligible for inclusion in the National Register of Historic Places (NRHP). These sites should be avoided, if possible, by any future undertakings. The eligibility of the remaining six sites for inclusion in the NRHP is recommended as undetermined. Further investigation is necessary to evaluate the significance of five of these sites (LA 27592, LA 144336, LA 144338, LA 144339, LA 144343) and one site (LA 27591) could not be relocated and, therefore, could not be evaluated regarding NRHP eligibility. Until a recommendation can be made regarding these six sites they also should be managed as if they are eligible for inclusion in the NRHP.

Any future undertakings on the lands covered by this survey and report should be reviewed for their possible effects upon the eligible cultural resources (or those of undetermined eligibility) documented in this report. Those conclusions as to effect should be reviewed by all involved agencies and a report of the findings and management recommendations should be submitted to the New Mexico State Historic Preservation Officer for review.



## TABLE OF CONTENTS

ABSTRACT.....	ii
INTRODUCTION AND PROJECT DESCRIPTION.....	1
ENVIRONMENTAL SETTING .....	7
CULTURAL SETTING.....	8
Paleoindian Period (10,000–5500 B.C.) .....	8
Archaic Period (5500 B.C.–A.D. 1).....	9
Basketmaker III-Pueblo I/Early Developmental Period (A.D. 1–900).....	10
Pueblo II/Late Developmental Period (A.D. 900–1200) .....	11
Pueblo III/Late Developmental-Coalition Period (A.D. 1200–1300).....	11
Pueblo IV/Classic Period (A.D. 1300–1600).....	11
Historic Period (post-A.D. 1540).....	11
PREVIOUS RESEARCH .....	13
Records Search.....	13
Previous Investigations.....	16
METHODS .....	17
RESULTS OF SURVEY .....	18
Previously Recorded Sites .....	23
LA 27591 .....	23
LA 27592 .....	24
LA 45282 .....	26
LA 71199 (Volcano Ranch).....	29
LA 103036 .....	31
LA 103054 .....	34
LA 134644 .....	36
Newly Recorded Sites.....	38
LA 144336 (TEC 69-1).....	38
LA 144337 (TEC 69-2).....	40
LA 144338 (TEC 69-3).....	42
LA 144339 (TEC 69-6).....	44
LA 144340 (TEC 69-10).....	46
LA 144341 (TEC 69-11).....	48
LA 144342 (TEC 69-13).....	50
LA 144343 (TEC 69-14).....	52
MANAGEMENT RECOMMENDATIONS .....	54
REFERENCES CITED.....	55
APPENDIX A: ILLUSTRATIONS.....	59

## LIST OF TABLES

Table 1: Previously Recorded Sites .....	13
Table 2: Isolated Occurrences.....	18

## LIST OF FIGURES

Figure 1: Survey Vicinity Map .....	2
Figure 2: Survey Area Map (1 of 2), Showing Survey Area Boundaries and Site Locations .....	3
Figure 3: Survey Area Map (2 of 2), Showing Survey Area Boundaries and Site Locations .....	4
Figure 4: Isolated Occurrences Location Map (1 of 2).....	5
Figure 5: Isolated Occurrences Location Map (2 of 2).....	6
Figure 6: Site Map of LA 27592.....	25
Figure 7: Site Map of LA 45282.....	27
Figure 8: Site Map of LA 71199.....	30
Figure 9: Site Map of LA 103036.....	32
Figure 10: Site Map of LA 103054.....	35
Figure 11: Site Map of LA 134644.....	37
Figure 12: Site Map of LA 144336.....	39
Figure 13: Site Map of LA 144337.....	41
Figure 14: Site Map of LA 144338.....	43
Figure 15: Site Map of LA 144339.....	45
Figure 16: Site Map of LA 144340.....	47
Figure 17: Site Map of LA 144341.....	49
Figure 18: Site Map of LA 144342.....	51
Figure 19: Site Map of LA 144343.....	53

## INTRODUCTION AND PROJECT DESCRIPTION

This report documents the results of a 100-percent pedestrian cultural resource inventory survey of approximately 2324 hectares (ha) (5743 acres [ac]) in the vicinity of the Double Eagle II Airport in Bernalillo County, New Mexico, just west of the Petroglyph National Monument (Figure 1). The cultural resource survey was conducted to identify, record, and evaluate all cultural sites within the inventory area for eligibility to the National Register of Historic Places (NRHP). Taschek Environmental Consulting (TEC) conducted the survey at the request of Molzen-Corbin & Associates (MCA), which was in turn contracted by the City of Albuquerque (COA) to design future infrastructure improvements for the airport.

TEC personnel surveyed 2946 ha (7280 ac) in the vicinity of the airport between January 22 and April 30, 2002, and has previously reported on the results of portions of that survey in three reports and one report addendum (TEC Report Nos. 600-69, 600-69b, 600-69b: Addendum, and 600-160). These reports were written for three proposed undertakings, including (1) a land exchange between the New Mexico State Land Office (SLO) and the COA (TEC Report No. 600-69, NMCRIS Activity No. 78805), (2) the development of a water and wastewater system to serve future development at the airport (TEC Report No. 600-69b, NMCRIS Activity No. 81015), and (3) the installation of an air-traffic control tower at the airport (TEC Report No. 600-160, NMCRIS Activity No. 86209). In addition, an addendum was made to TEC Report No. 600-69b, to document additional survey conducted for the water and wastewater system project following a change in the project scope that occurred after the report was written (NMCRIS Activity No. 83311 was assigned to the survey documented in the addendum). The current report documents the results of survey of the remaining 2324 ha (5743 ac) not included in these previous reports. NMCRIS Activity No. 88713 was assigned to the current investigation.

The principal investigator for the fieldwork conducted in 2002 was Gerry Raymond and the field supervisor was Christopher Carlson. Field crew members were Adam Sullins, Christa Burrus, and Peter Sheldon. In addition to the 2002 survey, TEC also conducted additional fieldwork in the survey area on March 23 and April 28 and 29, 2004. Fieldwork in 2004 consisted of revisits to a sample of sites recorded during the 2002 survey, for the purpose of quality-control monitoring of the 2002 fieldwork. This quality check was done because of the lag in time between the fieldwork and report preparation and because the supervisory personnel involved in the 2002 survey are no longer employed by TEC. In addition, because of the dynamic aeolian environmental setting of the survey area it was thought that some sites that could not be relocated in 2002 might now be exposed. One additional previously recorded site (LA 103054) was relocated on March 23, 2004 and is documented in this report. Fieldwork in 2002 and 2004 was conducted under New Mexico State Archaeological Survey Permit Nos. NM-02-121 and NM-04-121, respectively.

The survey area is located on land owned by the State of New Mexico in the northwest portion of Township 11 North, Range 1 East, Section 36 (23 ha [58 ac]) and Township 10 North, Range 1 East, Section 2 (102 ha [253 ac]). The remaining 2198 ha (5432 ac) of the survey area is located on land owned by the City of Albuquerque in Township 11 North, Range 1 East, Sections 16, 22-24, 25-27, 34 and 36; and in Township 10 North, Range 1 East, Sections 1 and 3. All lands in the survey area are shown on the *Volcanoes, New Mexico* (1990) 7.5-minute United States Geological Survey quadrangle map. (Figures 2 and 3). Seven previously recorded sites, eight new sites and 179 isolated occurrences (IOs) were documented within the survey area. Site locations are shown in Figures 2 and 3 and IO locations are provided in Figure 4.

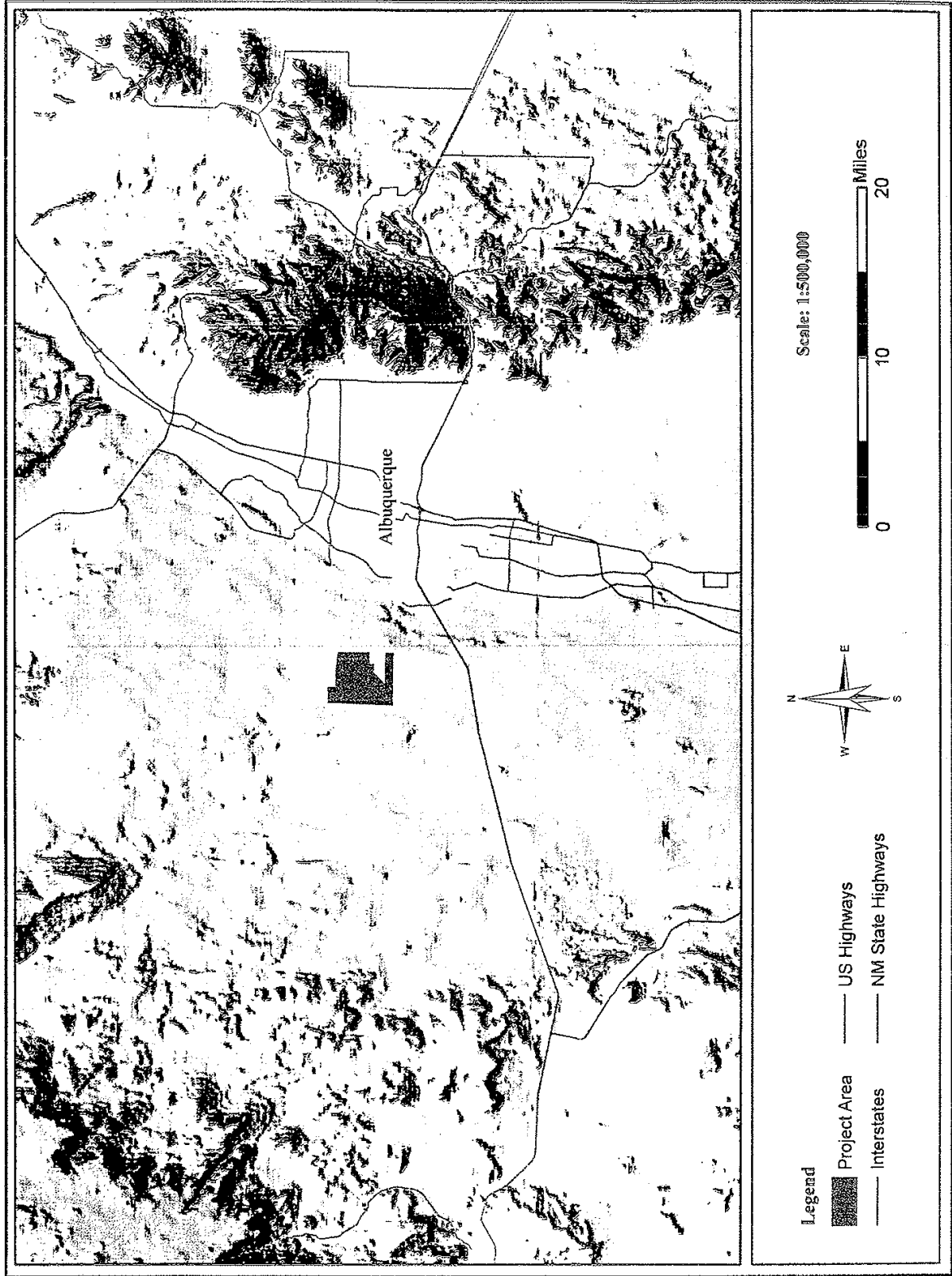


Figure 1: Survey Vicinity Map

**Exact location of identified resources is not disclosed to protect resource integrity.**

**Exact location of identified resources is not disclosed to protect resource integrity.**

**Exact location of identified resources is not disclosed to protect resource integrity.**

**Exact location of identified resources is not disclosed to protect resource integrity.**



Nine of the sites (LA 45282, LA 71199, LA 103036, LA 103054, LA 134644, LA 144337, and LA 144340–144342) are recommended eligible for inclusion in the National Register of Historic Places (NRHP). These sites should be avoided, if possible, by any future undertakings. The eligibility of the remaining six sites for inclusion in the NRHP is recommended as undetermined. Further investigation is necessary to evaluate the significance of five of these sites (LA 27592, LA 144336, LA 144338, LA 144339, LA 144343) and one site (LA 27591) could not be relocated and, therefore, could not be evaluated regarding NRHP eligibility. Until a recommendation can be made regarding these six sites they also should be managed as if they are eligible for inclusion in the NRHP.

Any future undertakings on the lands covered by this survey and report should be reviewed for their possible effects upon the eligible cultural resources (or those of undetermined eligibility) documented in this report. Those conclusions as to effect should be reviewed by all involved agencies and a report of the findings and management recommendations should be submitted to the New Mexico State Historic Preservation Officer (SHPO) for review.

### **ENVIRONMENTAL SETTING**

The survey area is located in Bernalillo County, New Mexico on the West Mesa (also known as the Ceja Mesa or the Llano de Albuquerque), overlooking the Rio Grande Valley and the city of Albuquerque. The mesa top slopes eastward toward the basalt escarpment located to the east of the survey area (Brandi 1999). Immediately east of the survey area in the Petroglyph National Monument lies a north-south oriented chain of five volcanoes. The highest of the volcanoes, Vulcan Volcano, reaches an elevation of 1854 m (6083 ft). Elevation in the survey area averages approximately 1768 m (5800 ft). The Rio Grande floodplain is located approximately 5.5 km (3.4 mi) to the east.

Albuquerque and its West Mesa fall within the Albuquerque Basin of the Rio Grande Subsection of the Mexican Highland Section of the Basin and Range Province in north-central New Mexico. The Basin and Range Province is characterized by block-faulted mountains that commonly have Precambrian cores overlain by Paleozoic sedimentary sequences. The basins separating the north-south oriented ranges have several basin-fill facies, including piedmont alluvium, fine-grained lake and playa sediments, coarse river deposits, and aeolian deposits (Hawley 1986). The West Mesa is one of 12 centers of volcanic activity within the Albuquerque Basin. The mesa is composed of a lava-flow field of nearly 104 square kilometers (40 square miles), which overlies several step-like terraces. The topography in the general vicinity of the survey area consists of flatlands, small volcanic cones, basalt push-ups, shallow drainages, and the steep West Mesa escarpment (Schmader and Hays 1986).

The lava-flow field overlays the Santa Fe Formation, a late Tertiary alluvial deposit composed primarily of sand and gravel deposits of the ancestral Rio Grande, Rio Puerco, and Jemez River (Kelly 1977). Santa Fe Formation sediments are visible on the surface in areas where lava flow coverage was incomplete or was thin and has since eroded. Santa Fe formation deposits provided prehistoric inhabitants with stone tool raw materials such as chert, quartzite, chalcedony, and petrified wood.

Soils in the survey area are derived chiefly from Santa Fe Formation alluvium, weathered basalt, and aeolian materials and include the Latene sandy loam, the Wink fine sandy loam, the Alameda sandy loam, the Madurez loamy fine sand, and the Kokan-Rock outcrop association. The Latene sandy loam is moderately permeable, moderately alkaline, and strongly calcareous. It is on nearly level to gentle slopes with moderate erosion. The Wink fine sandy loam occurs on the sides of low ridges with moderate to severe wind erosion. This soil is calcareous and permeability is moderate. The Madurez loamy fine sand occurs primarily on convex piedmont fans. It is also calcareous and moderately permeable. The Alameda sandy loam is a level to undulating soil overlying basalt flows. Water erosion is slight while wind erosion is moderate to severe. Permeability is moderate, and the soil is strongly calcareous and moderately alkaline. The Kokan-Rock outcrop association consists of the Kokan gravelly sand in association with basalt rock outcrops. Kokan soils have high permeability and are slightly calcareous and alkaline (Hacker 1977).

The climate in the vicinity is classified as semiarid to arid (Tuan et al. 1973), with annual precipitation averaging 178 to 250 mm (7 to 10 inches) (Bennett 1986; Hacker 1977). The majority of the rainfall occurs during afternoon summer thunderstorms. The frost-free season averages 170 to 195 days (Hacker 1977). The warm-temperate conditions for the area encompass a wide range of variation, with temperatures in the vicinity of the survey area sometimes climbing to 100 degrees F in the summer and dropping to below freezing in the winter, with elevation the strongest influence on temperature (Bennett 1986). The combined effect of elevation on temperature and precipitation results in high seasonality and marked variations in resource availability.

Desert Grasslands and Plains-Mesa Grasslands biotic communities characterize the survey vicinity. Shrub and grass species such as creosote, sagebrush, saltbush, and grama grasses dominate the landscape, while juniper and various cacti occasionally occur (Brown 1994; Dick-Peddie 1993). Currently the parcel in Section 35 is zoned as COA Open Space and the parcel in Section 36 is used for airport activities and an airport runway lies in the parcel. The parcel in Section 13 is zoned for City Aviation and the parcel in Section 14 is zoned as Open Space. This parcel is undeveloped, although there are utility lines and associated service dirt roads.

## **CULTURAL SETTING**

Several comprehensive overviews provide prehistoric and historic cultural context for the survey area, including Cordell (1979, 1997), Crollett, Seymour, and St. Germain (1995), Schmader and Hays (1986), Simmons (1982) and Stuart and Gauthier (1981). These syntheses provide the basis for the discussion below.

### **Paleoindian Period (10,000–5500 B.C.)**

The first well-documented human settlement of the Albuquerque area dates to the Paleoindian period, which is defined chiefly on the basis of distinctive lanceolate projectile points. The Paleoindian occupation began during the Late Pleistocene, at which time the climate in area was generally cooler and wetter than the present, supporting extensive grasslands and many species

of now extinct megafauna. Paleoindian settlement and subsistence is characterized as small groups of highly mobile hunter-gatherers focused on large game. In the Southwest the period is subdivided into the Clovis (10,000–9000 B.C.), Folsom (9000–8000 B.C.), and Plano (8000–5500 B.C.) complexes (Irwin-Williams 1979). Each complex is distinguished by unique projectile point styles, and slightly differing artifact assemblages and site types. Clovis sites are typically kill and butchering locations associated with mammoth and other now extinct megafauna. Folsom sites are also usually kill and butchering locations, but in association with the now extinct *Bison antiquus*. The Plano Complex incorporates several artifact complexes defined by distinctive projectile point types, including Plainview, Firstview, Agate Basin, Hell Gap, Alberta, Cody, and Frederick. Of these complexes Cody assemblages have been recorded in the Middle Rio Grande Valley. The Belen Complex, defined specifically in the Middle Rio Grande Valley, may be a local variant of Plainview (Huckell 2002). Plano sites continue to reflect mobile hunting groups, but with a focus on modern species of bison.

Several Paleoindian sites have been identified in the vicinity of the survey area. The few Clovis sites found are typically isolated occurrences of projectile points (Judge 1973). Several Folsom and Plano sites are known to exist on the West Mesa, in the plains to the southwest, and in the Sandia Mountains to the northeast (e.g., Brandi 1993, 1999; Hibben 1941; Huckell 2001, 2002; Huckell and Kilby 2000; Judge and Dawson 1972; Judge 1973; Marshall 1985).

#### **Archaic Period (5500 B.C.–A.D. 1)**

The transition from the Paleoindian period to the Archaic period is often characterized as a shift in subsistence practices. While Paleoindian groups focused on large game species, Archaic peoples exploited a broader range of plant and animal food sources. This shift is usually attributed to large-scale climatic changes and the extinction of megafauna necessitating a more diverse subsistence base. These changes are reflected in tool assemblages, marked by a shift to smaller projectile points and the introduction of groundstone tools. Artifact assemblages become more diverse in general and sites are located in a greater variety of environmental and topographic contexts.

Cynthia Irwin-Williams' (1973) definition of the Oshara Tradition provides the framework for Archaic period developments in the Middle Rio Grande Valley area. This framework, based on work in the Arroyo Cuervo area west of Albuquerque, divides the Archaic period into six phases (Jay, Bajada, San Jose, Armijo, En Medio, and Trujillo) on the basis of lithic artifact assemblages, particularly projectile point attributes, and on other attributes such as site size and complexity. Small seasonal base camps and limited activity sites, both of which reflect a highly mobile hunter-gatherer adaptation, characterize the earlier phases. Through time there is an increase in the use of plant resources, an increase in site frequency, and an elaboration and enlargement of the base camps (Cordell 1979). The lithic technology becomes more expedient, with carefully executed bifaces and projectile points showing a marked decrease, in contrast to an increase in the number of large choppers and side scrapers. The Bajada and San Jose phases denote the addition and development of large subsurface earthen ovens and a substantial increase in the number of groundstone implements. The Armijo phase is characterized by population aggregation into small villages and the introduction of maize cultivation. During the En Medio phase there was an expansion of sites into the dunal environment of the West Mesa along with a

continued increase in overall site frequency. The final, Trujillo, phase in Irwin-Williams' (1973) chronology denotes major changes in technology including the introduction of ceramics and the bow and arrow, traits which define the inception of the Basketmaker III period in the Pecos Classification.

Evidence of Archaic occupation in the vicinity of the survey area is common. According to Cordell (1979), however, Archaic sites are typically situated well above the Rio Grande floodplain on terraces and in rockshelters. While no early Archaic sites have been documented in the lowlands of Albuquerque, numerous sites have been recorded and excavated in the uplands to the west. Recent archaeological investigations in the Rio Puerco Valley have documented multiple aggregated village sites dating primarily to the En Medio and Trujillo phases (Fletcher 1998, Kovacik 1998). Sites of similar age have also been excavated to the north of the survey area, on the West Mesa near Rio Rancho (Brandi 1993). Within the Rio Grande Valley, Late Archaic age components have been identified during excavation at the Montano Bridge site, LA 33223 (Gossett and Gossett 1988).

### **Basketmaker III-Pueblo I/Early Developmental Period (A.D. 1-900)**

Two comprehensive cultural/temporal classification schemes can be used to describe the prehistoric ancestral Puebloan (Anasazi) occupation of the Albuquerque area. The first sequence is the Pecos Classification (Kidder 1927), which includes Basketmaker III, and Pueblo I-IV periods. This framework was devised to organize data pertaining to pan-Southwestern prehistory. The next sequence was developed specifically for the Rio Grande Valley by Wendorf (1954) and Wendorf and Reed (1955). The Rio Grande sequence includes Developmental, Coalition, and Classic periods, which cover roughly the same broad time span as the Pecos Classification, but accounts for temporal and spatial distinctions particular to the Rio Grande Valley. In addition, Reinhart (1969) has defined two local phases (Rio Rancho and Alameda) based on work in the Rio Rancho area west of Albuquerque. The first of these phases dates to the late Archaic while the Alameda phase corresponds to Basketmaker III. Both Reinhart (1969) and Irwin-Williams (1973) interpret the shift from the Archaic to Puebloan cultures as a gradual, *in situ*, development from ancestral Archaic occupations.

The inception of the Basketmaker III period is defined by the use of new technology such as ceramics and the bow-and-arrow, and a shift to more formalized, permanent habitations such as pithouse structures. The late Basketmaker III and Pueblo I Periods are not well-defined for the Albuquerque area. Climactically the period is marked by drought and substantial erosion, which probably accounts for the shift from cultivation in the narrow canyon floodplains to cultivation almost exclusively in broad valley bottoms (Irwin-Williams 1973). Irwin-Williams notes that there is a concomitant shift in settlement location from cliff-base shelters in canyons to open sites. These developments are associated with an increased reliance on agriculture. Sites dating to this time period are highly variable in their assemblage composition and features (Stuart and Gauthier 1981). In the Albuquerque area this period is marked by the appearance of pithouse villages. Documented sites of this age in the region can be found near Sandia Pueblo, Tijeras Canyon, and on the sandy terraces and hilltops west of the Rio Grande (Cordell 1997).

### **Pueblo II/Late Developmental Period (A.D. 900–1200)**

During the Pueblo II period, pithouses with more formalized floor features continued, but people began to employ aboveground adobe roomblock construction. Settlements were predominately located near fertile floodplains or at the confluence of major drainages, with population aggregation becoming more common. It is during the Pueblo II period that Chaco Canyon and the surrounding San Juan Basin witnessed their greatest building episodes and cultural florescence. A contemporaneous florescence did not, however, take place in the Albuquerque area. In the vicinity of the survey there is little evidence of behavioral change from that of the previous period and sites persisted in the same general locales (Cordell 1979).

### **Pueblo III/Late Developmental-Coalition Period (A.D. 1200–1300)**

The Pueblo III period in the Southwest witnessed a dramatic demographic shift from Chaco Canyon to the Mesa Verde region. The shift corresponds with a restructuring of economic networks, periodic abandonment of pueblos, and an emphasis on defense in the location of settlements. In the Albuquerque area the period is characterized by more widespread use of aboveground adobe roomblock residences, although pithouses continued to be used as well. During this period most of the large pueblos in the vicinity of the survey area were located on the first terraces overlooking the Rio Grande Valley, while pueblos further west experienced a decrease in population density. There was an overall increase in trade with outside areas that is expressed in a wide variety of new imported ceramic types (Cordell 1997).

### **Pueblo IV/Classic Period (A.D. 1300–1600)**

During the Pueblo IV/Classic period the San Juan Basin and Mesa Verde areas experienced large decrease in population, with a shift in settlement to areas with permanent water sources, such as the Rio Grande Valley. Wendorf and Reed (1955) define this period as a time of “cultural florescence” defined by a peak in population density and an elaboration of material culture. Diagnostic traits include glaze-paint ceramics, stone effigies, kiva murals, and population aggregation into a few large pueblos. The majority of petroglyphs on the West Mesa escarpment are also thought to date to this period, and may relate to the introduction of the widespread Kachina cult (Schaafsma and Schaafsma 1975). Some of the large Pueblo IV settlements in the vicinity of the survey area are Corrales Pueblo, Kuaua Pueblo, Santiago Pueblo, Puaray Pueblo, Alameda Pueblo, and Calabacillas Pueblo. All of these pueblos are located on benches or in the floodplain adjacent to the Rio Grande.

While there is a clear dependence on maize agriculture and extensive trading networks during the late Puebloan Period, a semi-sedentary lifestyle only partly dependent on cultivated plants persisted in some areas of the Rio Grande Valley until European contact.

### **Historic Period (post-A.D. 1540)**

European contact in the area occurred in the mid-sixteenth century with the arrival of the Spanish conquistadors of the Coronado expedition. Pueblo populations in the area were primarily aggregated in a few large settlements at this time, and Apachean groups may have utilized some

areas of the Middle Rio Grande Valley (Berman 1979). The subsequent years of conflict between the Spanish and indigenous groups resulted in a large-scale population displacement and the ruin of many pueblos. Due to warfare and newly introduced diseases, the native population declined dramatically following contact.

The Historic Period in the region is typically defined with the beginning of Spanish colonization, with the arrival of Don Juan de Oñate at the Tiquex villages along the Middle Rio Grande Valley in 1598. In the Albuquerque area, substantial (but rapidly declining) Pueblo populations precluded significant Spanish settlement until the mid-1600s, by which time several dozen *estancias* were scattered in the Middle Rio Grande Valley. Initial occupation in the area lasted until the Pueblo Indian Revolt of 1680, at which time all of the Spanish *estancias* in the area were abandoned. Reconquest by the Spanish occurred in 1692, with an expedition led by Don Diego de Vargas. During the revolt and subsequent reconquest, the Rio Grande pueblos were ravaged, often abandoned and only sometimes later reoccupied. Numerous land grants were awarded to encourage European settlement, including the nearby Alameda and Atrisco grants. The Alameda Land Grant was established in 1710; the Atrisco Land Grant pre-dates the revolt but was re-established in 1692. Atrisco, like most of the settlements in the area at this time, was centered on sheep herding. This community was officially recognized in 1703, a few years prior to the villa of Albuquerque, which was formally recognized in 1706 (Simmons 1982).

The primary use of the survey vicinity continued to be for livestock grazing until the late 1880s. The arrival of the Atchison, Topeka, and Santa Fe Railway in Albuquerque in 1880 brought dramatic increases in Anglo-American settlement and promoted economic growth and expansion that, until very recently, extended almost exclusively to the east of the river. Albuquerque witnessed rapid growth during and following World War II, in large part due to the establishment and growth of the Albuquerque Army Air Base (later to become Kirtland Field and then Kirtland Air Force Base) and the related Sandia National Laboratories.

Kirtland Field used the West Mesa for several bombing ranges during WWII, including areas within, and in the vicinity of Double Eagle Airport. From 1941 to 1945 bombardiers flew AT-11 and B-18 aircraft to these ranges for target practice using 100-lb concrete and 100-lb sand-filled "practice" bombs, and 250-lb general purpose high explosive bombs. Numerous sites consisting of the remains of ground targets and/or ordnance and explosives waste (OEW), (e.g., scrap metal from practice bombs) have been identified in the area (U. S. Army Public Information Retrieval System 1994).

Degradation of the West Mesa environment followed the rapid post-war growth of Albuquerque, and residential and commercial development on the mesa itself, with the open land of the mesa increasingly subjected to trash dumping, target shooting, off-road vehicle use, and vandalism of petroglyphs. The City of Albuquerque responded by acquiring various parcels of West Mesa land under its Open Space program, beginning in 1961 (Brandi 1999). In 1985 a large portion of the basalt escarpment was surveyed and subsequently nominated to the NRHP as the Las Imagines Archeological District (Schmader and Hays 1986). The results of the survey and efforts of several local conservation and preservation groups contributed to the establishment of the Petroglyph National Monument in 1990, which protects 7,244 acres of land located immediately east of the survey area (Brandi 1999).

## PREVIOUS RESEARCH

### Records Search

Prior to the initiation of fieldwork, a pre-field site records search was conducted at the Museum of New Mexico Laboratory of Anthropology, Archaeological Records Management Section (ARMS), on January 15, 2002. The search included a review of the current listings of the New Mexico State Register of Cultural Properties (NMSRCP) and the NRHP. The purpose of the search was to identify any previous surveys and previously recorded cultural properties within or in the vicinity (a one-mile radius) of the survey area.

Site densities are high within the survey area and vicinity. Eleven previously recorded sites are plotted within the survey boundaries and an additional 80 sites are located within a one-mile radius surrounding the survey area (Table 1). None of the sites in the survey area are listed on either the NMSRCP or the NRHP.

Previously recorded sites in the survey area and vicinity include occupations dating from Paleoindian to Recent times (9500 B.C.–present). Sites representing Paleoindian, Archaic, Ancestral Puebloan (Anasazi), Spanish Contact/Colonial, Mexican, Territorial, New Mexico Statehood, and Recent occupation periods are all present. Prehistoric site types include lithic scatters, lithic and ceramic scatters, lithic quarries, rockshelters, petroglyphs, and sites with architectural and/or other features. Historic sites include artifact scatters, petroglyphs, and architectural feature sites.

**Table 1: Previously Recorded Sites**

LA #	Site Type	Cultural/Temporal Affiliation	Location (UTM, Zone 13, NAD 27)
<i>Sites plotted within the survey area</i>			
27591	Prehistoric, Structural	Anasazi Pueblo IV AD 1325-1400	337615E, 3893222N
27592	Prehistoric, Non-Structural	Unspecified Archaic 5500 BC-AD 900	333640E, 3889451N
45282	Prehistoric and Historic, Structural	Anasazi Pueblo IV AD 1300-1600, Anglo/Euroamerican AD 1846-1912	337610E, 3888250N
54655	Prehistoric, Non-Structural	Anasazi Pueblo I AD 700-900	334620E, 3893960N
54656	Prehistoric, Non-Structural	Unspecified 9500 BC-AD 1993	334480E, 3893870N
54657	Prehistoric, Non-Structural	Unspecified 9500 BC-AD 1993	335290E, 3893170N
54658	Prehistoric, Non-Structural	Unspecified Archaic 5500 BC-AD 900	334370E, 3892530N
71199	Prehistoric and Historic, Structural	Unspecified Archaic 5500 BC-AD900, Anasazi Pueblo III AD 1100-1300, Recent Historic AD 1945-1993	336215E, 3891025N
103036	Historic, Structural	Anglo/Euroamerican AD 1941-1945	337030E, 3892850N
103054	Historic, Non-Structural	NM Statehood AD 1941-1942	333271E, 3893640N
134644	Prehistoric, Non-Structural	Paleoindian (Folsom) 9000-8000 BC	337770E, 3892910N

*Double Eagle II Cultural Resource Inventory, Bernalillo County*

LA #	Site Type	Cultural/Temporal Affiliation	Location (UTM, Zone 13, NAD 27)
<i>Sites plotted outside of the survey area (within 1 mile)</i>			
27593	Unknown, Structural	Unspecified 9500 BC-AD 1993	334591E, 3890160N
29564	Historic, Structural	Unspecified Historic AD 1539-1998	337954E, 3893140N
29565	Unknown, Structural	Unspecified Prehistoric 9500 BC-AD 1993, Unspecified Historic AD 1539-1993	338308E, 3893758N
29566	Historic, Structural	Unspecified Historic AD 1539-1993	338970E, 3893653N
29567	Historic, Structural	Unspecified Historic AD 1539-1993	340082E, 3894130N
29568	Prehistoric and Historic, Structural	Unspecified Prehistoric 9500 BC-AD 1993, Unspecified Historic AD 1539-1993	340152E, 3894098N
29570	Prehistoric, Structural	Unspecified Anasazi AD 1-1600	340503E, 3894186N
29571	Historic, Structural	Unspecified Historic AD 1539-1993	340810E, 3894147N
29572	Historic, Structural	Unspecified Historic AD 1539-1993	340774E, 3894051N
29573	Historic, Structural	Unspecified Historic AD 1539-1993	340601E, 3894022N
29574	Historic, Structural	Unspecified Historic AD 1539-1993	339761E, 3893651N
29575	Historic, Structural	Unspecified Historic AD 1539-1993	339503E, 3891093N
29576	Prehistoric, Structural	Unspecified Anasazi AD 1-1600	340530E, 3891810N
29577	Historic, Structural	Unspecified Historic AD 1539-1993	340840E, 3891700N
29578	Historic, Structural	Unspecified Historic AD 1539-1993	339368E, 3890501N
29579	Historic, Structural	Unspecified Historic AD 1539-1993	339666E, 3890514N
45268	Unknown, Non-Structural	Unspecified 9500 BC-AD 1993	338230E, 3888200N
45269	Historic, Structural	Unspecified Historic AD 1912-1945	338340E, 3889000N
45270	Unknown, Non-Structural	Unspecified 9500 BC-AD 1993	339200E, 3888825N
45271	Prehistoric and Historic, Structural	Folsom/Midland 9000-8000 BC, Pueblo/ Spanish Contact AD 1539-1680	339100E, 3889110N
45272	Historic, Structural	Anglo/Euroamerican AD 1945-1993	338900E, 3889050N
45273	Historic, Structural	Anglo/Euroamerican AD 1945-1993	338670E, 3888350N
45274	Historic, Structural	Anglo/Euroamerican AD 1945-1993	338550E, 3888700N
45276	Prehistoric and Historic, Structural	Anasazi Pueblo IV AD 1300-1600, Unspecified Historic AD 1539-1993	338650E, 3890050N
45277	Unknown, Structural	Unspecified 9500 BC-AD 1993	338700E, 3889940N
45278	Prehistoric, Structural	Anasazi Pueblo IV AD 1300-1600	338600E, 3889870N
45279	Unknown, Structural	Unspecified 9500 BC-AD 1993	338500E, 388945N
45280	Prehistoric and Historic, Structural	Anasazi Pueblo III AD 1100-1300, Anglo/Euroamerican AD 1912-1945	338575E, 3888500N
45281	Historic, Structural	Unspecified Historic AD 1539-1993	338990E, 3889090N
45531	Unknown, Structural	Unspecified 9500 BC-AD 1993	331575E, 3889650N
45534	Unknown, Structural	Unspecified 9500 BC-AD 1993	331900E, 3891975N
45536	Unknown, Structural	Unspecified 9500 BC-AD 1993, Anasazi Pueblo III AD 1100-1300	331000E, 3891775N
45556	Historic, Non-Structural	Anglo/Euroamerican AD 1912-1945	332775E, 3890225N
45569	Prehistoric, Non-Structural	Unspecified 9500 BC-AD 1993	333660E, 3891320N
45590	Prehistoric, Structural	Unspecified Anasazi AD 1-1600	341325E, 3891575N
45591	Historic, Structural	Unspecified Historic AD 1539-1993	341375E, 3891575N
45592	Prehistoric and Historic, Structural	Unspecified Anasazi AD 1-1600, Unspecified Historic AD 1539-1993	341050E, 3891550N
45593	Prehistoric, Structural	Unspecified Anasazi AD 1-1600	341100E, 3891650N
45604	Historic, Structural	Unspecified Historic AD 1539-1993	341100E, 3891475N
45611	Prehistoric, Structural	Anasazi Pueblo IV AD 1300-1600	341050E, 3891675N
46426	Unknown, Structural	Unspecified 9500 BC-AD 1993	338740E, 3892730N



*Double Eagle II Cultural Resource Inventory, Bernalillo County*

LA #	Site Type	Cultural/Temporal Affiliation	Location (UTM, Zone 13, NAD 27)
46427	Unknown, Structural	Unspecified 9500 BC-AD 1993	338600E, 3892710N
46428	Historic, Structural	Unspecified Historic AD 1539-1993	338700E, 3892640N
46429	Prehistoric and Historic, Structural	Unspecified Anasazi AD 1-1600, Unspecified Historic AD 1539-1993	338640E, 3892610N
46430	Unknown, Structural	Unspecified 9500 BC-AD 1993	338480E, 3892570N
46431	Prehistoric and Historic, Structural	Unspecified Late Archaic 1000 BC- AD 550, Anasazi Pueblo I-IV AD 700-1600, Historic Hispanic AD 1692-1945	338640E, 3891880N
46432	Unknown, Structural	Unspecified 9500 BC-AD 1993	338620E, 3891810N
46433	Unknown, Structural	Unspecified 9500 BC-AD 1993	338580E, 3891870N
46434	Unknown, Structural	Unspecified 9500 BC-AD 1993	338620E, 3891740N
46435	Historic, Structural	Unspecified Historic AD 1539-1993	338680E, 3891780N
46436	Historic, Structural	Unspecified Historic AD 1539-1993	338690E, 3893180N
46437	Prehistoric, Structural	Unspecified 9500 BC-AD 1993	338720E, 3893210N
49629	Unknown, Structural	Unspecified 9500 BC-AD 1993	341340E, 3894320N
49630	Historic, Structural	Hispanic Historic AD 1539-1993	340260E, 3894915N
49828	Unknown, Structural	Unspecified 9500 BC-AD 1993	343250E, 3892000N
52079	Unknown, Structural	Unspecified 9500 BC-AD 1993	343090E, 3892450N
52080	Prehistoric, Structural	Unspecified Anasazi AD 1-1600	343330E, 3892330N
52081	Prehistoric, Structural	Anasazi Pueblo III-IV AD 1100-1600	343350E, 3892420N
52082	Prehistoric, Structural	Anasazi Pueblo III-IV AD 1100-1600	343420E, 3892130N
52083	Prehistoric, Structural	Unspecified Anasazi AD 1-1600	343750E, 3892270N
52084	Historic, Structural	Unspecified Historic AD 1539-1993	343820E, 3892080N
54659	Prehistoric, Non-Structural	Unspecified 9500 BC-AD 1993	338380E, 3892440N
54661	Prehistoric, Non-Structural	Paleoindian 9500-5500 BC, Anasazi Basketmaker II AD 1-500	337910E, 3891630N
55494	Unknown, Non-Structural	Unspecified 9500 BC-AD 1993	343420E, 3891240N
60755	Unknown, Structural	Unspecified 9500 BC-AD 1993	340230E, 3894250N
60756	Historic, Structural	Hispanic Historic AD 1539-1993	340760E, 3893850N
61081	Prehistoric, Non-Structural	Paleoindian 9500-5500 BC	333600E, 3891370N
61082	Prehistoric, Non-Structural	Early Archaic 5500-3000 BC	333700E, 3891860N
69703	Prehistoric and Historic, Structural	Anasazi Pueblo II-III AD 900-1300, Anasazi Pueblo IV AD 1300-1600, Anglo/Euroamerican 1539-1993	339080E, 3895200N
69705	Prehistoric, Non-Structural	Unspecified Archaic 5500 BC-AD 900	337540E, 3894000N
69706	Unknown, Non-Structural	Unspecified 9500 BC-AD 1993	337900E, 3895410N
76951	Prehistoric, Structural	Late Archaic 500BC-AD 400, Anasazi Pueblo II-III AD 900-1300	336413E, 3895350N
76952	Prehistoric, Non-Structural	Late Archaic 1800 BC-AD 200	336229E, 3895320N
103725	Historic, Structural	Spanish Contact/Colonial AD 1539-1680	343025E, 3892395N
103726	Prehistoric, Non-Structural	Anasazi Pueblo IV AD 1300-1600	343130E, 3893040N
126422	Prehistoric, Structural	Unspecified Archaic 5500 BC-AD 200	336520E, 3895350N
126423	Prehistoric, Structural	Unspecified Archaic 5500 BC-AD 200	335970E, 3895390N
126424	Prehistoric, Structural	Unspecified Archaic 5500 BC-AD 200	335090E, 3895710N
132556	Prehistoric, Structural	Anasazi Pueblo III AD 1100-1300	342350E, 3891800N
132557	Unknown, Structural	Unspecified 9500 BC-AD 1993	342300E, 3891110N

### **Previous Investigations**

Several large-scale surveys have been conducted relatively recently in the survey area and general vicinity (Brandi 1999; Huckell 2002; Rodgers 1980; Schmader and Hays 1986), as well as a number of smaller or less-recent projects (e.g., Beal 1978; Cross-Cultural Research Systems 1991; Johnson 1976; Reycraft 2001; Rodgers 1978; Ward 1978). In 1980 the Center for Anthropological Studies conducted a 100-percent survey overlapping the current survey area prior to the construction of Double Eagle Airport (known as the West Mesa Airport at that time) (Rodgers 1980). During that survey of 1751.6 ha (4326.5 ac), four archaeological sites and 802 "non-site loci" (primarily isolated lithic artifacts) were recorded. The sites include a large lithic quarry and tool manufacturing site thought to date to the late Archaic (LA 27592), a group of prehistoric farming terraces (LA 27591), a possible Pueblo IV/Classic period shrine (LA 27593), and purported sheep corrals constructed of basalt cobbles and boulders, dating to the early twentieth century (LA 27594).

In a 1985 survey of 445 ha (1100 ac) conducted for the Open Space Division of the Parks and Recreation Department, City of Albuquerque, 67 archaeological sites were identified along the West Mesa escarpment, including the massive Las Imágenes petroglyph site (LA 52100). This project led to the NRHP nomination of the Las Imágenes Archeological District (Schmader and Hays 1986) and contributed to the establishment of the Petroglyph National Monument immediately east of the current survey area. A survey of approximately half of the 2933-ha (7244-ac) monument recorded 214 new archaeological sites, 1878 IOs, and approximately 270 petroglyphs.

A recently completed survey of 445 ha (1129 ac) directed by Bruce Huckell of the Maxwell Museum of Anthropology University of New Mexico focused on re-evaluating Paleoindian settlement and use of the West Mesa in the vicinity of the Albuquerque Volcanoes (Huckell 2002). The project overlapped portions of the current survey area and two (LA 134642 and LA 27594) of the sites recorded during that survey fall within the boundaries of the current land exchange. LA 134642 is a Paleoindian site, newly recorded during the Huckell survey, consisting of a scatter of flaked-stone tools and debitage. LA 27594 is a previously recorded site of two rock alignments of unknown function and affiliation, similar to features that others have recorded as sheep pens (e.g., Rodgers 1983 [this site was assigned LA 134643 by Huckell])

Cultural resources encountered during the current survey are consistent with the above-mentioned investigations and other previous research in the vicinity of the survey area, which indicate that prehistoric use of the area was primarily for short-term occupations related to specialized activities such as lithic tool procurement and manufacturing, plant and animal procurement and processing, and agriculture. Historic use is primarily related to livestock grazing, although the area around the airport was used for a period during WWII as a practice bombing range. In addition, ceremonial activities are evidenced by possible shrine features and thousands of petroglyphs (both prehistoric and historic), located primarily on the nearby basalt escarpment of the mesa. No petroglyphs were identified during the current survey, but that is to be expected because the area does not contain the basalt plugs found closer to the volcanoes or the wall faces on the escarpment.

## METHODS

An intensive (100-percent) pedestrian survey of the project area was completed between January 22 and April 30, 2002 by TEC personnel. The principal investigator was Gerry Raymond, and the field supervisor was Christopher Carlson. Field crew members were Adam Sullins, Christa Burrus, and Peter Sheldon.

In addition to the 2002 survey, TEC also conducted additional fieldwork in the survey area on March 23 and April 28 and 29, 2004. Fieldwork in 2004 consisted of revisits to a sample of sites recorded during the 2002 survey, for the purpose of quality-control monitoring of the 2002 fieldwork. This quality check was done because of the lag in time between the fieldwork and report preparation and because the supervisory personnel involved in the 2002 survey are no longer employed by TEC. In addition, because of the dynamic aeolian environmental setting of the survey area it was thought that some sites that could not be relocated in 2002 might now be exposed. One additional previously recorded site (LA 103054) was relocated on March 23, 2004 and is documented in this report.

The survey was conducted in 2002 by walking compass-oriented parallel transects spaced at intervals no greater than 15 m (50 ft). Surface visibility ranged from about 60 to 90 percent and the sparse vegetation in most areas provided excellent ground visibility. The survey area was located using topographic features and landmarks found on *The Volcanoes, NM* 7.5-minute USGS quadrangle map and verified with GPS receivers. Engineering maps provided by MCA were also used as needed.

Sites were defined as any location of purposeful prehistoric or historic human activity that, in general, pre-dates 1950. Cultural remains, which include at least one of the following, were defined as sites:

1. one or more features
2. an occurrence of cultural material which contains at least one of the following: three or more classes of artifacts or materials, two classes of artifacts or materials in a density of at least ten items per 100 square meters, or a single artifact class or material in a density of at least 25 items per 100 square meters

Cultural remains that did not meet the above criteria were defined as isolated occurrences (IOs). IOs generally consist of single artifacts or artifact scatters of extremely low density and number (less than 10), or that represent a single event or unintentional activity, such as a single tool-making episode or a pot drop.

The locations of sites and IOs were marked on the 7.5-minute USGS quadrangle map and verified with GPS receivers. IOs were analyzed and described in the field and culturally and/or temporally diagnostic IOs were illustrated. Sites were recorded on Laboratory of Anthropology Site Record forms and a site sketch map was prepared for each site. A site datum in the form of an aluminum bar marked with the TEC field site number was placed on each site and plotted on the site sketch map. A representative sample of artifacts was recorded at each site, using supplemental analysis forms.

## RESULTS OF SURVEY

Seven previously recorded sites, eight new sites and 179 IOs were identified and documented. Site locations are shown in Figure 2 and IO locations are provided in Figure 3. The IOs are detailed in Table 2 below, and descriptions of the sites and recommendations regarding their eligibility for inclusion in the NRHP follow.

Four previously recorded sites that are plotted within the survey area boundary could not be relocated. These four sites (LA 54655, LA 54656, LA 54657, and LA 54658) are all small artifacts scatters that were recorded in 1968 by the University of New Mexico, Department of Anthropology (Reinhart 1969). When these sites were not found during the 100-percent pedestrian survey, TEC personnel returned to their recorded UTM locations and resurveyed the site areas and surrounding areas in 2002 and again on March 23, 2004. Two of the sites (LA 54657 and LA 54658) may have been obscured by the surficial spreading of effluent, which has been conducted by the City of Albuquerque Soil Amendment Facility in the northwestern portion of the survey area (see Figures 2). Alternatively, the sites may not have been relocated because few or no artifacts remain on the sites as the site records available at ARMS for all of these sites indicate unspecified surface collections were made in 1968.

Table 2: Isolated Occurrences

IO	Description	Easting:	Northing:
1	Number Not Used.		
2	Number Not Used.		
3	Number Not Used.		
4	Number Not Used.		
5	One brownware sherd with a coarse temper; 5mm thick.	335921	3890226
6	Eleven matchstick venthole cans embossed with "punch here" (1935 to 1945 [Simonis 1998]), four indeterminate sanitary cans, and one lid.	333793	3888449
7	One hole-in-cap can, one rectangular tin lid with an inner vent barricade fastened by a solder dot, one machine-soldered rectangular tin can, and one sanitary can with lead machine solder on the inside rim.	333544	3888499
8	One green glass bottle embossed with "Federal Law Prohibits Sale or Re-Use of this Bottle" (1933 to 1964) and "James Buchanan & Co. Ltd, Glasgow, Scotland."	336115	3888658
9	One crushed hole-in-cap can that is heavily oxidized.	333257	3888751
10	One three-piece hand-soldered sardine can (1850 to 1880) and one nondiagnostic two-piece sardine can.	333042	3888894
11	One cylindrical metal container with a threaded spout on the top and hand soldered seams along the side and around the spout—possible fuel can.	333357	3888796
12	One crushed upright-hinged tobacco can with a striker on the bottom (1892 to 1924).	334090	3889080
13	One broken chalcedony interior flake, 2 cm to 4 cm.	333966	3889260
14	One crushed rusted metal practice bomb.	333015	3889358
15	One red and yellow banded chert secondary flake, 2 cm to 4 cm	333002	3889385
16	One rusted metal practice bomb with a coiled metal wire housing protruding from the bottom and about 10 30-inch-long metal pieces	388139	3889395

*Double Eagle II Cultural Resource Inventory, Bernalillo County*

IO	Description	Easting:	Northing:
	protruding from the outer bottom surface.		
17	One rusted metal cone-like cylinder (possible practice bomb),	333962	3889384
18	One piece of metal that is flat and rusted (may be a practice bomb fin), and a metal M1A1 initiator disk.	333393	3889471
19	One metal M1A1 initiator disk.	333380	3889621
20	One can with a friction lid (possible baking powder can)	333465	3889677
21	One white chert exterior flake 2 cm to 4 cm	333160	3889793
22	One metal practice bomb fragment, model M 85 or M38A2	333953	3889767
23	One crushed upright hinged tobacco tin (1892 to 1924), one metal practice bomb fragment, model M 85 or M38A2, and one metal bomb fin.	333766	3889804
24	One white chert interior flake 2 cm to 4 cm.	333961	3889800
25	One metal M1A1 initiator disk.	333011	3890021
26	One white chert interior flake 2 cm to 4 cm.	333173	3890021
27	Eight pieces of sun-colored amethyst glass.	333529	3889941
28	One metal lard bucket embossed with "CANCO" (1930 to 1940).	333935	3889947
29	One metal M1A1 initiator disk and one white chert interior flake 4+ cm.	333033	3890070
30	One metal M1A1 initiator disk.	336993	3893105
31	One metal practice bomb fragment, model M 85 or M38A2.	333008	3890491
32	One metal bomb fin.	333298	3891239
33	Number Not Used.		
34	One white chert exterior flake 4+ cm.	333535	3890385
35	One metal M1A1 initiator disk, one metal cone (not a nose cone), and one metal practice bomb fragment (model M 85 or M38A2).	333697	3890685
36	One white with black intrusions chalcedony flake, 4+ cm.	334325	3888976
37	One metal bomb fin, and one metal practice bomb fragment (model M 85 or M38A2).	335874	3888986
38	One metal practice bomb fragment, model M 85 or M38A2.	335977	3889003
39	Number Not Used.		
40	One broken gray chert exterior biface with less than 10 percent cortex, 2 cm to 4 cm	334434	3889067
41	One white with red inclusions chert biface-thinning flake, 2 cm to 4 cm; one piece of chalcedony angular debris, 2 cm to 4 cm; one piece of white chert angular debris, 4+ cm; and one piece of red glass (rim).	334397	3889049
42	Two interior chalcedony flakes, 2 cm to 4 cm and one brown chert interior flake, 2 cm to 4 cm.	334285	3889006
43	One clear glass bottle with a screw-top cap, embossed with "Anchor Hocking" (1920 to 1964).	336880	3888489
44	One exhausted chalcedony core, 2 cm thick and six pieces of light green "Coca-Cola" glass.	336577	3888575
45	One crushed sanitary can and one friction lid.	337384	3888690
46	Twelve oil cans embossed with "Conoco" and one wood saw blade.	336061	3892641
47	Number Not Used.		
48	Number Not Used.		
49	Number Not Used.		
50	Number Not Used.		
51	Number Not Used.		
52	Number Not Used.		
53	Number Not Used.		
54	Two metal practice bomb fragments (model M 85 or M38A2) and one metal M1A1 initiator disk.	336372	3893732
55	One clear glass bottle with screw top embossed with "For COUGHS	336631	3893629

*Double Eagle II Cultural Resource Inventory, Bernalillo County*

IO	Description	Easting:	Northing:
	due to COLDS" and "CREOMULSION."		
56	One white chert interior flake.	335782	3893526
57	One tan chert projectile point, 3 cm.	335495	3893547
58	One metal propeller blade (associated with practice bomb or fuze), and one piece metal shrapnel.	336786	3893400
59	One metal propeller blade (associated with practice bomb or fuze).	335328	3893396
60	One metal propeller blade (associated with practice bomb or fuze).	335670	3893406
61	One metal propeller blade (associated with practice bomb or fuze).	334470	3893386
62	One metal propeller blade (associated with practice bomb or fuze).	333950	3893481
63	One metal M1A1 initiator disk.	336880	3893334
64	One metal M1A1 initiator disk.	336364	3893221
65	One metal M1A1 initiator disk.	337186	3893257
66	Forty-five pieces of metal shrapnel.	336993	3893052
67	One 2-ft diameter by 2-ft deep depression with metal practice bomb fragment, model M 85 or M38A2.	336254	3893085
68	One friction lid and one indeterminate can lid.	336055	3892997
69	One metal practice bomb fragment (model M 85 or M38A2) and two metal M1A1 initiator disks.	336234	3892959
70	One metal practice bomb fragment (model M 85 or M38A2) and one metal bomb fin.	336703	3893018
71	One metal practice bomb fragment, model M 85 or M38A2.	336928	3893006
72	One metal M1A1 initiator disk and one friction lid.	336436	3892901
73	One metal practice bomb fragment, model M 85 or M38A2.	336366	3892876
74	One glass container with an Anchor Hocking maker's mark (1920 to 1964).	335298	3889800
75	One metal practice bomb fragment, model M 85 or M38A2.	334711	3889205
76	One red chert biface, 4 cm.	334548	3889233
77	One gray chert core, 8 cm by 10 cm by 6 cm.	335251	3889908
78	One metal practice bomb fragment (model M 85 or M38A2) and one white chalcedony exterior flake, 4+ cm.	334916	3889728
79	One metal practice bomb fragment, model M 85 or M38A2.	334335	3889462
80	One metal M1A1 initiator disk.	334478	3889467
81	One metal practice bomb (model M 85 or M38A2) or metal parachute flare fragment (M8A1/M24).	333000	3890700
82	One metal parabolic light that reads "Ford" on the top and "Brown" on the bottom (possibly from a 1930s model vehicle).	334630	3889674
83	One clear glass bottle (possible Owens-Illinois maker's mark).	334933	3889861
84	One white chalcedony exterior flake, 2 cm to 4 cm and one piece of chalcedony angular debris, 2 cm to 4 cm.	334168	3889649
85	One metal practice bomb fragment, model M 85 or M38A2.	334154	3889724
86	One white chalcedony interior flake.	334360	3889835
87	One hubcap (possibly from a military vehicle—olive green in color), one brown glass bottle with screw cap, and three pieces of clear glass with screw cap (Knox Glass Bottle Co. of Mississippi maker's mark [1932 to 1953 or later] on one piece).	334745	3890020
88	One metal M1A1 initiator disk and one metal practice bomb fragment (model M 85 or M38A2).	334937	3890132
89	One pink quartz mano fragment, 8 cm by 5 cm by 3.5 cm.	334913	3890116
90	One 1939 wheat penny, minted in Denver.	334794	3890117
91	One metal bomb fin.	334980	3890178
92	One metal cone (not nose cone).	334070	3890156
93	One tan chert interior flake, 4+ cm.	335462	3890311
94	One chalcedony exterior retouched flake.	334954	3890353

*Double Eagle II Cultural Resource Inventory, Bernalillo County*

IO	Description	Easting:	Northing:
95	One metal M1A1 initiator disk.	334123	3890349
96	Metal cone (not nose cone).	334815	3890414
97	Metal practice bomb fragment, model M 85 or M38A2.	335391	3890479
98	Two chalcedony flakes, 2 cm to 4 cm and <1 cm.	334852	3890479
99	One quart-sized metal can with threaded spout, 5 8/16 inches high by 4 4/16 inches wide by 2 12/16 inches thick with a 12/16 inch spout, embossed with "QUART."	335414	3890594
100	One metal practice bomb (model M 85 or M38A2) or metal parachute flare fragment (M8A1/M24).	334239	3890615
101	One metal practice bomb fragment, model M 85 or M38A2.	335516	3890636
102	One metal M1A1 initiator disk and one metal parachute flare (M8A1 or M24) fragments consisting of a metal body with coiled electrical wires and metal rods.	334554	3890656
103	One baking soda can with a friction lid.	334306	3890638
104	One chalcedony interior flake, 2 cm to 4 cm.	334961	3890750
105	One chalcedony interior flake, 2 cm to 4 cm.	335895	3891030
106	One gray granite bifacial mano, 9 cm by 10 cm by 4 cm.	335185	3890931
107	Four pieces of miscellaneous metal; one hinged tobacco tin, and one metal pipe with threaded bolts.	334325	3890860
108	One chalcedony interior flake, 2 cm to 4 cm.	334616	3891008
109	One metal can with a friction lid.	335065	3891126
110	One metal cone (not nose cone).	335212	8891201
111	Metal practice bomb fragment, model M 85 or M38A2.	335272	3891279
112	Number Not Used.		
113	One tobacco can lid, "United States Tobacco Co" (1922 to present).	336420	3891340
114	One lard bucket and one horseshoe.	335859	3891559
115	One three-hinge tobacco tin (1907 to 1948).	334282	3891293
116	One baking powder lid, "Clabber Girl" (1923 to present).	335914	3891707
117	Metal parachute flare (M8A1 or M24) fragments consisting of a metal body and coiled electrical wires.	335473	3891644
118	One black-on-white sherd with organic paint, 0.6 cm thick.	335474	3891647
119	One metal practice bomb fragment, model M 85 or M38A2.	334715	3891696
120	One metal practice bomb fragment, model M 85 or M38A2.	335706	3891834
121	One metal practice bomb fragment, model M 85 or M38A2.	336038	3891915
122	One lard bucket and one baking powder can "Clabber Girl" (1923 to present).	335240	3891926
123	One lard bucket embossed with "CANCO" (1930 to 1940).	335022	3891880
124	One metal M1A1 initiator disk.	335230	3892003
125	Number Not Used.		
126	One metal practice bomb fragment, model M 85 or M38A2.	336117	3892041
127	Metal parachute flare (M8A1 or M24) fragments consisting of a metal rod.	336167	3892075
128	One metal practice bomb fragment, model M 85 or M38A2.	336807	3891744
129	One metal practice bomb (model M 85 or M38A2) or metal parachute flare fragment (M8A1/M24).	336902	3891642
130	One metal practice bomb fragment (model M 85 or M38A2) and one friction lid.	336040	3892101
131	One metal cone (not nose cone)	335499	3892101
132	One metal practice bomb fragment (model M 85 or M38A2) and one metal bomb fin.	335898	3892125
133	One metal M1A1 initiator disk and one piece of clear glass embossed with "Pucci & Bonacuide."	336283	3892179
134	One hole-in-cap can.	336368	3892267

*Double Eagle II Cultural Resource Inventory, Bernalillo County*

IO	Description	Easting:	Northing:
135	One red/brown chert Folsom projectile point base that measures 3.7 cm in height by 2.4 cm in width by 0.4 cm thick and one tobacco tin.	336205	3892222
136	One round-head steel nail that is 5 inches in height.	336189	3892216
137	One metal practice bomb fragment, model M 85 or M38A2.	336193	3892190
138	One metal practice bomb fragment, model M 85 or M38A2.	335684	3892243
139	One piece of brown bottle glass.	336291	3892270
140	One metal M1A1 initiator disk.	335485	3892278
141	Number Not Used.		
142	Number Not Used.		
143	One white chalcedony exterior flake, 2 cm to 4 cm.	335910	3892506
144	One metal M1A1 initiator disk.	336009	3892486
145	One metal practice bomb fragment, model M 85 or M38A2.	336324	3892521
146	Number Not Used.		
147	One yellow/brown petrified wood chert interior flake, 4+ cm.	336787	3892335
148	One piece of metal shrapnel.	336930	3892396
149	One metal M1A1 initiator disk.	336557	3892507
150	Number Not Used.		
151	One metal M1A1 initiator disk.	336130	3892560
152	One purple quartzite unifacial mano, 11.2 cm by 8.4 cm by 4.9 cm and one gray chert exterior flake, 4+ cm.	335661	3892520
153	Number Not Used.		
154	Number Not Used.		
155	One translucent petrified wood Folsom projectile point tip, 3.7 cm in height by 2.5 cm in width by 0.4 cm thick.	337680	3892374
156	One tobacco can lid, "United States Tobacco Co" (1922 to present).	337780	3892384
157	One chalcedony interior flake, 2 cm to 4 cm.	337696	3892430
158	One piece of metal shrapnel.	337648	3892540
159	One metal M1A1 initiator disk.	337780	3892593
160	One chalcedony interior flake, 1 cm to 2 cm.	337592	3892611
161	One metal practice bomb fragment (model M 85 or M38A2) and one metal M1A1 initiator disk	337710	3892656
162	One metal propeller blade (from a practice bomb or fuze).	337701	3892851
163	One metal propeller blade (from a practice bomb or fuze) and one piece of metal shrapnel.	337546	3892854
164	One metal propeller blade (from a practice bomb or fuze) and one metal practice bomb fragment (model M 85 or M38A2).	337586	3893047
165	Number Not Used.		
166	Number Not Used.		
167	Number Not Used.		
168	Metal parachute flare (M8A1 or M24) fragments consisting of a metal body and metal coil wiring.	337714	3893164
169	One metal practice bomb fragment, model M 85 or M38A2.	337737	3893413
170	One white chert interior flake and one white chalcedony interior flake; both 1 cm to 2 cm.	337558	3893120
171	Two gray chert interior flakes, 1cm to 2 cm.	337772	3891963
172	Three gray chert interior flakes, 2 cm to 4 cm, 1 cm to 2 cm, 4+ cm.	337763	3891033
173	Metal parachute flare (M8A1 or M24) fragments consisting of a metal body and spring-loaded rods.	337666	3891249
174	One metal M1A1 initiator disk.	337630	3891784
175	One gray chalcedony flake, 2 cm to 4 cm.	337593	3892336
176	One metal M1A1 initiator disk and one metal bomb fin.	337482	3892104
177	One gray chert exterior flake, 2 cm to 4 cm.	337575	3891925
178	One metal practice bomb fragment, model M 85 or M38A2.	337596	3892134



*Double Eagle II Cultural Resource Inventory, Bernalillo County*

IO	Description	Easting:	Northing:
179	One metal nose bomb fuze (M103).	337457	3891879
180	One gray chert flake, 2 cm to 4 cm.	337559	3891956
181	Number Not Used.		
182	Number Not Used.		
183	One white chert exterior flake, 2 cm to 4 cm.	336379	3889041
184	Number Not Used.		
185	Number Not Used.		
186	One upright-hinged tobacco tin (1892 to 1924).	336502	3890570
187	One white chalcedony flake, 1 cm to 2 cm.	336527	3890986
188	Metal parachute flare (M8A1 or M24) fragments consisting of a metal body and metal rods.	335141	3893110
189	One gray and white chert exterior flake, 4+ cm.	334695	3893142
190	One metal practice bomb (model M 85 or M38A2) or metal parachute flare fragment (M8A1/M24).	334929	3892998
191	One metal bomb fin.	335179	3893033
192	One metal cone (not nose cone).	334876	3892803
193	One metal flare fuze (M111).	335307	3892905
194	One white chert interior retouched flake, 4+ cm.	335307	3892725
195	One white and gray chert interior flake, 2 cm to 4 cm.	334488	3892721
196	One metal lard bucket embossed with "CANCO" (1930 to 1940).	333792	3892644
197	Metal practice bomb fragment, model M 85 or M38A2.	334182	3892540
198	One white chert flake, 4+ cm.	334454	3892736
199	Metal parachute flare (M8A1 or M24) fragments consisting of a metal body, metal coil wiring, and sensor.	334399	3892686
200	Nine pieces of clear glass.	334239	3892634
201	One black-on-red sherd with quartz temper.	334126	3892596
202	Number Not Used.		
203	One metal M1A1 initiator disk.	334728	3892402
204	One metal M1A1 initiator disk.	334903	3892184
205	One piece of metal shrapnel.	336859	3892530
206	One white chert flake, 2 cm to 4 cm.	336932	3891683
207	Number Not Used.		
208	One metal can embossed with "CANCO" (1930 to 1940).	337313	3888953
209	One metal bomb fin.	337182	3888680
210	Number Not Used.		

### Previously Recorded Sites

#### LA 27591

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 24: SE SE SE

UTM coordinates: Zone 13, E 337800, N 3893259 (NAD 83)

This site was previously recorded by the Center for Anthropological Studies (CAS) in 1980 (Rodgers 1980). TEC personnel revisited the site area on September 4, 2002 and on April 28, 2004, but did not relocate the site on either occasion. The site as recorded in 1980 consisted of a prehistoric artifact scatter and rock alignments that were interpreted as agricultural features.

The site location is plotted between Paseo del Volcan Road on the east, and the east landing strip at Double Eagle II Airport on the west, on a sloping hill covered with basalt cobbles.

At the time of the site's initial recordation, 12 rock alignments, including eight contour terraces and four diversion walls, were interpreted as water-control devices. CAS conducted test excavations in 1980 of the terraces to determine soil depth and to collect soil and pollen samples. These excavations indicated that sediment depth was shallow (3 to 8 cm) in the garden plots formed by the terraces and diversion walls, and that the sediments overlay a solid basalt substrate. Although no artifacts were observed on the surface or recovered in the test excavations, an Anasazi Pueblo IV period (A.D. 1325–1400) cultural/temporal affiliation was assigned to the site on the basis of a nearby "pot drop" of 14 sherds that was recorded as an IO. The sherds, typed as Agua Fria Glaze-on-red, were found within 70 m of the site boundary and were thought to be associated with the site on the basis of the "extreme paucity" of ceramics in the area (Rodgers 1980). The results of any analyses conducted on the soil and pollen samples collected in 1980 were not included in the project report, nor do they appear in the LA Site Record information available at ARMS.

During TEC's revisits to the recorded site location the sherds were not relocated and only naturally occurring basalt rock outcrops were observed in the area. TEC attempted to relocate the site by surveying an area of approximately 100 m by 100 m surrounded the recorded location, using both NAD 27 and NAD 83 UTM coordinates, with the aid of a Trimble GeoXT GPS receiver. Significant ground disturbance was observed in the site vicinity. Bulldozer push piles of sediments and basalt boulders are present from the site coordinates west to Paseo del Volcan.

#### *NRHP Evaluation*

A determination of eligibility regarding this site has not been made by the New Mexico SHPO. Because the site could not be relocated and evaluated, the eligibility of LA 27591 for inclusion in the NRHP is recommended as undetermined.

#### LA 27592

Land Status: Private

Legal Description: T 11 N, R 1 E, Section 34: SE NE SW

UTM coordinates: Zone 13, E 333590, N 3889654 (NAD 83)

This site (Figure 6) was previously recorded by CAS in 1980 (Rodgers 1980). The site is located on a low ridgetop to the southwest of the Double Eagle II Airport and consists of a widely dispersed, low-density prehistoric and historic artifact scatter. TEC personnel revisited the site on February 7, 2002. Alluvial soils at the site support an understory of grasses and low shrubs that partially obscure surface visibility. Grass pedestalling indicates wind erosion and moderate bioturbation was also observed across the site.

The original site recording included test excavations and collection of all surficial and excavated artifacts. Artifacts were recovered from 105 different grid squares, each measuring 3 m by 3 m.

**Exact location of identified resources is not disclosed to protect resource integrity.**

The assemblage documented included 411 lithic artifacts, the majority of which were flaked-stone debitage and cores, consistent with a core-reduction and tool-manufacturing site. Only three tools were recorded—a hammerstone and two utilized side scrapers. No diagnostic artifacts were recorded and test excavations revealed no features (Rodgers 1980).

During the site revisit in 2002 TEC personnel observed 10 flaked-stone artifacts within the area of the previous site location, all of which were analyzed in the field. The assemblage includes two biface-thinning flakes, four indeterminate flakes, three pieces of angular debris, and one projectile point base (illustrated in Appendix A, Figure A.1). Materials represented include chalcedony with black inclusions, white chert, chalcedony, and gray obsidian. Based on the projectile point style, which appears to be San Jose, the prehistoric component of the site dates to the Archaic period, between approximately 3300 and 1800 B.C. Two historic artifacts observed appear to be related to the use of the area for WWII bombing practice. These include a circular metal cap with a cylindrical extension and a cylindrical metal object with 10 76-cm- (30-in) long metal rods protruding from the bottom plate; a coiled wire with metal housing is associated with the latter object. An Anglo/Euro-American NM Statehood-WWII (1941 to 1945) component is also assigned to the site, based on these artifacts.

#### *NRHP Eligibility*

A determination of eligibility regarding this site has not been made by the New Mexico SHPO. The report and site records from the 1980 investigation of the site do not include information regarding the vertical provenience of the collected artifacts, nor any general discussion of the depth of cultural deposits on the site. There is also no discussion regarding grid unit placement, such as whether any grid units beyond the observed surface scatter were excavated, and if so whether any subsurface artifacts were recovered from these units. Thus, it is not possible to assess the horizontal or vertical extent of the site on the basis of the 1980 testing. No features were observed during the 1980 testing, nor observed during TEC's site revisit, and most of artifacts on the site have probably been collected. However, despite the goal of complete collection of the surficial (and excavated) artifacts during the 1980 testing, additional artifacts were observed on the site in 2002—including a diagnostic projectile point base. These artifacts may have been exposed during the interim through aeolian erosion. This suggests additional subsurface cultural deposits may be present on the site. Although all observed surface artifacts have been recorded, further investigation is needed to assess whether additional buried cultural deposits are present that may provide additional important information. Therefore, the eligibility of LA 27592 for inclusion in the NRHP is recommended as undetermined.

#### LA 45282

Land Ownership: Private

Legal Description: T 10 N, R 1 E, Section 1: SE SE SE

UTM coordinates: Zone 13, E 337516, N 3888464 (NAD 83)

This prehistoric and historic site (Figure 7) was recorded by Scientific Archeological Services (SAS) in 1983 (Rodgers 1983). The site is located to the east of Paseo del Volcan, between a double fence line, oriented east to west, and a basalt outcrop cliff edge to the north. Alluvial and

**Exact location of identified resources is not disclosed to protect resource integrity.**

aeolian deposits support a sparse understory of grasses and low shrubs. TEC personnel revisited the site on April 16, 2002 and on April 29, 2004.

At the time of the site's initial recordation, it consisted of a rockshelter, prehistoric and historic petroglyphs, boulder metates, a scatter of prehistoric and historic artifacts, and historic rock alignment features that were thought to be sheep corrals. The prehistoric assemblage numbered in the hundreds and included diagnostic ceramics, flaked-stone debitage, and "boulder metates." All diagnostic surface artifacts were collected in 1983. Based on the presence of a Corona Plain sherd, the prehistoric component of the site was assigned an Anasazi Pueblo IV (A.D. 1300 and 1600) cultural/temporal affiliation. A historic artifact scatter consisting of soldered and crimped tin cans was dated between the 1890s and the 1920s. Unidentified rock alignments were observed and interpreted as sheep corral features related to the historic artifact scatter.

At the time of TEC's revisit in 2004, erosion, grazing, trash dumping, and vandalism had heavily impacted the site. No prehistoric artifacts were observed on the site's surface but several prehistoric features, historic features, and a scatter of historic artifacts were documented.

The observed artifact assemblage consists of hundreds of fragments of clear and brown glass, and hundreds of crushed cans and can fragments.

Features 1, 2, and 6 through 9 are prehistoric petroglyphs, while Feature 5 is an historic petroglyph. Sketches and dimensions of these features are provided in Figure A.2. Some designs have been scratched off the surface, some are damaged by gunshot, and some recent carvings are also present.

Feature 3 is a hearth, which appears to be historic and associated with Feature 4 (described below). The hearth consists of an oval alignment of approximately 75 basalt cobbles, which measures 18 ft N/S by 12.5 ft E/W. No sediment staining or charcoal was observed on the surface of the feature.

Feature 4 is an L-shaped historic rock alignment that may have been used as a sheep corral.

Feature 10 is a bedrock mortar, consisting of a trough-shaped depression in a basalt boulder. The mortar measures 75 cm long by 40 cm wide and is 3 to 5 cm deep.

#### *NRHP Eligibility*

A determination of eligibility regarding this site has not been made by the New Mexico SHPO. Although the observed surface assemblage and features have been recorded buried cultural deposits are likely present on the site, given the loose aeolian sediments on the site and the fact that prehistoric artifacts were observed previously but not during the current investigation. The site has the potential to yield further important information and is recommended eligible to the NRHP under Criterion D.

LA 71199 (Volcano Ranch)

Land Status: Private

Legal Description: T 11 N, R 1 E, Section 26: SE NE SE; Section 25: SW NW SW

UTM coordinates: Zone 13: E 336165, N 3891228 (NAD 83)

This prehistoric and historic site (Figure 8) was recorded by CAS in 1981 (Rodgers 1981). The site is located on a flat plain to the west of the airport offices and hangars at Double Eagle Airport, approximately 150 m northwest of the southwest/northeast-oriented landing strip. It is situated on alluvial and aeolian deposits that support an understory of grasses and low shrubs that partially obscure surface visibility. TEC personnel revisited the site on April 16, 2002 and on April 29, 2004.

At the time of the site's initial recordation, it consisted of several historic features and an artifact scatter representing the remains of the Volcano Ranch, which was a cattle ranch owned and operated by the Frank Bond family during the late 1940s and 1950s, and a multicomponent prehistoric artifact scatter that included groundstone tools and lithic debitage (Rodgers 1981).

The prehistoric components of the site were assigned Unspecific Archaic (5,500 B.C.–A.D. 900) and Anasazi Pueblo III period (A.D. 1100–1300) cultural/temporal affiliations based on two artifacts that were collected—an exhausted core of chalcedony and a mano that showed grinding wear suggesting use in a small trough metate. TEC personnel observed only a single prehistoric artifact—a piece of angular debris of locally available Rio Grande chalcedony—during the 2002 recording of the site; this artifact was not relocated in 2004. Loose aeolian deposits across the site may obscure other prehistoric artifacts that were not collected in 1981.

The historic component in 1981 consisted of a “sparse” artifact scatter and seven defined features straddling an east/west-oriented road, including: (1) a railroad boxcar used to store feed, surrounded by an amorphous shaped cattle-feeding area littered with salt licks; (2) a barbed-wire enclosure that was interpreted as marking the primary area of domestic activity on the ranch; (3) a small, two-room tin house located within Feature 2; (4) a metal water tank located within the westernmost of three corral complexes of wooden/wire fences; (5) a cement water box; (6) a large water cistern; and (7) a capped water well that was pumped by a “250 DC ‘Straight Lift Jack’ of the JENSEN BROS. MANUFACTURING CO., COFFEYVILLE, KANSAS, USA. Features 5 through 7 were located within a central corral complex. A third corral complex was identified on the easternmost part of the site but no features were defined within this complex, although it was noted that there was an interesting cattle chute within the complex that was lined with small basalt boulders, apparently to reduce the speed of cattle. Rodgers (1981) also noted that the tin house recorded (Feature 3) was not the ranch house of the Bond family. He indicated that Frank Bond stated that a house trailer was the only living area at the ranch but that it had been destroyed by fire. The location of the trailer is unknown but was likely within the barbed-wire enclosure (Feature 2) mentioned above (Rodgers 1981).

Twelve historic artifacts were collected in 1981, including two horseshoes, a 20-penny spiral nail, an 8-inch railroad spike, a stainless tablespoon, a modern (post-1866) .30-.30 caliber cartridge, an undated New Mexico license plate, a broken jar base, three whole bottles, and a

**Exact location of identified resources is not disclosed to protect resource integrity.**



cement practice bomb related to World War II bombing practice in the area, which was probably brought to the ranch from another location.

At the time of TEC's revisits in 2002 and 2004, the historic artifact scatter consisted of a low-density scatter of hundreds of metal and aluminum-top cans; and clear, brown, green, and sun-colored amethyst glass fragments. Several features have been removed from the site since the 1981 recordation, including the railroad boxcar (Feature 1), a barbed wire enclosure (Feature 2), the tin house (Feature 3), the metal water tank (Feature 4), the water cistern (Feature 6), and the tin shed that housed the capped water well (Feature 7). The third corral complex that was not defined as a feature previously has also been removed from the site. Features that were observed during TEC's recordation of the site include the pump jack (Feature 7, described above) and a cement box (Feature 5, described above) measuring 4 ft wide by 4 ft long by 2 ft high (1.2 m by 1.2 m by 0.6 m). Although Features 4 and 6 have been removed from the site, evidence of their locations are still observed by a 3.7-m (12-ft) diameter cement slab (Feature 4, described above) with a rusted metal perimeter measuring 12 ft (3.7 m) in diameter, and a graveled area (Feature 6, described above) 40 ft (12.2 m) in diameter with metal shafts located along its perimeter.

The site exhibits some wind and water erosion and minor bioturbation. A northeast/southwest-oriented dirt road runs through the northwest portion of the site that was not observed during the 1981 recordation, an east/west-oriented dirt road bisects the site, and a modern aircraft runway lies approximately 500 ft east of the site.

#### *NRHP Eligibility*

A determination of eligibility regarding this site has not been made by the New Mexico SHPO. Although two prehistoric and 12 historic diagnostic artifacts were previously collected, a much larger artifact assemblage was observed in 1983 than during the current investigation and additional cultural materials are likely obscured by the loose aeolian deposits across the site and within the features. Therefore, TEC recommends the site eligible for inclusion in the NRHP under Criterion D.

#### LA 103036

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 24: NE NE SW

UTM coordinates: Zone 13, E 337030, N 3892850 (NAD 83)

This site is situated on a plain to the north of Double Eagle II Airport and that supports an understory of grasses and sagebrush (Figure 9). The site was first recorded by Cibola Research Consultants in 1995, and consists of a WWII bombing target and bomb craters with a scatter of bomb shrapnel. TEC personnel revisited the site on November 4, 2002 and again on April 28, 2004. Live bombs were dropped on this site and there is a possibility that unexploded ordnance is present in the site area (Michael Marshall, personal communication 2004; U. S. Army Public Information Retrieval System 1994). The site has been impacted by wind and water erosion, revegetation of the bulldozed target feature, and bioturbation.

**Exact location of identified resources is not disclosed to protect resource integrity.**

During the 1995 site visit a cross-shaped target with a central bull's-eye was observed and mapped, with the aid of aerial photographs (Michael Marshall, personal communication 2004). The target appeared to be formed by bulldozing to expose a caliche soil layer, and each arm of the cross measured approximately 1000 ft (300 m) in length.

During the site revisits by TEC in 2002 and 2004 a scatter of hundreds of pieces of shrapnel was observed and the north/south-oriented arm of the target cross was visible. This arm measured approximately 6 ft by 1000 ft (1.8 m by 305 m) and was mapped as Feature 1 on the site. The east/west-oriented arm of the cross was not discernable on the ground, and may have eroded away due to its location in a lowland where subsequent plant regrowth occurred.

The 12 bomb craters (Features 2 through 13) average approximately 15 ft (4.6 m) in diameter by 1 ft (30.5 cm) deep. The smallest crater (Feature 3) measures 12 ft (3.7 m) in diameter by 6 inches (15.2 cm) deep. The largest crater (Feature 13) measures 20 ft (6.1 m) in diameter by 1.5 ft (45.7 cm) deep.

Seven objects of unknown function were observed across the site. It is unclear whether they are of historic age. These objects are not mentioned in reports of previous research in the site vicinity. They consist of four saw-cut timbers measuring approximately 3 inches (7.6 cm) in diameter by 5 ft (1.5 m) high, which support three strands of barbed wire to create an enclosure measuring 9.5 ft (2.9 m) by 6 ft (1.8 m). In some instances additional timbers lie on the ground along the enclosure perimeter. Inside each enclosure is a 5.5 ft (1.7 m) diameter iron hoop fastened to the ground by three iron loops approximately 1/8 inch (0.3 cm) thick. In some instances the metal hoop is covered by a wood box constructed of machine-cut boards. A similarly constructed wood lid lies on top of the box with sheet metal nailed over the wood. The wood box measures approximately 6 ft (1.8 m) long by 6 ft (1.8 m) wide by 6 inches (15 cm) deep.

A concrete pad of unknown function was observed in the northeast portion of the site. It measures 18 inches (45.7 cm) by 17 inches (43.2 cm), and has groove measuring 3/4 inch (1.9 cm) by 2 inch (5 cm) in its center.

#### *NRHP Eligibility*

No determination of eligibility has been made by the New Mexico SHPO regarding this site. Although part of the target is no longer visible at ground level the site remains at least 50 percent intact and additional areas of the target feature, as well as additional bomb craters, are likely still discernable from the air. The site retains the potential to contribute further information regarding WW II bombing target facilities and is, therefore, recommended as eligible for the NRHP under Criterion D. The site is also significant because of its association with bombardier training at the beginning of WW II and with the development of the military and civilian aerospace industry in the area. Therefore, TEC also recommends LA 103054 eligible under Criterion A.

LA 103054

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 22: NW NW NW

UTM Coordinates: Zone 13, E 333221, N 3893841 (NAD 83)

This historic site (Figure 10) was first recorded in 1993 by Cibola Research Consultants and again in 2001 by SWCA, Inc., Environmental Consultants (SWCA). The site is located on a low rise in an open plain with semistabilized dunes and an understory of grasses, sand sage, narrowleaf yucca, and snakeweed. The site is the remains of a large WWII bombing practice target.

At the time of the 2001 site visit by SWCA the site consisted of a scatter of practice bomb fragments and other metal artifacts and lumber scraps, associated with two wooden post features and a few indistinct earth-berm alignments (Phillips 2001). Marshall (1995) notes that the site is one of 27 targets created in late 1941 and early 1942 for use by the Bombardier Training School. Pilots from the Albuquerque Army Air Base (later to become Kirtland Field and then Kirtland Air Force Base) used this target. The target consisted of a grid pattern that was made by bulldozing alignments of earth. The grid was made to resemble an oil refinery installation (Phil Young, personal communication 2004). The grid extended over a large area approximately 2500 ft E/W by 2000 ft N/S, as seen on historic maps and aerial imagery, and depicted in Phillips (2001). Both Marshall (1995) and Phillips (2001) noted that the grid alignments have been obscured by aeolian processes and revegetation and are difficult to observe at ground level. Phillips (2001) observed that only a few partial alignments could be seen on the ground and that about 90 percent of the alignments are invisible; the remaining alignments are indistinct and can only be discerned through aerial photography. The site dimensions at that time were recorded as only 22 m by 23 m.

TEC personnel revisited the site on March 23, 2004 and found the site to be in a similar condition to that recorded in 2001. One of the wooden post features was relocated, approximately 100 ft (30 m) east of the Shooting Range State Park boundary fence, as well as a scatter of indeterminate metal fragments, which extends an additional 80 ft (24 m) to the east of the wooden post. Approximately 20 metal fragments were observed; most of the larger fragments were in a small cache along the boundary fence. No distinct grid alignments could be seen on the ground. The wooden post feature and the scatter of artifacts are situated on a low rise which appears to be a natural feature (see Figure 10).

*NRHP Eligibility*

LA 103054 was recommended ineligible for inclusion in the NRHP following the 2001 recording of the site, because of the loss of the site's physical integrity. Phillips (2001) argued that the site's information potential is now contained almost exclusively in historic records and in aerial imagery, rather than in the site itself. The site was determined eligible under Criterion D by the New Mexico SHPO (HPD Log No. 62802), however, because it was designed specifically to be seen from the air and the grid alignments can still be observed through aerial and satellite imagery (Phil Young, personal communication 2004). The site is also significant because of its

**Exact location of identified resources is not disclosed to protect resource integrity.**

association with bombardier training at the beginning of WW II and with the development of the military and civilian aerospace industry in the region. Therefore, TEC also recommends LA 103054 eligible under Criterion A.

LA 134644

Land Status: Private

Legal Description: T 11 N, R 1 E, Section 25: SE SE NE

UTM coordinates: Zone 13, E 337741, N 3893147

This site (Figure 11) was recorded by Huckell (2002) during a survey conducted to better understand Paleoindian settlement and land use of the West Mesa. The site is situated on a flat plain on the margin of an enclosed basin and consists of a surface scatter of flaked-stone debitage that clusters fairly densely in an area approximately 10 m by 10 m (33 ft by 33 ft). Alluvial and Aeolian sediments at the site support an understory of grasses and low shrubs that partially obscure surface visibility. TEC personnel revisited the site on April 9, 2002.

The site is in good to excellent condition and has not changed significantly since its original recordation by Huckell (2002). All observed artifacts were analyzed in the field during the current site visit. The assemblage consists of 32 pieces of debitage, including four biface-thinning flakes, six core-reduction flakes, and 22 pieces of angular debris. Most of the debitage is of San Andres Correo white chert and a yellow/brown chert. A few flakes of petrified wood, reddish-brown spotted chert, and chalcedony material were also observed. A Folsom point channel flake of petrified wood was collected by Huckell in 2002. On the basis of this artifact Huckell assigned the site to the Folsom culture of the Paleoindian period, dating between approximately 9000 and 8000 B.C. The possibility of buried cultural deposits is likely on the site because most of the debitage exposed on the surface is concentrated in small areas of deflation. The site's location in an enclosed basin would also serve to contain and potentially bury artifacts.

*NRHP Evaluation*

No determination of eligibility has been made regarding this site by the New Mexico SHPO. Huckell (2002) recommended that the site retains further research potential and is eligible to the NRHP under Criterion D. The presence of densely clustered artifacts and the likely potential for buried cultural deposits indicate that the site retains the potential to provide further information as to Paleoindian lifeways, and TEC concurs with Huckell's recommendation.

**Exact location of identified resources is not disclosed to protect resource integrity.**

### **Newly Recorded Sites**

#### LA 144336 (TEC 69-1)

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 34: NE SW NW

UTM coordinates: Zone 13, E 333265, N 3890110 (NAD 83)

This site (Figure 12) is situated on the north end and slope of a low rise that overlooks a large enclosed basin where the Albuquerque Soil Amendment Facility is currently located. The site consists of a moderately dense prehistoric artifact scatter and a low-density historic artifact scatter. Alluvial sediments support an understory of grasses, low shrubs, and prickly pear cactus. The site appears to be largely intact with some evidence of water and wind erosion.

The prehistoric component is fairly densely concentrated at the north end of the site and consists of 30 pieces of flaked-stone debitage, two of which are heat-treated, as well as a chert core and tested cobble. The debitage includes 15 indeterminate flakes (nine cortical and six noncortical), one biface-thinning flake, and 11 pieces of angular debris. The majority of the lithic material is locally available Rio Grande chalcedony.

Two black-on-red glazeware ceramic sherds, which are probably Glaze A types, were also observed, suggesting an Anasazi Pueblo IV (A.D. 1325–1400) cultural/temporal affiliation for the prehistoric component of the site.

The historic component consists of 10 artifacts and includes a lid from a lard bucket (“THOMAS J. BIGGER PACKER/CHOICE LEAF LARD/KANSAS CITY MO.”), a lard bucket embossed with “CANCO,” and an indeterminate can lid embossed with “Estab. 119,” two metal rods, an M1A1 initiator disk, three pieces of miscellaneous metal debris, and a metal cup with a handle. Based on the CANCO lard bucket and the initiator disk, an Anglo/Euroamerican or Hispanic NM Statehood-WWII (A.D. 1930–1945) cultural/temporal affiliation is assigned to the historic component of the site.

#### *NRHP Eligibility*

This site contains diagnostic artifacts and the fairly dense concentration of prehistoric artifacts suggests that the site retains good integrity. Although all observed surface artifacts were recorded there is good potential for buried cultural materials in the loose aeolian sediments present on the site. Further investigation, such as limited testing, is necessary to determine whether the site retains additional important information; therefore, the eligibility of the site to the NRHP is recommended as undetermined.



**Exact location of identified resources is not disclosed to protect resource integrity.**

LA 144337 (TEC 69-2)

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 23: SE SE SW

UTM coordinates: Zone 13, E 335320, N 3892352 (NAD 83)

This historic artifact scatter (Figure 13) is located to the northwest of the Double Eagle II Airport facility and is situated on a flat plain that slopes gradually to the east. Alluvial and aeolian deposits support an understory of grasses, low shrubs, and prickly pear cactus. The site exhibits some wind erosion but retains good integrity, as evidenced by the dense artifact concentration. Two adjacent dirt roads are located to the north and southeast of the site.

All observed artifacts (n=183) were recorded. The artifact assemblage consists of cans (n=32), bottles and jars (n=5), glass shards (n=77), ceramics (n=9), and miscellaneous items (n=60). The historic can assemblage includes eight upright-hinged (3- and 5-pin hinges) tobacco tins (1907 to 1948), 15 sanitary can fragments, two friction lids (one embossed with "To open insert coin under edge of cover and twist"), three indeterminate lids, one sanitary can, two rectangular tobacco tin lids, and one crushed vent-hole can. Bottles and jars present include one clear glass medicine bottle (with a metal cap and cubic centimeter measurements marked along the side), two aqua glass bottles that read "DR. J.H. McLEAN'S VOLCANIC OIL LINIMENT" (ca. 1871 to 1918 [[www.rdhinstl.com/mm/rs170.htm](http://www.rdhinstl.com/mm/rs170.htm)]), one 10 oz. clear glass bottle with a spout, and one clear glass decorative bottle with a small handle embossed with "ONE PINT." The glass shard assemblage includes 60 pieces of clear glass, one piece of green glass, one piece of sun-colored amethyst glass, 12 pieces of clear flat window glass, one clear glass bottle base that reads "MG" (1930 to 1961), one clear glass bottle neck (English ring, deep lip, or packer neck finish), and one clear glass bottle base with an Anchor Hocking maker's mark (1920 to 1964). The ceramic assemblage includes three whiteware teacup fragments, four pieces of earthenware with a brown slip, one piece of earthen ware that reads "PATD APLD FOR," and one whiteware cup. Miscellaneous items present include a metal shoehorn, five jar lids ("Kerr/Pat'd" [1940 to present]), an eyeglass container, an iron skillet, a metal plate, a glass light bulb fragment, 46 leather shoe sole fragments, a metal belt buckle, an indeterminate metal object, and two fragments of wood. Diagnostic glass fragments and tin cans suggest an Anglo/Euroamerican or Hispanic U.S. Territorial to NM Statehood-WWII (1880–1945) cultural and temporal affiliation for the site.

Some artifacts were observed partially buried up to approximately 3 cm deep in the loose aeolian deposits on the site.

*NRHP Eligibility*

This densely concentrated historic artifact scatter contains a large, diverse assemblage, with many diagnostic artifacts. The site retains good integrity, and additional cultural materials may be buried in the loose aeolian deposits on the site, as evidenced by partially buried artifacts. While the site could be a secondary trash deposit, the size and diversity of the assemblage and the likelihood of additional buried cultural deposits suggest the site has the potential to yield

**Exact location of identified resources is not disclosed to protect resource integrity.**

further important information and is, therefore, recommended as eligible to the NRHP under Criterion D.

LA 144338 (TEC 69-3)

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 26: NE SW SW

UTM coordinates: Zone 13, E 334773, N 3891030 (NAD 83)

This densely concentrated historic artifact scatter (Figure 14) is located to the west of the Double Eagle II Airport facility, and is situated on a gentle, eastward-sloping plain next to, and partially within, an overgrown two-track road. Aeolian deposits support an understory of grasses, low shrubs, and prickly pear cactus. The site exhibits some bioturbation, but retains fair to good integrity.

All observed artifacts (n=96) were recorded. The artifacts were mostly lying within an area measuring 10 ft by 10 ft (3 m by 3 m). The artifact assemblage includes a paint-type friction lid, 12 sanitary cans (five crushed), 11 vent-hole cans (six crushed) embossed with "PUNCH HERE" (Simonis Type 18—1935 to 1945 [Simonis 1998]), an indeterminate rectangular can with a threaded cap, six vent-hole cans (possible Simonis Type 19 [1930 to 1975]), a friction lid, a sanitary can embossed with "TOMAT," a paint-type can, a coffee can lid embossed with "REGULAR GRIND," an indeterminate can, three 40-weight oil cans, 25 vent-hole cans (Simonis Type 12 [1917 to 1929]), a shattered clear glass bottle with a possible Owens-Illinois maker's mark, a shattered clear glass bottle that was rectangular, a clear glass bottle with a threaded metal cap ("L.B./LAB. INC./HOLLYWOOD/CALIFORNIA" (possible Owen's-Illinois maker's mark), a shattered green glass bottle with "SQU" painted in red, 22 pieces of clear glass, one piece of brown glass, one piece of milk glass (1885 to present) with an intricate design, a metal rod, a metal car strut, and a thick piece of canvas. The diagnostic artifacts present suggest this site has an Anglo/Euroamerican or Hispanic NM Statehood to WWII (1917 to 1945) cultural and temporal affiliation.

*NRHP Eligibility*

Based on the concentrated nature of the artifacts, lack of assemblage diversity (most artifacts are cans) and its location along a road, this site likely represents a single-episode trash dump and not a camp or habitation site. However, the assemblage size is large and additional cultural materials are possible, given the loose aeolian deposits present on the site. Additional investigation is necessary to determine whether significant subsurface cultural deposits are present that could yield further important information; therefore, the eligibility of the site for nomination to the NRHP is recommended as undetermined.

**Exact location of identified resources is not disclosed to protect resource integrity.**

LA 144339 (TEC 69-6)

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 23: SE SE SE

UTM coordinates: Zone 13, E 336082, N 3892384 (NAD 83)

This densely concentrated historic artifact scatter (Figure 15) is situated within and along both sides of an old two-track dirt road that trends northeast to southwest across a flat plain. The site is located along the western side of Paseo del Volcan near the Double Eagle II Airport parking lot. Aeolian deposits support an understory of grasses, desert shrub, and prickly pear cactus. The site is in fair condition, with the majority of artifacts having been broken into small pieces due to their location on and along the dirt road. Another dirt road runs roughly parallel to and about 45 m (148 ft) to the northwest of the first.

The artifact assemblage consists of 100 densely concentrated historic artifacts, all of which were analyzed in the field. The majority (n=74) are glass shards of sun-colored amethyst, aqua, cobalt blue, clear, brown, and green containers. One clear flat glass shard was also observed. Ceramics include 14 whiteware and two porcelain sherds. One mother-of-pearl button was recorded. The remainder of the assemblage is made up of metal artifacts including one ring nail, one hole-in-cap can, one bottle cap, three M1A1 initiator disks, and three fragments of heavy gauge metal that is likely WWII bombing practice debris. Based on the diagnostic glass colors and the hole-in-cap can, the site is probably a trash dump dating to the US Territorial or Statehood-WWII periods (A.D. 1880–1920), with an Anglo/Euroamerican or Hispanic cultural affiliation. A second component, dating to ca. 1941 to 1945, represented by the bombing-related metal artifacts, is also assigned to the site.

*NRHP Eligibility*

Based on the concentrated nature of the artifacts and its location along a road, this site likely represents a single-episode trash dump, with some later WWII bombing practice debris that is not temporally associated with the dump. However, the assemblage size is large and additional cultural materials are possible, given the loose aeolian deposits present on the site. Additional investigation is necessary to determine whether significant subsurface cultural deposits are present that could yield further important information; therefore, the eligibility of the site for nomination to the NRHP is recommended as undetermined.

**Exact location of identified resources is not disclosed to protect resource integrity.**

LA 144340 (TEC 69-10)

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 25: SE NE SE

UTM coordinates: Zone 13, E 337676 N 3891243 (NAD 83)

The site consists of a low density, dispersed prehistoric and historic artifact scatter (Figure 16) and is situated among three areas of basalt outcroppings about 0.3 km (0.5 mi) west of the volcanoes. Aeolian deposits support an understory of grasses, desert shrub, and prickly pear cactus. The site retains fair integrity. A modern trash dump is located in the northeast portion of the site, and a modern dirt road runs north-south along the eastern side of the site where many shotgun shells and clay pigeons were observed.

The low-density prehistoric artifact scatter consists of a single sherd, and flaked-stone debitage (n=19) and three tools. Lithic materials are primarily locally available Rio Grande chalcedony, with some petrified wood, basalt, and white and tan chert. Some lithics are concentrated in a saddle between two basalt outcroppings in the northern portion of the site. Two projectile point fragments were recorded, including a possible Bajada or Jay point tip and a possible Bajada point stem (Figure A.3). These artifacts suggest an early to middle Archaic period (5500–3200 B.C.) cultural/temporal affiliation for the site. The third stone tool is a utilized fossil, possibly a shark tooth, with scraping wear on two edges (Figure A.4).

A second, Unspecified Anasazi component (A.D. 600–1600) is also suggested for the site, based on an indeterminate plain gray sherd with basalt temper that was identified in the north-central portion of the site.

Historic artifacts consist of two metal pails with wire handles, an upright tobacco tin with a three-pin hinge (1907–1948), and a piece of WWII-era bombing practice debris that appears to be a tail fin of a bomb. These artifacts suggest an Anglo/Euroamerican NM Statehood-WWII (1941–1945) cultural/temporal affiliation for the historic component.

*NRHP Eligibility*

Although all artifacts have been recorded in this low-density prehistoric and historic artifact scatter, diagnostic artifacts indicate the site represents at least three components and assemblage diversity suggests additional artifacts are likely buried in the loose sediments observed on the site. The site has the potential to contribute further important information and is recommended eligible to the NRHP under Criterion D.



**Exact location of identified resources is not disclosed to protect resource integrity.**

LA 144341 (TEC 69-11)

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 23: SE NE NE

UTM coordinates: Zone 13, E 336148, N 3893634 (NAD 83)

This densely concentrated historic artifact scatter (Figure 17) is located to the northwest of the Double Eagle II Airport facility, situated on a flat plain that slopes gradually to the east. The site sits on a broad, shallow east-west trending wash. Alluvial deposits support an understory of grasses and desert shrub that partially obscure surface visibility. The site appears to be in fair to good condition, and erosion from the wash in which the site is located does not appear to have negatively affected it. No historic or modern dirt roads are associated with the site.

All observed artifacts (n=475) were recorded. Artifacts include 73 round oil cans that read "BY SINCLAIR CO (INC)/LIGHT MEDIUM/SAE/20&20/FILLED AND SEALED," one rectangular gas can with a threaded spout, two sanitary cans (one reads "CANCO" [ca. 1930–1940]), one miscellaneous oil can, an upright-hinged tobacco tin with a striker on the bottom, three indeterminate lids, a round threaded lid, a friction lid, two brown bottles with Anchor Hocking maker's marks (one dates from 1938 to present and one from 1915 to present), two clear glass bottles (one reads "HALF PINT LIQUID/ALBUQUERQUE INDIAN SCHOOL/REGISTERED"), a green 7-Up bottle, two brown glass alcohol pint bottles that read "FEDERAL LAW FORBIDS SALE OR RE-USE OF THIS BOTTLE," a green glass RC Cola bottle with a Duraglas maker's mark (1941 to 1963), a clear glass milk bottle that reads "CREAMLAND/ ALBUQUERQUE/FARM FRESH," two brown bottles with Duraglas maker's marks (1941 to 1963), two clear Ball canning jars, a green glass bottle with an Owen's-Illinois maker's mark (1929 to 1954), three clear glass bottles with Anchor Hocking maker's marks (two date from 1920 to 1964 and one dates from 1938 to present), two clear glass bottles, 275 pieces of clear glass, five pieces of green glass, one piece of clear glass with an Anchor Hocking maker's mark (1920 to 1964), 64 pieces of brown glass, a ring shank nail, four pieces of metal bombing debris, a partially buried metal pipe, three pieces of metal strapping, a M1A1 initiator disk, a housing that is bomb-related, eight fragments of wood, two glass light bulb fragments, eight fragments of canvas, and one glass vacuum tube that reads "USA." Several partially buried crushed cans were observed in the loose sediments present on the site.

Based on maker's marks on intact bottles and the presence of WWII bombing debris, the site is assigned an Anglo/Euroamerican or Hispanic NM Statehood-WWII period cultural/temporal affiliation (ca. 1930–1945). The presence of nails, wood, and canvas suggest that a temporary structure may have been located at the site, which may have served as a historic camp, possibly related to the military exercises that took place in the area during WWII. The site is located about 0.8 km (0.5 mi) north of a heavily used bombing practice area.

*NRHP Eligibility*

This densely concentrated historic artifact scatter contains a large, diverse assemblage including many diagnostic artifacts. Partially buried artifacts were observed and additional subsurface cultural deposits are likely in the loose sediments on the site. The site retains the potential to

**Exact location of identified resources is not disclosed to protect resource integrity.**

contribute further important information and is, therefore, recommended as eligible to the NRHP under Criterion D.

LA 144342 (TEC 69-13)

Land Ownership: Private

Legal Description: T 11 N, R 1 E, Section 34: NE NW SE

UTM coordinates: Zone 13, E 333987, N 3889810 (NAD 83)

This historic bombing practice site (Figure 18) is situated on a flat plain to the south of the City of Albuquerque Soil Amendment Facility, directly adjacent to the west side of the road leading south from the facility. Alluvial and aeolian deposits support an understory of grasses and shrubs, and prickly pear cactus. The site appears to be in good condition, with some effects of wind erosion evident. The site consists of two bomb craters and a low-density scatter of practice bombs, bomb fragments, and other historic artifacts.

All observed artifacts (n=33) were recorded. The artifact assemblage includes six crushed vent-hole cans, 10 sanitary cans, a green wine bottle, three pieces of clear glass, two pieces of earthenware, six metal bomb fins, an M1A1 initiator cap, a metal spring, a metal bomb casing, a metal bomb nose cone, and a metal bomb tail piece. While the cans, glass, and ceramics were all observed on the site surface, the bombing materials are nearly completely buried. The bombing-related artifacts suggest an Anglo/Euroamerican NM Statehood-WWII (1941–1945) cultural/temporal affiliation for the site.

Feature 1, located in the southern portion of the site, is a bomb crater that measures about 33 ft (10 m) in diameter and about 10 inches (25 cm) deep. A semi-circular alignment of vitrified sand was also observed with this feature.

Feature 2, located northwest of Feature 1, is also a bomb crater. It measures about 40 ft (12 m) in diameter and is about 8 inches (20 cm) deep. Some vitrified sand was observed.

Feature 3 is a vitrified sand concentration with an associated bomb crater located in the western portion of the site. The vitrified sand concentration measures 148 ft by 99 ft (45 m by 30 m) and the bomb crater measures about 50 ft (15 m) in diameter.

Feature 4, located in the northern portion of the site, is a vitrified sand concentration with an associated bomb crater. The vitrified sand concentration measures 230 ft by 33 ft (70 m by 10 m) and the associated bomb crater measures about 43 ft (13 m) in diameter and is about 8 inches (20 cm) deep.

*NRHP Eligibility*

Although the site surface has been fully recorded some artifacts are nearly completely buried and additional buried cultural deposits are likely in the loose sediments on the site. The site retains the potential to contribute further important information and is, therefore, recommended as eligible for the NRHP under Criterion D. The site is also significant because of its association

**Exact location of identified resources is not disclosed to protect resource integrity.**

with bombardier training at the beginning of WWII and with the development of the military and civilian aerospace industry in the area. Therefore, TEC also recommends LA 103054 eligible under Criterion A.

LA 144343 (TEC 69-14)

Land Ownership: Private

Legal Description: T 10 N, R 1 E, Section 3: SW SW SE

UTM coordinates: Zone 13, E 333789, N 3888458 (NAD 83)

This low-density historic artifact scatter (Figure 19) is situated on the eastern slope of a small hill directly adjacent to the north side of the Shooting Range State Park access road. Aeolian deposits support an understory of grasses and shrubs, narrow-leaf yucca, and prickly pear cactus. The site appears to be in fair condition, with some sediment erosion evident. Additional artifacts (vent-hole cans) were observed on the south side of the Shooting Range State Park access road, indicating that the site extends across the roadway and beyond the project area boundary onto private land. Permission to survey on this land was not obtained and only the portion of the site within the project area was recorded.

The historic artifact scatter consists of 47 artifacts, all of which were analyzed in the field. The assemblage includes 11 fragments of brown glass, 11 clear glass fragments, three sherds of a green-glazed earthenware, five sanitary cans, one friction can lid, five indeterminate can fragments, and 11 vent-hole cans that are Simonis Type 18 cans (with "Punch Here" embossed on the lid) dating between 1935 and 1945 (Simonis 1998). With the exception of two cans that are imbedded no more than 2 cm (0.8 in) in the loose sediment, all of the cans lie on the surface. Based on the presence of the diagnostic vent-hole cans, the site is assigned an Anglo/Euroamerican or Hispanic Statehood-WWII (1935–1945) cultural/temporal affiliation.

*NRHP Eligibility*

The site contains a low-density scatter of 47 historic artifacts, and likely represents a single-episode trash dump. Although all observed artifacts were documented the site extends onto private land to the south and this portion of the site could not be examined during the current investigation. The portion of the site within the project area is unlikely to yield additional important information; however, because part of the site could not be recorded and evaluated the eligibility of the site for inclusion in the NRHP is recommended as undetermined.

**Exact location of identified resources is not disclosed to protect resource integrity.**

### MANAGEMENT RECOMMENDATIONS

Seven previously recorded sites, eight new sites and 179 IOs were identified and documented within the current survey area. Discussion of each site's eligibility for inclusion in the NRHP is provided in the previous section, following the detailed description of each site. Nine of the sites (LA 45282, LA 71199, LA 103036, LA 103054, LA 134644, LA 144337, and LA 144340-144342) are recommended eligible for inclusion in the National Register of Historic Places (NRHP). These sites should be avoided, if possible, by any future undertakings. The eligibility of the remaining six sites for inclusion in the NRHP is recommended as undetermined. Further investigation is necessary to evaluate the significance of five of these sites (LA 27592, LA 144336, LA 144338, LA 144339, LA 144343) and one site (LA 27591) could not be relocated and, therefore, could not be evaluated regarding NRHP eligibility. Until a recommendation can be made regarding these six sites they also should be managed as if they are eligible for inclusion in the NRHP.

Any future undertakings upon the lands covered by this survey and report should be reviewed by a professional archaeologist for their effects upon the cultural properties identified in this report. Those conclusions as to effect should be reviewed by all involved agencies and a report of the findings should be submitted to the New Mexico State Historic Preservation Officer for review and clearance.



## REFERENCES CITED

- Beal, J. D.  
1978 *An Archaeological Survey of "The Volcanoes" West of Albuquerque, New Mexico.* School of American Research, Santa Fe.
- Bennett I. W.  
1986 Climatic Information. In *New Mexico in Maps*, edited by J. L. Williams, pp. 32-54. University of New Mexico Press, Albuquerque.
- Berman, M. J.  
1979 *Cultural Resources Overview of Socorro Area, New Mexico.* Prepared for the USDA Forest Service, Southwest Region, Albuquerque, New Mexico, and USDI Bureau of Land Management, New Mexico State Office, Santa Fe, New Mexico.
- Brandi, J. M.  
1993 *An Intensive Archaeological Survey of 1200 Acres in Unit 20 West Phase I, Rio Rancho, New Mexico.* Manuscript on file, Rio Grande Consultants, Inc., Albuquerque  
1999 *Results of the 1992-1994 Archaeological Resource Inventory: Petroglyph National Monument, New Mexico.* Report submitted to the National Park Service, Petroglyph National Monument, Albuquerque.
- Brown, D. E.  
1994 *Biotic Communities: Southwestern United States and Northwestern Mexico*, edited by D. E. Brown, pp. 52-57. University of Utah Press, Salt Lake City.
- Cordell, L.  
1979 *Cultural Resources Overview of the Middle Rio Grande Valley, New Mexico.* USDA Forest Service, Southwest Region, Albuquerque and Bureau of Land Management, New Mexico Land Office, Santa Fe, New Mexico.  
1997 *Archaeology of the Southwest*, 2nd Edition. Academic Press, San Diego, California.
- Crollett, E. T., D. J. Seymour, and D. St. Germain  
1995 *An Archaeological Context for the Albuquerque Metropolitan Area.* Prepared for City of Albuquerque Planning Department. Report No. 26, Lone Mountain Archaeological Services, Albuquerque.
- Cross-Cultural Research Systems  
1991 Cultural Resources Survey, Unser Boulevard/PDN Corridors, Albuquerque, New Mexico. Submitted to H. W. Lochner, Inc. Cross-Cultural Research Systems, Santa Fe.
- Dick-Peddie, W. A.  
1993 *New Mexico Vegetation: Past, Present, and Future.* University of New Mexico Press, Albuquerque.

- Fletcher, T. F.  
1998 *Archaeological Data Recovery Excavations at Four Archaic Period Sites along a Section of the Proposed Northwest Corridor, Sandoval County, New Mexico*, Report No. 135. Keystone Environmental and Planning, Inc., Albuquerque.
- Gossett, C., and W. Gossett  
1988 *Preliminary Report for Final Excavations at Montano Pueblo, LA 33223*. Manuscript on file at Archaeological Records Management Section, Laboratory of Anthropology, Santa Fe.
- Hacker, L. W.  
1977 *Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico*. United States Department of Agriculture, Soil Conservation Service and Forest Service, and United States Department of the Interior, Bureau of Indian Affairs and Bureau of Land Management, in cooperation with the New Mexico Agricultural Experiment Station, Albuquerque.
- Hawley, J. W.  
1986 Physiographic Provinces and Landforms. In *New Mexico in Maps*, edited by J. L. Williams, pp. 23-31. University of New Mexico Press, Albuquerque.
- Hibben, F. C.  
1941 Evidence of Early-Occupation in Sandia Cave, New Mexico and Other Sites in the Sandia-Manzano Region. *Smithsonian Miscellaneous Collections* 99(23):1-44.
- Huckell, B. B.  
2001 *Folsom Settlement and Paleoenvironment at the Rio Rancho Site*. Ms. on file, Maxwell Museum of Anthropology, University of New Mexico, Albuquerque.  
2002 *Paleoindian Land Use in the Vicinity of the Albuquerque Volcanoes*. Project No. 35-00-15334.16, Historic Preservation Division, Office of Cultural Affairs, State of New Mexico.
- Huckell, B. B., and J. D. Kilby  
2000 Boca Negra Wash, A New Folsom Site in the Middle Rio Grande Valley, New Mexico. *Current Research in the Pleistocene* 17:45-47.
- Irwin-Williams, C.  
1973 The Oshara Tradition: Origins of Anasazi Culture. In *Contributions in Anthropology* 5(1). Eastern New Mexico University, Portales, New Mexico.  
1979 Post-Pleistocene Archaeology, 7000-2000 BC. In *Handbook of North American Indians, Southwest*, Volume 9, A. Ortiz, ed., pp. 31-42. Smithsonian Institution, Washington, D.C.

Judge, J. W.

- 1973 *The PaleoIndian Occupation of the Central Rio Grande Valley, New Mexico.* Albuquerque: University of New Mexico Press.

Judge, J. W. and J. Dawson

- 1972 PaleoIndian Settlement Technology in New Mexico. *Science* (176): 1210-1216.

Kelly, V. C.

- 1977 *Geology of the Albuquerque Basin, New Mexico.* New Mexico Bureau of Mines and Mineral Resources Memoir 33, New Mexico Institute of Mining and Technology, Socorro.

Kidder, A. V.

- 1927 *An Introduction to the Study of Southwestern Archaeology with a Preliminary Account of the Excavations at Pecos.* Yale University Press, New Haven.

Kovacik, J. J.

- 1998 *Archaeological Testing at Twenty-Seven Sites Along the Proposed Northwest Corridor, Bernalillo County, New Mexico.* Report No. 134. Prepared by Keystone Environmental and Planning, Inc. for Bernalillo County and Avid Engineering.

Marshall, M. P.

- 1985 *Archaeological Investigations in the Rio Medio District.* Manuscript on file at the Archaeological Records Management System, Santa Fe.  
1995 *The Paseo del Volcan Cultural Resource Management Project: A Sample Survey and Records Search for the Proposed Alternate Corridors in Bernalillo and Sandoval Counties, New Mexico.* Report No. 116, Cibola Research Consultants.

Phillips, D. A., Jr.

- 2001 *Cultural Resource Survey for the Proposed Paseo del Volcan Corridor, Bernalillo and Sandoval Counties, New Mexico. Addendum: Additional Studies of LA 103054 (Revised Version).* Report No. 01-196, SWCA, Inc., Environmental Consultants, Albuquerque.

Reinhart, T. R.

- 1969 *Late Archaic Cultures of the Middle Rio Grande Valley, New Mexico: A Study of the Process of Culture Change.* Unpublished Ph.D. dissertation, Department of Anthropology, University of New Mexico.

Reycraft, R. M.

- 2001 *Cultural Resource Survey for a Proposed Reservoir Tank at Volcano Cliffs in the West Mesa of Albuquerque, Bernalillo County, New Mexico.* Report No. 600-39, Taschek Environmental Consulting, Albuquerque.

Rodgers, J. B.

- 1978 *La Boca Negra Park Project: An Intensive Archaeological Survey in Bernalillo County, New Mexico*. Report submitted to the Parks and Recreation Department, City of Albuquerque.
- 1980 *The West Mesa Airport Archaeological Survey Project in Bernalillo County, New Mexico*. Center for Anthropological Studies, Albuquerque.
- 1981 *The Volcano Ranch Historic Site of the Llano de Albuquerque, New Mexico*. Center for Anthropological Studies, Albuquerque.
- 1983 *The Volcano Park (Southern) Archeological Survey Project, Bernalillo County, New Mexico*. Scientific Archeological Services, Albuquerque.

Schaafsma, P. and C. F. Schaafsma

- 1974 Evidence of the Origins of the Pueblo Katchina Cult as Suggested by Southwestern Rock Art. *American Antiquity* 39:535-545.

Schmader, M. F., and J. D. Hays

- 1986 *Las Imagines: The Archaeology of Albuquerque's West Mesa Escarpment*. Report submitted to Albuquerque Open Space Division of the Parks and Recreation Department, City of Albuquerque.

Simmons, M.

- 1982 *Albuquerque: A Narrative History*. University of New Mexico Press, Albuquerque.

Simonis, D.

- 1998 *Simonis Milk Can Guide*. New Mexico Archaeological Council, Albuquerque.

Stuart, D. E., and R. P. Gauthier

- 1981 *Prehistoric New Mexico: Background for Survey*. University of New Mexico, Albuquerque.

Tuan, Y. F., C. E. Everard, J. G. Widdison, and I. Bennet

- 1973 *The Climate of New Mexico*. New Mexico State Planning Office, Santa Fe.

U. S. Army Public Information Retrieval System

- 1994 [http://pirs.mvr.usace.army.mil/scripts/district\\_sites.asp?district=Albuquerque](http://pirs.mvr.usace.army.mil/scripts/district_sites.asp?district=Albuquerque)

Wendorf, F.

- 1954 A Reconstruction of Northern Rio Grande Prehistory. *American Anthropologist* 56:200-227.

Wendorf, F., and E. Reed

- 1955 An Alternative Reconstruction of Northern Rio Grande Prehistory. *El Palacio* 62:131-173.

**APPENDIX A: ILLUSTRATIONS**



Figure A.1: LA 27592  
San Jose Projectile Point Base

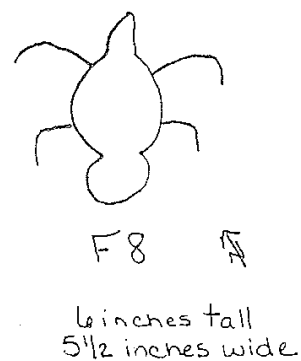
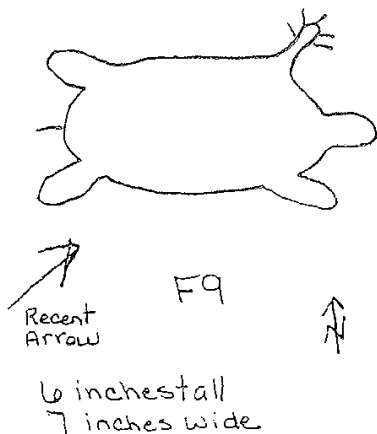
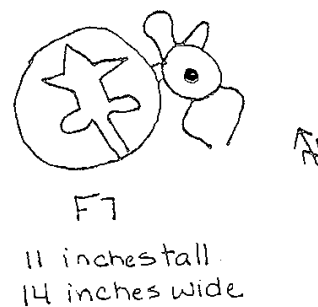
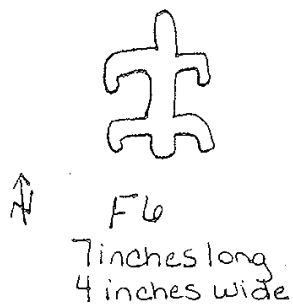
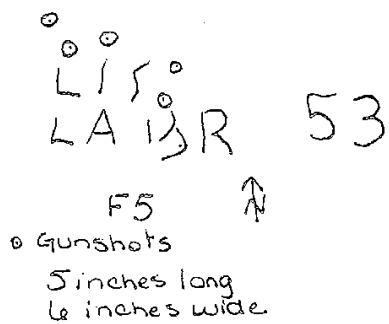
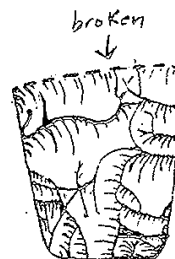


Figure A.2: LA 45282  
(Features 1 through 9)

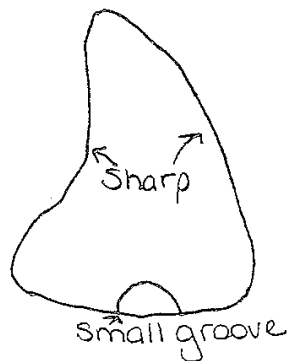


Tool 1  
Possible Bajada or  
Jay point tip.  
48 mm long (broken)  
29 mm wide  
8 mm thick



Tool 2  
Possible Bajada  
Point Stem.  
29 mm long (broken)  
25 mm wide  
7 mm thick

Figure A.3: LA 144340  
Tools 1 and 2



Scraping wear  
on two edges

Tool 3  
Utilized Fossil  
Possible shark tooth  
46 mm long  
36 mm wide  
9 mm thick

Figure A.4: LA 144340  
Tool 3



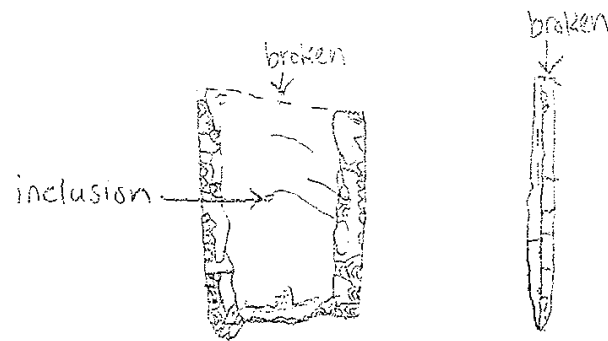


Figure A.5: IO 135  
 Folsom projectile point base  
 3.7 cm long (broken)  
 2.4 cm wide  
 0.4 cm thick

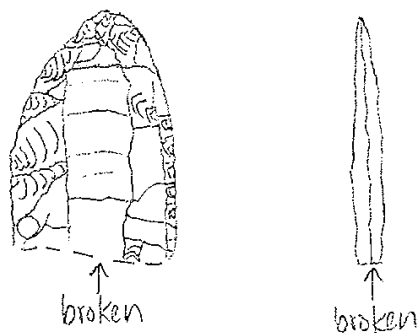


Figure A.6: IO 155  
 Folsom projectile point tip  
 3.7 cm long (broken)  
 2.5 cm wide  
 0.4 cm thick