CULTURAL RESOURCES INVENTORY OF 350 ACRES FOR THE HOMESTAKE MINING COMPANY IN CIBOLA COUNTY, NEW MEXICO

Prepared by
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Prepared for the Homestake Mine Company
Grants, New Mexico

Submitted to
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NMCRIS Activity No. 100406

New Mexico State Archaeological Survey Permit
NM-06-121-S

Taschek Environmental Consulting Report No. 2006-32

Consulting Agencies:
Nuclear Regulatory Commission
New Mexico Historic Preservation Division

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ABSTRACT

The Homestake Mine Company of California (HMCo) contracted with Kleinfelder Inc., who subcontracted with Taschek Environmental Consulting (TEC) to conduct an intensive, systematic pedestrian survey to inventory cultural resources on approximately 141.8 hectares (ha) (350.3 acres [ac]) in Cibola County, New Mexico. HMCo is proposing to build an evaporation pond on a 13.4 ha (33-ac) site as part of long-term groundwater restoration efforts at the facility. Proposed locations for the pond are on private land near the HMCo facility, which is located approximately 4 miles northeast of the Milan, New Mexico. HMCo currently manages a ground water restoration program as defined by United States Nuclear Regulatory Commission (NRC) License SUA-1471, and New Mexico Environment Department (NMED) Discharge Plans, DP-200 and DP-725. An amendment to the NRC Site License and an amendment to NMED DP-725 will be required to address the addition of the new evaporation pond, and the attendant site boundary expansion.

The total area covered by the cultural resource survey measures approximately 141.8 ha (350.3 ac) and consists of two separate block units, including an access road and a 15.24 meter (m) (50 foot [ft]) buffer around the perimeter of the parcels. The eastern survey area is a square block measuring roughly 70 ha (172 ac) with its southern edge along County Road 63/ Route 334. The western survey area is a square block of the same size that includes a proposed access road extending south from the southern end of the block about 400 m (1312 ft) to connect to County Road 63/ Route 334. With the addition of 15.24-m- (50-ft-) wide proposed access corridor and survey buffer, the western survey block covers roughly 72 ha (178 ac).

The survey was conducted on June 5 through June 8 and from June 12 to June 15, 2006, by TEC personnel Berenika Byszewski, William Penner, Chris Parrish, Brad Beacham, and Thomas Lloyd. Berenika Byszewski served as Principal Investigator for the project. The survey was conducted under New Mexico Archaeological Survey Permit Number NM-06-121-S. The New Mexico Cultural Resource Information System (NMCRIS) Activity Number assigned to the survey is 100406.

Eleven new sites (LA 153549–LA 153559), one previously recorded site (LA 108856), and 51 isolated occurrences (IOs) were identified during the survey. Of the twelve documented archaeological sites, three sites (LA 153552, LA 153557, and LA 108856) are recommended eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion D for their information potential, based on the high probability of intact buried cultural deposits at these sites. An undetermined eligibility status is recommended for three sites (LA 153553, LA 153556, and LA 153559) pending a testing program that would determine the presence or absence of intact subsurface cultural deposits. The remaining six sites (LA 153549-153551, LA 153554, LA 153555, and LA 153558) are recommended ineligible for inclusion in the NRHP due to their lack of integrity.

TEC recommends that the proposed undertaking avoid the six sites with eligible or undetermined eligibility status (LA 153552, LA 153553, LA 153556, LA 153557, LA 153559 and LA 108856). Construction activities should remain at least 50 feet from the boundaries of these sites.

The six ineligible archaeological sites (LA 153549-153551, LA 153554, LA 153555, and LA 153558) and the 51 IOs have been recorded and have not, and likely will not, yield important information to better our understanding of prehistory. No further investigations or management considerations are recommended for the ineligible sites or the IOs.

According to the latest project alternatives (Kleinfelder, Inc. *Site Location Map* dated June 2006); the proposed pond location will avoid all eligible and undetermined archaeological sites. A small portion of LA 153551 extends into Alternative C in the eastern survey block; however, this site is recommended ineligible for inclusion in the NRHP. Subject to comment by the New Mexico State Historic Preservation Officer (SHPO), the proposed undertaking will have *no effect* on any resources listed on, nominated to, or eligible for the NRHP.

TEC recommends archaeological monitoring of all construction activities in the unbladed portions of Alternative B. In 1995, mechanical blading of up to one meter of aeolian sediments exposed a number of new archaeological sites in the immediate area. The unbladed portions of Alternative B contain older aeolian sediments that appear to be stabilized by increased vegetative cover. Given the high density of sites in the bladed portion of the survey area, and the lack of sites in the non-bladed portion (save LA 153557), it is likely that aeolian deposits are covering intact subsurface archaeological remains in the unbladed portions of the survey area. Therefore, the design and implementation of an archaeological monitoring plan is recommended if the proposed pond is to be located in Alternative B. If buried cultural deposits are encountered at any point during construction activities, work should cease immediately and the New Mexico SHPO should be contacted.

This undertaking complies with the provisions of the National Historic Preservation Act of 1966, as amended through 1992, and applicable regulations. The report is consistent with applicable federal and state standards for cultural resource management.

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INTRODUCTION

The Homestake Mine Company of California (HMCo) contracted with Kleinfelder Inc., who subcontracted with Taschek Environmental Consulting (TEC) to conduct an intensive, systematic pedestrian survey to inventory cultural resources on approximately 141.8 hectares (ha) (350.3 acres [ac]) in Cibola County, New Mexico (Figures 1 and 2). HMCo is proposing to build an evaporation pond on a 13.4 ha (33-ac) site as part of long-term groundwater restoration efforts at the facility. Proposed locations for the pond are on private land near the HMCo facility, which is located approximately 4 miles northeast of the Milan, New Mexico. HMCo currently manages a ground water restoration program as defined by United States Nuclear Regulatory Commission (NRC) License SUA-1471, and New Mexico Environment Department (NMED) Discharge Plans, DP-200 and DP-725. An amendment to the NRC Site License and an amendment to NMED DP-725 will be required to address the addition of the new evaporation pond and the attendant site boundary expansion.

The total area covered by the cultural resource survey measures approximately 141.8 ha (350.3 ac) and consists of two separate block units including an access road and a 15.24 meter (m) (50 foot [ft]) buffer around the perimeter of the parcels. Survey was conducted on June 5 through June 8 and from June 12 to June 15, 2006, by TEC personnel Berenika Byszewski, William Penner, Chris Parrish, Brad Beacham, and Thomas Lloyd. Berenika Byszewski served as Principal Investigator for the project. The survey was conducted under New Mexico Archaeological Survey Permit Number NM-06-121. The New Mexico Cultural Resource Information System (NMCRIS) Activity Number assigned to the survey is 100406.

PROJECT LOCATION

The survey area is located on private land about 4 miles northeast of Milan, New Mexico, in Cibola County (see Figures 1 and 2). Situated in the eastern Red Mesa Valley, the survey area occurs in the alluvial flats of San Mateo Creek, a tributary of the Rio San José. Mount Taylor is located to the east and the El Malpais Lava Flow and the Zuni Mountains are located to the west. New Mexico State Highway 640 is located about half a mile east of the survey area and County Road 63/ Route 334 is located south of the survey area, adjacent to the eastern survey block. The survey area falls within the east half of Section 22 and all quarters of Section 23, Township 12 North, Range 10 West, as shown on the *Dos Lomas* (1978, rev. 1981), *Grants* (1978, rev. 1982) and *Bluewater* (1978, rev. 1981) USGS 7.5-minute quadrangle maps. A total of 141.8 ha (350.3 ac) was surveyed for the proposed project in order to assess cultural resource locations and determine the appropriate alternative for the proposed evaporation pond site.

The survey area consists of two separate block units and includes an access road and a 15.24 m (50 ft) buffer around the perimeter of the parcels (see Figure 2). The eastern survey area is a square block measuring roughly 70 ha (172 ac) with its southern edge along County Road 63/ Route 334. The western survey area is a square block of the same size that includes a proposed access road extending south from the southern end of the block about 400 m (1312 ft) to connect to County Road 63/ Route 334. With the addition of 15.24-m- (50-ft-) wide proposed access corridor and survey buffer, the western survey block covers roughly 72 ha (178 ac).

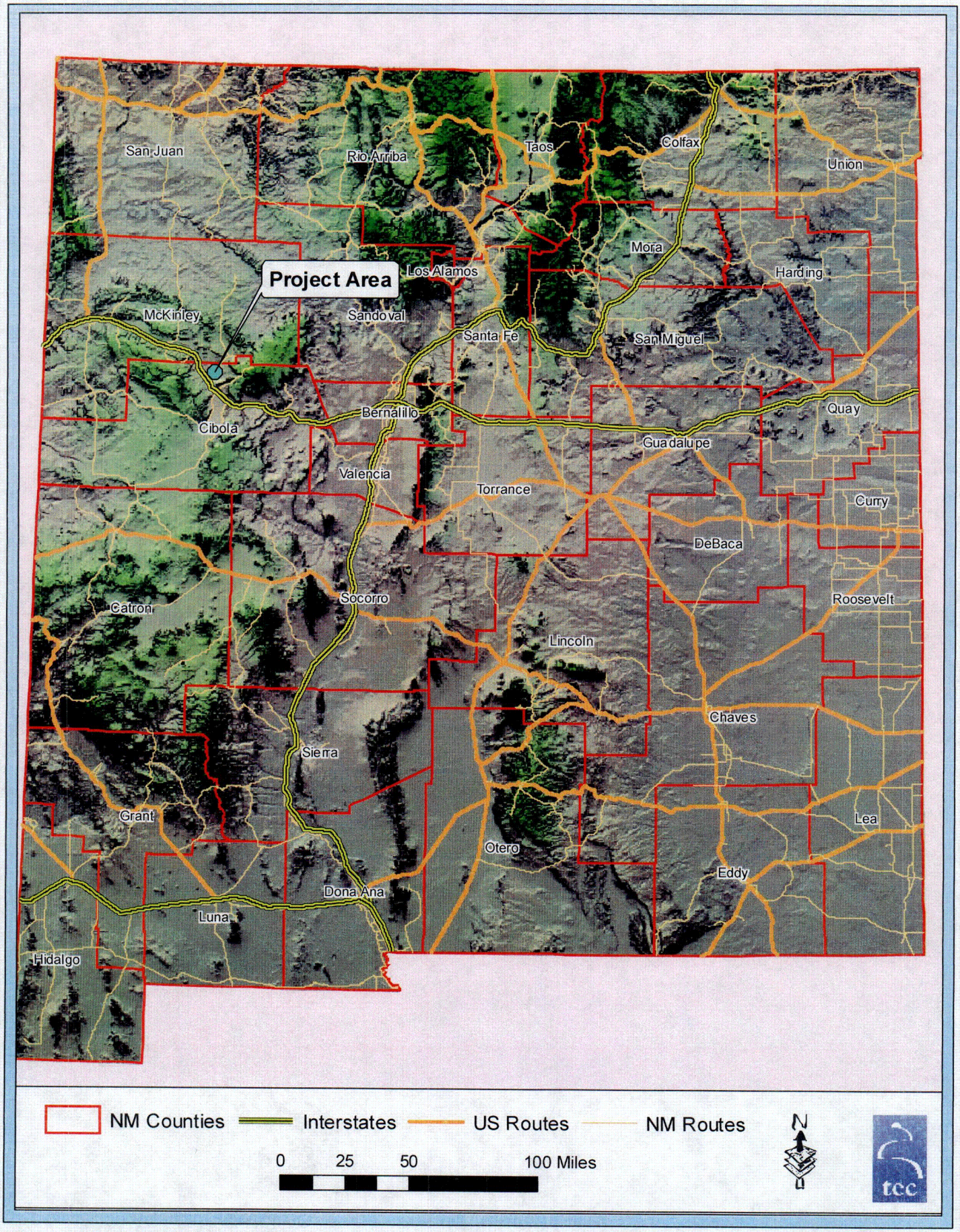

Figure 1: Project Vicinity Map

Figure 2: Project Area Map

PROJECT DESCRIPTION

HMCo is proposing to build a new evaporation pond on a 13.4-ha (33-ac) site as part of long-term groundwater restoration efforts at the facility. HMCo currently manages a ground water restoration program as defined by United States NRC License SUA-1471, and NMED Discharge Plans, DP-200 and DP-725. An amendment to the NRC Site License and an amendment to NMED DP-725 will be required to address the addition of the new evaporation pond and the attendant site boundary expansion. Kleinfelder, Inc. has been contracted to develop an Environmental Assessment that reviews the potential environmental impacts associated with the installation of the proposed evaporation pond at the HMCo facility.

The proposed evaporation pond is intended to expand and enhance the water evaporation capacity at the facility to assist in timely groundwater remediation and cleanup activities. The restoration program is designed to remove target contaminants from the ground water by flushing the alluvial aquifer with fresh water obtained from deep wells or produced from a reverse osmosis plant at the facility. A series of collection wells is used to isolate the contaminated water, which is either pumped to the reverse osmosis plant for treatment or sent to a series of evaporation ponds.

Four alternative locations for the evaporation pond have been proposed. Alternative A is the No Action Alternative, which would result in the continuation of the restoration program at current capacities, at the direction of the NRC and NMED, without the construction of an additional evaporation pond.

Alternative B involves expanding the current licensed boundary and constructing the evaporation pond approximately (549 m) 1800 ft north of County Road 63/ Route 334 with access to the proposed site via a 50-ft-wide access corridor. This alternative is a diamond-shaped square located in the center of the western survey block at the juncture of Sections 22 and 23, Township 12 North, Range 10 West, (see Figure 2). Approximately 13.4 ha (33 ac) of land would be impacted, providing for the pond impoundment structure and related features. Construction is designed to balance cut and fill activities at the proposed pond site, thereby eliminating the need to move significant quantities of soil to or from the project area.

Alternative C involves expanding the current licensed boundary and constructing the evaporation pond north of, and adjacent to, County Road 63/ Route 334 within the SE ¼ of Section 23 Township 12 North, Range 10 West, (see Figure 2). This alternative is a square located in the southern half of the eastern survey area, slightly west of the center of the block. Construction of the pond would follow the same design as described for Alternative B listed above.

Alternative D involves constructing the pond south of the large tailings pile impoundment in the SW ¼ of Section 26 Township 12 North, Range 10 West. This alternative is within the current NRC License boundary and therefore would not require a license amendment. This area was not surveyed as part of the cultural resource inventory.

ENVIRONMENTAL SETTING

The project area is located within the Acoma-Zuni Section of the Colorado Plateau Province, which is characterized by extensive upper Cenozoic volcanics that form a discontinuous cover on erosional and constructional landforms. Mount Taylor is the dominant geographic feature in the northeastern portion of the Acoma-Zuni Section, and Cabezon Peak sits at its northeastern edge. The Zuni Mountains are situated to the west and are flanked by hogback and cuesta belts that are capped by Permian and Triassic limestone and sandstone. The majority of the Acoma-Zuni Section is drained by the Rio San Jose, which is the major tributary of the Rio Puerco. The major valleys of the San Jose system are generally broad, but can still be well entrenched in the lower elevations (Hawley 1986).

More specifically, the project area is located at the east end of the Red Mesa Valley. This geographic feature is bound on the east by La Jara Mesa, on the south by Black Mesa and Grants Ridge, on the west by the El Malpais lava, and on the north by Mesa Montanosa. The Red Mesa Valley is in turn situated at the southeast end of the Zuni Uplift, which is an elevated manifestation of the Colorado Plateau. The project area lies within the alluvial flats of San Mateo Creek.

San Mateo Creek, an intermittent drainage, runs through the project area, and empties into the Rio San José approximately 8 miles to the south. Cottonwood Creek and Bluewater Creek are located west of the project area and flow north off the Continental Divide into Bluewater Lake. The Rio Pescado and Rio Nutria drain south into the Zuni River and are located southwest of the project area. The principal aquifers in the general area are formed by Glorieta sandstone and San Andres limestone, but water is also available from Quaternary basal flows (PNM 1978). San Mateo Creek was dry at the time of the survey.

The majority of the project area contains soils of the Sparank-San Mateo complex with 0 to 5 percent slopes. Sparank and San Mateo soils are well-drained and moderately alkaline. Sparank soils are comprised of clay loam overlying silty clay loam; San Mateo soils are loams. Both soils are conducive to agriculture. The northwestern end of the western survey block contains soils of the Penistaja complex with 2 to 10 percent slopes. This complex contains fine sandy loam overlying sandy clay loam. Penistaja soils are alkaline and there is no annual flooding and/or ponding associated with the type. In general, the nature of the flat valley exposes it to high winds and shifting aeolian sands. Documentation of mechanical blading of 1 m of accumulated aeolian sediments, and the presence of sand sage—a deep sand indicator species—attest to the presence of deep aeolian overburden in the area, especially in those areas that have not been subjected to blading.

The vegetation in the project area is Desert Grassland of the Colorado Plateau (Dick-Peddie 1993). The survey area is semi-arid grassland characterized by shrubs and mixed grama-galleta steppe grasses. Grassland vegetation is sensitive to disturbance and Dick-Peddie (1993) argues that areas currently defined as Desert Grassland and desert scrubland most likely originated as true grassland. A large area in west-central New Mexico classified as Desert Grassland is actually a new succession-disturbance desert grassland characterized by galleta and blue grama grasses and consisting of high shrub and forb densities, with low grass densities (Dick-Peddie

1993). Four-wing saltbush, greasewood, sand sage, and snakeweed were the most common types of shrubs identified within the project area. Grasses include blue grama, galleta, dropseed, Indian rice grass, and bunch grasses. Some narrowleaf yucca was also observed. Salt cedar is beginning to spread along the shallow San Mateo Creek. Earthen stock tanks in the survey area have turned into wetlands containing cattails and providing water and food for a variety of wildlife including red-winged blackbirds and coyotes. Most of the project area was bladed in 1995 and re-seeded with like shrubs, forbs and grasses. Over ten years later, areas that have been bladed and re-seeded contain smaller shrubs, less vegetative cover, and increased erosion than non-bladed areas. Surface visibility in the project area was between 79 and 99 percent. The survey area ranges in elevation from 2006 m (6580 ft) to 2030 m (6660 ft) above mean sea level (amsl).

Mule deer, coyote, rattlesnakes, and many species of bird, small rodents, lizards, and raptors are common in the general area. Cottontail rabbits and black tail jackrabbits, ravens, rattlesnakes, horny toads, blackbirds, and prairie dogs were observed during the course of fieldwork.

The climate for the general project area is classified as mild and arid with an average of 130 frost-free days. Spring through early summer is the driest season, while over 40 percent of the annual precipitation occurs from July to September. The summer rainfall is monsoonal and usually occurs in the form of brief, but heavy, thunderstorms (Bennett 1986a, b, and c).

The surface of the survey area has been significantly altered by blading that occurred in 1995 as part of HMCo's windblown contamination clean-up project. The project involved the removal of aeolian deposits containing high level of radon that had accumulated in the active aeolian sand dunes surrounding the mill processing site over a span of 35 years. Heavy machinery was utilized in removing the contaminated deposits, which sometimes reached a depth of over 1 m. The contaminated sediments were hauled by truck to the mine's tailing pile in order to be buried. After the removal of the contaminated deposits, mulch was spread across the entire area and crimped into the soil to a depth of four inches. Once the mulch had decomposed, seed was spread and shallowly disked into the remaining soil horizon. About 70-percent of the survey area was impacted by heavy machinery during clean-up procedures (Figure 3). This area has been used for cattle grazing for many years. Bioturbation and grazing have impacted the vegetation and archeological sites in the area. Two earthen stock tanks are maintained within the survey area providing water for stock animals and inadvertently creating a source of water and food for a variety of plants and animals.

Figure 3: Project Area Detail Showing Bladed Area

CULTURAL SETTING

Cultural overviews provide a context for interpreting cultural resources in a particular region. Synthetic studies of the prehistory and history of northwestern New Mexico are available (e.g., Cordell 1997; Stuart and Gauthier 1988), which focus on the broader region. For information more specific to the project area, the reader is referred to Tainter and Gillio's (1980) overview of the Mount Taylor area and Scheick's (1985) synthesis of Red Mesa Valley archaeology. Since all of the sites encountered during this survey date to the Anasazi Pueblo time period, the following summary does not include an historic cultural overview.

Paleoindian Period

The Paleoindian period is the earliest generally accepted period of human occupation in North America. In New Mexico the Paleoindian period lasted from about 10,000 to 5500 B.C. and this date range has been applied to the study area. Most researchers agree that there has been inadequate research of the Paleoindian period in the Mount Taylor/Cibola County area (Beal 1984; Broster and Harrill 1982; Dittert 1959; Irwin-Williams 1973; Ruppé 1953; Tainter and Gillio 1980; Whitmore 1979), and that little archaeological work has been conducted beyond survey level recording of Paleoindian sites, components, and artifacts.

Cordell (1997) posits that during the Paleoindian period in the American Southwest climatic fluctuations and local climates were considerably different from those of today. Doleman and Chapman (1997) describe the climate during the Paleoindian period as shifting from "cooler, moister, and more equitable Pleistocene climates to the warmer and drier Holocene climates of today." During the Late Pleistocene, the cooler and wetter environment supported extensive grasslands where many now extinct megafauna species grazed.

The Paleoindian occupation of the American Southwest dates from approximately 9,500 to 5,500 B.C. Paleoindian economic and settlement patterns are usually characterized as that of small, highly mobile hunter-gatherer groups whose focus was the hunting and scavenging of large game. The Paleoindian Period is usually divided into the Clovis (9,500–9,000 B.C.), Folsom (9,000–8,000 B.C.), and Cody (8,000–5,500 B.C.) complexes (Cordell 1997; Irwin-Williams 1979). Each complex is distinguished by unique projectile point styles, and slightly different artifact assemblages and site types. Paleoindian sites are usually lithic scatters with temporally diagnostic projectile points, transverse-flake scrapers, and flakes with bifacial retouch and large striking platforms. The assemblages exhibit a wide array of lithic materials, often from distant sources. Clovis sites are typically kill and butchering locations associated with mammoth and other extinct megafauna. Folsom sites are also usually kill and processing localities, but in association with the extinct *Bison antiquus*. Cody Complex sites continue to reflect mobile groups focused on hunting, but centered on large numbers of modern bison.

Although Paleoindian sites have been identified in many parts of New Mexico, Paleoindian use of the area appears to have been minimal. No Paleoindian sites have been found in the Red Mesa Valley, though a number of collected isolates have been documented. Several sites with Paleoindian components have been identified on the eastern slope of the Zuni Mountains, on a ridgetop south of Grants and on the Acoma reservation (Deyloff 1993; Raymond et al. 2003).

On nearby Cebolleta Mesa, southeast of the project area, Broster (1983) indicates that a significant quantity of Paleoindian artifacts was found at elevations greater than 7400 ft.

Archaic Period

Current interpretations of the local Archaic occupation (5500 B.C.–A.D. 400) depend heavily on a sequence called the Oshara Tradition developed by Cynthia Irwin-Williams (1973, 1978) at Arroyo Cuervo, just west of Albuquerque. The Oshara Tradition includes the Jay (5500–4800 B.C.), Bajada (4800–3200 B.C.), San Jose (3200–1800 B.C.), Armijo (1800–800 B.C.), and En Medio (800 B.C.–A.D. 400) phases. The overall pattern was one of seasonal rounds foraging for wild foods, combined with reuse of base camps. The Jay and Bajada phases may reflect generalized hunting and foraging strategies by small groups; the San Jose, Armijo, and En Medio phases may represent increasingly heavy reliance on plant foods by larger groups in a progressively more crowded landscape. Groundstone tools became common during the San Jose phase and cultigens were adopted in the region during the Armijo phase.

The Arroyo Cuervo sequence (Bryan and McCann 1943) replaces an earlier and incomplete sequence by Bryan and Toulouse (1943) that consisted of a San Jose period (3000–1800 B.C.) and a more recent Lobo period (1800 B.C.–A.D. 700). The Bryan and Tolouse sequence was based on sites in the Grants area. However, there is some dispute as to the validity of the Lobo period since it is associated with ceramics, which Bryan and Toulouse attribute to the persistence of a hunter-gatherer occupation into the Anasazi period (Elyea 1985). Tainter and Gillio (1980) suggest instead that Lobo period sites reflect seasonal hunting and gathering activities of Puebloan agriculturists.

Irwin-Williams (1973) describes the Jay phase tool kit as including "large slightly shouldered projectile points..., well-made lanceolate bifacial knives and numerous very well-made side scrapers. No equipment for breaking or pulverizing seeds or nuts has been found."

The Bajada phase tool kit has projectile points that shift through time from basal indentation and basal thinning to a type with well-defined shoulders and shorter length. Other artifacts during the Bajada phase include side scrapers, rare bifacial knives, and increasing numbers of large chopping tools. Overall, the quality of flaking declines from the earlier period (Irwin-Williams 1973). Increasing numbers of poorly-made side scrapers and heavy chopping tools dominate the San Jose phase tool kit, and well-made side scrapers and bifacial knives are no longer present. Projectile points exhibit serrated edges, a shorter stem-to-blade ratio, and a general decrease in size. The appearance of groundstone implements, pounding stones, and subsurface and stone-lined hearths mark this period (Irwin-Williams 1973). The Armijo phase tool kit includes a larger quantity of groundstone and artifacts possibly reflecting unspecified magico-religious elements. Projectile points are evolved forms of the serrated San Jose style including variations exhibiting a shallow corner notch or narrow-stemmed node (Irwin-Williams 1973). The En Medio phase tool kit shows an expansion of tool types. Projectile points continue to evolve in variations of stemmed corner-notched varieties trending toward increasingly long barbs. Bifacial knives, drills, flake scrapers, choppers, and pounders complete the flaked-stone assemblage. Groundstone tools include abundant deep-basin grinding slabs and cobble handstones. Flat,

troughed grinding slabs and long, flat handstones were introduced during the En Medio phase (Irwin-Williams 1973).

Local Archaic settlement may resemble that in the San Mateo area, on the north side of Mount Taylor. Regarding this area Tainter and Gillio (1980) have remarked:

> Survey in the lower elevation areas of the San Mateo Valley has revealed little evidence of Archaic occupation (Allan et al. 1976), while in the surrounding higher elevations on the Cibola National Forest; Archaic occupation was extensive (Klager and Anschuetz 1979; Powell 1978; Schaafsma 1978). Apparently, Archaic populations took the opportunity for gaining resource diversity, which is provided in topographically diverse terrain. Later agricultural adaptations, in contrast, used more intensively the flatter, lowland areas where resource diversity was lower, but where farming was possible.

A slightly different interpretation of the same data is that because Archaic populations were not tethered to farming areas, they were able to make more use of upland areas—and may have been able to pursue subsistence activities from camps near temporary sources of water, such as streams or ponds that were useful only in wet years (Schaafsma 1978). Thus, factors besides diversity of resources may have dictated changes in local settlement patterns.

Evidence of Archaic occupation is quite extensive in the San Mateo Mesa area north of Mount Taylor (Powell 1978; Schaafsma 1978), and Lobo Canyon (Klager and Anschuetz 1979). Archaic sites have been found in the central Zuni Mountains (Popelish 1990; Huett and Hamilton 1996) and along the Bluewater Creek watershed (Copeland 1987a, 1987b; Garber 1985; Garber et al. 1985). Popelish (1990) notes that in the watershed Archaic site density is about four times that seen in the San Mateo/La Jara Mesa area and there are sites from the Early and Middle Archaic with possible Paleoindian components. Compared to nearby areas such as the San Juan Basin, few Archaic sites have been documented in the Red Mesa Valley. Those that have been found occur on ridgetops or dune slopes in a piñon-juniper woodland environment (Deyloff 1993).

Puebloan Period (Anasazi Occupation)

The Pecos Classification (Kidder 1927), which includes Basketmaker III, and Pueblo I-IV periods provides a framework to organize data pertaining to pan-Southwestern prehistory. In the Cibola culture region of the Anasazi, Reinhart (1968) and Irwin-Williams (1973) interpret the shift from the Archaic to Puebloan cultures as a gradual, in situ, development from ancestral Archaic occupations. The Basketmaker period is thought to have developed directly from San Jose, Armijo, and En Medio phases (Irwin-William 1973), and represents a transition from a mobile hunter-gathering subsistence strategy to a reliance on horticulture and increased sedentism in areas of potentially arable land. Despite the large number of Puebloan sites recorded in the Red Mesa Valley, most interpretation has relied heavily on cultural developments in Chaco Canyon and the surrounding San Juan Basin, with the exception of attempts at regional synthesis proposed by Tainter and Gillio (1980) and Scheick (1985).

Basketmaker III (A.D. 400- 700)

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. 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 1988). Sebastian (1983) argues that despite an increased reliance on horticulture, numerous limited activity sites from this time period attest to continued exploitation of wild food resources. In the Red Mesa Valley populations increased gradually during this period, however there is no evidence of maize agriculture and Deyloff (1993) argues the area was used only marginally. Basketmaker sites are defined by the presence of Lino Gray ceramics and diagnostic projectile points, and occur at the piñon-juniper fringe close to intermittent drainages. Early Whiteware appears in Basketmaker II and extends through Early Pueblo I periods. It is characterized by early unslipped and mineral painted ceramics with tapered rims that are either square or rounded (Hurst 2003).

Pueblo I (A.D. 700–900)

Settlement patterns change during the Pueblo I period and populations increase. In general, multi-room surface structures become more common than pithouses (Cordell 1997). Habitation sites are most commonly found in highland piñon-juniper environments, with seasonal occupation of the valleys. Gilman (1983) associates this shift in settlement pattern to an increase in agricultural activities, an increase in sedentism, and population growth. Most Pueblo I sites in the Red Mesa Valley are sherd and lithic scatters, with some larger sites containing noncontiguous surface structures. Pueblo I/Early Pueblo II sites in the area include surface rooms with pit structures, contiguous surface rooms, field houses and large villages (Deyloff 1993). Whiteware ceramics include La Plata Black-on-white (A.D. 600-850) and White Mound Black-on-white (A.D. 750-925) types and slightly later Kiatuthlana (A.D. 850-900) and Early Red Mesa types (Hurst 2003).

Pueblo II (A.D. 900-1100)

Size and density of sites increase during the Pueblo II period, especially in the Red Mesa Valley. 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 to the northwest of the project area witnessed their greatest building episodes and cultural florescence. Three Chaco outliers are located about 4 miles north of the survey area at the base of Mesa Montanosa (LA 12573-D, LA 12573-A, and LA 6022) in the Rio San José Valley. They date to Late Pueblo I/Early Pueblo II, Pueblo II, and Late Pueblo II/Early Pueblo III, respectively. The outliers are located in an area that was not densely populated prior

to their construction. Along the tributaries of the Rio San José west of the survey area, are large C-shaped and T-shaped roomblocks (Miller and Frizell 1980).

In the Red Mesa Valley, sites began to occur at elevations below 2073 m (6800 ft) along tributaries of major drainages, though mesatops continued to be occupied (Scheick 1985). The tributaries of the Rio San José, including San Mateo Creek which runs through the project area, support hundreds of sites. Many Pueblo II sites contained isolated fieldhouses associated with small roomblocks and kivas. Some larger roomblocks were also recorded. Scheick (1985) argues for a correlation between specific site types and particular elevations during this period. Farmsites, identified as three or more seasonally-occupied rooms located near agricultural fields, were found to occur at elevations between 2073 m (6800 ft) and 2103 m (6900 ft) and between 2195 m (7200 ft) and 2225 m (7300 ft). Pueblos were found to occupy sites at elevations between 2103 m (6900 ft) and 2134 m (7000 ft). Sites lacking structural remains, or what Scheick refers to as limited-activity sites, are found at all elevations.

Intermediate Whiteware is typical of Pueblo II and extends into Pueblo III. This is a generic category of various black-on-white ceramic types with narrow-to-medium walls, tapered rims, and variable finish (Hurst 2003). Types occurring in the Cibola area in this period include Intermediate Red Mesa Black-on-white (A.D. 850-1050), Late Red Mesa Black-on-white (A.D. 1025-1100), Early Gallup Black-on-white (A.D. 970-1070), Intermediate and Late Gallup Black-on-white (A.D. 1000-1150), and Puerco and Escavada Black-on-white types (A.D. 1025-1150). Types are identified by style and surface treatment following Hurst's descriptions from the middle Rio Puerco Valley (2003). Indented-corrugated grayware makes its appearance in about A.D. 950 in the Rio Puerco Valley and begins to dominate assemblages up to Pueblo III. Various types include Chaco Corrugated and Coolidge Corrugated. Kana'a Gray (A.D. 850-1050) includes all neck-banded grayware; wide flat coils are indicative of an early variety, whereas coils that exhibit clapboarding and measure 6 millimeters (mm) in width are considered characteristic of a later variety (Hurst 2003). White Mountain Redware types, Puerco Black-on-red, and Wingate Black-on-red may be present as well. The small number of intrusive ceramics on Pueblo II sites in the Red Mesa Valley has been interpreted as evidence of a local focus lacking long-distance trade and exchange (Scheick 1985).

Pueblo III (A.D. 1100–1300)

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 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). In the Red Mesa Valley far fewer Pueblo II period sites have been found (Scheick 1985). Most of the lower valley sites were abandoned, whereas continuity of occupation was identified at a number of highland sites. Large upland communities in the Red Mesa Valley were abandoned around A.D. 1200, coinciding with a population increase in the Cebolleta and Malpais areas. Scheick (1985) posits that between A.D. 1200 and

1250 upland Red Mesa Valley sites were limited activity areas related to hunting and gathering. By A.D. 1250, the Red Mesa Valley was abandoned.

Pueblo IV (A.D. 1300–1600)

During the Pueblo IV 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 1974).

The Puebloan period was a time of continued technological innovation and sociological change. In addition to the development, manufacture, and elaborate decoration of ceramic vessels, the bow and arrow came to replace the atlatl and spear. Agricultural methods were honed to produce a more reliable food source. This was accompanied by a shift to a sedentary lifestyle that entailed an evolution from small clusters of subterranean pit structures to large aboveground masonry structures, with kivas as the focal point for the expression of religious activities.

Protohistoric Occupation

The project area represents an overlapping convergence of a number of Native American groups that date from the late prehistoric, through the protohistoric and early historic periods to the present. These include the sedentary Acoma and Zuni Pueblos and the semi-sedentary Navajo. The entry of each group into this area occurred at different times. Woodbury (1979) indicates that Hawikuh was occupied from A.D. 1300 by ancestors of the modern Zuni, though he indicates that the area has been occupied since about A.D. 700 to 800 (Basketmaker III period). Atsinna, in the El Morro Valley, considered an ancestral Zuni village, was occupied from about A.D. 1275 to 1400 (National Park Service n.d.). Ancestral Zuni settlements occur from the El Morro Valley to the present Arizona border along Zuni River Valley. Similarly, Garcia-Mason (1979) indicates that the Acoma migrated from Mesa Verde to their present location around A.D. 1300. The date and route of arrival for the Navajo into the Mount Taylor/Zuni Mountains area varies by location and is the subject of much debate. Brugge (1983) indicates the dates range from as early as A.D. 1000 to as late as A.D. 1525, but he speculates they were probably entering the Anasazi region by A.D. 1300. A significant early Navajo group settled on the eastern flanks of Mount Taylor while others went farther west into the San Juan basin and northeast Arizona. Evidence for protohistoric Navajo, or Apache, occupation of the Zuni Mountains is lacking, however (Wilson 1992).

The geography of the El Malpais/Grants area forms a natural corridor through which all of these peoples passed. Although the Puebloans practiced a sedentary lifestyle, their culture areas extend much beyond the present reservation boundaries. Furthermore, Mount Taylor figures into the religious beliefs, practices, and mythology of all the tribes and is an obsidian and sacred plant collection area. The lava flows of El Malpais also play an important part in their beliefs and

mythology (see Holmes 1989). The Zuni Mountains were favored summer herding areas for the Zuni, Acoma, and Laguna. To the Acoma, the Zuni Mountains are associated with the west and are the home of the western rain maker (Holmes 1989). In his studies, Dittert (1959) notes that the Acoma had traditional farming areas in the Red Mesa Valley. According to oral histories, Acoma ancestors may have moved through the Red Mesa Valley lowlands (Dittert 1959).

PREVIOUS RESEARCH

On May 3, 2006, TEC archaeologist William Penner conducted a pre-field records check with the Archaeological Records Management Section (ARMS) of the Museum of New Mexico Laboratory of Anthropology and obtained information on all previously recorded archaeological surveys and sites located within the survey area and an approximate 500 m (1640 ft) buffer outside the survey area. Current listings of the National Register of Historic Places (NRHP) and New Mexico State Register of Cultural Properties (NMSRCP) were consulted to determine the presence of any cultural properties or districts within the project area and vicinity. On June 1, 2006, William Penner visited ARMS to obtain copies of survey reports and previous site documentation. Three previous surveys and one testing program overlap the current survey area and are outlined in Table 1 below. Two previously recorded sites are plotted within the survey area boundary and eight sites are plotted within a 500-m buffer of the survey area. These sites are presented in Table 2 below.

Table 1: Previous Surveys within the Project Area

NMCRIS No.	Performing Agency	Acres	Year	Description
44100	SAC	1200	1993	Block survey for Homestake Mine; 19 sites encountered
45388	SAC	404	1994	Block survey for Homestake Mine; 5 sites encountered
61952	CASA	135	1994	Block survey on several parcels for Homestake Mine reclamation project; 0 sites encountered
48783	CASA	N/A	1995	Testing and monitoring of eight sites

Table 2: Previously Recorded Sites within 500 Meters of the Survey Area

LA Number	Occupation Type	Cultural/Temporal Affiliation	Description
100359	Structural, Prehistoric, Multi-component	1) Anasazi, Pueblo I to Pueblo II (A.D. 850-950) 2) Anasazi, Pueblo II (A.D. 1000-1100)	Artifact scatter w/ features
100360	Nonstructural, Prehistoric	Anasazi, Pueblo II to Pueblo III (A.D. 900 to 1199)	Artifact scatter
100361*	Structural, Prehistoric	Anasazi, Pueblo II (A.D. 1000-1100)	Artifact scatter w/ feature
100373	Nonstructural, Prehistoric	Anasazi, Pueblo II to Pueblo III (A.D. 1010-1200)	Artifact scatter
104307	Nonstructural, Prehistoric	Anasazi, Pueblo II to Pueblo III (A.D. 900-1300)	Artifact scatter
104308	Nonstructural, Prehistoric	Anasazi, Pueblo II (A.D. 1000-1100)	Artifact scatter
104309	Structural, Prehistoric	Anasazi, Pueblo II (A.D. 900-1100)	Artifact scatter w/ feature
104310	Nonstructural, Prehistoric	Anasazi, Pueblo II (A.D. 900-1100)	Artifact scatter
104311	Structural, Prehistoric	Anasazi, Pueblo II (A.D. 900-1100)	Artifact scatter w/ feature
108856*	Structural, Prehistoric, Multi-component	1) Anasazi, Pueblo I to Pueblo II (A.D. 850-950) 2) Anasazi, Pueblo II (A.D. 1000-1100)	Artifact scatter w/ features

*Previously recorded sites plotted within the current survey area

The previous surveys cover approximately 83 ha (206 ac) of the current 142-ha (350-acre) survey area. Areas that were not subject to previous survey include the northwest corner of the western survey block, and the whole southern half of the eastern survey block—an area which was subjected to Homestake Mining Company's 1995 windblown contamination clean-up efforts. Prior to the mechanical blading of contaminated sediments, Southwest Archaeological Consultants (SAC) conducted two large positive surveys and Complete Archaeological Service Associates (CASA) conducted one negative survey for Homestake Mining Company. Archaeological sites with eligible and undetermined eligibility status were fenced to protect them from blading activities. A total of eight sites were isolated as having potential for subsurface deposits, two of which—LA 100361 and LA 108856—are plotted within the current survey area. LA 108856 was found by land surveyors and fenced by Homestake Mining Company in 1994, as it is located in an area that was not subject to previous archaeological survey.

Subsequent to the initial surveys, CASA implemented a significance testing plan at the sites. This undertaking consisted of placing numerous hand and motor-powered auger holes across the sites, digging small test units in high potential areas, and digging shallow backhoe trenches on three of the sites where pithouse remains were suspected (LA 108856 is one of these three).

Only two sites—LA 104309 and LA 108856—were found to contain subsurface archaeological deposits and were recommended eligible for inclusion in the NRHP.

All eight sites were surface collected prior to blading, monitored during blading activities, and hand-stripped in areas with suspected features. Inspection of the bladed and wind-scoured surfaces after clean-up efforts revealed that subsurface remains may be present at LA 100359 and LA 100361 and artifacts were found to extend outside the original site boundaries. Site boundaries were reevaluated and fenced to protect these sites from reseeding activities.

LA 108856 was relocated and updated as part of the current investigation. Relocation was based mainly on the similarity of landform and artifact assemblage, and proximity to the previously recorded UTM Coordinates. No site-boundary fencing, test-units, trenches, or site datum were found. More information about the previous recording of LA 108856 is presented in the discussion of the LA 108856 site update in the Survey Results section of this report.

LA 100361, on the other hand, was not relocated. A number of new sites were identified in the vicinity of LA 100361, though none of these sites could be definitively matched with the previous site description. A discussion of this site, including relocation efforts and possible reasons the site was not relocated, are provided in the Survey Results section of this report.

METHODS

TEC personnel completed a pre-field records review of ARMS for previously recorded archaeological sites in the survey area and vicinity, defined as an approximate 500-m (1640-ft) radius around the survey area. Current listings of the NRHP and the NMSRCP were consulted to determine the presence of any cultural properties or districts within, and in the vicinity of, the project area.

The survey was conducted by walking parallel transects spaced 15 m (50 ft) apart across the entire project area including a 15-m (50-ft) buffer around its perimeter. Surface visibility in the project area ranges from approximately 76 to 99 percent. The eastern survey block, the entirety of which was subjected to mechanical blading and re-seeding in 1995, has a surface visibility that nears 99 percent, whereas most of the western survey block has 76 to 90-percent surface visibility due to increased vegetative cover.

Resource locations shown on the *Dos Lomas* (1978, rev. 1981), *Grants* (1978, rev. 1982), *and Bluewater* (1978, rev. 1981) 7.5-minute USGS quadrangle maps were obtained through the use of Global Positioning System (GPS) receivers. Universal Transverse Mercator (UTM) coordinates were obtained using North American Datum (NAD) 83 projection, on a Trimble GeoXM GPS unit with a positional accuracy of less than 1 m (3.3 ft).

The survey area was not marked on the ground. Shapefiles of the two survey blocks were created using GIS and uploaded to the Trimble GeoXM. Using ArcPad software, TEC surveyors followed survey block boundaries to ensure adequate coverage of the entire survey area.

Sites were defined as occurrences of one or more features, or at least 10 artifacts in an area of 100 square meters, that were estimated to be at least 50 years old. Loci not meeting this definition were considered IOs. General procedures followed by TEC personnel for recording sites, IOs, and other historic properties such as buildings and acequias are described below.

All new and previously recorded sites within the survey area are recorded on LA Site Record forms. Sites that extend onto public land (or onto private land for which permission to survey has been obtained) beyond survey boundaries are recorded in their entirety. Supplemental in-field analysis forms are used to record prehistoric and historic artifacts, to provide adequate descriptive information for each site, including cultural/temporal affiliation when possible. Copies of the completed analysis forms are attached to the appropriate LA Site Record forms.

Cultural/temporal affiliations are assigned to sites with diagnostic artifacts and/or features on the basis of accepted type descriptions and cultural studies provided in sources appropriate to the study area. Diagnostic artifacts such as projectile points are sketched and/or photographed in the field for later typological classification or to confirm in-field classification. Most of the diagnostic ceramics found during this survey fall into the broad category of Cibola Whiteware, as defined by Colton (1965). Ceramic types and temporal affiliations were assigned using Hurst's, *Typological Analysis of Ceramics from the Middle Rio Puerco Valley* (Baker and Durand 2003).

To facilitate relocation each site is plotted on the appropriate USGS 7.5-minute quadrangle map by reference to cultural or topographic features on maps and UTM coordinates are recorded through the use of GPS receivers. A planview map, drawn to scale, is prepared for each site.

An overview photograph is taken for each site. Features, diagnostic artifacts, artifact concentrations, and environmental features are photographed as appropriate. Photographs are also taken to document erosion or other factors when necessary to properly evaluate the integrity and research potential of a site. Photographs are logged and their locations are plotted on site sketch maps.

Isolated Occurrences (IOs) are plotted on the appropriate 7.5-minute USGS quadrangle map and verified with a GPS receiver in the same manner as described for site locations. Information recorded for IOs includes the area (for IOs consisting of more than one artifact), artifact type and frequency, and sketches of diagnostic artifacts. The same artifact analysis forms used in the recording of sites are used to analyze IOs. No artifacts were collected during this inventory.

SURVEY RESULTS

A total of 51 Isolated Occurrences (IOs), one previously recorded site, and 11 new archaeological sites were documented within the area surveyed for the proposed project. All cultural resources documented are described below and evaluated regarding their eligibility for inclusion in the NRHP. Site location maps and a table are included in Appendix A. An IO location map and table are included in Appendix B. Photographs of sites and select artifacts are presented in Appendix C, and archival quality site-overview and feature photographs are

included as an attachment. Appendix D contains illustrations of select artifacts. LA forms containing site overview maps and artifact analysis records are included as an attachment to this report.

Isolated Occurrences

Fifty-one IOs were identified within the project area. They are summarized in Table 3 below. Appendix B contains locational information for the IOs, including a map depicting resource locations (Figure B.1) and a table with UTM coordinates (Table B.2).

Table 3: Isolated Occurrences

IO No.	Description
1	One corrugated bowl fragment w/ coarse sand temper, medium gray paste, slipped and smoothed interior, 5 mm thick. One groundstone fragment w/ slight one-sided use-wear, 68 by 52 by 36 mm.
2	Eight corrugated sherds w/ coarse temper of unknown type, brown paste w/ dark gray core, slipped and polished interior, possible slip on exterior, 5 mm thick. Located along north edge of two-track road, north of gas line.
3	One corrugated sherd w/ sand temper, dark gray paste, slipped interior, 5 mm thick.
4	Three grayware sherds w/ medium/fine sand temper, light gray paste w/ dark gray firing core, scraped interior w/ striations, 5 mm thick. One indented-corrugated sherd w/ coarse temper, slipped on both surfaces, 5 mm thick. One black-on-white sherd, 5 mm thick.
5	Five black-on-white sherds w/ sand temper, dark gray paste, slipped exterior, 5 mm thick. All likely from one jar, probable Gallup Black-on-white.
6	One Gallup Black-on-white jar fragment w/ sand temper, dark gray paste, slipped and scraped exterior, mineral paint, 5 mm thick. One black-on-white bowl fragment w/ medium temper, polished exterior, slipped interior, organic paint, 4 mm thick. Seven indeterminate polychrome sherds w/ sherd temper, red exterior, black exterior, 3 mm thick. Probably from one bowl.
7	One orthoquartzite flake w/ 50-60% retouch along one edge, 60 mm long, 63 mm wide, 27 mm thick. One indented-corrugated bowl fragment w/ coarse sand temper, light gray paste, polished and scraped interior, 5 mm thick.
8	One black-on-white jar fragment w/ medium sand temper, gray paste, scraped interior, polished exterior, mineral paint, 5 mm thick.
9	One indented-corrugated sherd w/ coarse sand temper, light gray paste, scraped/smoothed interior, 6 mm thick.
10	Two grayware sherds w/ fine sand temper, light gray paste, slight polish on one surface, 5 mm thick. One indented-corrugated sherd w/ coarse sand temper, light gray paste, smoothed interior, 5 mm thick.
11	One indented-corrugated sherd w/ coarse sand temper, light gray paste, smoothed interior, 6 mm thick
12	Five whiteware sherds from one vessel w/ coarse sand temper, dark blue-gray paste, gray firing core, slip on one surface (probably exterior), 5 mm thick.
13	Two groundstone fragments. Largest is 30 by 28 by 8 mm.
14	Six tabular sandstone metate fragments. Largest is 80 mm long, 20mm thick
15	One basalt core w/ cortex, 90 by 80 by 63 mm. One orthoquartzite core w/ cortex, 112 by 65 by 65 mm.
16	One black-on-white sherd w/ fine temper, dark gray paste, smoothed or scraped interior, polished exterior, 4 mm thick
17	One chert flake, 34 by 9 mm

IO No.	Description
18	Three tabular sandstone groundstone fragments w/ two exhibiting pecking as well. Largest piece measures 98 by 50 mm, 20 mm thick.
19	One probable Gallup Black-on-white bowl fragment w/ fine temper, gray paste, slipped and smoothed exterior and interior, interior painted w/ fine lines of mineral paint, 5 mm thick. One sherd w/ coarse sand temper, gray paste, no slip, 5 mm thick. One retouched chert flake, 18 by 13 mm.
20	One obsidian core fragment w/ 30 % cortex, 5 flake removals, 30 by 28 by 26 mm.
21	One Red Mesa III rim sherd w/ very fine temper, light gray paste, smoothed exterior, straight rim w/ black mineral paint on rim and interior. One black-on-white jar fragment w/ fine temper (possibly crushed rock), dark gray paste, polished exterior, white slip w/ fine mineral paint, 4 mm thick. One silicified wood distal end of biface thinning flake, 17 mm long.
22	Two refitting fragments of burned tabular sandstone groundstone, 23 by 15.5 by 3.25 cm. One chert flake w/ < 50% cortex, 28 mm long.
23	Two indented-corrugated jar fragments (neck of jar) w/ crushed rock and sand temper, medium gray paste, no smoothing or polishing, 5 mm thick.
24	One tabular sandstone metate, pecked, incised w/ one line, 21 by 21.5 cm by 6 cm thick.
25	One sandstone groundstone fragment w/ slight grinding on one face, 76 mm long by 42 mm thick. One obsidian indeterminate biface fragment, 34 mm long, 8 mm thick.
26	Three grayware sherds w/ medium temper, light gray paste, smoothed on both surfaces, 5 mm thick.
27	One possible Gallup black-on-white rim sherd w/ medium crushed rock temper, light gray paste, smoothed on both sides, 6 mm thick. Two black-on-white sherds (possible Red Mesa) w/ fine temper, light gray paste, eroded exterior.
28	One white chert medial flake fragment. One corrugated sherd w/ coarse protruding temper, gray paste, 5 mm thick. Two black-on-white jar fragments (same vessel) w/ fine temper, light gray paste, scraped interior, polished exterior, 5 mm thick.
29	One whiteware sherd w/ coarse sand temper, dark gray paste, slipped on both sides w/ protruding temper, 5 mm thick. One black-on-white bowl fragment w/ protruding sand temper, gray paste, scraped black interior, slipped exterior, 5 mm thick.
30	One quartzite proximal fragment of thinning flake, 17 mm long. One bowl fragment w/ fine temper, dark gray paste, white slip on both sides, 6 mm thick. Two black-on-white jar fragments w/ fine protruding temper, light gray paste, mineral paint, slipped exterior, scraped interior, 5 mm thick.
31	One chert distal flake fragment, 16 mm long.
32	Two metate fragments w/ ground high points on one side, some pecking, 170 by 125 mm, 90 mm thick.
33	One grayware sherd w/ fine temper, gray paste, smoothed and unslipped on both sides.
34	One chert probable biface fragment (or retouched flake) 23 mm long.
35	One non-cortical chert flake 25 mm long. One chert angular debris 30 mm long.
36	One obsidian flake w/ 30-40% cortex.
37	Three bowl fragments (one w/ square rim) w/ reddish painted lines (possibly oxidized mineral paint) on interior, medium protruding temper, gray paste, polished interior, no slip, rough exterior, 5 mm thick.
38	Two sherds w/ fine temper, gray paste, one side polished, one side scraped, 5 mm thick. One grayware sherd w/ protruding sand temper, light gray paste, scraped on both sides, 4 mm thick.
39	Two black-on-white bowl fragments w/ fine temper, dark gray core w/ light margins, slip and paint w/ "bold blocky" design on interior, 5 mm thick.
40	One chert radial core (three negative scars on tabular nodule), 69 by 55 by 41 mm.
41	Six sherds (one vessel) w/ protruding sand temper, light-medium gray paste, 5-7 mm thick. One black-on-white sherd w/ medium temper, dark gray paste, exterior paint, scraped interior, 6 mm thick.
42	One piece of chert angular debris, 24 mm long.

IO No.	Description
43	One black-on-white sherd w/ fine temper, light gray paste, fine parallel lines of mineral paint on exterior, 5 mm thick.
44	Two sherds w/ medium basalt/sand temper, gray paste, white slip on exterior, heavily eroded, 4 mm thick. One black-on-white sherd w/ sand temper, dark gray paste, slipped and highly polished exterior, mineral paint, scraped interior, 4 mm thick.
45	One black-on-white bowl fragment w/ fine temper, light gray paste, mineral paint, 5 mm thick.
46	Two sherds w/ medium protruding temper, dark gray paste, white slip on exterior, missing interior surface (heavily eroded), 5 mm thick. One chalcedony proximal flake fragment w/ 50% cortex, 20 mm long.
47	Two black-on-white bowl fragments w/ medium temper, gray paste, white slip on both sides, smoothed interior w/ black paint, heavily eroded, 5 mm thick.
48	Five indented-corrugated grayware sherds w/ sand/grit temper, fingernail punctate. One grayware jar fragment w/ sand/grit (popcorn) temper, gray slip on both sides.
49	Two grayware jar fragments w/ fine sand temper, small mark of mineral paint, 6 mm thick.
50	One groundstone fragment (probable metate) w/ moderate one-sided use-wear, 123 by 90 by 36 mm. One groundstone fragment (probable metate) w/ moderate two-sided use-wear, 116 by 77 by 34 mm.
51	Two black-on-white (probable Red Mesa B/w) bowl fragments (one w/ tapered rim) w/ med/fine temper including some quartz sand, white paste, grayish white slip on both sides, solid design of mineral paint on interior.

Previously Recorded Sites, Not Relocated

LA 100361
Field Number: N/A
Site Dimensions: 15 m by 20 m or 78 m by 42 m
Land Status: Private

LA 100361 was originally recorded in 1993 by SAC personnel as a small artifact scatter of Pueblo II ceramics and lithics with one artifact concentration (Deyloff 1993, NMCRIS 44100). The site was fenced to protect it from blading activities until it could be tested. Testing in 1995 by archaeologists from CASA found a lack of subsurface deposits and the site was recommended ineligible for inclusion in the NRHP (Errickson and Hammack 1995, NMCRIS 48783). Following mechanical blading of the surrounding area, CASA revisited the site in order to conduct surface collection and to monitor blading within the ineligible site boundaries. CASA personnel found evidence of a possible midden and remains of surface architecture (burned adobe and sandstone) north of the original site boundary. Only 3 centimeters (cm) to 4 cm of cultural sediments remained above sterile clay in the bladed area and the integrity of this part of the site had been severely compromised. The site boundary was expanded to include this additional area and the entirety of the site was surface collected. A total of 73 artifacts were collected, including 56 sherds, 11 lithics, and six pieces of non-human bone. Ceramic types include Gallup Black-on-white, Puerco Black-on-white, Mogollon smudged (non-local), Red Mesa Black-on-white, and Coolidge Corrugated. An Anasazi Pueblo II cultural/temporal affiliation was attributed to the site.

Within the original extent of LA 103361, blading was monitored by CASA archaeologists. Approximately 50 cm of contaminated sediments were removed from the site surface, exposing sandstone fragments, charcoal flecks, and soil stains interpreted as post holes or features. According to CASA, this cultural level containing features was not disturbed by blading and the original fenced portion of the site retains possible intact buried deposits. The recommendation of eligibility of LA 100361 was changed from ineligible to eligible, and the northeast fencepost was left as a site datum. The current investigation did not relocate the fencepost datum nor did any of the new sites found in the vicinity definitively match the LA 100361 site descriptions.

LA 100361 could not be relocated for a number of reasons. Since the previous recording there has been severe disturbance to the site surface in the form of mechanical blading of 50 cm of sediments, 100-percent surface collection of artifacts, and aeolian redeposition of sediments. Comparison of artifact assemblages from LA 100361 to nearby sites is problematic due to the overwhelming similarity of artifact types at all area sites. Another factor contributing to the difficulty of relocating LA 100361 is the poor locational data submitted by the previous investigations. The initial 1993 recording of the site by SAC plotted the site on the south side of the gas pipeline that runs northwest-southeast through the survey area. CASA reports that SAC misplotted many sites and placed LA 100361 north of the pipeline—about 50 m north of LA 153549's northern site boundary and about 80 m east of LA 153552's eastern site boundary. Neither site plan includes, or makes reference to, the pipeline which is the only permanent landscape feature in the area. Further, both site forms present UTM coordinates in Zone 12, which is located approximately 8 miles to the west. Given the lack of certainty concerning the previous locational information, and given that the surface has been greatly altered and artifacts collected, it remains unclear whether LA 100361 was rerecorded as LA 153549 or LA 153552, or whether the site remains buried under accumulated aeolian sediments in one of the previously plotted locations.

Previously Recorded Sites, Relocated

LA 108856
TEC Field Number: 2006-32-12
Site Dimensions: 78 m NW/SE by 73 m NE/SW
Land Status: Private

This previously recorded prehistoric site is located in an area that was not previously surveyed, in the southern portion of the eastern survey block. It was found by land surveyors in 1995, just prior to mechanical blading of the area by HMCo. Following the discovery, the site was recorded by Laurens C. Hammack and Mary Erickson of CASA during their testing program of sites previously identified by SAC. Testing at LA 108856 revealed the presence of intact buried features along with a diverse and relatively large artifact assemblage. Based on discontinuous dates of diagnostic ceramics, the site was divided into two cultural/temporal components: The earlier component consisted of dates from the Late Pueblo I to Early Pueblo II periods (A.D. 850–950), with the second component dating to the Pueblo II period (A.D. 1000–1100).

Locational information from the previous recording placed the site about 40 m (131 ft) east of where the site was relocated by TEC. The site datum was not relocated, but the similarity of the landform and the artifact assemblage suggests that the site was LA 108856. The site is located in the southeastern corner of the eastern survey block, and overlooks a playa to the south (Figure 4). Surface visibility is 76 to 99 percent. Vegetation is partially re-seeded desert grassland and scrubland including: four-wing saltbush, greasewood, sand sage, Indian ricegrass, and bunch grasses. The area surrounding the site has been heavily disturbed as a result of mechanical blading conducted during the mine clean-up efforts. However, it appears as though the majority of the site was avoided due to its slightly elevated placement over the surrounding area. LA 108856 is evaluated as being in good condition and is estimated to be 76 to 99 percent intact.

During the testing phase, CASA excavated 25 auger-holes and five test units, which revealed buried cultural deposits in the eastern and western ends of the site. A test unit over a concentration of burned rock in the eastern portion of the site revealed the remains of a thermal feature. A shallow backhoe trench placed in the western portion of the site exposed the outline of a pit structure. CASA returned a month later to monitor the mechanical removal of contaminated sediments on LA 108856. Only the northern side of the site was shallowly bladed by a motor grader, as the levels of radon were deemed acceptable by technicians using Geiger counters. Subsurface cultural deposits remained intact and the site was re-fenced to protect it from re-seeding, which was to be carried out by hand in the northern portion of the site. The site update found no evidence of a fence or site datum. Any evidence of test-units, trenches, or features has been covered by recent aeolian sediments.

LA 108856 was completely surface collected during the testing and monitoring phases. A total of 294 artifacts were collected from this site by CASA, including 253 sherds and 41 lithics. The flaked-stone assemblage noted by CASA consisted of one obsidian unifacial scraper, one petrified wood core, one uniface of chert, two obsidian primary flakes, three chert primary flakes, two primary flakes of petrified wood, six chert secondary flakes, four obsidian secondary flakes, six tertiary flakes of chert, and several pieces of angular debris of obsidian and petrified wood.

CASA also identified a number of ceramic types: Gallup Black-on-white (bowls and jars), Red Mesa Black-on-white (one jar), Puerco Black-on-white (bowls and jars), Tohatchi Banded (jars), Coolidge Corrugated (jar rims), Mogollon Smudged (one bowl), Lino Gray (jars), and Kana'a Gray (jars). Also, a large number of the sherds were placed into less specific categories such as Corrugated Body (number [n] = 145) and Indeterminate Black-on-white (n = 47). It was noted that two of the indeterminate black-on-white bowl sherds had been worked. These specimens may have been used to smooth the surfaces of ceramic vessels prior to firing, or as game pieces.

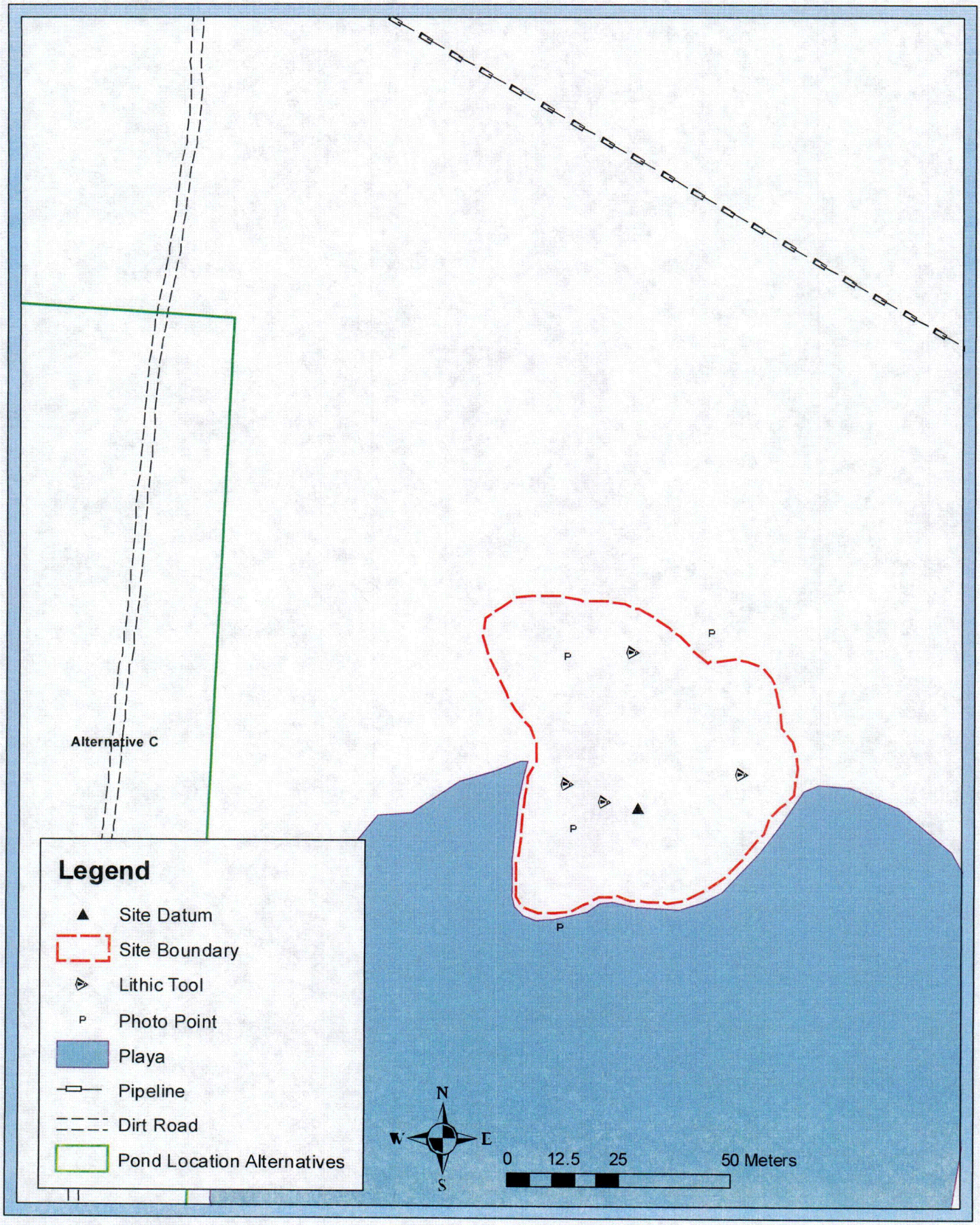

Figure 4: LA 108856 Site Plan

The site update by TEC found that a large number of artifacts had become exposed on the surface since the previous recording. Artifacts were found in a dense, fairly uniform concentration in the central, southern, and eastern portions of the site—extending up to the edge of the playa. Because of this uniformity, a single artifact concentration was not delineated. However, on the northern and western edges of the site, the scatter was more diffuse. Judgmental samples of the ceramic and lithic assemblages and all of the observed tools were analyzed in the field. A total of 56 artifacts, including 28 sherds and 28 lithics were recorded. However, it is estimated that more than 200 artifacts are currently contained within the site boundaries. A large piece of solidified ash was also observed at the edge of the playa, on the southwestern end of the site.

An estimated 30-percent judgmental sample of the flaked-stone assemblage was recorded. Core-reduction flakes and pieces of angular debris of chert and obsidian dominated the assemblage. One red quartzite flake and one white chert biface-thinning flake were also recorded. A total of four tools were identified, all of which were indeterminate groundstone fragments.

An estimated 30-percent judgmental sample of the ceramic assemblage was recorded. The assemblage contained most of the same types as previously encountered, including Red Mesa Black-on-white (n = 1), Gallup Black-on-white (n = 4), Puerco/Escavada Black-on-white (n = 2), and indented (n = 10) and clapboard corrugated (n = 2) types. The remainder of the recorded ceramics includes indeterminate whitewares (n = 7) and graywares (n = 2).

The date ranges for the various types identified during the previous and current investigations at this site are as follows: Red Mesa Black-on-white (A.D. 850–1100), Gallup Black-on-white (A.D. 1000–1150), Puerco/Escavada Black-on-white (A.D. 1025–1150), Tohatchi Banded (A.D. 900–1050), Coolidge Corrugated (A.D. 1075–1150), Lino Gray (A.D. 450/500–900), and Kana'a Gray (A.D.850–1050). The sources for these date ranges are as follows: Red Mesa Black-on-white (Hurst 2003), Gallup Black-on-white (Hurst 2003), Puerco/Escavada Black-on-white (Hurst 2003), Tohatchi Banded (Olsen and Wasley, 1956, Breternitz 1966), Coolidge Corrugated (Olsen and Wasley 1956), Lino Gray (Hurst 2003), and Kana'a Gray (Hurst 2003). As a result of the presence of these types, LA 108856 has been assigned a cultural/temporal affiliation of Anasazi Pueblo I to Late Pueblo II (A.D. 850–1100).

NRHP Evaluation, Effect, and Management Recommendation

LA 108856 was recommended eligible for inclusion in the NRHP under Criterion D by CASA in 1995. Testing during the previous recording determined the presence of intact subsurface archaeological deposits. Blading associated with the removal of contaminated wind-blown sands was limited and occurred in the northern part of the site only; thereby leaving buried cultural deposits intact. The site update found that a large number of artifacts had become exposed since the site was surface collected in 1995. For these reasons, TEC agrees with the previous recommendation. The proposed undertaking will avoid the site and therefore will have *no effect* on this resource. No further action is recommended.

New Archaeological Sites

During this inventory, 11 new archaeological sites were recorded. These sites are discussed below. Locational information is provided in Appendix A and LA forms are included as an attachment to this report.

LA 153549
Field Number: TEC-2006-32-1
Site Dimensions: 88 m E/W by 51 m N/S
Land Status: Private

This prehistoric site consists of a flaked-stone and ceramic artifact scatter. The site is located in the eastern survey block at the juncture of a gas pipeline and a dirt road oriented north-south (Figure 5). The site is situated on a large berm that was created for the road to cross over the pipeline. Both the road and the pipeline bisect the site boundary. An additional dirt road (oriented east-west) runs along the northern edge of the site boundary. The southern site boundary follows the northern edge of a large shallow playa. Vegetation is re-seeded desert grassland and scrubland, including four-wing saltbush, greasewood, sand sage, grama grass, Indian ricegrass and wheatgrass. Surface visibility is between 76 and 99 percent. Major disturbances to the site include mechanical blading of up to one meter of aeolian sediments during mine clean-up efforts in 1995, the installation of a pipeline through the site, and the creation of a large berm over the pipeline. Other disturbances include bioturbation from cattle grazing and prairie dog activity, and aeolian erosion. A thin, light grayish-brown layer of sediment was noted in blowouts at the edge of the playa. This darker sediment was found in other parts of the survey area, and due to its apparent association with playas, may be a natural organic layer of alluvial origin. The site is estimated as being less than 25 percent intact.

The artifact assemblage is comprised of 20 sherds and three pieces of flaked-stone debitage. Artifacts are located around the base of the berm and in blow-outs across the rest of the site that reveal an older soil surface. All artifacts were analyzed in the field. The flaked-stone assemblage consists of two pieces of obsidian angular debris and one indeterminate white quartzite flake. Ceramics include indented corrugated sherds (n = 5) with coarse protruding temper, corrugated sherds (n = 4), Gallup Black-on-white sherds (n = 5), indeterminate grayware sherds (n = 3), indeterminate black-on-white sherds (n = 2), and a possible Red Mesa Black-on-white sherd (n = 1). Based on the Gallup Black-on-white sherds, the site is assigned an Ancestral Puebloan/Anasazi Pueblo II/III (A.D. 970-1150) cultural/temporal affiliation.

NRHP Evaluation, Effect, and Management Recommendation

LA 153549 has been subject to major mechanical disturbance including blading, the installation of a gas pipeline, and the construction of an earthen berm within the site boundaries. Artifacts were likely displaced as a result of these activities. Additionally, aeolian sediment accumulation across the site has been minimal since the 1995 blading, and the probability of encountering subsurface deposits is low. Based on its lack of integrity, LA 153549 retains little or no potential

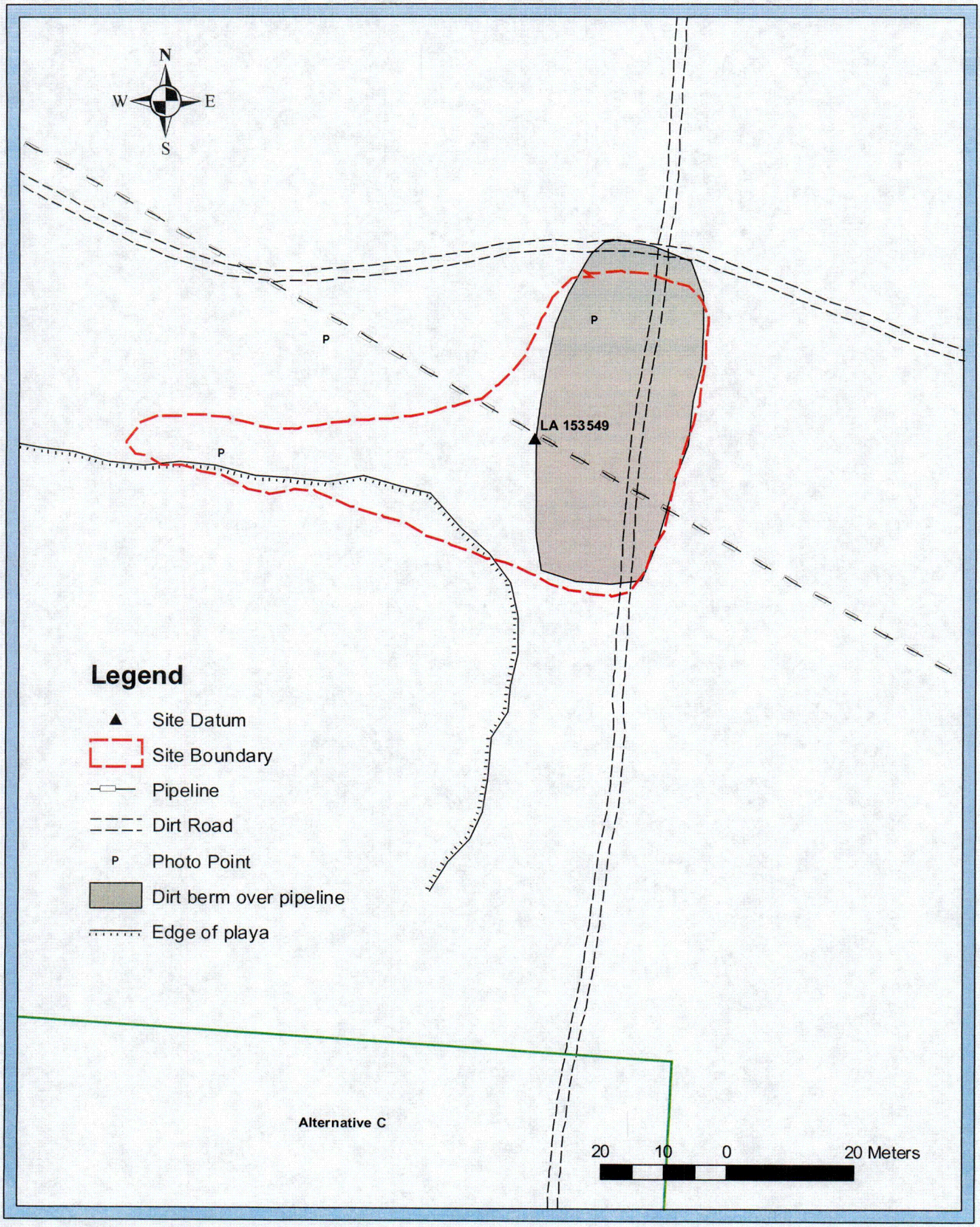

Figure 5: LA 153549 Site Plan

to provide important information. It is therefore recommended as ineligible for inclusion in the NRHP under any of the four criteria. No further action is recommended.

LA 153550
Field Number: TEC-2006-32-02
Site Dimensions: 60 m NW/SE by 35 m SW/NE
Land Status: Private

This prehistoric site consists of a low-density surface scatter. LA 153550 is located in the northwestern quarter of the eastern survey block. The site is located north of a pipeline and dirt road that bisect the survey block (Figure 6). The site is situated approximately 130 m to the north-northwest of LA 153552. Vegetation, though sparse, consists of desert grassland and scrubland communities, including four-wing saltbush, sand sage, grama grass, and other bunch grasses. Surface visibility is between 76 to 99 percent. A major disturbance to the site consisted of mechanical blading of up to one meter of aeolian sediments during mine clean-up efforts in 1995. Other disturbances include aeolian erosion and bioturbation related to cattle grazing. LA 153550 is estimated to be 25 to 50 percent intact.

The artifact assemblage at LA 153550 consists of three pieces of flaked-stone debitage, one groundstone fragment, and 21 ceramic sherds. All observed artifacts were analyzed and recorded at this site. The flaked-stone assemblage consists of three core-reduction flakes. Material types include chert (n = 2) and chalcedony (n = 1). One fragment of ground tan sandstone with a maximum dimension of 63 mm was observed. The groundstone fragment exhibits light use-wear on one surface. The ceramic assemblage includes indented corrugated sherds (n = 3), and Black-on-white sherds (n = 18). Ten of the black-on-white sherds are diagnostic, including Gallup (n = 7), Puerco/Escavada (n = 2), and Red Mesa types (n = 1). These ceramic types all fall within a similar temporal range. Based on the occurrence and frequency of these types, the site is assigned an Anasazi Pueblo II/III (A.D. 1000-1150) cultural/temporal affiliation.

NRHP Evaluation, Effect, and Management Recommendation

LA 153550 has been affected by major mechanical disturbance, as well as bioturbation and aeolian deflation. As a result, the artifact assemblage lacks spatial integrity. Additionally, aeolian sediment accumulation across the site has been minimal since the 1995 blading, and the probability of encountering subsurface deposits is low. Based on its lack of integrity, LA 153550 retains little or no potential to provide important information to better our understanding of prehistory. It is therefore recommended as ineligible for the NRHP under any of the four criteria. No further action is recommended.

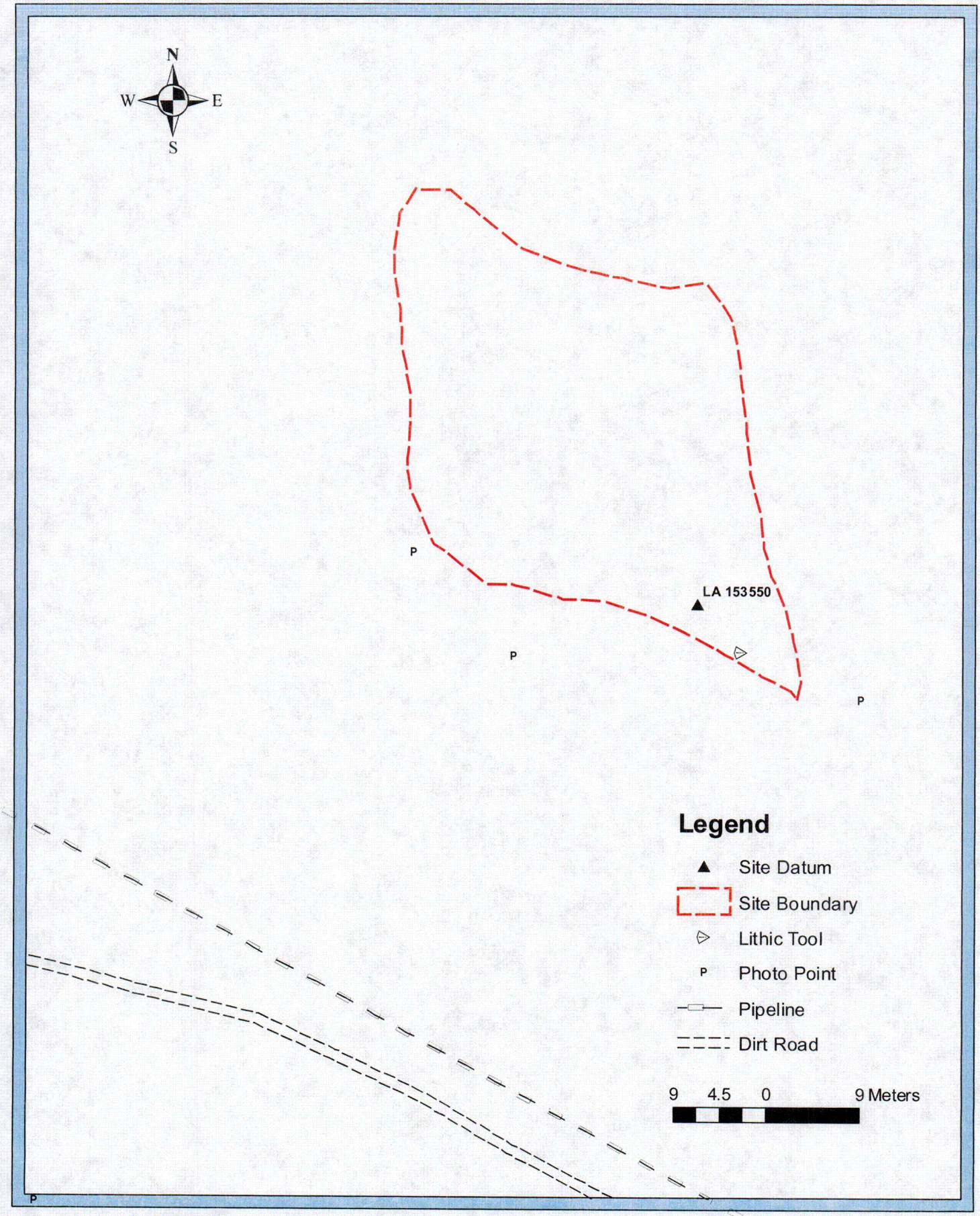

Figure 6: LA 153550 Site Plan

LA 153551
Field Number: TEC-2006-32-03
Site Dimensions: 215 m NNE/SSW by 75 m WNW/ESE
Land Status: Private

This prehistoric site consists of a diffuse surface scatter covering a large area. LA 153551 is located in the northwestern quarter of the eastern survey block. The site lies to the south of a pipeline and dirt road running roughly on a northwest-southeast trend across the survey block (Figure 7). The site is situated east of a stock pond, and extends to the south. The southern most boundary of this site overlaps with the northern edge of Alternative C. Vegetation, though sparse, consists of desert grassland and scrubland communities, including four-wing saltbush, greasewood, sand sage, and grasses. Surface visibility is between 76 to 99 percent. A major disturbance to the site consisted of mechanical blading of up to 1 m of aeolian sediments during mine clean-up efforts in 1995. Other disturbances include aeolian and alluvial erosion, bioturbation related to cattle grazing, and vehicular traffic. LA 153551 is estimated to be less than 25 percent intact.

The artifact assemblage at LA 153551 consists of 14 pieces of flaked-stone debitage, eight tools, and approximately 100 ceramic sherds. All observed lithic artifacts and 30 percent of the ceramic assemblage were analyzed and recorded at this site. The flaked-stone assemblage consists of two biface-thinning flakes and 12 core-reduction flakes. Debitage material types include chert (n = 9), obsidian (n = 3), and quartzite (n = 2). Of the eight tools identified, there were three indeterminate ground sandstone fragments; two chert, multi-directional core fragments; one basalt hammerstone; one chert biface fragment; and one chert, utilized flake. The ceramic assemblage includes indented corrugated sherds (n = 20), indeterminate grayware sherds (n = 1), and black-on-white sherds (n = 12). Eleven of the black-on-white sherds are diagnostic (see Appendix D), including Gallup (n = 4), and Red Mesa types (n = 7). These ceramic types all fall within a similar temporal range. Based on the occurrence and frequency of these types, the site is assigned an Anasazi Pueblo II to Early Pueblo III (A.D. 970-1150) cultural/temporal affiliation.

NRHP Evaluation, Effect, and Management Recommendation

LA 153551 has been affected by major mechanical disturbance, bioturbation, as well as aeolian and alluvial processes. As a result, the artifact assemblage lacks spatial integrity. Additionally, aeolian sediment accumulation across the site has been minimal since the 1995 blading, and the probability of encountering subsurface deposits is low. Based on its lack of integrity, LA 153551 retains little or no potential to provide important information to better our understanding of prehistory. It is therefore recommended as ineligible for the NRHP under any of the four criteria. No further action is recommended.

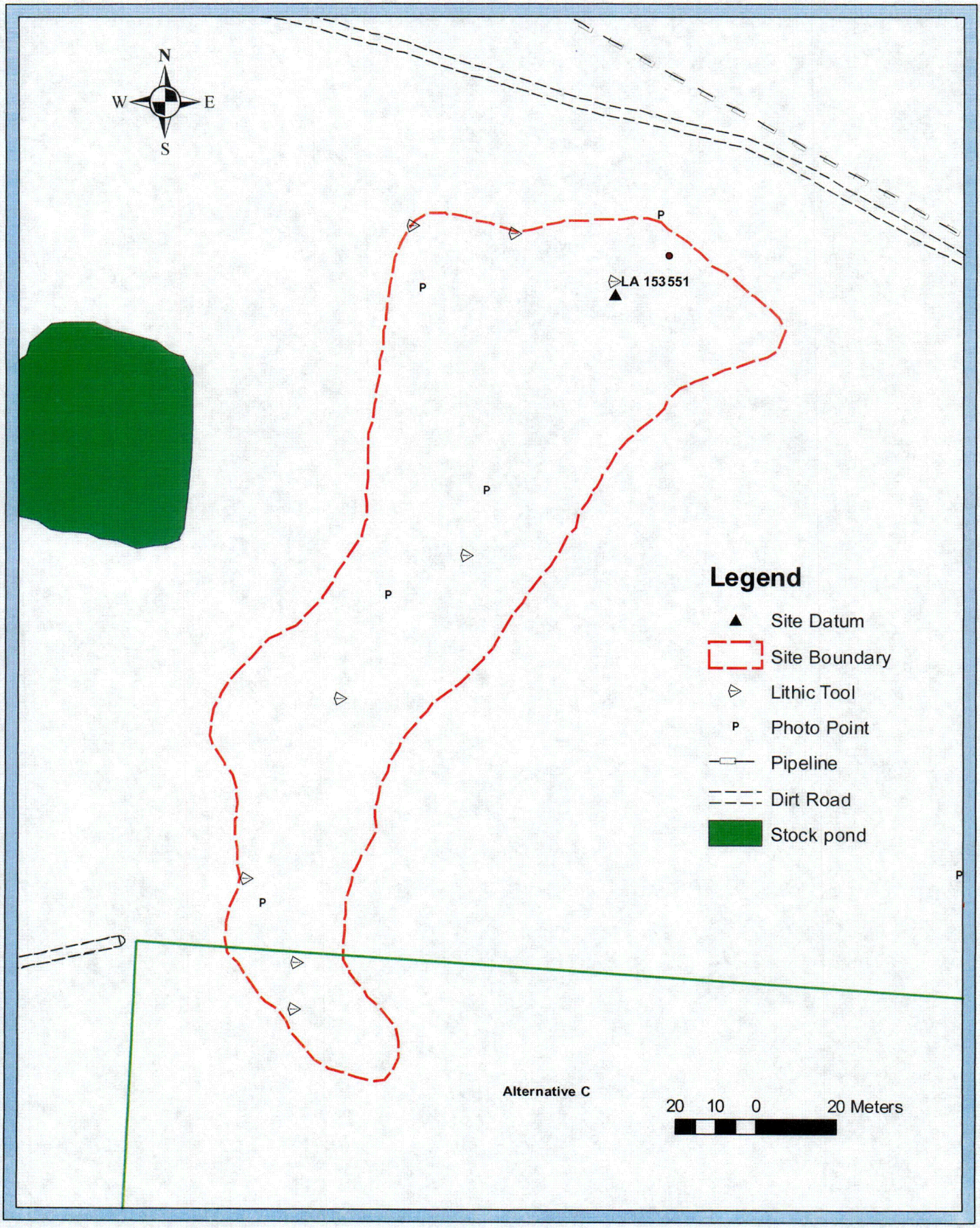

Figure 7: LA 153551 Site Plan

LA 153552
Field Number: TEC-2006-32-4
Site Dimensions: 60 m N/S by 39 m E/W
Land Status: Private

This prehistoric site is a high density scatter of flaked stone, groundstone, and ceramic artifacts. The site is located in the eastern survey block, about 25 m north of a gas pipeline (Figure 8). A dirt road is located parallel to the pipeline on its south side. The site is situated on a highpoint, where older compact soils are exposed about 50 cm higher than the surrounding area. A small playa is located northeast of the site. Vegetation is re-seeded desert grassland and scrubland including four-wing saltbush, greasewood, sand sage, rabbitbrush, snakeweed, tumbleweed, and various bunch grasses including wheatgrass. Surface visibility is between 76 and 99 percent. The most severe disturbance to the site consisted of the mechanical blading of aeolian sediments during contamination clean-up efforts in 1995. Other disturbances include aeolian erosion and bioturbation from cattle grazing. Despite mechanical blading on the site, many artifacts appear to be in situ, based on the discrete high-density scatter of artifacts and the fact that some artifacts are embedded in the exposed soil surface. Accumulated aeolian deposits appear to reach a depth of 10 cm to 20 cm in some areas of the site. In the northeastern portion of the site, and extending outside the site boundary, a thin, light grayish-brown layer of sediment was noted. This soil was found in other parts of the project area, in apparent association with playas, and appears to be a natural organic layer. The site is estimated as being over 50 percent intact.

The artifact assemblage is comprised of approximately 40 lithic artifacts, a burned bone fragment, and over 200 sherds. A few groundstone fragments were also identified embedded in the exposed soil surface. All of the observed lithic tools, an 80-percent judgmental sample of the flaked-stone debitage, and a 20-percent judgmental sample of the ceramic artifacts were analyzed in the field. No artifact concentrations were delineated due to the uniform high-density of artifacts across the site; however, lithic tools are clustered north and east of the datum near the center of the site.

The assemblage of flaked–stone debitage consists of roughly 20 artifacts. The 80-percent judgmental sample of artifacts includes 10 core-reduction flakes of varying sizes, three biface-thinning flakes, and four pieces of angular debris. Cortex was observed on four flakes. Materials include chert (n = 14) and silicified palm wood (n = 2).

The lithic tool assemblage consists of seven pieces of sandstone groundstone, two irregular chert cores, a denticulate chert flake, a unifacial silicified palm wood scraper, a silicified wood chopper, a basalt hammerstone, and a stone bead (possibly travertine). The groundstone assemblage includes three pieces of indeterminate groundstone, three slab metate fragments and one two-hand mano. The stone bead was found on an anthill northeast of the datum and measures 3.5 mm in diameter.

The 20-percent judgmental sample of the ceramic assemblage consists of 48 sherds including all observed rim sherds (n = 4). The recorded ceramic assemblage is comprised of 50-percent Grayware, 42-percent Whiteware and 8-percent Redware. The Grayware assemblage includes

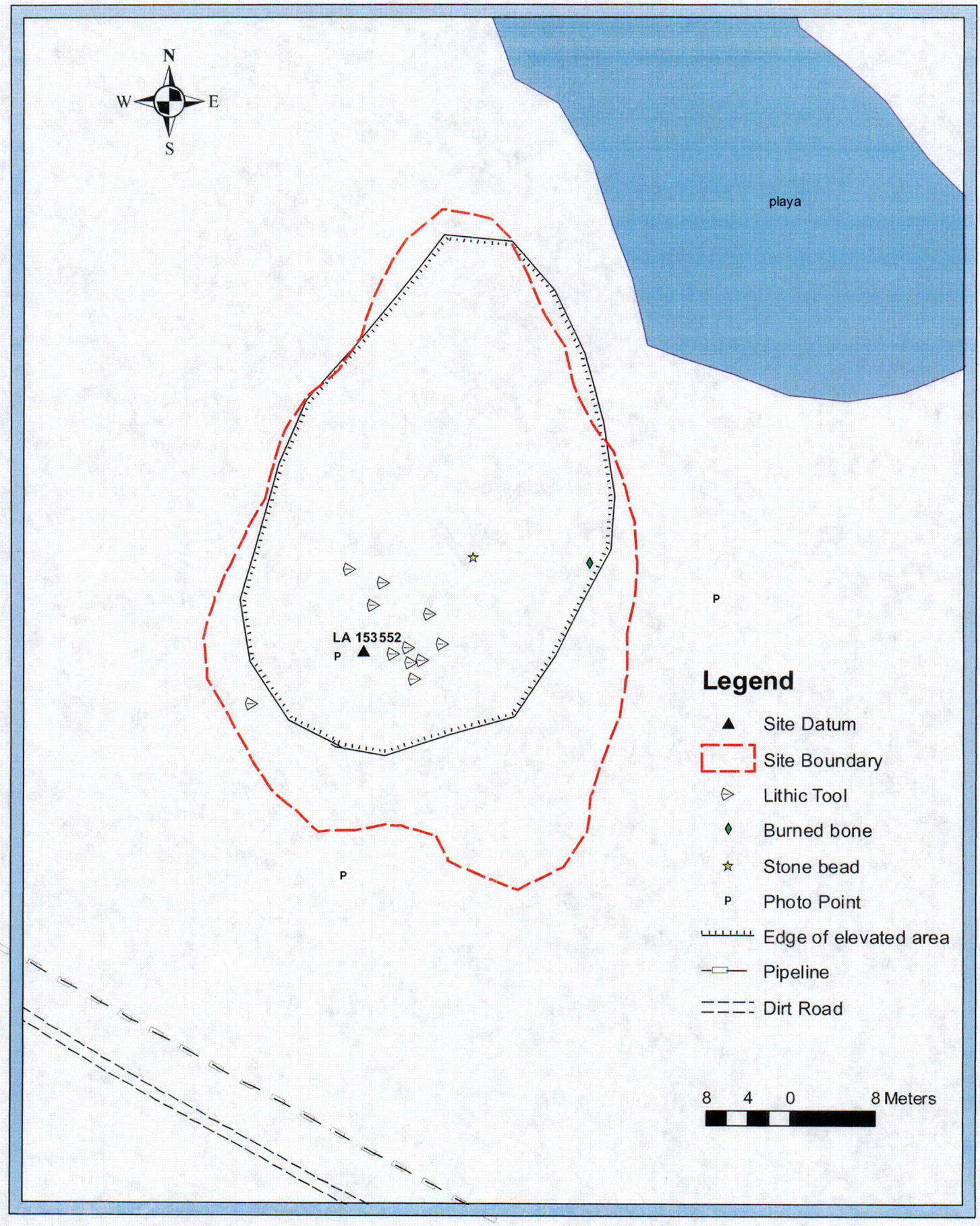

Figure 8: LA 153552 Site Plan

indented corrugated sherds with a coarse-grained sand temper (n = 12), indented corrugated sherds with a fine-grained sand temper (n = 6), clapboard corrugated sherds (n = 2), a Kana'a Grayware sherd (n = 1), and indeterminate Grayware sherds (n = 4). The Whiteware assemblage includes Gallup Black-on-white sherds (n = 7), Red Mesa Black-on-white sherds (n = 2), probable Puerco/Escavada Black-on-white sherds (n = 1), and indeterminate Whiteware sherds (n = 9). The Redware assemblage consists of indeterminate Redware sherds (n = 4) with no visible paint. Sherd Number 23 is a black-on-white sherd with a polished checkerboard pattern on its interior surface and has a roughly circular shape with smoothed edges and may have served as a game piece or polishing sherd (see Appendix D). Sherd Number 25 is a neck-banded jar sherd with pronounced 8-mm wide unobliterated coils on the exterior surface that have been slipped white and painted with 4-mm-wide vertical stripes of black mineral paint (See Appendix D). The latter sherd is a variant of Kana'a Gray and dates to the early Pueblo II period (A.D. 850-1050) (Hurst 2003).

Based on the high frequency of Gallup Black-on-white (A.D. 1000 to 1150) sherds and the presence of an early Pueblo II Kana'a Grayware sherd (A.D. 850 to 1050), the site is assigned an Anasazi, late Pueblo I to early Pueblo III (A.D. 850 to 1150) cultural/temporal affiliation.

NRHP Evaluation, Effect, and Management Recommendation

LA 153552 has been subject to the mechanical blading of much of the aeolian sediments that once covered the site. Despite this disturbance, artifacts appear to be in situ, based on the discrete high-density scatter of artifacts and the fact that some artifacts are embedded in the exposed soil surface. It may be that the undulating nature of the elevated and compact soil surface on this site helped protect some areas from the effects of blading. Accumulated aeolian deposits reach a depth of 10 cm to 20 cm in some areas of the site. The site is estimated as being over 50 percent intact and has a high potential of yielding intact buried cultural deposits.

Due to the potential of the site to yield important information pertaining to small Pueblo II/III habitation sites in the Red Mesa Valley, LA 153552 is recommended eligible for inclusion in the NRHP under Criterion D. TEC recommends that all project-related activities avoid LA 153552 and remain at least 50 ft from the site boundary at all times. LA 153552 falls north of Alternative C, the proposed activity area in the eastern survey block (Figures A.1 and A.2 in Appendix A). The proposed project will not impact the site. Therefore, subject to comment, the proposed project will have *no effect* on LA 153552.

LA 153553

TEC Field Number: 2006-32-05
Site Dimensions: 19 m E/W by 14 m N/S
Land Status: Private

LA 153553 is a non-structural prehistoric site consisting of a diffuse scatter of ceramics, groundstone, and flaked-stone debitage. It is located in the eastern survey block, south of the gas pipeline (Figure 9). A playa is present on the southeast side of the site and the road associated with the pipeline is adjacent on its north side. Surface visibility is good across a majority of the

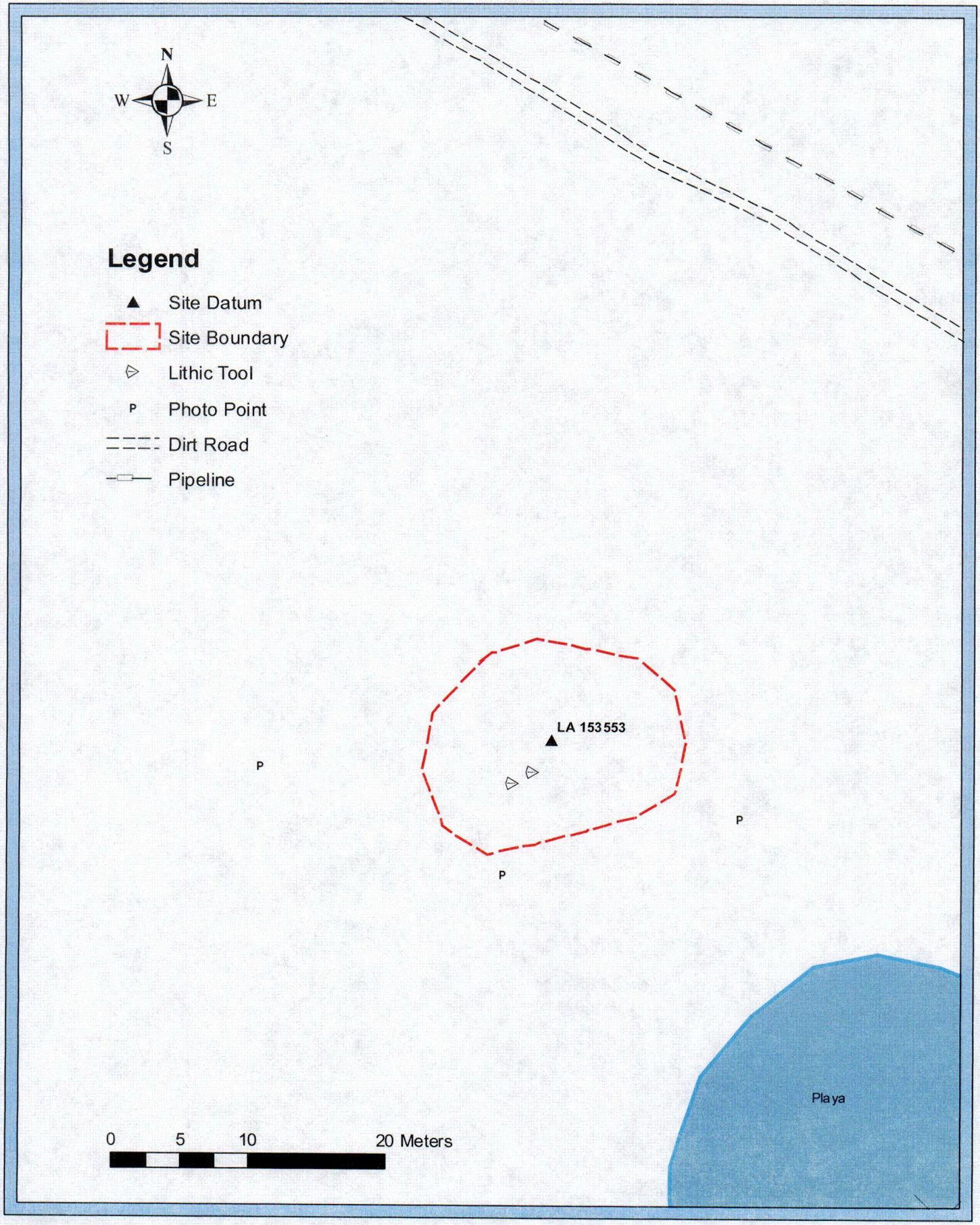

Figure 9: LA 153553 Site Plan

site area and is estimated at 76 to 99 percent. Vegetation is re-seeded desert grassland and scrubland including four-wing saltbush, greasewood, sand sage, and various grasses. Disturbances include natural erosion and bioturbation from stock animal grazing. Furthermore, the area was subjected to mechanical blading in 1995. Since that time aeolian deposition has accumulated in this area, and has become somewhat stabilized by new vegetation. This site is estimated to be 25 to 50 percent intact.

All of the observed artifacts were subjected to in-field analysis procedures, resulting in the recording of 18 items. The lithic artifacts are comprised of three groundstone fragments and one core rejuvenation flake of white chalcedony. The dorsal surface of the flake contains a ridge and 20-percent cortex. Also, the platform is heavily battered. The groundstone artifacts include two articulating pieces of sandstone with heavy use-wear evident over nearly 100 percent of one surface. These pieces have been burned, and were subjected to the formal shaping techniques of grinding and pecking. The other groundstone artifact is a mano fragment manufactured from tabular sandstone. It measures 115 mm by 80 mm by 25 mm and is heavily ground on one surface.

The majority of the assemblage consists of ceramics (n = 14), comprised of plain graywares (n = 4) and indented corrugated examples (n = 9). A single whiteware sherd was also identified. All of the specimens are body sherds with vessel wall thickness ranging from 4 mm to 7 mm. The grayware sherds exhibit fine- to medium-grained sand temper and a dark gray paste. The whiteware sherd also has a dark gray paste and the slip is present only on the exterior surface. No paint was visible on this specimen, but it likely represents a black-on-white type.

The grayware sherds have been identified as Plain Gray, which is common throughout this area during the Basketmaker II/III to Pueblo II periods (A.D. 450/500–1100). The corrugated sherds fall within a category defined by Hurst (2003) as Exuberant/Neck-corrugated/Narrow-banded, which has a date range of A.D. 900 to 1050 and is described as exhibiting "distinctive bold, deep, sometimes elongated or wave-like, neatly patterned corrugations characteristic of the early Pueblo II period." Due to the presence of these diagnostic types, LA 153553 has been assigned a cultural/temporal affiliation of Anasazi Pueblo II (A.D. 900–1050).

NRHP Evaluation, Effect, and Management Recommendation

LA 153553 has a diverse assemblage, despite the small number of identified artifacts. This site has been impacted by mechanical blading and subsequent erosion. However, portions of the site exhibit the accumulation of aeolian sediments, which may cover additional cultural deposits. Limited testing would be required in order to determine the presence or absence of intact subsurface cultural deposits. Therefore, LA 153553 is recommended as undetermined for its eligibility to the NRHP. The proposed undertaking will avoid this site. Therefore, subject to comment, the proposed project will have *no effect* on LA 153553.

LA 153554

TEC Field Number: 2006-32-06
Site Dimensions: 42m NE/SW by 17 m SE/NW
Land Status: Private

LA 153554 is a prehistoric site containing one deflated hearth, one stain, and an associated artifact scatter (Figure 10). It is located approximately 50 m south-southwest of LA 153553 in the central portion of the eastern survey block. Surface visibility is 76 to 99 percent. Vegetation is re-seeded desert grassland and scrubland including four-wing saltbush, tumbleweed, sand sage, dropseed, grama grass, and Indian ricegrass. Severe aeolian and alluvial erosion have exposed an older compact soil layer across most of the site. Additionally, the area was subjected to mechanical blading in 1995 as part of mine clean-up efforts. As a result of these disturbances, the site is in poor condition and is estimated as being less than 25 percent intact.

All observed artifacts were recorded. The assemblage at this site includes two pieces of flaked-stone debitage, one metate fragment, eleven sherds, and one white stone bead. The flaked-stone items are both core-reduction flakes; one is manufactured from gray chert and exhibits 50 percent cortex on its dorsal surface and the other is obsidian. The metate fragment is part of Feature 2 and has been blackened from burning. It is of tan sandstone material, exhibits moderate use-wear on one surface, and measures 215 mm by 160 mm by 30 mm. The stone bead is located in an anthill adjacent to Feature 2 on the west side. It has a diameter of 4.5 mm and is well-crafted.

The ceramic assemblage consists of seven Plain Gray sherds, three corrugated sherds classified within the Exuberant/Neck-corrugated/Narrow-banded category as defined by Hurst (2003), and one black-on-white sherd. The Plain Gray specimens are all body sherds with a vessel wall thickness of 5 mm. These sherds are most likely from the same vessel. The black-on-white sherd is also a jar fragment and likely represents the Gallup Black-on-white type. However, this specimen contains only a small portion of the design element and therefore cannot be definitively typed.

Feature 1 is a roughly circular dark gray stain located in the northwest corner of the site. It measures 23 cm east-west by 20 cm north-south. The stain consists of a dark gray ashy lens that is darker than the organic sediment encountered in the upper strata at the other portions of the project area. However, the stain is situated on a compact soil horizon and lacks depth. The Plain Gray sherds were identified approximately 5 m to the east.

Feature 2 is a deflated hearth located within a blowout at the southwest end of the site. A total of eight rocks are clustered in an area measuring 120 cm east-west by 70 cm north-south, all of which exhibit characteristics of thermal alteration. However, there is no staining of the surrounding sediment. The rocks consist of one indeterminate sedimentary cobble broken into three pieces, six fragments of tabular sandstone, and a metate fragment. The corrugated sherds and the chert flake were noted just south of this feature. Also, the stone bead was identified in an anthill located at the feature's western edge.

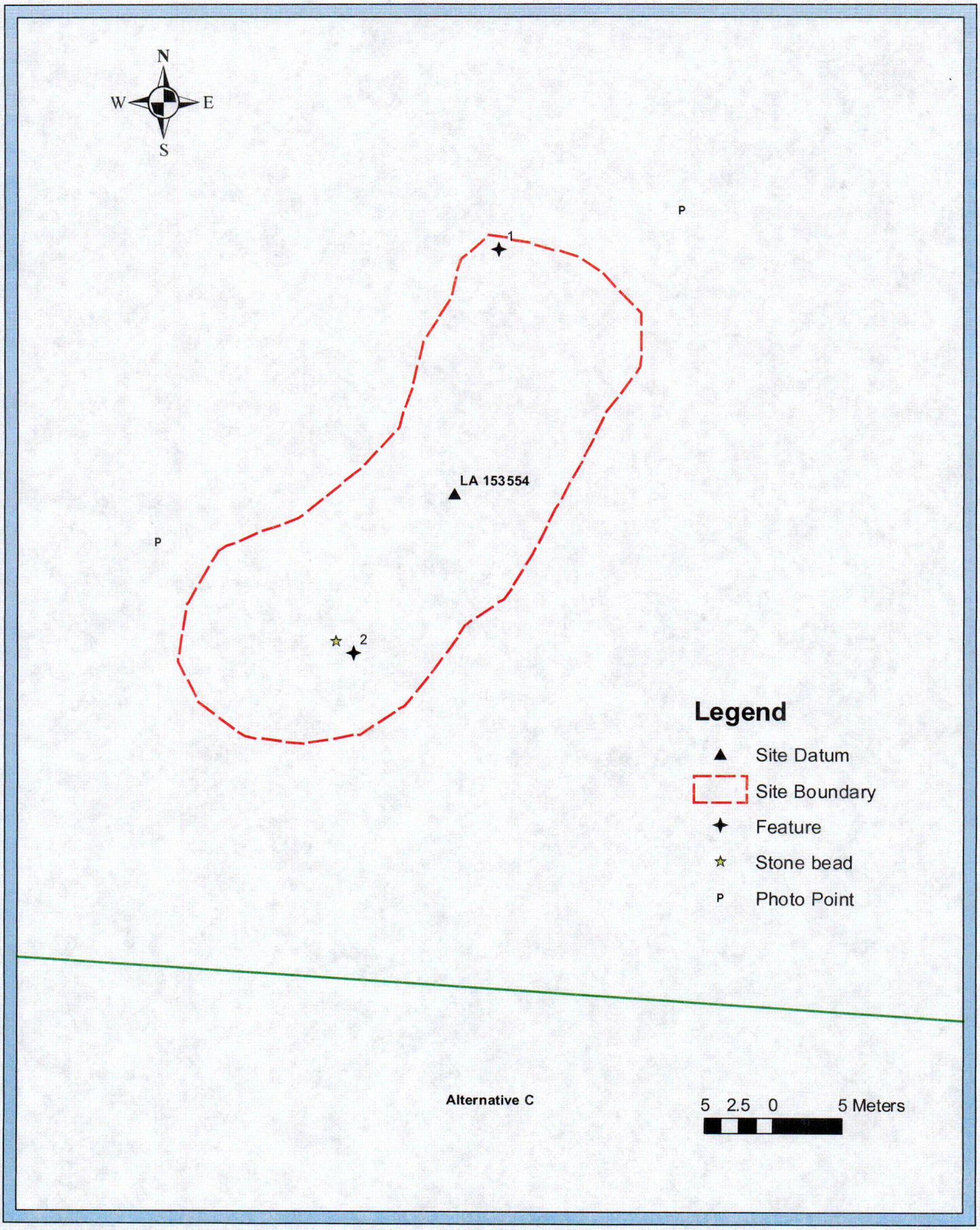

Figure 10: LA 153554 Site Plan

According to Hurst (2003) the Plain Gray type has a date range of A.D. 450/500 to 1050/1100 and the Exuberant/Neck-corrugated/Narrow-banded type dates from A.D. 900 to 1050. As a result, LA 153554 is assigned a cultural/temporal affiliation of Anasazi Pueblo II (A.D. 900-1050).

NRHP Evaluation, Effect, and Management Recommendation

This site is in poor condition as a result of the mechanical blading of up to one meter of sediments in 1995 and the subsequent erosion. It is estimated to be less than 25 percent intact and therefore has limited potential to contain intact subsurface archaeological deposits. The two features that were noted retain little to no integrity. Because of this, the site has not, and likely will not, yield important information to better our understanding of prehistory. Therefore, LA 153554 is recommended ineligible for inclusion in the NRHP under any of the four criteria. No further action is recommended.

LA 153555

TEC Field Number: 2006-32-07
Site Dimensions: 42m NE/SW by 32 m NW/SE
Land Status: Private

This prehistoric site consists of a diffuse scatter of flaked-stone, groundstone, and ceramics. The site is located at the eastern edge of the western survey block (Figure 11). A two-track road runs along the site's western boundary. Vegetation is re-seeded desert grassland and scrubland including one small salt cedar, four-wing saltbush, greasewood, sand sage, and various grasses. Surface visibility is between 76 and 99 percent. Major disturbances to the site include mechanical blading of up to 1 m of aeolian sediments during mine clean-up efforts in 1995, the bioturbation of the upper strata from stock animal grazing, and erosion from wind and water. Also, a two-track road bisects the site area. LA 153555 is estimated as being less than 25 percent intact.

The artifact assemblage is comprised of five lithic tools and three ceramic sherds. Artifacts occur in a diffuse scatter across the site area, which is likely a result of the mechanical blading. All artifacts were analyzed in the field. The lithic tools consist of one obsidian projectile point and four groundstone fragments. The projectile point is broken at the hafting location and is therefore not assigned a definitive type (see Appendix D). However, it appears to be a dart point that is temporally associated with the ceramics present. The groundstone assemblage consists of three pieces of indeterminate groundstone and one mano fragment. All three of the indeterminate groundstone fragments are manufactured from tan sandstone, with one of the fragments comprised of two articulating pieces. Also, these three items appear to have been burned. The mano fragment is gray quartzite and measures 65 mm by 78 mm by 40 mm. It exhibits moderate use-wear over the majority of one surface.

Ceramics include two plain grayware sherds with coarse protruding temper, and one indeterminate black-on-white type. The grayware sherds are the Plain Gray type, which is prevalent in this area during the Basketmaker II/III to Pueblo II periods (A.D. 450/500–

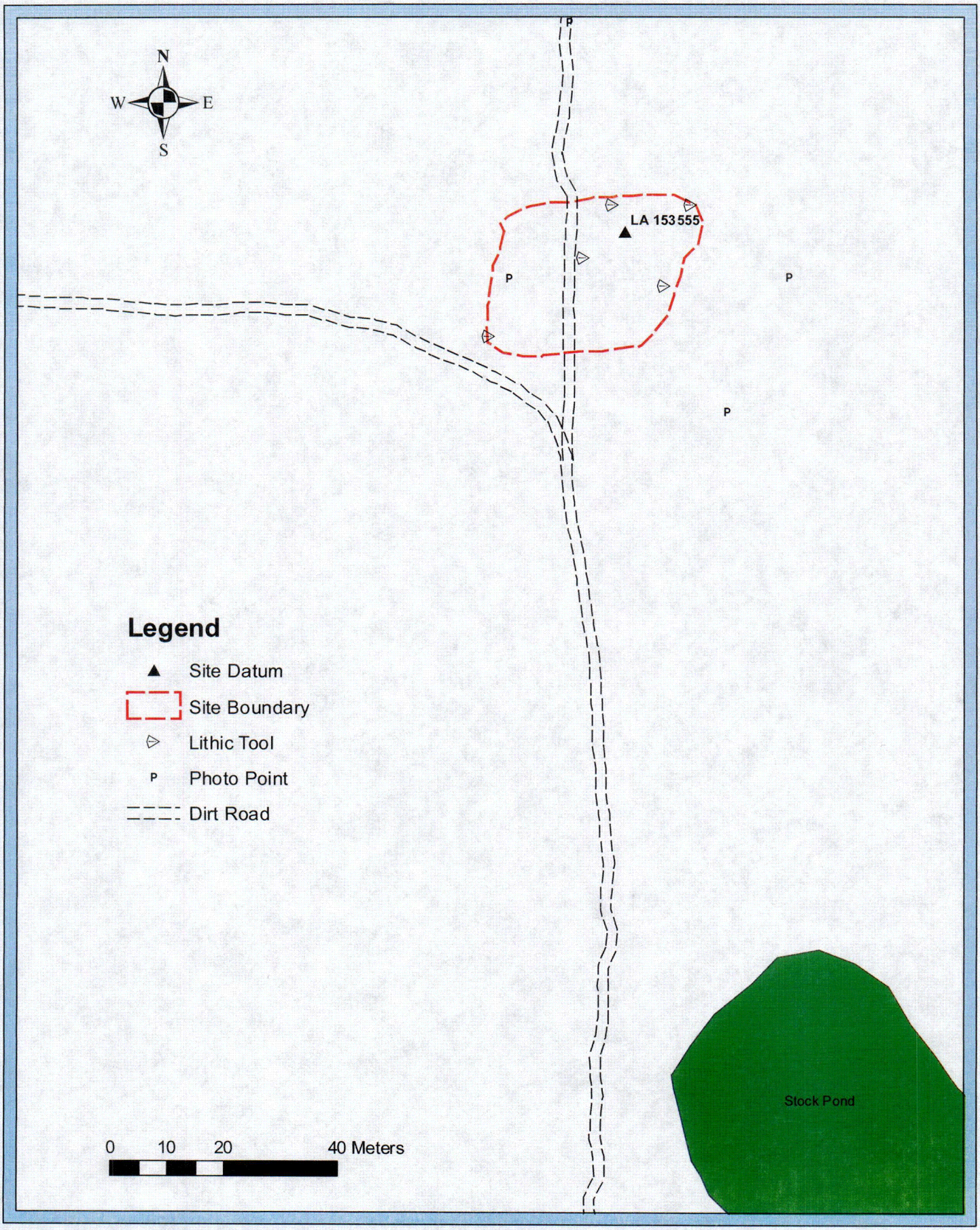

Figure 11: LA 153555 Site Plan

1050/1100). Based on the presence of this type in association with a black-on-white sherd, the site is assigned an Anasazi Pueblo I to Late Pueblo II (A.D. 600–1100) cultural/temporal affiliation.

NRHP Evaluation, Effect, and Management Recommendation

LA 153555 has been subject to major mechanical disturbance and is estimated as being less than 25 percent intact. Artifacts were likely displaced as a result of mechanical blading conducted as part of the 1995 mine clean-up effort. Additionally, aeolian sediment accumulation across the site has been minimal since the blading, and the probability of encountering subsurface deposits is low. Based on its lack of integrity, this site retains little or no potential to provide important information to better our understanding of prehistory. It is therefore recommended as ineligible for inclusion in the NRHP under any of the four criteria. No further action is recommended.

LA 153556

TEC Field Number: 2006-32-08
Site Dimensions: 55 m NE/SW by 18 m NW/SE
Land Status: Private

LA 153556 is a prehistoric site consisting of a diffuse scatter of ceramics and flaked-stone debitage. It is located in the western survey block approximately 50 m south of LA 153555 (Figure 12). The majority of the site assemblage consists of a flaked-stone artifact concentration identified within a blowout. Surface visibility is good across the majority of the site area and is estimated at 76 to 99 percent. Vegetation is re-seeded desert grassland and scrubland including four-wing saltbush, greasewood, sand sage, grama grass, and Indian ricegrass. Disturbances include natural erosion and bioturbation from stock animal grazing. Furthermore, the area was subjected to mechanical blading in 1995, although it appears as though the majority of the site was not impacted. This site is estimated to be 25 to 50 percent intact.

All of the observed artifacts were subjected to in-field analysis procedures, resulting in the recording of 26 items. The flaked-stone artifact concentration contained 19 items, most of which were biface-thinning and pressure flakes of chert and obsidian. One utilized flake of white chert was also identified within the concentration. It exhibits steep unifacial retouch along one edge and was most likely used as a scraper. This tool measures 41 mm by 28 mm by 10 mm. A total of four other flakes were noted within the general scatter, all of which are biface-thinning flakes of white chert.

A total of three sherds were observed at this site. A single indeterminate whiteware sherd and two corrugated sherds of the Exuberant/Neck-corrugated/Narrow-banded variety comprise the assemblage. Although the whiteware sherd does not exhibit any paint, it likely represents a black-on-white type.

The Exuberant/Neck-corrugated/Narrow-banded type has a date range of A.D. 900 to 1050 and is described by Hurst (2003) as exhibiting "distinctive bold, deep, sometimes elongated or wave-like, neatly patterned corrugations characteristic of the early Pueblo II period." Due to the

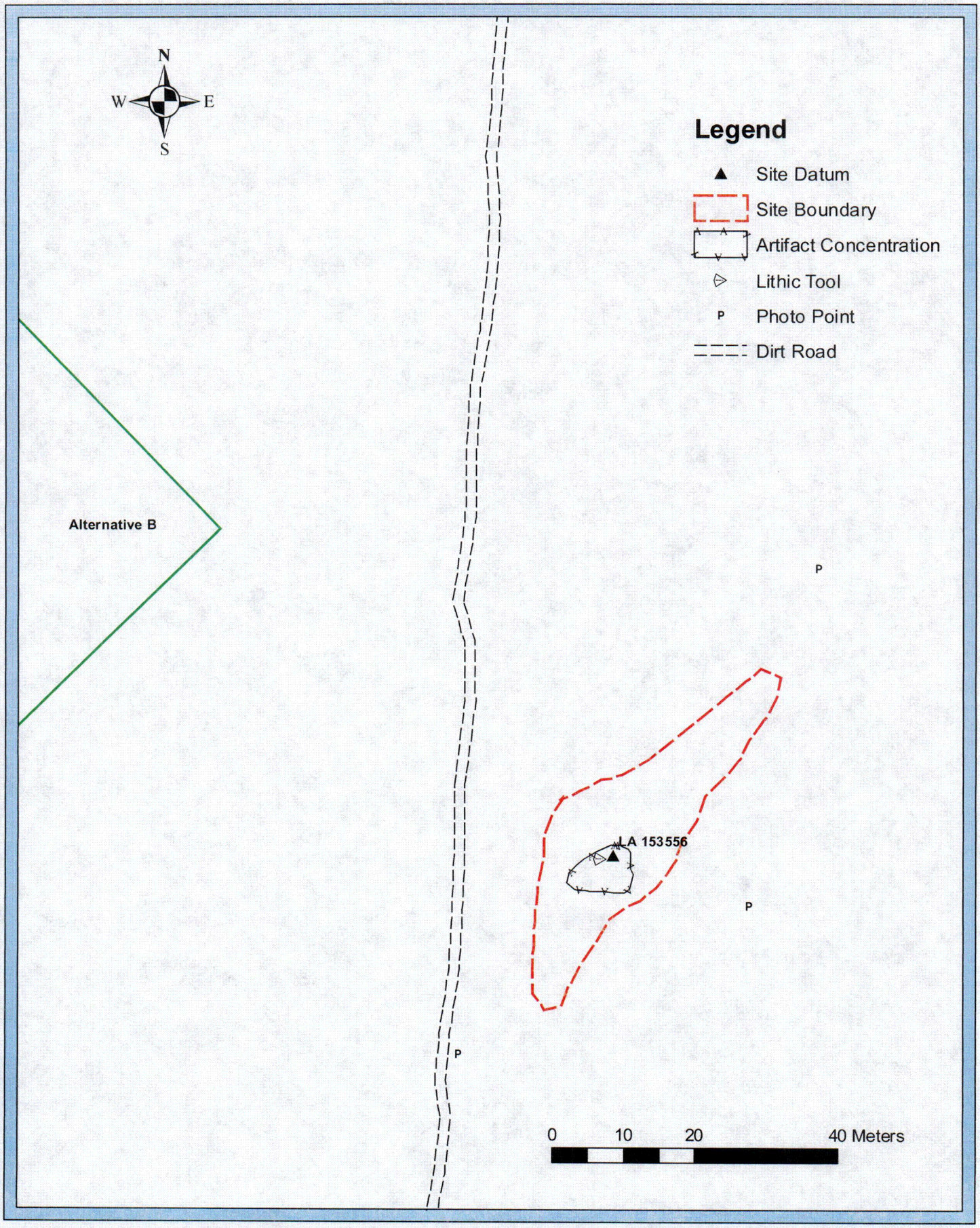

Figure 12: LA 153556 Site Plan

presence of this type in association with a whiteware sherd, LA 153556 has been assigned a cultural/temporal affiliation of Anasazi Pueblo II (A.D. 900–1050).

NRHP Evaluation, Effect, and Management Recommendation

The majority of the artifacts at LA 153556 were identified within an erosional context, indicating that the presence of buried cultural materials is possible in more intact portions of the site. Limited testing would be required in order to determine the presence or absence of intact subsurface cultural deposits. Therefore, LA 153556 is recommended as having an undetermined status of eligibility for inclusion in the NRHP. The proposed undertaking will avoid this site. Therefore, subject to comment, the proposed project will have *no effect* on LA 153556.

LA 153557

TEC Field Number: 2006-32-09
Site Dimensions: 210 m NE/SW by 120 m SE/NW
Land Status: Private

LA 153557 is a large prehistoric site comprised of four rock features (Features 1-4) and an associated artifact scatter (Figures 13 and 14). One discrete high-density artifact concentration is located east of Feature 4. The site is located at the western boundary of the western survey block, approximately 500 m south of the gas pipeline. County Road 63/Route 334 is approximately 560 m to the south and an infrequently-used two-track road is located just south of the site boundary. A deep playa is located about 60 m south of the site. Vegetation consists of desert grassland and scrubland, including four-wing saltbush, greasewood, tumbleweed, sand sage, dropseed, grama grass, and Indian ricegrass. Surface visibility is between 76 and 99 percent. Disturbances include aeolian and alluvial erosion and bioturbation of the upper strata from livestock grazing. This portion of the survey area was not bladed during the 1995 clean-up efforts; subsequently the site remains in good condition. It is estimated to be between 51 and 75 percent intact.

The rock features are located in the central portion of the site and were documented as four discrete features (Features 1 through 4). Features 2, 3, and 4 are in close proximity to each other and may be part of a larger contiguous feature. However, they were recorded separately since they formed discrete rock concentrations and were spaced at least 3 m apart. The features may be the remains of a prehistoric farmhouse, a site type described by Scheick (1985) as being three to four rooms in size and occurring in close proximity to arable land. According to Scheick (1985), these feature types are found in the Red Mesa Valley at elevations between 2073 m (6800 ft) and 2103 m (6900 ft) amsl, which contrasts with this site located at 2009 m (6590 ft) amsl. All four features are likely to contain intact subsurface archaeological deposits.

Feature 1 is a discrete concentration of unshaped sandstone rocks with four single-course alignments that appear to form a rectangular room (Figure 15). Additional unshaped rocks are also present near the feature. This possible room is located in the central part of the site, approximately 20 m north of Features 2 through 4. The feature covers an area of approximately 3 m by 2 m and is slightly mounded above the surrounding terrain. Approximately 100 cobbles

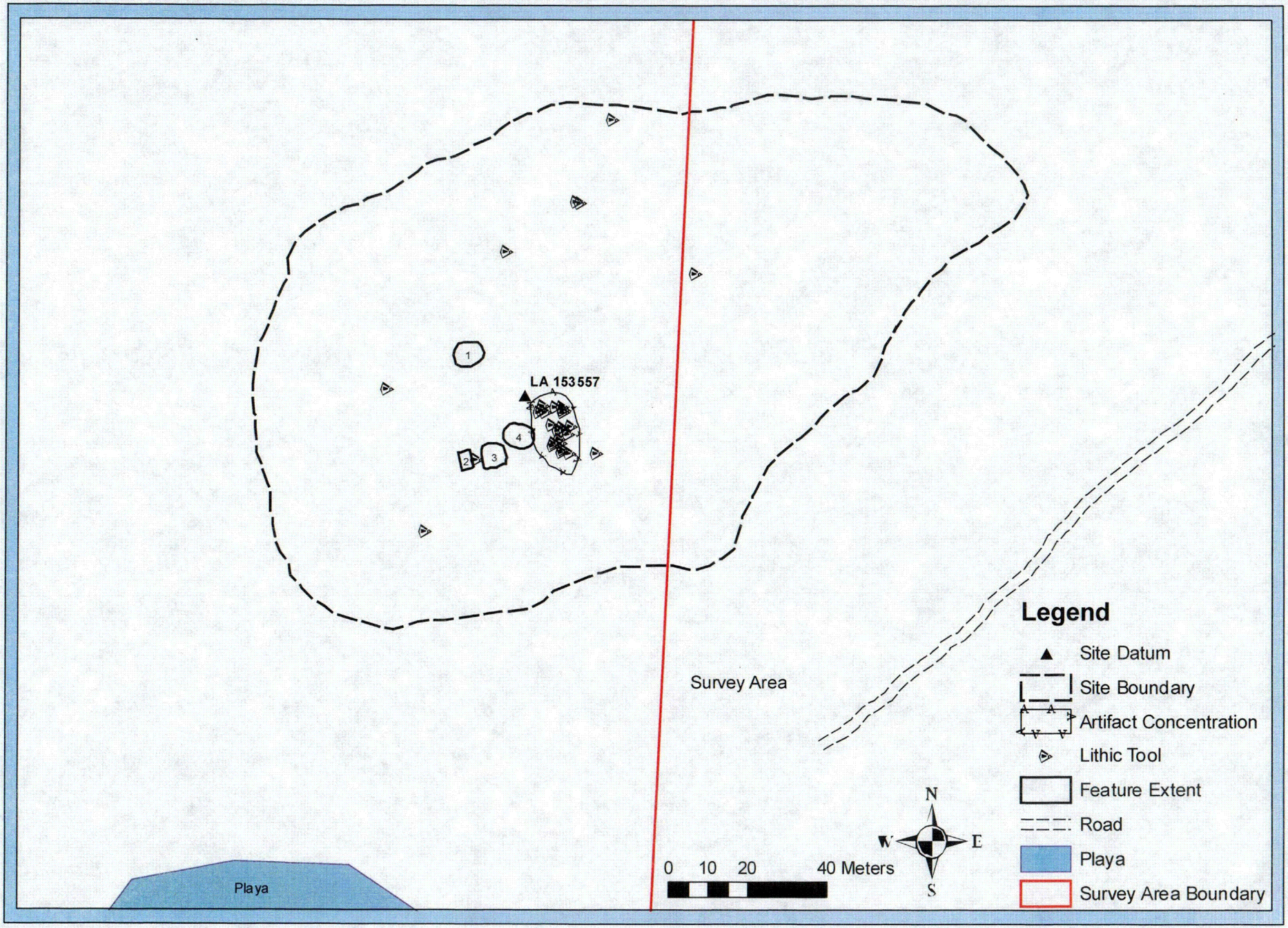

Figure 13: LA 153557 Site Plan

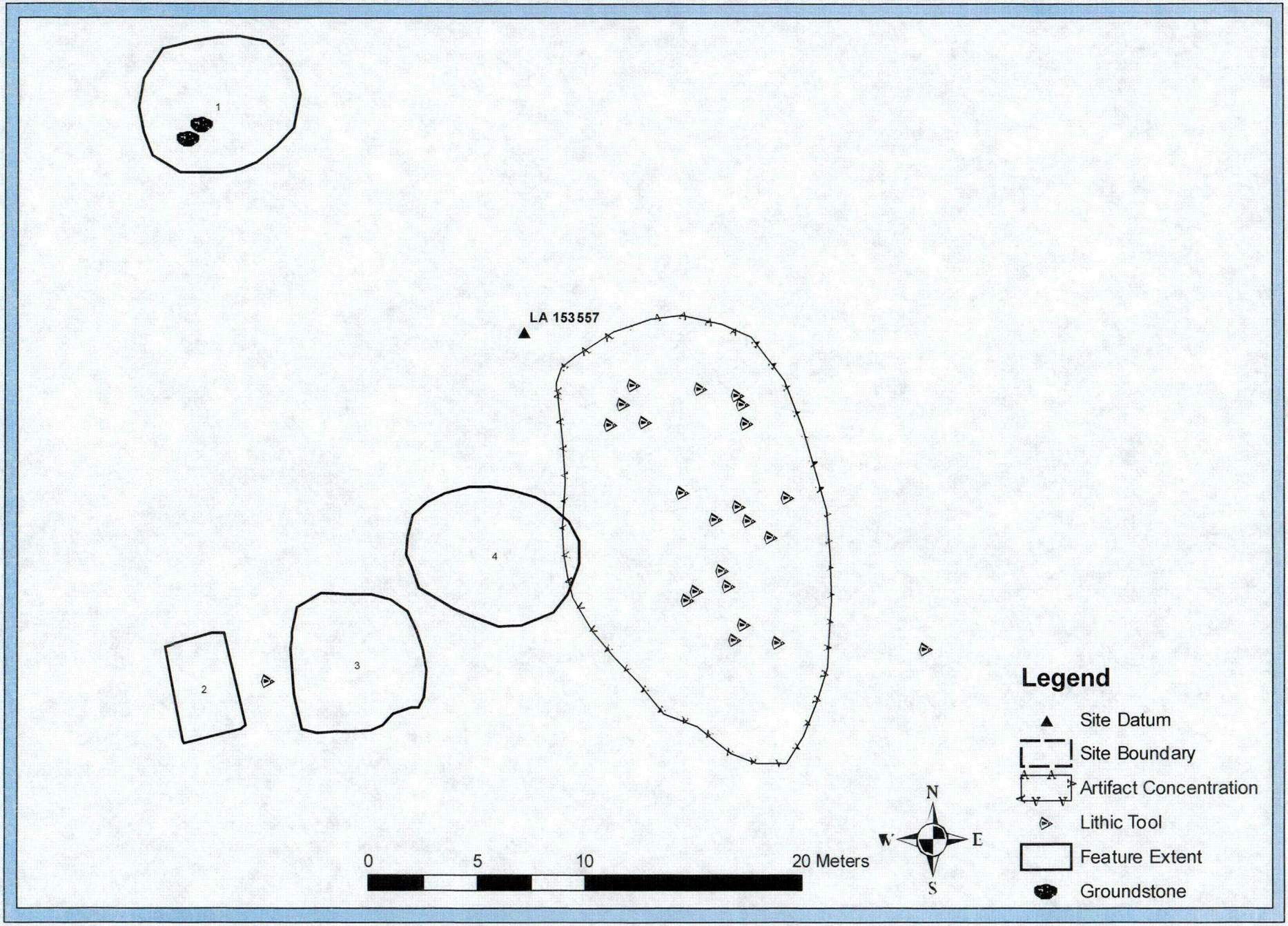

Figure 14: LA 153557 Site Plan Detail

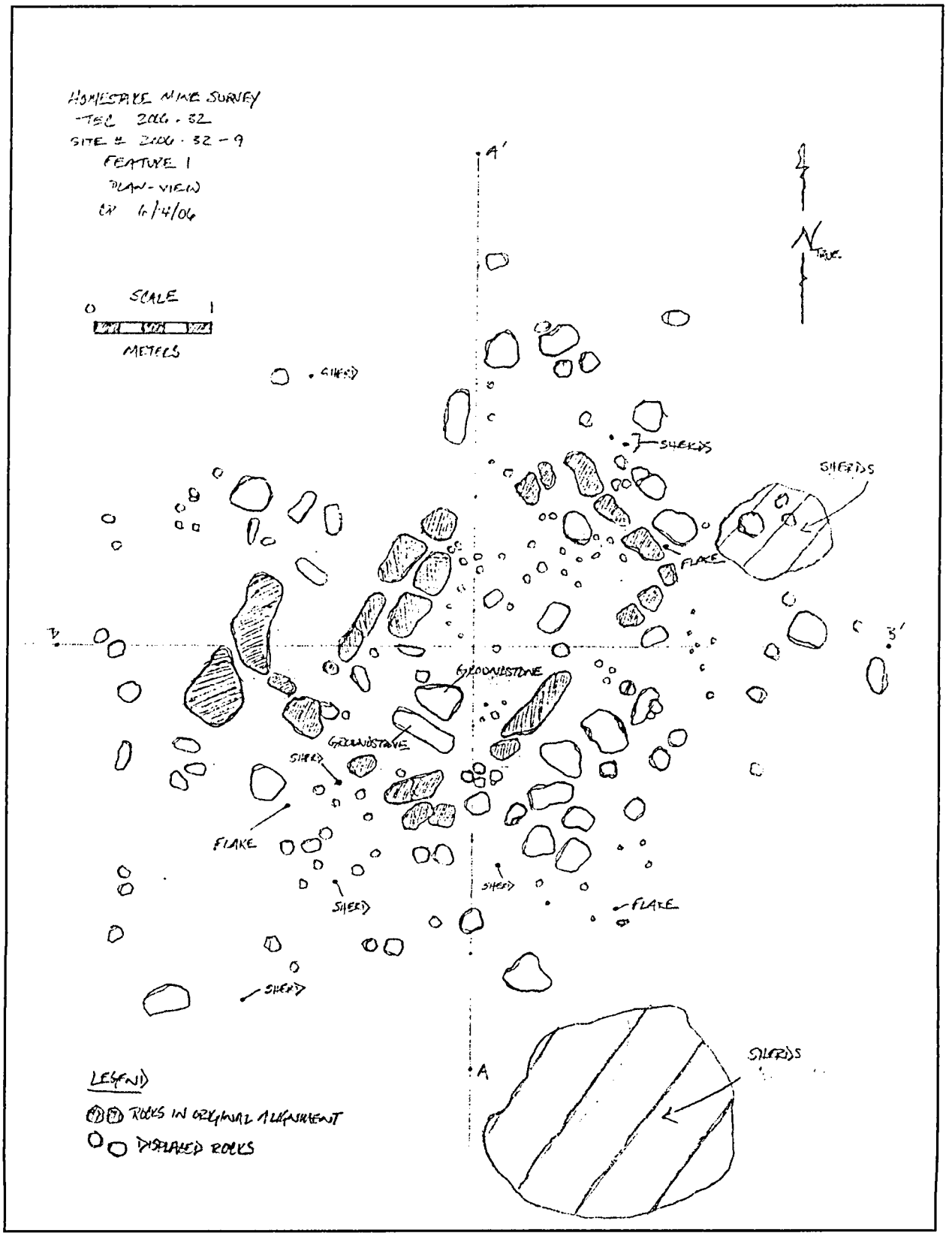

Figure 15: Plan-view drawing of Feature 1

and boulders are present in the feature, 25 percent of which appear to be in situ. Average rock size is 25 cm by 15 cm by 10 cm. Many of the rocks that form the alignments are in an upright position and are partially buried. Most of the rocks are unshaped fragments of tabular sandstone, but a few fragments of vesicular basalt were also noted within the feature area. Ceramics, flaked-stone artifacts, and groundstone were identified within, and immediately adjacent to, the feature. However, the density of the general scatter around Feature 1 was low. Intact subsurface deposits are likely in Feature 1 due to the mounding of the feature and the lack of significant disturbance across the site.

Feature 2 is comprised of two, parallel, one-course rock alignments of unshaped sandstone that are oriented roughly northwest-southeast (Figure 16). The feature is located in the central part of the site, 15 m south of Feature 1 and 3 m west of Feature 2. The feature covers an area of approximately 5.8 m north-south by 3.8 m east-west. The alignments are 1 m apart and measure 4 m in length and 0.8 m in width. A total of approximately 40 unshaped sandstone cobbles and boulders are present in the general feature area. Of these, 60 percent appear to be in situ. Average rock size is 20 cm by 12 cm by 8 cm. Some rocks are almost completely embedded in the ground, but the feature area is not mounded. Several sherds and pieces of flaked-stone debitage were identified within, and adjacent to, the feature. Also, an indeterminate groundstone fragment was noted between Feature 2 and 3. Intact subsurface deposits are likely in Feature 2 due to the presence of buried rocks, intact alignments, and the lack of significant disturbance across the site.

Feature 3 consists of a rock concentration with one possible east-west alignment (Figure 17). It is located 3 m east of Feature 2, and 3 m southwest of Feature 4. Feature 3 covers an area of approximately 6.5 m by 6.5 m. The majority of the rocks have been displaced from their original positions. The possible east-west alignment is located in the center of the feature and is comprised of a number of large, partially buried rocks with their long axes oriented east-west. Approximately 80 cobbles and boulders are present in the general feature area. Approximately 15 percent of these appear to be in situ. Average rock size is 30 cm by 15 cm by 12 cm. A few sherds and pieces of flaked-stone debitage were identified within, and adjacent to, the feature. Intact subsurface deposits are likely in Feature 3 due to the presence of buried rocks and the lack of significant disturbance across the site.

Feature 4 is a rock concentration with no discernable alignments (Figure 18). It is located 3 m northeast of Feature 3 and covers an area of approximately 7 m east-west by 4 m north-south. A total of approximately 50 cobbles and boulders are present in the general feature area and only 5 percent of these appear to be in situ. Average rock size is 25 cm by 15 cm by 12 cm. The majority of the rocks are fragments of tabular sandstone, but a few fragments of vesicular basalt were also noted within the feature area. Ceramics, flaked-stone debitage, and groundstone were identified within the structural remains and at the feature's perimeter. The artifact concentration is located east of Feature 4. Intact subsurface deposits are likely in Feature 4 due to the presence of buried rocks and the lack of significant disturbance across the site.

The general artifact scatter is diffuse and covers a large area. A very dense artifact concentration was identified in the center of the site, east of Feature 3. Artifacts were recorded separately in the general scatter, the concentration, and within each feature. An estimated 20-percent

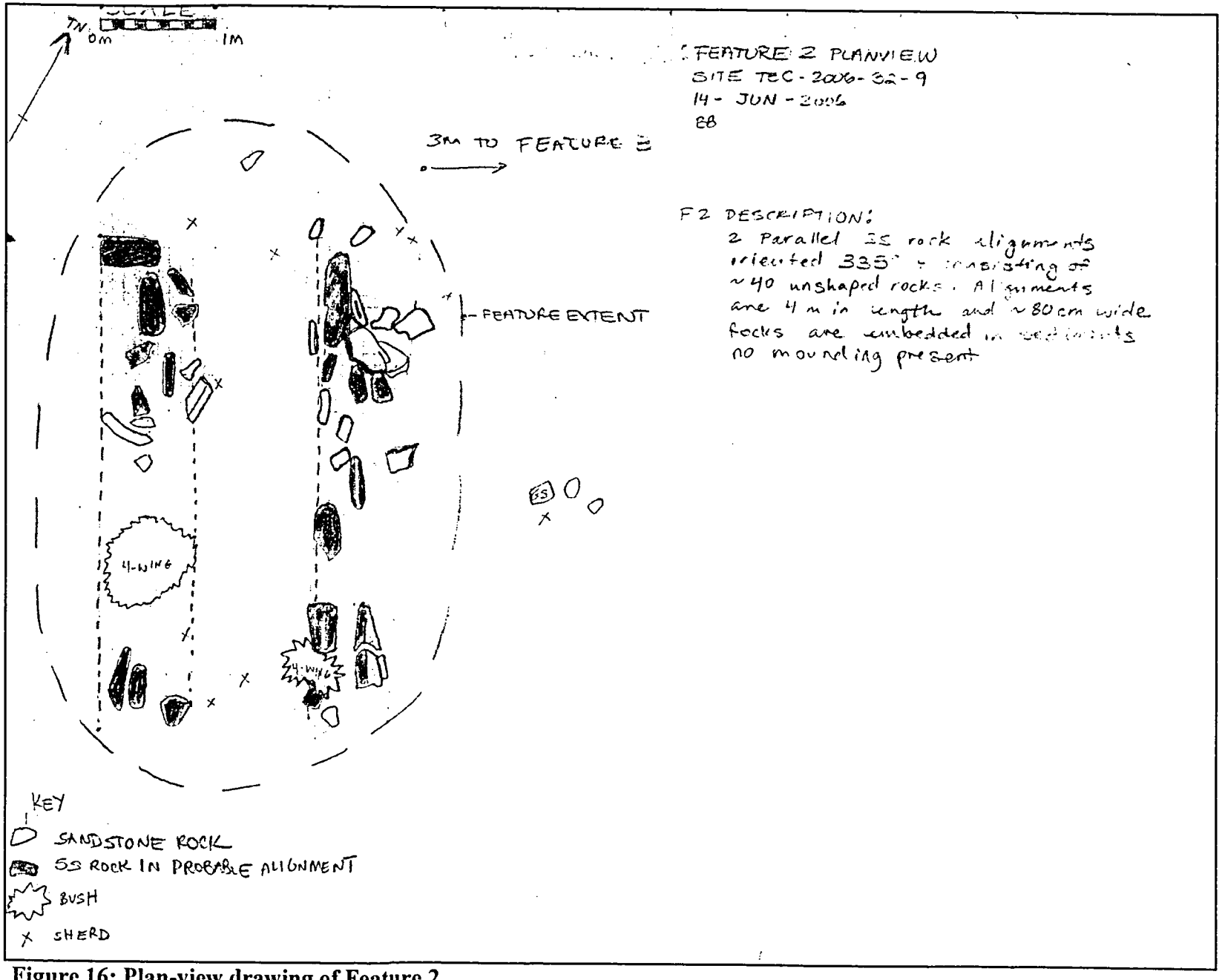

Figure 16: Plan-view drawing of Feature 2

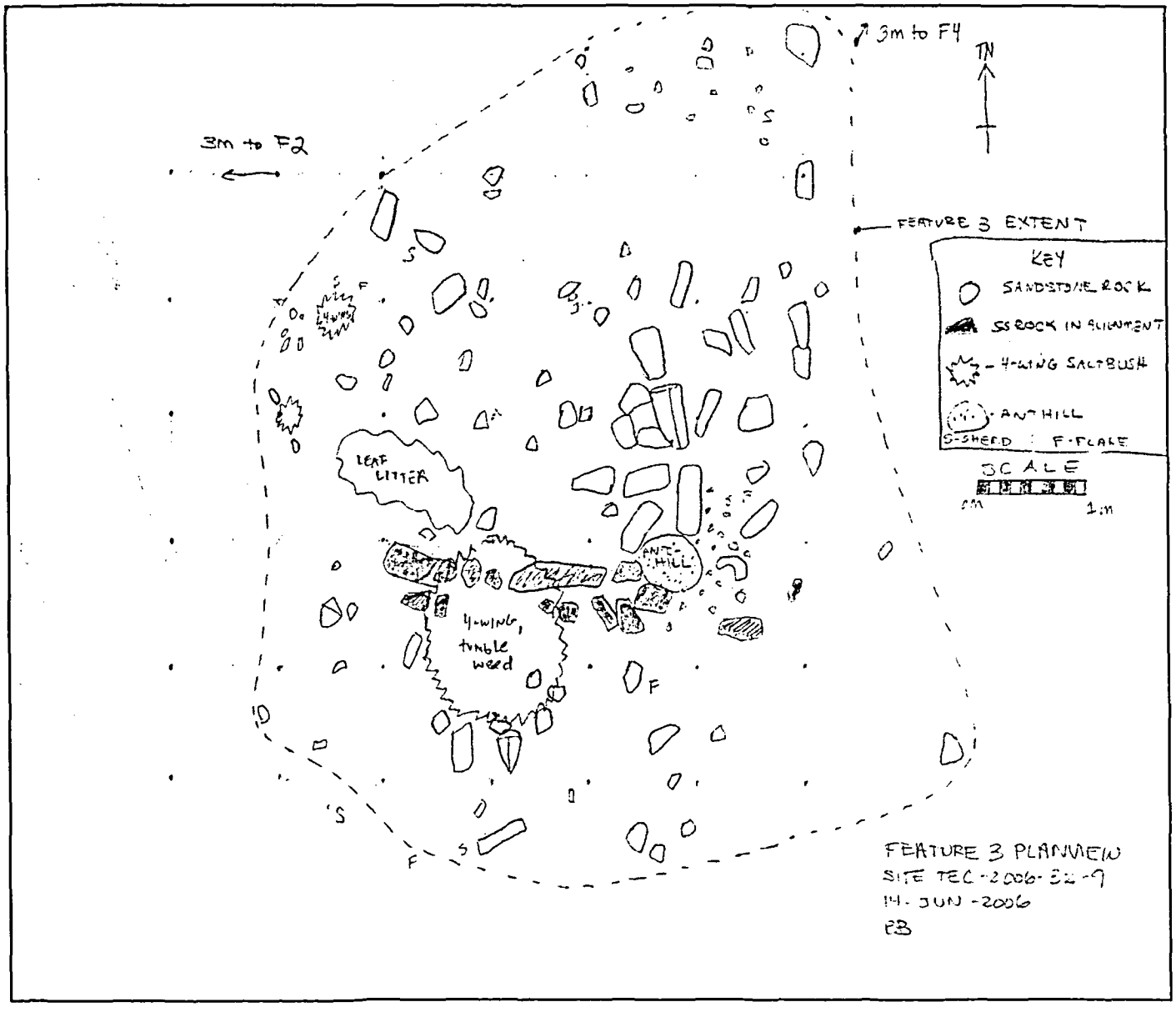

Figure 17: Plan-view drawing of Feature 3

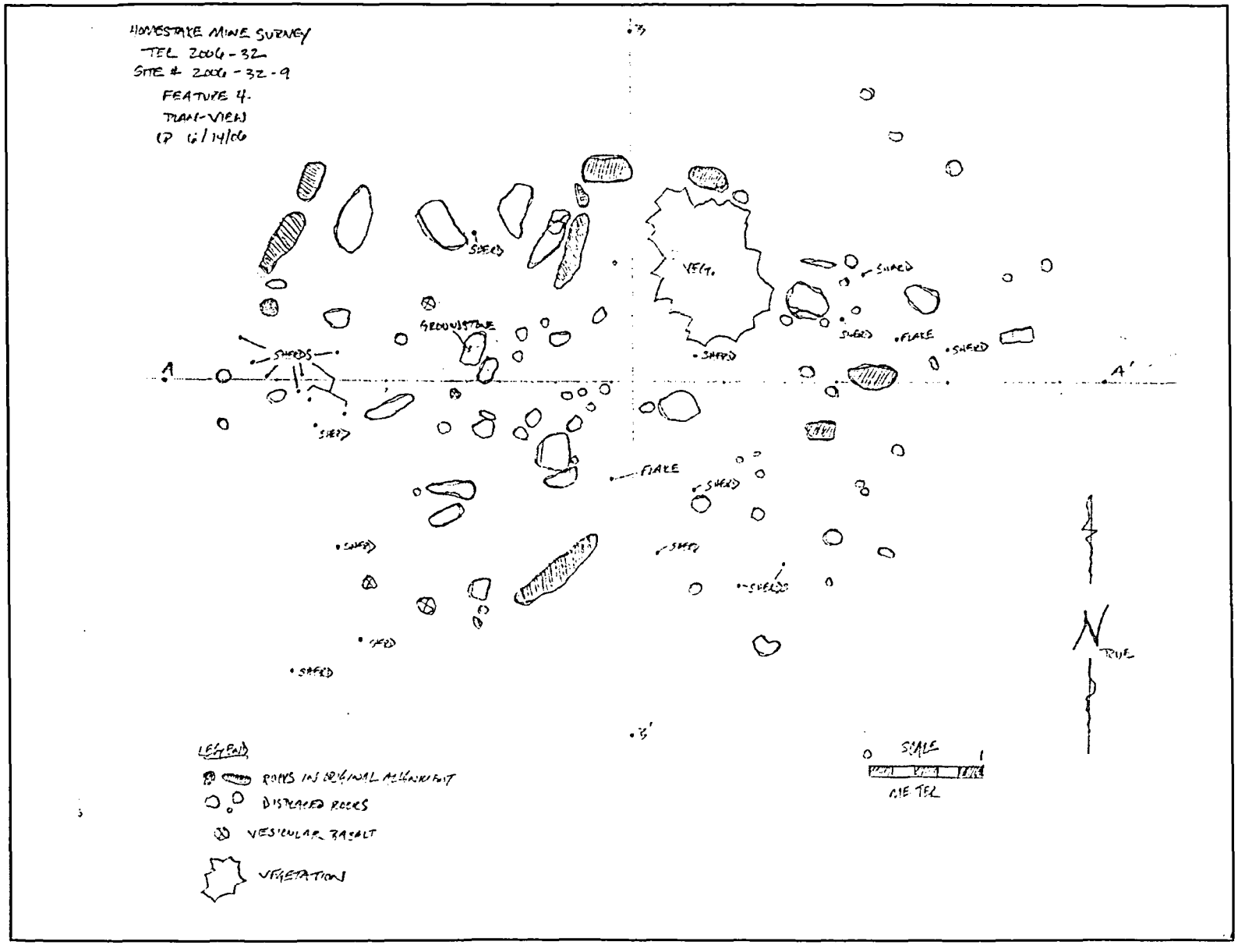

Figure 18: Plan-view drawing of Feature 4

judgmental sample of the observed flaked-stone debitage and ceramics was analyzed in the field. All of the observed lithic tools in the artifact concentration and an estimated 80-percent judgmental sample of the lithic tools in the general scatter were recorded. In-field analysis procedures resulted in the recording of 203 artifacts, including 61 pieces of flaked-stone debitage, 36 lithic tools, and 106 sherds. However, it is estimated that over a thousand artifacts are contained within the site boundaries. No differentiation of flaked-stone debitage and ceramic types was noted between the general scatter, artifact concentration, and feature areas.

The artifact concentration measures 20 m north/south by 12 m east/west and is estimated to contain approximately 250 pieces of flaked-stone debitage and 150 sherds. An estimated 20-percent judgmental sample of the observed flaked-stone debitage and ceramics from the concentration was analyzed in the field. The flaked-stone assemblage within the concentration is dominated by core-reduction flakes and angular debris manufactured from obsidian and chert. A few flakes of silicified palm wood and Roth-quartzite are also present.

A total of thirty tools were identified within the concentration, including scrapers made from chert and obsidian, chert and obsidian biface fragments, quartzite hammerstones, mano and metate fragments, and several indeterminate pieces of groundstone. One of the groundstone fragments contained morphological characteristics identifying it as part of a trough metate. Tabular sandstone was the material of choice for the manufacture of groundstone at this site (n = 18), but one of the mano fragments is quartzite. Also, a fragment from a basalt axe was identified within the concentration (see Appendix D). Interestingly, all of the flaked-stone tools noted at this site were identified within the concentration, as was the case with cores and tested cobbles. The lithic tools noted from the general scatter consist of one mano fragment and five indeterminate groundstone fragments.

The ceramic assemblage contains several diagnostic types (see Appendix D), including Red Mesa Black-on-white (A.D. 850–1100), Gallup Black-on-white (A.D. 1000–1150), Puerco/Escavada Black-on-white (A.D. 1025–1150), and Plain Gray (A.D. 450/500–1050/1100). The graywares include corrugated types identified as Exuberant/Neck-corrugated/Narrow-banded (A.D. 900–1050) and Kana'a Gray (A.D. 850–1050). A small number of the whiteware sherds could not be definitively typed due to the lack of a design element. Gallup Black-on-white and the corrugated wares are the two dominant types present. Based on types and frequencies of the diagnostic ceramics, this site has been assigned a cultural/temporal affiliation of Anasazi Pueblo II (A.D. 900–1100).

NRHP Evaluation, Effect, and Management Recommendation

LA 153557 contains four rock features with a high probability of intact subsurface deposits. A large associated scatter includes an artifact concentration with a very high density of artifacts, including 14 pieces of groundstone. Overall, the site is in very good condition with minimal impacts. LA 154557 is recommended eligible for inclusion in the NRHP under Criterion D for its potential to provide important information regarding the prehistoric use of this area. The proposed undertaking will avoid this site. Therefore, subject to comment, the proposed project will have *no effect* on LA 153557. No further action is recommended.

LA 153558

TEC Field Number: 2006-32-10
Site Dimensions: 35 m N/S by 29 m E/W
Land Status: Private

This prehistoric site consists of a diffuse scatter of flaked stone, groundstone, and ceramics with one artifact concentration (Figure 19). The site is located in the northeast corner of the eastern survey block. A playa is present at the western side of the site area. Vegetation is re-seeded desert grassland and scrubland including four-wing saltbush, greasewood, sand sage, grama grass, and Indian ricegrass. Surface visibility is between 76 and 99 percent. Major disturbances to the site include mechanical blading of aeolian sediments during mine clean-up efforts in 1995, the bioturbation of the upper strata from stock animal grazing, and erosion from wind and water. LA 153555 is estimated as being less than 25 percent intact.

The total artifact assemblage is comprised of 11 lithic tools, three pieces of flaked-stone debitage, and five sherds. The majority of the artifacts are within the artifact concentration, located in the center of the defined site area, with the remainder of the assemblage diffusely scattered in all directions. These items have likely been dispersed by the mechanical blading.

All observed artifacts were analyzed in the field. The lithic assemblage is characterized by a high frequency of tools and three pieces of flaked-stone debitage. The majority of the artifacts are contained within the concentration, including ten of the eleven tools identified. These include one core fragment of chert, one chert scraper, one metate fragment of sandstone, and seven indeterminate groundstone fragments. The metate fragment exhibits heavy use-wear on one surface and measures 140 mm by 78 mm by 48 mm. The tool noted in the general scatter is an additional core fragment of chert. The three items of debitage include two quartzite flakes (one brown and one gray) identified within the concentration, and one piece of angular debris of white chert observed in the general scatter.

Ceramics include four corrugated grayware sherds and one indeterminate whiteware sherd. Three of the corrugated sherds are identified as Exuberant/Neck-corrugated/Narrow banded, which has a date range of A.D. 900 to 1050 (Hurst 2003). The whiteware sherd has a dark gray paste and the slip is present only on the exterior surface. No paint was visible on this specimen, but it likely represents a black-on-white type.

Due to the presence of the corrugated sherds in association with a black-on-white type, LA 153558 has been assigned a cultural/temporal affiliation of Anasazi Pueblo II (A.D. 900–1050).

NRHP Evaluation, Effect, and Management Recommendation

LA 153558 has been subjected to major mechanical disturbance and is estimated as being less than 25 percent intact. Artifacts were likely displaced as a result of the mechanical blading of aeolian sediments in 1995. Additionally, new aeolian sediment accumulation across the site has been minimal since the blading, and the probability of encountering subsurface deposits is low.

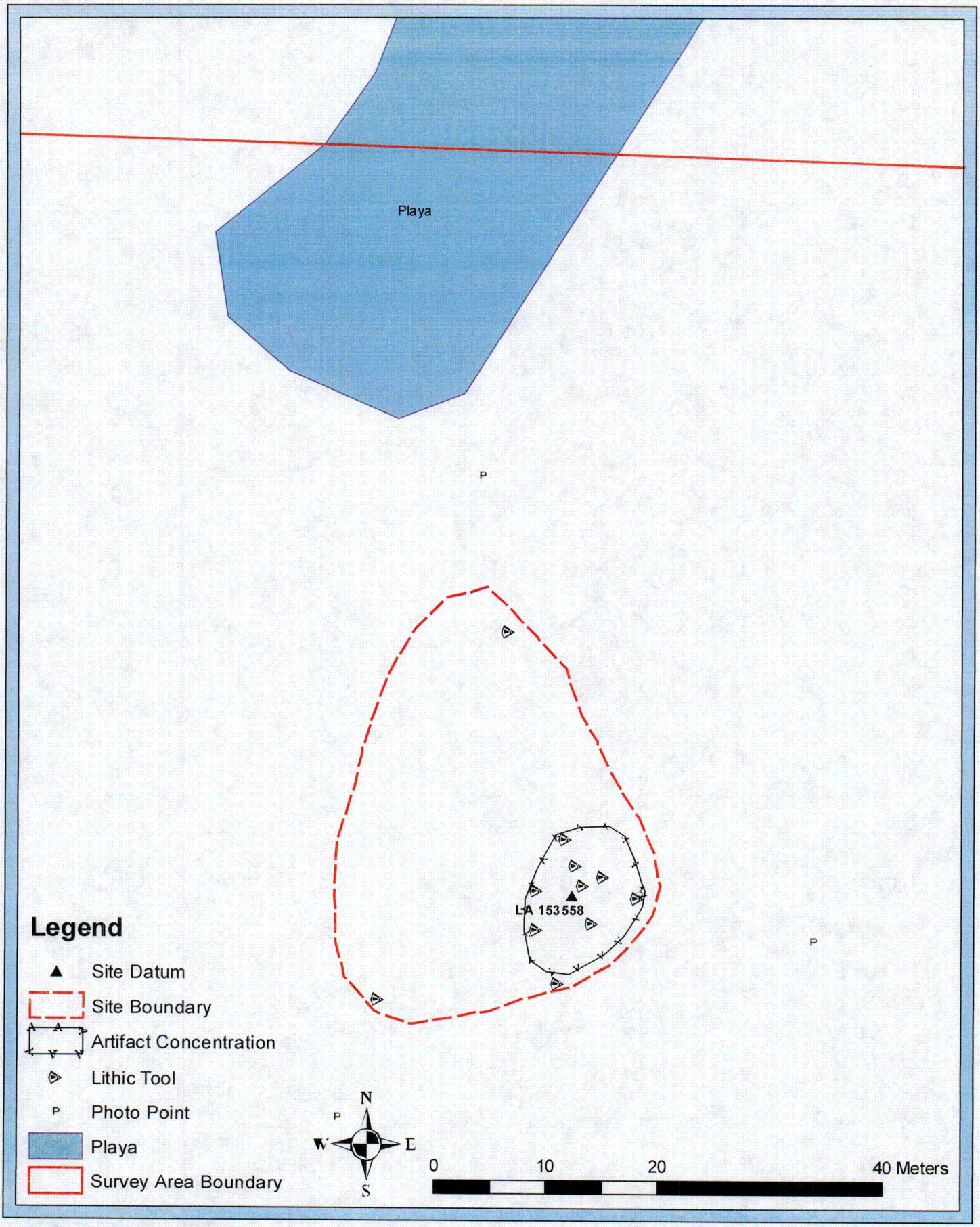

Figure 19: LA 153558 Site Plan

Based on its lack of integrity, this site retains little or no potential to provide important information to better our understanding of prehistory. It is therefore recommended as ineligible for inclusion in the NRHP under any of the four criteria. No further action is recommended.

LA 153559

TEC Field Number: 2006-32-11
Site Dimensions: 110 m NNW/SSE by 43 m SSW/NNE
Land Status: Private

LA 153559 is a non-structural prehistoric site containing ceramics, groundstone, and flaked-stone tools. It is located in the eastern survey block and approximately 150 m north of the gas pipeline (Figure 20). A playa is present on the northeast side of the site and a concentration of artifacts was identified within a blowout at its southern edge. The remainder of the site area contains a relatively diffuse scatter. Surface visibility is between 76 to 99 percent. Vegetation is re-seeded desert grassland and scrubland including four-wing saltbush, greasewood, sand sage, grama grass, Indian ricegrass, and wheatgrass. Disturbances include natural erosion and bioturbation from stock animal grazing. Also, the area was subjected to mechanical blading of contaminated aeolian sediments in 1995. Since that time, aeolian deposition has accumulated in the area and it has become partially stabilized by vegetation. This site is estimated to be 25 to 50 percent intact.

All of the observed artifacts were subjected to in-field analysis procedures, resulting in the recording of 39 items. This total includes seven pieces of groundstone, one flaked-stone tool, and 31 sherds. No differentiation of artifact types between the general scatter and the concentration was noted.

The lithic artifacts include two indeterminate groundstone pieces and a mano fragment that were identified within the concentration. One of the indeterminate groundstone fragments exhibits heavy use-wear on two surfaces and had been formally shaped by pecking, whereas the other exhibits heavy use-wear on only one surface. These specimens measure 86 mm by 62 mm by 25 mm and 47 mm by 27 mm by 16 mm, respectively. Both are manufactured from tan sandstone. The mano fragment is also tan sandstone. It exhibits heavy use-wear and a slight curvature on one surface and measures 84 mm by 45 mm by 19 mm. A knife of silicified wood was also identified in the general scatter, as well as three more indeterminate groundstone pieces and a metate fragment. The knife is missing its tip and proximal end, although it does not detract from the quality of the piece (see Appendix D). It measures 60 mm by 42 mm by 19 mm. The three indeterminate groundstone fragments are all tan sandstone. One of these exhibits heavy use-wear on two surfaces and measures 92 mm by 77 mm by 21 mm. The other two exhibit moderate use-wear on one surface and measure 42 mm by 43 mm by 19 mm and 32 mm by 38 mm by 19 mm.

The majority of the assemblage consists of ceramics (n = 31), which is in turn mostly comprised of indeterminate whitewares (n = 15), plain graywares (n = 6) and indented corrugated (n = 3). However, one banded corrugated specimen, one clapboard corrugated sherd, one Red Mesa Black-on-white sherd (A.D. 850–1050), and one Gallup Black-on-white sherd (A.D. 1000–1150)

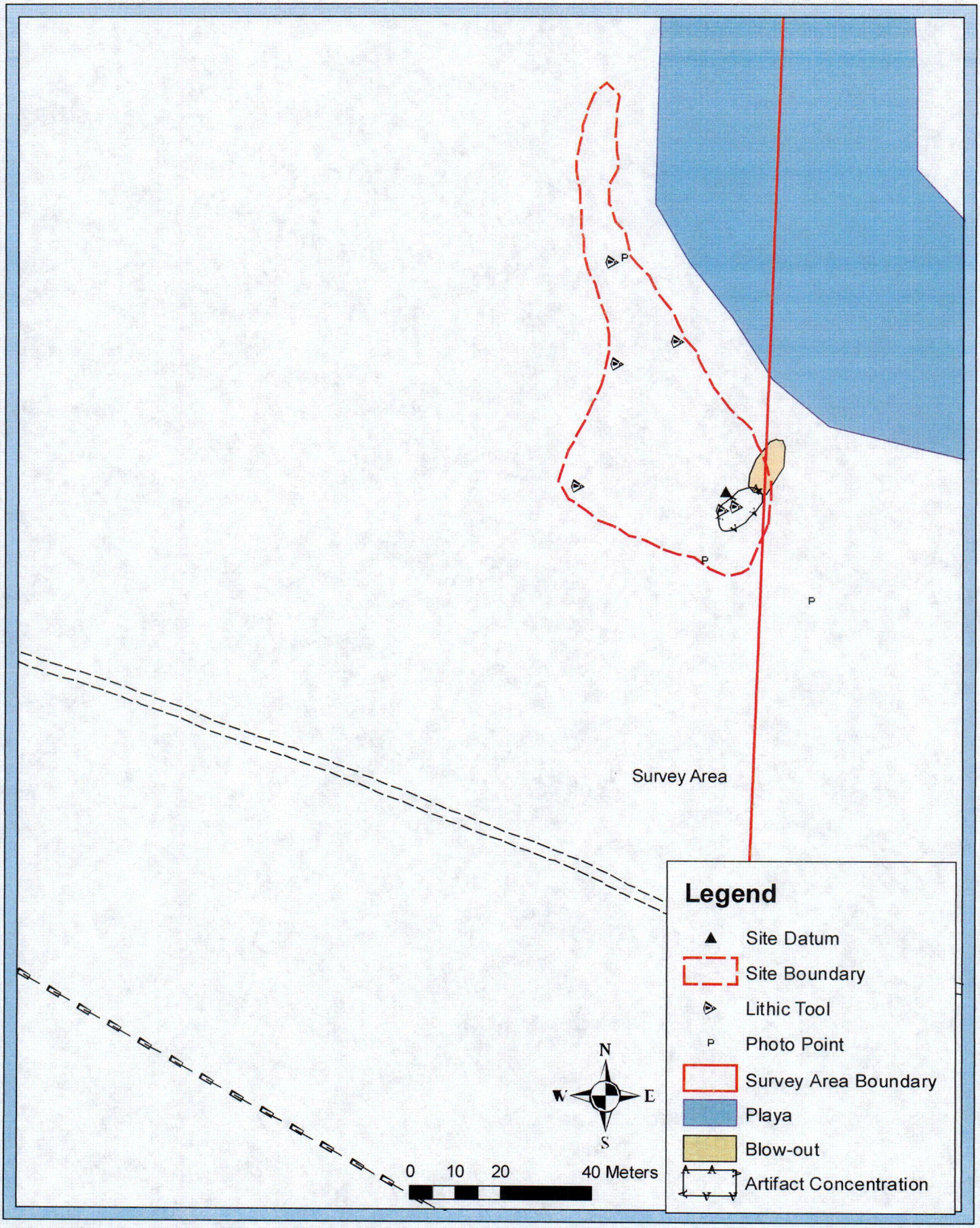

Figure 20: LA 153559 Site Plan

were identified as well. The lack of paint on many of the whiteware sherds accounts for the high number of unclassified specimens. However, these small sherds likely represent portions of black-on-white vessels containing the negative aspect of the design element.

The majority of the grayware sherds have been identified as Plain Gray, which is common throughout this area during the Late Pueblo I to Late Pueblo III periods (A.D. 450/500–1050/1100). Several of the corrugated sherds have been placed within the Exuberant/Neck-corrugated/Narrow-banded category, which has a date range of A.D. 900 to 1050. The black-on-white types identified include Red Mesa Black-on-white (A.D. 850–1150) and Gallup Black-on-white (A.D. 1000–1150). Due to the presence of these diagnostic types, LA 153559 has been assigned a cultural/temporal affiliation of Anasazi, Pueblo II/III (A.D. 900–1150).

NRHP Evaluation, Effect, and Management Recommendation

LA 153559 has a diverse assemblage despite the relatively small number of identified artifacts. This site has been impacted by mechanical blading and subsequent erosion. However, portions of the site exhibit the accumulation of aeolian sediments, which has likely covered materials previously exposed. Recently established, low-lying vegetation have stabilized some of these areas. Furthermore, the majority of the artifacts were identified within erosional contexts, indicating that the presence of buried cultural materials is possible in more intact portions of the site. Limited testing would be required in order to determine the presence or absence of intact subsurface cultural deposits. Therefore, LA 153559 is recommended as having an undetermined status of eligibility for inclusion in the NRHP. The proposed undertaking will avoid this site. As a result, it will have no effect on this resource. No further action is recommended.

Interpretative Summary

Eleven new sites (LA 153549–LA 153559), one previously recorded site (LA 108856), and 51 IOs were identified during the survey. All sites were assigned an Anasazi Pueblo II/Early Pueblo III cultural/temporal affiliation based on diagnostic Black-on-white ceramics. These findings are consistent with recent previous research in the area, which identified similar site types in the alluvial flats of San Mateo Creek (Deyloff 1993, 1994). However, Deyloff interpreted the large number of Pueblo II/III sites as an unusual phenomenon in the Red Mesa Valley, since the majority of the documented sites date to a slightly earlier Anasazi Pueblo occupation (Deyloff 1993).

Nonetheless, most of the occupation in the Red Mesa Valley during the Pueblo II/III period occurred along tributaries of the Rio San José and includes many non-structural sites in low-lying areas of arable land (Scheick 1985). Most of the newly recorded sites were non-structural sites located at the edges of shallow playas in the alluvial flats. Artifact assemblages were dominated by local ceramics and contained many groundstone fragments, indicative of the exploitation of plant resources and a lack of long-distance trade. Only one of the sites in this area contained remains of thermal features, though these were badly eroded and did not retain any depth of cultural materials. Many of the sites lack integrity due to the mechanical blading of contaminated aeolian sediments, and subsequent mechanical re-seeding, that was carried out in

1995 across most of the survey area. A structural site (LA 153557) with four rock features was found in an area that was not bladed during windblown contamination clean-up efforts. This site is located approximately 1.2 km (0.75 mile) west of San Mateo Creek and may be the remains of a farmsite, given the location of the site near probable agricultural fields and its similarity to the description of this site type outlined in Scheick's 1985 Red Mesa Valley survey, in which 21 percent of Puebloan sites were identified as farmsites.

The findings of this survey are consistent with previous research and regional cultural overviews in the categories of site type and cultural/temporal affiliation. However, they are not consistent with the site densities found in previous surveys in the valley bottom, or with elevational distribution of specific site types.

Two previous surveys that overlap the survey area (Deyloff 1993, 1994) found a site density of about 10 sites per square mile. This number is low when compared to results of recent surveys in the Red Mesa Valley. Deyloff (1994) argues that when only Pueblo II/III period site densities are considered, the figures are within the range of previous findings. Due to the mechanical removal of up to 1 m of aeolian sediments in 1995 across most of the survey area, the present survey found a considerably higher site density. In the eastern survey block, which was entirely bladed and covers an area of about 70 ha (172 ac), nine sites were identified, resulting in a site density of about 33 sites per square mile, or about three times the site density recorded in the previous surveys. Despite some damage to the sites from blading, most of the sites remained spatially intact, with clear site boundaries. These findings indicate that aeolian deposition in the alluvial flats was significant enough to mask true site densities. As a result, predictive modeling based on surface manifestations in this part of the Red Mesa Valley becomes less effective. Additionally, the higher site density suggests that the Pueblo II/Early Pueblo III community in this part of the Red Mesa Valley was more extensive than previously documented. In the western survey block, where less than half of the surface had been bladed, site density was closer to five sites per square mile.

This survey identified one site, LA 153557, that contained four rock features which may represent the remains of a prehistoric farmhouse. This site type is described by Scheick (1985) as being three to four rooms in size and occurring in close proximity to arable land. According to Scheick (1985), these feature types are found in the Red Mesa Valley at elevations between 2073 m (6800 ft) and 2103 m (6900 ft) amsl. However, LA 153557 and all other sites identified during this survey occur at an elevation of 2009 m (6590 ft) amsl. This suggests either Scheick's elevational model for the distribution of this site type is overly restrictive or LA 153557 is not the remains of a prehistoric farmhouse.

SUMMARY OF MANAGEMENT RECOMMENDATIONS

Eleven new sites (LA 153549–LA 153559), one previously recorded site (LA 108856), and 51 IOs were identified during the survey. Of the twelve documented archaeological sites, three sites (LA 153552, LA 153557, and LA 108856) are recommended eligible for inclusion in the NRHP under Criterion D for their information potential, based on the high probability of intact buried cultural deposits at these sites. An undetermined eligibility status is recommended for three sites

(LA 153553, LA 153556, and LA 153559) pending a testing program that would determine the presence or absence of intact subsurface cultural deposits. The remaining six sites (LA 153549-153551, LA 153554, LA 153555, and LA 153558) are recommended ineligible for inclusion in the NRHP due to their lack of integrity.

TEC recommends that the proposed undertaking avoid the six sites with eligible or undetermined eligibility status (LA 153552, LA 153553, LA 153556, LA 153557, LA 153559 and LA 108856). Construction activities should remain at least 50 feet from the boundaries of these sites.

The six ineligible archaeological sites (LA 153549-153551, LA 153554, LA 153555, and LA 153558) and the 51 IOs have not, and likely will not, provide information to better our understanding of prehistory. No further investigations or management considerations are recommended for the ineligible sites or the IOs.

According to the latest project alternatives (Kleinfelder, Inc. *Site Location Map* dated June 2006); the proposed pond location will avoid all eligible and undetermined archaeological sites. A small portion of LA 153551 extends into Alternative C in the eastern survey block; however, this site is recommended ineligible for inclusion in the NRHP. Subject to comment by the SHPO, the proposed undertaking will have *no effect* on any resources listed on, nominated to, or eligible for the NRHP.

TEC recommends archaeological monitoring of all construction activities in the unbladed portions of Alternative B. In 1995, mechanical blading of up to one meter of aeolian sediments exposed a number of new archaeological sites in the immediate area. The unbladed portions of Alternative B contain older aeolian sediments that appear to be stabilized by increased vegetative cover. Given the high density of sites in the bladed portion of the survey area, and the lack of sites in the non-bladed portion (save LA 153557), it is likely that aeolian deposits are covering intact subsurface archaeological remains in the unbladed portions of the survey area. Therefore, the design and implementation of an archaeological monitoring plan is recommended if the proposed pond is to be located in Alternative B. If buried cultural deposits are encountered at any point during construction activities, work should cease immediately and the New Mexico SHPO should be contacted.

This undertaking complies with the provisions of the National Historic Preservation Act of 1966, as amended through 1992, and applicable regulations. The report is consistent with applicable federal and state standards for cultural resource management.

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APPENDIX A: MAPS WITH RESOURCE LOCATIONS

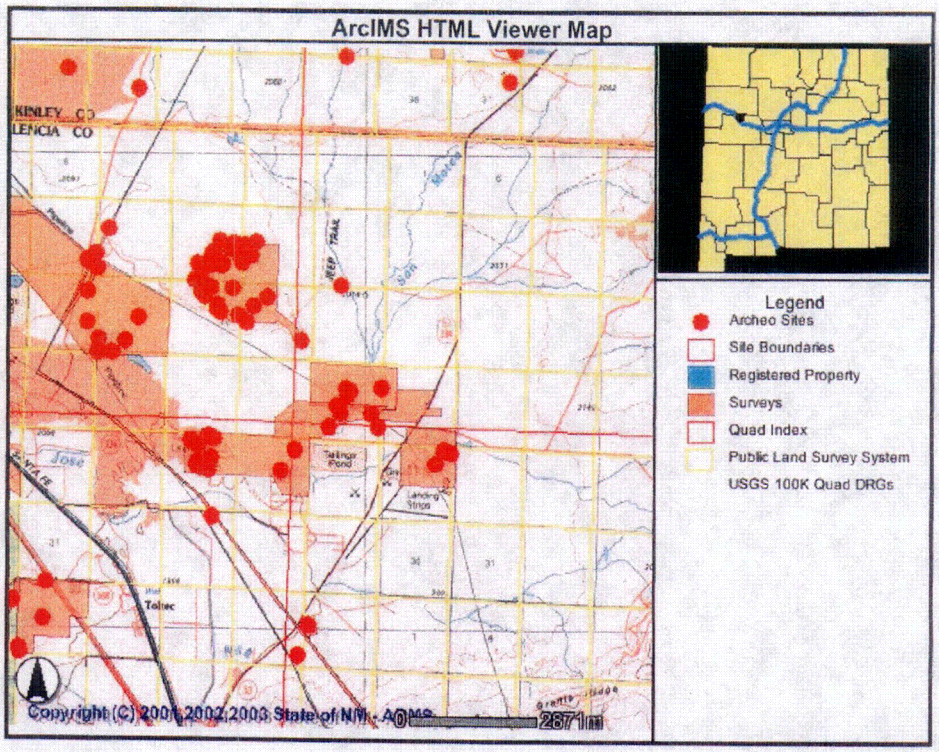


Figure A.1: NMCRIS Mapserver Map Check

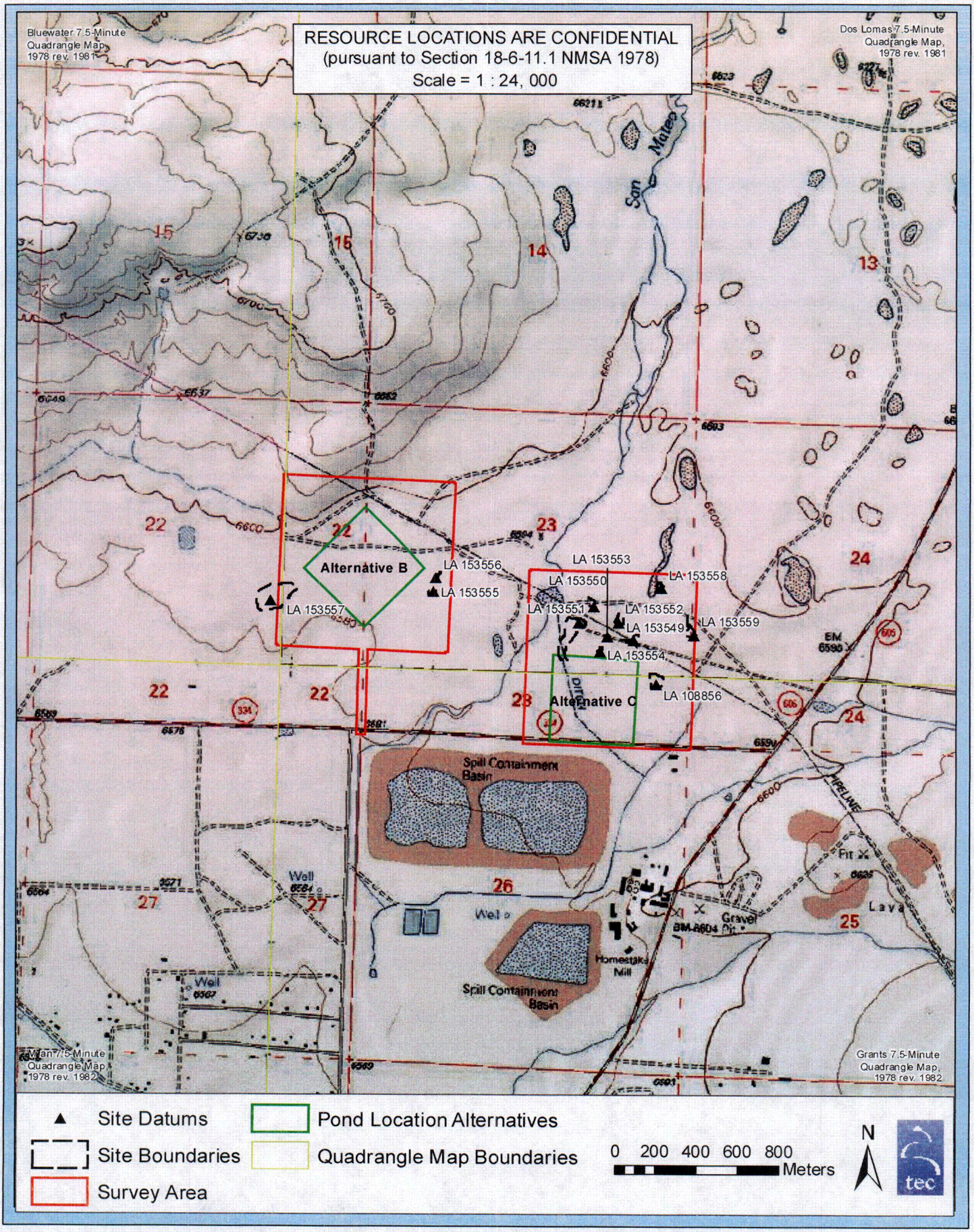


Figure A.2: Project Area Map Showing Site Locations

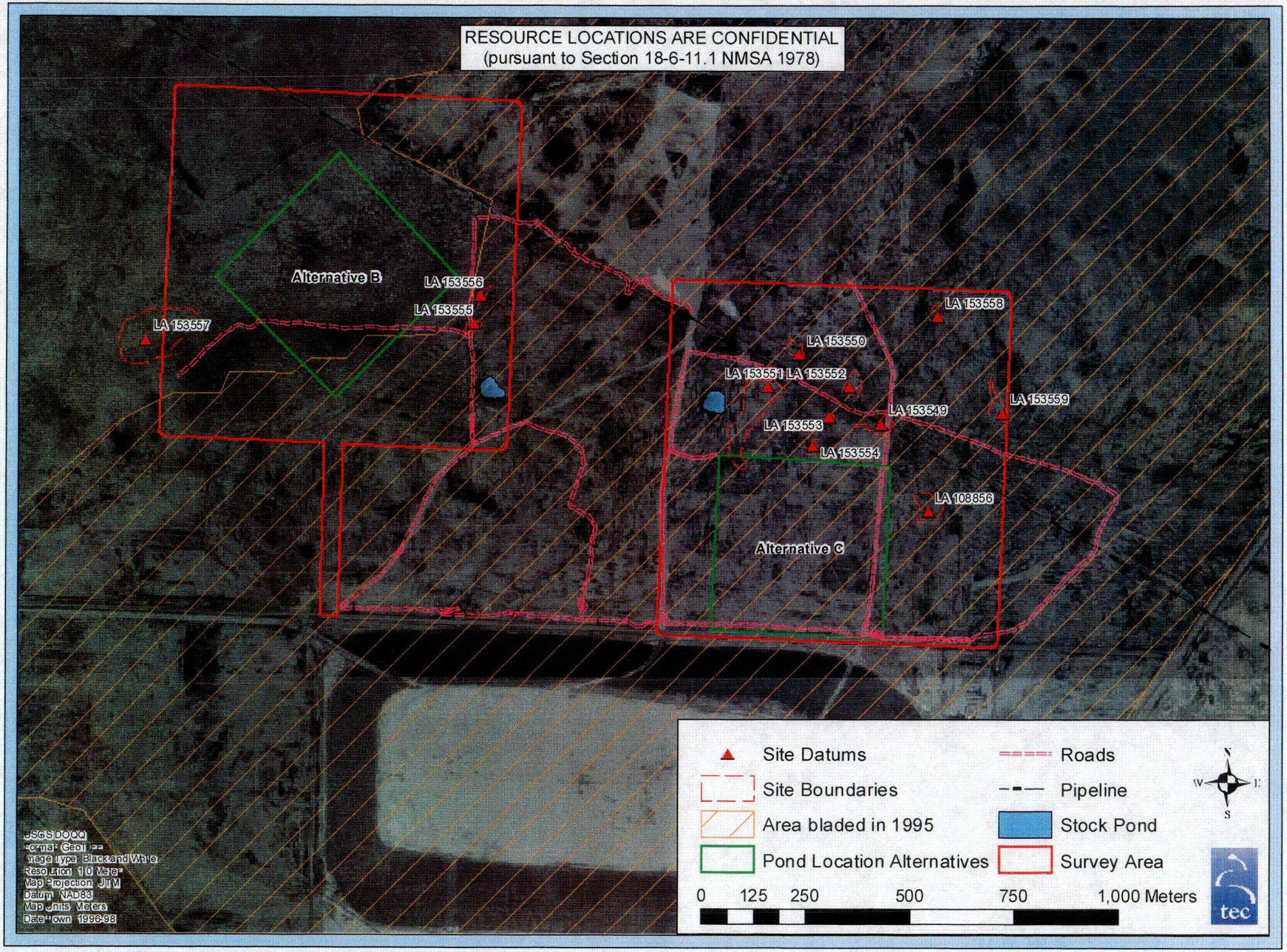


Figure A.3: Project Area Detail Map Showing Bladed Area and Site Locations

Table A.1: Locational Information for Archaeological Sites

LA Number	UTM Coordinates (NAD 83, Zone 13N)
LA 108856	E 240310, N 3904270
LA 153549	E 240076, N 3904689
LA 153550	E 239880, N 3904857
LA 153551	E 239805, N 3904779
LA 153552	E 240001, N 3904779
LA 153553	E 239950, N 3904708
LA 153554	E 239912, N 3904638
LA 153555	E 239100, N 3904929
LA 153556	E 239114, N 3904995
LA 153557	E 238309, N 3904889
LA 153558	E 240212, N 3904947
LA 153559	E 240368, N 3904717

APPENDIX B: ISOLATED OCCURRENCES

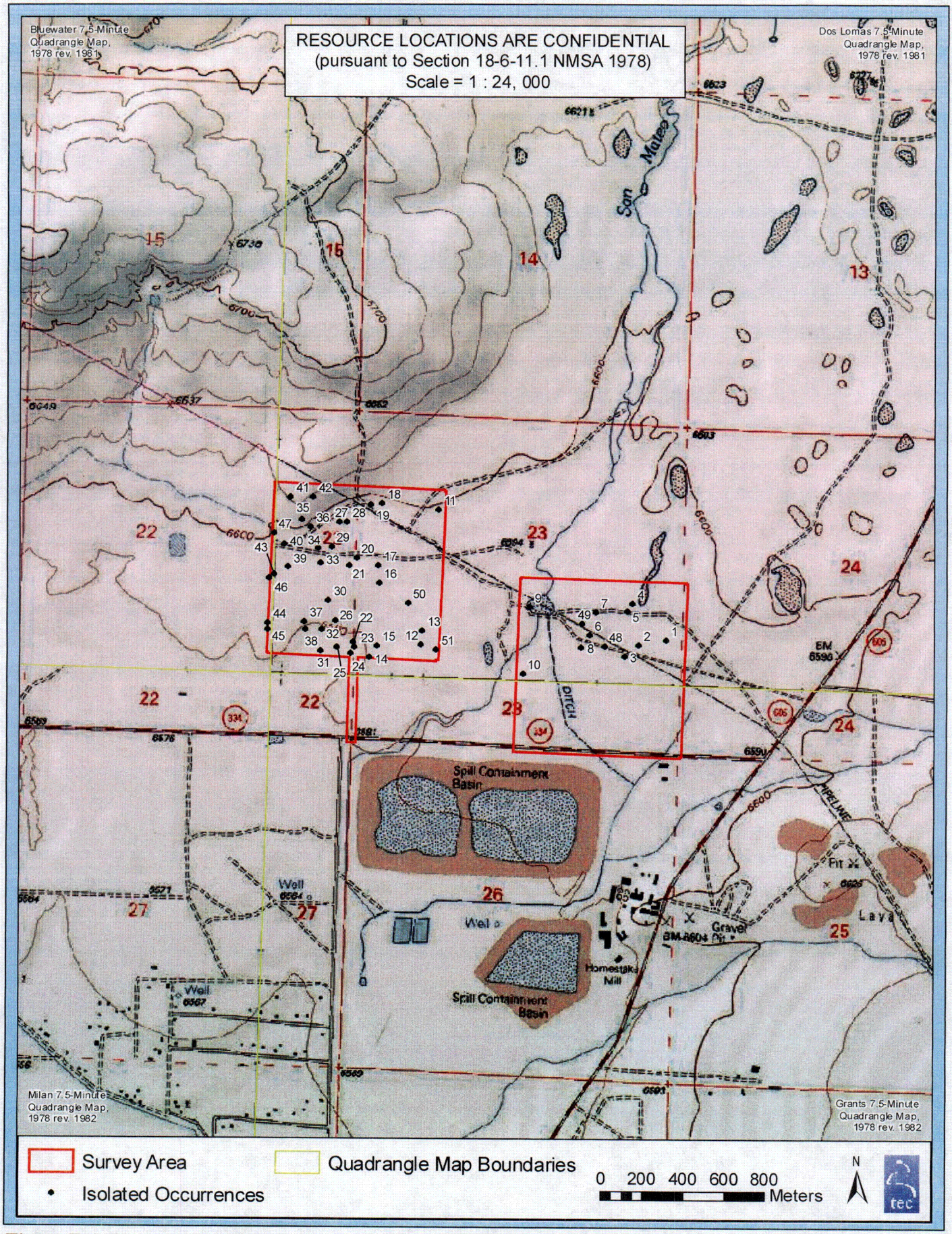


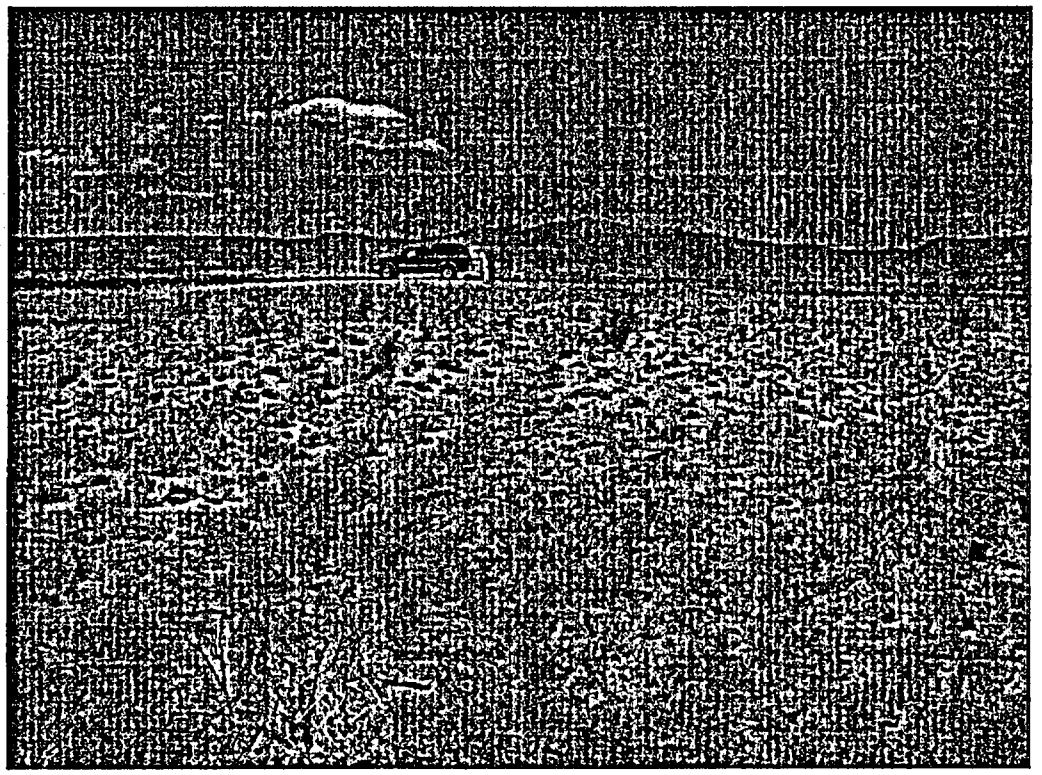
Figure B.1: Project Area Map Showing Isolated Occurrences

Table B.1: Locational Information for Isolated Occurrences

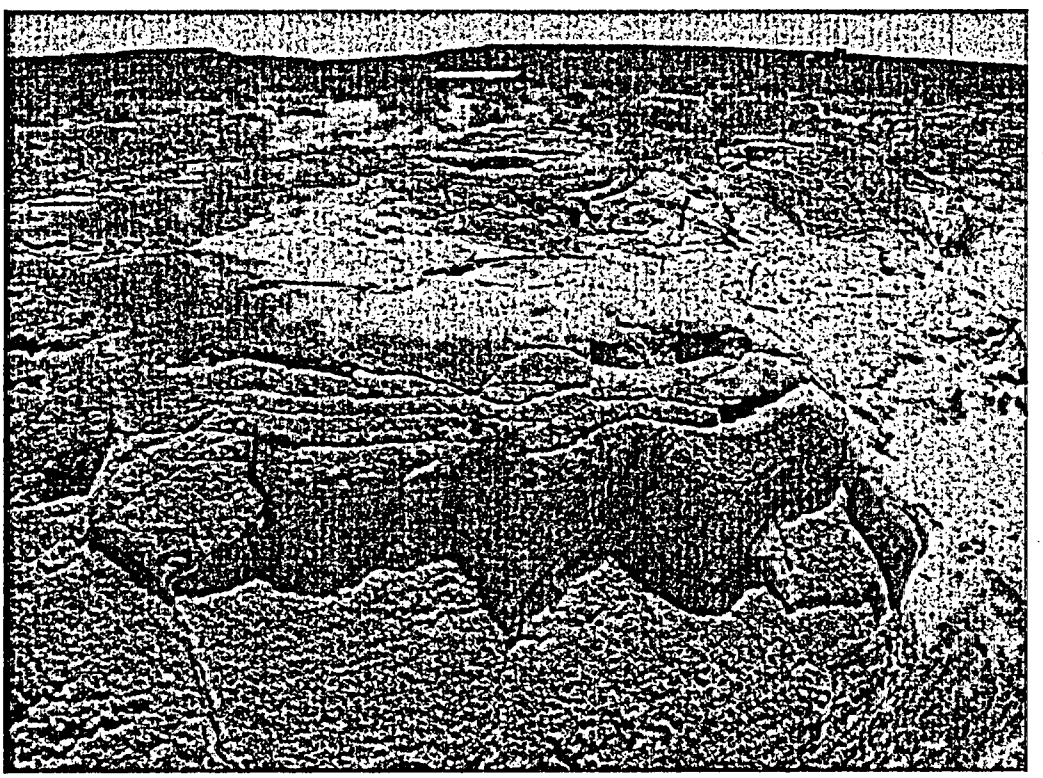
IO No.	UTM Coordinates (NAD 83, Zone 13N)
1	E 240285, N 3904730
2	E 240148, N 3904706
3	E 240080, N 3904647
4	E 240116, N 3904902
5	E 240091, N 3904869
6	E 240014, N 3904820
7	E 239912, N 3904752
8	E 239943, N 3904863
9	E 239871, N 3904691
10	E 239619, N 3904885
11	E 239586, N 3904565
12	E 239175, N 3905359
13	E 239086, N 3904704
14	E 239095, N 3904773
15	E 238838, N 3904640
16	E 238873, N 3904696
17	E 238884, N 3905003
18	E 238883, N 3905087
19	E 238898, N 3905395
20	E 238847, N 3905386
21	E 238775, N 3905122
22	E 238738, N 3905088
23	E 238757, N 3904713
24	E 238763, N 3904690
25	E 238745, N 3904660
26	E 238682, N 3904694
27	E 238674, N 3904817
28	E 238690, N 3905304
29	E 238728, N 3905304
30	E 238653, N 3905178
31	E 238640, N 3904920
32	E 238603, N 3904674
33	E 238604, N 3904779
34	E 238600, N 3905100
35	E 238591, N 3905174
36	E 238507, N 3905314
37	E 238550, N 3905277
38	E 238523, N 3904813
40	E 238442, N 3905079
41	E 238422, N 3905194

IO No.	UTM Coordinates (NAD 83, Zone 13N)
42	E 238456, N 3905422
43	E 238566, N 3905425
44	E 238373, N 3905044
45	E 238343, N 3904807
46	E 238342, N 3904775
47	E 238350, N 3905028
48	E 238373, N 3905245
49	E 239982, N 3904699
50	E 239876, N 3904806
51	E 239025, N 3904905

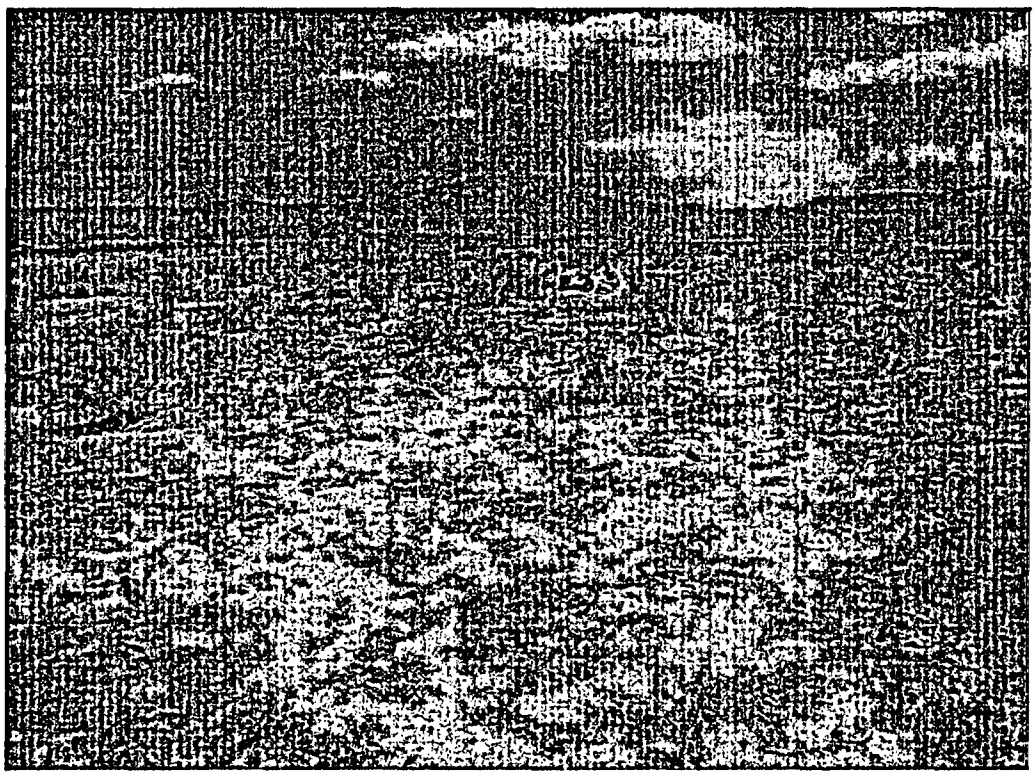
APPENDIX C: PHOTOGRAPHS



LA 153549 - Site overview, facing east



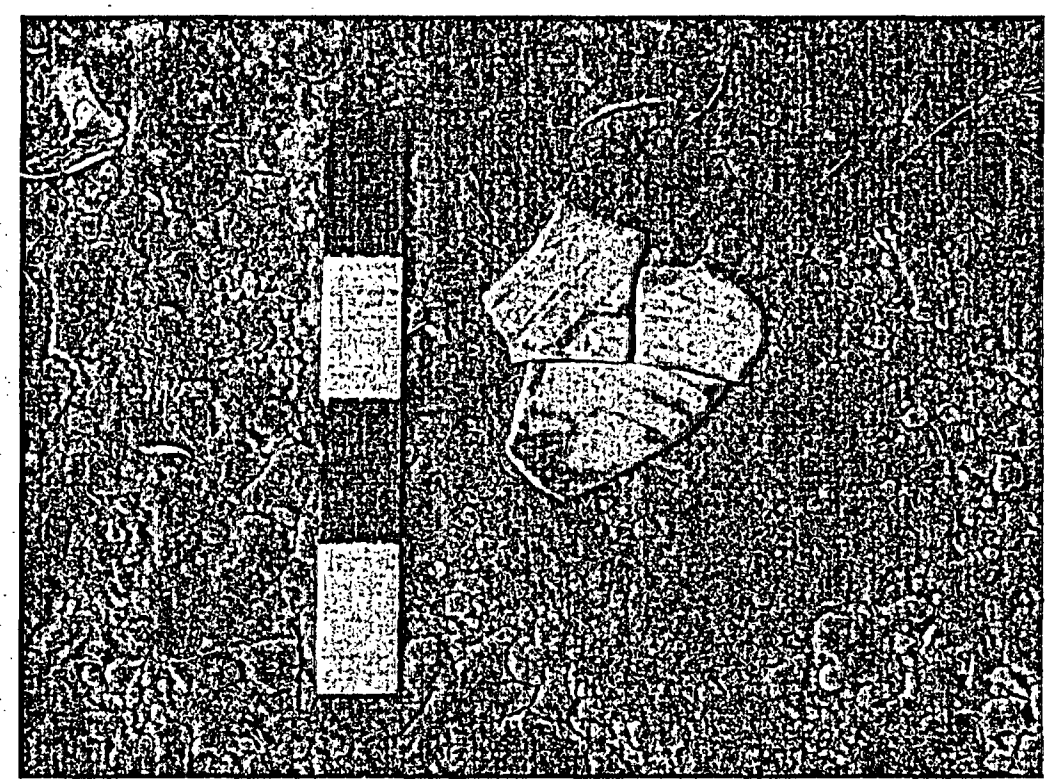
LA 153549 –Soil formations at west end of playa, facing east



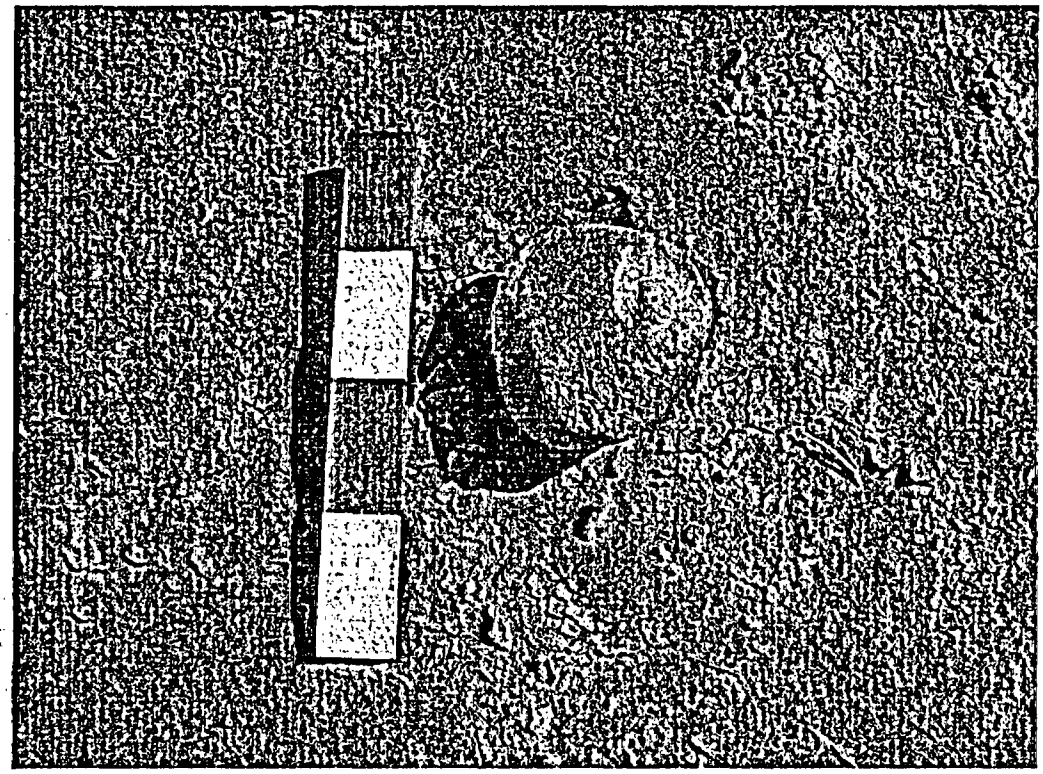
LA 153550 – Site overview, facing west/northwest

LA 153551 – Site overview with the pond in background, facing southwest

LA 153551 – Site overview from south end of site, facing north/northeast

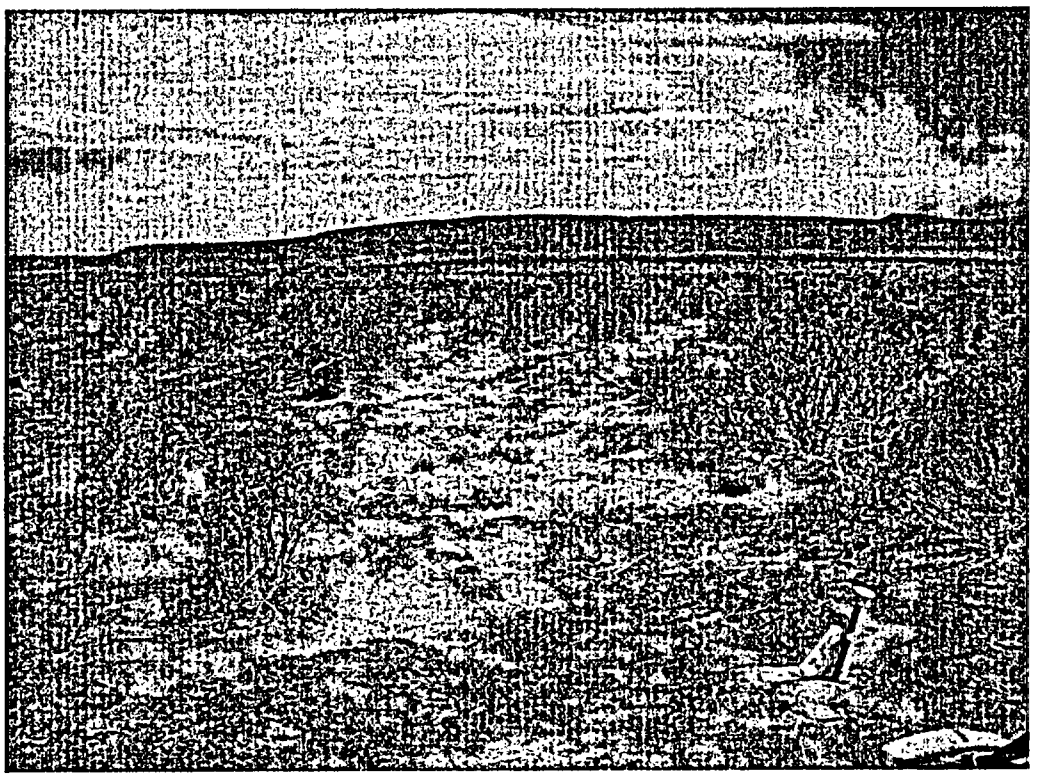


LA 153551 –Close-up of articulating black-on-white sherds

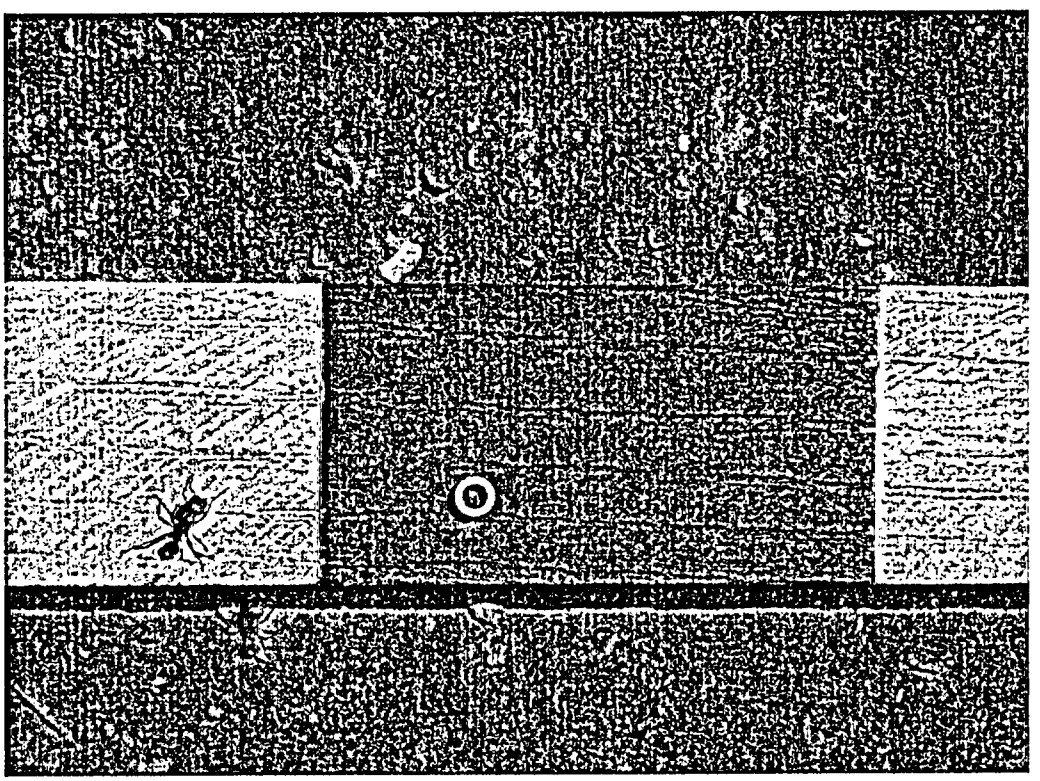


LA 153551 –Close-up of hammerstone

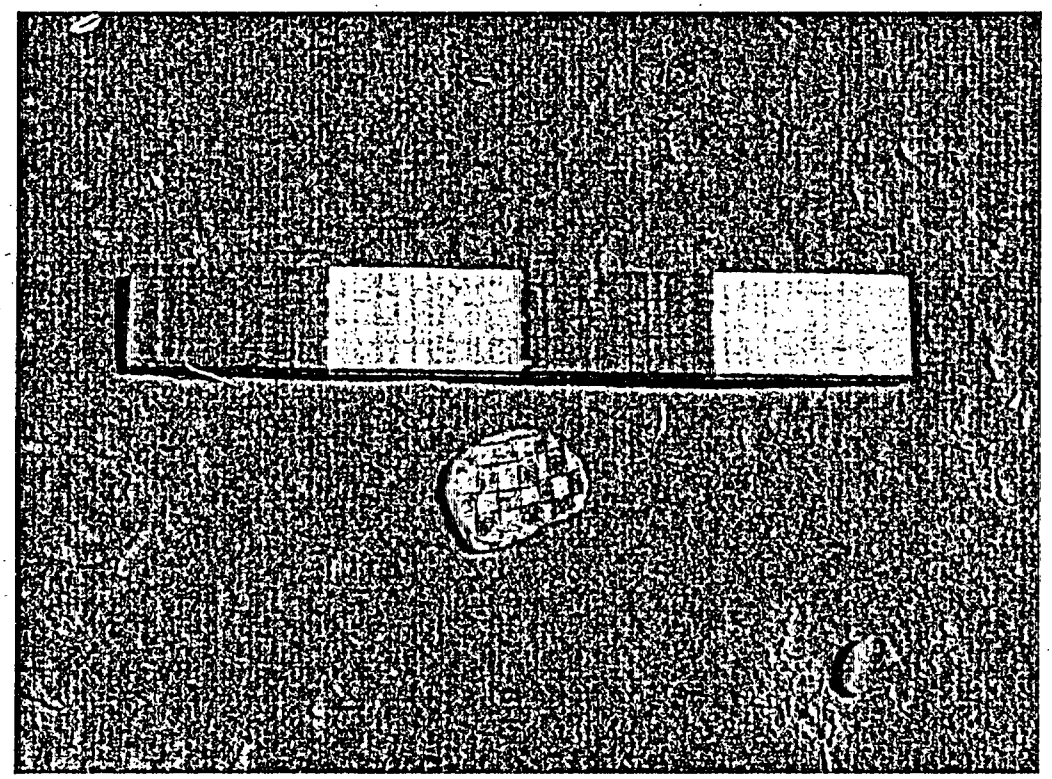
LA 153552 – Site overview, facing north



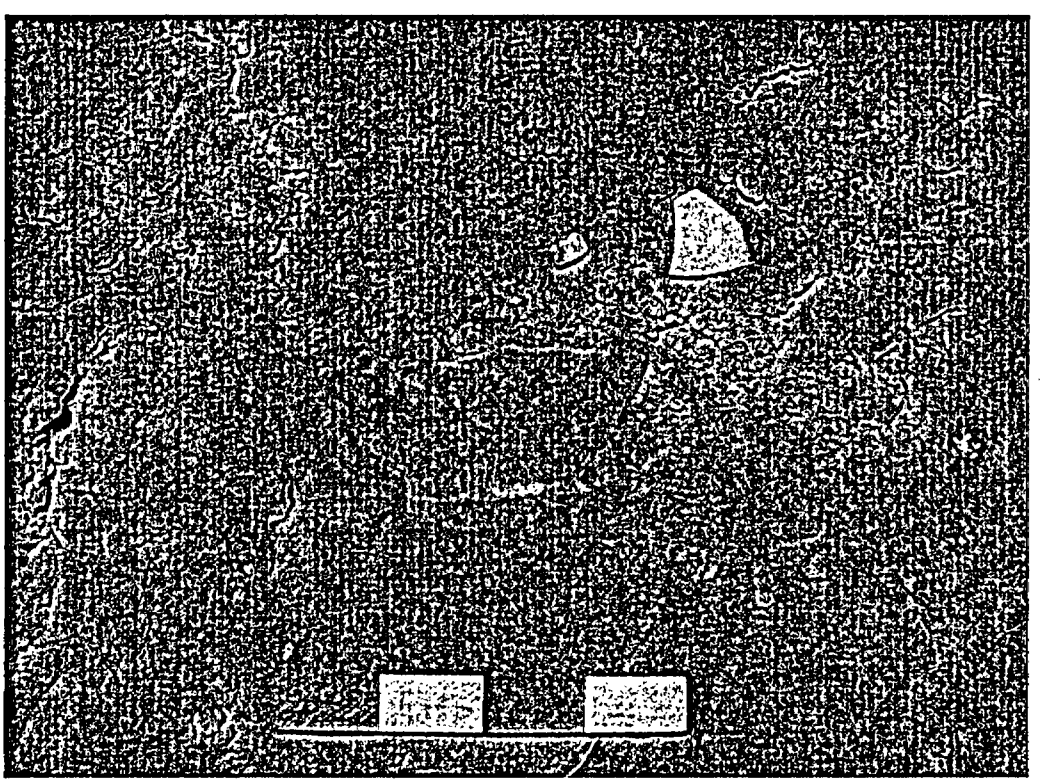
LA 153552 – Site overview with site datum in right foreground, facing northeast



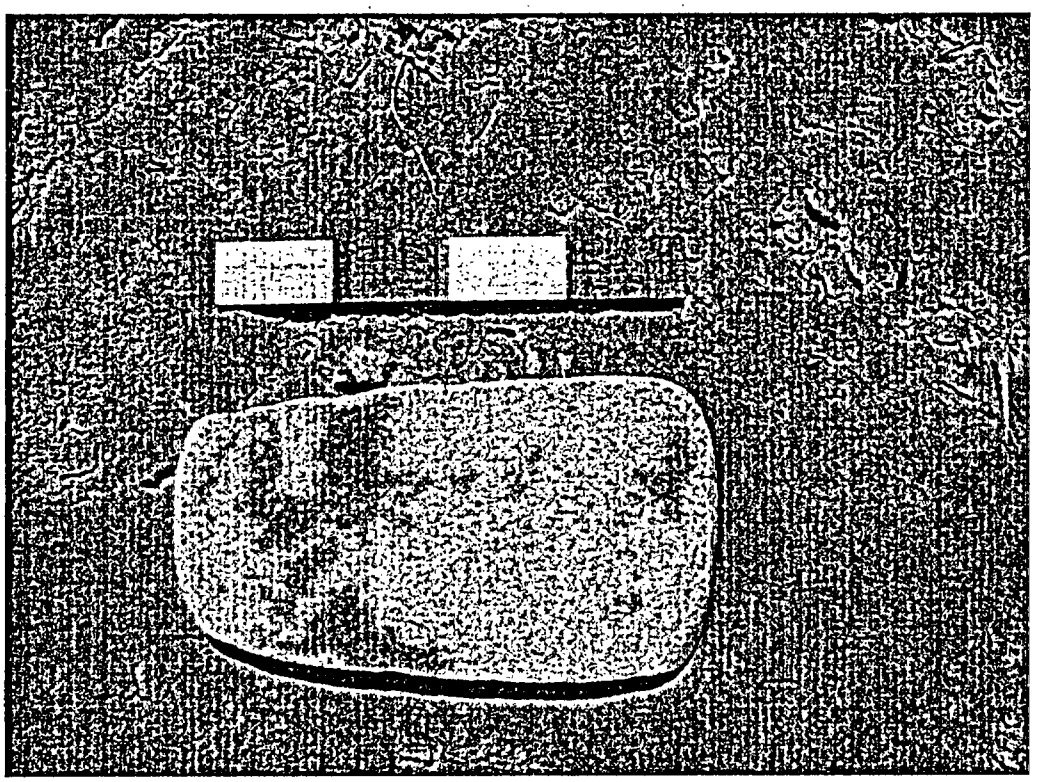
LA 153552 – Close-up of stone bead



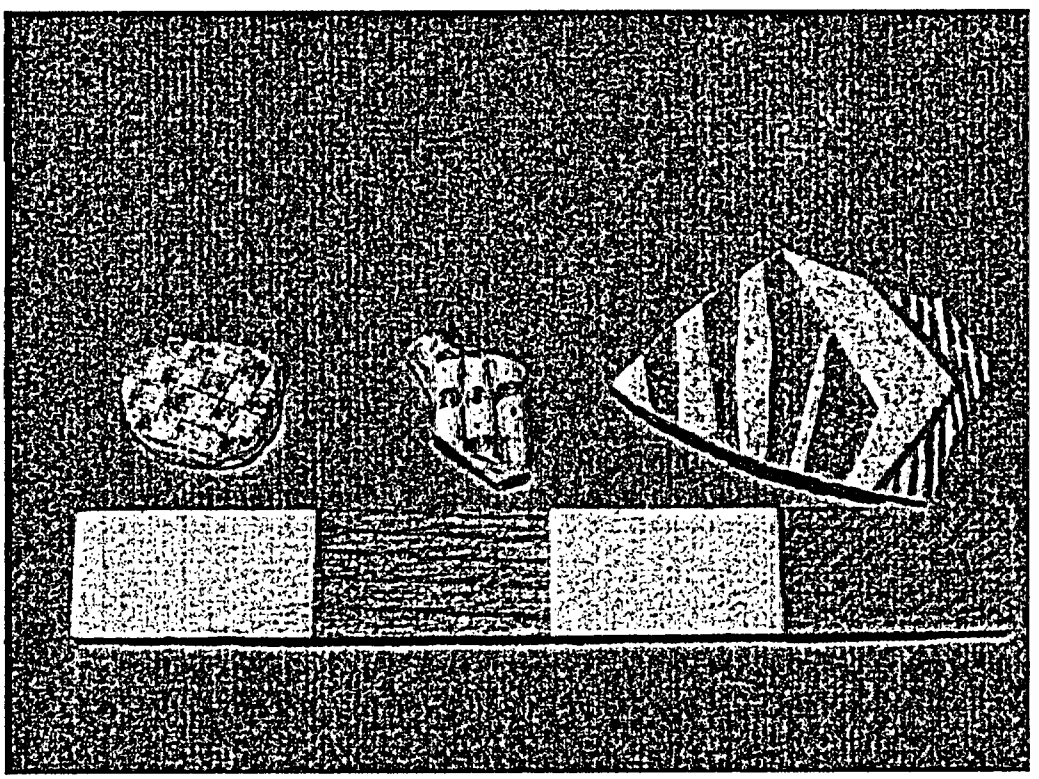
LA 153552 – Close-up of worked black-on-white sherd



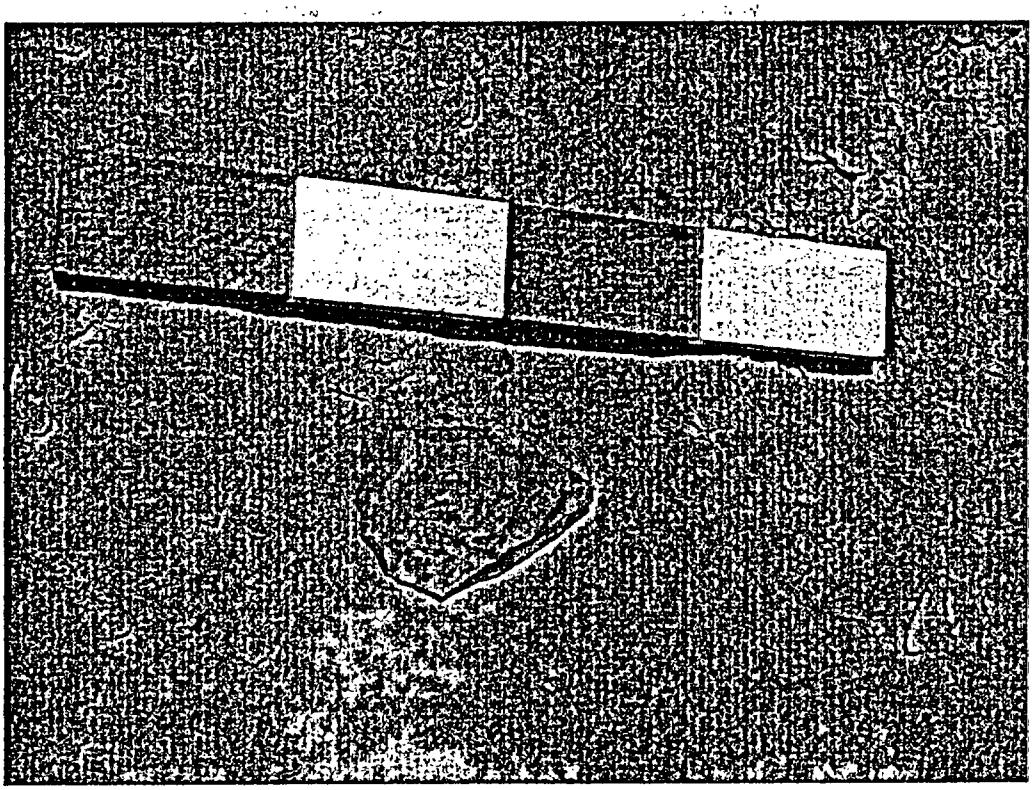
LA 153552 – Close-up of partially buried sandstone metate fragment



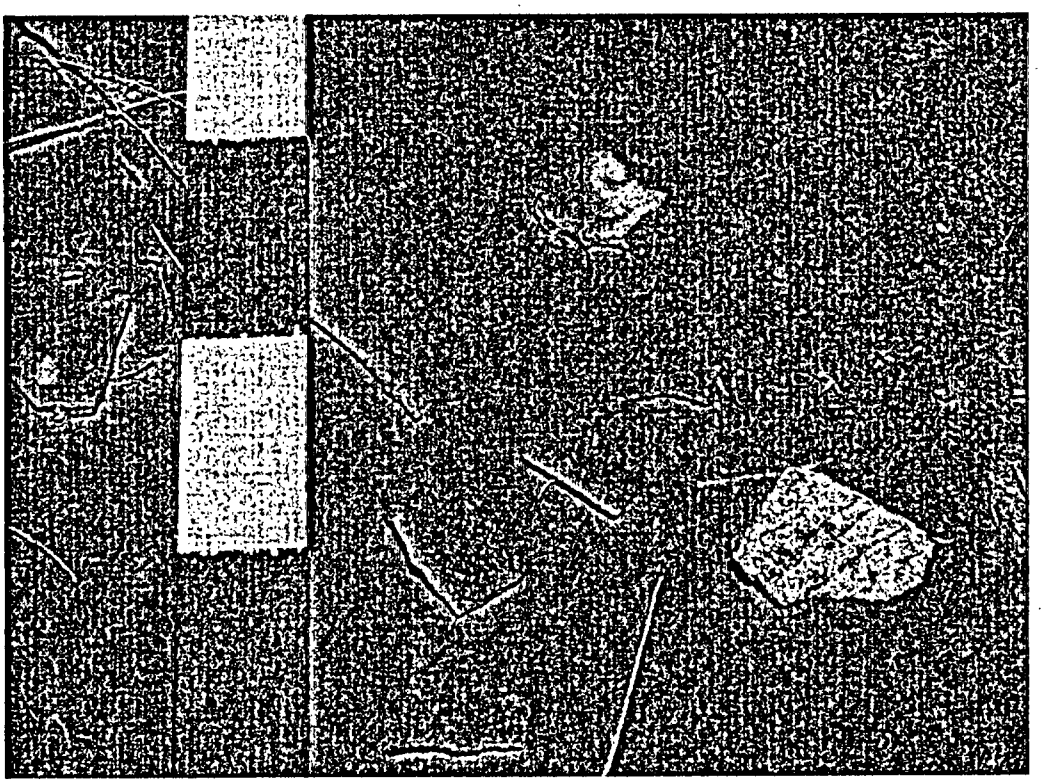
LA 153552 – Close-up of sandstone metate



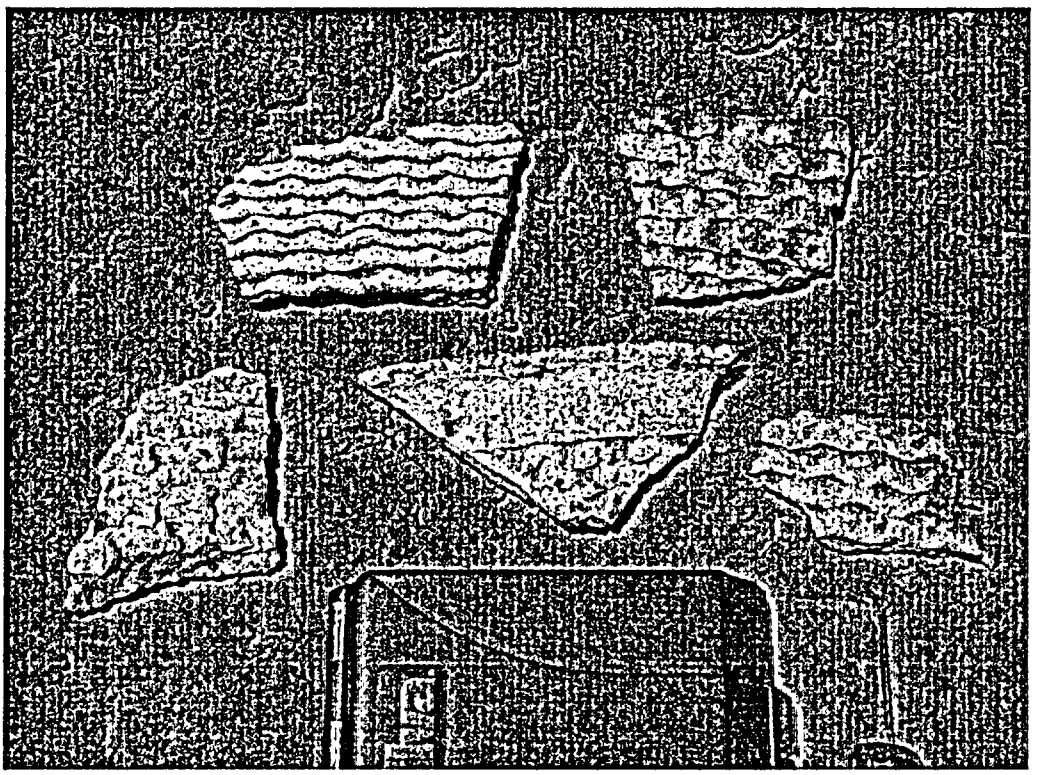
LA 153552 Close-up of ceramics on site



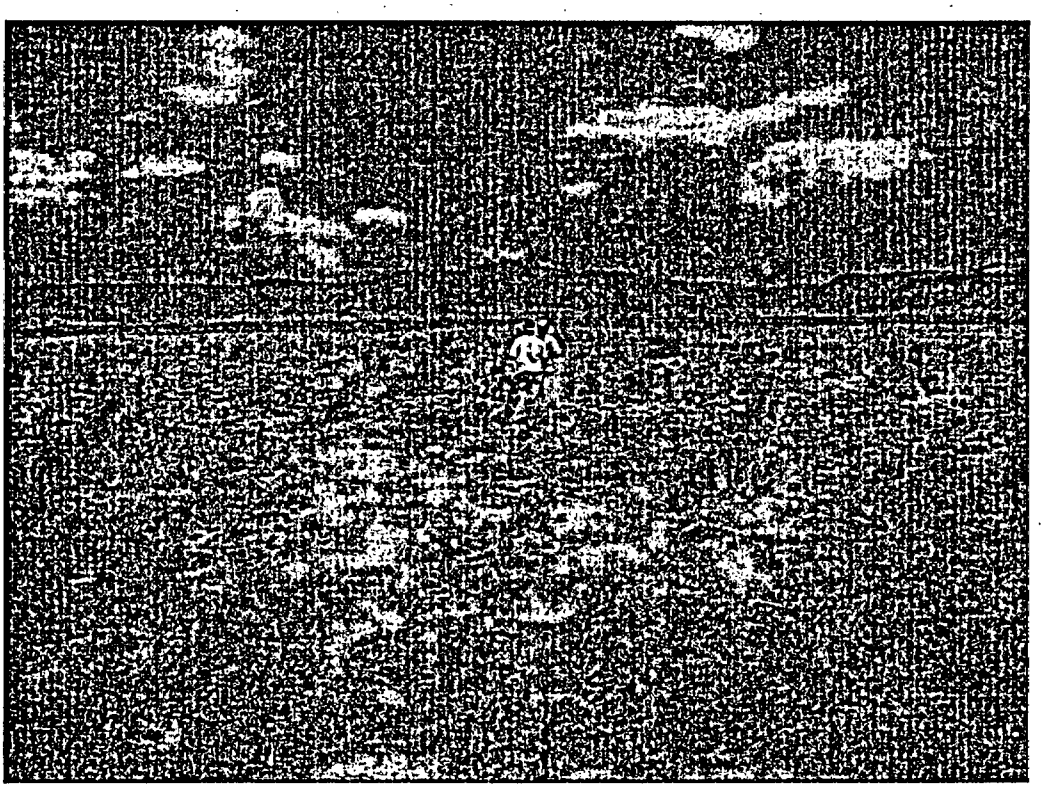
LA 153552 – Close-up of silicified palm wood scraper



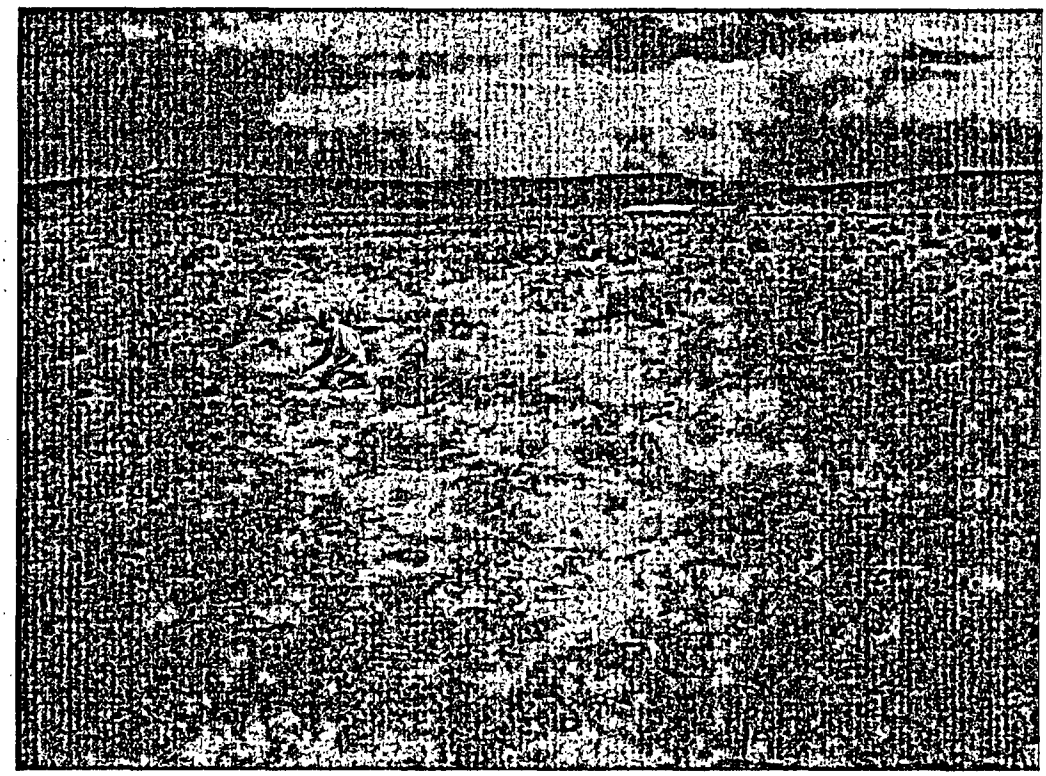
LA 153552 – Close-up of ceramics on site



LA 153552 – Close-up of corrugated ceramics on site

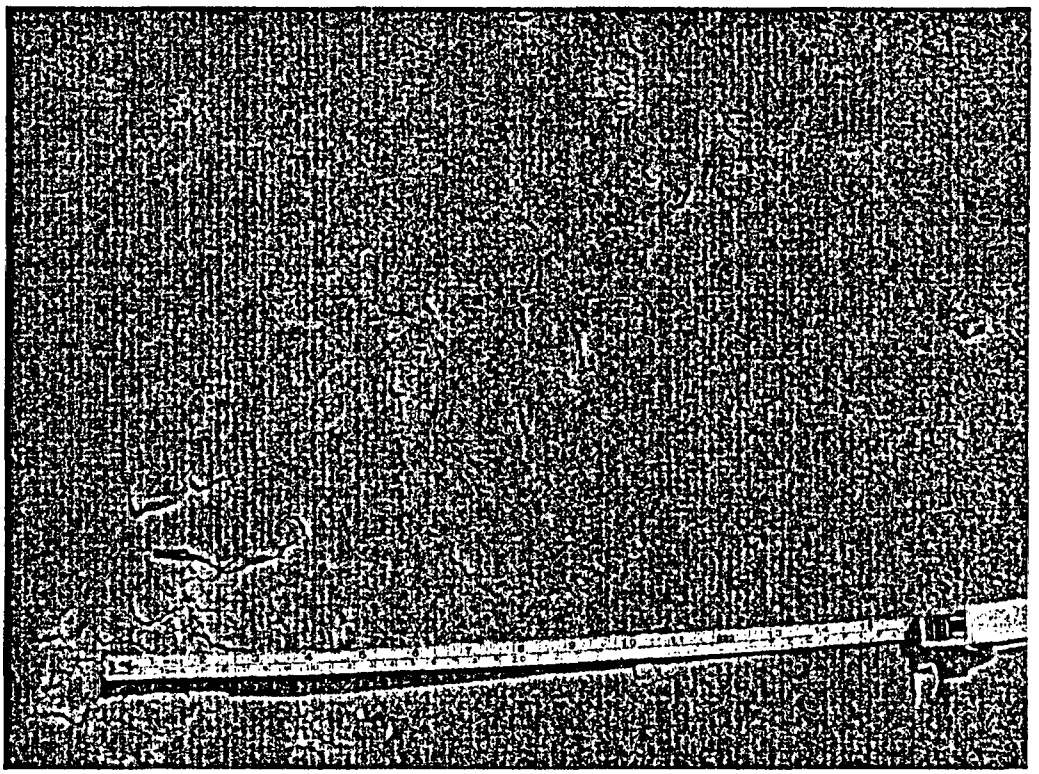


LA 153553 – Site overview, facing east

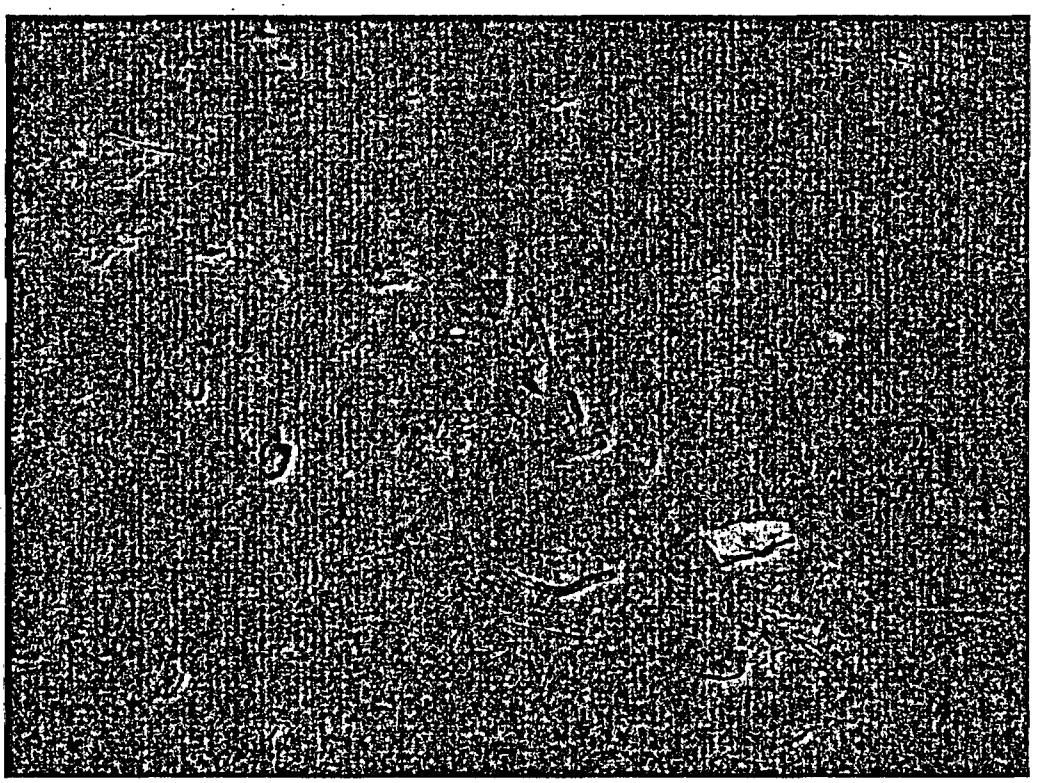


LA 153554– Site overview, facing east/southeast

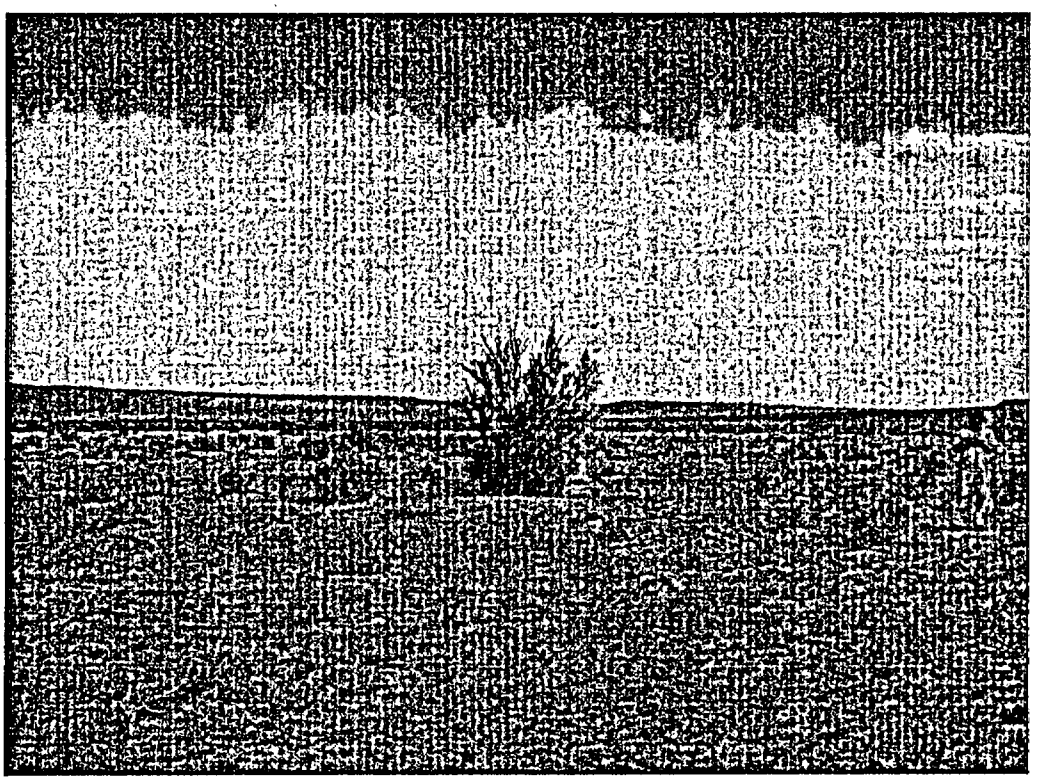
LA 153554 Site overview, facing north



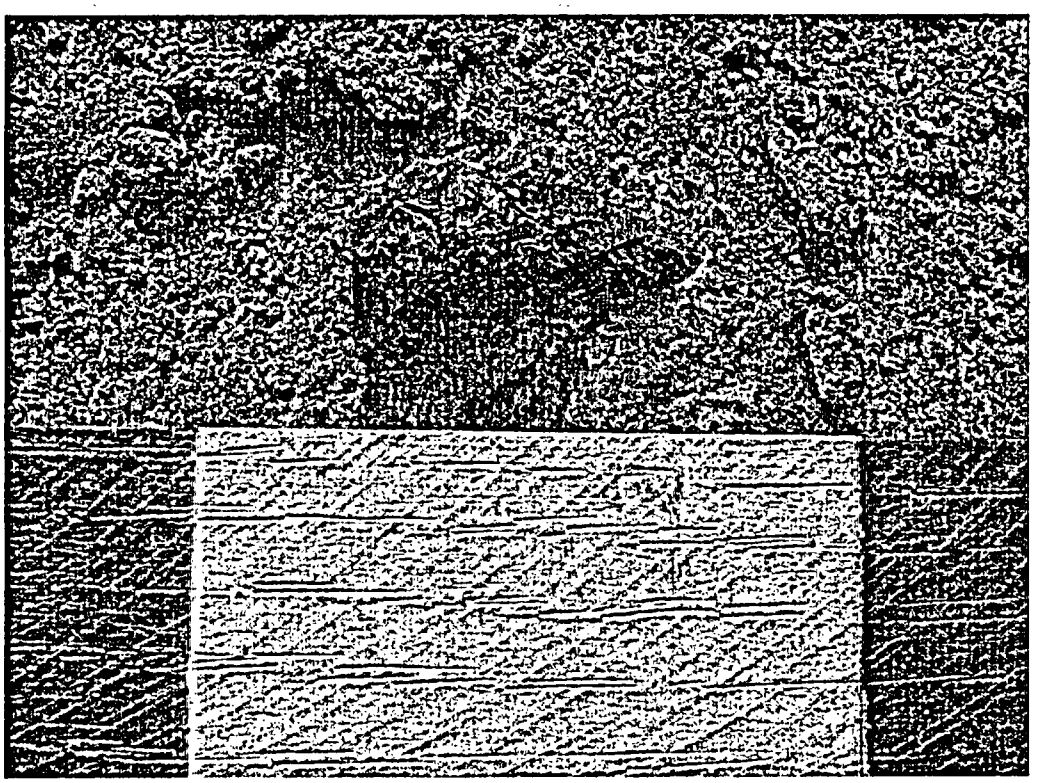
LA 153554 – Feature 1, ash stain



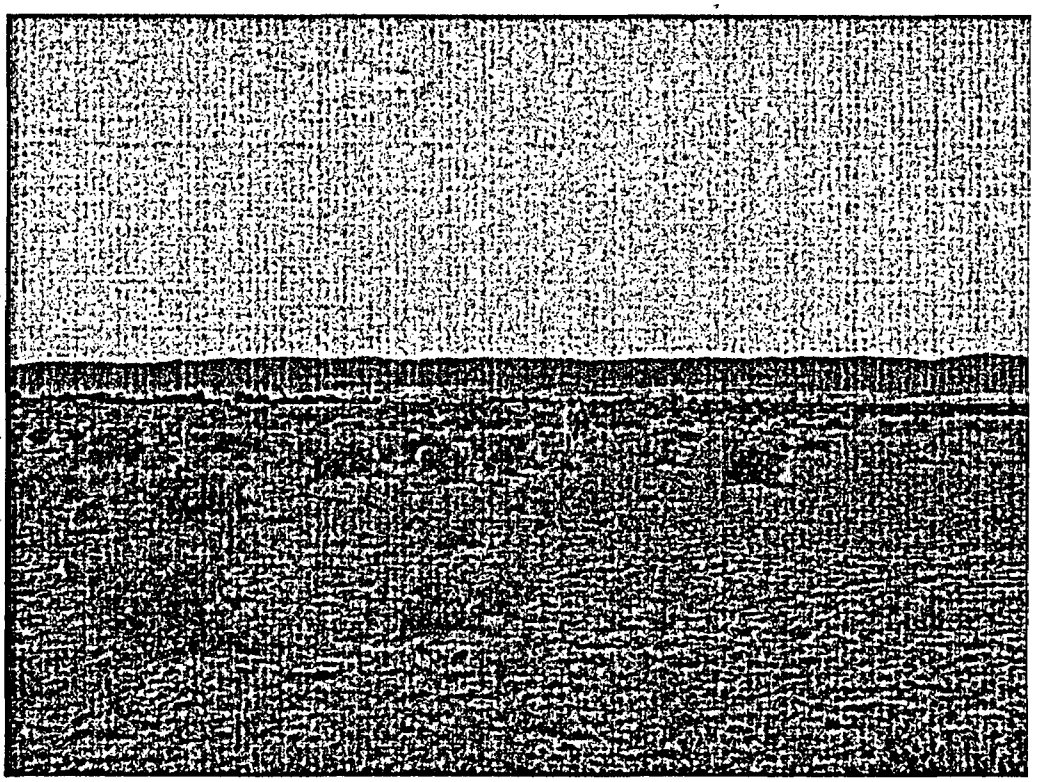
LA 153554 – Feature 2, deflated hearth



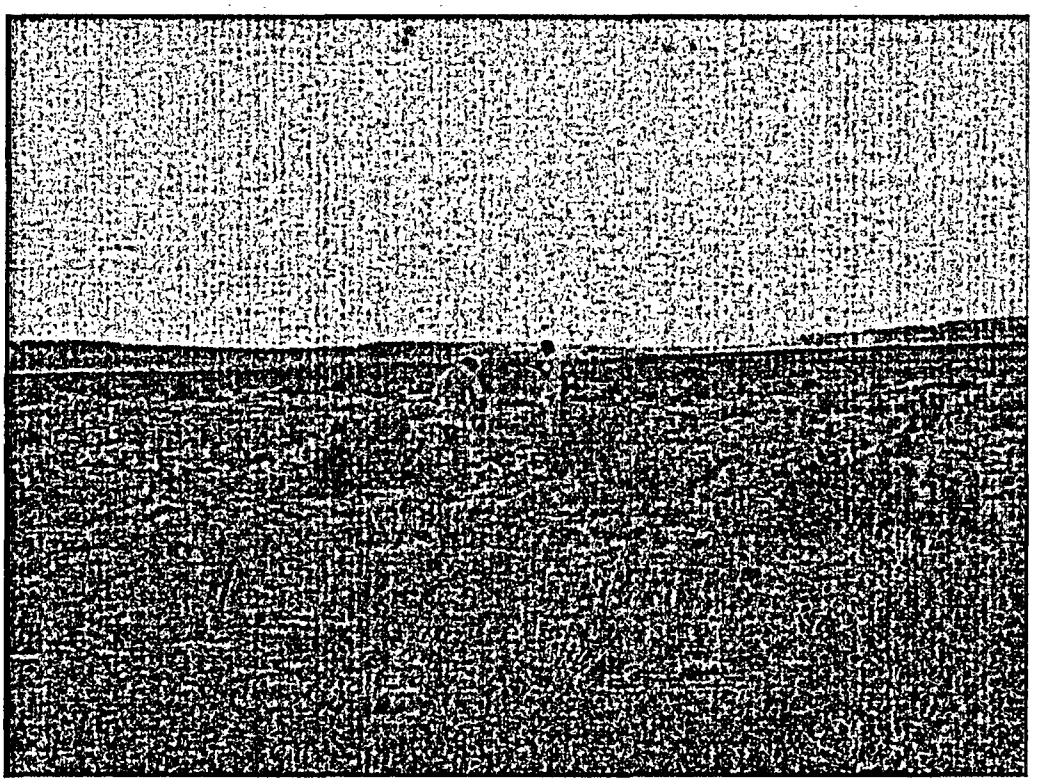
LA 153555 - Site overview, facing northeast



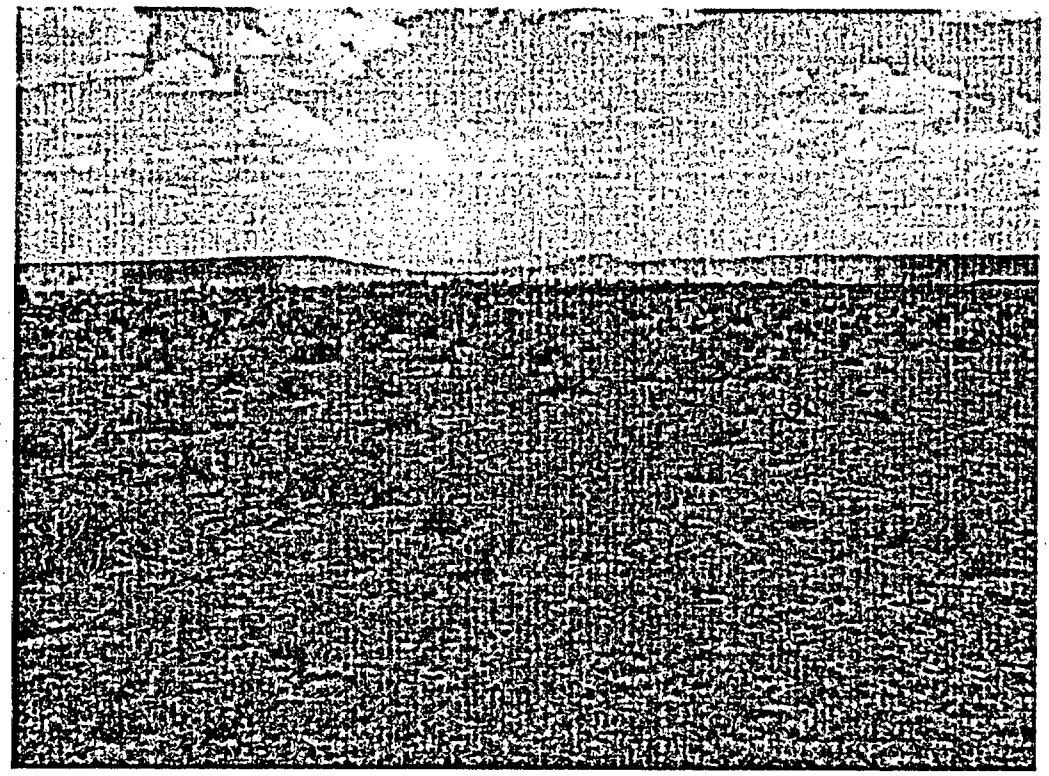
LA 153555 – Close-up of projectile point



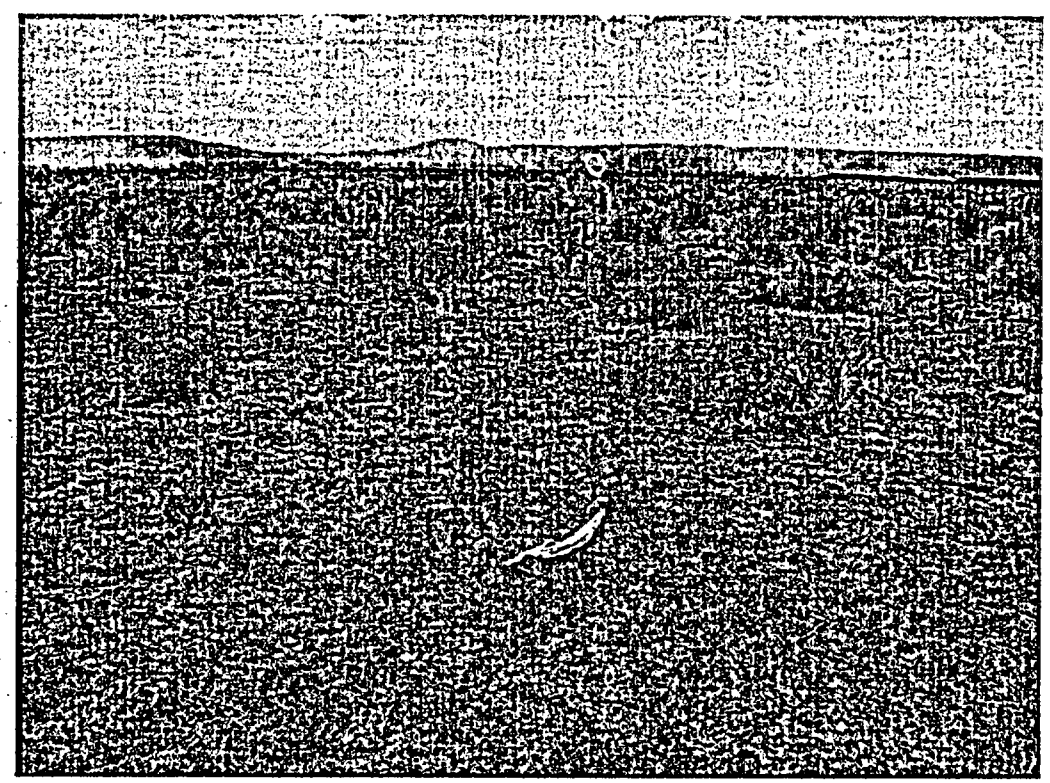
LA 153556– Site overview, facing north/northeast



LA 153556– Site overview with the artifact concentration on the left, facing north

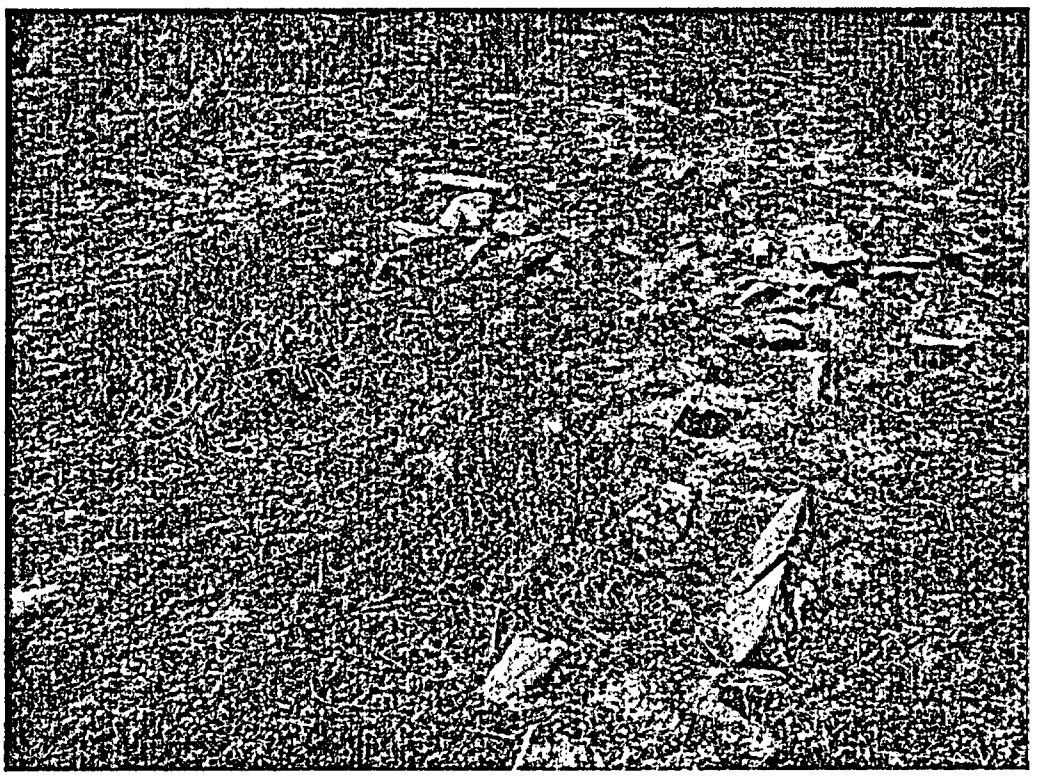


LA 153557– Site overview with the artifact concentration and features on the left, facing southwest

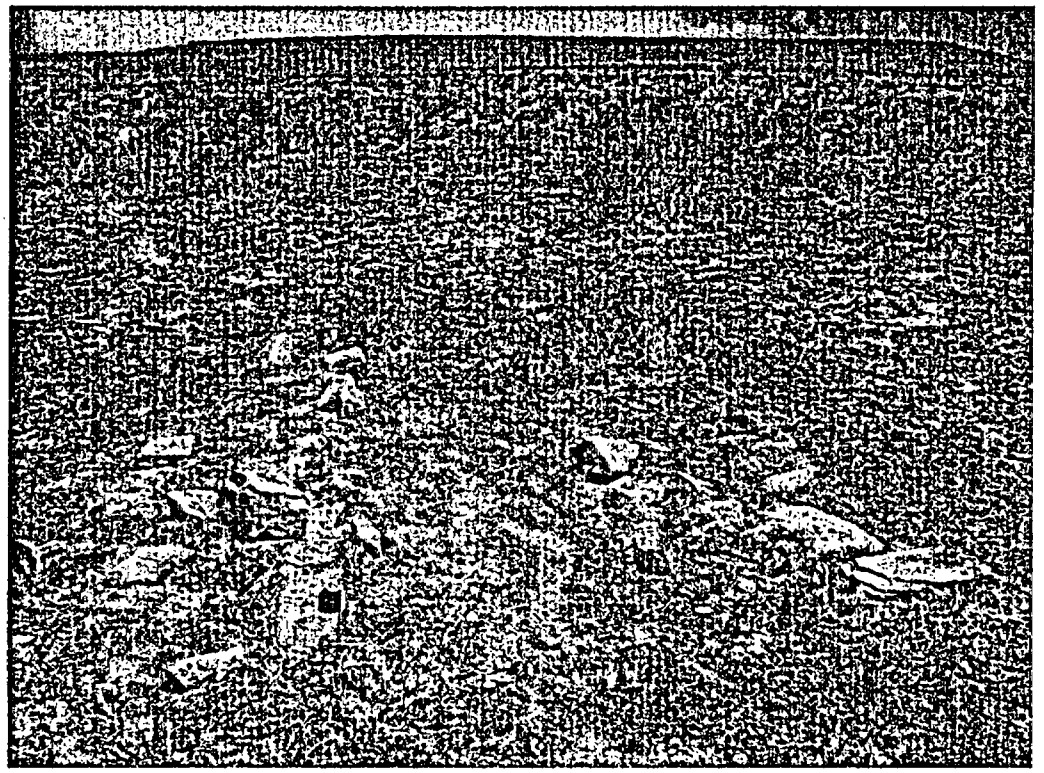


LA 153557– Site overview with the datum in the foreground, facing west/southwest

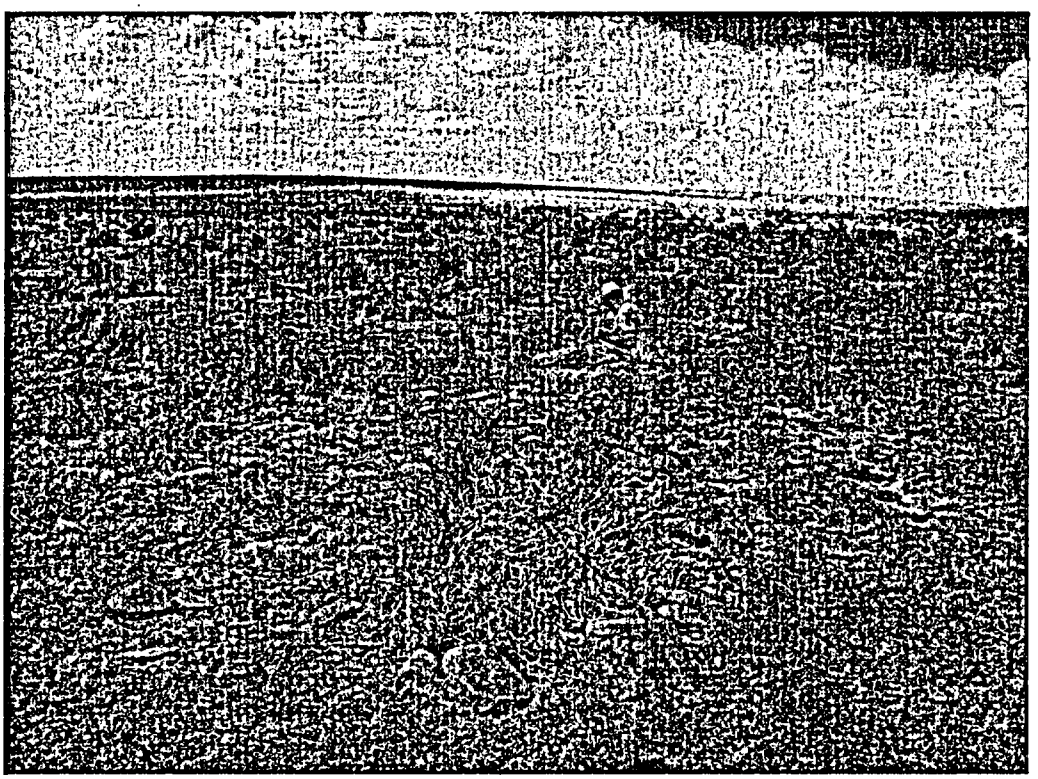
LA 153557 – Feature 1 (structural remains) facing north



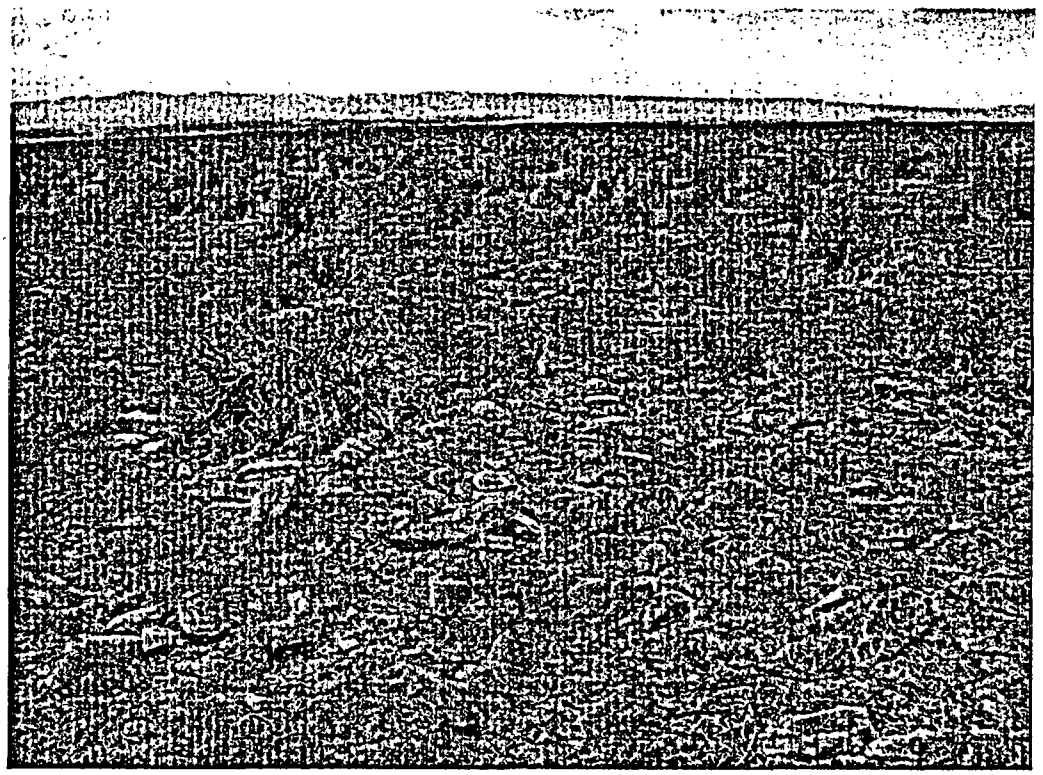
LA 153557 – Feature 2 (structural remains), facing northwest



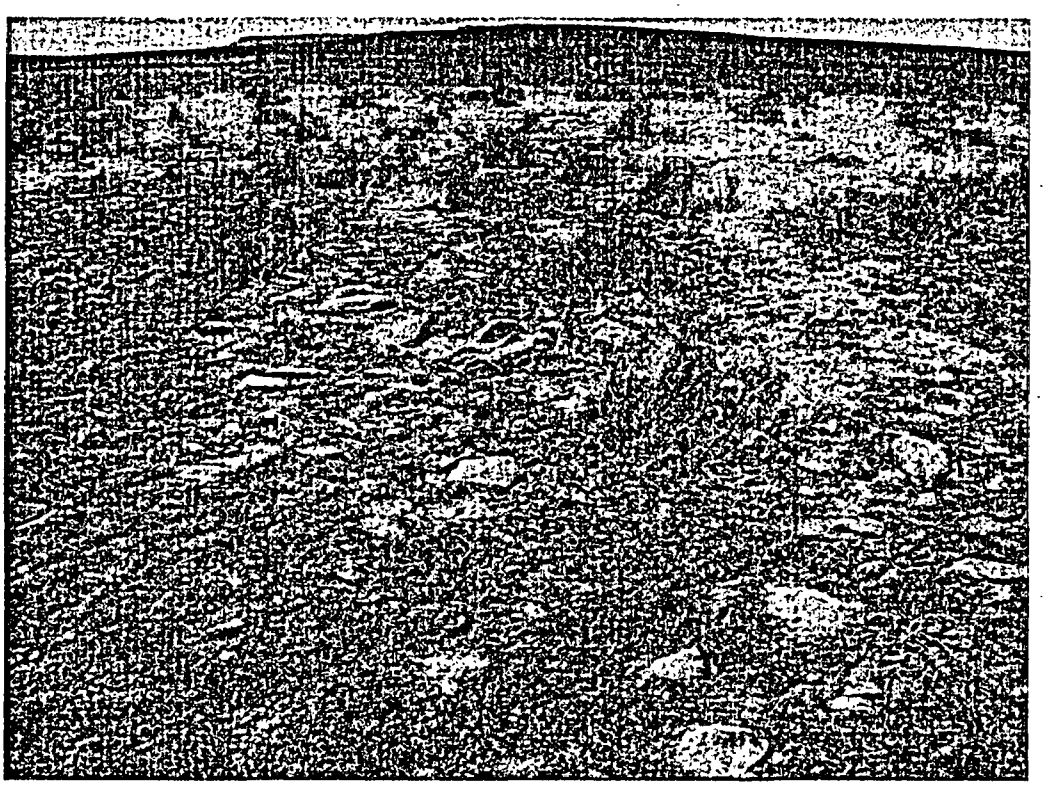
LA 153557 – Feature 2 (structural remains), facing north-northwest



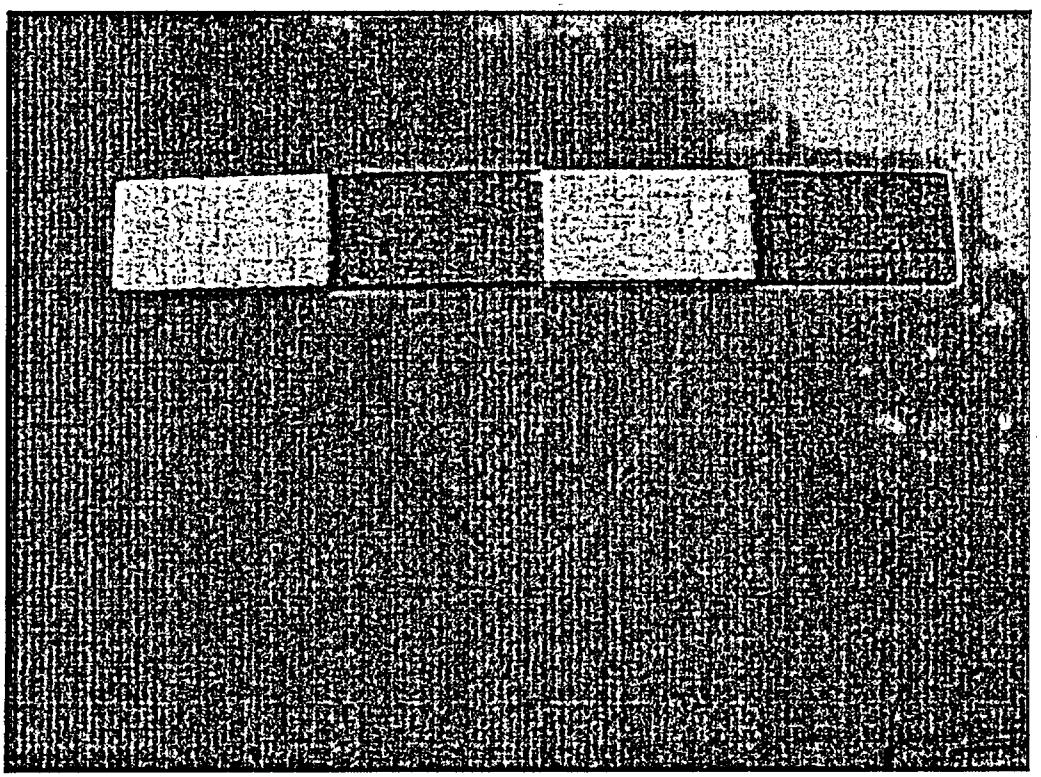
LA 153557 – Feature 3 (structural remains), facing northeast



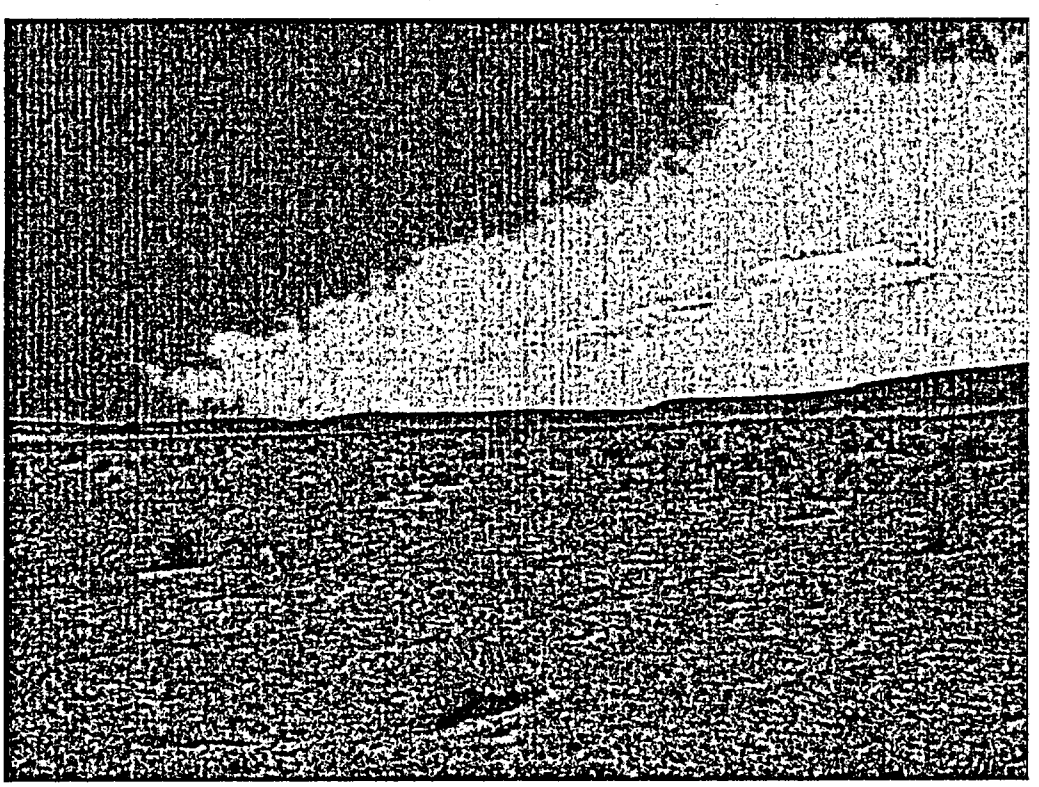
LA 153557 – Feature 3 (structural remains), facing west



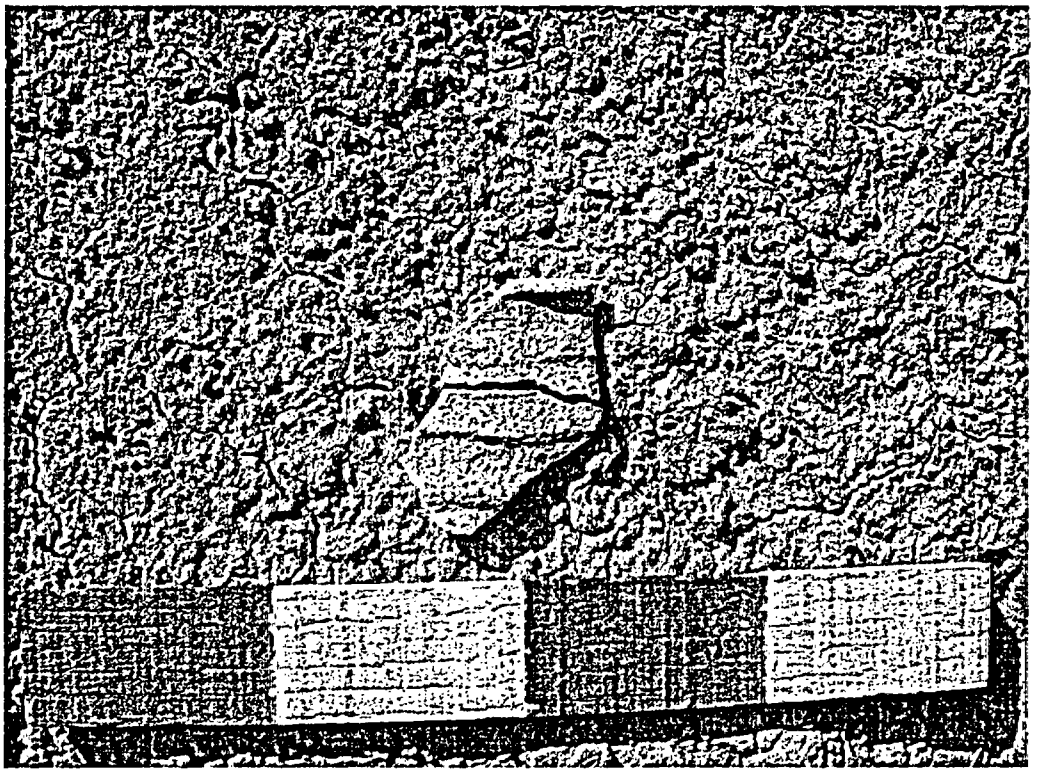
LA 153557 – Feature 4 (structural remains), facing north



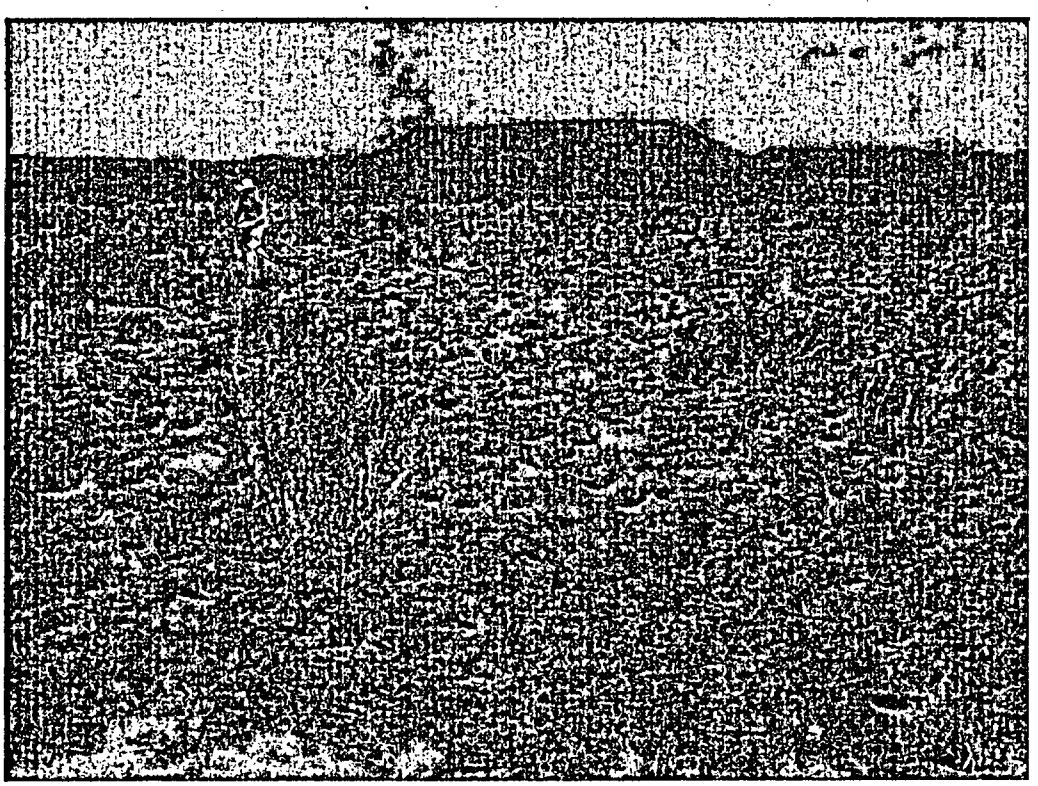
LA 153557 – Close-up of axe fragment



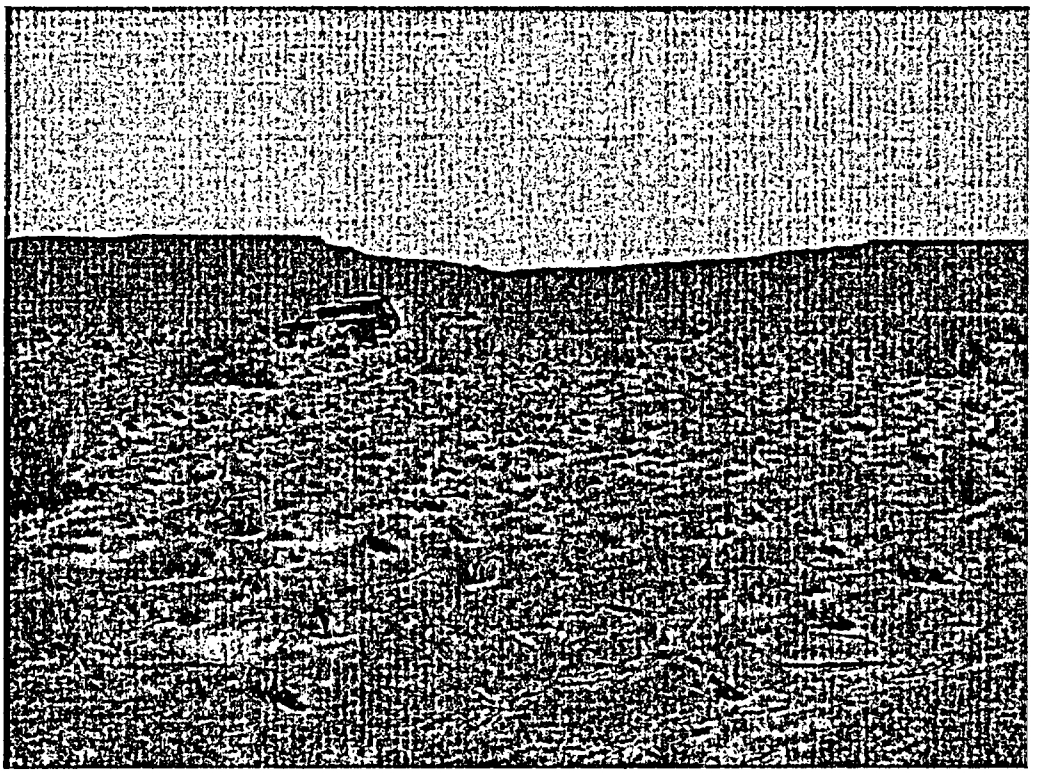
LA 153558 – Site overview, facing north/northeast



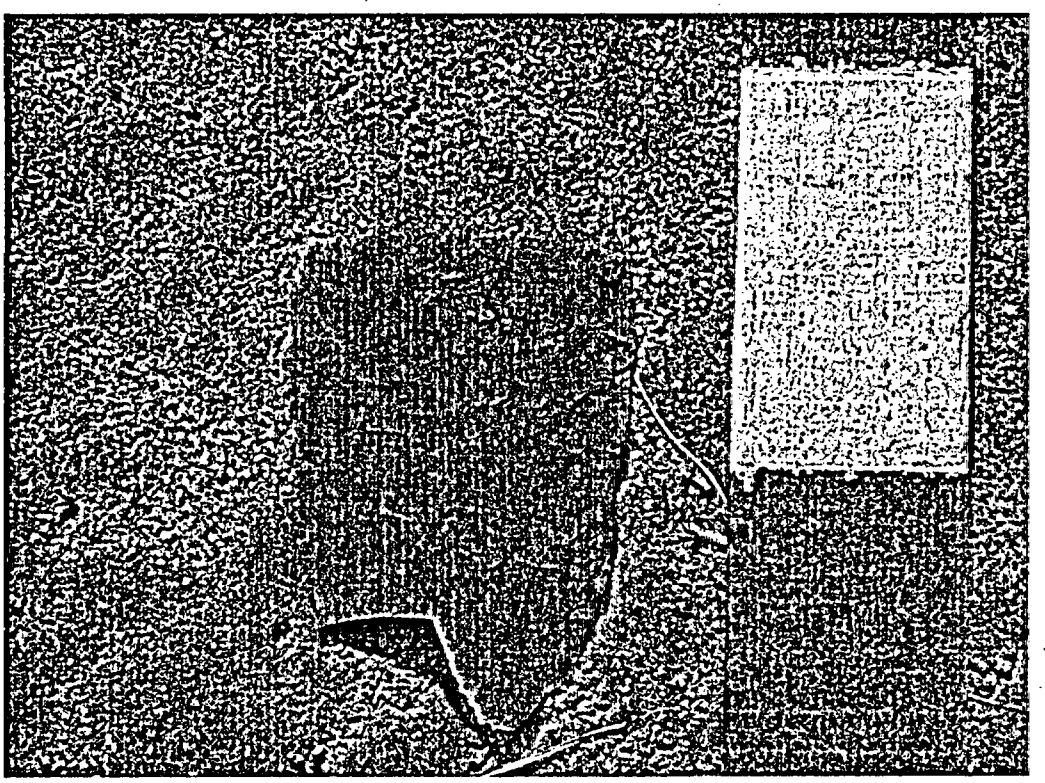
LA 153558 – Close-up of corrugated sherd



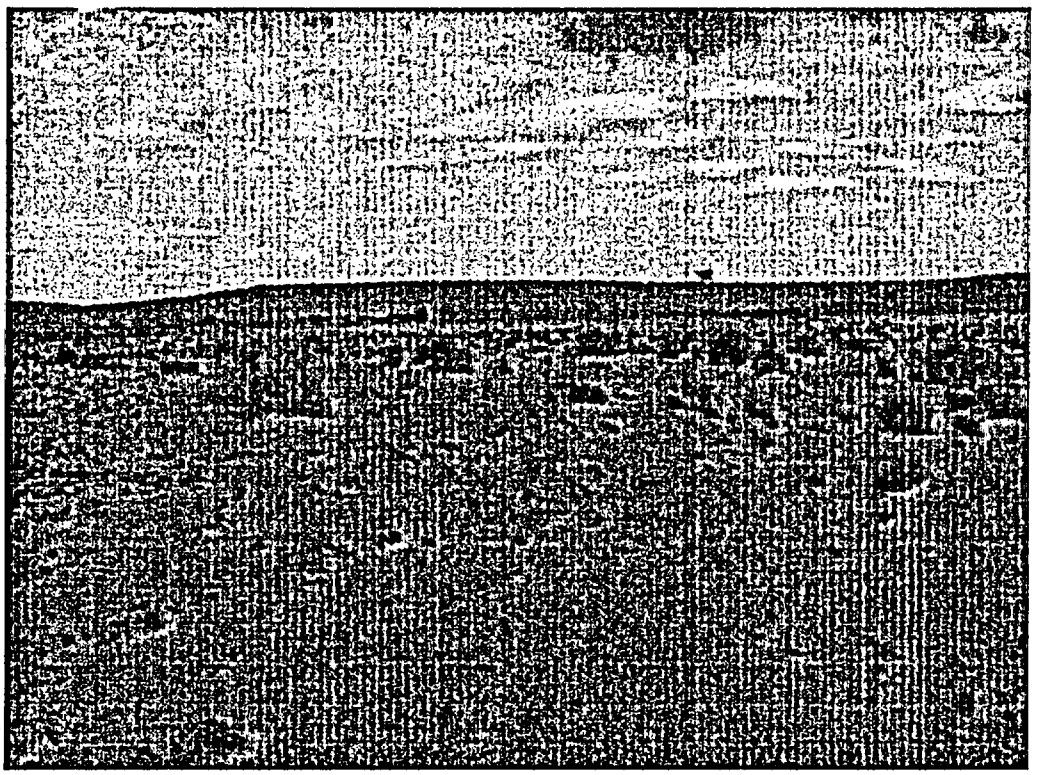
LA 153559 Site overview, facing north/northwest



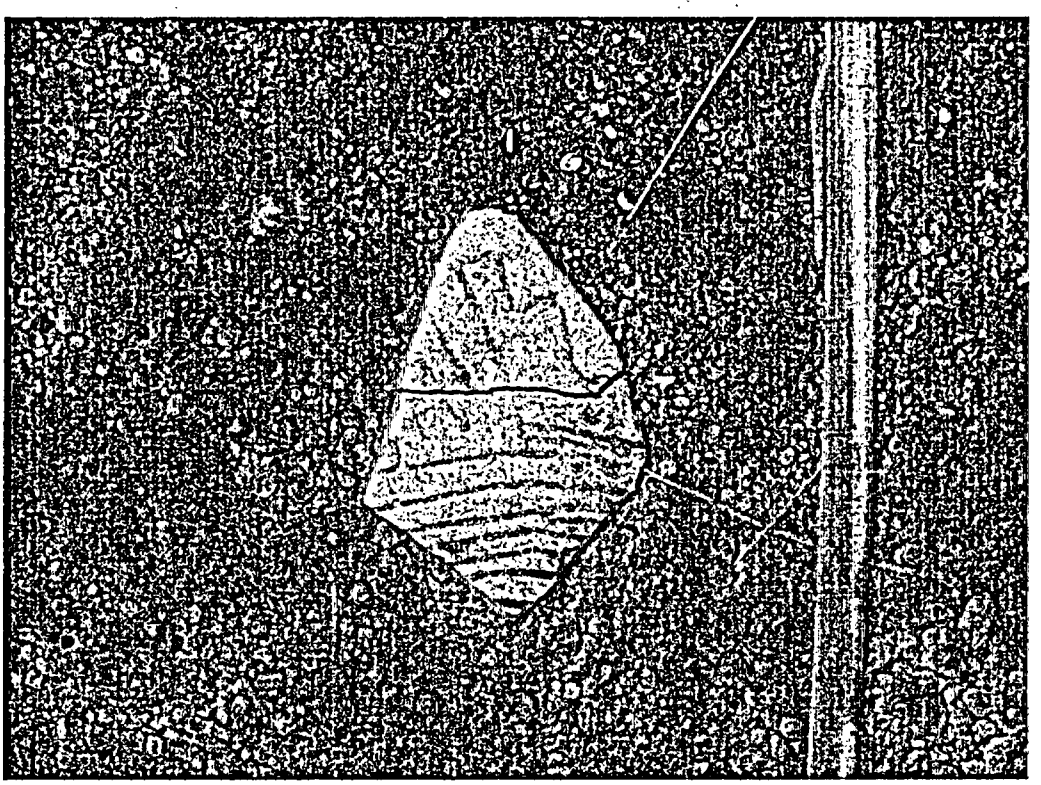
LA 153559 – Site overview, facing southeast



LA 153559 – Close-up of knife fragment



LA 108856 – Site overview, facing south-southeast



LA 108856 – Close-up of black-on-white sherd

PHOTO LOG

Project: Homestake Mine Survey/2006-32 **Roll #** TEC 2006-32-1 **Recorder:** BB/CP/EBB/TL

Date	Frame	Site / Temp. No.	UTM Coordinates (NAD _____)	Camera View	Bldg. Elevation	Description
6/12/06	1	2006-32-01		SW		Site overview
6/12/06	2	2006-32-01		E		Site overview
6/12/06	3	2006-32-01		E		Site overview
6/12/06	4	2006-32-01		SE		Site overview
6/12/06	5	2006-32-01		SE		Soil formations on west end of the playa
6/12/06	6	2006-32-02		WNW		Site overview
6/12/06	7	2006-32-02		E		Site overview
6/12/06	8	2006-32-02		NNW		Site overview
6/12/06	9	2006-32-03		S		Site overview with datum in foreground
6/13/06	10	2006-32-03		SW		Looking at pond from northwest end of the site
6/13/06	11	2006-32-03		SSW		Site overview
6/13/06	12	2006-32-03		NNE		Small concentration of ceramics
6/13/06	13	2006-32-03		–		Close-up of black-on-white sherds
6/13/06	14	2006-32-03		–		Close-up of black-on-white sherds
6/13/06	15	2006-32-03		NNE		Site overview
6/13/06	16	2006-32-03		–		Close-up of hammerstone
6/13/06	17	2006-32-03		–		Close-up of hammerstone
6/13/06	18	2006-32-04		–		Close-up of worked black-on-white sherd
6/13/06	19	2006-32-04		–		Close-up of stone bead
6/13/06	20	2006-32-04		–		Close-up of stone bead
6/13/06	21	2006-32-04		–		Close-up of partially buried metate
6/13/06	22	2006-32-04		–		Close-up of sandstone metate

View/elev.: For archaeological sites specify cardinal direction (not degrees) you and the camera are facing, or viewing (E, W, NE, SW, ...). For historic buildings specify which elevation or side of the building is facing the camera (also use cardinal direction.

PHOTO LOG

Project: Homestake Mine Survey/2006-32 **Roll #** TEC 2006-32-1 **Recorder:** BB/CP/EBB/TL

Date	Frame	Site / Temp. No.	UTM Coordinates (NAD _____)	Camera View	Bldg. Elevation	Description
6/13/06	23	2006-32-04		–		Close-up of scraper
6/13/06	24	2006-32-04		–		Close-up of tools
6/13/06	25	2006-32-04		–		Close-up of tools in original alignment
6/13/06	26	2006-32-04		N		Site overview
6/13/06	27	2006-32-04		WSW		Site overview
6/13/06	28	2006-32-04		NE		Site overview with datum in right foreground
6/13/06	29	2006-32-04		–		Close-up of ceramics
6/13/06	30	2006-32-04		–		Close-up of ceramics
6/13/06	31	2006-32-04		–		Close-up of ceramics
6/13/06	32	2006-32-04		–		Close-up of ceramics
6/13/06	33	2006-32-06		–		Feature 1 - ash stain
6/13/06	34	2006-32-06		SE		Feature 1
6/13/06	35	2006-32-06		NW		Feature 2 - deflated hearth
6/13/06	36	2006-32-06		–		Feature 2
6/13/06	37	2006-32-06		SE		Site overview
6/13/06	38	2006-32-06		NNE		Site overview
6/13/06	39	2006-32-06		SSW		Site overview
6/13/06	40	2006-32-05		E		Site overview
6/13/06	41	2006-32-05		NNW		Site overview
6/13/06	42	2006-32-05		WSW		Site overview
6/13/06	43	2006-32-07		NW		Site overview
6/13/06	44	2006-32-07		WSW		Site overview

View/elev.: For archaeological sites specify cardinal direction (not degrees) you and the camera are facing, or viewing (E, W, NE, SW, ...). For historic buildings specify which elevation or side of the building is facing the camera (also use cardinal direction.

PHOTO LOG

Project: Homestake Mine Survey/2006-32 Roll # TEC 2006-32-1 Recorder: BB/CP/EBB/TL

Date	Frame	Site / Temp. No.	UTM Coordinates (NAD _____)	Camera View	Bldg. Elevation	Description
6/14/06	45	2006-32-07		ENE		Site overview
6/14/06	46	2006-32-07		–		Close-up of projectile point
6/14/06	47	2006-32-08		NE		Site overview
6/14/06	48	2006-32-08		SW		Site overview
6/14/06	49	2006-32-08		SW		Site overview
6/14/06	50	2006-32-09		N		Feature 1 – structural remains
6/14/06	51	2006-32-09		NE		Feature 1 – structural remains
6/14/06	52	2006-32-09		SW		Site overview with Feature 1 in foreground
6/14/06	53	2006-32-09		NW		Feature 2 – structural remains
6/14/06	54	2006-32-09		S		Feature 2 – structural remains
6/14/06	55	2006-32-09		E		Site overview with Feature 2 in foreground
6/14/06	56	2006-32-09		NE		Feature 3 – structural remains
6/14/06	57	2006-32-09		W		Feature 3
6/14/06	58	2006-32-09		SW		Feature 3
6/14/06	59	2006-32-09		NE		Feature 3
6/14/06	60	2006-32-09		NE		Feature 4 – structural remains
6/14/06	61	2006-32-09		SW		Feature 4
6/14/06	62	2006-32-09		W		Feature 4
6/14/06	63	2006-32-09		NE		Artifact concentration
6/14/06	64	2006-32-09		NW		Artifact concentration
6/14/06	65	2006-32-09		SW		Site overview with datum on right
6/14/06	66	2006-32-09		S		Site overview with datum on right

View/elev.: For archaeological sites specify cardinal direction (not degrees) you and the camera are facing, or viewing (E, W, NE, SW, ...). For historic buildings specify which elevation or side of the building is facing the camera (also use cardinal direction.

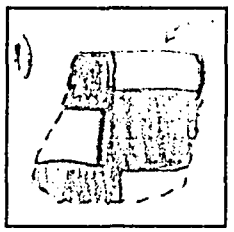
PHOTO LOG

Project: Homestake Mine Survey/2006-32 Roll # TEC 2006-32-1 Recorder: BB/CP/EBB/TL

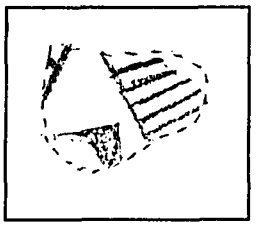
Date	Frame	Site / Temp. No.	UTM Coordinates (NAD _____)	Camera View	Bldg. Elevation	Description
6/14/06	67	2006-32-09		WSW		Site overview with Feature 1
6/14/06	68	2006-32-09		SW		Site overview with Feature 4
6/14/06	69	2006-32-09		–		Close-up of axe fragment
6/14/06	70	2006-32-09		–		Close-up of axe fragment
6/14/06	71	2006-32-09		NE		Site overview from southern boundary
6/14/06	72	2006-32-09		N		Site overview from southern boundary
6/15/06	73	2006-32-10		NNE		Site overview
6/15/06	74	2006-32-10		W		Site overview
6/15/06	75	2006-32-10		SSE		Site overview
6/15/06	76	2006-32-10		–		Close-up of corrugated sherd
6/15/06	77	2006-32-11		NNW		Site overview
6/15/06	78	2006-32-11		NW		Site overview with playa in background
6/15/06	79	2006-32-11		SSE		Site overview
6/15/06	80	2006-32-11		–		Close-up of silicified wood knife
6/15/06	81	2006-32-11		–		Close-up of silicified wood knife
6/15/06	82	2006-32-11		–		Close-up of silicified wood knife
6/15/06	83	2006-32-12		S		Site overview with datum in background
6/15/06	84	2006-32-12		SSE		Site overview
6/15/06	85	2006-32-12		NE		Site overview
6/15/06	86	2006-32-12		NE		Site overview
6/15/06	87	2006-32-12		–		Close-up of black-on-white sherds

View/elev.: For archaeological sites specify cardinal direction (not degrees) you and the camera are facing, or viewing (E, W, NE, SW, ...). For historic buildings specify which elevation or side of the building is facing the camera (also use cardinal direction.

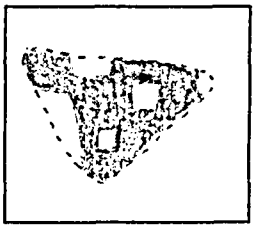
APPENDIX D: ARTIFACT ILLUSTRATIONS



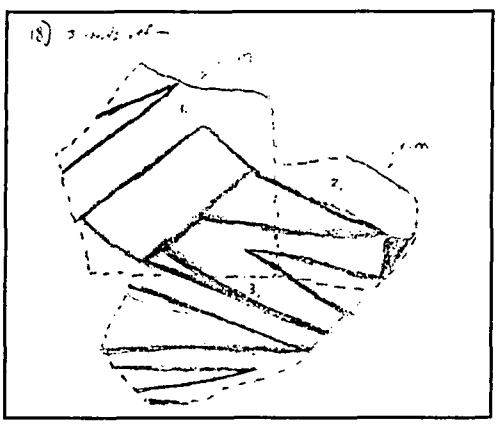
LA 153551
Artifact 1



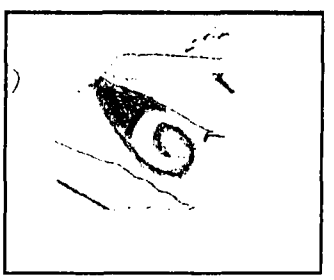
LA 153551
Artifact 12



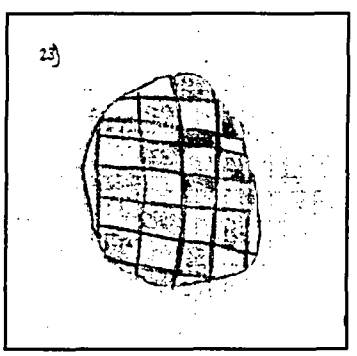
LA 153551
Artifact 13



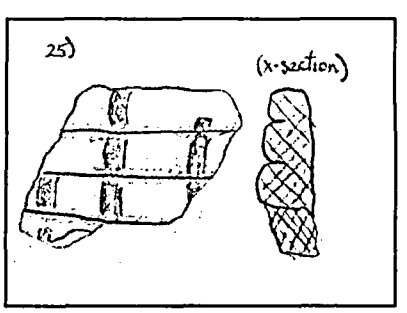
LA 153551
Artifact 18



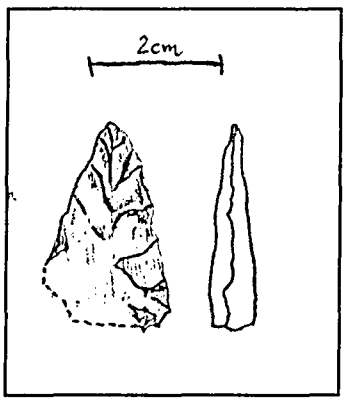
LA 153551
Artifact 36



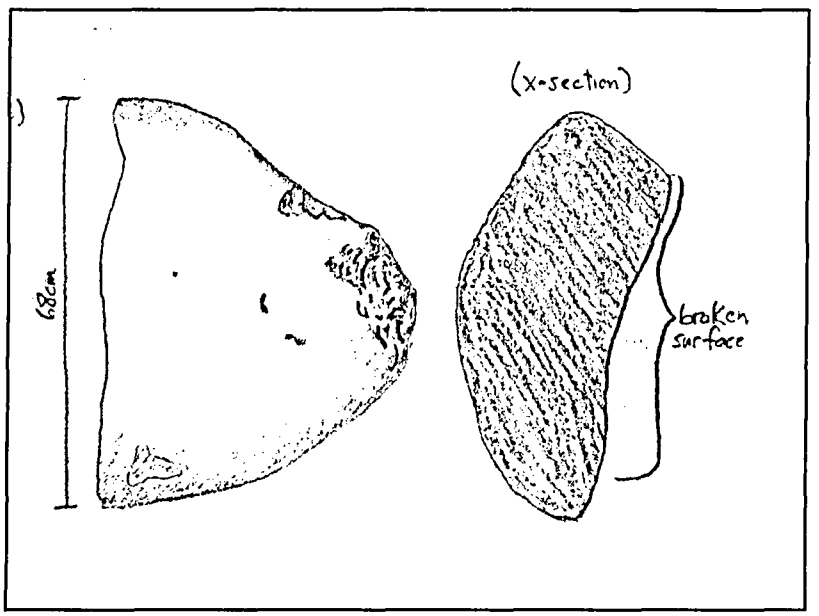
LA 153552
Artifact 23



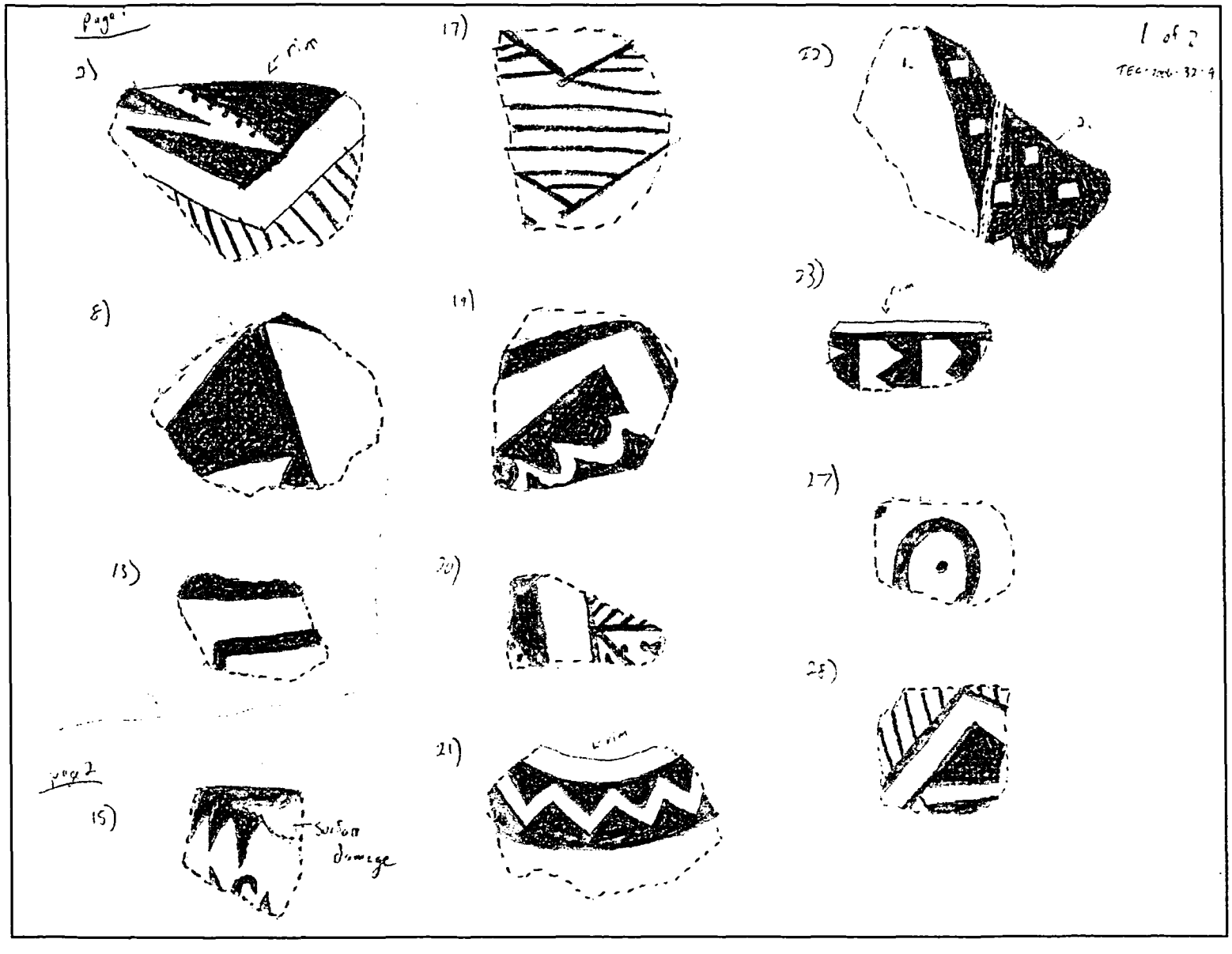
LA 153552
Artifact 25



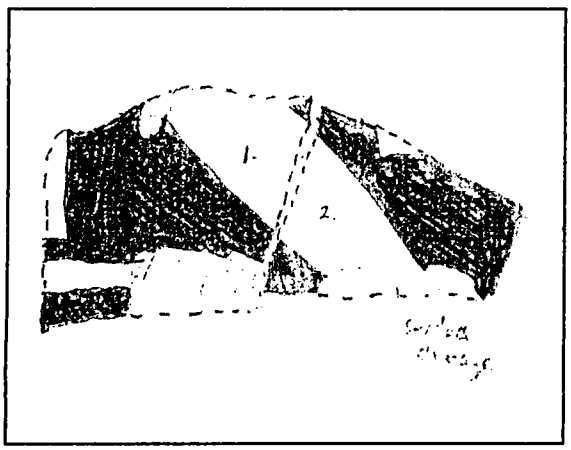
LA 153555
Projectile Point 1



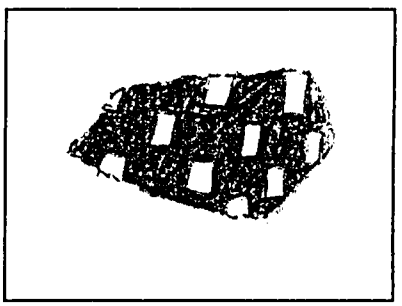
LA 153557
Artifact 16 (Basalt Axe Fragment)



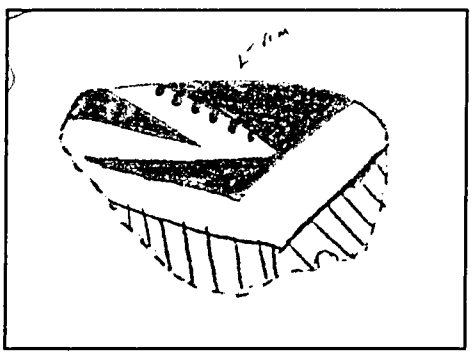
LA 153557
Artifacts 2, 8, 13, 15, 17, 19, 20, 21, 22, 23, 27, and 28



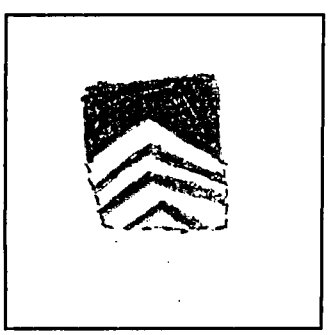
LA 153557
Artifact 34



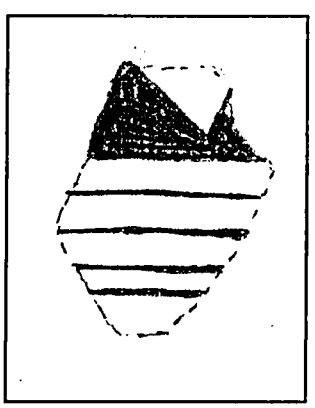
LA 153557
Artifact 41



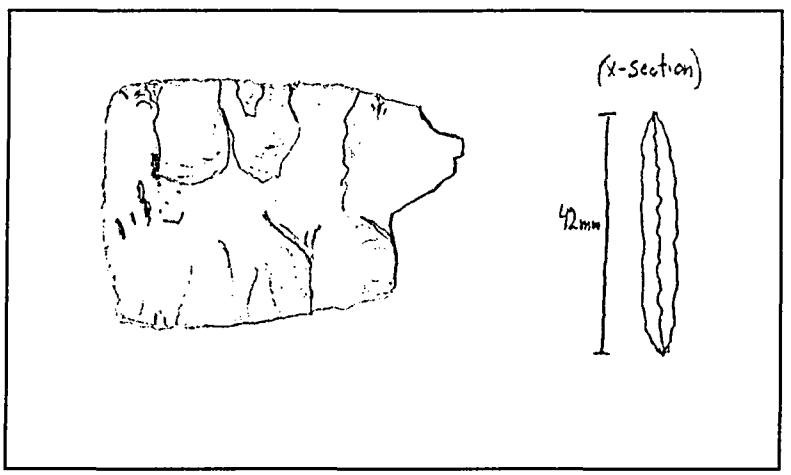
LA 153557
Artifact 43



LA 153557
Artifact 67



LA 153557
Artifact 106



LA 153559
Artifact 8 (Knife)

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