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An Archeological Survey of Three Parcels Adjacent to the Thoreau, Leupp, and Klagetoh Compressor Stations

by

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Prepared for
Transwestern Pipeline Company

Submitted By
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ABSTRACT

Transwestern Pipeline Company contracted with the Office of Contract Archeology, University of New Mexico (OCA) to survey a 53.97 acres in three parcels land for cultural resources prior to drilling activities. Drilling activities were designed to evaluate the extent of PCB contamination at the Thoreau Compressor Station #5, the Leupp Compressor Station #3 and the Klagetah Compressor Station #4. The lands in question are administered by the Navajo Nation and the Bureau of Indian Affairs, Navajo District.

Archeological remains were recovered from all survey areas. The archeological reconnaissance at the Thoreau Station resulted in the identification of two archeological sites; a PII/PIII site (LA 75795) in the eastern 1/3 of the parcel and a Navajo hogan base (LA 75796) which was located just south of the surveyed parcel. Archeological clearance is therefore recommended, with the stipulation that sites should be avoided during drilling activities. It is recommended that an archeological monitor be present during drilling activities to facilitate this avoidance.

Two additional sites were identified at the Leupp Compressor Station. Site OCA-010-3 represents cultural remains to the south and west of the station that have been heavily disturbed. It was not possible to define the original location and perimeters of this site. An archeologist should monitor drilling activities to identify potential buried cultural remains. The second site (OCA-010-4) occurs to the east of the compressor station and although it is

also mechanically disturbed the site perimeters appear intact. In this case avoidance is recommended.

No archeological sites were identified at the Klagetoh survey parcel although a single isolated flake indicates that cultural remains exist. Surface visibility in this area however, are obscured by a heavy cover of oak leaves and pine duff. Therefore an archeological monitor during drilling activities is also recommended.

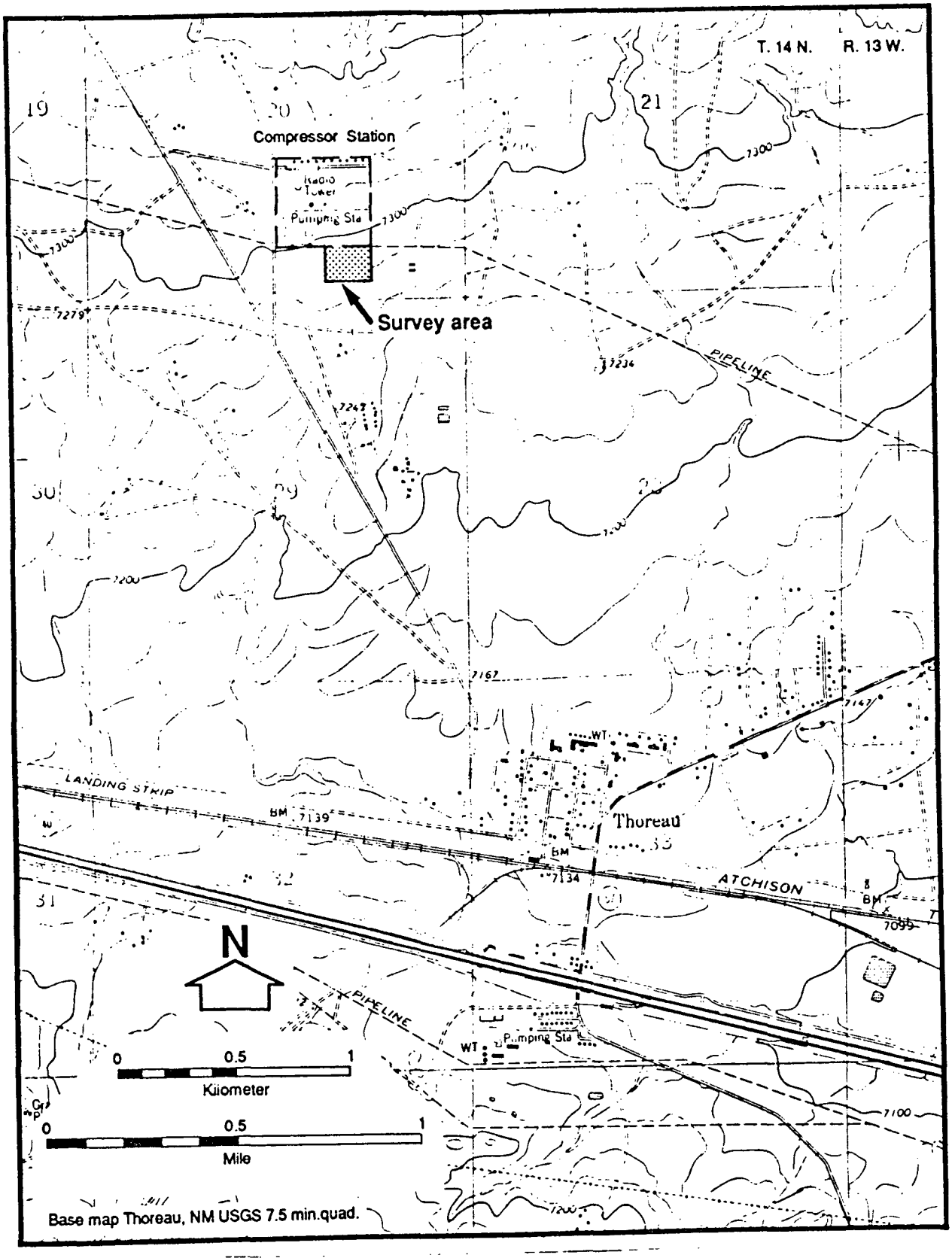


Figure 2 Location of Thoreau Compressor Station survey area

The Transwestern Pipeline Company is a division of ENRON (P.O. Box 1188, Houston Texas 77251), and was represented by James Skellet. Richard C. Chapman, Associate Director of OCA served as Principal Investigator.

Jeanne A. Schutt served as Project Director and conducted the inventory survey with an assistant archeologist for a period of 6 days on November 23 thru 29, 1989. These activities were carried out under OCA's Navajo Nation Permit No. 8812 and BIA permit No. NAO UA 90 OLA 035/001.

PROJECT LOCATION

The areas surveyed are located near Thoreau, New Mexico; Leupp, Arizona; and Klagatoh, Arizona. Legal descriptions of each survey parcel are presented in Table 1. A description of each survey location and a summary of previous archeological field work and cultural resources that were identified follow.

Thoreau Survey Parcel

The Thoreau Compressor Station #5 is located ca. 1.24 mi (2 km) northwest of Thoreau, New Mexico, in McKinley County, directly below Lobo Mesa. A well maintained road to the Thoreau land fill lies 27 m (88 ft) south of the surveyed parcel providing easy access. The sizes and legal descriptions of the survey parcel are listed in Table 1.

Previous archeological field work in the vicinity of the survey parcel was documented by Robert S. Swain (1989) in September of 1989. His work included a computer-assisted search of the Archeological Records Management System (ARMS) in September of 1989 and a search of OCA's site files and survey records. This investigation examined a 4 sq mi quadrangle centered over the study area and provided the following data.

Nineteen archeological sites have been recorded within 1 mi (1.6 km) of the area in question. LA 60887, a scatter of burned and fire-cracked rock probably dating to the Archaic period age (ca. 5500 BC), is the closest site to the survey parcel, located at a distance of 525 ft (160 m). This site will not be affected by the proposed action. LA 36175, an Anasazi site dating

Table 1: Legal Descriptions of Leupp and Klagetoh Thoreau survey parcels

Parcel	Legal Description/Size
Thoreau	SE 1/4 of Section 20, T14N, R13W (NMPM) USGS 7.5' (scale= 1:24000) Quadrangle: Thoreau, NM (1963) McKinley County, New Mexico 600 X 500 (183 x 152m) 6.87 acres (2.78 ha)
Leupp	Section 15, T22N, R14E (unplatted) UTM (Zone 12) 51410E, 3906550N USGS 7.5' (scale= 1:24000) Quadrangle: East of Leupp, AZ. (1986). Coconino County, AZ. 300 Ft. swath bordering southern half of compressor station; 23.55 acres (9.53 ha)
Klagetoh	SW 1/4 and west 1/2 of SE 1/4 of Section 18, T25N, R28E UTM (Zone 12) 645320E, 392672ON USGS 7.5' (scale-1:24000) Quadrangle: Tudecoz Spring, AZ. Apache County, AZ. 300 ft swath bordering the southern half of the compressor station; 23.55 acres (9.53 ha).

to the late Pueblo II or early Pueblo III period (AD 900-1300) lies 787 ft (240 m) to the west of LA 60887 and will also be unaffected by boring activities. Of the remaining 17 sites, 9 are Anasazi sites dating to the Pueblo II period (AD 900-1100), 5 are Anasazi Pueblo I-II (AD 700-1100) sites, and 3 are historic Navajo sites. LA 14272, an historic Navajo site, was recorded during an archeological survey of the pipeline serviced by the Thoreau Compressor Station (Gauthier and Stein 1977:63). OCA and ARMS data indicate that the site is located in the SE 1/4 of Section 20, T 14N, R 13W, and is a Navajo occupation containing artifacts dating to the period 1900-1930 A.D. The site is located 2500 ft (763 m) east of the survey parcel, and again will not be affected by the proposed action.

Leupp Survey Parcel

The Leupp Compressor Station #3 is located 9 miles (14.48 km) east of Leupp, Arizona in Coconino county. A series of earthen berms with dirt roads occur within the study area and provide easy access to the survey parcel. In addition, an airplane runway is located within the survey area to the south, again providing access to the survey area.

The area surveyed adjacent to the Leupp compressor station measured 300 ft (91 m) wide by 3419 ft (1042 m) long and bordered the southern perimeter of the station (23.55 acres). The legal description of the survey parcel is presented in Table 1.

An examination of Arizona State Museum files by Ken Rosen in May 1988 and an examination of both Navajo Tribal records and Bureau of Indian Affair records on December 7, 1989 by Alexa Roberts (Navajo Nation) indicate that no archeological sites have been identified. The Office of Contract Archeology performed a non-collection survey within the present survey boundaries (Seaman 1988), however, no cultural remains were identified. No other archeological inventories have been performed near the Leupp survey parcel.

Klagetoh Survey Parcel

The Klagetoh Compressor Station #4 is located near Klagetoh, Arizona in Apache county. A paved road extends from highway 191, 8 miles to the compressor station. Although there are no dirt roads that parallel the property line, the entire survey parcel is easily accessed by foot. The area surveyed at the

Klagetoh station is similar to the parcel examined at the Leupp compressor station. It also measured 300 ft (91 m) wide by 3375 ft (1,028 m) long and bordered the southern perimeter of the compressor station (22.55 acres). The legal description of the survey parcel is listed in Table 1.

An examination of Navajo Tribal and Bureau of Indian Affairs records for cultural resources in the vicinity of the survey parcel was conducted by Alexa Roberts (Navajo Nation) on December 7, 1989. This search indicates that no archeological sites have been identified and that no archeological inventories have been performed near the Klagetoh station.

INVENTORY METHODS

Transwestern Pipeline Co. provided OCA with maps designating the area to be surveyed at the various compressor stations. The designated parcels were measured on the ground with tape and corners were flagged. The Thoreau parcel was surveyed by a single archeologist (Project Director), while the Leupp and Klagetoh parcels were examined by two archeologists, the Project Director and an assistant. Survey transects were walked with a maximum interval of 15 m (49 ft). The visibility in Thoreau and Leupp was relatively good while visibility at Klagetoh was restricted by a heavy cover of oak leaves and in some areas pine duff. The light conditions for the most part were good although the low winter sun cast long shadows in both early and late portions of the day.

ENVIRONMENT

Thoreau Area

Data on the environment surrounding the Thoreau compressor station was compiled by Robert S. Swain (1989:12). The Thoreau Compressor station is located in western New Mexico in the Datil section of the Colorado Plateaus physiographic province, which, belongs to the intermontane Plateaus, a major physiographic division (Northrop 1961:7). The area examined is located in pinon-juniper woodland east of the Continental Divide at an elevation of 7300-7330 feet (2226-2336 m), and is within the Rio San Juan drainage basin. This area is underlain by faulted and displaced rocks of Cretaceous age (Dakota sandstone and Mancos shale), Triassic-Jurassic age (Chinle and Morrison formations), and Permian age (Glorieta and San Andreas formations) (Northrop 1961:map, encl). The area is on a slightly sloping (ca. 3 degrees), gently rolling colluvial slope. A few shallow, slightly channelized drainages cross the area from northwest to southeast. The climate in the immediate vicinity is semi-arid, with mean annual precipitation of ca. 10.8 in (27.4 cm). Most of this precipitation occurs in the summer and early fall. The mean annual temperature is ca. 54 degrees F (12 C) (Gabin and Lesperance 1977:Table 8830). A sparse canopy of juniper (Juniperus sp.) and pinon (Pinus edulis) is underlain by a dense ground cover of grass and old pine duff. Snakeweed (Gutierrezia sp.) and prickly pear cactus (Opuntia sp.) are also present. Wood from juniper and pinon trees is a potential nonfood resource within this survey area; many old, axe-cut stumps were observed. At present, the area appears to serve as an informal recreation area (i.e., party place, drinking spot) given the number of recent beverage containers in the vicinity.

Leupp Area

The Leupp Compressor Station is located in north-central Arizona within a desert scrubland, on a flat plain which offers little topographic relief. Elevations range between 4755 and 4760 ft (1450-1452 m) and the overall slope is minimal (ca. 1 degree). Deposition is primarily eolian and soil composition is a sandy clay loam. The climate is semi-arid with an annual precipitation of 6-10 in (15-26 cm). The mean annual temperature (Talyor 1980) is ca. 54 degrees F (12 C).

Vegetation within this desert scrubland has been heavily impacted by overgrazing and mechanical disturbance. There are no portions of the survey parcel that have not undergone mechanical disturbance. Vegetation covers roughly 20% of the land surface in the survey parcel and includes a variety of grasses, four-wing saltbush (Atriplex sp.) and Russian Thistle (Salsola sp.). Vegetation is slightly more dense in adjacent areas where mechanical alteration has not occurred, although heavy overgrazing is evident.

The immediate environment offers minimal resources however the Little Colorado River flows 4.5 km to the south. This riparian environment provides additional plant resources (willow, sumac, and cottonwood), as well as a broader range of animal resources.

Klagetoh Area

The Klagetoh Compressor Station is located in east-central Arizona on the eastern edge of the Colorado Plateau, which belongs to the intermontane

Plateaus (Northrop 1961). The survey area is located in a pinon-juniper woodland at an elevation of 7260-7360 ft (2214-2245 m) which occurs on intermittently exposed sandstone bedrock. The mean annual precipitation is ca. 12 inches (31 cm) and the mean annual temperature (Miller and Larsen 1967) is ca. 48 degrees F (8.98 C).

Vegetation is composed primarily of juniper (Juniperus sp.) and pinon (Pinus edulis). This canopy is underlain by a dense cover of grasses, scrub oak (Quercus turbinella), and prickly pear cactus (Opuntia sp.). These species provide a wide range of food resources and support a range of faunal resources.

SURVEY RESULTS

Cultural Resources Overview

An extensive regional overview that synthesizes previous archeological research in the Thoreau area has been complied by Tainter and Gillio (1980). The reader is encouraged to examine this document for a detailed discussion of the history and prehistory of the area. In summary, Tainter and Gillio found that the area was occupied from 11,500 BP to the present, encompassing Paleoindian, Archaic, Anasazi, and Historic Navajo occupations.

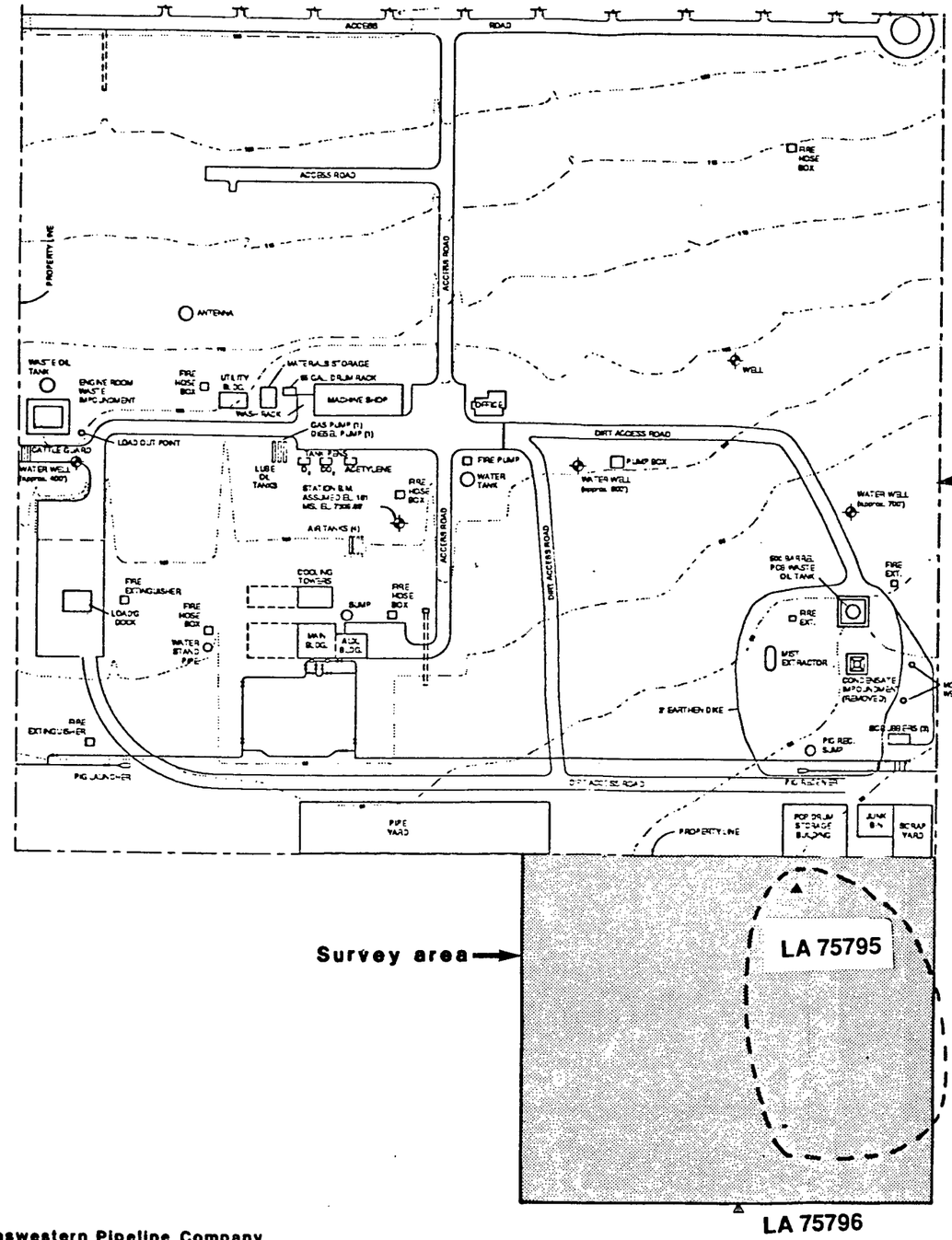
Fred Plog (1981) describes the prehistory of areas near the Leupp and Klagetoh survey areas in his overview which examines the Little Colorado Area in Arizona. The reader is referred to this research for information on the history and prehistory of the area. Plog found that this area was also occupied from Paleoindian times to the present.

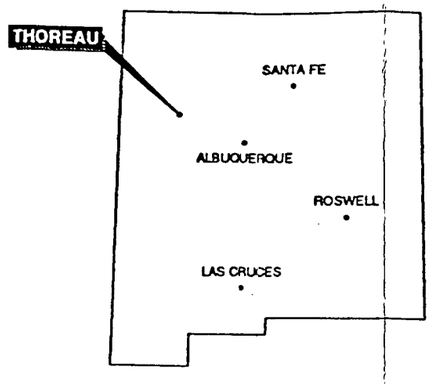
Survey Results

The survey data resulting from each inventory survey are presented in appropriate sections below. These data are followed by recommendations.

Thoreau Survey Parcel

Two archeological sites were recorded to the south of the Thoreau Compressor Station (Figure 5). The survey parcel south of the station measured 600 ft (183 m) east/west by 500 ft (152 m) north/south. A large PII/PIII site (LA





STATE OF NEW MEXICO

Compressor station property line

Survey area

LA 75795

LA 75796

N

0 80 160 240

Feet

Contour Interval 5ft.

Basemap provided by Transwestern Pipeline Company

Figure 5 Plan of Thoreau Compressor Station showing survey area and Sites LA 75795 and LA 75796

75795) was located in the eastern 1/3 of the survey parcel. A second Navajo site (LA 75796) was identified just 90 ft (27 m) south of the survey parcel. Although this site was not within the boundaries of the designated survey area, it was close enough to warrant documentation. A scatter of modern trash occurred throughout the survey parcel but no other artifacts of antiquity which would warrant their recording were identified. A description of the archeological sites that were identified follow.

LA 75795 (OCA-010-1). LA 75795 is a moderately dense ceramic and lithic scatter dating roughly to PII and PIII times. The site is oval in shape and extends 130 m north/south by 80 m east/west (Figure 6).

The site is located in the Rio San Juan drainage basin on a slightly sloping colluvial slope. The site is exposed to the southeast and vegetation is characterized by a sparse canopy of juniper (Juniperus sp.) and pinon (Pinus edulis) which is underlain by a dense ground cover of snakeweed (Gutierrezia sp.), grasses, and prickly pear cactus (Opuntia sp.).

The features as well as the artifacts on this Anasazi site suggest that it is a residential location. The presence of fire-cracked rock indicate that hearth using activities occurred. Two fire-cracked rock piles are located in the northern portion of the site. Two mound areas may represent structural features. The composition of the artifact assemblage also suggests a residential location. Both corrugated and painted ceramics occur in the assemblage and a range of bowls and jars are represented. Lithic artifacts include ground stone, a pecking stone, a chopper, and a variety of debitage

which indicates that both core reduction and biface manufacture occurred at the site.

LA 75796 (OCA-010-2) is a Navajo hogan base consisting of a series of flat rocks placed in a circular pattern measuring 5 m in diameter (Figure 7). The only other cultural debris associated with the feature are small fragments of chopped wood. The present Navajo occupation in the immediate area may be responsible for the lack of additional features and diagnotic artifacts, due to scavenging.

Leupp Survey Parcel

The parcel surveyed around the southern perimeter of the Leupp Compressor Station #3 totaled 23.55 acres (Figure 8). This area included a swath 300 ft (91 m) wide that extended 720 ft (220 m) north from the southeast and southwest corners and included the entire southern perimeter adjacent to the station.

The entire survey parcel exhibits considerable evidence of mechanical disturbance that apparently resulted from the original construction of both the compressor station and a landing strip located south of the compressor station. Archeological remains were classified as two sites based on the distribution of artifacts. Artifact distributions to the east, west and south of the station were examined in conjunction with evidence of mechanical disturbance to try to determine where the sites were originally located. A smear of lithic artifacts, apparently resulting from the landing strip construction, was designated as one site (OCA-010-3) and a second isolated

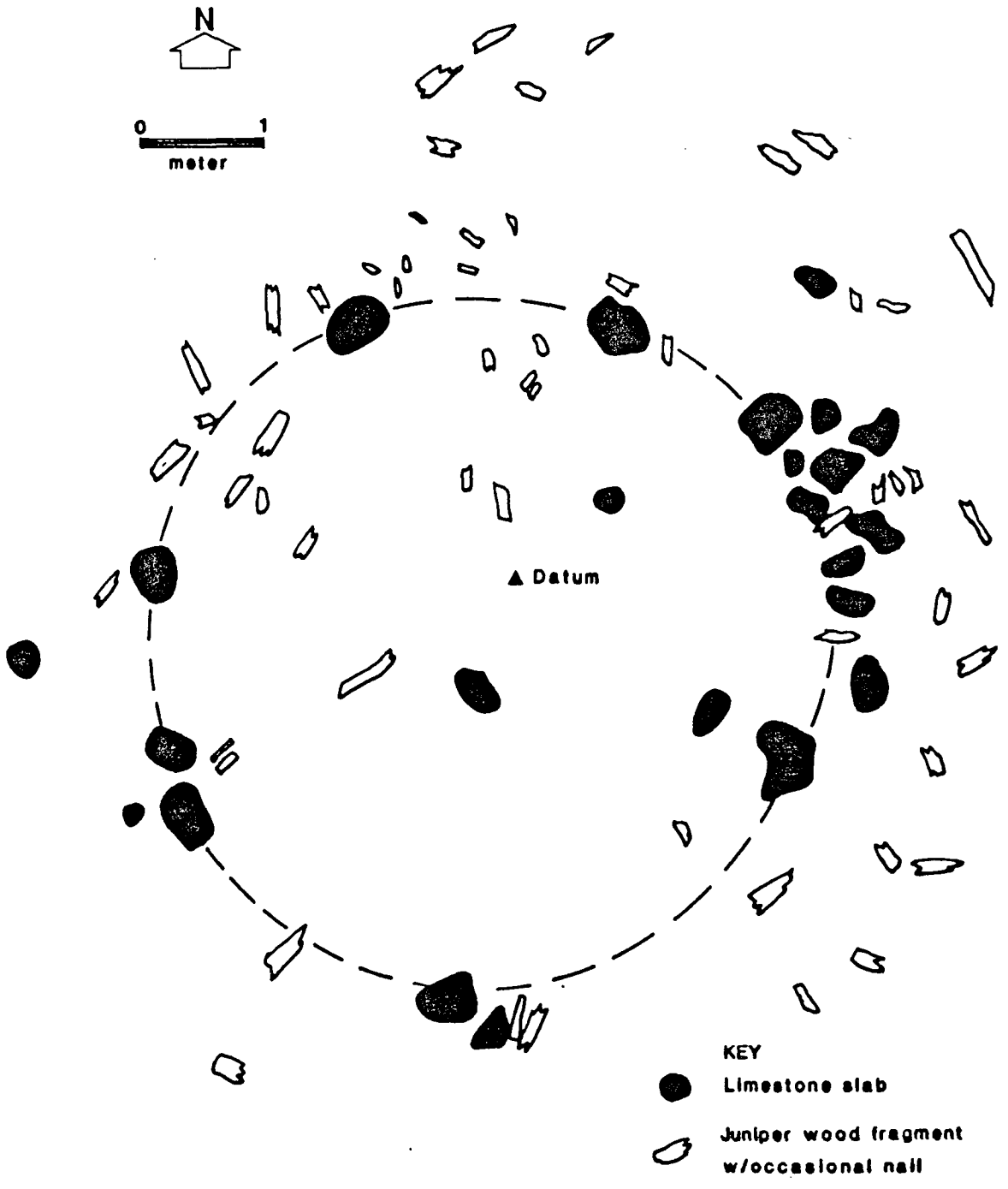


Figure 7 Navajo hogan base (LA 75796)

scatter of lithic debris to the east was defined as a second site (OCA-010-4). A description of these two archeological sites follow.

OCA-010-3: Site OCA-010-3 represents a scatter of lithic artifacts of unknown age that has been mechanically smeared during the original construction of the Leupp Compressor Station #3 and/or the landing strip to the south of the station (Figure 8). An examination of the artifact distribution indicates that the prehistoric site was located somewhere south of the compressor station, although its exact location and size is unclear.

The site is located in a desert scrubland that is relatively flat. Vegetation is sparse due to overgrazing but includes grasses, saltbush (Atriplex sp.) and Russian thistle (Salsola sp.).

The shape of the artifact distribution suggest that artifacts were smeared as the land was leveled and berms were constructed. Artifacts occur on either side of the air strip and extend for its entire length to the west, well outside of the survey area. Lithic debris was also identified on the southwestern perimeter of the station and within soils used to construct berms around the compressor station (Figure 8). The artifact distribution suggests that artifacts were redeposited from a site located somewhere south of the compressor station.

A sample of the lithic artifacts were recorded in Provenience 1, a heavy concentration in the southeastern portion of the artifact distribution. The site datum was placed within this provenience. The rest of the site exhibits a fairly homogeneous scatter of debitage. Artifact counts for the site range

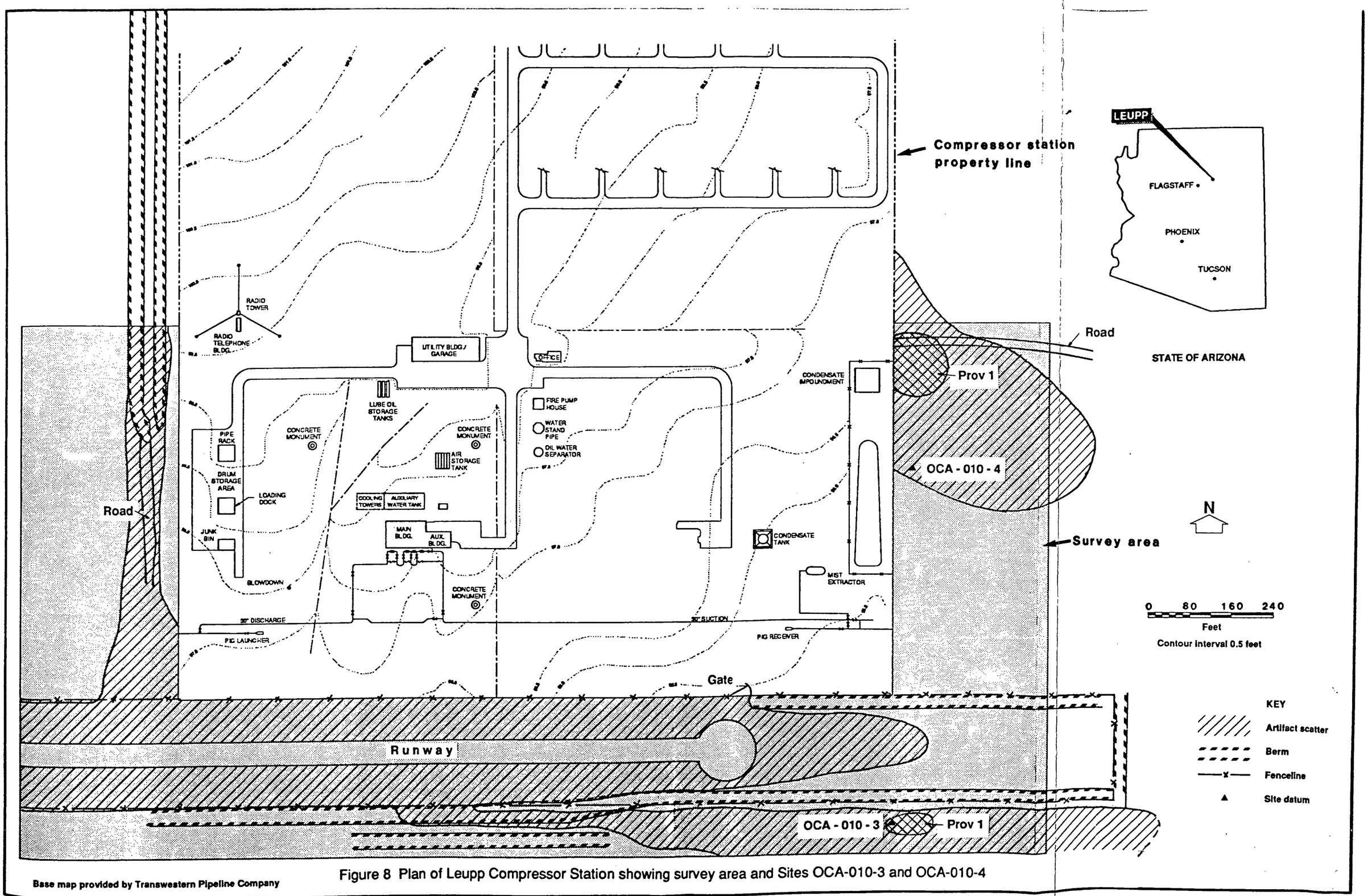


Figure 8 Plan of Leupp Compressor Station showing survey area and Sites OCA-010-3 and OCA-010-4

Base map provided by Transwestern Pipeline Company

in the thousands and the majority of artifacts are typical of core reduction activities rather than formal tool manufacture. A range of raw materials are represented and include quartzite, quartzitic sandstone, fossiliferous chert, silicified wood, and limestone. No archeological features were identified.

The density of lithic artifacts and variety in raw material types present suggest that intensive reduction activities occurred at the site. The disturbed nature of the site precludes the identification of spatially discrete activity areas. Although no hearth features were identified, it is possible that more permanent features were present prior to mechanical disturbance.

OCA-010-4: Site OCA-010-4 represents a heavily disturbed lithic scatter of unknown age (Figure 8). This site is spatially discrete from the lithic scatter previously described (OCA-010-3). Although mechanical disturbance resulting from construction is also extensive in this area, the general boundaries of the site can still be identified and are distinct from the other lithic distribution.

The site is located in a desert scrubland on a relatively flat land surface. Vegetation is sparse due to overgrazing but includes grasses, saltbush (Atriplex sp.) and Russian Thistle (Salsola sp.).

A sample of the lithic materials on the site were recovered from Provenience 1, an area that exhibited a slightly higher density of lithic debris. Lithic artifacts examined in the sample area indicate that core reduction and formal tool manufacture occurred on the site. The presence of exhausted cores

suggests that raw material availability was limited. Again, the range of raw materials present is great and include fossiliferous chert, various other cherts, chalcedony, jasper, and quartzite. No features were identified on the site.

Although no more permanent archeological features were identified on the site, the range of raw materials present suggest an intensive reduction and manufacturing location. Features may be obscured by the mechanical disturbance present.

Klagetoh Survey Parcel

The parcel surveyed around the southern perimeter of the Klagetah Compressor Station #4 totaled 23.55 acres (Figure 9). This area included a swath 300 ft (91 m) wide that extended 720 ft (22 m) north from the southeast and southwest corners of the property line and included the entire southern perimeter adjacent to the station.

A single isolated artifact was recovered west of the Klagetoh Compressor Station (UTM Zone 12, 64530E 393680N). It was a complete brown chert flake with a single faceted platform and 40% dorsal cortex. No archeological sites were identified.

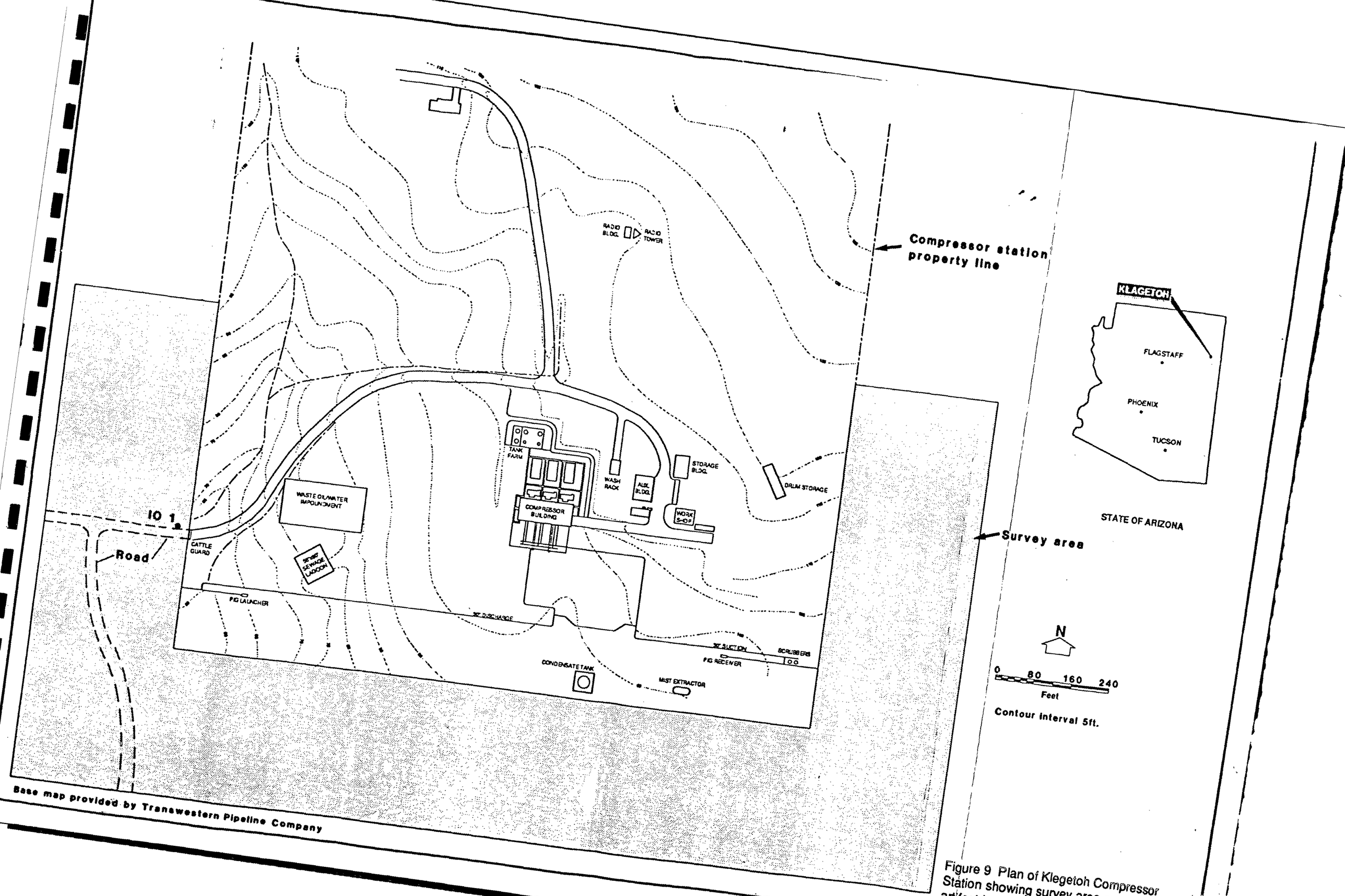


Figure 9 Plan of Klegetoh Compressor Station showing survey area and isolated artifact location.

RECOMMENDATIONS

The archeological reconnaissance conducted south of the Thoreau compressor Station #5 identified two archeological sites. The Navajo site, (LA 75796) occurs outside of the survey area and therefore should not interfere with proposed drilling activities. Research potential at this site is considered minimal. The Pueblo II/III site (LA 75795) is located directly south of the compressor station within the area to be tested for contamination. Because of the number and diversity of artifacts, features, and possible architectural structures at LA 75795, it is recommended as eligible for inclusion on the National Register of Historic Places. The site should be avoided during proposed drilling activities. The boundaries of LA 75795 were clearly flagged to indicate where avoidance is required. It is recommended that an archeologist be present during the course of drilling activities to insure this avoidance. This monitor should be empowered to halt work temporarily if subsurface cultural resources are discovered during drilling outside the site boundaries. Should new cultural remains be identified, concerned parties should consult with the Bureau of Indian Affairs, Navajo District and the Navajo Nation to establish proper treatment of the cultural resources.

The inventory survey carried out adjacent to the Leupp Compressor Station #3 also identified two archeological sites. OCA-010-3 represents a mechanically disturbed scatter of lithic artifacts of unknown age. It is apparent that an archeological site was present within the southern portion of the survey parcel prior to construction of the compressor station and landing strip in 1959. The location, size, depth and character of that site can no longer be defined from surface indications alone. Although the integrity of surface

visible remains at the site has been destroyed, it is possible that potentially significant, undisturbed subsurface cultural materials exist with in the survey parcel. Therefore, it is recommended that an archeologist be present during drilling activities to identify potential buried remains.

A second discrete scatter of lithic artifacts of unknown age was identified to the east of the compressor station (OCA-010-4). Although this artifact scatter was also heavily disturbed, the general boundaries of the site could be identified, and the number and diversity of artifacts indicate the site may be eligible for inclusions on the National Register of Historic Places. It is recommended that the site be avoided during drilling activities, and that an archeologist be present to facilitate avoidance.

The inventory survey conducted adjacent to the Klagatoh Compressor Station #4 identified a single isolated flake. No archeological sites were found. The lack of cultural resources in this area may very well be attributed to the low visibility. The ground exhibited a dense cover of oak leaves and pine duff the may obscure archeological remains. It is therefore recommended that an archeologist monitor drilling activities and examine each drilling location for cultural remains, once the specific bore holes have been selected.

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APPENDIX I

LA No. 75795
OCA Field No. 010- 1

OCA VERSION
LABORATORY OF ANTHROPOLOGY, MUSEUM OF NEW MEXICO
ARCHEOLOGICAL SITE SURVEY FORM

Field Recorder: Jeanne Schutt Date: 10/24/89

LA No.: 75795 Site Name_____ Other Inst.#: I.O.____

Surveyed for: Transwestern Pipeline Company

MNM Proj. #_____ UTM: Zone:12 E 751150 N 3923380

Legal Description: T14 N R13 W Sec.20, SE 1/4 of the SW 1/4 of the SE 1/4

Unplatted: Grant: Owner & Address: Navajo Nation
PO Box 689 Window Rock, AZ 86515

Map Reference: Thoreau Date: 1963 Scale: 7.5

County: McKinley State: NM

Nearest Named Drainage: Rio San Jose Drainage Basin (located within drainage)
Direction: 0 Distance: 0 m

Nearest Potential Water (type of source, permanence, direction, distance):
Unnamed drainage, seasonal, 800 m N

Azimuths to recognized landmarks: The site cap is located 200 ft west of the compressor stations SE property corner and 25 m south of the fence.

Site Type: PII-PIII

Site Size: Length: 130m N/S Width: 80m E/W Elevation (ft): 7250
Method of measurement: M (M=measured, T=triangulated, P=paced)

Is there another site close by (Y/N)? Y
LA or Field ID#: OCA 010-2, LA 60887, LA 36175, LA 14272

Access:
The site lies 10 m south of the Thoreau Compressosr Station #5 property line. Easiest access lies to the south on the land fill road. The site extends roughly from the SE corner of the Compressor Station property.

OCA Field No. 010- 1

Is additional legal/UTM/elevation information required (Y/N)?: N, if yes:

Topographic Codes, in order of importance at site: 98

1=arroyo/wash	10=flood plain/ valley bottom	18=plain/flat	27=lava flow
2=base of cliff		19=playa	98=other
3=bench	11=hill top	20=ridge	
4=blowout	12=hill slope	21=saddle	
5=canyon rim	13=low rise	22=base talus slope	
6=cave	14=mesa	23=talus slope	
7=cliff/scarp	15=mountain	24=terrace	
8=constricted cyn	16=mt. front/foothill	25=alluvial fan	
9=dune	17=open canyon floor	26=badlands	

Exposure: 140 degrees Slope: 2 degrees Ground surface visibility: 75 %

Local Vegetation (in order of dominance):

1) Pinyon-juniper 2) Snakeweed 3) Grasses

4) Prickly pear 5) 6)

factors effecting vegetation (chaining, recent fires, over-grazing, etc):
Over-grazing

Ecological Zone: Pinyon-juniper

Ecological Code: 2
1=forest 2=woodland 3=scrubland 4=grassland 5=desert scrub 6=marshland 8=other

Soil Type (rocky, gravelly, sandy, clayey, other, or mixture of types):
Colluvial deposits

Local Outcrops (sandstone, shale, limestone, basalt, tuff, other):
Some limestone may be present

Nature and Depth of fill: 10+ cm.
Colluvial fill, based on mounds on site

Condition of Site: B A=intact B=grazed C=eroded D=inundated(seasonal)
E=inundated(permanent) F=mech. disturbance G=vandalized H=combined effects
J=urbanized K=destroyed X=other (discussion in remarks section)

other natural impacts:
None

other artifical impacts:
None

OCA Field No. 010- 1

National and/or State Register Status: 10 (see codes below)
1=On State Register
2=On National and State Register
3=Recommended for National by State, on State Register
4=Recommended for National and State Register
5=In District, National and State
6=In District, National
7=In District, State
8=Recommended and rejected
9=Informal opinion, site may be eligible
10=Insufficiently evaluated, potential unknown
11=Not nominated
12=Not recommended

Was prior work done on this site (Y/N)? N if yes, describe below:

Mitigation: 1 1=avoid 2=monitor 3=test 4=excavate 5=not required

Record Form: Surv. Forms X Excav. Forms Sketch Map X Photos X

Loc. of Forms, Maps, Photos: Office of Contract Archeology, UNM

Artifact Density: 100's (0, 10, 100, 1000)

Surface and/or Subsurface Collections (Y/N)?: N
Strategy (if yes):

Items collected:

Location of any Collected Artifacts:
Note: any prior collections are discussed above, under prior work

Photographs:
Black & White Roll No: 0 Exposures:
Color Roll No: 1 Exposures: 8

OCA Field No. 010- 1

Number of Temporal Components: 1

(Earliest to Latest)
Note: see remarks section for detailed discussion of features, diagnostics, component functions, and method of dating for all components.

Temporal Component (1)

Brief list of ARMS features:
2 mounds, 2 FCR scatters, 1 lithic and ceramic scatter
Culture: Anasazi Period: PII-PIII Phase: Unknown
Site Function: Residential Best Date: AD 1200
Method of Dating (diagnostics):
Ceramics - Puerco B/W, Cibola Whiteware

Temporal Component (2)

Brief list of ARMS features:

Culture: Period: Phase:
Site Function: Best Date:
Method of Dating (diagnostics):

Temporal Component (3)

Brief list of ARMS features:

Culture: Period: Phase:
Site Function: Best Date:
Method of Dating (diagnostics):

Additional Temporal Components:

OCA Field No. 010- 1

Published Reference:

Date: January 1990

Institution: Office of Contract Archeology

Author and Title: Schutt, J.A. An Archeological Survey of Three Parcels Adjacent to the Thoreau, Leupp, and Klagetoh Compressor Stations

Remarks:

LA 75795 (OCA 010-1) is a moderately dense scatter of ceramic and lithic artifacts dating roughly to PII and PIII times. The site is oval in shape and extends 130 m (N/S) x 80 m.

The site is located in the Rio San Juan Drainage Basin on a slightly sloping colluvial slope. The site is exposed to the southeast and vegetation is characterized by a sparse canopy of juniper and pinyon which is underlain by a dense groundcover of snakeweed, grasses, and prickly pear cactus.

The features as well as the artifacts on this Anasazi site suggest that it is a residential location. The presence of fire-cracked rock indicate that hearth activities occurred. Two fire-cracked rock piles are located in the northern portion of the site. Two mound areas may represent structural features. The artifact composition also suggests a residential location. Both corrugated and painted ceramics occur in the assemblage and a range of bowls and jars are represented. Lithic artifacts include groundstone, a pecking stone, a chopper, and a variety of debitage which indicates that both core reduction and bifacial manufacture occurred at the site.

The site is not disturbed and offers good potential for further research. It is not badly eroded and assemblages for the most part remain intact. The site should be avoided if possible. If it is not possible to avoid the site the mounds must be tested to determine if they represent structural features and the two fire-cracked rock piles must be examined to determine function. The site will require a systematic 1 x 1 m surface collection and select areas must be surface stripped. Excavation grids will be required to assess subsurface deposits.

LA 75795

Transwestern: Site Lithic Data

---------- Field Site Number=1 Provenience=1 Sample Type=Flag ----------

Lithic Type	Condition	Material Type	Cortex	Length	Width	Thickness	Platform Type
flake	unknown	Silicified Wood	none	0	0	6	N/A
flake	unknown	Silicified Wood	none	0	0	5	N/A
flake	unknown	Chert, fossiliferous	none	0	0	7	N/A
flake	unknown	Chert, fossiliferous	none	0	0	7	N/A
core-unidirectional	complete	Silicified Wood	1-10%	50	40	15	N/A
flake	unknown	Silicified Wood	81-90%	0	0	8	N/A
flake	unknown	Silicified Wood	41-50%	0	0	8	N/A
flake	complete	Chert, fossiliferous	1-10%	40	38	10	cortical
flake	unknown	Silicified Wood	none	0	0	5	N/A
flake	unknown	Chert, other	none	0	0	8	N/A
flake-bifacial thinning	complete	Chert, other	none	12	8	2	retouched
flake	complete	Chert, fossiliferous	none	27	12	5	multi-facet
flake	unknown	Silicified Wood	none	0	0	5	N/A
core-irregular	unknown	Chert, fossiliferous	none	0	0	18	N/A
flake	complete	Jasper, dendritic	none	20	17	3	single facet
flake	complete	Chert, fossiliferous	none	50	40	9	single facet
flake	unknown	Chert, pink	none	0	0	6	N/A
flake	distal	Chert, fossiliferous	none	0	0	4	N/A
flake	complete	Silicified Wood	81-90%	0	0	5	single facet
flake	distal	Chert, fossiliferous	none	0	0	4	N/A
flake	unknown	Silic. Wood, platy	none	0	0	4	N/A
flake	complete	Chert, pink	none	22	15	8	multi-facet
flake	unknown	Silicified Wood	21-30%	0	0	5	N/A
flake	complete	Silicified Wood	none	0	0	8	multi-facet
flake	unknown	Silicified Wood	none	0	0	4	N/A
flake	complete	Chert, fossiliferous	none	37	24	5	collapsed
flake	complete	Limestone	21-30%	48	30	9	cortical
flake	complete	Chert, fossiliferous	none	38	15	7	single facet
flake	unknown	Limestone	none	0	0	12	N/A
flake	unknown	Chert, other	none	0	0	12	N/A
flake	complete	Chert, fossiliferous	91-100%	16	20	5	multi-facet
flake	complete	Chert, fossiliferous	1-10%	22	28	7	multi-facet
flake	complete	Chert, fossiliferous	31-40%	40	38	8	single facet
flake	unknown	Chert, fossiliferous	21-30%	0	0	0	ground or use
flake	unknown	Silicified Wood	none	0	0	0	stepped

---------- Field Site Number=1 Provenience=1 Sample Type=Rare ----------

Lithic Type	Condition	Material Type	Cortex	Length	Width	Thickness	Platform Type
chopper, bifacial	complete	Limestone	N/A	90	70	50	N/A
pecking stone	complete	Limestone	N/A	100	80	50	N/A
unknown grndstone	complete	Limestone	N/A	200	120	40	N/A
mano, two-hand	unknown	Sandstone	N/A	110	110	35	N/A

LA 75795

Transwestern: Site Survey Data
Ceramic Types and Vessel Forms

Field Site Number=1 Provenience=1 Sample Type=Flag

	Ceramic Vessel Form				Ceramic Totals	
	Bowl		Jar			
	N	%	N	%	N	%
Ceramic Type						
Puerco B/W	7	53.8	6	46.2	13	20.0
Reserve/Tularosa	3	37.5	5	62.5	8	12.3
Unidentified B/W	1	100	.	.	1	1.5
Unidentified Cibola Whiteware	1	50.0	1	50.0	2	3.1
Unident Cibola Whiteware/PII-PIII	2	28.6	5	71.4	7	10.8
Kana'a Neckbanded	.	.	1	100	1	1.5
Corrugated Gray	.	.	7	100	7	10.8
Indented Corrugated Grayware	.	.	26	100	26	40.0
total	14	21.5	51	78.5	65	100

LA 75795

Transwestern: Site Survey Data
Lithic Artifact Class and Material Type Variability

Field Site Number=1 Provenience=1 Sample Type=Flag

	Artifact Class				Material Totals	
	Flakes		Cores			
	N	%	N	%	N	%
Lithic Material Type						
Silicified Wood	11	91.7	1	8.3	12	34.3
Silic. Wood, platy	1	100	.	.	1	2.9
Chert, pink	2	100	.	.	2	5.7
Chert, fossiliferous	13	92.9	1	7.1	14	40.0
Chert, other	3	100	.	.	3	8.6
Jasper, dendritic	1	100	.	.	1	2.9
Limestone	2	100	.	.	2	5.7
total	33	94.3	2	5.7	35	100

LA 75795

Transwestern: Site Survey Data
Lithic Artifact Class and Material Type Variability

---------- Field Site Number=1 Provenience=1 Sample Type=Rare ----------

	Artifact Class							
	Choppers		Hammer-stones		Ground-stone		Material Totals	
	N	%	N	%	N	%	N	%
Lithic Material Type								
Limestone	1	33.3	1	33.3	1	33.3	3	75.0
Sandstone	.	.	.	.	1	100	1	25.0
total	1	25.0	1	25.0	2	50.0	4	100

OCA Field No. 010- 2

Is additional legal/UTM/elevation information required (Y/N)?: N, if yes:

Topographic Codes, in order of importance at site: 98

1=arroyo/wash	10=flood plain/ valley bottom	18=plain/flat	27=lava flow
2=base of cliff		19=playa	98=other
3=bench	11=hill top	20=ridge	
4=blowout	12=hill slope	21=saddle	
5=canyon rim	13=low rise	22=base talus slope	
6=cave	14=mesa	23=talus slope	
7=cliff/scarp	15=mountain	24=terrace	
8=constricted cyn	16=mt. front/foothill	25=alluvial fan	
9=dune	17=open canyon floor	26=badlands	

Exposure: 2 degrees Slope: 180 degrees Ground surface visibility: 100 %

Local Vegetation (in order of dominance):
1) Pinyon-juniper 2) Snakeweed 3) Grasses

4) Prickly pear 5) Barrel cactus 6)

factors effecting vegetation (chaining, recent fires, over-grazing, etc):
Over-grazing

Ecological Zone: Pinyon-juniper

Ecological Code: 2
1=forest 2=woodland 3=scrubland 4=grassland 5=desert scrub 6=marshland 8=other

Soil Type (rocky, gravelly, sandy, clayey, other, or mixture of types):
Colluvial deposit

Local Outcrops (sandstone, shale, limestone, basalt, tuff, other):
Some linestone may be present

Nature and Depth of fill: 0 cm.
None, eroded

Condition of Site: B A=intact B=grazed C=eroded D=inundated(seasonal)
E=inundated(permanent) F=mech. disturbance G=vandalized H=combined effects
J=urbanized K=destroyed X=other (discussion in remarks section)

other natural impacts:
None

other artifical impacts:
Recent Navajo occupation may have moved parts of hogan.

OCA Field No. 010- 2

National and/or State Register Status: 12 (see codes below)
1=On State Register
2=On National and State Register
3=Recommended for National by State, on State Register
4=Recommended for National and State Register
5=In District, National and State
6=In District, National
7=In District, State
8=Recommended and rejected
9=Informal opinion, site may be eligible
10=Insufficiently evaluated, potential unknown
11=Not nominated
12=Not recommended

Was prior work done on this site (Y/N)? N if yes, describe below:

Mitigation: 5 1=avoid 2=monitor 3=test 4=excavate 5=not required

Record Form: Surv. Forms X Excav. Forms Sketch Map X Photos X

Loc. of Forms, Maps, Photos: Office of Contract Archeology, UNM

Artifact Density: 10's (0, 10, 100, 1000)

Surface and/or Subsurface Collections (Y/N)?: N
Strategy (if yes):

Items collected:

Location of any Collected Artifacts:
Note: any prior collections are discussed above, under prior work

Photographs:
Black & White Roll No: 0 Exposures:
Color Roll No: 1 Exposures: 2

OCA Field No. 010- 2

Number of Temporal Components: 1

(Earliest to Latest)
Note: see remarks section for detailed discussion of features, diagnostics, component functions, and method of dating for all components.

Temporal Component (1)

Brief list of ARMS features:
Undefined rock alignment, probably hogan base
Culture: Navajo Period: Historic Phase: Historic
Site Function: Hogan base Best Date: Unknown
Method of Dating (diagnostics):
No diagnostics

Temporal Component (2)

Brief list of ARMS features:

Culture: Period: Phase:
Site Function: Best Date:
Method of Dating (diagnostics):

Temporal Component (3)

Brief list of ARMS features:

Culture: Period: Phase:
Site Function: Best Date:
Method of Dating (diagnostics):

Additional Temporal Components:

OCA Field No. 010- 2

Published Reference:

Date: January 1990

Institution: Office of Contract Archeology

Author and Title: Schutt, J.A. An Archeological Survey of Three Parcels Adjacent to the Thoreau, Leupp, and Klagetoh Compressor Stations

Remarks:

The site is represented by a series of flat rocks placed in a circular pattern with a 5 m diameter. Small fragments of chopped wood are strewn around the feature. The configuration most likely represents a hogan base, although no diagnostic artifacts were recovered. The present Navajo occupation in the immediate area may be responsible for the lack of additional features and diagnostic artifacts.

The site is located on a colluvial slope. Vegetation consists of pinyon-juniper, snakeweed, grasses and cactus.

The site is represented only by the circular rock alignment with fragments of wood and two (circular) nails. The circle of rocks exhibits a 5 m diameter. No diagnostic artifacts were recovered.

Although no diagnostics were recovered the diameter and circular configuration of the rocks suggest that it was a hogan.

Survey field procedures have recorded all remaining information and therefore the site is not recommended for State or National Registers.

LA No.
OCA Field No. 010- 3

OCA VERSION
LABORATORY OF ANTHROPOLOGY, MUSEUM OF NEW MEXICO
ARCHEOLOGICAL SITE SURVEY FORM

Field Recorder: J. Schutt Date: 11/28/89

LA No.: Site Name_____ Other Inst.#: I.O.____

Surveyed for: Transwestern Pipeline Company

MNM Proj. #_____ UTM: Zone:12 E 514130 N 3906420

Legal Description: T 0 R 0 Sec. 0, 1/4 of the 1/4 of the 1/4

Unplatted:X Grant: Owner & Address: Navajo Nation
PO Box 689 Window Rock, AZ 86515

Map Reference: East of Leupp Quad Date: 1986 Scale: 7.5

County: Coconino State: AZ

Nearest Named Drainage: Cotton Creek Wash
Direction: NW Distance: 4023m

Nearest Potential Water (type of source, permanence, direction, distance):
Little Colorado River, spring to occasional, 4500 S

Azimuths to recognized landmarks: See pumping station map

Site Type: Lithic unknown

Site Size: Length: 659m E/W Width: 301m N/S Elevation (ft): 4755
Method of measurement: M (M=measured, T=triangulated, P=paced)

Is there another site close by (Y/N)? Y
LA or Field ID#: OCA 10-4

Access:
The site is located to the south of the Leupp Compressor Station #3. Access to the site is easy. Blading on all sides of the pumping station provide surfaces that a city vehicle can travel.

OCA Field No. 010- 3

Is additional legal/UTM/elevation information required (Y/N)?: N, if yes:

Topographic Codes, in order of importance at site: 18

1=arroyo/wash	10=flood plain/ valley bottom	18=plain/flat	27=lava flow
2=base of cliff		19=playa	98=other
3=bench	11=hill top	20=ridge	
4=blowout	12=hill slope	21=saddle	
5=canyon rim	13=low rise	22=base talus slope	
6=cave	14=mesa	23=talus slope	
7=cliff/scarp	15=mountain	24=terrace	
8=constricted cyn	16=mt. front/foothill	25=alluvial fan	
9=dune	17=open canyon floor	26=badlands	

Exposure: 180 degrees Slope: 1 degrees Ground surface visibility: 90 %

Local Vegetation (in order of dominance):

1) Grasses 2) 4-wing saltbush 3) Tumbleweed

4) 5) 6)

factors effecting vegetation (chaining, recent fires, over-grazing, etc):
Over-grazing, blading disturbance related to runway construction

Ecological Zone: Desert scrubland

Ecological Code: 5
1=forest 2=woodland 3=scrubland 4=grassland 5=desert scrub 6=marshland 8=other

Soil Type (rocky, gravelly, sandy, clayey, other, or mixture of types):
Clay with sand

Local Outcrops (sandstone, shale, limestone, basalt, tuff, other):
None

Nature and Depth of fill: 10 cm.
Colluvial

Condition of Site: H A=intact B=grazed C=eroded D=inundated(seasonal)
E=inundated(permanent) F=mech. disturbance G=vandalized H=combined effects
J=urbanized K=destroyed X=other (discussion in remarks section)

other natural impacts:
None

other artifical impacts:
Grazed, mechanical disturbance

National and/or State Register Status: 10 (see codes below)
1=On State Register
2=On National and State Register
3=Recommended for National by State, on State Register
4=Recommended for National and State Register
5=In District, National and State
6=In District, National
7=In District, State
8=Recommended and rejected
9=Informal opinion, site may be eligible
10=Insufficiently evaluated, potential unknown
11=Not nominated
12=Not recommended

Was prior work done on this site (Y/N)? N if yes, describe below:

Mitigation: 2 1=avoid 2=monitor 3=test 4=excavate 5=not required

Record Form: Surv. Forms X Excav. Forms Sketch Map X Photos X

Loc. of Forms, Maps, Photos: Office of Contract Archeology, UNM

Artifact Density: 1000's (0, 10, 100, 1000)

Surface and/or Subsurface Collections (Y/N)?: N
Strategy (if yes):

Items collected:

Location of any Collected Artifacts:
Note: any prior collections are discussed above, under prior work

Photographs:
Black & White Roll No: 1 Exposures: 1
Color Roll No: 0 Exposures:

Number of Temporal Components: 1

(Earliest to Latest)
Note: see remarks section for detailed discussion of features, diagnostics, component functions, and method of dating for all components.

Temporal Component (1)

Brief list of ARMS features:
Lithic scatter
Culture: Lithic Unknown Period: Unknown Phase: Unknown
Site Function: Lithic reduction and manufacture Best Date: Unknown
Method of Dating (diagnostics):
No diagnostics

Temporal Component (2)

Brief list of ARMS features:

Culture: Period: Phase:
Site Function: Best Date:
Method of Dating (diagnostics):

Temporal Component (3)

Brief list of ARMS features:

Culture: Period: Phase:
Site Function: Best Date:
Method of Dating (diagnostics):

Additional Temporal Components:

OCA Field No. 010- 3

Published Reference:

Date: January 1990

Institution: Office of Contract Archeology

Author and Title: Schutt, J.A. An Archeological Survey of Three Parcels Adjacent to the Thoreau, Leupp, and Klagetoh Compressor Stations

Remarks:

The site consists of an unknown lithic scatter that has been mechanically spread to the south and west of the pumping station as the result of berm and runway construction. It is difficult to assess exactly where the original site extends.

The site is located on a colluvial plain that is relatively flat with a slight exposure toward the south (1 deg). The Little Colorado lies 4500 m to the south. Vegetation is sparse throughout the area. When present it is dominated by grasses, saltbush, and russian thistle (tumbleweed).

All disturbed areas around the pumping station were recorded as a single site because it was not possible to determine where artifacts came from. A single sample was taken from Provenience 1, a heavy concentration which occurred to the southeast of the pumping station. The rest of the site is characterized by a fairly homogeneous smear of debitage. Artifact counts range in the 1000s. Most artifacts represent core reduction rather than formal tool manufacture. A range of raw materials are represented across the site and include a variety of quartzite, quartzitic sandstone, fossiliferous cherts, jasper, silicified wood and limestone. No features were identified.

The evidence of the site still remaining indicate that reduction and tool manufacture occured in the area. The disturbed condition of these remains preclude the identification of spacially discrete activity areas. The range of materials being utilized and the large numbers of artifacts suggest fairly extensive reduction activities. No groundstone or ceramics were found and no features were identified. The lack of groundstone and ceramics suggest that the site may represent a limited activity site although mechanical disturbance limits interpretation.

The heavy mechanical disturbance has obliterated the original location and boundaries of the site. Although the diversity of artifact material types suggests a range of reduction activities, mechanical disturbance has redeposited artifacts. Therefore, we cannot assess the eligibility of this site from surface remains. We recommend that an archeologist monitor drilling activities to identify subsurface cultural remains.

Transwestern: Site Lithic Data

---------- Field Site Number=3 Provenience=1 Sample Type=Flag ----------

Lithic Type	Condition	Material Type	Cortex	Length	Width	Thickness	Platform Type
flake	complete	Chert, pink	91-100%	30	40	11	single facet
flake	complete	Chert, pink	none	20	28	5	single facet
flake	complete	Quartzite, med/coarse	71-80%	15	17	14	single facet
flake	complete	Chert, pink	none	18	15	3	cortical
flake	complete	Quartzite, fine grain	61-70%	23	33	15	collapsed
flake	complete	Quartzite, fine grain	51-60%	35	30	15	collapsed
flake	complete	Quartzite, fine grain	none	48	22	11	single facet
flake	lateral	Chert, pink	61-70%	22	0	13	collapsed
flake	complete	Chert, pink	11-20%	23	29	15	cortical
flake	complete	Quartzitic sandstone	none	25	43	19	single facet
flake	distal	Chert, pink	none	0	0	8	N/A
flake	proximal	Chert, pink	31-40%	0	0	9	cortical
flake	complete	Quartzitic sandstone	1-10%	25	20	13	cortical
flake	distal	Chert, pink	none	0	0	0	N/A
flake	distal	Chert, pink	none	0	0	0	N/A
flake	complete	Chert, red	none	18	20	8	cortical
flake	complete	Quartzite, fine grain	none	25	15	7	cortical
flake	proximal	Quartzitic sandstone	81-90%	0	0	4	single facet
flake	complete	Chert, pink	81-90%	22	30	15	cortical
flake	lateral	Quartzite, med/coarse	none	28	0	13	single facet
flake	complete	Quartzite, med/coarse	41-50%	28	12	10	cortical
flake	complete	Chert, pink	none	22	12	12	collapsed
flake	complete	Quartzite, med/coarse	41-50%	36	25	17	cortical
flake	complete	Chert, tan	1-10%	28	30	15	cortical
flake	complete	Chert, pink	1-10%	20	13	8	cortical
flake	proximal	Chert, pink	none	0	0	5	single facet
flake	complete	Quartzite, med/coarse	none	32	28	7	single facet
flake	distal	Quartzite, fine grain	91-100%	0	0	0	N/A
core-irregular	unknown	Chert, pink	71-80%	32	19	13	N/A
biface	unknown	Chert, pink	none	53	25	20	N/A
flake	complete	Chert, pink	none	27	20	5	cortical
flake	complete	Quartzitic sandstone	none	30	33	23	single facet
flake	complete	Quartzite, med/coarse	81-90%	65	50	25	cortical
flake	complete	Quartzitic sandstone	51-60%	27	25	15	cortical
flake-bipolar	complete	Chert, pink	1-10%	95	30	8	collapsed
angular debris	N/A	Chert, gray	41-50%	0	0	0	N/A
flake-bipolar	complete	Quartzite, med/coarse	1-10%	60	40	27	collapsed
flake	complete	Chert, pink	51-60%	42	20	18	collapsed
tabular blank	N/A	Chert, pink	81-90%	80	55	20	N/A
angular debris	N/A	Quartzite, med/coarse	21-30%	0	0	0	N/A
angular debris	N/A	Quartzite, med/coarse	41-50%	0	0	0	N/A
flake	complete	Chert, pink	1-10%	45	20	7	single facet
angular debris	N/A	Chert, pink	21-30%	0	0	0	N/A
flake	proximal	Chalcedony, blk incl.	none	0	0	15	single facet
flake	complete	Quartzite, fine grain	none	42	25	12	cortical
flake	complete	Quartzite, med/coarse	21-30%	48	63	30	single facet
flake	complete	Quartzite, fine grain	none	35	25	12	cortical
flake	complete	Chert, pink	11-20%	28	20	19	cortical
flake	proximal	Quartzite, med/coarse	21-30%	0	0	19	cortical
core-irregular	complete	Chert, pink	11-20%	75	45	35	N/A
flake	complete	Chert, pink	none	42	35	10	collapsed

Transwestern: Site Lithic Data

---------- Field Site Number=3 Provenience=1 Sample Type=Flag ----------
(continued)

Lithic Type	Condition	Material Type	Cortex	Length	Width	Thickness	Platform Type
flake	complete	Quartzite, med/coarse	none	45	83	22	single facet
flake	complete	Chert, pink	21-30%	34	12	6	collapsed
flake	proximal	Chert, pink	1-10%	0	0	4	collapsed
angular debris	N/A	Quartzite, fine grain	21-30%	0	0	0	N/A
flake	distal	Chert, pink	31-40%	0	0	25	N/A
flake	complete	Schist	1-10%	50	53	10	single facet
angular debris	N/A	Quartzite, fine grain	51-60%	0	0	0	N/A
angular debris	N/A	Chert, pink	11-20%	0	0	0	N/A
angular debris	N/A	Chert, red	none	0	0	0	N/A
flake	complete	Chert, pink	91-100%	42	30	6	collapsed
flake	proximal	Chert, gray	91-100%	52	35	20	cortical
flake	medial	Chert, pink	1-10%	0	0	10	N/A
flake	medial	Chert, pink	none	0	0	4	N/A
flake	complete	Quartzite, med/coarse	1-10%	53	44	22	cortical
flake	complete	Quartzitic sandstone	31-40%	38	25	17	collapsed
flake	complete	Quartzite, med/coarse	none	50	28	27	cortical
flake	complete	Jasper, dendritic	none	50	35	7	cortical
flake	complete	Chert, tan	11-20%	48	60	17	collapsed
angular debris	N/A	Quartzite, med/coarse	61-70%	0	0	0	N/A
flake	medial	Silicified Wood	none	0	0	4	N/A
flake	complete	Quartzite, med/coarse	71-80%	50	45	20	cortical
flake, retouched	complete	Chert, tan	91-100%	50	45	12	N/A
angular debris	N/A	Quartzite, med/coarse	81-90%	0	0	0	N/A
flake	complete	Chert, pink	81-90%	47	27	7	single facet

Transwestern: Site Survey Data
Lithic Artifact Class and Material Type Variability

---------- Field Site Number=3 Provenience=1 Sample Type=Flag ----------

	Artifact Class											
	Angular debris		Flakes		Retouched		Bifaces		Cores		Material Totals	
	N	%	N	%	N	%	N	%	N	%	N	%
Lithic Material Type												
Chalcedony, blk incl.	.	.	1	100	.	.	.	.	.	.	1	1.3
Silicified Wood	.	.	1	100	.	.	.	.	.	.	1	1.3
Quartzite, fine grain	2	22.2	7	77.8	.	.	.	.	.	.	9	12.0
Quartzite, med/coarse	4	23.5	13	76.5	.	.	.	.	.	.	17	22.7
Quartzitic sandstone	.	.	6	100	.	.	.	.	.	.	6	8.0
Chert, tan	.	.	2	66.7	1	33.3	.	.	.	.	3	4.0
Chert, gray	1	50.0	1	50.0	.	.	.	.	.	.	2	2.7
Chert, red	1	50.0	1	50.0	.	.	.	.	.	.	2	2.7
Chert, pink	2	6.2	26	81.2	.	.	1	3.1	3	9.4	32	42.7
Jasper, dendritic	.	.	1	100	.	.	.	.	.	.	1	1.3
Schist	.	.	1	100	.	.	.	.	.	.	1	1.3
total	10	13.3	60	80.0	1	1.3	1	1.3	3	4.0	75	100

LA No.
OCA Field No. 010- 4

OCA VERSION
LABORATORY OF ANTHROPOLOGY, MUSEUM OF NEW MEXICO
ARCHEOLOGICAL SITE SURVEY FORM

Field Recorder: J. Schutt Date: 11/28/89

LA No.: Site Name_____ Other Inst.#: I.O.____

Surveyed for: Transwestern Pipeline Company

MNM Proj. #_____ UTM: Zone:12 E 514140 N 3906640

Legal Description: T 0 R 0 Sec. 0, 1/4 of the 1/4 of the 1/4

Unplatted:X Grant: Owner & Address: Navajo Nation
PO Box 689 Window Rock, AZ 86515

Map Reference: East of Leupp Date: 1986 Scale: 7.5

County: Coconino State: AZ

Nearest Named Drainage: Cotton Creek Wash
Direction: NW Distance: 4023m

Nearest Potential Water (type of source, permanence, direction, distance):
Little Colorado River, spring and occasional, 4500 S

Azimuths to recognized landmarks: See pumping station map

Site Type: Lithic unknown

Site Size: Length: 134m N/S Width: 121m E/W Elevation (ft): 4755
Method of measurement: M (M=measured, T=triangulated, P=paced)

Is there another site close by (Y/N)? Y
LA or Field ID#: OCA 10-3

Access:
The site is located east of the Leupp Compressor Station #3. Access to the site is easy. Blading on all sides of the pumping station provide surfaces that a city vehicle can travel.

OCA Field No. 010- 4

Is additional legal/UTM/elevation information required (Y/N)?: N, if yes:

Topographic Codes, in order of importance at site: 18

1=arroyo/wash	10=flood plain/ valley bottom	18=plain/flat	27=lava flow
2=base of cliff		19=playa	98=other
3=bench	11=hill top	20=ridge	
4=blowout	12=hill slope	21=saddle	
5=canyon rim	13=low rise	22=base talus slope	
6=cave	14=mesa	23=talus slope	
7=cliff/scarp	15=mountain	24=terrace	
8=constricted cyn	16=mt. front/foothill	25=alluvial fan	
9=dune	17=open canyon floor	26=badlands	

Exposure: 180 degrees Slope: 1 degrees Ground surface visibility: 90 %

Local Vegetation (in order of dominance):
1) Grasses 2) 4-wing saltbush 3) Tumbleweed

4) 5) 6)

factors effecting vegetation (chaining, recent fires, over-grazing, etc):
Over-grazing, blading disturbance related to plant operation

Ecological Zone: Desert scrubland

Ecological Code: 5
1=forest 2=woodland 3=scrubland 4=grassland 5=desert scrub 6=marshland 8=other

Soil Type (rocky, gravelly, sandy, clayey, other, or mixture of types):
Clay and sand

Local Outcrops (sandstone, shale, limestone, basalt, tuff, other):
None

Nature and Depth of fill: 10 cm.
Colluvial

Condition of Site: H A=intact B=grazed C=eroded D=inundated(seasonal)
E=inundated(permanent) F=mech. disturbance G=vandalized H=combined effects
J=urbanized K=destroyed X=other (discussion in remarks section)

other natural impacts:
None

other artifical impacts:
None

National and/or State Register Status: 10 (see codes below)

1=On State Register
2=On National and State Register
3=Recommended for National by State, on State Register
4=Recommended for National and State Register
5=In District, National and State
6=In District, National
7=In District, State
8=Recommended and rejected
9=Informal opinion, site may be eligible
10=Insufficiently evaluated, potential unknown
11=Not nominated
12=Not recommended

Was prior work done on this site (Y/N)? N if yes, describe below:

Mitigation: 1 1=avoid 2=monitor 3=test 4=excavate 5=not required

Record Form: Surv. Forms X Excav. Forms Sketch Map X Photos X

Loc. of Forms, Maps, Photos: Office of Contract Archeology, UNM

Artifact Density: 100's (0, 10, 100, 1000)

Surface and/or Subsurface Collections (Y/N)?: N
Strategy (if yes):

Items collected:

Location of any Collected Artifacts:
Note: any prior collections are discussed above, under prior work

Photographs:

Black & White	Roll No:	1	Exposures:	1
Color	Roll No:	0	Exposures:	

Number of Temporal Components: 1

(Earliest to Latest)
Note: see remarks section for detailed discussion of features, diagnostics, component functions, and method of dating for all components.

Temporal Component (1)

Brief list of ARMS features:
Lithic scatter
Culture: Lithic Unknown Period: Unknown Phase: Unknown
Site Function: Lithic reduction and tool manufacture Best Date: Unknown
Method of Dating (diagnostics):
No diagnostics

Temporal Component (2)

Brief list of ARMS features:

Culture: Period: Phase:
Site Function: Best Date:
Method of Dating (diagnostics):

Temporal Component (3)

Brief list of ARMS features:

Culture: Period: Phase:
Site Function: Best Date:
Method of Dating (diagnostics):

Additional Temporal Components:

OCA Field No. 010- 4

Published Reference:

Date: January 1990

Institution: Office of Contract Archeology

Author and Title: Schutt, J.A. An Archeological Survey of Three Parcels Adjacent to the Thoreau, Leupp, and Klagetoh Compressor Stations

Remarks:

The site is located on a colluvial plain that is relatively flat with a slight exposure to the south (1 deg). The Little Colorado River lies 4500 m to the south providing an occasional water source. Vegetation is sparse throughout the area. When present it is dominated by grasses, saltbush and Russian thistle (tumbleweed).

The site is heavily disturbed but appears to represent lithic reduction and formal tool manufacture. A large range of materials were recovered from the sample area (6), these include fossiliferous chert, various chert and jasper, quartzite and chalcedony.

The site exhibits evidence of surface mechanical disturbance limiting the potential for spatial studies using surface data. The perimeter of the site however can be defined. The range of raw materials and evidence for various reduction and manufacturing technologies indicate the site may contain good research potential. Avoidance is therefore recommended.

Transwestern: Site Lithic Data

---------- Field Site Number=4 Provenience=1 Sample Type=Flag ----------

Lithic Type	Condition	Material Type	Cortex	Length	Width	Thickness	Platform Type
flake	distal	Quartzite, fine grain	none	0	0	3	N/A
flake	complete	Chert, pink	none	15	30	14	single facet
flake	complete	Chert, pink	none	42	40	5	cortical
angular debris	N/A	Chert, pink	21-30%	0	0	0	N/A
flake	complete	Chert, pink	91-100%	35	40	15	cortical
flake	distal	Quartzite, fine grain	none	0	0	15	N/A
flake	complete	Chert, pink	none	35	30	8	collapsed
angular debris	N/A	Quartzite, fine grain	51-60%	0	0	0	N/A
angular debris	N/A	Chert, pink	61-70%	0	0	0	N/A
angular debris	N/A	Quartzite, fine grain	21-30%	0	0	0	N/A
flake	medial	Chert, pink	none	0	0	3	N/A
flake	proximal	Chert, pink	none	0	0	5	single facet
flake	medial	Chert, pink	none	0	0	2	N/A
flake	complete	Chert, pink	none	28	25	7	cortical
flake	medial	Chert, pink	none	0	0	3	N/A
angular debris	N/A	Quartzitic sandstone	11-20%	0	0	0	N/A
flake	complete	Chert, pink	none	35	30	10	cortical
flake	medial	Chert, pink	51-60%	0	0	7	N/A
flake	complete	Chert, pink	none	25	7	7	cortical
flake	complete	Silicified Wood	none	50	40	20	single facet
flake	complete	Chert, pink	21-30%	38	27	7	collapsed
flake	medial	Chert, pink	none	45	40	12	N/A
angular debris	N/A	Chert, pink	1-10%	0	0	0	N/A
flake	complete	Chert, pink	none	12	5	3	multi-facet
flake	complete	Chert, pink	none	22	10	5	single facet
core-bifacial	unknown	Chert, black	11-20%	40	30	35	N/A
angular debris	N/A	Chert, pink	none	0	0	0	N/A
angular debris	N/A	Chert, pink	none	0	0	0	N/A
angular debris	N/A	Chert, pink	none	0	0	0	N/A
core-bifacial	unknown	Quartzite, fine grain	41-50%	40	40	25	N/A
flake	complete	Chert, pink	none	5	5	2	multi-facet
flake	complete	Jasper	none	12	13	5	multi-facet
angular debris	N/A	Chert, pink	none	0	0	0	N/A
flake	complete	Chert, pink	none	20	7	4	collapsed
angular debris	N/A	Quartzite, med/coarse	71-80%	0	0	0	N/A
angular debris	N/A	Chert, pink	none	0	0	0	N/A
flake	distal	Chert, pink	none	0	0	5	N/A
flake	medial	Chert, pink	none	0	0	4	N/A
angular debris	N/A	Chert, pink	none	0	0	0	N/A
flake	medial	Chert, pink	31-40%	0	0	0	N/A
flake	medial	Chert, pink	none	0	0	7	N/A
flake	complete	Chert, pink	1-10%	55	28	10	single facet
flake	complete	Chert, pink	none	23	25	15	single facet
flake	medial	Chert, pink	81-90%	0	0	18	N/A
flake	complete	Chert, pink	none	32	27	4	collapsed
flake	complete	Chert, pink	none	35	40	4	cortical
flake	medial	Chert, pink	none	0	0	10	N/A
flake	complete	Quartzite, fine grain	none	32	13	5	cortical
angular debris	N/A	Chalcedony, other	11-20%	0	0	0	N/A
flake	medial	Quartzite, fine grain	none	0	0	15	N/A
flake	proximal	Chert, pink	51-60%	0	0	14	multi-facet

Transwestern: Site Lithic Data

---------- Field Site Number=4 Provenience=1 Sample Type=Flag ----------
(continued)

Lithic Type	Condition	Material Type	Cortex	Length	Width	Thickness	Platform Type
flake	complete	Chert, pink	1-10%	24	32	10	single facet
flake	medial	Chert, pink	none	0	0	10	N/A
flake	complete	Chert, pink	51-60%	30	20	15	single facet
flake	complete	Chert, pink	11-20%	27	45	13	cortical
flake	medial	Chert, tan	none	0	0	28	N/A
flake	complete	Chert, pink	11-20%	50	60	30	single facet
flake	complete	Chert, pink	61-70%	40	20	18	cortical
flake	complete	Chert, pink	51-60%	35	42	15	single facet
flake	distal	Chert, pink	none	0	0	3	N/A
flake	complete	Chert, tan	none	32	22	15	cortical
flake	medial	Quartzitic sandstone	11-20%	0	0	20	N/A
flake	complete	Quartzite, med/coarse	none	45	30	18	cortical
angular debris	N/A	Chert, pink	21-30%	0	0	0	N/A
flake	complete	Chert, pink	none	16	10	3	retouched
flake	medial	Chert, pink	none	0	0	7	N/A
flake	proximal	Chert, pink	91-100%	45	70	15	cortical
angular debris	N/A	Chert, pink	none	0	0	0	N/A
angular debris	N/A	Quartzite, fine grain	none	0	0	0	N/A
core-irregular	unknown	Quartzitic sandstone	11-20%	60	55	40	single facet
angular debris	N/A	Chert, pink	none	0	0	0	N/A
flake	medial	Chert, pink	none	0	0	5	N/A
flake	distal	Chert, pink	none	0	0	10	N/A
flake	complete	Chert, pink	91-100%	130	75	80	cortical
flake	proximal	Chert, pink	none	0	0	6	cortical
flake	medial	Quartzite, med/coarse	21-30%	0	0	5	N/A