

AD-A251 048



DTIC
S ELECTE D
JUN 2 1992
C

(2)

A CULTURAL RESOURCE INVENTORY OF THE INDIAN SPRINGS LANDFILL EXPANSION PROJECT AREA

**INDIAN SPRINGS AIR FORCE AUXILIARY FIELD
CLARK COUNTY, NEVADA**

By

Kathleen Ann Bergin
Principal Investigator

92-14347

December 1991

Funded by Nellis Air Force Base, Nevada

Report Available through National
Technical Information Service (NTIS),
Washington, D.C.

ENVIRONMENTAL SOLUTIONS, INC.

92 6 01 027

REPORT DOCUMENTATION PAGE	1. REPORT NO.	2.	3. Recipient's Accession No.
4. Title and Subtitle A Cultural Resource Inventory of the Indian Springs Landfill Expansion Project Area. Indian Springs Air Force Auxiliary Field, Clark County, Nevada.			5. Report Date December 1991
7. Author(s) Kathleen Ann Bergin			6.
9. Performing Organization Name and Address Environmental Solutions, Inc. 21 Technology Drive Irvine, California 92718			8. Performing Organization Rept. No. —
12. Sponsoring Organization Name and Address Department of the Air Force Nellis Air Force Base Las Vegas, Nevada 89181-5000			10. Project/Task/Work Unit No.
			11. Contract(C) or Grant(G) No. (C) CX8003-0-001 (G)
			13. Type of Report & Period Covered Final Archaeological Technical Report
			14.
15. Supplementary Notes Project Administered by the National Park Service, Western Region, San Francisco, California.			
16. Abstract (Limit: 200 words) Environmental Solutions, Inc. conducted archival research and an intensive pedestrian survey for historic properties within the Indian Springs Landfill Expansion project area. Encompassing approximately 16,288 m ² , the project area is situated within the Indian Springs Air Force Auxiliary Field, north of the town of Indian Springs in Clark County, Nevada. As a result of the research a single property was found: prehistoric site 26CK4700. This site is a small aboriginal camping locus situated at the northwestern periphery of the project area. Site avoidance is recommended. If avoidance cannot be accomplished, a subsurface testing program is recommended to determine if chronological data and artifacts occur within the dispersed hearth feature.			
17. Document Analysis a. Descriptors b. Identifiers/Open-Ended Terms Archaeology Mojave Desert Indian Springs Nellis Air Force Base Prehistory Hearth Feature Campsite c. COSATI Field/Group			
18. Availability Statement:		19. Security Class (This Report)	21. No. of Pages 33
		20. Security Class (This Page)	22. Price

A CULTURAL RESOURCE INVENTORY OF THE INDIAN SPRINGS LANDFILL EXPANSION PROJECT AREA

INDIAN SPRINGS AIR FORCE AUXILIARY FIELD
CLARK COUNTY, NEVADA

By:

Kathleen Ann Bergin
Principal Investigator

Submitted By:

Environmental Solutions, Inc.
21 Technology Drive
Irvine, California 92718

December 1991

Submitted in Partial Fulfillment of
Contract No. CX8003-0-0011
U.S. Department of the Interior
National Park Service, Western Region
Interagency Archeological Services Branch

Funded by Nellis Air Force Base, Nevada

Report Available through National
Technical Information Service (NTIS),
Washington, D.C.

Accession For	
NTIS	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	



The views and conclusions contained in this document should
not be interpreted as necessarily representing the
official policies or interpretations,
either expressed or implied,
of the U.S. Government.

ABSTRACT

Environmental Solutions, Inc. conducted archival research and an intensive pedestrian survey for historic properties within the Indian Springs Landfill Expansion project area. Encompassing approximately 16,288 m², the project area is situated within the Indian Springs Air Force Auxiliary Field, north of the town of Indian Springs in Clark County, Nevada. As a result of the research a single property was found: prehistoric site 26CK4700. This site is a small aboriginal camping locus situated at the northwestern periphery of the project area. Site avoidance is recommended. If avoidance cannot be accomplished, a subsurface testing program is recommended to determine if chronological data and artifacts occur within the dispersed hearth feature.

TABLE OF CONTENTS

	<u>PAGE NO.</u>
ABSTRACT	i
LIST OF TABLES/LIST OF FIGURES	iii
1.0 INTRODUCTION	1-1
2.0 ENVIRONMENTAL SETTING	2-1
2.1 Geology and Geomorphology	2-1
2.2 Flora	2-1
2.3 Fauna	2-2
2.4 Hydrology	2-2
3.0 RESEARCH DESIGN	3-1
3.1 Management Objectives	3-1
3.2 Research Objectives	3-2
3.3 Research Methods	3-3
3.3.1 Archival Search and Data Review Method	3-3
3.3.2 Pedestrian Survey Method	3-4
3.3.3 Property Documentation and/or Recordation Method	3-4
4.0 RESEARCH RESULTS	4-1
4.1 Results of the Archival Research	4-1
4.2 Results of the Fieldwork	4-5
5.0 CONCLUSIONS AND RECOMMENDATIONS	5-1
5.1 Research Conclusions	5-1
5.2 Management Conclusions	5-2
5.3 Recommendations	5-3
6.0 REFERENCES CITED	6-1
APPENDIX A: SITE LOCATION MAPS (CONFIDENTIAL)	
APPENDIX B: SITE RECORD (CONFIDENTIAL)	

TABLE OF CONTENTS (Continued)

LIST OF TABLES

<u>TABLE NO.</u>	<u>TITLE</u>	<u>PAGE NO.</u>
4.1	Previously Recorded Sites in Project Vicinity, Indian Springs Landfill Expansion Project	4-3

LIST OF FIGURES

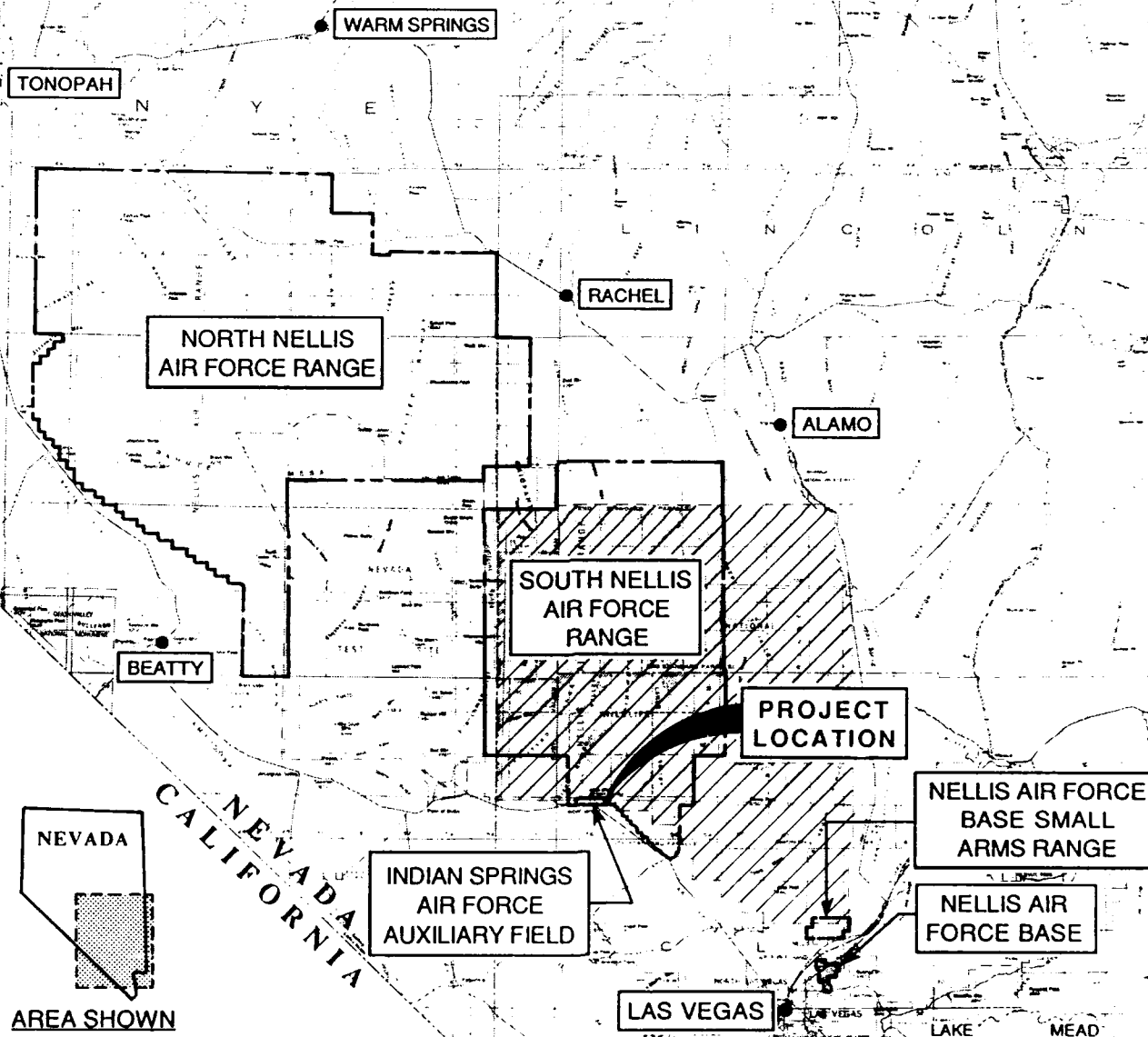
<u>FIGURE NO.</u>	<u>TITLE</u>	<u>PAGE NO.</u>
1.1	Project Region	1-2
1.2	Project Vicinity	1-3
1.3	Project Location	1-4
4.1	Plan View of Site 26CK4700	4-6

1.0 INTRODUCTION

Environmental Solutions, Inc. conducted an intensive pedestrian survey for archaeological, historical, and other types of cultural properties within an area proposed for landfill expansion by Nellis Air Force Base, Nevada. The survey area lies within the Nellis Air Force Base military reservation which covers over 12,150 km² (three million acres) in Nye, Lincoln, and Clark counties, Nevada (Figure 1.1). The Indian Springs Landfill Expansion project is situated about 26 miles northwest of Las Vegas, Nevada, north of the Town of Indian Springs (Figure 1.2). The project location is at the northeastern extreme of the Indian Springs Air Force Auxiliary Field, adjacent to and north of the existing solid waste disposal landfill (Figure 1.3). This location is within Township 16 South, Range 56 East, the NE1/4 of the NW1/4 of Section 37 (irregular), Mount Diablo Base and Meridian (Appendix A).

The Indian Springs Landfill Expansion project required the survey of an approximate 128X128 m area, incorporating 16,388 m² (4 acres). On 12 February 1991, the survey was completed by two archaeologists walking parallel linear transects at 20 m intervals. Kathleen Bergin served as Principal Investigator and Project Archaeologist; Anne DuBarton provided survey support. A single archaeological property was encountered during the survey--an aboriginal hearth feature.

The Indian Springs Landfill Expansion project was sponsored by the U.S. Air Force (USAF), Nellis Air Force Base (NAFB), Nevada. It was administered by the National Park Service, Western Region, as Delivery Order No. CX8003-0-0011 under the basic contract for archaeological services at Nellis Air Force Base, Contract No. CX8000-0-0011. Ms. Mellownee Bassett served as Contracting Officer. Technical Direction was provided by the Contracting Officer's Representative (COR), Mr. Mark Rudo, with the Interagency Archeological Services Branch of the National Park Service.



0 40 80 KILOMETERS

SCALE

0 25 50 MILES

SCALE

NOTE: CROSS-HATCHED AREA IS THE DESERT NATIONAL WILDLIFE RANGE.

REFERENCE: 1:500,000 U.S.G.S. MAP OF THE STATE OF NEVADA, COMPILED IN 1962 AND REVISED IN 1984.

FIGURE 1.1

PROJECT REGION

INDIAN SPRINGS LANDFILL EXPANSION PROJECT
NELLIS AIR FORCE BASE PROGRAM

ENVIRONMENTAL SOLUTIONS, INC.

89-277C/ISLTR REV. 5/29/91

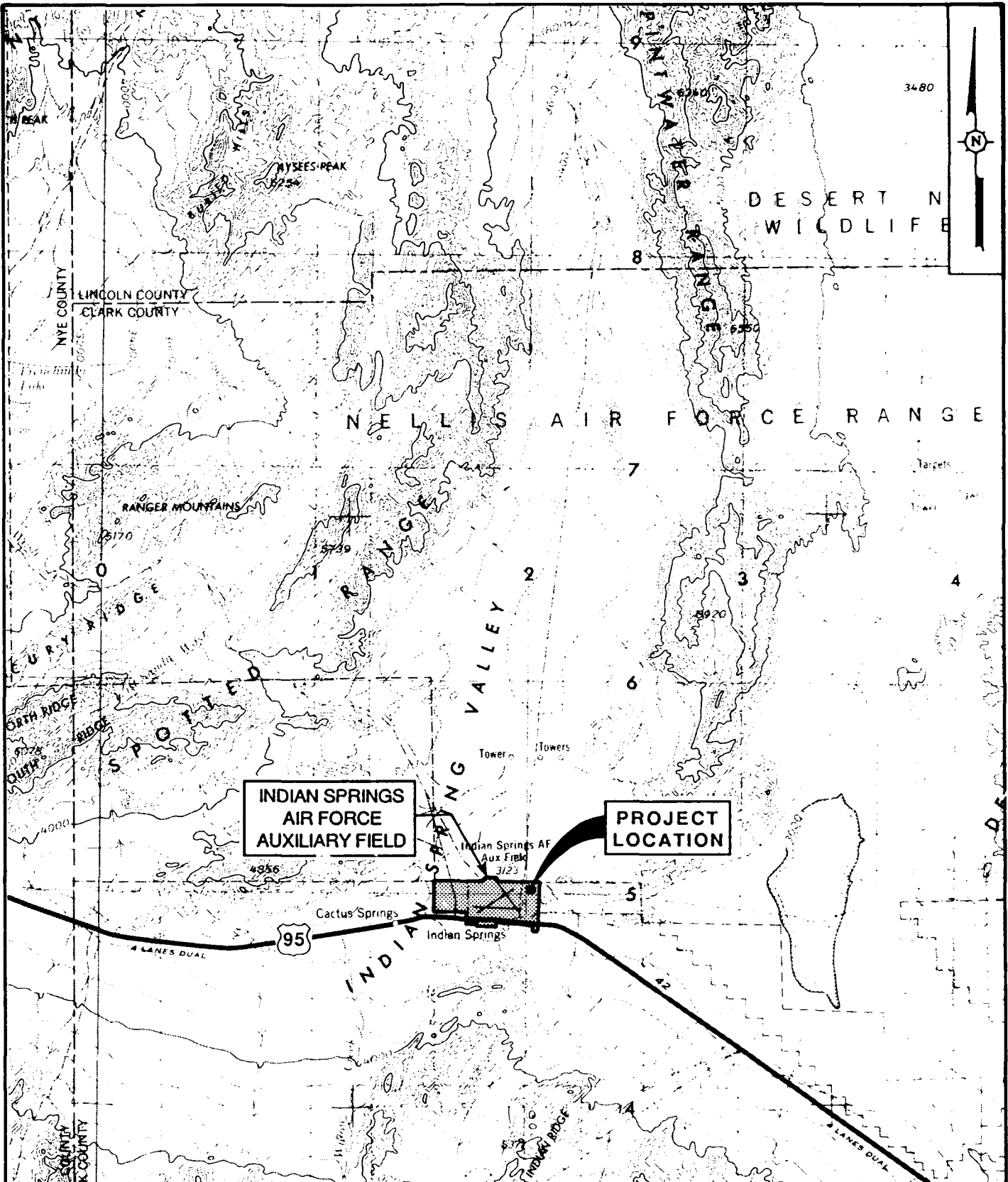


FIGURE 1.2

PROJECT VICINITY

INDIAN SPRINGS LANDFILL EXPANSION PROJECT
NELLIS AIR FORCE BASE PROGRAM

ENVIRONMENTAL SOLUTIONS, INC.

REFERENCE: 1:250,000 U.S.G.S. TOPOGRAPHIC MAP OF LAS VEGAS, NEVADA.
DATED 1954 AND REVISED 1969.

89-277C/SLTR REV. 6/18/91

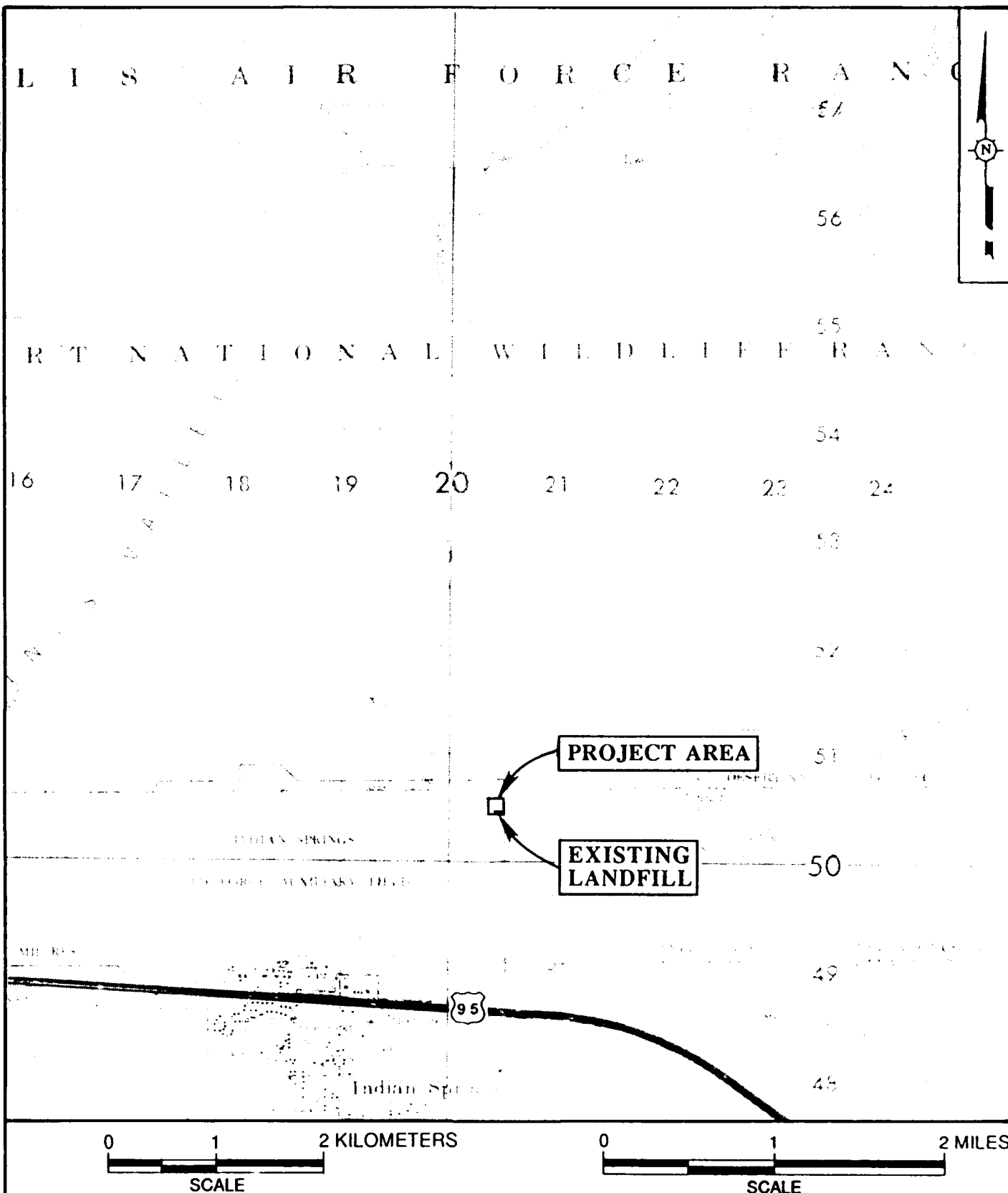


FIGURE 1.3

PROJECT LOCATION

INDIAN SPRINGS LANDFILL EXPANSION PROJECT
NELLIS AIR FORCE BASE PROGRAM

ENVIRONMENTAL SOLUTIONS, INC.

REFERENCE: DMATC MAP OF INDIAN SPRINGS, CLARK COUNTY,
NEVADA. ROAD DATA, 1976. OTHER INFORMATION, 1973

2.0 ENVIRONMENTAL SETTING

The Indian Springs Landfill Expansion project area lies near the floor of Indian Springs Valley. The project area is disturbed, especially in the southern one-half in and near the existing landfill and along the eastern perimeter, which is bounded by a north-south dirt culvert and a raised perimeter road.

2.1 GEOLOGY AND GEOMORPHOLOGY

The project area is situated on a bolson landform at an approximate elevation of 940 m (3,080 feet) above mean sea level (amsl) in Indian Springs Valley. The project area presents typical playa characteristics. The soil deposit is fine grained, being composed of silts and clays with a very minor amount of sand. Clasts larger than sand-sized are rare to absent in frequency. Desiccation cracks/polygons, characteristic of playas, are present throughout the surface of the project area.

Indian Springs Valley is bounded on the east by the Pintwater Range and on the west by the Spotted Range. Foothills and bedrock outcrops of the Pintwater Range approach to within 2 km of the project area. Indian Springs Valley is a structural rather than erosional feature: it was formed by the depression (downdropping) of the valley floor relative to the surrounding mountain ranges.

The limestone/dolomite matrix of the Pintwater and Spotted ranges contains scattered cherts in blebs and lenses (cf. Ekren et al. 1971:9). Native populations harvested these cryptocrystalline quartz materials from the alluvial deposits originating in these ranges. These materials, which occur as cobbles in the alluvial deposits, were used for biface, uniface, and flake tool production. The density and distribution of the aboriginal lithic reduction activities (sites) related to this type of toolstone source correlate to the availability and location of lithic raw materials in the alluvial deposits (cf. Bergin 1979; Crownover 1981; Blair and Calos 1987; Durand et al. 1988). Also available in these deposits are limestone/dolomite clasts, favored by indigenous populations for hearths and roasting pits, and minor amounts of additional toolstone such as quartzite, felsite, rhyolite and metabasalt.

2.2 FLORA

The project area has experienced ground disturbance, especially in the vicinity of the existing landfill and along the project area perimeters where road development has occurred. Due to these conditions, both ruderal and indigenous vegetation occur in the survey area.

Ruderal species noted include the invasive exotics, tamarisk (*Tamarix* sp.) and Russian thistle (*Salsola kali*). These species are most notable along the eastern project boundary where runoff from the raised road flows into a north-south culvert that supports these species. Also observed in this area was catclaw (*Acacia greggii*). Russian thistle was not limited to the eastern perimeter, but instead was found wherever soil disturbance was apparent, generally in and surrounding the existing landfill trench and in association with roads, culverts, or excavated soils.

Native vegetation of the project area is typical of low elevation saltbush environments. Saltbush species, notably four-wing saltbush (*Atriplex canescens*) and cattle spinach (*A. polycarpa*) predominate, especially *Atriplex canescens*, while creosote bush (*Larrea tridentata*) and bursage (*Ambrosia dumosa*) occur in negligible amounts. Vegetation is generally sparse and low-growing in the project area, yielding good survey visibility. Shrubs are 5-10 m apart and less than 1 m tall. In the central portion of the project area, however, a dense and robust concentration of *Atriplex canescens* occurs. Individual plants average 1.2-1.5 m in height in this locale, and plants are less than 0.3-0.4 m apart. Surface visibility in this area was poor.

2.3 FAUNA

Fauna observed during the field survey were limited to insects and lizards. Rodent holes and badger burrows were noted; rabbit pellets were abundant. The survey was accomplished during the midmorning to the midafternoon on a single day. Observations biased by this timeframe yield nonrepresentative inventories of the faunal population.

2.4 HYDROLOGY

No sources of permanent water are available in the project area, but a dependable, perennial source is located a short distance away, south of U.S. Highway 95. Indian Spring, situated approximately 3.5 km south-southwest of the project area, was a significant focus of settlement during ethnographic times and earlier. In addition, Cactus Spring is found approximately 6.5 km to the west-southwest, and Heavens Well, also a perennial spring, can be found approximately 8 km to the northeast.

Water pools on the bolsons and playa of Indian Springs Valley seasonally or after precipitation. While these pools would enhance the robustness and, perhaps, the diversity of local vegetation, they cannot be considered to sustain a source of potable water.

3.0 RESEARCH DESIGN

Archaeological research for the Indian Springs Landfill Expansion project was undertaken to address both management and research objectives. The specific need to conduct archaeological research in the project area originated with the Air Force decision to expand the existing landfill in the Indian Springs Air Force Auxiliary Field. Consistent with federal regulations for the protection of historic properties (36 CFR Part 800), a site identification effort was undertaken by Environmental Solutions, Inc. to identify those significant properties that may be affected by the proposed expansion. The Secretary of the Interior's Standards and Guidelines (National Park Service 1983) were adhered to for the research, which included both archival and field efforts. The following sections of this chapter review the management and research objectives and the methods employed to meet these objectives.

3.1 MANAGEMENT OBJECTIVES

Archival and field research of the project area were designed to achieve the following management goals:

- Identification of all historic properties that may be affected by the landfill expansion project. The identification and evaluation of historic properties is the first step in the Section 106 process, as required by the National Historic Preservation Act of 1966, as amended, and implemented by the 36 CFR Part 800 procedures. Constraints on complete resource identification result from poor surface visibility in a limited area of the property where dense *Atriplex* cover exists. The majority of the project area exhibited sparse, low-growing vegetation, yielding excellent survey conditions.
- Ascertainment of the presence of significant or potentially significant properties in the project area. The Criteria for Evaluation (36 CFR Part 60.4) for eligibility to the National Register of Historic Places (NRHP) is the standard used for determination of resource significance. The project can have an effect on only those properties listed or determined eligible for listing in the NRHP, and it is a regulatory requirement to evaluate potentially affected properties during the first step of the Section 106 process. This objective, therefore, would provide a list of eligible and potentially eligible properties that would need additional research to document the site and assign it to an appropriate historic context.
- Assessment of the potential for effects to occur to the identified properties as a result of the landfill expansion project. This information would then be available for use in project planning so that either redesign or other mitigation measures could be developed to avoid or lessen impacts to significant properties, or other action could be undertaken to determine if sites would be affected.

- Synthesis of the database relative to cultural resource management requirements and development of recommendations for future efforts needed to complete the Section 106 process.

3.2 RESEARCH OBJECTIVES

The research objectives for the survey and inventory effort are as follows:

- Synthesis of existing information and field data to develop a uniform archaeological database for the project area.
- Characterization of the internal organization of any identified site to the degree possible using archival and field survey data. This objective fulfills data requirements that are applicable both to the documentation of sites for the evaluation of their eligibility for NRHP listing and to the placement of sites within specific historic contexts that bring to the forefront the potential of a property or district of properties to make a vital contribution to the resolution of significant research questions. Basic questions addressed for this research include the following:
 - What is the horizontal and vertical distribution of the site (site area, dimensions, and depth)?
 - What data classes (information sets) are represented at the site? What is the density of data within these information sets? How are these information sets distributed within the site?
 - Does the site contain horizontal or vertical stratigraphy indicative of discrete site components?
 - What evidence is present for the chronological ordering of the sites or site components?
 - What impacts exist to each site's contextual integrity? What effect, if any, do these physical impacts have on the research applicability of the site?
 - What is the environmental setting of the site?
- Characterization of the type, distribution, and density of historic properties in the project area, with attention to the following questions:
 - Do site clusters exist in the project area? If so, what explanation for such clustering can be proposed?
 - What site types are represented in the project area?
 - Do the different site types demonstrate differential distributions on the landscape? If so, do correlations in landform or in environmental zone exist between site type and distribution?
 - Do site types or the frequency of sites and site types change through time?

3.3 RESEARCH METHODS

The purpose of the research was the identification of historic properties that may be affected by the proposed project. Two methods were employed to accomplish the identification task. These were an archival records check and an intensive pedestrian survey. The methods used for identification are described below, and the research results are described in Chapter 4.0. The method employed for site recordation is also reviewed in this chapter.

3.3.1 ARCHIVAL SEARCH AND DATA REVIEW METHOD

An archival records search was conducted at the Archaeological Information Center located at the University of Nevada, Las Vegas. This information center is the official repository and clearinghouse for all archaeological information in Nye, Lincoln, Clark, and Esmeralda counties. In addition, the Bureau of Land Management, Las Vegas, was contacted for additional archived data and Federal Register volumes were reviewed for National Register properties listed, determined eligible for listing, or pending nomination/eligibility.

The archival searches yielded information on:

- Previously-surveyed tracts within or near the area of potential effect (APE).
- Intensity of previous survey efforts.
- Previously-recorded properties within or near the APE.
- Characteristics of previously recorded properties.
- Dates of previous surveys, technical reports, and report authors.

The archival records searches resulted in the identification of previously recorded properties near the APE. Property types ranged from sparse lithic scatters to toolstone exploitation and reduction loci to historic trash scatters and possible residences.

The archival records searches also yielded information on the intensity of previous survey coverage in or near the APE. Field survey efforts have been undertaken in the general project area for about 13 years, but much of the early work does not meet the current BLM standards for intensive survey. Work conducted in the late 1970s and early 1980s (Bergin 1979; Crownover 1981) was accomplished with a 50 m transect interval, while current standards call for a maximum 30 m transect interval.

3.3.2 PEDESTRIAN SURVEY METHOD

The intent of an intensive survey effort is to provide 100 percent visual coverage of the surface of the ground. This is normally accomplished by adhering to a grid pattern of survey consisting of parallel linear transects surveyed at a set interval. For the research of the Indian Springs Landfill Expansion project, survey personnel walked linear transects spaced at approximately 20 m intervals. Parallel transects were accomplished except in the limited area of dense vegetation cover, where zig-zag transects were completed at a reduced traversed interval. Perimeter transects were flagged with surveyor's tape or biodegradable toilet tissue to assure maintenance of the survey method. The survey personnel consisted of two archaeologists; the principal investigator and the field/laboratory director.

During the survey, an area of known or predictable archaeological sensitivity received more intensive inspection. This locale occurred at the northern perimeter of the survey area where loci of previously recorded site 26CK3872 are situated in near proximity to the current survey area.

The survey team proceeded across the terrain on foot and searched for indications of past human habitation or use on the landscape or in soil profiles. For aboriginal properties, such evidence includes chipped stone debitage and tools, ground stone tools or tool fragments, burnt rock, bone and/or shellfish fragments, and soil discoloration or other features such as rock alignments, trails, soil mounds, or depressions. For historic Euroamerican properties, evidence of past habitation or use includes fragments or samples of glass, porcelain, metal, cut wood, domestic or other animal bone with saw cuts or other mechanical butchering marks, non-native vegetation, and features such as foundations, trash dumps, fence lines, and others.

3.3.3 PROPERTY DOCUMENTATION AND/OR RECORDATION METHOD

When evidence of cultural habitation or use was located during the field survey, the transect interval was contracted to provide more intensive coverage of the locale. The goals of the intensive effort were to accomplish the following to the degree possible given the restrictions of vegetation and topography on visual examination:

- Determine site boundaries.
- Determine the range of data classes present.
- Determine data frequency.
- Determine if loci or concentrations of cultural material occur onsite (internal site organization).
- Determine the potential for subsurface deposits.
- Record environmental setting including biotic community, landform, and geology.

- Record impacts to the property (site integrity).
- Sketch the site, its internal structure, and impacts.
- Record or verify the site's location on the appropriate U.S.G.S. topographic map and DMATC topographic map.

For any newly discovered properties, official IMACS inventory forms were to be completed (see Appendix B). A record for the one newly recorded site was submitted to the Information Center in Las Vegas with a request for the assignment of an official Smithsonian number. Information routinely recorded for chipped stone items includes:

- Material
- Color
- Presence or absence of cortex
- Size category

4.0 RESEARCH RESULTS

4.1 RESULTS OF THE ARCHIVAL RESEARCH

The archival search and literature review yielded information on the inventoried areas in the project vicinity and the type, distribution, and significance of previously recorded sites in the project vicinity. The project area had not previously been surveyed for cultural materials, and no sites were known within the Indian Springs Landfill Expansion project boundaries. Previous goal-specific research in the project region has been ongoing at very minimal levels since the 1960s, when Pintwater Cave (Site 26CK253), a listed National Register eligible property, was initially investigated by the University of California, Los Angeles (Susia 1964).

During 1978, the southern Nellis ranges were sampled as part of an overall cultural resource study of the Nellis Bombing and Gunnery Range undertaken in support of an Environmental Impact Statement addressing the continued withdrawal of public land for Air Force use (Bergin 1979). A 5 percent survey of the "surface-use areas" of the South Base ranges, which includes the terrain immediately surrounding the Indian Springs Landfill Expansion project area, was completed by the Museum of Natural History, University of Nevada, Las Vegas, and a large number of sites and isolates were recorded. Recorded site types include small temporary camps with hearth features and lithic scatters, which predominate. The lithic scatters are frequently the result of opportunistic toolstone testing, procurement, and initial reduction of chert and other cobbles incorporated within the desert pavements and alluvial fans of the Pintwater and Spotted ranges.

Further project-specific research was conducted in the south Nellis ranges in 1980 as part of a base-wide inventory of targets and support facilities (Crownover 1981). Also conducted by the Museum of Natural History, University of Nevada, Las Vegas, for Nellis Air Force Base, this effort resulted in the recording of 136 sites and isolates in the southern portion of Range 65, which is located north of the Indian Springs Landfill Expansion project area, near the southern extreme of Indian Springs playa. This effort also recorded 230 sites and isolates in Range 63, which is situated in the southern portion of Three Lakes Valley, east of the Indian Springs Landfill Expansion project area. Most of the sites recorded are temporary camps, comprising hearths and scattered artifacts, and lithic scatters ranging from individual chipping stations to large, internally-patterned scatters of debitage, cores, and a few tools. The pottery examined (6 sherds) was identified as Puebloan, and the diagnostic projectile points (16 of the 41 located) were identified as Lake Mojave, Elko, Gypsum, and Rose Springs types. These results indicate occupation of the project vicinity from the Lake Mojave period (10,000-5,000 B.C.) into protohistoric times (A.D. 500-1200), and that the area was used during late prehistory by Puebloan

peoples, whose primary population center was located at the confluence of the Muddy and Virgin rivers, approximately 80 miles northeast of Las Vegas, Nevada. Ethnographic records (Kelly 1964; Euler 1966; Knack 1980) and additional archaeological evidence indicate subsequent use of the Indian Springs area by the Southern Paiute and other Numic-speaking peoples well into the historic period.

More recently, two smaller survey efforts were conducted in the immediate vicinity of the project area, and seven sites were recorded (Table 4.1). The first survey was conducted in the National Guard exercise area of Range 65 by the Environmental Research Center, University of Nevada, Las Vegas, and site 26CK3872 was recorded (Blair and Calos 1987). Using a combination of intensive and sample survey methods, approximately 4 km² (1,002 acres) were examined within a 5.6 km² (1,390 acre) area proposed for development as a tank training facility. The location had previously been used for tank training exercises for more than 15 years.

Site 26CK3872 is a large, internally-patterned toolstone quarry that represents the opportunistic exploitation of nodules of chert, chalcedony, quartzite, rhyolite, and basalt that are available in the alluvial deposits originating in the Pintwater Range. The abundance of such nodules, important for prehistoric tool manufacture, vary across the alluvial deposit, and it is their spatial availability that influenced the location of quarrying and lithic reduction activities. Hammerstones, tested cobbles, cores, and early stage debitage and bifaces were noted at the property. Artifact density ranged from 0 to over 50 artifacts per 1 m². In addition, one rock circle and a nearby rock cairn were reported, and a yellow chert pressure-flaked tool, tentatively identified as a crescent or Great Basin Transverse projectile point, was located about 50 m south of the rock circle/rock cairn locus. Site boundaries could not be determined during the survey of the proposed tank facility project area, but the recorded portion is estimated to be 3.5-4.0 km² in area. Based on the survey data, site 26CK3872 was evaluated by the report author as containing sufficient information potential to warrant eligibility for listing in the National Register of Historic Places.

The second recent survey in the immediate project vicinity was completed within the Indian Springs Air Force Auxiliary Field by the Desert Research Institute, University of Nevada System, and six sites were recorded (Durand et al. 1988). Three proposed road corridors, two of which intersected, were surveyed west and south of the Indian Springs Landfill Expansion project area.

TABLE 4.1
PREVIOUSLY RECORDED SITES IN PROJECT VICINITY
INDIAN SPRINGS LANDFILL EXPANSION PROJECT

SITE NO.	SITE TYPE ⁽¹⁾	NATIONAL REGISTER ELIGIBILITY STATUS	RECORDER AND DATE	REFERENCE
26CK3872	P - Cobble Toolstone Quarry with Two Rock Features	Eligible	Blair and Calos Nov-Dec 1987	Blair and Calos 1987
26CK3906	P - Lithic Scatter H - Trash Scatter	Eligible	Reno and Dojaquez 22 Feb 1988	Durand et al. 1988
26CK3907	P - Isolated Obsidian Biface and Biface Thinning Flake (collected)	Not Eligible	Reno 22 Feb 1988	Durand et al. 1988
26CK3908	P - Chert Biface Thinning Flake (collected) P - Three Chert Flakes (collected)	Not Eligible	Reno and Dojaquez 22 Feb 1988	Durand et al. 1988
26CK3909	P - Opalized Chert Biface Thinning Flake (collected)	Not Eligible	Reno and Garrett 22 Feb 1988	Durand et al. 1988
26CK3910	P - Chert Flake (collected)	Not Eligible	Reno and Garrett 22 Feb 1988	Durand et al. 1988
26CK3911	P - Chert Flake (collected)	Not Eligible	Reno and Garrett 22 Feb 1988	Durand et al. 1988

89-277C (6/19/91/dms)

- (1) P represents prehistoric or aboriginal remains.
H represents historical or Euroamerican remains.

The recorded properties include five sites containing only one or two flakes each (sites 26CK3907, 26CK3908, 26CK3909, 26CK3910, and 26CK3911) and a multicomponent site (site 26CK3906) (Table 4.1). The five small sites were not considered eligible for National Register listing and were collected in their entirety. Site 26CK3906 comprises a prehistoric lithic scatter of primarily chert flakes and an historic trash scatter.

Situated within 1 km of the Indian Springs Landfill Expansion project area, the lithic scatter component of site 26CK3906 is estimated to have a density of 0.36 items per 1 m², and the observed sample is representative of core reduction and tool preparation activities. A stage 1 and a stage 2 biface were noted as was a wide range of debitage from initial reduction through pressure flaking stages. The historical component is a domestic trash scatter estimated to date to the 1930s (Durand et al. 1988:13). In addition to nails and leather fragments, over 50 historic artifacts were observed including aqua-colored window glass, five green crown-cap beverage bottles, a variety of cans, glass jars, porcelain, and other items.

The boundaries of site 26CK3906 were not determined during the fieldwork. The site covers the entire 210X250 m area surveyed. The historic component is limited to an approximate 40X15 m area in the southern one-quarter of the survey area. Site integrity has been adversely affected by a bulldozer cut, which runs through the center of the property. Only one item, a tin can, was collected from this property during the fieldwork. The site was recommended for National Register eligibility as an element of the historic record of Indian Springs settlement, which is not well-documented due primarily to disturbance of archaeological deposits in proximity to the spring (Durand et al. 1988:17).

In addition to the field research efforts reported above, a number of small cultural resource surveys were conducted within or adjacent to the townsite of Indian Springs with negative or minimal results. These include efforts for the Indian Springs Prison Facility (Rolf 1979; Brooks 1980), the Indian Springs Roadway right-of-way (Rolf 1980), a power line right-of-way (Liebhauser 1981), realty exchanges or concerns (Martin 1980; Rafferty 1982; Sparks 1984; Zale 1985), a seismic line right-of-way (Ellis and Ferraro 1979), and a Nevada Department of Transportation (NDOT) highway improvement (NDOT 1987). In 1986, the Desert Research Institute conducted two surveys near the Indian Springs Air Force Auxiliary Field, and three isolated artifacts were observed (Simmons and Lockett 1986; Simmons and Orser 1986).

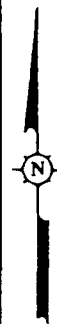
4.2 RESULTS OF THE FIELDWORK

The intensive pedestrian survey of the Indian Springs Landfill Expansion project area resulted in the identification of a single historic property. Site 26CK4700 (temporary designation KB-1) is an aboriginal hearth feature located at the northern perimeter of the defined project area. Situated at an elevation of 942 m on fine-grained playa-like sediments, the hearth is found in an area of very sparse and low-growing *Atriplex*. The fire-affected rocks from the hearth are dispersed over a 2.3X2.6 m area encompassing about 5 m² (Figure 4.1). Contextual integrity of the site is considered to be good despite the dispersal of the hearth stones due to natural erosion processes. In addition to natural erosion, tracked vehicle scars are apparent at the site perimeter.

The approximately 70-100 rocks that comprise the feature are predominantly angular, fractured limestone or dolomite with an orange/brown cast. Some rocks have a caliche coating, indicating the surface that was originally in contact with the ground or rocks that were derived from a bedded source. The cobble-sized rocks used for the hearth are not available in the immediate project environment, which is characterized by silt, clay, and sand-sized clasts. The cobble-sized clasts at site 26CK4700 were probably derived from the alluvial deposits of the Pintwater Range, which approach the project area from the east. Blebs and lenses of chert and other raw materials are available in the limestone/dolomite deposits of the Pintwater Range and its alluvium.

The nearby site 26CK3872 and numerous other historic properties reported by Bergin 1979; Crownover 1981; and Durand et al. 1988 yield evidence of the incidental aboriginal testing and exploitation of suitable toolstone cobbles available in the alluvial deposits. The presence of hundreds of small temporary camps, as interpreted from the recorded occurrence of hearths similar to site 26CK4700 (Bergin 1979; Crownover 1981), indicate the significant occurrence of episodic short-term occupations of the valley floors by small groups of people, perhaps nuclear families or goal-specific task groups, whether intensively over a short period of time, consistently over a more extended time frame, or a combination of both.

Site 26CK4700 fits within the recorded pattern of aboriginal use of the project vicinity, including the south Nellis ranges. Small hearths on or near the valley floor have been repeatedly recorded, but no further research of this archaeological pattern has been undertaken. While descriptive data are available, research on chronology, site occupants, and tasks undertaken from the camps has not been undertaken. Lack of knowledge concerning archaic use of the southern Nevada region is recognized as a significant data gap in the Nevada Historic Preservation Plan (Lyneis 1982:167-176). While descriptive information is available, analytical information and data syntheses are lacking.



LEGEND

- CHERT LITHIC
- DENSEST AREA OF FIRE-AFFECTED ROCK

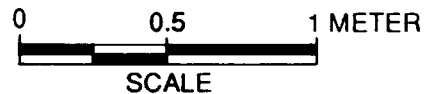


FIGURE 4.1

PLAN VIEW OF SITE 26CK4700

INDIAN SPRINGS LANDFILL EXPANSION PROJECT
NELLIS AIR FORCE BASE PROGRAM

ENVIRONMENTAL SOLUTIONS, INC.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The archival records search and intensive pedestrian survey for the Indian Springs Landfill Expansion project area resulted in the identification of prehistoric site 26CK4700. Survey conditions were excellent, except for one localized area of dense vegetation where surface visibility was restricted. More intensive survey methods were conducted in this area to assure adequate coverage. The survey, therefore, succeeded in identifying any cultural property with surface manifestations in the landfill project's APE.

5.1 RESEARCH CONCLUSIONS

Site 26CK4700, an aboriginal camping locus, is one of hundreds of similar sites recorded on the Nellis military reservation, especially the southern ranges. Typically situated along or near playa shorelines, or actually on the lakebeds, this settlement type is considered to represent short-term occupations by nuclear families or small activity-specific task groups seeking to exploit locally available resources. Perhaps early green shoots, insect larvae, or another commodity was exploited from site 26CK4700 in the early spring, when food became scarce after the depletion of stored foods in winter camps, and individual families dispersed in search of subsistence. The presence of exploitable toolstone materials within walking distance of the camp may have contributed to the logistical siting of the property.

While so many sites of this type have been recorded, their chronology, cultural affiliation(s), and function in regional settlement and subsistence systems are poorly known. This situation is largely due to the lack of data synthesis concerning this property type as well as to the lack of data recordation or collection (including subsurface testing) subsequent to resource identification. Property avoidance is a favored mitigation measure, one that serves to maintain site integrity and the archaeological database and to minimize the cost of development projects. However, an effect of this mitigation practice is that pertinent data have not been derived from site treatment programs to address these data gaps and to facilitate the development of appropriate historic contexts that would serve to integrate these settlements into significant regional research goals. In addition, federal agencies charged with property identification and evaluation tasks under Executive Order 11593 place low priority on such tasks due to their need to stretch yearly budgets to accomplish their primary missions and other prioritized tasks. Therefore, data analyses and syntheses that could have been generated under initiatives other than project-specific goals remain unaccomplished. Data gaps related to the archaic record of human occupation in southern Nevada remain unaddressed.

Site 26CK4700 was additionally examined to determine if it could be considered an extension of the previously-recorded site 26CK3872. It was determined that the camping locus was sufficiently distant, and functionally distinct, from site 26CK3872 to warrant a separate site number. However, the small and widely dispersed loci of site 26CK3872 situated along the road survey portion of this previously-recorded property may actually represent activity loci related to the camp at 26CK4700 rather than peripheral cultural activities associated with the toolstone exploitation site 26CK3872. The road survey loci were conveniently incorporated into the larger site during the previously completed survey, but the surrounding terrain could not be examined for potentially associated cultural materials due to the constraints of this previous project. Linear surveys tend to identify site fragments without the opportunity to define site context.

5.2 MANAGEMENT CONCLUSIONS

Site 26CK4700 is considered eligible for inclusion in the National Register of Historic Places as an element of a district of similar settlements capable of addressing archaic use of low-elevation environments during prehistory. As noted in the Nevada Historic Preservation Plan, "Archaic peoples were non-sedentary hunters and gatherers, and so left a scanty and dispersed archaeological record. Small groups that move frequently leave modest debris scatters from which the organic remains and other perishable items quickly disappear. The archaic is largely overlooked in cultural resource surveys" (Lyneis 1982:174). Lithic scatters are characteristic archaic remains, and, in the Nellis military reservation these site types are joined by abundant small camping loci similar to the property recorded.

The hearth features are considered to be significant because they have the potential to provide chronological controls to associated cultural materials. Such data can then be extrapolated (with additional hypotheses testing and analyses) to provide chronological boundaries on sites, such as lithic scatters, that display raw materials and lithic reduction technologies similar to artifacts found in association with the hearths.

It is unknown at this time if site 26CK4700 contains suitable materials for establishing chronology. A limited testing program would need to be completed to determine if such significant data were present. If such a program were conducted, both radiocarbon and archaeomagnetic means of establishing chronology should be considered. For radiocarbon analysis, a large sample of soil should be subject to flotation analysis to allow recovery of carbon of small particle size that may be present in the archaeological deposit.

Because site 26CK4700 demonstrates the potential to address a data gap defined in the Nevada Historic Preservation Plan, it is considered eligible for inclusion in the National Register of Historic Places under criterion (d) of 36 CFR Part 60.4 "Properties that have yielded or may be likely to yield information important in prehistory or history." The site's value, however, is more strongly seated in its consideration as an element of a widespread pattern of similar settlements that characterize the archaic use of the southern Nevada region. Such settlements have consistently been recorded, but remain unknown due to lack of further research and data syntheses.

5.3 RECOMMENDATIONS

It is recommended that site 26CK4700 be avoided during landfill expansion, but no other portion of the project area requires special consideration for cultural resources. Since this property is located at the periphery of the project area and the landfill is likely to be expanded incrementally to the west and north, it is probable that site 26CK4700 can be avoided. Figure A.3 in Appendix A illustrates the area to be avoided to assure maintenance of the contextual integrity of the site.

If site 26CK4700 cannot be avoided, it should be tested to determine the range and quality of data available at the property. This level of documentary information would be needed to meet the Secretary of the Interior's Standards and Guidelines for Evaluation and to satisfy documentation requirements for properties evaluated for eligibility to the National Register.

Consistent with 36 CFR Part 800.11, which addresses the management of historic properties discovered during project construction or implementation, if previously unidentified historic properties are discovered during landfill expansion, damage to the properties should be avoided or minimized, and the Environmental Management Division, Nellis Air Force Base (TFWC/EM), should be notified immediately. No further project-related activities in the discovery area should be undertaken until the procedures outlined at 36 CFR Part 800.11 are completed.

6.0 REFERENCES CITED

- Bergin, Kathleen Ann
 1979 *Final Report on the 1978 Archaeological Investigations of the Nellis Air Force Bombing and Gunnery Ranges, Nye, Lincoln, and Clark Counties, Nevada or Site-Seeing on the Range: A Compendium*. Archaeological Research Center Report Number 1-8-3. Archeological Research Center, Museum of Natural History, University of Nevada, Las Vegas.
- Blair, Lynda M. and Peter J. Calos
 1987 *A Cultural Resource Inventory of the National Guard Licensed Area on Range 65 Near Indian Springs, Clark County, Nevada*. Division of Anthropological Studies Report Number 1-13-1. Environmental Research Center, University of Nevada, Las Vegas.
- Brooks, Richard H.
 1980 *A Cultural Resource Investigation of the Proposed Nevada State Prison Site Near Indian Springs, Clark County, Nevada*. Archaeological Research Center Report Number 2-3-12. Archaeological Research Center, Museum of Natural History, University of Nevada, Las Vegas.
- Durand, Stephen R., Ronald L. Reno, and Alvin McLane
 1988 *Archaeological Survey and Evaluation of Six Parcels on Nellis Air Force Base, Lincoln, Clark, and Nye Counties, Nevada*. Cultural Resources Report Number 88-1. Social Sciences Center, Desert Research Institute, University of Nevada, Reno.
- Ekren, E.B., R.E. Anderson, C.L. Rogers, and D.C. Noble
 1971 *Geology of the Northern Nellis Air Force Base Bombing and Gunnery Range, Nye County, Nevada*. *Geological Survey Professional Paper 651*.
- Ellis, Robert and David Ferraro
 1979 *Cultural Resources Survey for Seisdata Services Inc. Seismic Lines 1, 2, 3, and 8, Clark County, Nevada*. Archaeological Research Center Report Number 5-25-5. Archaeological Research Center, Museum of Natural History, University of Nevada, Las Vegas.
- Euler, Robert C.
 1966 *Southern Paiute Ethnohistory*. *University of Utah Anthropological Papers 78*.
- Kelly, Isabel T.
 1964 *Southern Paiute Ethnography*. *University of Utah Anthropological Papers 69*.
- Knack, Martha
 1980 *Ethnographic Overview of the Amargosa-Mojave Basin Planning Units*. *IN A Cultural Resource Overview for the Amargosa-Mojave Basin Planning Units*, by Claude N. Warren, Martha Knack and Elizabeth von Till Warren, pp. 137-192. Cultural Resources Publications: Archaeology, Bureau of Land Management, Riverside.
- Liebhauser, William J.
 1981 *12-5 kV Aerial Powerline R/W N30598*. Cultural Resources Report Number 5-772(N). Bureau of Land Management, Las Vegas, Nevada.

Lyneis, Margaret M. (Editor)

- 1982 An Archaeological Element for the Nevada Historic Preservation Plan. Nevada Division of Historic Preservation and Archaeology.

Martin, Beverly L.

- 1980 N-25225, R&PP Application, VFW Post 8857. Cultural Resources Report Number 5-593(N). Bureau of Land Management, Las Vegas, Nevada.

National Park Service

- 1983 Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. *Federal Register*: Notices, 48(190):44716-44740.

Rafferty, Kevin

- 1982 Northern California and Nevada Districts of the Assembly of God Proposed R&P. Cultural Resources Report Number 5-1103(N). Bureau of Land Management, Las Vegas, Nevada.

Rolf, Stanton

- 1979 Proposed Indian Springs Prison Facility. Cultural Resources Report Number 5-543(N). Bureau of Land Management, Las Vegas, Nevada.
- 1980 Indian Springs Roadway R/W N-27763. Cultural Resources Report Number 5-617(N). Bureau of Land Management, Las Vegas, Nevada.

Simmons, Alan H. and Cari Lockett

- 1986 *A Cultural Resources Survey at Nellis Air Force Base, Indian Springs, Nevada*. Desert Research Institute Short Report Number CK86-1. University of Nevada, Reno.

Simmons, Alan H. and Lori L. Crser

- 1986 *A Cultural Resources Survey of a Proposed Munitions Facility, Nellis Air Force Base, Indian Springs, Nevada*. Desert Research Institute Short Report Number CK86-2. University of Nevada, Reno.

Sparks, David

- 1984 R&PP Lease/Purchase Application N38127. Cultural Resources Report Number 5-1338(N). Bureau of Land Management, Las Vegas, Nevada.

Susia, Margaret L.

- 1964 Tule Springs Archaeological Surface Survey. *Nevada State Museum Anthropological Papers* 12.

Zale, Thomas F.

- 1985 R&PP Application N41004. Cultural Resources Report Number 5-1420. Bureau of Land Management, Las Vegas, Nevada.