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Obsidian Clovis point from the Coal Valley Water Gap, Southeastern Nevada (drawing by John Zancanella).

Nevada Archaeological Association

Nevada Archaeologicai Association



The design for the NAA logo was taken from a Garfield Flat petroglyph by Robert Elston.

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Manuscripts submitted to the Nevada Archaeologist should follow the style guide of the January, 1979 issue of American Antiquity. Manuscripts should be typed and double spaced throughout, including notes and bibliography, and illustrations should be camera-ready with a caption typed on a separate sheet of paper, also double-spaced. Something less than these standards will be accepted reluctantly if what you have to say is more important than the format expressed above.

More manuscripts relating to Nevada archaeology and anthropolgy, in general, are solicited.

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ON ROCK ART

As promised on the editorial page of the last issue of the *Nevada Archaeologist* (Volume 4, No. 2), additional information on minimal standards for recording art sites is presented herein. The standards are those developed by the American Committee to Advance the Study of Petroglyphs and Pictographs, and were compiled by B.K. Swartz, Jr. and nine contributors. Their work was summarized in *Datum, Heritage Conservation Branch Newsletter*, Volume 6, No. 2, by Doris Lundy of the British Columbia Provincial Museum, Victoria, British Columbia, and her permission to reprint the standards here is gratefully acknowledged.

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MINIMUM RECORDING STANDARDS PROPOSED BY THE AMERICAN COMMITTEE TO ADVANCE THE STUDY OF PETROGLYPHS AND PICTOGRAPHS

It is impossible to prepare a universal, objective set of standards for recording petroglyphs and pictographs. Data collected often relate to specific problems being investigated. Much of the data is not objective by nature --but is observational or contextual. Also, strictness of standards should vary by site fragility and accessibility. A deteriorating petroglyph 100 miles from permanent settlement, encountered by a solitary archaeologist doing survey work in rugged wilderness, requires different treatment than one scheduled for imminent demolition by highway construction or petroglyph that is thoroughly stabilized. The following standards are minimal and based on non-returnable, transitory, single visits to friable surface localities. Important recording opportunities, such as the relation of the season and time of day with face-light exposure for photographic enhancement, are not always available. Broad, regional archaeological observations should be made in concert with specific petroglyph recordings.

In deciding which techniques to apply in a particular case, one's goal should be optimal data recording with minimal resource destruction. Methods requiring surface pressure, application or insertion, such as painting (aluminum powder, tempera, etc.), tracing, rubbing, molding or grid-anchoring, cannot be universally condoned and should not be attempted on friable surface markings. These approaches can break down the basic rock structure or may contaminate or alter the surface, distorting potential trace-element studies. Also, direct transfer records demand greater storage space. Chalking should never be done; water spraying, especially of pictographs, should not be done unless there is no doubt that panel is scheduled for destruction.

Various photographic techniques are stressed, since they are documentary in nature and do not require physical contact. Careful photographic work and draughtsmanship are probably sufficient for basic petroglyph and pictograph recording, but easy-to-record additional metric data should be included to provide useful comparative information.

Five types of petroglyph-pictograph records should be made.

1. FACE RECORDING FORM

Metric data (objective) Site and face (or panel) designation Face datum Face dimensions (straight) Face dimensions (surface) Direction of face (in degrees, compass, check for magnetic distortion, iron in rock, etc.) Inclination of face (in degrees, plumb bob and protractor) Height of base of face from ground Height of top of face from ground (check over-hangs, boulder tops, etc.) Discrete design element designation and dimensions Distances between design elements Distance of design element data from face datum Range of line width (for each discrete design element and each style) Range of line depth (for each discrete design element and each style, petroglyphs) Cross-section of lines (for each discrete design element and each style, petroglyphs Colors including rock surfaces (Munsell Color Chart, pictographs) Hardness of rock (Moh Scale) Observational data (descriptive) Vandalism Natural defacement (e.g. erosion of surface, waterlines, lichen, patina, smoke blackening, etc.) Old ground surfaces Superpositions Type of rock Conformation of rock (cracks, holes incorporation, etc.) Wear surface (e.g. carved, cut, engraved, pecked, ground or abraded, rubbed, drilled, secondary smoothing, etc. for petroglyphs; or brushed, daubed, blown, stencilled, etc. if a pictograph)

II. PHOTOGRAPHS

Take a large number of photographs. especially if in inaccessible regions. both fine-grained black and white, and. especially for pictographs, externally coupled color (Kodachrome) film with a Macbeth ColorChecker. Avoid using internally coupled film, even if truer color is rendered. Vary exposure and angles, take close-ups, use slidelighting, experiment with filters, and panoramas from site and of site. Photograph everything, attempt to use constant distances and systematic coverage and record procedure. Keep records of photographs with site and face designations. Scales are optional if face dimensions are recorded and may clutter photographs. Black and white negatives should be fully processed chemically -- not machine processed. Developed color film should be sent to a professional laboratory for processing. Store prints in acid-free envelopes.

III. DRAWINGS

Make drawings to a consistent scale. Work with pencils, so you may revise. Use a different color for each technique of rendering, style, or pigment if pictograph, and to note by "drawing over" superpositions. Learn important design element conventions, note offsetting in designs. Do not assume the markings are art, and avoid interpretive preconceptions. Record all markings, including "graffiti." If at all possible, have two or more persons make drawings independently. Though comparable information is on Face Recording Form include scale, directional indicator and site and face designations on each drawing.

IV. MAP

The map should show relationship of faces within sites, and of sites to each other, unmarked boulders, trails, other significant landforms, data points (preferably from GS bench marks) to map, site and face, directional indicator, and complete field numbering of sites and faces.

V. GENERAL DESCRIPTION

Mention the geomorphology of the area, landforms, e.g. routes, passes, washes, etc., site situation, e.g. river valley cliff, cave, mountain top, distribution of plant cover, location of other archaeological sites in the area, cultural associations (portable and non-portable), especially diagnostic and decorated remains such as points and pottery, tools or materials that may have been used to produce the markings. Note unique features of the surroundings. This section can be refined and standardized by eventual comparison of such accounts in varied areas.

Future conservation recommendations may be made based on site uniqueness, condition and location, i.e. ignore (initate no policy-keep from public), protect (barriers, fences, grilling, security system), restore, stabilize (impregnation, coating), or salvage (further, more intensive recording if being destroyed).

Compiled by: B.K. Swartz, Jr. Contributors: V.E. Richard Baravalle, Georgia Lee, Doris Lundy, William Breen Murray, Karen Nissen, Joseph J. Snyder, James L. Swauger, Christy G. Turner II, Sharon L. Warner.

The American Committee to Advance the Study of Petroglyphs and Pictographs was organized in 1979-1980. It is composed of approximately 41 scholars. The Committee recognizes the fact that professional archaeologists have long neglected rock art research, and it seeks in part to rectify that situation.

The foregoing paper on minimum recording standards was one of the initial projects of the Committee.

Doris Lundy, Canadian Rock Art Research Associates, Exhibits Division, British Columbia Provincial Museum, Victoria, British Columbia V8W 1A1.

AMATEUR ARCHAEOLOGISTS SPEAK . . . Tiny Points from the Carson and Humboldt Sinks

bу

Norma and Herb Splatt

When arrowhead collectors of northwest nevada get together, talk often gets around the the tiny points of the Carson and Humboldt Sinks. The reference to tiny points pertains to any projectile point measuring 18.5 mm or less and weighing under 0.7 g. Robert Kelly (1983:33-36) has recently discussed these tiny points and has tentatively termed them "Carson Projectile Points." Mary Rusco (Rusco and Davis 1983:185-187) also has discussed miniature points from the Rye Patch Reservoir project, designating the points "Rye Patch Miniatures". The descriptive characteristics of Rusco's small point, however, differ noticably from the tiny points reported herein. The smallest miniature point described by Rusco is larger than the largest "tiny" point we have examined. Other descriptions of tiny points are included in Fenenga and Riddell (1949) and Tuohy (1963).

Looking through several amateur collections, we find the tiny points were recovered almost exclusively in the Humboldt and Carson Sink areas. They tend to be most similar to Elko and Rosegate series points in shape. The few found outside those two areas seem to be similar to Cottonwood Triangular or Desert Side Notched types. In some amateur collections there are very few tiny points; in others they run as high as 20% of the collection. I can think of two reasons for this. First, some people can easily miss such small artifacts. Second, in many cases there is a heavy concentration of tiny points, so if one is found, many more are likely to be spotted.

This report is about one site we have recorded, designated 26Ch769 in the Nevada State Museum site file. We know well over 100 tiny points were collected within the site area. We have 90 projectile points cataloged. The site is at an elevation of 3900 feet and it about 100 yards from Big Indian Lake, which is an artificial lake made by damming a part of the Lahontan irrigation drainage system.

The site is sand-covered interdune area with a moderate amount of vegetation. It measures about 200 by 250 feet. The surface has been somewhat disturbed. We know of at least one Search and Rescue Squadron camp-out on this site during a weekend of practice maneuvers. We did not dig any test pits, but a careful checking of tire ruts and rodent holes leads us to believe that it is only a surface site.

The unusual aspect of this site is that the only artifacts found are the tiny points, a few small flakes of chert and tiny chips of obsidian; yet camp sites within a 500 yard radius have produced many types of projectile points, shell beads, and ground stone.

The points on the site described herein are not concentrated in one spot, but are lightly dispersed over the whole site. This seems to rule out burials or a cache, unless at one time this was a sand dune that has shifted, leaving a one-time concentration now widely dispersed. Ninetyfive per cent of the projectile points in this site are of obsidian. A few flakes are of chert, but there are quite a number of tiny obsidian flakes. Could this have been a final finishing spot? If so, why are so many tiny projectile points still found there?

The tiny points are very weather worn, but one can still tell the ones that are fully chipped from the ones with only one edge chipped. The accompanying table shows the proportions of types of chipping, material, and apparent type of projectile point.

We have come to no conclusion as to the age or use of these tiny artifacts. Our hope is that we can encourage other collectors to come forward with any information they may have on tiny projectile points so that some day archaeological researchers may find some answers. The apparent tendency for these distinctive artifacts to occur in clusters suggests some functional pattern, but much more information on the distribution and associations of these points is needed for meaningful analysis to be possible.

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- Rusco, Mary K. and Jonathan O. Davis 1981 The Humboldt project, Rye Patch archaeology Phase IV - final report. <u>Nevada State Museum</u> <u>Archaeological Services Reports.</u> Carson City.
- Tuohy, Donald R.
- 1963 Archaeological survey in southwestern Idaho and northern Nevada. <u>Nevada State Museum</u> <u>Anthropological Papers</u>, Number 8. Carson City.



Figure 1. Three miniature points found in a typical Stillwater playa site. Such sites usually contain groundstone fragments, many waste flakes, and Desert Side-notched projectile points. These miniature points are Desert Side-notched also, but they differ in size, are finely-chipped, and show very little weathering. These differences suggest a possible different period of time and useage.

TABLE 1. Descriptive data on tiny projectile points.

SITE	CHIPPING			M	MATERIAL		POSSIBLE TYPES			SIZE		
	Full	Full Side	One Only	Edges Only	Obsi- dian	Chert	Elko	Rose- Gate	Cotton- wood	Un- known	Over 18.5 mm	Under 18.5 mm
26Ch769	58	13		19	87	3	41	43	2	4	1	89
Canvas- back Gun Club					21	17	21	14	3	0	0	38
Total	58	12		19	108	20	62	57	5	4	I	127

Total Sample Size: 128

26ch 769

Figure 2. Miniature points from site 26Ch769, a site located near Big Indian Lake in the Carson Sink, Churchill County, Nevada. CLOVIS PROJECTILE POINTS FROM LAHONTON RESERVOIR AND THE NEVADA TEST SITE, NEVADA

by Ronald L. Reno Desert Research Institute, Reno

A Clovis Projectile Point Found at Lahonton Reservoir, Lyon County, Nevada

On September 6, 1975 I recorded a fluted projectile point on the edge of Lahonton Reservoir in Lyon County, Nevada. Due to the high probability that the site would be disturbed by wave action or by collection by amateurs this artifact was collected; the collection location was permanently marked, and a site form completed. The artifact is curated at the Nevada State Museum in Carson City.

The site is located on the south side of the Dead Camel Mountains at an elevation of 4130 feet (Fig. 1). It is about 90 meters downslope of the high water line on a sand beach that is inundated annually. At present, only a sparse scatter of small willows occur on the beach. This area was covered by low shrubs before the construction of the dam and reservoir.

Unfortunately, the projectile point appears to be an isolate. A basalt mano was found about 10 meters from the location of the Clovis point two months after collection of the projectile point, but this association could easily be accidental since artifacts of widely different ages are commonly found along the shoreline. An extensive search in undisturbed sediments upslope of the find failed to disclose any locations where artifacts were eroding into view.

The projectile point is made of a very fine grained dark red chert. It weighs 16.3 grams, is 5.9 cm long, 3.3 cm wide, and 0.75 cm thick (Fig. 2). Both lateral edges of the artifact near the base as well as the concave base display steep retouch and abrasion. Both the dorsal and ventral surfaces of the point are deeply fluted. The fluting was done primarily by the removal of one large flake from each surface, although several smaller flakes contributed to the thinning of the point

at its base and were used to shape the concave edge. The cross-section of the point is lenticular in the portion anterior to the fluting. This crosssection is ideal for fluting purposes, as it provides the craftsman with dorsal and ventral ridges to guide the course of the flutes.

Most of the flaking that can now be seen on this point is of comparatively recent origin. The base of the point is distinctly more weathered than the anterior portion. The reworked edge is still very sharp and ragged, far too much so to have been residing in a relatively loose sand matrix for thousands of years. Also, several of the recent flakes override the fluting scars.

The tip is truncated by a large number of short steep flake scars that terminate in hinges or steps in most cases. These scars occur on both faces of the artifact, indicating a powerful blow from the front aligned on the long axis. Flake scars from the reworking of the anterior portion of the artifact predate the blow that demolished the front of the point.

Although there is no doubt this projectile point is a Clovis, there is no reason to believe that it was deposited at the find spot in PaleoIndian times. In this case, the evidence suggests that the Clovis point actually was curated as a Shoshonean or late Archaic artifact in the context of the site where it was found. Such a remarkable artifact could easily have been re-used by a long succession of people and found its way by trade over long distances.

<u>A Clovis Projectile Point from the</u> Nevada Test Site, Nye County, Nevada

On January 29, 1983, Dennis Bill collected a fluted projectile point base from a portion of a large lithic scatter that occurs on both sides of Fortymile Wash, which drains into the Amargosa Desert, Nye County, Nevada. This collection was being performed by the Desert Research Institute to clear an area for a large gravel pit to serve the needs of the proposed Nevada Nuclear Waste Storage Facility on nearby Yucca Mountain. This site (26Ny3193) and others along the wash, collectively called the Fortymile Wash Quarry, are characterized by on-the-spot reduction of alluvial cobbles of red/brown welded tuff, obsidian, and various cherts into bifacial tools (Pippin, Clerico, and Reno 1982:63-64). Many of the projectile points found along the wash are Great Basin Stemmed Series artifacts, although the chronology of the surface remains is somewhat confused by the presence of smaller numbers of more recent point types.

The Clovis is made of very fine grained white altered tuff (Fig. 3). This tuff is heavily desert-varnished in comparison with debitage of the same material type at the site. It is deeply fluted on both surfaces and heavily edge-ground. The only complete measurement for the specimen is the width, which is 31.5 mm. Partial length is 29.2 mm and it weight 6.3 grams. The break in the projectile point has been used as the striking platform in an aborted attempt to rework the artifact.

Test pits at this and other terrace sites in the area indicate that while a number of artifacts are commonly found subsurface, at this time there is no indication that they are a result of anything more than turbation (Pippin 1984:228). Unfortunately, although several distinct activity areas have been defined on the site, preliminary results do not indicate that the Clovis point can be reliably associated with any of them.

Only one other basally thinned Clovis-like point has been found in the immediate vicinity. This banded chert artifact was found by Donald G. McGuffin at the McKinnis Site (26Ny218) which is located in Fortymile Canyon about 13 miles upstream of Site 26Ny3193 (Worman 1969:33). There is presently no indication that either of these points are more than isolates. Although some of the lithic debris occurring nearby may be associated with the point, such an association cannot yet be demonstrated. It also may be that the association of the Clovis point and the Great Basin Stemmed points is not fortuitous, but this also cannot be proven at this time

on the basis of the data we have from the sites tested so far.

References

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 - 1982 An Archaeological Reconnaissance of the NNWSI Yucca Mountain Project Area, Southern Nye County, Nevada. <u>Social Sciences Center</u> <u>Publication</u> No. 28. Desert Research Institute, Reno.
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 - 1969 Archaeological Investigations at the U.S. Atomic Energy Commission's Nevada Test Site and Nuclear Rocket Development Station. LA-4125,UC-2, General, Miscellaneous and Progress Reports, TIDO-4500. Los Alamos Scientific Laboratory of the University of California, Los Alamos.



Figure 1. Location of Clovis projectile point find spot at Laborton Reservoir.



Length	57.8	mm
Width	33.0	mm
Thickness	7.5	mm
Weight	16.3	g

Figure 2. Clovis projectile point from the Lahontan Reservoir, Lyon County, Nevada (sketch by Shelly Moore).



Figure 3. Two views of a Clovis projectile point from the Nevada Test Site, Nye County, Nevada.

CLOVIS POINT FROM COAL VALLEY WATER GAP, SOUTHEASTERN NEVADA*

by Richard M. Ryan Desert Research Institute, Reno

The Coal Valley Water Gap Clovis point (Fig. 1) was recovered by Desert Research Institute archaeologists during an inventory and clearance survey for seismic exploration in October, 1984 (Ryan and Reno 1984). Water Gap is BLM land in southeastern Nevada and has a rather unique natural setting. The Golden Gate Range provides a division that separates two large basins, Coal and Garden Valleys. The basin floors of the two valleys do connect, however, through a spectacular break in the Golden Gate Range known as Water Gap. Through this opening an alluvial plain joins the bottoms of Coal and Garden Valleys. The narrow passage is a conduit for humans and animals alike to transit the two valleys. The Clovis point was collected at 5,200 feet (1,485 m) from the bottom of a single dry wash which passes through Water Gap into Coal Valley. For a detailed prehistory of Coal and Garden Valleys refer to Busby (1979) as listed in the references.

The tip of the projectile point has been broken and subsequently reworked. A large flake scar begins at the tip of the point and continues toward the base for nearly a third of the point's total length (Fig. 1). This flake scar is an impact flute, the result of end shock at time of breakage. One lateral edge of the point near the base has been ground, and the corresponding lateral edge is naturally flat, being a surface left from the blank stage. Both fluting flakes taken from the base left flake scars which terminate in a hinge fracture. Cross flake scars are parallel, broad, and were produced by well controlled percussion. The point has very little fine retouch, and shows little evidence of stream rounding, considering that it is made of obsidian and came from the bottom of a wash. Obsidian waste flakes observed just upstream in the wash also were very little water-worn. From these

observations the inference is made that the artifacts have not been transported for a great distance over a long period of time in the wash. It appears likely that the obsidian artifacts have come out of the side walls of the wash in a recent slump. Also it was observed that most of the surface artifacts in Water Gap are chert, while those found in the wash are obsidian. Two dark organic lenses deep in the wash wall stratigraphy were noted near the find spot of the Clovis point. Whether this charcoal was produced by human activity and is associated with the artifacts remains to be determined.

Clovis points have been dated roughly around 9,000 B.C., which is within the final surges of the Pleistocene, or Ice Age, near the beginnings of the Holocene (modern times). Hence, the Clovis culture has been variously referred to as "Pleistocene Man, Ice Age Man, Wisconsin Man, Glacial Man," and so on. It is agreed, although not unanimously, that Clovis was a hunting society. The Rancholabrean Megafauna of the Ice Age included Casteroides, a large beaver weighing 450 lbs., Mylodon, the giant ground sloth, elephants, including Mammut and Mammuthus, horses, camels, tapirs, numerous large cats, and Arctodus, an enormous bear with speed far greater than that of modern species. At that time, the Great Basin enjoyed a climatic regime radically different from that of today. At present, Water Gap receives six to ten inches of annual rainfall and is considered semi-arid. During the glacial epoch it was markedly wetter. For example, the barren playa of Coal Valley then held a pluvial lake. The principal feeder stream which maintained this 69 squaremile freshwater lake was the now dry Water Gap Wash. Furthermore, at higher latitudes in the Great Basin, Bristlecone Pine and other subalpine conifers descended, thus dominating the vegetative types to near pluvial levels (Thompson and Mead 1982). In brief, Clovis culture existed within plant and animal communities adapted to an environment differing vastly from that of our own experience.

^{*} Permission to publish this note was granted by Dr. Cynthia Irwin-Williams who directed the field work for this project.

As yet, Nevada has no known deeply stratified Clovis sites*, with only surface finds such as this one having been reported. The situation Water Gap suggests is the possibility of a buried Clovis component in the vicinity of the wash. Hopefully, further reconnaissance will be undertaken to assess the importance of the location and the significance of the site.

Acknowledgements: The author wishes to acknowledge the efforts of John Zancanella, BLM archaeologist, Ely, Nevada, who executed the line drawing accompanying the article.

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Ryan, Richard M. and Ronald Reno

1984 Garden Valley, Nevada, seismic archaeological survey. BLM CR report no. 04-694(p), on file, BLM, Ely, Nevada.

Thompson, Robert S. and Jim I. Mead

1982 Late Quaternary environments and biogeography of the Great Basin. <u>Quaternary</u> <u>Research</u> 17:39-55.

*Editor's note: A fragment of a Clovis Fluted point was recovered at site 26Pe670, the "Old Humboldt Site" in the Rye Patch Reservoir during excavations there. The point was analyzed by E. Hattori, and it is reported by Davis (1984).

Davis, Jonathan O. (editor) 1984 1983 Excavations at Archaeological Site 26Pe670 Rye Patch Reservoir, Nevada. <u>Desert</u> <u>Research Institute Technical</u> <u>Report No. 38. Reno.</u>

_ _ _ _

Table 1. Attributes of Coal Valley Water Gap Clovis Point.

Present length Estimated comp. length Maximum width	58mm 6580mm 26mm 23mm
Depth, basal concavity Length of fluting:	3mm
obverse	16mm
reverse	18mm
Length, lateral grinding	14mm
Weight	1195 g
Raw material	obsidian







man

Figure 1. Obsidian Clovis point from the Coal Valley Water Gap, Southeastern Nevada (drawing by John Zancanella).

A SNAKE VALLEY "FLOOTER" NOTES ON A FLUTED POINT FROM SNAKE VALLEY, EAST-CENTRAL GREAT BASIN

Ву

Brian C. Amme Ely District, Bureau of Land Management

In late 1982, a fluted point was collected from the desert, northeast of Garrison, Utah, at the southern end of Snake Valley. Snake Valley is located along the Nevada-Utah border in the east-central Great Basin. The valley is bounded by the Deep Creek Mountains to the west. The site, an isolated find-spot, is located on the north alluvial fan piedmont slope of the Burbank Hills. The area is characterized by bar or terrace features that encompass an area of ponding. The ponding is associated with the remnant features of an arm of Pleistocene Lake Bonneville, that once extended south into Snake Valley.

The site was relocated in 1984, and the lower bar features were surveyed with negative results. Bar features to the south, and upslope, however, have not been surveyed, and still may yield further data. At this time the evidence suggests the fluted point to be an isolated occurrence.

The fluted point is a Western Clovis, made from a light-tan, mottled chert. The point is lanceloate in shape and distinctly fluted on one site (Figure 1). The opposite surface displays only a small and distinctly 'thumbnail' type flake scar, 1.1cm. wide, and 0.9cm. long. The point displays broad, fairly even, parallel collateral flaking. The flake scars average about 0.5-0.6cm. in width. The base is moderately concave with fairly rounded basal projections. The proximal one-third of the point (from max. width to base) has slightly dulled lateral edges, possibly the result of preparation for hafting. Noticeable lateral edge grinding is not present. The total length of dulled edges corresponds closely with the Max. Width Pos. ratio. The cross-section of the point is lenticular and bilaterally symmetrical. Dimensions are given in Table 1.

TABLE 1

SNAKE VALLEY FLUTED POINT DIMENSIONS

Length (tip missing)	5.3 cm.
Length (overall)	6.2 cm. (projec-
	ted with
	tip)
Max. Width	2.6 cm.
Basal Width	2.4 ст.
Basal Indention Ratio	0.3 cm. (3mm)
Max. Width Position	32% (projected
	37% length)
Basal Width/Max. Width	.92
Max. Thickness	.6 cm. (6mm)
Length of flute	3.6 cm.
Width of flute	1.3 cm.
Weight	11.25 grams

Few fluted points have been reported from this area of the Great Basin. Examples are known from Dry Lake Valley, Long Valley, Steptoe Valley and Railroad Valley. One fluted point from Railroad Valley bears close resemblance to the Snake Valley find, although it is slightly smaller in size and of basalt. A fluted variant, one that has possibly been reworked, recently has been reported from Independence Valley.

The discovery of a fluted point in Snake Valley is certainly an important and unique occurrence. Although Pleistocent Lake Bonneville once occupied this region, it is likely that the point is associated with the remnant playas and marsh areas that characterize the Post-glacial Western Pluvial Lakes Tradition. The Smith Creek Canyon rockshelters located 26 miles northwest, offer interesting associations with the western pluvial adaptations in this region of the Great Basin (Tuohy and Rendall 1979).

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Figure 1. A Clovis point made of chert from the Snake Valley in the East-central Great Basin.

NOTES ON THE GREAT BASIN DISTRIBUTION OF CLOVIS FLUTED AND FOLSOM PROJECTILE POINTS

By

Donald R. Tuohy

This paper is written to supplement the data presented by B. Amme, R. Ryan, and R. Reno (this volume) on the distribution of Clovis and other fluted points in Nevada. It will also supplement a paper I recently authored on the same topic (Tuohy 1985:144-160). The latter was included in the "festschrift" volume for Dr. Emma Louise Davis published by Ballena Press (Blackburn 1985). Because my revision of a able and a distribution map missed a deadline for the "festschrift" volume, the published version therein is incomplete. Therefore, I am taking this opportunity to publish the revision for Figure 1 and Table 1 in the Nevada Archaeologist.

In doing this, both the Utah and Oregon distributions listed in Tables 2 and 3 respectively, and shown in Figure 1 in the aforementioned publication (Tuohy 1985:149-152), remain unchanged. It is only the Nevada distribution which needs to be corrected. Accordingly, the total number of sites or localities listed for Nevada increases from 23 to 36 as shown in Table 1 and in Figure 1.

The major difference between the previously published distribution map (Tuohy 1985:150) and this one (Figure 1) is that more Clovis find-spots and sites are plotted both in the eastern and western basins of Nevada, while the central and southern distributions in the state remain about the same on the map. This kind of broad distribution information tends to support recently postulated environmental and linguistic factors affecting dispersal of native ethnic groups in the Great Basin (Smith 1985, Rogers 1985). There does seem to have been some selctivity exercised by Early Man for certain basins as places for lakeshore habitation or use. Future research in the Great Basin should determine the

nature of such Paleo-Indian incursions, utilizations, or trade relationships.

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TABLE 1

PALEOINDIAN FINDS IN NEVADA

Site	or	Period of	Literature
Loca	lity Number	Occupation	Reference
1.	Lake Tonopah	С	Davis and Shutler 1969; Haynes 1964a; Tuchy 1969, 1984
2.	Lovelock area	C	Davis and Shutler 1969
3.	Caliente	c	Davis and Shutler 1969
4.	Carlin	F	Davis and Shutler 1969
	26Ek1		James 1981
5.	Sarcobatus Flat	С	Davis and Shutler 1969
6.	Washoe Lake	C	Davis and Shutler 1969; Tuohy 1977
7.	Star Peak area	F	Davis and Shutler 1969
8.	Black Rock Desert	С	Davis and Shutler 1969;
			Clewlow 1968
9.	Mud Lake	С	Davis and Shutler 1969
10.	Lovelock	С	Davis and Shutler 1969
11.	Huntoon Valley	С	Davis and Shutler 1969
12.	Dry Lakes Valley	С	Davis and Shutler 1969
13.	Walker Lake area	С	Tuohy 1971
14.	Gilbert Dry Lake	С	Elston 1983
15.	26Ek962 (E1ko County)	С	James 1981
16.	Dry Lake Valley	C	Amme 1985
17.	Groom Valley	С	Amme 1985
18.	Kane Spring Wash	С	Perkins 1967
19.	26Ck404 (Clark County)	C	Perkins 1967
20.	Clark and Lincoln Counties	C,F	Perkins 1968
21.	No. Washoe County	C	Richards 1968
22.	Nevada Test Site	С	Worman 1969; Pippin 1984
23.	Rye Patch Reservoir	C	Rusco and Davis 1984; Davis 1984
24.	Steptoe Valley	C	Amme 1985
25.	Railroad Valley	С	Amme 1985
26.	Long Valley	С	Hutchinson 1984; Amme 1985
27.	Lahontan Reservoir	С	Reno 1985
28.	Garden Valley	С	Ryan 1985
29.	Yucca Mountain	C	Reno 1985
30.	Timber Mountain	С	Pippin 1984
31.	Montgomery Pass	С	Haynes 1964b
32.	Truckee River	C	Tuohy (notes)
33.	Spring Valley	C	Amme 1985
34.	Coal Valley	С	Ryan 1985
35.	Duck Flat	С	Layton 1977
36.	Independence Valley	C	Amme 1985

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Figure 1. Great Basin Paleo-Indian projectile point find spots or base camps; see Table 1 for key. The base map is from Houghton 1976; reproduced with permission of Arthur H. Clark Co.

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A Preliminary Report on the Las Vegas Valley Archaeological Research Project

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ABSTRACT

Las Vegas Valley has been a poorly understood and badly neglected research area whose importance as a frontier zone between several cultural traditions has been misunderstood. Recent excavations at an Anasazi/Paiute campsite, survey data from riparian zones within and adjacent to Las Vegas and the analyses of settlement/subsistence patterns through time reveal a rich pattern of occupation dating at least to the Lake Mojave Period (9,000-7,500 B.P.). Further evidence is presented to demonstrate the importance of the Las Vegas Valley as a contact zone for several different cultural traditions during the Puebloan Period (2,000-850 B.P.).

Introduction

Since the early 1900s it has been known that the Las Vegas Valley and surrounding regions had a diverse archaeological data base (Duffield 1904; Kidder 1924). The history of research in the valley has been a checkered one despite this knowledge. Sites such as Gypsum Cave (Harrington 1933) and Tule Springs (Harrington 1934; Harrington and Simpson 1961; Wormington and Ellis 1967) attracted the attention of the national archaeological community for short periods due to their involvement in the "early man" controversies that arose earlier in the century. However the main focus of research in southern Nevada was on the Virgin Anasazi ruins in the Virgin and Muddy River valleys both early in the century (cf. Shutler 1961) and of late, in the form of several Master's theses (Jenkins 1981; Clark 1982) and one doctoral dissertation (Soule 1981). Las Vegas was treated with a sort of benign neglect, left unattended by the professional

community for many years.

Things began to change in the 1970s with the entry of the federal government into cultural resource management, which has prompted much of the work that has taken place in the last decade. Most of this work has been of a piecemeal nature consisting of small, project specific surveys aimed at clearance of land slated for development although there have been exceptions to this rule (Lyneis et al. 1978, 1979). Thus, the archaeology of this region has lagged far behind the rest of the Great Basin or the Southwest in areas such as culture history, settlement/subsistence patterns, and other research concerns.

This paper discusses recent work conducted by the Division of Anthropological Studies (DAS), University of Nevada, Las Vegas in the last year aimed at looking at some of these questions. Two surveys (Rafferty 1984a, 1984b), one of which has recently concluded, and two excavation projects (Green, Rafferty and Blair 1983; Rafferty and Blair 1984a) have provided fresh data on the Las Vegas Valley and suggest that this area, and indeed all of southern Nevada, is unlike anywhere in the Great Basin with cultural traditions originating in southern California, the Great Basin and the Southwest having been present in the region. The study area was a unique cultural frontier where cultures met and, in some cases, blended to form new and unusual patterns. Based on this research, preliminary exposition of the data and new ideas concerning the region are presented.

ENVIRONMENT

The Las Vegas Valley (Map 1) lies in the Mojave Desert with a climate typical of the area. Summers are hot and dry while winter temperatures average comfortably above freezing. This allows for a minimum of 230 continuous frostfree days a year. Precipitation is sparse, averaging only 4.7" a year. There is significant year-to-year variation that may have had serious consequences for the aboriginal inhabitants of the region (USDT, BLM 1980; NOAA 1955-1978).

The valley is dominated by the creosote



Map 1. The inset shows the project area of the Las Vegas and Duck Creek surveys.(Based on Las Vegas 15' USGS, 1952; Las Vegas SW and SE 7.5' USGS, 1972).

TABLE 1. Cultural Chronology, Las Vegas Valley

Period	Time Span	Cultural Significata
Tule Springs	ca. 13,000-10,000 B.P.	PaleoIndian Period - fluted points, megafauna.
Lake Mojave	ca. 9,000-7,500 B.P.	Generalized hunters and gatherers adapted to woodlands/grasslands ecozones: rockrings or cleared areas; Lake Mohave, Silver Lake points.
Hiatus (?)	ca. 7,500-5,500 B.P.	Aridity leads to abandonment of southern Nevada; hypothetical unproven period.
Pinto-Gypsum	ca. 5,500-2,000 B.P.	Archaic Period - desert hunters and gatherers; Pinto, Gypsum, Elko, Humboldt points; seed grinding; exploitation of a wide variety of ecozones; Proto-Numic peoples.
Puebloan	ca. 2,000-850 B.P.	Occupation of Las Vegas by Virgin Anasazi due to population pressure and requirements of long distance trade network; symbiotic relationship developed with Numics, contact with Lower Coloradoan groups.
Paiute	ca. 850-200 B.P.	Virgin Anasazi abandon region; Paiute and Lower Coloradoan groups reside in and exploit valley resources; semi-sedentary occupation of the region.
Historic	ca. 200 B.PPresent	Anglo or European settlement; destruction of Paiute culture.

vegetative community and it's associated flora and fauna. There are also numerous springs and seeps that helped to create two semipermanent streams in the valley, Las Vegas and Duck Creek (Map 1). These streams supported a large riparian community. A large mesquite forest, three miles wide and twelve miles long, existed on the eastern side of the valley (Paher 1971; Lyneis <u>et al</u>. 1979).

The major faunal resource was the desert tortoise (<u>Gopherus agassazi</u>) and rabbits, along with quail and numerous other small rodents and birds. The nearby Spring Mountains contained abundant floral resources such as juniper, pinyon, agave, <u>Opuntia sps.</u>, gambel's oak, and wild grape while faunal resources included mule and white tail deer, bighorn sheep, rabbits and other small game (USDI, BLM 1980).

The last major resource in the valley enumerated here is the presence of the Glendale-Land association soils which are centered around the semipermanent creeks and the Las Vegas Wash drainage system. These soils are quite productive when irrigated for agriculture (Langan et al. 1957). The numerous sand dunes adjacent to these soils were also exploitable for agriculture in much the same way as that employed by the Hopi (Hack 1942; Plog 1978) and prehistoric Anasazi groups in north-central Arizona (Doyel 1981). Historic Paiutes practiced horticulture in the valley (Stoffle and Dobyns 1983), and it is likely that the Virgin Anasazi groups that lived in the valley did the same (Rafferty 1984a, 1984b; Rafferty and Blair 1984a).

The study area was attractive for human habitation, therefore it would be expected that the archaeological record of the area would be diverse and rich with a long history. This is what the earliest work has indicated. Time depth to PaleoIndian times has been suggested by the Tule Springs excavations. Archaic Period occupation is suggested by the Gypsum Cave work and intuitive surveys around Duck Creek. However, sites of the Lake Mojave Period (9,000-7,500 B.P.; see Rafferty 1984b; also Table 1) were unknown although isolated artifacts from the period have been recorded. Data from the ceramic periods are abundant although analysis and interpretation of these data have been generally lacking.

A note of uncertainty has been added to this picture by the rapid destruction of the data base by the expansion of the Las Vegas urban area. Because of this a large scale program to record and recover as much of this data as possible was needed. Therefore, the Division of Anthropological Studies has launched a two-tothree year program of survey and excavation to achieve this goal. The results of the first stage of this project (Rafferty 1984b, 1984c), plus the data from three other projects have been integrated into a larger, more comprehensive picture of Las Vegas Valley prehistory. The results of this research have been enlightening and the second year promises even better results.

1983-1984 Research

Contract archaeology can make a major contribution to the general field of archaeology through the establishment of research designs to guide the work (Goodyear et al. 1978; McGimsey and Davis 1977; Schiffer and Gumerman 1977). Two documents, the Nevada Archaeological Element (Lyneis 1982) and the author's own Las Vegas Valley overview (Rafferty 1984c) provided the basic framework for future work. The synthesis of these two works provides a rough chronological skeleton (Table 1) for the interpretation of the archaeological remains and a set of research questions and implications to be asked of the data.

Funded by the Nevada Division of Historic Preservation and Archaeology, the Las Vegas Archaeological Project was proposed as a combined sample and intuitive survey in the southern portion of the Las Vegas Valley, centered around the Duck Creek and Whitney Mesa area. This area was selected due to the presence of water in the recent past and the presence of previously recorded sites. Such an area would have attracted human groups as long as water was available,

characteristics. One such use could have been as storage caches for seeds that could not be transported back to base camps or habitation areas. An additional use could have been as water catchment features in areas with little or no permanent water sources, such as the California Wash area north of Las Vegas. Chinked with mud, such features would allow use of extremely arid and waterless areas in summer months following rains. By storing rainfall that brought on the initial flowering of wild floral resources, the range and time period during which the gathering of wild resources took place would be extended. There are probably other uses that these features could have been employed and future research will help to reveal these uses.

The Pinto-Gypsum Period, dated 5,500-2,000 B.P., is represented by six sites in the study area including one, the Beland Site, excavated by DAS in 1983 (Green, Rafferty and Blair 1983). Cross-dated by the presence of Pinto, Gypsum, Humboldt and Elko points, these sites were situated on, or adjacent to, mesquite covered dunes near springs or Duck Creek. The one possible exception was one site containing rock circles, situated on desert pavement south of Duck Creek, which contained a Pinto point. This sort of data was present in the Las Vegas Wash area and thus was not entirely unexpected. These sites represent a generalized hunting/gathering population oriented around the Duck Creek riparian zone (Rafferty 1984b, 1984c).

The following Puebloan and Paiute periods contained the most numerous sites recorded in the field survey or records search, 34 or 32 percent of the site totals. They also provided the most confusing data to deal with. Three environmental variables seemed to govern site location: location within mesquitecovered dune areas; location within 3/4 of a mile of Duck Creek; and being situated within or adjacent to the Glendale-Land soils. Thus, it is possible that sites could be oriented towards hunting and gathering, or agriculture, or both, given the possibilities provided by the environment and the

capabilities of the culture in question (Rafferty 1984b, 1984c).

The mixture of artifactual materials provided complicating factors to the interpretations. Of the 34 sites, four were pure Virgin Anasazi, six Paiute, 10 Lower Coloradoan and eight contained artifacts from all three traditions. The remaining six contained various combinations of materials. All of the base camps contained materials from all three traditions and the percentage of mixture was significant: Paiute and Lower Coloradoan material comprised no less than 11 percent of the assemblages of these sites and in some instances comprised 40 percent or more of the total. Excavations performed by DAS prior to the survey (Rafferty and Blair 1984a) at the Midby Site revealed a mixture of ceramics that were 11 percent Lower Coloradoan and 26 percent Paiute, with the rest being Virgin Anasazi. Data from the Berger Site also confirm this sort of ceramic mixture at local sites. The exact relationships of these cultures is uncertain, but based on the research of the last year and a half, our hypothesis is this: the Anasazi and Paiute may have occupied sites simultaneously and that the so-called "Numic expansion" never occurred, at least in southern Nevada (Cf. Rafferty and Blair 1984b). Several researchers note that both the linguistic (Miller 1966; Goss 1977) and archaeological data (Fowler et al. 1973: Lyneis 1982b) for the Numic expansion are quite weak and may not fully support such an hypothesis. There are both archaeological and ethnohistorical data that in many areas of the Southwest sedentary agriculturalists and mobile hunter/gatherers coexisted, perhaps in a symbiotic fashion, often at the same sites (Upham 1982, 1984). Given this evidence the main hypothesis of in situ Paiute development becomes much more plausible. They could have acquired the arts of ceramic manufacture and horticulture from the Anasazi in exchange for information on locally available resources, trade items and other information valuable to the Virgin Anasazi. A modern analogy would be the relationship developed between

which, in this area, was many thousands of years.

A survey universe of 25.000 acres was delineated and a 10 percent sample of the universe was selected for survey. A simple random sample was used and resulted in 55-40 acre quadrats being surveyed. This scheme was selected due to the presence of many highly developed areas being located in the study unit boundaries and because only two environmental zones - the Duck Creek riparian zone (the largest percentage of the study area) and the creosote bush/desert pavement area (roughly 24 percent of the area) - were present in the study area. These complications negated any advantage that stratifying the survey area would have provided.

An additional 15-40 acre quadrats were selected intuitively. These were placed in locations where development immediately threatened the destruction of suspected site concentrations or in areas where the environmental variables led the project director to suspect sites would be located. The 70 quadrats chosen resulted in a 12.5 percent sample of the survey universe.

Additional archival research was undertaken to identify and to recover data already recovered from the survey area. The archives of DAS and the laboratory of the Department of Anthropology, University of Nevada, Las Vegas were researched and data from previous projects and field methods classes run by the Department of Anthropology over the last 10-15 years were gathered and included in the survey report.

A total of 50 sites were recorded during the field survey phase of the project, ranging in type from isolated artifacts to rock circle/fragile pattern sites to ceramic period campsites and gathering loci. The archival research allowed five sites that were previously collected but not officially recorded to be entered into the Nevada State Museum records system. Data for an additional 50 sites already assigned Smithsonian numbers were recovered by the archival research. Thus a total of 105 sites were discussed and placed into perspective in the survey report, including a number that have been destroyed in the last 10 years. Examination of the data revealed patterns that had been unexpected or unrecorded for the study area (see Rafferty 1984b, 1984c for detail).

Results

No sites of PaleoIndian age were recorded by the survey. This may be attributed to either the burial of sites by alluvial deposition or destruction of these sites by local collectors or vandals.

The following Lake Mojave Period. defined as dating between 9,000 and 7,500 B.P. (Rafferty 1984b), was represented by five, and perhaps six, sites in the study area. Five of them contained rock circles or cleared areas and the artifact assemblages from these sites resembled those described as Malpais (Rogers 1939), San Dieguito (Warren 1967), Western Lithic Co-tradition (Davis 1978), or Western Pluvial Lakes Tradition (Bedwell 1978, 1973; Hester 1973). These sites were situated on desert pavement and were proximal to water sources either now dry or greatly reduced, such as Duck Creek. One site, 26Ck333, was situated on Whitney Mesa south of Duck Creek and contained at least 25 rings and thousands of basalt cobble/chopper tools in the area of 111 acres. This site was occupied during several time periods but seems essentially to date to this period (Rafferty 1984b, 1984c).

Sites quite similar to these have been recorded in the Las Vegas Wash area northeast of the study area by the Division of Anthropological Studies both this previous spring (Rafferty 1984a) and in the late 1970s (Ferraro 1975; Ferraro and Ellis 1982). A total of 48 rock circle sites were recorded in the wash area, some containing artifacts similar to those found in the study area, while other artifacts date from the Archaic, Puebloan and Paiute periods.

Blair (1984), in a preliminary study of such rock features, has suggested two possible uses for these features depending on their size and morphological the Paiute and early Anglo settlers in southern Nevada where the Paiute entered into a relationship with the settlers (mostly out of necessity) exchanging information and labor for medical treatment, employment and food. To believe that similar situations could not develop in the prehistoric past is at best ethnocentric.

Following the Virgin Anasazi abandonment of the region, the Paiute remained in their ancestral lands and evolved into the peoples recorded and discussed by the earliest explorers and settlers in the region.

The reasons for the Anasazi occupation were essentially two-fold. The first was to provide living space for an expanding population during the Lost City phase (A.D. 700-1100) of Virgin Anasazi prehistory. The second reason was to facilitate the acquisition of rare resources such as turquoise, salt, shell and other items from the southern California and southern Nevada regions for use in the pan-Southwestern trade system that eventually centered on Chaco Canyon by the 11th and 12th centuries A.D. Las Vegas would have been a nexus of occupation that could provision expeditions to and from southern California, the Colorado River Valley, and into the Great Basin. Such acquired resources were eventually taken to Lost City and from there passed into the pan-Southwestern trade system. This trade eventually involved the Virgin Anasazi in the Mesoamerican "World System" of economic and political relationships directed from the Toltec capital of Tula (Rafferty and Blair 1984b; Rafferty 1984b; 1984d, 1984e, n.d.).

The sheer quantity of Lower Colorado sites in the study area was quite surprising. Twenty-three of the thirtyfour sites contained either pure or mixed assemblages from this tradition. Thus it seems that these peoples used the study area and the southern Nevada region much more intensively than has been previously suspected. They also seem to have been in close contact with the Virgin Anasazi and the Paiute, based on the continuing mixtures of Lower Colorado artifacts in sites containing those of other cultural traditions (Rafferty 1984b, 1984c).

Based on the ceramics present there. the Virgin Anasazi groups resided in the area from A.D. 500-1150/1200, the majority of their occupational duration in southern Nevada. Confusion in the Paiute and Lower Colorado ceramic sequences makes an assessment of the dates for these groups difficult. Both traditions' ceramics have use-spans ranging from the ninth or tenth centuries A.D. to the late 1800s. and thus the best that can be said is that the Paiute and Lower Colorado groups resided in Las Vegas somewhere in this time span overlapping the Anasazi occupation. Only Paiute groups are described by the earliest explorers and settlers in the Las Vegas area so the Lower Colorado groups most likely left the area prior to the first white contact.

Conclusion

The first phase of the Las Vegas Valley Archaeological Project has produced a large body of data both usable and, in some cases, unexpected. Phase II in 1985 will include test excavations and mapping of several of the larger Phase I sites. plus additional survey work. It is the intention of DAS to continue to push the archaeological data in the study area to their logical extremes to flesh out the culture history, delineate the patterns of contact between cultures in the valley, and deal with questions of culture process as they are manifest in the archaeological record. This may be the last chance that the profession has to gather data to answer these questions in the Las Vegas area, given the rapid development of the region. Las Vegas was unique in the prehistory of the Great Basin and the Southwest and we hope to demonstrate this over the next few years. This research has much to offer the general body of archaeological fact and theory if developed properly, and we plan to do just that.

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The Nevada Archaeological Association was organized in 1972 to provide a bond of communication between professionals in the field of archaeology and its allied sciences, members of various amateur organizations, and the people of Nevada towards the furtherance of public education and involvement in responsible preservation of Nevada's finite archaeological and historical resources.

The need for recording these cultural resources of the past for the enlightenment of future generations grows more pressing with each day of development and progress. The goals of the Nevada Archaeological Association are: to provide a focal point for general information and study of non-renewable cultural resources; to provide a central point for recording artifact collections from Nevada and the Great Basin and the verbal knowledge of provenience and associations accompanying these collections; to correlate this knowledge with that information already professionally recorded for the mutual benefit of the amateurs and professionals with research interests; to provide assistance with education towards responsible public participation in archaeology; to assist in the preservation of sites by the establishment and maintenance of a registry of available, capable, and technically skilled amateurs in Nevada who would be able to work with professionals in accordance with the Code of Ethics and Standards of Research Performance as advocated by the Society of Professional Archaeologists, particularly in the immediacy of salvage archaeology; and to provide a bond of communication between professionals, amateurs, and the general public by publishing a journal, *Nevada Archaeologist*.

To these ends the Nevada Archaeological Association was incorporated in 1972, in the State of Nevada, with its organizational and editorial offices as listed on the inside cover, and with designated conference and meeting center located in Tonopah, Nevada. Membership is open to all those interested in the archaeology, ethnology, and history of the human inhabitants and their natural habitats in Nevada, the Great Basin, and adjacent environs.

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Residents of all other Nevada communities are asked to join the Nevada Archaeological Association until such time as there are sufficient numbers of people willing to form local chapters of the above organization. Information on the Constitutions and By-laws of the above organizations may be obtained at cost from the secretaries of the above organizations.



Large knives from the Helen and Tom Derby Collection at the Nevada State Museum. The knives were recovered in the Humboldt Sink (print by Phil Hutchinson).

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