

APPENDIX E
AN ARCHAEOLOGICAL INVENTORY OF COTTONWOOD SPRING AND VICINITY
STOREY COUNTY, NEVADA



AN ARCHAEOLOGICAL INVENTORY OF COTTONWOOD SPRING AND VICINITY,
STOREY COUNTY, NEVADA

Prepared for
Storey County Commissioners

Prepared by
Ronald L. Reno and Vickie L. Clay

September 4, 1990

State Antiquities Permit No. 258

ARS Report 597

INTRODUCTION

PROJECT DESCRIPTION

This project was conducted by Archaeological Research Services, Inc. (ARS) as part of an archaeological sensitivity study centered on the portion of the Comstock Historic District in Storey County. This archaeological survey, which was done at the request of the Storey County Commissioners, has two related goals.

First, the Virginia City Highlands area has not been subjected to an archaeological survey of any large blocks of land, unlike the region closer to Virginia City. Hence, the archaeological sensitivity maps were produced more on the basis of modeling probable site locations than on an analysis of recorded sites. This survey will enable a refinement of the interpretation of the sensitivity maps for the Virginia City Highlands area.

The second goal was to survey an area of private land which was a probable location for further residential or similar development. Storey County is developing ways to encourage protection and study of archaeological resources on private land--areas which have not been covered by state and federal antiquities legislation. One approach is to at least partially subsidize archaeological work to prevent the costs of such work from either causing development not to take place (to the detriment of the economic welfare of the county), or obstruction by developers of attempts to conduct the archaeological work.

DATES OF INVESTIGATION AND PERSONNEL

The field inventory was conducted on August 13-17, 1990. The field crew consisted of Ronald L. Reno, Vickie L. Clay, Bertrand T. Young, Larry Hause, Shannon O'Leary, and Dave Montana.

MAP REFERENCES AND LEGAL DESCRIPTION

The project area is on the USGS Flowery Peak and Chalk Hills 7.5' quadrangles.

The inventory area consists of 400 acres (ac). Legal description of the property is as follows: the S 1/4 of Sec. 35 and the S 1/2 of the SW 1/4 of Sec. 36, T.18N R.21E; the N 1/2 of the NW 1/4 of Sec. 1, the NE 1/4 of the NE 1/4 of Sec. 2, and the NW 1/4 of the SE 1/4 of Sec. 2, T.17N R.21E, Mount Diablo Baseline and Meridian.

The property is owned by Land Researchers, Inc., 2800 28th Street, 2nd Floor, Santa Monica, CA 90405. John Tyson, Virginia City, Nevada, is the local agent for the firm.

PROJECT AREA DESCRIPTION AND ENVIRONMENTAL SETTING

The project area is 4 miles (mi) northeast of Virginia City, Nevada, in Long Valley, which divides the Virginia Range from the Flowery Range (Fig. 1). This area consists of two parcels.

The southern parcel is 40 ac centered on Long Valley Creek, which is ephemeral in this area and ultimately drains into the Truckee River (Fig. 2). The nearest permanent water is Cottonwood Spring, located 1 kilometer (km) to the northeast. Topography is rugged, consisting of dissected Tertiary volcanic deposits with elevations ranging from 5920 to 6140 feet (ft). Bedrock ridges, benches, and small outcrops dominate the landscape, with colluvial slopes between these features. The only depositional areas in the parcel are small alluvial terraces along portions of Long Valley Creek. Occasional red jasper and chert nodules occur which are of toolstone quality. A dense grove of pure pinyon (*Pinus monophylla*) occupies the northwest-facing slope on the northwest side of the parcel. This grove corresponds to the woodland shaded area on the USGS topographic map. The rest of the parcel supports a sparse pinyon/juniper (*Juniperus osteosperma*) woodland with an associated brush cover of big sagebrush (*Artemisia tridentata*), bitterbrush (*Purshia tridentata*), rabbitbrush (*Chrysothamnus* spp.), and desert peach (*Prunus andersonii*).

The northern parcel is 360 ac centered on Cottonwood Creek in Long Valley. Elevations range from 6200 ft on the ridge near the west end of the project area to 5760 ft where Long Valley Creek flows out of the northern edge of the project area. An open pinyon/juniper woodland covers most of the study area. Cottonwood (*Populus* sp.) and willow (*Salix* spp.) trees are found in the vicinity of springs, seeps, and along Long Valley Creek. Shrub cover is much the same as that noted above. Water is abundant from several spring heads at Cottonwood Spring. From this point downstream, Long Valley Creek flows. A large (5 x 5 meter [m]) bedrock "tank" in the bed of Long Valley Creek in the gorge south of Cottonwood Creek provides an additional source of water, though probably not of much importance due to the proximity of the springs. This tank holds water to a depth of 1 m, and held about 30 cm of brackish water at the time of our field visit.

PREHISTORIC CONTEXT

Upland areas such as that under study generally were not heavily utilized until the mid-Archaic, starting about 4000 years ago, at which time the Martis Complex in the Sierra Nevada and the Lovelock Phase farther to the east began to be recognizable in archaeological sites. Subsequent archaeological utilization of such areas appears to have become more generalized, emphasizing hunting and gathering of a wide range of resources scattered throughout the landscape. A prime resource, which was used into historic times, was pinyon nuts. Detailed overviews of regional prehistory are in Elston (1986) and Pendleton et al. (1982). Ethnographically, the project area is near the border of lands used by the Washoe (d'Azevedo 1986) and the Northern Paiute (Fowler and Liljeblad 1986) (Heizer and Baumhoff 1962:289). A summary of regional phase descriptions is presented in the following table (Table 1) based on Elston et al. 1977 and Elston 1979.

Table 1. Summary of Regional Phase Descriptions.

Time (Years B.P.)	Phase	Time Markers	Environment
8130-7000	Tahoe Reach: Mostly hunting, small populations size, little site specialization	Parman-like points (Great Basin Stemmed)	Anathermal, wet and cool
7000-4000	Spooner: Dry seed gathering, hunting; small population size; manos and metates	Points in the Pinto and Humboldt series	Altithermal, hot and dry
4000-3500	Early Martis: Diversification of subsistence methods and settlement/site types; population explosion; more productive resource base	Contracting stem points of the Elko-Martis series, large basalt bifaces and other basalt tools, steep-sided house pits	Medithermal, wetter, more summer precipitation
3500-2500	Middle Martis: Similar to Early Martis but with stylistic differences	Steamboat points, Elko and Martis series points, large basalt bifaces and other basalt tools, steep-sided house pits	Warmer and dryer
2500-1500	Late Martis: Similar to Early Martis but with stylistic differences	Corner-notched and eared points of the Elko-Martis series; steep walled house pits	Wetter, more summer precipitation
1500-700	Early Kings Beach: Similar to ethnographic Washoe pattern population reduction; less productive resource base	Eastgate and Rose Spring series points; small saucer-shaped house pits	Dryer
700-Historic	Washoe-Late Kings Beach: ethnographic Washoe pattern	Desert Side-notched and Cottonwood series points; shallow, saucer-shaped house pits	Wetter and cooler, but little summer precipitation

Specific Comstock information relative to ethnography and prehistory was gathered in *Managing Archeological Resources on the Comstock* (HCRS 1980:5).

Ethnographic observations identify deer/mountain sheep hunting and pinyon pine nut gathering as the principal activities taking place in the Virginia Range ...

Temporary base camps and task sites are thus expected on the mountainous parts of the Comstock, while permanent winter villages are expected only in the lower foothills near Dayton.

Accordingly, and closer to the Cottonwood Spring area near Chalk Hills, deer from the Sierra Nevada and Carson Range wintered in quantity during the historic past providing ample game resources for ethnographic and undoubtedly prehistoric populations. Mountain sheep are also historically documented in the Flowery Range on the eastern edge of the survey area (HCRS 1980:6). Pinyon is also common in the project area and was most likely gathered, although evidence of this was sparse.

Elston and Rusco (1975) suggest that the Long Valley Creek, Lousetown Creek region, may be the most important area for cultural resources in the Virginia Range after a small survey in this area.

In the HCRS study (1980:30), Fowler suggests that marl clay (used to produce white paint necessary for curing, and to produce tobacco pipes) was procured until recently from Chalk Mountain and associated deposits, some occurring in the eastern part of the Cottonwood Spring survey area. Fowler suggests that modern Native American use of the area is restricted to pinyon nut, tobacco and other medicinal plants and marl clay procurement.

HISTORIC CONTEXT

The project area was of little importance until the great influx of people into the region resulting from discovery of the Comstock Lode in 1859. Toll roads were soon established on all practical routes into the Comstock from all directions. Long Valley is a natural route from the Comstock to the Truckee River branch of the Overland Trail, which is intercepted at Sturtevant's Station, the site of present-day Lockwood. The earliest proposed toll road through Long Valley was recorded by Alex W. Baldwin and F. A. Tritle on November 1, 1866, in an attempt to divert traffic from routes leading more directly to the Truckee Meadows (Fig. 3). The scale of this map is not at all accurate, but based on the topography along the route and the start of the stream in Long Valley, it appears that there were two cabins in the vicinity of Cottonwood Spring at this time and an additional house in Long Valley southwest of the southern project area.

In 1867, the Long Valley route was being considered as one of the possible choices for a railroad link between the Comstock and the transcontinental line. A plat of this proposed line is shown on Figure 4 and part of it is shown in more detail on Figure 5. The railroad plat indicates that there was a frame cabin and a garden at Cottonwood Spring. Though this route, or an alternate

one proposed through Lousetown, represented the shortest distance to the railroad, it was abandoned due to pressure from settlers in Eagle and Washoe valleys. The reorganized Virginia and Truckee Railroad Co. started construction in 1869 on a route through Carson City, linking with the Central Pacific Railroad in Reno in 1872 (Myrick 1962:136-137,157).

The year 1867 marked the first detailed map coverage of the project area, with the cadastral survey of R. R. W. Norris (Fig. 5). This map shows wood roads through Long Valley, indicating a use of the area which is supported by common axe-cut stumps and road remnants found during our survey. Though structural timbers for the Comstock were taken from the Sierra Nevada and the Carson Range, the pinyon/juniper woodlands surrounding the Comstock were heavily exploited for cordwood. A garden and house are shown at the location of Cottonwood Spring.

The lack of heavy traffic or of a well-maintained toll road through Long Valley is clearly indicated by a renewed proposal for a toll road in 1871 by F. A. Tritle. The plat of this route is copied from the earlier one, and contains the same information as before (Fig. 6).

On the 1893 Carson City USGS map, the Long Valley road was is shown as a minor route and one structure is at Cottonwood Creek.

The scatter of small independent farmsteads shown on the nineteenth century map series was abandoned with the demise of the Comstock Lode in the last two decades of that century. Most simply fell into disuse, but some, such as the Chalk Hills Ranch, became "cow camps" in the much larger and more consolidated cattle and sheep operations of more recent times. Cattle and sheep are still grazed in the project area.

Recreational use of Cottonwood Spring was intensified with approval in 1973 of Sierra Park (Elston and Rusco 1975). Though many of the recreational facilities made at that time, including a dam, gazebos, and numerous barbecues, have not survived, the spot remains a popular local picnic location and campground.

PREVIOUS RESEARCH

No formal archaeological field research has taken place within the study area prior to the present project. The project area falls within the area reviewed by Elston and Rusco (1975) concerning the probable effects of the development of Virginia City Highlands Unit 1 and Sierra Recreation Park Developments. Elston and Rusco note the existence of an extensive historic and prehistoric settlement (26St12) at Cottonwood Spring with probable stratified cultural deposits. Although two additional sites are recorded within the project area, a petroglyph locality (26St2) and a cremation burial (26St13), these sites were not confirmed by Elston and Rusco and they were not found during the present survey. Presence of the Old Virginia City Toll Road was noted by Elston and Rusco, but it was not formally recorded.

METHODS

Selection of the project area was done in consultation with Karl Larson (Storey County Commissioners) and Ronald James (Nevada Division of Historic Preservation and Archaeology). Earlier attempts were made to find a suitable study area within the boundaries of the Comstock Historic District, 2 mi to the east, but these attempts did not result in a suitable project area with a sufficient acreage and range of landforms. Despite not finding a suitable project area within the historic district, we wish to thank Lou Tassone for his assistance in this part of the project. John Tyson, agent for Land Researchers, Inc., kindly gave ARS permission to conduct the inventory provided no collections or ground disturbances were made and that he receive a copy of the report.

A search of previous archaeological research in the project area was conducted at the Nevada State Museum, Carson City. Historic records of the Long Valley area and the Chalk Hills Ranch were examined at the Storey County Assessor's and Recorder's offices in Virginia City, the Bureau of Land Management Nevada State Office, and at the Nevada Historical Society, Reno. Karl Larson kindly provided information regarding historic roads.

Project area boundaries were based on Storey County Assessor's plats. Boundaries were determined in the field primarily from topography, but in some instances white-painted steel stakes at the corners of 40 ac parcels held by adjoining landowners were present. Brass caps placed by G. S. Swanholm in 1941 replacing Norris' stone markers were relocated at the SE corner and the S 1/4 corner of Sec. 35, T.18N R.21E. One of Norris' 1867 stone markers was relocated at the SW corner of the same section.

The entire project area was surveyed by a crew of four walking north-south 30 m interval transects. This intensity of survey corresponds to BLM standards for a complete inventory (USDI 1989:8). Artifacts and archaeological features were plotted on enlarged USGS. topographic maps. Observations were assigned temporary numbers as they were encountered. These observations have the prefix "597-." Most of these observations were converted into formally recorded archaeological sites. Some related observations were grouped into larger sites, in particular site 597-10. All sites were recorded on IMACS forms (Appendix A).

Site 26St12 was subjected to more detailed recording than other sites. Prehistoric loci were plotted on an enlarged USGS. map. Historic loci were mapped using a plane table and alidade. General survey and recording methods for the prehistoric loci on 26St12 were slightly different for each locus. At Locus 1, a two-person team walked generally north-south transects at 10 m intervals across the area, flagging lithic tools and possible features. The artifacts and possible features were described after the initial walkover. Coverage of Locus 2 involved a three-person, north-south examination at 5 m intervals. Tools were recorded during the close interval transecting of this locus. On Locus 3 a two-person team walked east-west transects, 3 m apart in an area approximately 90 x 90 m square and flagged all tools and possible features. After flagging over 100 tools, the team recorded the artifacts and sketched a variety of these. Finally, on Locus 4 a two-person team walked 5 m

interval transects in a west-northwest direction parallel to drainages and access roads. Here artifacts and features were initially flagged and then returned to and recorded. Historic trash scatters were transected at close intervals and artifacts encountered on these transects were tabulated.

RESULTS

The complete inventory of 400 ac on private land just north of the Virginia City National Historic Landmark and surrounding Cottonwood Springs resulted in the recordation of 48 archaeological sites. Only one of these, site 26St12, was previously recorded. Of the sites recorded during the current survey, 33 are small prehistoric, two are large prehistoric, five are small historic, three is a large historic (including those with road features) and five are combined large prehistoric and historic cultural resources. These sites represent a wide array of activities, ranging from ranching and transportation in historic times to plant, animal and tool stone procurement, processing and storage in the prehistoric period. Cottonwood Spring apparently functioned as a nucleus for both historic and prehistoric activities and continues to function as a source for excellent drinking water and recreational activities. A summary table (Table 2) of site descriptions follows and IMACS and specific Nevada state short site forms appear in the appendix. Brief verbal descriptions of each site and inferred site type (Binford 1983, HCRS 1980) are discussed below using the temporary site number.

597-1 is an isolated broken purple glass food bottle. This site is located slightly northwest of the currently used Long Valley Road, and southeast of an abandoned trail (597-2) on the toe of a colluvial slope.

597-2 includes a segment of the historic Long Valley Road and several associated cans. This segment of road crosses a flat bench south of Long Valley Creek in the southernmost parcel of the survey area. One pocket tobacco tin and one fruit or vegetable can were located along this segment of road. The Long Valley Road was a toll road connecting Virginia City to the Truckee River branch of the Overland Trail.

597-3 is an isolated obsidian edge-modified secondary flake that could also be a projectile point preform. The obsidian is black, translucent and mossy, characteristics common to obsidians from both Bodie Hills and Mount Hicks source areas located approximately 80 mi south of the Comstock. This artifact was found on a rhyolite ledge overlooking Long Valley Creek, an intermittent drainage. This artifact probably represents a location of tool loss.

597-4 is a small lithic scatter composed of six secondary and tertiary flakes of jasper and obsidian. The jasper is brown and originates in local older alluvial gravels found on upper terraces along Long Valley Creek, while the obsidian reflects two source areas with visual characteristics of gray to black, frothy, almost opaque varieties and one translucent black mossy variety. Flakes of the gray to black frothy material are secondary and one of the mossy variety is tertiary. As will be discussed later, the gray frothy material may be local to the Virginia Range as well. Situated on relatively flat rhyolite

Table 2. Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No 597-	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
1	1	6000	Colluvial slope	1160	-	Historic	Isolated artifact, food bottle
2	N/A	5960	Flat bench, residual slope creek drainage	1080	-	Historic	Transportation, Long Valley Toll Road; associated cans
3	1	5990	Rhyolite ledge	1050	-	Prehistoric	Isolated artifact, edge-modified flake, possible point preform
4	25	5990	Rhyolite bench	1210	-	Prehistoric	Special task site, lithic reduction
5	1885	6000	Rhyolite bench	1220	+	Prehistoric-Historic 1895-1920	Temporary base camp, opportunistic focus; historic trash scatter
6	314	5960	Alluvial terrace	1110	+	Prehistoric	Temporary base camp; opportunistic focus
7	1	6060	Residual slope	1060	-	Prehistoric	Isolated artifact; obsidian flake
8	1	6100	Residual slope	1030	-	Prehistoric core	Isolated artifact, jasper
9	942	5980	Alluvial terrace and flood plain	1215	-	Prehistoric	Special task site, lithic reduction
10	N/A	5850	Residual slope, residual ridge	655	-	Historic	Transportation, Long Valley Road and associated artifacts

Table 2 (continued). Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
12	1414	5920	Residual slope of white tuff	1045	+	Prehistoric (possibly contact)	Temporary base camp; opportunistic focus-- hearth, mano, cut rib
13	1	5945	Intermittent drainage	960	-	Prehistoric	Isolated artifact, basalt chopper
14	157	6010	Rhyolite residual slope	990	+	Prehistoric	Special task site, lithic reduction
15	1	5890	Rhyolite residual slope	870	-	Prehistoric (2500 to 1500 B.P. (Late Martis))	Special task site, hunting; isolated artifact, Elko Eared point
17	1	5970	Residual tuff slope	950	-	Prehistoric	Isolated artifact, jasper edge-modified flake
19	1	5890	Saddle	840	-	Prehistoric	Isolated artifact, basalt biface or point midsection
20	2683	5920	Saddle and ridge	710	+	Prehistoric	Temporary base camp, pine nut gathering focus
22	25	5845	Drainage base	770	-	Prehistoric	Special task site, lithic reduction
23	4	5850	Residual slope	605	-	Prehistoric	Special task site, lithic reduction
24	1	5875	Residual ridge	680	-	Prehistoric	Isolated flake, obsidian tertiary
25	1	5885	Residual ridge	630	-	Historic	Isolated wine bottle, indulgence
26	1	5900	Colluvial slope	670	-	Prehistoric	Isolated shatter, jasper

Table 2 (continued). Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No 597-	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
27	1	5875	Colluvial slope	875	-	Prehistoric 1500-700 B.P. (Early Kings Beach)	Special task site, hunting; isolated point, obsidian Rose Spring
28	1	6210	Residual slope	1340	-	Prehistoric	Isolated artifact, chert core
29	1	6165	Residual ridge	1360	-	Prehistoric	Special task site, lithic reduction
30	15	6165	Residual ridge	1280	-	Prehistoric	Special task site, lithic reduction
31	1	6170	Residual ridge	1150	-	Prehistoric	Isolated artifact, biface margin
32	N/A	6230	Residual ridge	1010	-	Historic	Transportation, historic road and associated can
33	1	6020	Colluvial slope	850	-	Prehistoric	Isolated flake, obsidian
34	1	6080	Colluvial slope	830	-	Prehistoric	Isolated flake, jasper
35	1	6180	Colluvial slope	850	-	Historic	Isolated artifact, bucket
36	314	5950	Talus slope	610	-	Prehistoric	Special task site, hunting blinds
37	1	5955	Colluvial slope	570	-	Prehistoric	Isolated flake, jasper
38	N/A	5920	Colluvial slope, alluvial flat	630	-	Prehistoric 1500-700 B.P. (Early Kings Beach) - Historic	Special task site, hunting-lithic reduction; isolated historic bottle

Table 2 (continued). Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No 597-	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
39	1	5880	Alluvial flat	430	-	Prehistoric	Isolated flake, obsidian primary
40	1	6120	Residual slope	620	-	Prehistoric	Isolated flake, sinter
41	1473	5960	Residual slope	460	+	Prehistoric 2500-1500 B.P. (Late Martis Phase)	Temporary base camp, opportunistic focus
42	1	5870	Colluvial slope	300	-	Prehistoric	Isolated artifact, chert core
43	1	5930	Low colluvial slope	260	-	Prehistoric	Isolated flake, chert
44	25	5960	Low colluvial slope	310	-	Prehistoric	Special task site, lithic reduction location
45	10	5980	Low colluvial slope	400	-	Prehistoric	Special task site; lithic reduction location
46	412	5900	Bench	180	-	Prehistoric	Special task site, opportunistic
47	1	5880	Low ridge top	815	-	Historic	Isolated artifact, bottle base
48	1	5880	Low ridge	810	-	Prehistoric	Isolated flake, jasper
49	1	5845	Alluvial flat	680	-	Historic	Isolated artifact, wine bottle
50	1	5920	Colluvial slope	430	-	Prehistoric	Isolated artifact; basalt core

Table 2 (continued). Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
51	1	5875	Residual bench	390	-	Prehistoric	Special task site, lithic reduction, water catchment
26St12	502,340	5810*	Alluvial flat	640		Prehistoric Historic	Base camp, possible winter village; Chalk Hills Ranch

*at middle of corral

residuum, 597-4 is south of Long Valley Creek and just east of a larger lithic scatter, 597-5. This site appears to be a reduction location (one type of special task site) of local jasper, local obsidian and obsidian from the Bodie Hills or Mount Hicks areas.

597-5 is a medium-sized (40 x 60 m) lithic scatter with over 500 flakes of obsidian, jasper, basalt, chert and sinter, and several historic artifacts which do not appear related to the prehistoric material. Flake types are primarily tertiary with common shatter and rare primary and secondary flakes in densities up to 68 per sq m. Tool types include an abrading stone, one jasper and one obsidian scraper, one obsidian core and one chert Stage II biface. The variety of tools and density of debitage suggest that a relatively wide range of activities was occurring on this flat bench south of Long Valley Creek in prehistoric times, although no temporal indicators were located. The historic material appears to be a small trash scatter of hole-in-cap cans and milled lumber dating from 1895-1920. This site appears to be a temporary base camp but the focus of activities is not clear, although hunting and gathering are implied by the tool types and abundance of debitage.

597-6 is a small lithic scatter with one ground stone fragment located on a first terrace north of Long Valley Creek. Artifacts include a basalt core and flake, chert flake, obsidian flakes and Stage III biface or point midsection, and one rhyolite slab metate fragment. This site also appears to be a temporary base camp with both hunting and gathering activities suggested by the tool types.

597-7 is an isolated gray frothy obsidian secondary flake located on a south-facing residual slope above Long Valley Creek. This appears to be a location of lithic reduction of probably local obsidian.

597-8 is an isolated red jasper core or tested cobble. This site is situated on a north-facing residual slope and represents an example of opportunistic quarrying of local jasper.

597-9 is a small lithic scatter consisting of jasper, obsidian, sinter, and chert flakes, one jasper Stage III biface and one edge-modified jasper cobble. This site appears to be a special task site related primarily to lithic reduction.

597-10 (includes observations 597-11, -16, -18, -21) is the Long Valley Road and associated roads and artifacts east of Cottonwood Springs. This site represents a fairly well preserved segment of this historic transportation network connecting the Comstock to the Truckee River. The lateral roads which form the eastern portion of this site appear to have functioned as wood gathering roads. Most of the road segments have not been used for many years, and some are deeply eroded. Axe cut pinyon and juniper stumps that could easily date to the nineteenth century are common in all of the woodland areas. Though the woodland appears to have recovered to most of its former extent, mature trees appear to be rare.

597-12 is a medium-sized lithic scatter with a mano and probable hearth feature. The mano is in the hearth and has evidence of burning. One metal axe or saw cut rib of a cow or horse-sized animal was also recorded near this hearth. Lithic artifacts include basalt, obsidian, jasper and sinter primary, secondary and rare tertiary flakes. The mano and one red jasper modified flake comprise the tool assemblage. The presence of a mano and hearth feature suggest that this was a temporary base camp, probably for opportunistic hunting and gathering activities. The lithic items and the apparently historic age bone artifact may be related; i.e., a possible Native American post-contact site may be indicated.

597-13 is an isolated basalt chopper in an intermittent drainage. This site probably represents a location of tool use or loss. Uses for a large chopper could include root gathering, animal processing or lithic tool stone procurement, among others.

597-14 is a small lithic scatter that includes one basalt core and 14 flakes removed from this core. The core had previously been used as a metate and was found on a rhyolite ridge about 15 m upslope from its associated flakes. This site is a special task site concerned only with the reduction of a basalt core into primary and secondary flakes.

597-15 is an isolated basalt projectile point found on a residual slope. The form of the point suggests that it is an Elko Eared type indicative of the Late Martis Phase at 2500-1500 B.P. (HCRS 1980). This artifact suggests hunting activities occurred during the Middle Archaic at this location.

597-17 is an isolated jasper edge-modified primary flake located on a residual tuff slope. This tool probably represents a location of tool loss or use. This may or may not represent a special task site.

597-19 is an isolated basalt Stage III biface or point midsection found on a residual rhyolite saddle. This site probably represents a location of tool loss or use.

597-20 is a relatively large lithic scatter with two rock ring features and occasional ground stone. Several historic artifacts (one iron sled runner of a type commonly observed on wood gathering sleds, one square-nosed shovel) and numerous modern ones associated with a temporary campsite also occur. This site is situated on a ridge, saddle and colluvial slope northeast of Cottonwood Spring. Lithic tools include one obsidian Stage II biface, one chert Stage III biface and one basalt edge-modified flake, while debitage material types include gray frothy obsidian, jasper, sinter, basalt and chert. Two rock rings suggest possible habitation or pine nut storage facilities; both contain obsidian flakes. This site is probably a temporary base camp with a pine nut gathering focus. This use has continued up to comparatively recent times, as indicated by the presence of a 14 ft long wood ladder under a pinyon tree. The ladder is not near any road, and would have been quite useful for repeated visits to the area to collect pine cones.

597-22 is a small obsidian lithic scatter situated on alluvial flats just east of site 26St12. Tertiary flake types of gray frothy obsidian dominate with one secondary flake of the same material. This scatter represents a special task site focused on lithic reduction of a single obsidian artifact.

597-23 is a small lithic scatter with a tan jasper core and associated shatter. This site is located on a residual slope and is a location or special task site associated with jasper cobble reduction.

597-24 is an isolated tertiary flake of black frothy obsidian situated on a residual ridge. This represents a location of very limited lithic reduction.

597-25 is an isolated wine bottle base found on a residual ridge northeast of Cottonwood Spring.

597-26 is an isolated piece of red jasper shatter located on a colluvial slope. This probably represents a location of limited lithic reduction or core testing.

597-27 is an isolated frothy obsidian Rose Spring series projectile point situated on a colluvial slope north of 597-20. The presence of this point is taken as an indication that hunting activities were occurring in the area during the Early Kings Beach Phase (1500-700 B.P.).

597-28 is an isolated white chert core situated on a residual ridge. This artifact may indicate a location of tool loss or discard.

597-29 is a small lithic scatter of chert and jasper located on a residual ridge. Limited lithic reduction of two materials occurred at this site.

597-30 is a small lithic scatter of a tan chert primary flake and a basalt core fragment, 15 m distant. This probably represents one isolated incidence of lithic reduction and one of core loss or discard.

597-31 is an isolated sinter Stage II biface margin located on a rhyolite ridge. This location may represent tool loss or discard.

597-32 consists of a historic road and associated can on the flat ridge about 1 mi west of Cottonwood Spring. This site probably related to the local transportation network during historic times.

597-33 is an isolated gray frothy obsidian primary flake situated on a colluvial slope. Lithic reduction of a small (and probably near-local) obsidian nodule took place at this location.

597-34 is an isolated red jasper primary flake located on a colluvial slope. Lithic reduction of a local jasper cobble is indicated at this site.

597-35 is an isolated historic bucket found on an upper colluvial slope. This bucket could have been associated with any number of historic ranching, mining or transportation activities in the area. A possible prospect exists just above the bucket location.

597-36 consists of two circular depressions situated in a bouldery talus slope. Both features are about 3 m in diameter and one has boulders stacked two to three courses high on the downslope edge. These appear to be prehistoric hunting blinds, special task sites devoted to big game hunting activities.

597-37 is an isolated jasper secondary flake located on a colluvial slope. This isolate represents a location of lithic reduction of a local jasper cobble.

597-38 consists of a historic isolated brown glass bottle, a white chert Rose Spring projectile point and a sinter secondary flake, all situated on colluvial slope and alluvial flat landforms. The historic and prehistoric artifacts are probably not related. The point type suggests hunting activities in the area during the Early Kings Beach Phase (1500-700 B.P.).

597-39 is an isolated frothy obsidian primary flake located on an alluvial flat. A lithic reduction location is indicated by this site.

597-40 is an isolated sinter secondary flake located on a residual slope. Sinter is from the Steamboat Quarry in southern Truckee Meadows. This flake represents a location of lithic reduction of this material.

597-41 is a medium-sized lithic scatter with two manos and several tool types. The site is situated along an intermittent drainage. One basalt eared point suggests Late Martis Phase (2500-1500 B.P.) hunting activity, while manos, gray frothy obsidian, basalt and chert bifaces, and a jasper core suggest a variety of hunting and/or gathering associated activities. This site appears to be a temporary base camp with an opportunistic hunting and gathering focus.

597-42 is an isolated white chert core located at the toe of a colluvial slope. This location indicates tool loss or discard.

597-43 is an isolated white chert secondary flake located at the foot of a colluvial slope. Limited lithic reduction occurred at this location.

597-44 is a small lithic scatter with sinter shatter, a chert flake and jasper shatter situated on the lower reaches of a colluvial slope. This site represents a location of lithic reduction of three material types.

597-45 is a small lithic scatter of basalt, chert and jasper flakes situated on the toe of a colluvial slope. This site also seems to be a location of lithic reduction of three raw material types.

597-46 is a small to medium-sized lithic scatter situated on a bench northwest of Cottonwood Spring. This site contained evidence of lithic reduction in the form of bifaces and cores of sinter, obsidian and jasper, as well as evidence of limited plant or animal processing as perhaps indicated by an obsidian uniface. Flakes included jasper, basalt, obsidian, sinter and chert materials in primary, secondary and tertiary stages as well as shatter.

This site is in proximity to the larger 26St12 and probably represents a special task site related to the larger base camp.

597-47 is an isolated olive green glass bottle base. This artifact could be related to nearby road or ranching activities.

597-48 is an isolated jasper secondary flake situated on a low ridge. This suggests limited lithic reduction activity at this location.

597-49 is an isolated olive green glass wine bottle shattered on a rock on an alluvial flat near the historic roads and ranch found in the vicinity.

597-50 is an isolated basalt core situated on a colluvial slope below a ridge. This isolate may indicate a location of tool loss or discard.

597-51 is a small scatter of two flakes, one yellow chert secondary and one white chert secondary. These flakes are located on a residual bench along the southeast edge of Long Valley Creek near a natural pot hole or tinaja in the bedrock. This feature contained water during this survey and potentially acted as a water catchment feature for both historic and prehistoric peoples. This site is thus classified as a special task site for lithic reduction and potentially water procurement.

26St12 is a very large prehistoric residential base camp with numerous flaked and ground stone tools, features and at least four distinct loci that contain slightly different artifact assemblages, all centered around the Cottonwood Spring. For example, Locus 1 contains limited ground stone and abundant lithic debris and hammerstones as well as naturally occurring jasper cobbles in the old terrace deposits suggesting an emphasis on lithic reduction, while Locus 3 contains an abundance of ground stone, hammer-choppers and other formed tools and suggests an emphasis on plant and animal processing. Locus 2 contains numerous Martis points and lithic debitage and a dearth of ground stone, possibly representing retooling for animal procurement activities, and finally, Locus 4 contains a hearth with burned bone and a possible earth oven or pine nut roasting feature. Temporal indicators suggest site use during the Martis and Early Kings Beach Phases with no clear evidence of earlier or later use.

Additionally, this site contains the remains of the Chalk Hills Ranch. As was mentioned above, house structures and gardens are documented on this site from the 1860s. A map of historic features on the site is included as Figure 7. Ranching remains include three dams, spring improvements, pipelines, field systems, corrals, three stone house foundations, a stone cabin, flagstone barn or stable foundations, and extensive trash deposits. The only early written description of the ranch area is from Norris' 1867 survey notes (Survey Notes for T.18N R.21E Contract 2, Fiche 1 pp. 38-39 on file at the BLM State Office). Notes for survey of the east boundary of the township only indicates that the land is barren, rocky, and unfit for cultivation.

Notes for survey of line between Sec. 35 and 36 starting at the common corner of sections 35/36/1/2 (S boundary of township) include the following information:

Moving N, variation 16 deg. 40 min.
 Chains Description

 4.00 House 3 chains West.
 7.00 To garden.
 12.00 To Long Valley Creek.
 18.00 L--- Garden --- -- an eastern slope of hill.
 18.00 House about 11 chains east.
 30.00 House about 20 chains east.
 40.00 Set rock for 1/4 corner (14x8x3 [inches]).

Line between Sec. 25 & 36 proceeding E. from cor. 25/26/35/36:
 Chains Description

 24.00 Foot of hill.
 27.00 To Long Valley Creek bearing N & S.
 30.00 To road bearing N & S.
 30.30 To line of Rail Road [rest of sentence unreadable].
 40.00 Set stone for temporary 1/4 corner.
 75.00 Creek bearing N60W & E.
 79.60 Intersect the E boundary of township.

Note: Notes are somewhat abridged.

A dependent resurvey of portions of T.18N R.21E by G. S. Swanholm in 1941 included the perimeter of Sec. 36. Swanholm replaced most of Norris' stone markers with regulation posts, but left the original SW corner marker of the township. Old roads were noted, but no other cultural features. He notes that the area is suitable for grazing, but not for more intensive agriculture.

DISCUSSION

PREHISTORIC SITES

Following from the expected typology for archaeological sites derived from Washoe ethnography and posed as a model for the Comstock (HCRS 1980:3), prehistoric sites found during the Cottonwood Spring survey are placed into their appropriate categories as follows and with some discussion:

1. Permanent winter village: Site 26St12 could be a permanent winter village for both the Early Kings Beach and Martis phases. This contrasts with the Washoe model of permanent winter habitation nearer the valley floors; however, there is no clear evidence for Washoe at this site. The abundance of ground stone and the variety of finished lithic tool forms is similar to observations at suspected winter village sites in Truckee Meadows (Elston and Zeier 1986, Burke 1989) suggests similar usage for this site. Permanent winter structures such as pit houses and seasonally diagnostic faunal remains could contribute further supporting evidence to this, as yet tentative, hypothesis. If in fact, this site is a winter village for Martis and Early Kings Beach occupants, environmental differences as outlined in Table 1 between these times and the Late Kings Beach Phase are indicated.

2. Temporary base camps: Sites 597-5, -6, -12, -20, and -41 are considered to be temporary base camps because these contain a range of tool and debitage types and all have at least one piece of ground stone. Distinct features are also present on certain of these sites. All camps appear to have an opportunistic focus on hunting and gathering, and 597-20 contains features that may be related to pinyon storage (rock rings). Site 597-12 contains a hearth feature, mano and cut rib of a horse or cow, possibly indicating a historic Washoe/Paiute site. Site 597-41 contains an eared Martis series point, possibly indicating use during the Late Martis Phase.

3. Special task sites: Sites can be divided somewhat into specific activity foci within this category. Four hunting focus task sites were identified and include three isolated projectile points (597-15, -27, -38) and one site (597-36) with two hunting blinds in a talus slope. The three points suggest hunting activities during Late Martis and Early Kings phases, but no temporal affiliation was identified in the blinds.

One opportunistic task site, 597-46, was identified. This site contained abundant evidence of lithic reduction activities in addition to several bifaces and one uniface. These tools suggest that some plant or animal procurement or processing may have occurred at this site.

The most common special task site involves lithic reduction of local, near-local and non-local raw materials or cores into flakes, bifaces and other tool forms. Sites falling into this category are 597-3, -4, -8, -9, -13, -14, -17, -19, -22, -23, -28, -29, -30, -31, -37, -42, -44, -45, -50, and -51. This also includes opportunistic quarrying of jasper cobbles which occur commonly in upper terrace and pediment gravels throughout the project area. Near-local materials may include small gray and black frothy, or pitted, non-shiny nodules of obsidian, varieties of black to gray medium to fine-grained basalts, and pink, cream and white sinter from the Steamboat Quarry at the south end of Truckee Meadows. Non-local raw materials are rare in the current study area and only translucent and mossy obsidian varieties, probably originating in the Bodie Hills or Mount Hicks areas, were noted. Cherts are somewhat common in igneous rock terraines and these could also be near-local acquisitions.

In addition to lithic reduction task sites, tool loss or use locations could also represent special task sites. These are 597-3, -8, -13, -17, -19, -28, -31, -42, and -50, consisting of four cores, two bifaces, two edge-modified flakes, and one chopper.

4. Quarrying sites: No bedrock quarry sites were located although opportunistic quarrying of local jasper cobbles occurred commonly throughout the survey area. Additionally, metates were made exclusively from local rhyolites and andesites, available in quantity and in slab blanks throughout the area.

5. Petroglyph sites: These site types were not encountered in the survey area despite the existence of major petroglyph sites nearby, including the Lagomarsino Site (26St1).

Significance

Following from HCRS (1980:38), it is noted that the most significant sites in the area will be able to contribute answers to the following problems:

- I. Establishment of chronology for Comstock prehistory;
- II. Environmental history and human ecology;
- III. Identification of cultural patterns and ethnic affiliation;
- IV. Historic shifts in land use or other cultural patterns.

PREHISTORIC SITES

Data from 26St12 can address problems I, III and IV. Point types, a hearth with burned bone in Locus 4, and a roasting feature in Locus 4 contain intact deposits that could yield further information on these topics. The nature of Locus 1 and Locus 3 is such that there could be buried features or living structures in these locations. Excavations of terraces or subsurface examination with soil cores in spring mounds could yield past environmental data pertinent to problem II. Loci show differences in land use and further research in these locations could clarify problem IV.

In addition to 26St12, the temporary base camps (597-5, -6, -12, -20, -21) could all contain information relative to problems I and IV, while -12 may have information relative to problems II and III. Though the total information of these sites is less than that of 26St12, these small camps are also significant; 597-12 and 20 both have features and the others have the potential to contain hearths or other features.

HISTORIC SITES

Including historic localities within predominately prehistoric sites, there are five isolated artifacts, one trash scatter, and the following major site types:

Ranching

Archaeological evidence of the kind of ranching found at Cottonwood Spring is of particular importance for a variety of reasons. There was a considerable growth of local ranches in the Comstock Period to provide local vegetables, fruit and meat to the mining communities which were otherwise completely dependent on remote sources of foods (Rowley 1989:1-5 to 1-6). What sparse documentation there is concerning agricultural pursuits of this period concentrates on the large ranches in major valleys that were so situated to create immediate success of the sort that enabled ranchers and farmers to subsidize placing their personal histories in Thompson & West's *History of Nevada* (Angel 1881) and to attract further study and family histories by

occupants of these areas which continue the same agricultural tradition. The Chalk Hills Ranch is not of this sort. It is in a relatively marginal upland setting, like many small ranches which were on the fringe of the Comstock in areas such as American Flat. These ranches tended to have gardens watered by small springs and drainages, many of which have since gone dry, as is the case of the ranch near the Amazon Mine, which with its rock walls and cleared garden plots closely resembles the Chalk Hills Ranch (Reno 1989). An examination of the farming and ranching world portrayed in Angel (1881) shows attempts at bringing the order of the Victorian Era to the frontier, with houses aspiring to compare well with contemporary architectural designs, neat rectangular fields surrounded by wood fences, large outbuildings, and hay barns (Kuranda 1988). The chaotic feature system shown in Figure 7 does not fit this model at all. The domestic structures are of rough stone held together with mud mortar, fences are made of rocks resulting from field clearing, and the main agricultural areas are relatively small garden terraces rather than the extensive hay meadows of lowland ranches. Many of these small Comstock ranches were the homes of Italian immigrants, who were faced with greater difficulties than northern European settlers in their attempts to join American society. Two other ranches in Long Valley were run by Lagomarsino and Choppa. A search of records at the Storey County Court House indicates that the Chalk Hills Ranch was owned by Bartholemew Dellipiane [also spelled Dellipian, Dellephiana, Delepiane] and Co. In 1877 Dellipiane sold the property to his partner, Ramiggio Noce. The ranch passed from Noce's estate to D. C. Wheeler in 1911. The property remained with Wheeler into the 1920s, along with much of the surrounding areas along Long Valley and Lousetown Creek. The ranch land was valued at \$100 and improvements at \$50 during the height of the Comstock from 1875-1880. The depression resulting from the failure of the mines is evident with values of \$40 for land and \$40 for improvements in 1886. By 1900 the value of the property had barely recovered to \$125 for land and \$100 for improvements (Assessment Records 1875-1923; Map of Storey County in Assessor's Office dated 1923; Deeds Book 41:153; Book 28:81).

Transportation

Two sites, 597-2 and 597-10; include portions of the main historic road through Long Valley. More of this road and its variations passes through site 26St12. Portions of the extensive nineteenth century network of peripheral roads are present in sites 597-2, 597-10, and 597-32. Artifacts indicate that many of these road segments were still in use until about the 1930s.

Logging

Historic evidence of nineteenth century logging was limited to the labels of the roads on the cadastral survey plats as wood roads (Fig. 5). Archaeological evidence includes axe-cut stumps throughout the wooded areas, a probable iron sled runner blade fragment of a kind commonly found on wood hauling sleds at site 597-19, and the placement of peripheral roads in areas where the most likely purpose was transportation of wood.

Significance

Despite the relatively poor condition of the ranch remains at site 26St12, this ranch, with its diverse features through a long history of use, its probable use by a local immigrant population specializing in such ranches, and the general lack of historic documentation for this kind of ranching/farming activity, is significant from a variety of perspectives (Hardesty 1982:214-215; Bernstein 1989:1-31 to 1-33). The ranch is directly associated with a significant event, the development and support of the Comstock. It embodies of style of construction that appears to be representative of a regionally, culturally, and temporally distinctive ranch type that no longer exists, and the information potential of buried archaeological remains on the site has by no means been exhausted by our study of the surface remains. Though the Long Valley Toll Road is a significant site, this extensive complex of road remnants, retaining walls, way stations, and associated artifacts needs to be recorded as a whole entity before an informed decision can be made regarding the relative significance of any portion of the artifact and feature system that composes the site. There is no reason to suppose that the portions of the site found in the project area are particularly good representatives of this feature and artifact system. Hence, they are not regarded as significant at this time.

Whatever research potential the remaining small historic sites and isolates have has been adequately preserved through the recording done in the course of this survey. These other sites are not regarded as significant.

RECOMMENDATIONS

PREHISTORIC ARCHAEOLOGICAL SENSITIVITY

Although the project area is outside the boundary of the Comstock Archaeological Sensitivity Maps, it is easy to project zones into it. The uplands away from the floor of Long Valley would be rated P1, indicating a low sensitivity to prehistoric archaeological resources. This does not indicate that there are no archaeological sites in such areas, but that such sites are likely to be small, fairly redundant, and in general easy to either avoid or to mitigate adverse impacts. The floor of Long Valley would be assigned a higher rating of P3, and the area around Cottonwood Spring would be assigned a high rating of P4, which indicates a high probability for significant and complex sites. Survey results confirm the validity of the sensitivity zones, except that the P4 zone was too small on the draft maps. Since significant components of the prehistoric site complex surrounding Cottonwood Spring were up to 500 m from the water source, the P4 sensitivity zones around water sources throughout the sensitivity study project area were enlarged to this size.

HISTORIC ARCHAEOLOGICAL SENSITIVITY

The upland portions of the project area would be considered part of the H1 sensitivity zone. This is the lowest rated zone for the same reasons that the upland areas would be rated low sensitivity prehistoric zones. The floor of Long Valley would be rated H3, primarily because of its use as a transportation

corridor. The area around Cottonwood Spring would be rated H4, which is a relatively high sensitivity rating. Results of the survey indicate that the sensitivity mapping model used for historic archaeological resources in the Highlands area is adequate.

FURTHER DEVELOPMENT OF THE PROJECT AREA

We recommend avoidance of sites identified above as being significant (26St12, 197-5, -6, -12, -20, and -21). If avoidance is not possible, at least some test excavations and monitoring of earth disturbing activities associated with further development should be undertaken, particularly at site 26St12. In addition, should further development of Cottonwood Spring be undertaken, key structures should be preserved, in particular the corral and house ruins.

REFERENCES

- Angel, M.
- 1881 *History of Nevada*. Thompson and West, Oakland. Reprinted 1958, Howell-North Books, Berkeley
- Bernstein, R.
- 1989 *Ranching and Farming in Nevada, Operating §§Plan*. In *Nevada Comprehensive Preservation Plan*, edited by R. A. Bernstein and R. M. James, pp.1-3 to 1-15. Division of Historic Preservation and Archaeology, Carson City and Nevada Historical Society, Reno.
- Binford, L. R.
- 1983 *Willow Smoke and Dog's Tails: Hunter-Gatherer Settlement Systems and Archaeological Site formation*. In *Working at Archaeology*, by L. R. Binford, pp. 337-356. Academic Press, New York.
- Burke, T.
- 1989 *Intensive Cultural Resources Inventory of the Double Diamond Ranch, Truckee Meadows, Washoe County, Nevada*. Ms. on file, Archaeological Research Services, Inc., Virginia City, Nevada.
- d'Azevedo, W. L.
- 1986 *Washoe*. In *Handbook of North American Indians, Vol. 11: Great Basin*, edited by W. L. d'Azevedo, pp. 466-498. Smithsonian Institution, Washington, D.C.
- Elston, R. G.
- 1979 *The Archeology of U.S. 395 Right-of-Way Between Stead, Nevada and Hallelujah Junction, California*. University of Nevada, Archeological Survey, Reno.
- 1986 *Prehistory of the Western Area*. In *Handbook of North American Indians Volume 11: Great Basin*, edited by W. L. d'Azevedo, pp. 135-160. Smithsonian Institution, Washington, D.C.
- Elston, R. G. and M. K. Rusco
- 1975 *Review of Tentative Subdivision*. Ms. on file, Bureau of Land Management, Carson City. BLM Report No. 3-434(P).
- Elston, R. G., J. O. Davis, A. Leventhal and C. Covington
- 1977 *The Archeology of the Tahoe Reach of the Truckee River*. Nevada Archaeological Survey, University of Nevada, Reno.

Fowler, C. S. and S. Liljeblad

- 1986 Northern Paiute. In *Handbook of North American Indians, Vol. 11: Great Basin*, edited by W. L. d'Azevedo, pp. 435-465. Smithsonian Institution, Washington, D.C.

Hardesty, D. H.

- 1982 Farming/Ranching Activities. In *An Archaeological Element for the Nevada Historic Preservation Plan*, coordinated by M. M. Lyneis, pp. 208-223. Nevada Division of Historic Places and Archaeology, Carson City.

HCRS

- 1980 *Managing Archeological Resources on the Comstock*. The Comstock Project, U.S. Department of the Interior.

Heizer, R. F. and M. A. Baumhoff

- 1962 *Prehistoric Rock Art of Nevada and Eastern California*. University of California Press, Berkeley and Los Angeles.

Kuranda, K. M.

- 1988 Images of the Nineteenth-Century Agricultural Landscape: Notes on the Illustrations in the *History of Nevada*. Nevada Historical Society Quarterly Vol.31 No.4:259-275.

Myrick, D.F.

- 1962 *Railroads of Nevada and Eastern California, Vol. 1*. Howell-North Books, Berkeley.

Pendleton, L., A. McClane and D. Thomas

- 1982 Cultural Resources Overview, Carson City District, West Central Nevada. *Bureau of Land Management Cultural Resources Series 5*. Reno.

Reno, R. L.

- 1989 *An Intensive Cultural Resources Inventory of the Amazon-Haywood Expansion, Lyon County, Nevada*. Ms. on file, Archaeological Research Services, Inc., Virginia City, Nevada (ARS No. 580).

Rowley, W. D.

- 1989 Ranching and Farming in Nevada. In *Nevada Comprehensive Preservation Plan*, edited by R. A. Bernstein and R. M. James, pp. 1-3 to 1-15. Division of Historic Preservation and Archaeology, Carson City and Nevada Historical Society, Reno.

U.S. Department of the Interior

1989 *Cultural Resources Inventory General Guidelines*. United States Department of the Interior, Bureau of Land Management, Nevada State Office, Reno.

Zeier, C. D. and R. G. Elston

1986 *The Archaeology of the Vista Site (26Wa3017)*. Prepared for the Nevada Department of Transportation, Carson City. Prepared by Intermountain Research, Silver City, Nevada.