

**SMALL SITES ANALYSIS ON THE HOG RANCH GOLD PROJECT
NORTHERN WASHOE COUNTY, NEVADA**

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ABSTRACT

This report documents inventory and evaluation of archaeological sites located during a survey of cultural resources within the Hog Ranch Mine Plan and Claims Area. No single sites were found to be significant; however, taken as a collective group of sites representing aboriginal activity on Hog Ranch Mountain over the last 10,000 years, they represent a significant data base. These sites are intuitively believed to represent a variety of activities, even though they are all lumped into the rubric of "lithic scatters." These lithic scatters represent generally unknown or speculative activities or tasks by prehistoric people. This report is dedicated to the search for new data from old sites that no one has attempted to retrieve until now.

Introduction

Numerous laws, executive orders and regulations direct the federal government to perform inventories prior to "undertakings" which may disturb cultural resources. These inventories are generally pedestrian and conducted at less than 30 meter intervals over the entire area of the proposed undertaking. The Surprise Resource Area, Susanville District, Bureau of Land Management (BLM), received a plan of operation for a gold mine in 1985. Eventually, the BLM initiated an intensive inventory of some nine sections of land on Hog Ranch Mountain from 1986 to 1988. The proponents of the mine agreed to finance sourcing and hydration testing of selected obsidian material collected during the survey. A core team of three people were also hired by the BLM, and paid for by the company, to survey and record the archaeological sites (over 525) encountered. The recording was done on standard Intermountain Antiquities Computer System (IMACS) archaeological site recording forms. This computerized system was developed jointly by the University of Utah, Bureau of Land Management and the U.S. Forest Service (USFS).

The firm of Basin Research Associates, Inc.

was also hired by the company, Western Hog Ranch Mine, to excavate and evaluate three large rock shelters that had shown some promise during preliminary testing to contain buried and stratified cultural deposits. (See Busby et al. 1988 for a full report on this effort.)

Hog Mountain had been the object of intensive exploratory drilling for gold values by Ferret Exploration for five years. In September, 1985, the company notified the Bureau of Land Management of intentions to develop an open pit, cyanide heap leach operation on their claims. Shortly thereafter, the operation was sold to Western Hog Ranch Mine, Inc. The Hog Ranch Gold Project included an open pit mine, rock waste dump, low grade ore stockpile, access and haul roads, heap leach pads, process plant, stockpiled topsoil, water well and pipeline. The operation was concentrated in Section 24, Township 38 North, Range 22 East, Mt. Diablo Meridian. The Hog Ranch Gold Project is about 47 miles north of Gerlach, Nevada, and about 60 miles southeast of Cedarville, California. It is located on the north and west slopes of Hog Ranch Mountain in northeastern Washoe County, Nevada.

Accordingly, the Surprise Resource Area Manager, under the authority of 43 CFR 3809

and 36 CFR 800, required a Class III cultural resource examination of the entire one-mile radius covered by their preliminary plan of operation. The company agreed to expedite clearance by paying for the inventory. Two persons, Lynn Nardella and Roger Wardlow, both experienced in recognition and recording of Great Basin cultural resource sites, performed the survey during two weeks in mid-October 1985. Approximately sixty archaeological sites and/or isolated artifacts were encountered. Of these, four are believed to be eligible for inclusion on the National Register of Historic Places.

Environment

Geology/Geography

Hog Mountain is the northern extension of the Granite Range, within the Basin and Range Province of northwestern Nevada. Locally, the formation is believed to represent a portion of a Tertiary caldera, some twenty miles in diameter. Considerable evidence of an ancient deep, still standing lake exists within this caldera, and this basin contains deposits of diatomaceous earth of considerable depth and stratigraphy. Obsidian nodules are also distributed over much of the caldera interior. Additional volcanic activity in the form of hydrothermal fluids has altered the parent rhyolite formation to a highly siliceous state. These obsidian, chert or opal formations were not only the sources for aboriginal tools, but are also the site of dispersed gold and other precious metals. Much of the formation has eroded and the more highly siliceous formations remain as outcrops. Ephemeral drainages and several permanent springs flow down through steep canyons to the basin floor, but the general topography is gently rolling hills and ridges covered with exfoliated rhyolite.

Flora

The dominant vegetation is low sage mixed with bunch grasses and forbs. Deeper soil sites contain extensive stands of big sage and bunch grass. Willow, aspen, and mountain mahogany can be found in small stands close by, in favorable ecozones for these respective species. Several invasive juniper have been noted as well as remnant stands of chokecherry and elderberry. Gooseberry and current are

common, especially along the Van Norman Springs drainage.

Fauna

The Hog Mountain area supports a large sage grouse population, with a major strutting ground about a mile from the study area. Deer and antelope are also known to frequent the area and prehistorically mountain sheep may have occurred. The habitat appears to have also favored elk and bison, but no historic evidence is known to support this inference. The usual Great Basin range of rodent, rabbit, badger, coyote, and cats are also present. Domestic cattle and free-roaming horses dominate the modern fauna present on Hog Mountain.

Nearest Water

Van Norman Springs lie more or less in the center of the study area. They rise at an elevation of nearly 6000 feet MSL, being two permanent springs of considerable flow, and separated at their headwater by a small short ridge. At present the stream flow carries to the west approximately one half mile, but in wetter times probably extended considerably further. Grass Valley Spring, another major permanent spring system, lies about four and one half miles southwest. These perennial springs as well as numerous major seasonal drainages flow into the Cottonwood Creek system, thence through the Little High Rock Canyon and High Rock Lake system. In wetter conditions, or heavy spring runoff, the hydrological regime would/could include the Black Rock Desert.

Previous Research

Archaeology

During the late 1960s, a flurry of doctoral theses were written, based on the archaeology of "the High Rock Country" and the Great Basin. Of these, McGonagle (1974) and Layton (1966, 1970) are the most germane to the present study. These scholars worked on sites from ten to twenty-five miles east and north of Hog Ranch Mountain. Other very important work was done thirty to forty miles to the west, in Surprise Valley, by O'Connell (1975). Further away but within the Great Basin, work done by Aikens (1978a, 1978b, 1982), Bedwell (1973), and others is

also quite relevant to our problem.

Beginning in the mid-1970s, federal cultural resources programs added significantly to the data base surrounding Hog Ranch Mountain. Specifically, Chris (Corson) Raven was instrumental in designing and implementing surveys which provided good, solid, areal coverage. He also initiated testing of vandalized caves, rockshelters and open sites in the area. John Roney (1978) and others have provided excellent data across the administrative boundary to the east. Increasing awareness and sophistication of the 1980s has led to work done within 48 (air) miles of Hog Ranch Mountain by Kathryn E. Pedrick (1985) on a large chert quarry site in the Lake Range, Washoe County, Nevada. Other relevant work extends from the 1950s to the present, in excavations in Pershing County Caves.

Ethnographic Background

Good evidence exists for the presence of man in the area as early as 8,000 to 11,000 years ago. For a detailed summary of a chronology applicable to this area, see Bard, Busby and Kobori (1981).

Hog Ranch Mountain lies on the north edge of the Northern Paiute band territory, the Kamodokado (Stewart 1939). Prior to the cow, groups dispersed in family units to procure the annual seed harvest, dig roots, hunt large and small game and acquire other raw materials such as stone and fiber. At Hog Ranch Mountain, the central focus during this era would probably have been sage grouse, deer, antelope, bighorn sheep and the lithic sources previously noted. The wintering place for the Kamodokado was the Gerlach area. "Digger Town," noted by Delano (1936) in 1849, lies 15 (air) miles to the north, in High Rock Canyon and is probably affiliated with the Agaipanina band of Northern Paiute. This vandalized village site was tested by Layton (1970) and some information has been obtained which may be applicable at Hog Ranch Mountain.

Layton believes that occupation at "Swallow Marsh Cave" (in Digger Town) was intensive by at least 2500 B.C., and continued up to at least A.D. 1849.

The archaeological record reflects this

Northern Paiute incursion as a light usage, prior to the historic era. It is entirely possible that as pressure on traditional use areas increased during the 19th century, the remnant population increased their use of this area. This may have been a non-traditional use, or an adaptation to the newly introduced game animal, the "slow elk." U.S. Army records of February, 1866 report a "pitched battle" eighty miles east of Fort Bidwell wherein eighty-one warriors and "fifteen squaws and papooses" were killed. "The camp, with about three tons of dried beef, was burned and nineteen squaws and papooses were set at liberty and supplied with thirty days ration of dried beef" (U.S. Army records). Incidentally, there were no U.S. Army casualties.

At both Hanging Rock Cave and Last Supper Cave excavations, Layton (1970) found evidence of beef butchering with stone tools and Desert side-notched projectile points at the surface levels.

There is other evidence of use continuing to at least 1911 in the vicinity, although these were not Northern Paiutes. Shoshone Mike Dagget and his family were found to have survived the winter of 1910-1911 in Little High Rock Canyon on several tons of rustled beef (Mack 1968).

Survey Methods

All areas of proposed direct impact received an intensive pedestrian survey according to Cultural Resources Survey: General Guidelines (Bureau of Land Management 1985). This consisted of two or three persons walking abreast (where terrain permitted) in transects of a width not exceeding 30 meters (100 ft) over the entire area. When cultural resource materials were encountered, transect width was reduced to insure adequate coverage. Secondary and/or indirect impacts were also considered and peripheral areas were examined if it was felt that they might be affected by possible future expansion or such factors as improved access. As the needs, dreams or desires of the "Mine" increased, so did the size of the project. What had begun as a simple pit and heap leach operation of just over 300 acres eventually developed to over nine sections (5,760 acres) of

inventory, and over five hundred sites to evaluate. This ambitious plan was subsequently scaled down after the sale of the mine to a company with an intensive drilling program.

All cultural resources were recorded on standard Intermountain Antiquities Computer System (IMACS) forms. Photographs, artifact drawings, and site sketch maps were made as appropriate. All diagnostic artifacts and a representative sample of bifaces, debitage, etc. were collected as a primary mitigation measure.

Findings

The five hundred and sixty-plus sites and isolated artifacts found by this survey team represent prehistoric activity on Hog Mountain. No sites of significant historic nature were located within the study area, although trash representative of early sheep and cattle activities is common, no loci were found. Several historic mining claims were located. Modern activity is evident throughout the area from the exploratory drilling program.

The prehistoric evidence is dominated by debitage from lithic tool procurement and production. The scattered nature of the obsidian cobbles, or float, has resulted in lithic scatters of minimal size, frequently the single audit of a cobble. These quarry locations are restricted to a fairly narrow band where the flow or float occurred geologically and became exposed by erosion. At least three locations were found where hydrothermally altered rhyolite (termed "chert" in reports dealing with Hog Ranch Mountain) was obtained aboriginally and utilized for tools. Secondary lithic reduction activities accounts for a larger number of the recorded lithic scatters. These "secondary lithic reduction" activities are the primary focus of this study. These lithic scatters represent generally unknown or speculative activities or tasks by prehistoric people.

Several locations were recorded where minimal stone structures were built. These generally were either in the form of stone rings, or more commonly, depressions, in scree fields adjacent to natural chutes, or breaks in the rims. These are commonly referred to as "hunting

blinds."

Two cairns were recorded that are most likely burials. A minimal preliminary inspection provided the clues: the skull and horns of a big horn sheep in one; the skull and horns of a pronghorn in the other. No further examination was done on these sites.

Many caves and rock shelters were found and recorded because of minimal evidence of human occupation or visitation. Most were tested. Most yielded obsidian debitage. Some yielded minimal hearth evidence, which provided sagebrush charcoal for C14 tests. Several had grinding implements. One had a burial. None, including the most promising, showed evidence of prolonged or intensive occupation by humans. The best rat middens have been sampled by Dr. Peter Wigand of Desert Research Institute. To date, we have received no information concerning his research. The two shelters with the most sensitive contents were fenced with cyclone fencing by the mine, to protect them from casual scratching by employees or livestock.

Two locations were recorded where extensive prehistoric activity had occurred. The full range of time sensitive projectile points (e.g. Parman - ca. 8,000 years B.P.) and grinding implements were found at these relatively large areas. No evidence of habitation structures could be discerned. Excavation was not attempted without some surface indication of the potential for buried material.

National Register Recommendations

Four of the sites found were determined to be eligible for inclusion on the National Register of Historic Places on their own merits, largely because they were type sites representing the broad range of sites believed to illustrate the lifeways of this part of the northern Great Basin.

The sites herein reported could no doubt be argued convincingly as constituting at least a portion of a district. This would have been particularly true had the numerous rockshelters encountered in the survey been proven to contain deeply stratified evidence of settlement

or subsistence patterns. As it turns out, the rockshelters seem to represent a no more special site type than those open sites adjacent to them. They are special in that they reflect land use that required temporary shelter, for whatever reason - heat, wind, cold, rain, lightening, or darkness - at that location. Thus, we may have a burial at the lowest level and an intense lithic industry at the highest elevation rockshelters, with the range of activities conducted in between being represented in open sites as well as the shelters. The time sensitive projectile points indicate use of the Hog Ranch Mountain area over as long a time span as anywhere in this part of the Great Basin, but this is not reflected in the rockshelter tests done to date. This is an inconsistency that we find: a projectile point collection dominated by Elko series points from the surface, and excavated projectile points from Rose Spring and later in rockshelters.

Perhaps this is because early man at Hog Ranch Mountain was not far from home, a condition which may have existed on into the time of people using the Elko style projectile points. This thesis is not likely to be tested through conventional and current archaeological methods because the sites in Little High Rock Canyon that could answer this question have been completely vandalized. Little High Rock Canyon is the most likely "home place" for Hog Ranch Mountain. It is possible, but unlikely, that undiscovered places yet remain.

Small Site (Lithic Scatter) Analysis

All sites are required to be evaluated against a standard to determine "significance" (it is important to someone or contains information important in prehistory). None of these sites were determined to be "significant." However, it was realized intuitively that the rubric of "lithic scatter" obscured the task specific character of the sites. Many tasks are obviously represented by "lithic scatters," and the term is insufficient to describe the universe of broken obsidian lying on the desert ground, e.g.:

(A) Lithic Reduction: a series of recognized steps in the manufacturing of a stone tool. Generally these steps are segregated by space from each other, as well as by the type of

detritus.

(B) Hunting: the place where the hunter is on a stand waiting for others to drive the quarry past. Frequently these spots are also associated with tool retouch or resharpening of minimal character and are in a saddle, ridge or other opportunity to restrict movement of game.

(C) Butchering: this obviously takes place near the actual kill site and may represent repeated events in a favored location. These locations may contain broken projectile points, knives or bifaces and retouched or edge damaged flakes used as tools.

(D) Gathering: these sites reflect lithic involvement in the intensive use of roots, seeds, berries, rushes, grasses and wood utilized by prehistoric inhabitants of the Hog Ranch Mountain area.

All survey data was also placed in a "home grown" data base system developed in the Surprise Resource Area on Dbase III+, designed specifically to deal with lithics (stone artifacts). Selected obsidian artifacts were sorted by number, type and material for additional analysis. This analysis consists of sourcing (chemical finger printing), obsidian hydration (a relative dating technique), and eventually a selected group should have blood residue analysis (species typing of blood on the artifacts to determine the target of the artifact). Western Mining also contributed funds for C14 testing, to provide absolute dates for selected items from the same strata.

The Dbase III+ data was converted to point data for use in the MOSS environment of the BLM's Geographical Information System (GIS) using Multiple Attribute Support, which in turn provides the rest of the relevant site location data such as aspect, slope, elevation, and of course, relative site locations. Utilizing the codes dealing strictly with lithic debitage, these sites are clustered by similar attributes. These clusters should represent site specific tasks which can be identified by the relationship between the attributes, such as: artifacts; the source of those artifacts; time sensitive projectile points, hydration and C14 dating; blood residue;

and site size, elevation, aspect, and slope.

The "CODES" section of the IMACS site form lends itself to this attempt to sort these site types by means of their internal composition. This category of information on the IMACS site form consists of six coded items concerning lithic debitage:

1. #Code: A total quantity code, i.e. (A) None Present, (B) 1-9, (C) 10-25, (D) 25-100, (E) 100-500, (F) 500+, (G) Unknown).

2. Code 1: Primary Decortication - any unutilized flakes produced from core reduction, usually with large amounts of cortex on the dorsal surface; greater than 30mm in size.

3. Code 2: Secondary Flake - any unutilized flake produced from core reduction with little cortex on the dorsal surface compared to large primary flakes; 15-30mm in size.

4. Code 3: Tertiary Flake (Primary Thinning) - any unutilized flake from core reduction with less than 1% cortex on the dorsal surface and/or three or more dorsal flake scars; less than 15mm in size.)

5. Code 4: Shatter - unmodified piece of material produced from core reduction without definite flake attributes.

6. Code 5: Core - any nucleus of raw material from which flakes have been detached.

Code 1 through Code 5 receive an estimate of relative abundance:

- (0) None Present
- (1) Rare (under 10%)
- (2) Common (10-50%)
- (3) Dominant (50%+)
- (Z) Unknown

The initial approach was to generate clusters of sites with like attributes, utilizing "frequency," in the "Code" fields. Codes were sorted manually for similar values into four groups from an initial cut of seven. These were clustered with the rationale that code values of "common" and "dominant" could be linked more closely than "rare" and "absent," which could

also be linked. An additional assumption was made about the category of tertiary flakes, that is, they may be missed without excavation to augment the field observations; therefore, they may be totally included or excluded without appreciably affecting the outcome. This work is still in progress and in its infancy. The data is now arrayed with respect to time and space, in an effort to discover the function of the lowly lithic scatter. There is a promise of new data from old sites that no one has attempted to retrieve until now.

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