Foster's Editorial Note: This is the published version of our paper on ***Style 7 Rock Art and the Martis Complex in the Northern Sierra Nevada***. It was published in 2005 in a journal called ***Labyrinthos***, along with a fine collection of other articles, as a memorial volume in honor of Clement W. Meighan, which was assembled and edited by Brian D. Dillon and Matthew Boxt. The title of this volume is ***Archaeology Without Limits – Papers in Honor of Clement W. Meighan***. Soon after Meighan's death in 1997, Brian D. Dillon and Keith L. Johnson agreed to work together to organize a single Meighan Memorial Volume. They received too many papers (n=38) to be feasibly included into a single volume so reluctantly they decided to split the collection of papers so each would publish their own memorial volume. Keith's was published in 2005 by Stanbury Publishing. It is called ***Onward and Upward – Papers in Honor of Clement W. Meighan*** which is printed as a handsome, 332-page hardbound cloth book, printed to excellent quality. Unfortunately, our Style 7 Rock Art paper ended up in the ***Labyrinthos*** volume which was produced in rather poor quality of print. The maps and photos contained in our article are very hard to read in the original black and white printing and the text contains glaring formatting errors. This scanned version makes those problems even worse. The map and several of the photos of this scanned version are barely legible.

We decided to scan and make available the pre-publication (1999) version of our Style 7 Rock Art paper. While the text is slightly different and it has a slightly different name, the report contains no formatting errors and the maps and photos (printed in color) are of much better quality. Readers may wish to review that version, which can be found below on this same list of reports, within the group written in 1999.

Dan Foster
August 2011

Archaeology without Limits

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STYLE 7 ROCK ART AND THE MARTIS COMPLEX, NORTHERN SIERRA NEVADA, CALIFORNIA

Daniel G. Foster, John Betts, and Linda C. Sandelin

ABSTRACT

Numerous distinctive prehistoric rock art sites exist throughout the higher elevations of the northern Sierra Nevada of California. The style of these sites was defined as Style 7, High Sierra Abstract-Representational petroglyphs, four decades ago. More recent investigations indicated a possible association between such abstract petroglyphs and the Martis Archaeological Complex. This association was based on the types of projectile points most frequently found in the vicinity of the petroglyph sites.

Our own ongoing archaeological investigations in the northern Sierra Nevada have now identified 92 Style 7 rock art sites. Detailed recording activities at these sites have produced artifactual evidence supporting their identification with the Martis Culture. We believe that Style 7 rock art and Martis Rock art are one and the same.

INTRODUCTION

Remarkably similar prehistoric rock art sites in the northern Sierra Nevada of California display one of seven rock art styles, Style 7, High Sierra Abstract-Representational Petroglyphs, defined by Payen (1966: 64). This style was later linked to the Martis Archaeological Complex (Elsasser and Gortner 1991; Gortner 1984; 1986b). We have extensively surveyed and recorded Style 7 rock art sites, confirming both Payen's stylistic and Gortner's cultural identifications. Ninety-two Style 7 sites have now been identified, a more than sixfold increase over the number of sites used to initially define the style. A detailed analysis of environmental and associated archaeological attributes provides additional information which refines and clarifies the original style definition.

Previous rock art research in the study area is reviewed, a current inventory of all known Style 7 sites is presented with brief site descriptions, discussion of associated archaeological materials, and a summary of recording history. The artifactual evidence associating Style 7 rock art with the Martis Archaeological Complex is also reviewed and evaluated. We conclude that Style 7 rock art was made by the Middle Archaic period Martis people some 4,000 to 1,500 years ago.

HISTORY OF RESEARCH

The first published description of rock art in the northern Sierra Nevada is included in Mallery's massive compendium of information on Indian picture-writing. Two sites included in the current study, Meadow Lake and Soda Springs, are mentioned in an account provided to Mallery by R. L.

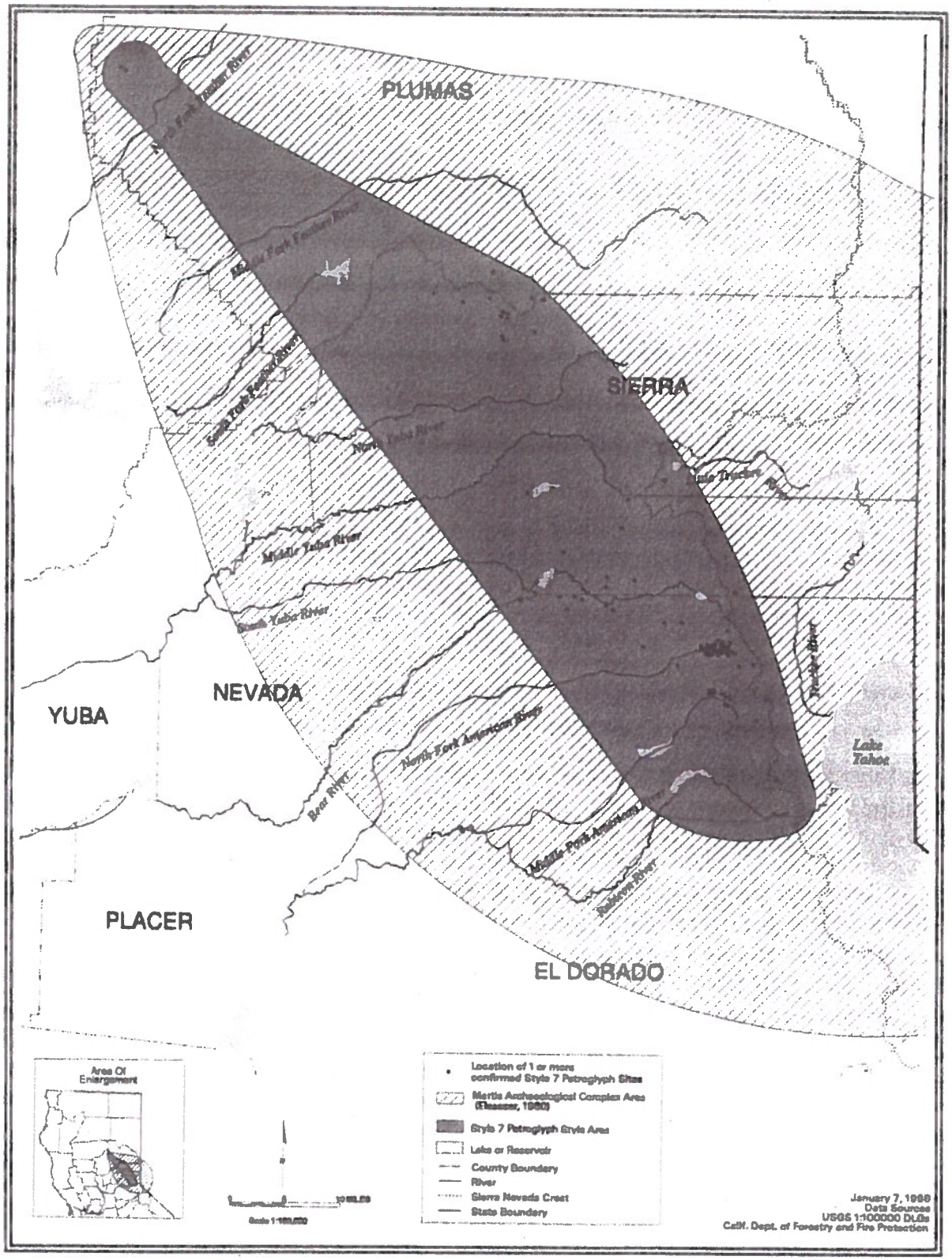

Figure 1. The distribution of Style 7 petroglyph sites (dots) and the Style 7 area (dark shading) superimposed over the Martis Archaeological Complex area (diagonal line shading). Map by Foster, Betts, and Sandelin.

Fulton of Reno, Nevada. Curiously, these descriptions are presented in the chapter on sites from the state of Nevada, not California (Mallery 1893: 93-94). A lengthy and colorful description of the Soda Springs site is presented in an earlier nineteenth-century article (Avery 1873: 489-493), but unfortunately no mention of the rock art is included.

In his pioneering study of rock art in California and adjoining states, Julian Steward lists and describes five petroglyph sites that are relevant to the current study. These sites are designated as 26 Pt. Blairsden, 28 Pt. Hawley Lake, 29 Pt. Meadow Lake, 30 Pt. Donner Pass, and 31 Pt. Near Donner Lake (Steward, 1929: 65-69). Only three separate sites are actually described. The illustration for 26 Pt. Blairsden is clearly recognizable as being from 28 Pt. Hawley Lake (Payen and Scott 1982: 36-38). Recent research (Betts 1998) has also shown that the two separate designations in the Donner Pass area refer to one and the same site. Payen (1966: 23) suggested this probably was the situation as well.

The most comprehensive research on northern Sierra Nevada rock art so far is by Louis A. Payen (1966). This excellent study contains information on 133 rock art sites distributed over a region extending from Plumas and Butte counties in the north to Mariposa County in the south, and from the California-Nevada border west to the Central Valley. Payen personally visited 110 of these sites and provided site descriptions, detailed analysis, and an extensive series of illustrations of their rock art. He also developed a classification system that identified two major rock art traditions, subdivided into seven distinct styles.

These stylistic divisions were based on the recognition of similar site attributes including subject matter, method of execution, rock selection, archaeological associations, environmental setting, and distribution. Each of these rock art styles was named, numbered, and defined through specific groups of attributes and associations. One of these styles, High Sierra Abstract-Representational, or Style 7, is the focus of the current paper; Payen (ibid.: 66) included 15 sites within his Style 7 designation.

Klaus Wellmann (1979: 68), in his massive tome on the rock art of North America, accepted Payen's stylistic groupings for the northern Sierran region, but others did not. In their overview of California rock art Heizer and Clewlow (1973: 25-29) instead promoted a "Central Sierra Petroglyph Style," lumping all petroglyph sites in the northern and central Sierra Nevada region together in disregard of Payen's (1966) earlier stylistic subdivisions and merging many dissimilar rock art sites into a single style. Subsequently, Clewlow (1978: 621-622) and Heizer and Nissen (1977: 152) reiterated their notion of a single style area.

Recent research (Betts 1998) in the Donner Pass area has demonstrated that three of the eight rock art sites described by Heizer and Clewlow (1973) within our current study, NEV-4, NEV-5, and NEV-6, are actually one and the same site. Heizer and Clewlow (ibid.: 108, Figure 186a-b) also describe petroglyph site NEV-85 with two illustrations that appear to have been traced from photographs. These have been identified as early stereographs taken by Alfred Hart during the 1860s at the Cisco Grove No. 1 site (Kibbey 1996: 25). This site was largely destroyed by the construction of Interstate 80 and has been redesignated CA-NEV-506.

Michael Claytor (1973) conducted an archaeological survey over a large section of the northern Sierra Nevada, including Bear Valley and the upper watershed of the South Yuba River. This study attempted to locate and record all prehistoric archaeological sites in the area and determine the patterns of aboriginal occupation. Claytor located 43 prehistoric archaeological sites including five previously unreported petroglyph sites. Using Payen's style designations, three additional Style 7 sites were identified. Payen's observations concerning rock selection were also confirmed (Claytor 1973: 56).

Payen and Scott (1982) conducted an archaeological survey of the Hawley Lake area for the U.S. Forest Service, identifying 39 prehistoric sites. Site types included petroglyphs, seasonal camps, hunting blinds, and quarry areas. These sites provided evidence of hunting, gathering, and tool manufacturing. In addition to the major Hawley Lake petroglyph site, six new Style 7 sites were identified.

Research conducted by Willis A. Gortner has made a substantial contribution to the study of prehistoric rock art and the Martis Archaeological Complex in the northern Sierra Nevada. A professional biochemist, well known in the field of human nutritional research, Gortner spent over 20 consecutive summers at "The Cedars," a resort community in the upper reaches of the North Fork of the American River. He occupied much of this time searching for petroglyphs, discovering more than 50 previously unreported rock art sites in both the North and Middle Fork drainages of the American River.

Although he did not use the term "Style 7" in his writings, choosing instead to follow Heizer and Clewlow's designation of a "Central Sierra Petroglyph Style," Gortner (1984; 1986b) recognized the remarkable similarity of these petroglyph sites and that these sites were associated with the Martis Archaeological Complex. With the encouragement and assistance of the senior author and the California Department of Forestry and Fire Protection, Gortner (1986a; 1988) prepared records for 56 petroglyph sites.

Peak and Associates have carried out intensive archaeological investigations at the Lakes Basin site (CA-PLU-88) for the U.S. Forest Service. This study included intensive recording of rock art panels and test excavations of the cultural deposits throughout the site area (Neuenschwander 1994; Peak and Associates 1993). Although the occurrence of Style 7 rock art at the Lakes Basin site had been previously reported (Payen 1966: 21), this study used the night-lighting technique to reveal a great many petroglyph elements that had not been previously observed; 578 elements were recorded on four panels (Peak and Associates 1993: 75).

The senior author has been conducting research on Style 7 rock art since 1982. In 1988 Foster and Betts began their collaborative effort to relocate and record all known Style 7 sites. The California Department of Forestry and Fire Protection (CDF) and the U.S. Forest Service (USFS) has supported this work, with CDF sponsoring surveys and site recording on privately owned forest lands, and the USFS supporting recording efforts within the Tahoe National Forest. Thirty-three sites have been recorded or updated as a result of this project. The most recent recording efforts have resulted in complete archaeological site records prepared in accordance with the California Office of Historic Preservation guidelines (1995), and include scale drawings of all petroglyph panels, photographs, detailed site maps showing the full extent of each site area, and site location maps plotted on USGS 7.5' topographic sheets.

CURRENT SITE INVENTORY AND RECORDING STATUS

Our inventory of all known Style 7 rock art sites includes 92 confirmed examples (Figure 1). The common name, trinomial designation if assigned, environmental setting, approximate number of petroglyph panels and elements, associated archaeological features and artifacts, and a summary of recording history is shown for each site. Our list is arranged sequentially by county and then by trinomial. In determining the common site names, the name designated on the original site record

was typically used. On some records a site name was not indicated and the earliest published reference was used as a historic precedent. In some cases, however, more recent site names have come into widespread usage, and the name most frequently applied to the site was then chosen. Despite possible inadequacies in some of these site names, new designations were avoided so as to prevent unnecessary confusion. One project result has been our recording of 68 study region sites formerly unrecorded or completely unknown. Only 10 of the sites currently known within our study area lack trinomial designations.

Site locations were plotted into a GIS database from their Universal Transverse Mercator (UTM) coordinates. Locational information for these sites has been excluded from this report owing to their exposed nature. The harsh environmental conditions of the High Sierra have often left the rock surfaces containing the petroglyphs in extremely fragile condition. Surface deterioration in the form of exfoliation and block fracturing has severely damaged many of the panels. Exfoliation is a natural process where the rock surface detaches from the underlying bedrock and spalls away, completely destroying the rock art (Figure 2). The location of the petroglyphs on horizontal, ground-level outcrops leaves these fragile panels vulnerable to damage from foot traffic.

Vandalism has also been encountered at these sites with alarming regularity. Damage from graffiti scraped onto rock art panels, spray paint, chalking of petroglyphs, campfires, illicit removal of artifacts, and the complete removal of rock sections containing petroglyphs are just some of the forms of defacement that have been encountered. Many of these sites are in remote areas and are completely unprotected. We believe that site location information should be kept confidential and that unsupervised, casual visits by the public should be discouraged. Our intent is to disseminate the results of our research without incurring additional visitation, which could lead to detrimental impacts at these highly sensitive and significant sites. Our brief summary of the Style 7 rock art sites known at present follows.

Meadow Lake (CA-NEV-3): A large concentration of petroglyphs is situated in an area of glaciated granitic bed-rock and boulders. This is one of the most extensive petroglyph sites in the northern Sierra Nevada containing at least 75 panels with more than 500 elements. This site is mentioned in Mallery (1893: 94) and is included in several subsequent rock art studies (Heizer and Clewlow 1973: 108; Payen 1966: 24, Figs. 21-25; Steward 1929: 66, Fig. 10). A one-page site record was prepared by A. R. Pilling in 1949. No artifacts have been reported from this site, but Payen mentions a Martis-type projectile point found one-half mile away (1966: 24).

Donner Pass (CA-NEV-4): On a granite bench in a large glaciated bowl is an extensive petroglyph site containing 25 panels with approximately 205 elements. This site also contains a sparse lithic scatter localized in two discrete concentrations on opposite sides of the bedrock outcrop. A panoramic view to the east includes Donner Lake, Martis Valley, and Mount Rose. This is probably the best known and most frequently visited rock art site in the northern Sierra Nevada and has been included in numerous rock art studies (Gortner 1984: 84-93; Heizer and Clewlow 1973:108; Payen 1966: 23-24, Figs. 17-20; Steward 1929: 67-69; Wellmann 1979: Figs. 271-272). Norm Wilson prepared a map of a portion of the site area in 1956 (Petroglyph Site, Donner Summit, State of California, Department of Natural Resources, Division of Beaches and Parks, Drawing No. 6043). Forest Service personnel prepared a site record in 1988. The results of a recent intensive recording project are currently in preparation (Betts 1998).

Grouse Ridge (CA-NEV-84): Midway up the south face of Grouse Ridge are two glaciated granite benches with an extensive group of petroglyphs. The first bench contains approximately 20 petroglyph panels with at least 200 elements. The second bench contains four panels with approximately 28 elements. A sparse basalt lithic scatter is located between the two petroglyph outcrops. Two basalt Martis-series projectile points have been found here. The site is situated at the edge of a bluff that provides a dramatic view of Old Man Mountain and the South Yuba River drainage. This site was originally recorded by F. A. Riddell in 1961 and is included in Payen (1966: 24, Fig. 26a-l). Forest Service personnel prepared an updated record in 1992.

Spaulding Ridge (CA-NEV-426): Along the western edge of a prominent ridge is a glaciated granite outcrop with a group of six petroglyph panels containing 45 elements. An incipient bedrock mortar is also located on

Figure 2. Natural exfoliation of rock surface has removed a portion of the Style 7 petroglyph panel at the Long Lake site, CA-PLU-4. Photo by Craig Carter, 1985.

Figure 4. Multiple zigzag lines in series and simple crosses at the Spaulding Ridge site, CA-NEV-426. Photo by Dan Foster 1982.

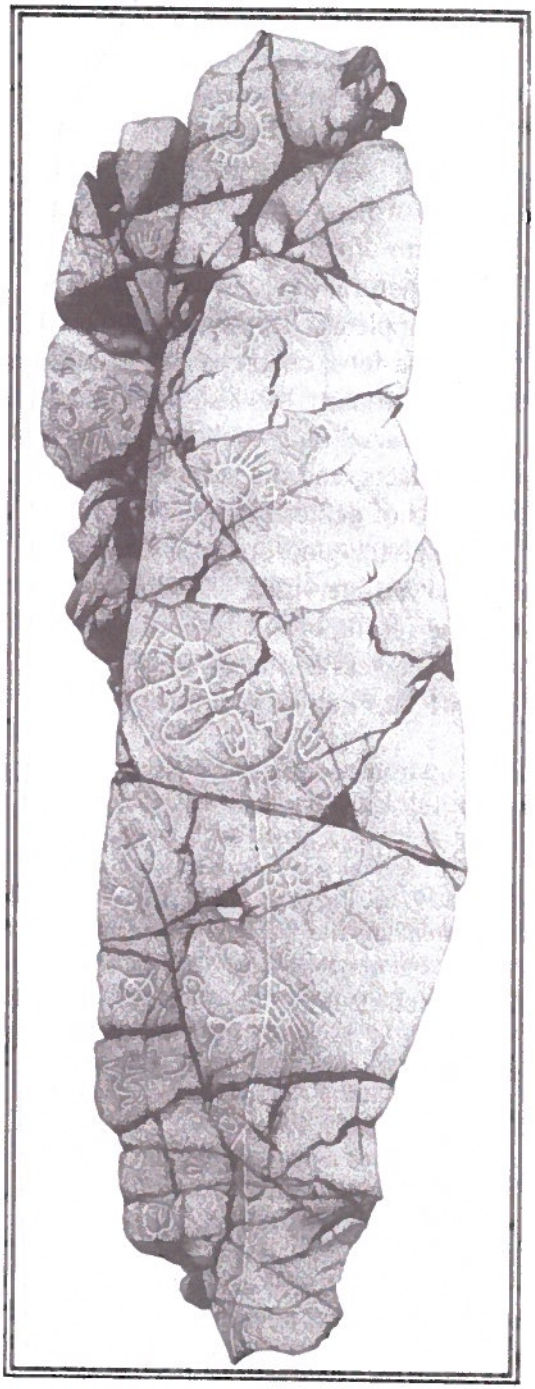

Figure 3. Style 7 petroglyphs at the Wabena site, CA-PLA-591, showing complete rock-art panel and actual element distribution. Rock-art panel is approximately 5.5 meters in length. Illustration by John Betts 1988.

this outcrop, and a basalt lithic scatter is located on a sandy bench near the petroglyphs. This site is at the edge of an escarpment that offers a view of Bear Valley, Washington Ridge, and the canyon of the South Yuba River. This site was initially reported by Claytor (1973: 39, 56, 60-61, Pls. 6D and 7B, Tabs. 1, 2). D. Foster and D. Withrow prepared a record in 1982, with an update prepared by Betts in 1993.

Rattlesnake Creek No. 1 (CA-NEV-504): A metamorphic outcrop group on the slope of a canyon contains a single petroglyph panel with three elements. This panel has been vandalized since D. Foster and R. Jenkins recorded it in 1985. No artifacts were observed at this site.

Rattlesnake Creek No. 2 (CA-NEV-505): An extensive petroglyph site is situated on a series of sloping glaciated metamorphic outcrops. This site contains at least five petroglyph panels with approximately 50 elements. A mano and bedrock milling slick are also located here. Foster, Jenkins, and Scatena recorded this site in 1985.

Cisco Grove No. 1 (CA-NEV-506): An extensive petroglyph site was located on the bank of the South Yuba River downstream from Cisco Grove. At least 20 panels containing at least 175 elements were situated on a sloping glaciated outcrop (Payen 1966: 25, Figs. 28-31). This site was first documented with stereographs taken by Alfred Hart during the construction of the Central Pacific Railroad in the 1860s (Kibbey 1996: 125). The site was largely destroyed as a result of a blasting incident during the construction of Interstate 80. This is the most tragic loss sustained so far for Sierra rock art. Foster, Jenkins, and Payen prepared a record for this site in 1986.

Cisco Grove No. 2 (CA-NEV-507): In the saddle at the top of a large glacially rounded rock outcrop is a group of approximately 10 petroglyph panels containing at least 45 elements (Gortner 1984: 176-177; Payen 1966: 25, Fig. 32). D. Foster, R. Jenkins, and L. Payen prepared a record for this site in 1986. Several bedrock milling slicks were found on this outcrop amidst the petroglyphs. Payen also noted a Martis-type projectile point and a slab metate a few hundred feet away from the site (1966: 25).

Canyon Creek (CA-NEV-582): On the north slope of a large rock dome is a petroglyph site with 11 panels containing approximately 60 elements. Betts first recorded this site in 1996. No artifacts were observed.

Gregory Pex (CA-NEV-585): On a low finger ridge in a forested area is a group of glaciated metamorphic rock outcrops with four petroglyph panels containing approximately 20 indistinct elements. This site was first recorded by Forest Service personnel in 1988 and updated by Betts in 1994. No artifacts were observed at this site.

Lots-O-Granite (05-17-55-230): Nevada County, an area with numerous granite outcrops, contains a petroglyph site with approximately 14 elements. An extensive basalt lithic scatter extends north across a creek from the petroglyph area. At least 20 basalt projectile points have been found at this site including several Martis-series types. One obsidian projectile point, a basalt spokeshave, and a quartzite scraper have also been documented. This site was recorded by Forest Service personnel in 1982 with an update in 1990.

Soda Springs (CA-PLA-26): A large sloping ledge of glacially polished granite bedrock contains a great profusion of petroglyphs. This site is not easily segregated into individual panels, but approximately 750 elements are distributed along this ledge. Soda Springs is one of the largest petroglyph sites in the northern Sierra Nevada region. A lithic scatter is located adjacent to the panel and many artifacts have been collected at the site over the years. Artifacts indicate both Martis and later Kings Beach occupations. A brief description of this site was included in Mallery (1893: 93), and A. Elsasser prepared a one-page site record in 1954. An early recording effort was carried out by Jack E. Smith (1957). Information on the site is also included in several subsequent rock art studies (Gortner 1984: 133-160; Heizer and Clewlow 1973: 108; Payen 1966: 25, 67, 71, Figs. 33-36).

Bear Valley (CA-PLA-504): A large glaciated metasedimentary rock outcrop in a forested portion of Bear Valley contains 13 petroglyph panels with over 100 widely distributed elements. At least 40 bedrock mortars are also located on this outcrop. This site was initially reported by Claytor (1973: 54, 56, 60, Pl. 7D, Tabs. 1, 2). D. Foster and B. McKee prepared a site record in 1984. One small Desert Side-Notched projectile point was found in a crevice adjacent to a rock art panel. Forest Service personnel prepared an updated record in 1991.

Skaters Pond (CA-PLA-517): A glaciated granite bench near a small pond contains an unusual assortment of rock art elements. A sloping granite formation contains a series of extremely faint curvilinear elements and 14 cupule petroglyphs. This is one of the few known examples of cupules found in association with Style 7 petroglyph elements. An adjacent panel of petroglyphs was repecked in 1970. Bedrock grinding slicks and a basalt lithic scatter are also present. This site was first reported by Claytor (1973: 40, Tabs. 1, 2, 3) but the petroglyphs were all thought to be of modern origin. Claytor also collected artifacts including 35 projectile points, four of which were large basalt Martis-series points. Two chert projectile points, and a granite mano were also found (1973: Tab. 3). The prehistoric rock art at this site was identified when Foster and Maben recorded the site in 1984.

Lake Valley Reservoir (CA-PLA-546): A glaciated granite outcrop in a forested area at the crest of a low ridge contains a single panel of petroglyphs with 10 elements. This site was initially reported by Claytor (1973: 56, 61, Tabs. 1, 2) and subsequently recorded by R. Jenkins and D. Scatena in 1985.

Walter Freeman (CA-PLA-550): A glaciated rock outcrop in a forested area at the foot of a canyon wall with 14 petroglyph panels of 43 elements. First recorded by Foster in 1986, updated by Betts in 1992.

Willis Gortner (CA-PLA-551): On a glaciated rock bench along a creek is an extensive and elaborate petroglyph site. The heavily fractured and fragmented rock outcrops contain 55 petroglyph panels with approximately 260 elements. Downstream from the site area is a dramatic waterfall. This site was first recorded by Gortner (1986a), supplemented by D. Foster in 1986, and updated by Betts in 1992. Several small basalt flakes were observed in gravel areas between the petroglyph panels.

Creek View (CA-PLA-552): At the crest of a knoll is a metamorphic outcrop with two petroglyph panels containing 10 elements (Gortner 1984: 96; 1986a).

Cedar Camp Overlook (CA-PLA-553): On the northeast face of a prominent dome is a series of glaciated granite exposures with three petroglyph panels containing five elements (Gortner 1984: 96; 1986a).

Big Pine (CA-PLA-554): Three adjacent glaciated granite outcrops each have petroglyph panels. All three outcrops together contain approximately 30 elements. A possible milling slick is located on one of these outcrops (Gortner 1984: 97-98; 1986a).

Log Cabin Creek (CA-PLA-555): A major petroglyph site is situated on two large glaciated granite outcrops that contain 187 petroglyph elements. The largest panel has sustained extensive exfoliation, and many of the motifs are extremely faint. A bedrock mortar and basalt lithic scatter are also present. A prehistoric campsite with bedrock mortars and numerous basalt projectile points is located to the east (Gortner 1984: 99-109; 1986a).

Balancing Rock (CA-PLA-556): On the west side of a high rocky dome is a petroglyph panel with 13 elements. A distant panel with two additional elements is included in this site (Gortner 1984: 115, 166; 1986a).

Swimming Hole (CA-PLA-557): A steep granite slope rising from the edge of a river has a pink crusted outcrop with an extensive petroglyph panel containing approximately 95 elements. Two other distant panels with nine additional elements are included in this site. Several basalt projectile points and chert scrapers have also been found here (Gortner 1984: 110-114,165; 1986a).

Steel Bridge (CA-PLA-558): A low granite outcrop contains seven petroglyph elements. A single basalt flake was near the petroglyph outcrop and a basalt scraper was some distance away (Gortner 1984: 116; 1986a).

Rocky Hill (CA-PLA-559): A rocky slope with numerous glaciated granite outcrops has at least nine widely scattered petroglyph panels containing approximately 15 elements. A lithic scatter including basalt tools and projectile points is situated at the base of this hill (Gortner 1984: 116, 165; 1986a).

Rocky Ridge S (CA-PLA-560): A small glaciated granite ledge on the west side of a rocky hill contains a single petroglyph panel with five elements (Gortner 1984: 117; 1986a).

Boundary Mark (CA-PLA-561): A small glaciated granite outcrop on the south side of a rocky hill contains a single petroglyph panel with four elements (Gortner 1984: 117; 1986a).

Rocky Ridge A (CA-PLA-562): On a rocky plateau of glaciated granite is a group of three petroglyph panels containing 25 elements (Gortner 1984: 118; 1986a).

Rocky Ridge B (CA-PLA-563): At the edge of a rocky plateau are three petroglyph panels containing approximately 26 elements (Gortner 1984: 119; 1986a).

CM Trail (CA-PLA-564): Two granite outcrops at the top of a cliff each contain a single petroglyph element. The two elements are approximately 100 meters apart (Gortner 1984: 120; 1986a).

Inspiration Point (CA-PLA-565): A granite slope in a forested area contains two petroglyph panels with approximately 25 elements (Gortner 1984: 120; 1986a).

Foulks Water Tank (CA-PLA-566): At the head of a drainage, a large glaciated granite outcrop with two petroglyph panels containing eight elements. A basalt scraper was found near this site (Gortner 1984: 121; 1986a).

AG-N (CA-PLA-567): Three large granite outcrops contain five widely scattered petroglyph elements. A basalt core and several basalt scrapers were found near this site (Gortner 1984: 121; 1986a).

Lyon Creek Flat (CA-PLA-568): In a flat open area is a granite outcrop with two petroglyph panels containing five elements. Several basalt scrapers were found near this site (Gortner 1984: 122; 1986a).

AG-S (CA-PLA-569): Two granite outcrops in an open area each contain a single petroglyph element. Basalt artifacts were found in the vicinity of this site (Gortner 1984: 122; 1986a).

Lyon Valley Overlook (CA-PLA-570): A long sloping granite outcrop contains two petroglyph panels with three elements. Basalt artifacts were found near this site (Gortner 1984: 122; 1986a).

Pinehurst (CA-PLA-571): On a forested slope is a glaciated granite shelf with an extensive panel of petroglyphs; at least 100 elements. This is one of the most complex and highly integrated petroglyph panels in the northern Sierra Nevada. A possible milling slick is also located on this outcrop. East of the main exposure are two panels with 25 more elements (Gortner 1984: 123-129; 1986a; Payen 1966: 25-26, Figs. 37-38, Pl. 7).

Foulks-E (CA-PLA-572): A glaciated granite shelf on a hillside has three petroglyph panels with approximately 24 elements (Gortner 1984: 130-131; 1986a).

Cedar Meadow (CA-PLA-573): A flat granite outcrop contains a petroglyph panel with two elements. This site also contains a small basalt lithic scatter. A Martis contracting stem projectile point was found here. A campsite with numerous basalt artifacts is located nearby (Gortner 1984: 132; 1986a).

Valley View (CA-PLA-574): Near the junction of two creeks is a granite dome with two petroglyph elements (Gortner 1984: 132; 1986a).

Foulks Pipeline (CA-PLA-575): On the southeast side of a large dome-shaped granite rock are four petroglyph elements (Gortner 1984: 132; 1986a).

Chickering (CA-PLA-576): A small rock outcrop contains three petroglyph elements situated on a dark inclusion in the surrounding granite. A Martis contracting-stem projectile point and a scraper were located at this site. A prehistoric campsite with basalt tools and projectile points is located nearby (Gortner 1984: 161; 1986a).

Painted Rock (CA-PLA-577): At the foot of Painted Rock is an outcrop with approximately 10 petroglyph elements on dark gray inclusions in the granite formation (Gortner 1984: 161; 1986a).

Chickering E (CA-PLA-578): Two large adjacent glaciated granite outcrops each have a petroglyph panel, together containing approximately 17 elements (Gortner 1984: 162; 1986a; Payen 1966: 25).

Coyotes Looking Glass (CA-PLA-579): A glaciated granite outcrop has a single petroglyph element (Gortner 1984: 163; 1986a).

Sheep Valley (CA-PLA-580): In a remote valley along a creek is a sloping granite outcrop with two petroglyph elements. This site also contains a possible basalt quarry (Gortner 1984: 163; 1986a).

Mountain Meadow Lake (CA-PLA-581): A sloping granite outcrop has three petroglyph panels of approximately 24 elements. This site has a panoramic view of the surrounding peaks (Gortner 1984: 164; 1986a).

I P Dome (CA-PLA-582): A large open dome with many rock exposures; a granite outcrop near the western edge has 3 petroglyph elements. An Elko side-notched point was found here (Gortner 1984: 165; 1986a).

Indian Trail (CA-PLA-583): A flat glaciated granite exposure with a steep drop-off on the north contains four petroglyph elements. A broken sloping outcrop nearby with one additional element is included in this site (Gortner 1984: 166-167; 1986a).

LCCO-H/N (CA-PLA-584): In a saddle on the west end of a small mountain are two isolated petroglyph elements. Both are carved on glaciated metamorphic outcrops. A Martis triangular projectile point, a basalt chopper, and a chert core were also found in this saddle (Gortner 1984: 178; 1986a).

Court View (CA-PLA-586): On a forested mountain slope is a glaciated rock bench with a petroglyph panel containing three elements (Gortner 1984: 179; 1986a).

Wickert Cabin (CA-PLA-587): A broken sloping granite outcrop contains five petroglyph panels with at least 13 indistinct elements. A basalt scraper and a drill fragment were found at this site. Basalt tools and projectile points have been found in the vicinity (Gortner 1986a).

Wabena (CA-PLA-591): At the crest of a narrow ridge separating Royal Gorge from the canyon of Wabena Creek is one of the most spectacular petroglyph sites in the Sierra Nevada. A sloping ground-level outcrop of metavolcanic rock contains an elaborate petroglyph panel with at least 40 elements. This panel is a complex and highly integrated composition that does not segregate well into individual elements. At one edge of the panel is a dramatic precipice that drops 2500 feet into Royal Gorge. The site also offers a panoramic view of the surrounding peaks and canyons. Two basalt projectile points and one obsidian biface fragment have been found at this site. Although this site was included in two previous rock art studies (Gortner 1984: 94-95; Payen 1966: 26, Fig. 39), Foster prepared the first site record in 1986, Betts an updated one in 1990 (Fig. 3). A conservation project was undertaken in an attempt to stabilize the block fracture deterioration that was damaging this site .

MF-B,P,Q (CA-PLA-790): A series of glaciated rock benches and outcrops on a stream terrace contain 15 petroglyph panels with at least 43 elements. These panels are widely distributed over an extensive site area that also contains two separate lithic scatters. A rich assortment of flaked stone artifacts has been found at this site including two small chalcedony projectile points, one obsidian projectile point, 13 points of basalt or slate, three

basalt point fragments, and seven point fragments of unspecified material. A portable metate and five manos have also been found here. E. Wohlgemuth first recorded the lithic scatter portions of this site in 1981, but none of the petroglyphs were observed. Gortner (1988) recorded three adjacent petroglyph sites. Betts prepared an updated record combining all of these sites in 1992.

MF-A (CA-PLA-791): A glaciated rock outcrop on the west side of a saddle has a petroglyph panel containing eight indistinct elements. This site was first recorded by Gortner (1988) and updated by Betts in 1992.

MF-G (CA-PLA-792): A glaciated rock bench at the edge of a forested area has two petroglyph panels containing three very faint elements. First recorded by Gortner (1988), updated by Betts in 1992.

MF-H (CA-PLA-793): On a forested hillside is a glaciated rocky promontory with 10 petroglyph panels containing at least 24 elements distributed over this irregular and heavily fragmented outcrop. This site was first recorded by Gortner (1988) and updated by Betts in 1992.

MF-J (CA-PLA-794): A glaciated rock bench extending out from the wall of a canyon has five petroglyph panels containing 17 elements. An enigmatic rock wall feature and a sparse basalt lithic scatter are also located here. This site was first recorded by Gortner (1988) and updated by Betts in 1992.

MF-K (CA-PLA-795): Two adjacent rock outcrops in a heavily forested area have 15 petroglyph panels containing at least 39 elements. Initially recorded by Gortner (1988), it was updated by Betts in 1992.

MF-L (CA-PLA-796): At the crest of a small rocky ridge that extends along the wall of a canyon are two petroglyph panels containing 10 elements. This site was first recorded by Gortner (1988), updated by Betts in 1992.

MF-M (CA-PLA-797): On an exposure of horizontal bedrock near the summit of a rocky dome are two petroglyph panels containing five elements. This site was first recorded by Gortner (1988), updated by Betts in 1992.

MF-N,O (CA-PLA-798): Below the summit of a rocky knoll are three widely separated petroglyph panels containing approximately 14 elements. This site was first recorded by Gortner (1988), updated by Betts in 1992.

Patrick Boles (CA-PLA-799): In a forested area along a stream are several glaciated bedrock outcrops with three widely separated petroglyph panels that contain four elements. Betts first recorded this site in 1992.

LCCO-FG (CA-PLA-819): A steeply rising granite outcrop midway up a rocky hillside contains a single faint petroglyph element. A single basalt flake has been observed adjacent to this outcrop. This site was first recorded by Gortner (1984: 178; 1988) and updated by Betts in 1996.

Pearl Creek (CA-PLA-820): A prominent rock bench on a steep hillside contains a single petroglyph element. A sparse lithic scatter of basalt flakes lies on a gravel terrace next to this rock outcrop. A basalt projectile point tip was found here. First recorded by Gortner (1984: 171; 1988), the site was updated by Betts in 1996.

Old Baldy Crest (CA-PLA-821): On glaciated granite outcrops near the crest of a rocky hill are two petroglyph panels with a total of eight elements. Three basalt projectile points and one basalt flake were observed at this site. This site was first recorded by Gortner (1988) and updated by Betts in 1996.

Devils Peak (CA-PLA-822): On a long sloping exposure of glaciated granite bedrock are 12 petroglyph panels of approximately 50 elements. A sparse lithic scatter of basalt flakes and tool fragments is on gravel terraces adjacent to the petroglyph panels. First recorded by Gortner (1984: 168-170; 1988), updated by Betts in 1996.

Palisade Creek (CA-PLA-823): An extensive petroglyph site lies on several glaciated granite outcrops forming a low ridge at the edge of a grassy meadow. Nineteen panels containing approximately 130 elements are at this site. A basalt lithic scatter borders the petroglyph panels. A bedrock milling feature is located on one of the petroglyph outcrops and a bedrock mortar is located on a separate outcrop adjacent to the lithic scatter area. A variety of artifacts have been collected from this site including basalt bifaces and two basalt contracting stem projectile points. This site was first recorded by Gortner (1984: 172-175; 1988) and updated by Betts in 1996.

LCCO-BCDE (CA-PLA-824): Three widely separated rock outcrops that form a sloping bench at the foot of a rocky hill each contain a single petroglyph panel. All three panels together contain approximately eight elements. Two basalt flakes were observed on one of the petroglyph outcrops. This site was first recorded by Gortner (1984: 178; 1988) and updated by Betts in 1996.

Snow Mountain (CA-PLA-825): A series of metavolcanic outcrops on a rocky bench just below the summit of a massive Sierra peak has seven petroglyph panels containing approximately 50 elements. Two bedrock grinding slicks and a lithic scatter of basalt and chert are also located at this site. Thirteen basalt tools were found here. This site is the highest in elevation (7640') of any rock art site so far discovered in the northern Sierra Nevada. The location offers a panoramic view of the Sierra Crest to the east. Betts and L. Gillett recorded this site in 1994.

Miller Meadows (CA-PLA-826): On a gently sloping hillside is a small horizontal outcrop of granite bedrock with a petroglyph panel containing three elements. A basalt side notched projectile point was found at this site. This site was first recorded by USFS personnel in 1980, updated by Betts, K. Halford, and C. Smith in 1990.

Tennis Court (CA-PLA-827): A small dome-shaped granite outcrop contains a petroglyph panel with three very faint elements. This site was first recorded by Gortner (1988) and updated by Betts in 1995.

Rhoades Holler (CA-PLA-828): On a low ridge between two ponds is a glaciated granite bench with five petroglyph panels containing approximately 31 elements. Adjacent rock outcrops contain bedrock mortars and grinding slicks. A sparse lithic scatter surrounds these rock outcrops. Three basalt projectile point fragments and a pestle were found here. Forest Service personnel first recorded this site in 1996. Recent test excavations at this site may provide valuable information about the age of rock art sites in this area.

French Meadows (CA-PLA-): On a flat glaciated outcrop at the end of a knoll is a petroglyph panel with two elements. M. Gary and D. McLear-Gary recorded this site in 1992; it awaits its trinomial.

Big Bend (CA-PLA-): A glaciated granite bench on a hillside has several petroglyph panels. Although known locally for many years, this site has yet to be formally recorded.

Pexodox (CA-PLA-): A glaciated ground-level granite outcrop has a petroglyph panel consisting of an area of indistinct pecking. This site was located by Betts, but has not yet been formally recorded.

Bear Track Gap (CA-PLA-): A small prehistoric petroglyph site is situated in a saddle on a prominent granite ridge. A glaciated bedrock outcrop contains two petroglyph panels with seven elements. Recently discovered, this site's record is currently in preparation.

Long Lake (CA-PLU-4): An expanse of glaciated granite contains a large group of petroglyph panels with at least 200 elements. This site was first recorded by G. C. Herron in 1947 and has been included in several rock art studies (Heizer and Clewlow 1973: 109; Payen 1966: 19-20, Figs. 3-5; Ritter and Parkman 1992: 91, 97, 100-101, Fig. 1, Tabs. 1, 2; Smith 1946; 1948). A recent volunteer recording project hosted by the Lassen National Forest was undertaken at this site and a detailed record is in preparation.

Lakes Basin (CA-PLU-88): On a forested bench near Grassy Lake are many widely scattered outcrops of glaciated metamorphic rocks. At least 12 of these outcrops contain petroglyph panels. Some of these panels have very elaborate and integrated compositions that are not easily segregated into individual elements. This site also contains an extensive lithic scatter and midden deposit. Numerous artifacts have been collected over the years including numerous basalt projectile points, bifaces, drills, and debitage. This site was first reported by Payen (1966: 21, Figs. 7a-l, 8). A site record was prepared by Charles Telford in 1969, and updated by L. Hunt and R. Milliken in 1980. A selection of the petroglyph panels has recently been recorded in great detail, revealing a much more extensive body of rock art than had previously been documented; 578 elements have been recorded from these panels. A panel of cupule petroglyphs was also revealed. Recent excavations here have provided significant information for Sierra Nevada rock art research (Neuenschwander 1994; Peak and Associates 1993).

Jamison Creek (05-11-51-01): This site consists of a granitic boulder or outcrop with a panel of pecked petroglyphs. This panel contains a single design element composed of a combination of simple lines. Similar designs have been observed at Style 7 sites in the area, such as Lakes Basin. J. Johnston recorded this Plumas County site in 1975.

Bear Paw Falls (05-06-51-980): A prehistoric petroglyph site is situated on granite outcrops along a perennial creek at a small waterfall. This site contains at least six panels with approximately 30 elements. A basalt lithic scatter and two basalt projectile points are also located here. This site was located during a recent volunteer rock art recording project hosted by the Lassen National Forest at the Long Lake site (CA-PLU-4).

Hawley Lake (CA-SIE-1): A large outcrop of glacially polished magnetite, a high-grade iron ore, contains what is probably the most elaborate display of rock art in the northern Sierra Nevada. Almost the entire outcrop is intensively carved with a bewildering profusion of petroglyphs. An initial recording attempt has inventoried 547 elements, but it has been estimated that this represents only about half of the elements actually present. Superimposition is rare at most Style 7 sites, but at this site it is abundant, with many elements carved one on top of another in a multiplicity of layers. This site has also been extensively vandalized with an array of names, dates, and other inscriptions carved over the prehistoric rock art. Reports of this site go back to the nineteenth century, and some of the Euro-American inscriptions date to that time. Basalt flakes, bedrock mortars, and a cobble pestle have been observed here. This site has been included in numerous rock art studies (Heizer and Clewlow 1973: 116; Payen 1966: 21,67-68, Figs. 9-14; Payen and Scott 1982: 1, 17, 33-40, 43, 63, Fig. 4, Pls. 3, 4, Tabs. 1, 3; Smith 1948; Steward 1929: 65-66, Fig. 9; Wellmann 1979, Fig. 266, 270). Several years ago Louis Payen and Lyle Scott

undertook the task of producing a complete plan of the art on the great outcropping. Unfortunately, this work remains only about 80 percent completed (Payen 1986).

Lacey Valley (CA-SIE-166): A glaciated granite dome in a forested area with at least 6 petroglyph panels of approximately 25 elements (Payen 1976: 12). Three bedrock mortars and a lithic scatter of basalt and chert are also present. Artifacts include cobble pestles and 4 projectile points, 2 bifaces, a scraper, and a drill, all of basalt.

Spencer Lakes (CA-SIE-524): On the top and sloping surface of a glaciated metamorphic outcrop is a petroglyph panel containing approximately 30 elements. This panel also contains a historic inscription from 1851 (Payen and Scott 1982: 63, Fig. 4, Pl. 5, Tabs. 1, 3).

Hawley Lake No. 29 (CA-SIE-543): A steeply sloping outcrop of glaciated magnetite, hidden in a forested area, contains a petroglyph panel with approximately 35 elements (Payen 1966: 21-22, Fig. 15d-h; Payen and Scott 1982: 39, 63, Fig. 4, Tabs. 1, 3).

Hawley Lake No. 30 (CA-SIE-544): A glaciated outcrop of magnetite with several petroglyph elements distributed over the sloping sides of the rounded rock mass (Payen and Scott 1982: 63, Fig. 4, Tabs. 1, 3).

Hawley Meadow (CA-SIE-548): A glaciated metamorphic outcrop contains three very faint petroglyph elements. This site also contains a small basalt lithic scatter (ibid.).

Gold Valley (CA-SIE-558): On a horizontal outcrop of glaciated metamorphic bedrock is a petroglyph panel with approximately 25 elements. Two cobble pestles were located on this outcrop (Payen and Scott 1982: 63, 67, Fig. 4, Tabs. 1, 3).

Prehistoric Empire (CA-SIE-560): A narrow ledge on the west side of a large glaciated metamorphic rock dome contains six scattered petroglyph elements. A basalt lithic scatter is located on the stream terrace at the foot of this rock dome (Payen and Scott 1982: 59, 63, Fig. 4, Tabs. 1, 3, 4).

Frazier Creek (05-11-51-169): An outcrop of gently sloping granite has five petroglyph panels containing approximately 22 elements. A basalt lithic scatter is also located here. This site was first recorded by J. Johnston in 1975 and updated by M. Baldrica and L. Ashley in 1977. Both records incorrectly place the site in Plumas County–its actual location is in Sierra County.

Sunnyside Meadow (05-17-53-560): On a rock bluff with a panoramic view is a series of low glaciated metamorphic rock outcrops. One of these outcrops contains three petroglyph panels with six elements. This outcrop also contains 12 bedrock mortars and three grinding slicks. A basalt Martis stemmed-leaf projectile point, five basalt flakes, and five pestles have also been found here. This Sierra County site was recorded by USFS personnel in 1990.

Salmon Lake (CA-SIE-): A rock bench with a panoramic view of Salmon Lake contains four petroglyph elements (Rhode 1996: 8-9, Fig. 3). This recently discovered site has not yet been formally recorded.

NORTHERN SIERRA NEVADA ROCK ART STYLES

The concept of "style" as used in the present paper follows that discussed by Payen (1966: 47). Payen identified two major rock art groups or traditions in the northern Sierra Nevada, Pit-Groove and Abstract-Representational. These two groups were further subdivided into seven separate categories with three under the Pit-Groove tradition and four under the Abstract-Representational tradition.

Each of these seven categories was designated as a style and defined by a group of attributes and associations. These stylistic divisions were based on the recognition of similar characteristics including form, method of manufacture, rock selection, archaeological associations, and distribution (ibid.: 56-57). The seven rock art styles numbered, named, and defined by Payen (1966: 57-66) are as follows:

Style 1 (Pitted Boulders). This style consists of the use of cup-shaped pits on rounded boulders. The pits are randomly placed on boulder surfaces, with most examples found in asso-

ciation with large occupation sites and/or bedrock mortar areas. Pitted boulders have been found over much of the northern Sierra Nevada, with notable concentrations in the Truckee basin and along the foothills (ibid.: 57-58).

Style 2 (Pit and Groove). These sites are characterized by the nearly exclusive use of pits and grooves. The pits and grooves are found in clusters, in random patterns, and linear arrangements such as rows of dots or grooves in series, or pit and groove combinations. Pit and groove art panels are found on boulders in open areas, or occasionally, on boulders inside caves, usually associated with large village sites and always near bedrock mortars. With one exception, Style 2 sites lie in the lower Sierra foothills north of the Cosumnes River (ibid.: 58-59).

Style 3 (Complex Pit and Groove). These sites also contain pits and grooves but in more complex arrangements including pits inside circles, pits connected by grooves, and a variety of elements composed of pits and grooves which are thought to be representations of female genitalia. The pits are often conical in shape as if drilled into the surface. The panels are positioned on the walls of caves, usually adjacent to midden deposits and bedrock mortars. All sites are located in the Sierra foothills south of the Cosumnes River, with most sites in the Mokelumne and Stanislaus River drainages (ibid.: 59).

Style 4 (Simple Abstract Monochrome). These rock art sites contain pictograph panels painted in a single color. Black is the most common color employed, although red and white pigments were also used independently of each other. Design elements are almost exclusively linear, consisting of simple grids, hatches, line series, or random lines. They are found on the walls and ceilings of caves, usually in close proximity to evidence of occupation, in the foothills south of the Cosumnes River (ibid.: 60-61).

Style 5 (Abstract Polychrome). These rock art sites contain pictograph panels painted in multiple colors. Red is the dominant color, although black and white pigments are also used. Common design elements include wavy lines, wavy lines terminated with a dot, simple circles, line series, line designs, and dots. Style 5 elements are found on cave walls and protected rock faces, usually adjacent to village sites or with evidence of occupation in the cave. These sites are distributed in two concentrations: one in the Sierran foothills along the Mokelumne, the other in the Yosemite region (ibid.: 61-62).

Style 6 (Valley-Sierran Abstract). These are abstract petroglyphs on boulders or rock outcroppings, with many design elements containing a variety of forms based on the circle. Elements are often large and outstanding with the entire rock surface decorated, occasionally carved in *bas relief*. Some Style 6 sites are located on isolated hilltops with a commanding view of surrounding terrain but no apparent cultural features nearby. Other sites occur in close proximity or in direct association with evidence of occupation (ibid.: 62-64).

Style 7 (High Sierra Abstract-Representational). These are distinctive petroglyph panels on bedrock surfaces in the higher elevations of the northern Sierra Nevada. Style 7 rock art panels are more complex and contain a greater variety of design elements than any other prehistoric rock art style in the northern Sierra Nevada region, and although considerable variation exists in design elements, there is also an underlying rigidity (ibid.: 66). Common designs include concentric circles, simple circles elaborated by line elements, wavy lines of varying complexity, tracks, and anthropomorphic-zoomorphic representations.

Figure 5. Wavy line elements, concentric circles, and bear tracks at the Soda Springs site, CA-PLA-26. Photo by Dan Foster 1986.

Figure 6. Style 7 petroglyphs at Hawley Lake, CA-SIE-1 with linked circles, wavy lines, bear tracks, and abstract curvilinear designs. Photo by Mike Hooper 1984.

Figure 7. Style 7 petroglyphs at Lakes Basin, CA-PLU-88 with a stick-figure anthropomorph, bear track, circles, linked circles, and wavy lines. Individual deep peck marks are visible. Photo by Dan Foster 1986.

DEFINITION OF STYLE 7 ROCK ART

Payen defined Style 7 rock art by means of the following criteria:

Form: Style 7 was described as the most complex of the northern Sierra Nevada styles, with the most variety of elements and the greatest complexity of designs. The most abundant elements included simple circles, concentric circles, lines, wavy lines, and tracks. Dots, spirals, "U" shapes, and naturalistic forms such as anthropomorphs and zooforms were used to a lesser extent. Vulvaforms and the incorporation of natural rock features were noted at a few sites. The track element was singled out as a possible diagnostic trait, appearing at all but two sites. Style 7 has many complex and unique figures and an overall greater abundance of elements than the other northern Sierra Nevada styles (Payen 1966: 64-65).

Manufacture: The petroglyphs were formed by pecking, and this process was well controlled, although not as highly finished as in Style 6 petroglyphs. An apparent awareness of color was exhibited with designs pecked through reddish or dark-colored rock surfaces into a lighter subsurface. Natural rock features such as dark inclusions were sometimes embellished, and glacial scratches were sometimes incorporated into designs (ibid.: 65). Superimposition of elements was noted at only two sites (ibid.: 67).

Rock Selection: Typically large bedrock expanses were used, and in all but three cases these outcrops had glaciated surfaces. Rock surfaces were selected for their smoothness and reddish surface oxidation. Granite was the most common material, but metamorphic outcrops were also utilized (ibid.: 65-66).

Association: A pattern of association was not readily apparent; the sites had no clear association with other archaeological features such as bedrock mortars or occupation sites. An intentional placement in relation to the surrounding landscape was suggested. Some sites were located along possible game trails and near passes. Most sites occur above 5000 feet in the rugged terrain of the glaciated Sierra crest (ibid.: 66).

Distribution: Style 7 sites were found from Plumas County south to the Stanislaus River, concentrated along the Sierra crest north and west of Lake Tahoe (ibid.: 66).

ANALYSIS OF STYLE 7 SITE ATTRIBUTES

Our current inventory of 92 Style 7 petroglyph sites is more than six times larger than the original number of sites used to define this rock art style. A detailed analysis was made of selected environmental attributes, archaeological associations, and petroglyph attributes in order to evaluate some of the original characteristics used to define this style (Table 1). Environmental attributes examined include elevation, watershed, and association with ponds and waterfalls. Archaeological associations examined include bedrock mortars, milling slicks, and lithic scatters. Petroglyph attributes examined include the element totals present, the occurrence of bear track and anthropomorphic elements, and the incorporation of natural rock features into petroglyph designs. We have not been able to examine all of the sites included in this analysis; some of the information presented in Table 1 has consequently been extracted from existing site records.

Form: The majority of Style 7 petroglyph elements are abstract, consisting of circles, wavy lines, zigzags, and arrangements of these elements into complex designs (Figures 4-6). We have chosen two of the more naturalistic and readily recognizable petroglyph elements to include

TABLE 1. ATTRIBUTES OF STYLE 7 SITES SELECTED FOR ANALYSIS.

SITE DESIGNATIONS		ENVIRONMENTAL ATTRIBUTES					ARCHAEOLOGICAL ASSOCIATIONS			PETROGLYPH ATTRIBUTES			
Name	Trinomial	Elevation	Watershed River/Crest		Pond	WF	BRM	MS	LS	E	BT	A	RF
Meadow Lake	CA-NEV-3	7280	SY	W	+	-	-	-	-	500	5	?	-
Donner Pass	CA-NEV-4	6860	T	E	+	-	-	-	+	205	1	0	+
Grouse Ridge	CA-NEV-84	6180	SY	W	-	+	-	-	+	228	8	1	+
Spaulding Ridge	CA-NEV-426	5140	SY	W	+	-	+	-	+	45	7	1	-
Rattlesnake #1	CA-NEV-504	6280	SY	W	-	-	-	-	-	3	2	0	-
Rattlesnake #2	CA-NEV-505	6220	SY	W	-	-	-	+	-	50	9	0	-
Cisco Grove #1	CA-NEV-506	5560	SY	W	-	+	-	-	-	175	35	1	?
Cisco Grove #2	CA-NEV-507	5560	SY	W	-	+	-	+	-	45	7	1	-
Canyon Creek	CA-NEV-582	5440	SY	W	-	-	-	-	-	60	0	0	+
Gregory Pex	CA-NEV-585	6560	MY	W	-	+	-	-	-	20	0	0	-
Lots-O-Granite	CA-NEV- *	6820	SY	W	+	-	-	-	+	14	5	0	-
Soda Springs	CA-PLA-26	6060	NA	W	-	+	-	-	+	750	80	0	+
Bear Valley	CA-PLA-504	4620	B	W	-	-	+	-	+	100	2	0	-
Skaters Pond	CA-PLA-517	5760	NA	W	+	-	-	+	+	8	1	0	-
Lake Valley Res.	CA-PLA-546	5840	NA	W	-	-	-	-	-	10	1	1	-
Walter Freeman	CA-PLA-550	6260	MA	W	-	-	-	-	-	43	10	0	-
Willis Gortner	CA-PLA-551	6140	MA	W	-	+	-	-	+	260	0	0	+
Creek View	CA-PLA-552	6080	NA	W	-	-	-	-	-	10	0	0	-
Cedar Camp Overlook	CA-PLA-553	6000	NA	W	-	-	-	-	-	5	3	1	-
Big Pine	CA-PLA-554	5840	NA	W	-	-	-	+	-	30	3	1	-
Log Cabin Creek	CA-PLA-555	5840	NA	W	-	-	+	-	+	187	24	2	+
Balancing Rock	CA-PLA-556	5840	NA	W	-	-	-	-	-	15	0	0	+
Swimming Hole	CA-PLA-557	5820	NA	W	-	-	-	-	+	104	4	1	+
Steel Bridge	CA-PLA-558	5840	NA	W	-	-	-	-	+	7	1	0	-
Rocky Hill	CA-PLA-559	5920	NA	W	-	-	-	-	+	15	1	1	-
Rocky Ridge S	CA-PLA-560	6080	NA	W	-	-	-	-	-	5	0	0	-
Boundary Mark	CA-PLA-561	6160	NA	W	-	-	-	-	-	4	1	0	-
Rocky Ridge A	CA-PLA-562	6080	NA	W	-	-	-	-	-	25	0	1	+
Rocky Ridge B	CA-PLA-563	6160	NA	W	-	-	-	-	-	26	0	0	-
CM Trail	CA-PLA-564	6520	NA	W	-	-	-	-	-	2	1	0	-
Inspiration Point	CA-PLA-565	6400	NA	W	-	-	-	-	-	25	0	0	-
Foulks Water Tank	CA-PLA-566	6120	NA	W	-	-	-	-	+	8	2	0	-
AG-N	CA-PLA-567	5900	NA	W	-	-	-	-	+	5	0	0	-
Lyon Creek Flat	CA-PLA-568	5960	NA	W	-	-	-	-	+	5	2	0	-
AG-S	CA-PLA-569	5980	NA	W	-	-	-	-	+	2	0	0	-
Lyon Valley Overlook	CA-PLA-570	6080	NA	W	-	-	-	-	+	3	0	0	-
Pinehurst	CA-PLA-571	6040	NA	W	-	-	-	+	-	125	1	0	-
Foulks-E	CA-PLA-572	6100	NA	W	-	-	-	-	-	24	0	0	-
Cedar Meadow	CA-PLA-573	7280	NA	W	+	-	-	-	+	2	0	0	-
Valley View	CA-PLA-574	6600	NA	W	-	-	-	-	-	2	0	0	-
Foulks Pipeline	CA-PLA-575	6220	NA	W	-	-	-	-	-	4	0	1	-
Chickering	CA-PLA-576	6080	NA	W	-	-	-	-	+	3	0	0	+
Painted Rock	CA-PLA-577	6150	NA	W	-	-	-	-	-	10	1	0	+
Chickering E	CA-PLA-578	6180	NA	W	-	-	-	-	-	17	0	0	-
Coyotes Looking Glass	CA-PLA-579	6280	NA	W	-	-	-	-	-	1	0	0	-
Sheep Valley	CA-PLA-580	6920	NA	W	-	-	-	-	+	2	0	0	+
Mt. Meadow Lake	CA-PLA-581	7320	NA	W	-	-	-	-	-	24	0	0	-
IP Dome	CA-PLA-582	6560	NA	W	-	-	-	-	+	3	0	0	-
Indian Trail	CA-PLA-583	5920	NA	W	-	-	-	-	-	5	0	0	+
LCCO-H/N	CA-PLA-584	6160	NA	W	-	-	-	-	+	2	0	0	-
Court View	CA-PLA-586	5920	NA	W	-	-	-	-	-	3	1	0	-
Wickert Cabin	CA-PLA-587	6000	NA	W	-	-	-	-	+	13	0	1	-

in our analysis–the bear track and the anthropomorph (Figures 7-8). Payen mentions (1966: 64) the track element as a possible diagnostic trait for defining Style 7 rock art. Our analysis is focused on a particularly distinctive track element, the bear track (Figure 8). Gortner has presented a discussion of the considerable variability in this form and the difficulties of distinguishing some "paws" from other similar element types (1984: 40-41). Many bear tracks, however, are unmistakable examples of an element type found widely throughout North America (Grant 1967: 55-57). Cloven-hoof elements, most typically deer tracks, can also be identified at some Style 7 sites. As a result of our analysis, bear tracks have been identified at 51 sites with approximately 381 total elements. No bear track elements can be identified at 41 sites. While the bear track element has proven to be a common, distinctive, and widespread element, it can not be considered a diagnostic trait for Style 7, as it is absent at many Style 7 sites.

Payen noted the occasional occurrence of the anthropomorphic form (1966: 64). Our analysis has also shown this form to be uncommon, with only 42 examples present at 23 sites. Eighteen of these 23 sites contain only a single example. One particularly distinctive example occurs at the Spaulding Ridge site (Figure 9). This small stick figure is associated with a variety of other elements and appears to be wielding an *atlatl.* This is the only example recognized, so far, of a petroglyph element at a Style 7 site with possible temporal implications. Unfortunately, a portion of this interesting panel has been removed since it was originally recorded.

Metamorphic and Metasedimentary: On granite outcrops the coarse-grained structure of the rock makes individual peck marks more difficult to recognize. No clear indication of scratching, abrading, or other manufacture techniques has so far been observed. No additional examples of the superimposition of petroglyph elements have been found as a result of the current research.

Table 1 (Continued)

SITE DESIGNATIONS		ENVIRONMENTAL ATTRIBUTES					ARCHAEOLOGICAL ASSOCIATIONS			PETROGLYPH ATTRIBUTES			
Name	Trinomial	Elevation	Watershed River/Crest		Pond	WF	BRM	MS	LS	E	BT	A	RF
Wickert Cabin	CA-PLA-587	6000	NA	W	-	-	-	-	+	13	0	1	-
Wabena	CA-PLA-591	6560	NA	W	-	+	-	-	+	40	11	0	-
MF-B,P,Q	CA-PLA-790	5880	MA	W	-	-	-	+	+	43	3	0	+
MF-A	CA-PLA-791	5920	MA	W	+	-	-	-	-	8	1	0	-
MF-G	CA-PLA-792	5860	MA	W	-	-	-	-	-	3	0	0	-
MF-H	CA-PLA-793	6080	MA	W	-	-	-	-	-	24	4	0	-
MF-J	CA-PLA-794	6260	MA	W	-	-	-	-	+	17	3	0	-
MF-K	CA-PLA-795	5960	MA	W	-	-	-	-	-	39	9	0	-
MF-L	CA-PLA-796	6220	MA	W	-	-	-	-	-	10	1	0	-
MF-M	CA-PLA-797	6000	MA	W	-	-	-	-	-	5	1	0	-
MF-N,O	CA-PLA-798	5980	MA	W	-	-	-	-	-	14	0	0	-
Patrick Boles	CA-PLA-799	6180	MA	W	-	-	-	-	-	4	0	0	-
LCCO-FG	CA-PLA-819	6060	NA	W	-	-	-	-	+	1	1	0	-
Pearl Creek	CA-PLA-820	6440	NA	W	-	+	-	-	+	1	1	0	-
Old Baldy Crest	CA-PLA-821	6220	NA	W	-	-	-	-	+	8	0	1	-
Devils Peak	CA-PLA-822	6480	NA	W	-	-	-	-	+	50	8	0	+
Palisade Creek	CA-PLA-823	6520	NA	W	-	-	+	+	+	130	16	1	+
LCCO-BCDE	CA-PLA-824	5920	NA	W	-	-	-	-	+	8	1	1	-
Snow Mountain	CA-PLA-825	7640	NA	W	+	-	-	+	+	50	4	1	-
Miller Meadows	CA-PLA-826	6920	R	W	+	-	-	-	+	3	0	0	-
Tennis Court	CA-PLA-827	5840	NA	W	-	-	-	-	-	3	0	0	-
Rhoades Holler	CA-PLA-828	5920	NA	W	+	-	+	+	+	31	12	0	-
French Meadows	CA-PLA- *	5920	MA	W	-	-	-	-	-	2	0	0	-
Big Bend	CA-PLA- *	5840	SY	W	-	-	-	-	?	?	?	?	?
Pexodox	CA-PLA- *	5800	SY	W	-	-	-	-	-	1+	0	0	-
Bear Track Gap	CA-PLA- *	6080	NA	W	-	-	-	-	-	7	2	0	-
Long Lake	CA-PLU-4	5960	NF	W	-	-	-	-	-	200+	14	1+	+
Lakes Basin	CA-PLU-88	6300	SF	W	+	-	-	-	+	578+	4	3	-
Jamison Creek	CA-PLU- *	5640	SF	W	-	-	-	-	-	1	0	0	-
Bear Paw Falls	CA-PLU- *	5940	NF	W	-	+	-	-	+	30	5	2	-
Hawley Lake	CA-SIE-1	6460	NY	W	-	+	+	-	+	547+	56	15	?
Lacey Valley	CA-SIE-166	6840	T	E	+	-	+	-	+	25	0	0	-
Spencer Lakes	CA-SIE-524	6320	NY	W	-	-	-	-	-	30	2	2	-
Hawley Lake 29	CA-SIE-543	6400	NY	W	-	-	-	-	-	35	1	0	-
Hawley Lake 30	CA-SIE-544	6400	NY	W	-	-	-	-	-	+	0	0	-
Hawley Meadow	CA-SIE-548	6640	NY	W	-	-	-	-	+	3	2?	0	-
Gold Valley	CA-SIE-558	5840	NY	W	-	-	-	-	-	25	1	0	-
Prehistoric Empire	CA-SIE-560	5840	NY	W	-	-	-	-	+	6	0	0	-
Frazier Creek	CA-SIE- *	6200	SF	W	-	+	-	-	+	22	0	1	-
Sunnyside M.	CA-SIE- *	6280	NY	W	-	-	+	+	+	6	0	0	-
Salmon Lake	CA-SIE- *	6600	NY	W	+	?	?	?	?	4	0	0	?

KEY

B	Bear River	E	East Side of Sierra Nevada Crest	+	Attribute Present
MA	Middle Fork American River	W	West Side of Sierra Nevada Crest	547+	More than 547
MY	Middle Yuba River	?	Unknown, Information Unavailable	-	Attribute Absent
NA	North Fork American River	WF	Associated with Waterfall	E	Number of Elements
NF	North Fork Feather River	BRM	Associated with Bedrock Mortars	BT	Bear Tracks
NY	North Yuba River	MS	Associated with Milling Slicks	A	Anthropomorphs
R	Rubicon River	LS	Associated with Lithic Scatter	RF	Rock Features
SF	South Fork Feather River			*	No Trinomial Yet
SY	South Yuba River				
T	Truckee River				

The quantity of petroglyph elements at each site is variable, but three major categories can be recognized. The four largest sites, Meadow Lake, Soda Springs, Lakes Basin, and Hawley Lake, each have more than 500 elements. A second group of six sites, Donner Pass, Grouse Ridge, Cisco Grove No. 1, Willis Gortner, Log Cabin Creek, and Long Lake, each have approximately 200 elements. Most of the remaining sites have less than 100 elements each, with some sites containing only a single one. The significance of these groupings has yet to be determined. A total of 5,253 elements has been tabulated as a result of this analysis, but this does not represent a complete accounting of Style 7 petroglyphs, for several of the most extensive sites have not been fully recorded with documentation of all elements present.

Manufacture: All of the petroglyphs observed during this research project appear to have been manufactured by pecking, with both direct and indirect percussion methods utilized in different instances. Peck marks are clearly visible on some rock surfaces; particularly one petroglyph attribute we have chosen to analyze is the incorporation of natural rock features into petroglyph designs. This practice has been observed at 17 separate sites and includes several different phenomena. At sites such as Soda Springs and Donner Pass dark natural inclusions in the granite matrix (mafic inclusions) have been decorated, encircled, or incorporated into design elements (Figures 10-11).

At other sites, such as Canyon Creek and Devils Peak, similar dark inclusions have been selected as the background on which groups of elements have been placed. Other forms of natural rock features, such as white siliceous veins, have also been incorporated into petroglyph designs on some occasions (Figure 12). Payen describes the incorporation of glacial striae into petroglyph designs (1966: 65). This practice has been observed, but it is often difficult to determine if this was the deliberate intent of the artist. A particularly distinctive practice is found at sites along the Middle Fork of the American River, such as Willis Gortner and MF-B,P,Q. The metasedimentary rock formations in this region display pronounced geologic stratification. These natural rock layers are utilized as borders for elaborate series of parallel lines and enclosures for other complex designs.

Rock Selection: All of the petroglyphs included in the current study are situated on horizontal or sloping glaciated bedrock (Figure 13). No Style 7 petroglyphs have been located on cliff faces or boulders, even though these types of rock surfaces are common in the study area. A variety of rock types were utilized, including granite, granodiorite, magnetite, trondhjemite, and graywacke, as well as other forms of metamorphic, metasedimentary, and metavolcanic rock outcrops. Payen (1966: 65) noted the selection of reddish or other dark-colored rock surfaces for the placement of elements (Figure 14). Gortner observed that many elements were on a pinkish colored rock surface (1984: 32). While this remains a typical selection pattern, it was not employed exclusively. Light-colored rock surfaces were occasionally utilized.

In some cases the color differentiation between the rock surface and the pecked areas is completely negligible, making the rock art particularly difficult to recognize. This may have resulted from the repatination of the rock surface in some instances. The overall common denominator in rock surface selection appears to be the utilization of glacially polished bedrock outcrops.

Association: Payen was unable to recognize any clear pattern of archaeological association from his original group of Style 7 sites (1966: 66). Of the sites included in the current analysis, 47 sites (51%) are associated with archaeological features or artifacts. Three categories of associated archaeological evidence were selected for analysis–bedrock mortars, milling slicks, and lithic scatters. Forty-five sites (49%) have no associated archaeological evidence. Of the sites con-

Figure 8. Paired bear-track elements at the Spaulding Ridge site, CA-NEV-426, probably depicting a bear's hind paw print. Right track is 24 cm in length. Photo by Dan Foster 1982.

Figure 9. Style 7 petroglyphs at the Spaulding Ridge site, CA-NEV-426, with a stick-figure anthropomorph possibly using an atlatl. Total height of anthropomorph is 13 cm. Photo by Dan Foster 1982.

taining archaeological associations, eight sites contain bedrock mortars and ten sites contain bedrock milling slicks. Three sites contain both mortars and slicks. Of the eight sites containing bedrock mortars, four contain only a single shallow mortar pit.

Only two sites, Bear Valley and Sunnyside Meadow, contain examples of deep, multiple mortar holes. Bear Valley contains 40 mortars clustered in an area several meters away from the petroglyph panels. These mortars may represent a Late Prehistoric reoccupation of this site. At Sunnyside Meadow, 12 bedrock mortars are located on the same outcrop as the petroglyphs. An interesting example of an association with bedrock milling slicks was observed at the Snow Mountain site.

Two separate milling surfaces were identified: one appears to have been formed over preexisting petroglyphs, erasing the petroglyph elements in the course of its manufacture. Archaeological surface evidence indicative of substantial occupation, such as midden or house-pits, is not typically found at the level of elevation for the sites in this study. Only the Lakes Basin site contains a recognizable midden deposit. Of the 92 sites included in this study, 43 sites (47%) have associated lithic materials. As a result of our analysis, no clear pattern of archaeological association has emerged. Although roughly half of the sites contain associated archaeological evidence, this is typically in the form of sparse lithic scatters.

Payen noted an apparent intentional placement of sites in relation to the general terrain (1966: 65). The topographic setting for sites included in the current study is variable, with sites located along streams, in canyons, on midslope benches, ridge tops, domes and rocky promontories, and occasionally near mountain passes and at the base of peaks. An environmental attribute observed during the current research having potential implications for the placement of Style 7 sites is the association with small glacial ponds. Thirteen sites were found to be in close proximity to one or more small lakes, ponds, or glacial tarns. This represents only 14% of the total number of sites, and many small bodies of water are scattered throughout this region.

Certain characteristics of individual sites, however, suggest that this association may have more importance than can be statistically demonstrated. At the Spaulding Ridge site, for example, glaciated outcrops eminently suitable for petroglyphs extend for a considerable distance along a prominent ridge. Yet the petroglyphs occur at only one spot, directly adjacent to two small ponds. Other sites with similar provocative settings include Meadow Lake, Lots-O-Granite, Skaters Pond, Snow Mountain, Miller Meadows, Rhoades Holler, and Lacey Valley.

Another attribute that may have similar implications is an association with waterfalls. Eleven sites (12%) were observed to have some locational relationship with falling water. In several cases this association is direct and unambiguous. At sites such as Soda Springs, Cisco Grove No. 1, and Willis Gortner, waterfalls are in close proximity to the rock art panels. In other situations this relationship may be more tenuous and difficult to identify.

In the case of Gregory Pex, for example, a 100 foot high waterfall is located approximately three-quarters of a mile from the site, but the rock art is placed on the first exposure of glaciated bedrock that is encountered proceeding upstream from the waterfall. The Frazier Creek site is also located upstream from a cataract on that watercourse. From Wabena a waterfall can be seen on the North Fork of the American River, but it is nearly one mile away and more than 2500 feet below the petroglyph site. Our analysis also demonstrates that these two characteristics are mutually exclusive, with no site possessing both attributes. When taken together these two attributes account for 24 sites, or 26% of the total number of Style 7 sites.

An environmental attribute thought to have considerable importance by Gortner (1984: 32-33) is the situation of petroglyph sites with prominent views of surrounding mountain peaks.

Figure 10. Incorporation of natural dark inclusion into design element at Soda Springs, CA-PLA-26. The dark inclusion has been encircled and bisected with several lines to form an abstract design element, probably a stylized bear track. Photo by Dan Foster 1986.

Figure 11. Incorporation of natural rock inclusion into design element at Donner Pass site, CA-NEV-4. Photo by Dan Foster 1987.

Figure 12. Linked diamonds, circles, and other abstract elements at the Donner Pass site, CA-NEV-4. Note how a white siliceous vein has been incorporated into the design elements. Photo by Dan Foster 1988.

While this attribute was not subjected to the same level of analysis in the current report, some general observations can be made. This pattern was first recognized for sites in the North Fork of the American River drainage where, in fact, many of the sites do have spectacular views of the surrounding peaks. At Wabena, perhaps the most dramatic of all of these locations, the major peaks of the region are visible in a 360° panorama. This pattern of major peaks in view from Style 7 sites has been observed to hold true for sites on the Middle Fork of the American River and on the South Yuba River drainages.

The relationship is less clearly evident for the sites in the North Yuba River and South Fork of the Feather River drainages, although Mt. Elwell is quite prominent from the Lakes Basin site. As for the two Style 7 sites in the North Fork of the Feather River area, these sites are very near the crest of the range at this point, and no prominent peaks are located in the vicinity.

Distribution: The sites included in the current study are distributed across four California counties, Nevada, Placer, Plumas, and Sierra. These sites range in elevation from 4620 feet at Bear Valley to 7640 feet on Snow Mountain, and lie within the Feather, Yuba, Bear, American, and Truckee River drainages (Figure 1). All but two of the sites are located on the western slope of the Sierra Nevada crest. The two sites on the east slope, Donner Pass and Lacey Valley, are very close to the divide. We have elected to exclude three of Payen's original 15 Style 7 sites.

These three sites, Horseshoe Bend (CA-CAL-5), Volcano (CA-AMA-14), and Bidwell (CA-BUT-543), are all located in the lower foothills of the Sierra Nevada. These three sites constitute the only exceptions from two of the most characteristic traits used to define Style 7–placement on glaciated bedrock, and location at high elevation near the Sierra crest. Additional rock art sites have come to light in the lower foothill regions of the Sierra Nevada that have similarities to Style 7. Examples include Foreman Creek, Table Mountain, and Mountain Springs School (Ritter and Parkman 1992: 90-95), and Church Rock near Redding (Van Tilburg, Bock, and Bock 1987). We believe, however, that when these sites are subjected to a detailed analysis, a separate stylistic designation for these examples will be possible.

There is a pronounced discontinuity in the distribution of abstract-style rock art from the Sierra Nevada foothills to the higher elevations of the range, and a nearly complete absence of sites in the middle-slope elevation range from 2500 to 4500 feet. Payen suggests (1966: 16) that this lack may be a result of environmental and cultural factors, or of the absence of surveys in the area. After more than 30 years of archaeological investigations, this discontinuity remains, which indicates that survey coverage is not the explanation. Rock outcrops are plentiful throughout this zone, leaving cultural factors as the most likely possibility.

The environmental attributes that have been discussed in the current analysis, elevation range, associations with glacial ponds and waterfalls, and views of mountain peaks, suggests that Style 7 rock art was created with relationship to cultural activities that were specific to these restricted high-elevation environments.

THE MARTIS ARCHAEOLOGICAL COMPLEX

The Martis Archaeological Complex is an archaeological culture in the northern Sierra Nevada dating from 4,000 to 1,500 B.P. (Elston 1986: 141, Moratto 1984: 295). First defined by Heizer and Elsasser (1953: 19) and expanded by Elsasser (1960) as exhibiting an economic orientation toward hunting and seed gathering, the Martis Complex was initially characterized as having a basalt chipped-stone industry of large, heavy, and roughly chipped projectile points, expanded

Figure 13. Typical setting of Style 7 petroglyph site. Panels are placed on glaciated bedrock outcrops. Spaulding Ridge site, CA-NEV-426. Photo by Dan Foster 1982.

Figure 14. Style 7 petroglyphs pecked through dark patina at the Hawley Lake site, CA-SIE-1. The two large defacement scars on the left are remnants of previous vandalism, an attempt to cut out and remove petroglyphs. Photo by Mike Hooper 1984.

base drills, and flake scrapers with pressure-retouched edges. Other elements of the assemblage included manos and metates as grinding implements, *atlatl* weights, and a general lack of obsidian and chert as raw materials. It is not clear whether or not the Martis Complex includes the use of bedrock mortars. Elsasser and Gortner (1991: 368) state that bedrock mortars likely were used because several campsites containing bedrock mortars have been found within Martis territory with an apparent association with Martis tool kits.

In describing the Martis Complex along the east slope of the Sierra Nevada, Elston (1986: 143) discusses seed processing but does not specifically include bedrock mortars. Of the 47 Style 7 petroglyphs sites with associated archaeological features and artifacts, only eight contain bedrock mortars. Due to variability in artifact manufacture, differences noted between artifacts on opposite sides of the Sierra Nevada, and similarities with Great Basin cultures, the validity of a "Martis Complex" has been questioned by numerous researchers (Farber 1982: 80; Rondeau 1982: 180; Clewlow 1984: 219). Much of this criticism was focused on the use of basalt as the primary criteria in identifying the Martis Complex (e.g., Rondeau 1982: 15; Payen 1989: 36-37), without reference to the other known archaeological elements.

Recent work, however, has reaffirmed the validity of the Martis Complex as a legitimate archaeological concept (Elsasser and Gortner 1991). Archaeological evidence has reinforced seven of the original nine traits proposed for definition of the Complex. Additional diagnostic traits have been identified: Spokeshave-notched scrapers and an abundance of large biface blades and cores have been consistently recovered during excavations (Heizer and Elsasser 1953; Elsasser 1960; Clewlow 1984). A third additional diagnostic trait is the presence of abstract petroglyphs (Elsasser and Gortner 1991) which we believe represents Style 7 rock art.

The Martis Complex occupied an area of about 10,000 square miles in mid-to-high elevations of the Transition Zone on both sides of the northern Sierra Nevada crest (Figure 1). Its boundaries incorporate the present ethnographic areas of both the Maidu and Washo. Martis Complex sites are always in optimal locations with several resources available. Permanent winter encampments such as NEV-15 and PLA-689 are usually found below 4,000 feet in elevation. These permanent campsites have been discovered near streams or lakes providing for their water supply and fishing, near groves of oak for acorn gathering or pine trees supplying pine nuts, and near open areas suitable for hunting.

Artifacts identified at winter camps include stemmed, notched, and leaf-shaped projectile points, knives, scrapers, drills, boiling stones, and waste flakes. Bedrock outcrops provided milling slicks for food processing.

Martis summer encampments are much more numerous, with many hundreds of sites found at higher elevations throughout the Martis Complex Area. These usually incorporate surface or shallow deposits located near streams or springs, usually on flat or moderately level benches, and often near the margins of natural forest openings. Bedrock outcroppings at Martis summer camps occasionally contain milling slicks attesting to food processing activities, however, many of these seasonal camps consist only of surface scatters of lithic artifacts dominated by basalt but also including slate, obsidian, and other materials. These assemblages contain high quantities of basalt debitage as well as completed projectile points and bifaces. Another attribute recently reported is that high-elevation, seasonal Martis campsites are sometimes found close to abstract-style petroglyphs (Elsasser and Gortner 1991: 370).

Three principal lines of evidence indicate an association between Style 7 rock art and the Martis Complex. These include Martis artifact assemblages at or near the Style 7 petroglyph sites,

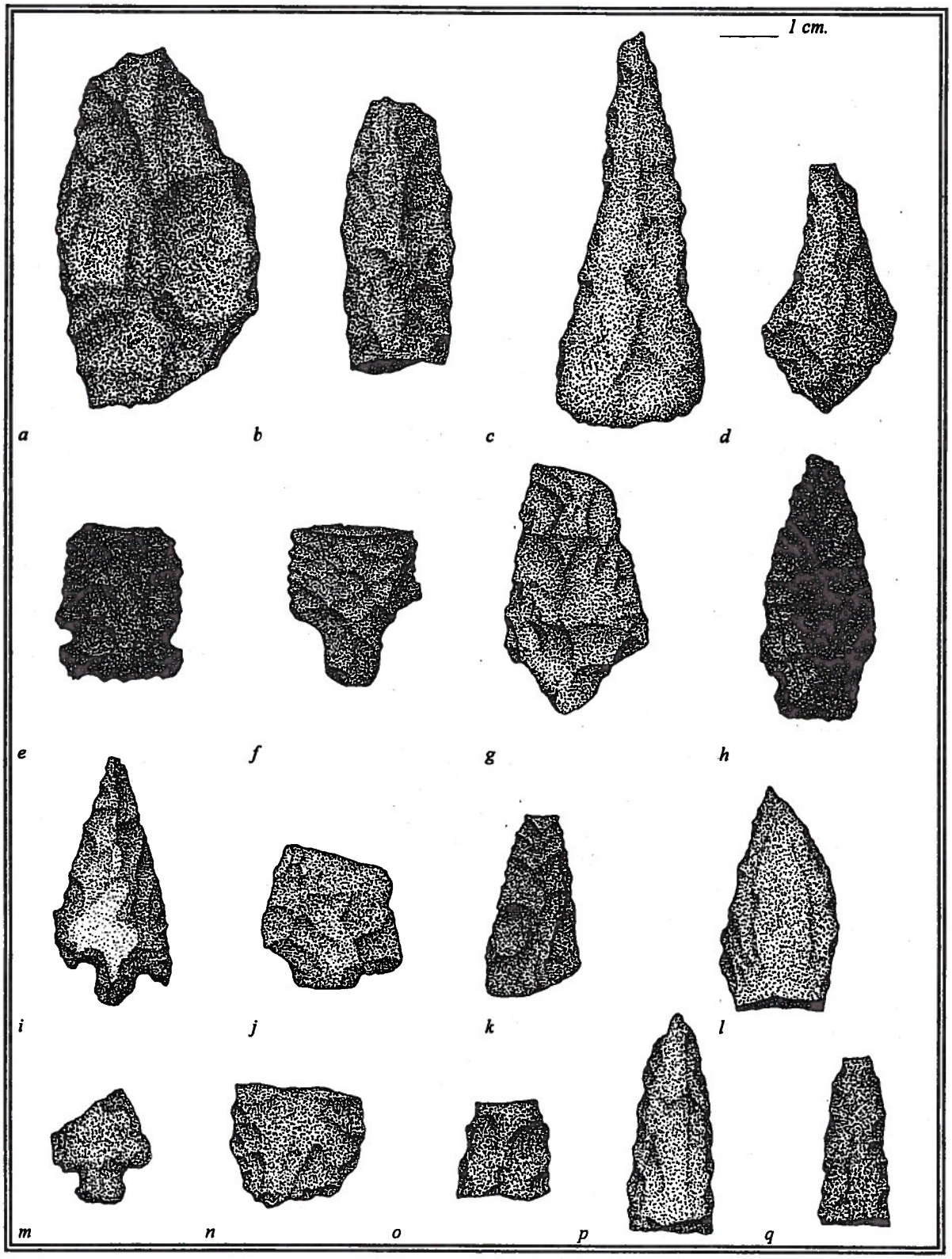

Figure 15. Recently discovered Martis basalt artifacts from Style 7 petroglyph sites. a-d, l-q: Snow Mountain; e: Miller Meadows; f-g: Palisade Creek; h: Wabena; i-k: Old Baldy Crest. Drawings by John Betts 1990-1997.

a near-complete absence of Late Prehistoric artifacts at or near these rock art sites, and the overall distribution of the Style 7 rock art sites themselves.

STYLE 7 ROCK ART AND THE MARTIS ARCHAEOLOGICAL COMPLEX

Payen first noted the possible association of Style 7 rock art and Martis Complex artifacts. Martis artifacts were found at or near four of his Style 7 sites, Lakes Basin, Hawley Lake, Meadow Lake, and Cisco Grove. Both Martis and Kings Beach materials were found associated with the Soda Springs site (1966: 71).

In a survey of Bear Valley and the upper watershed of the South Yuba River, Claytor reported on three Style 7 rock art sites; at least 14 Style 7 sites are now known to exist within his survey area. An overall emphasis on Martis period occupation of this region can be detected in Claytor's findings. Of 201 typable projectile points, only 16 were assignable to Late Prehistoric types such as Rose Springs, Desert Side-Notched, and Cottonwood Triangular. The remaining artifacts were classified as types more closely related to the Martis and Elko Series. Claytor also collected a variety of artifacts from the Skaters Pond Site, including 35 projectile points, at least four of which were large basalt Martis-series points (Claytor 1973: 40, Tab. 3).

An archaeological survey of the Hawley Lake region revealed six Style 7 sites, in addition to the major Hawley Lake site itself. An overall preponderance of basalt debitage and artifacts observed during this survey suggested a Martis Complex affiliation for the sites in the area. Only a hint of later Kings Beach materials was encountered (Payen and Scott 1982: 74).

As part of his investigations in the North Fork area, Gortner (1984: 16-26) presented the hypothesis of a direct correlation between abstract style petroglyphs and the Martis Archaeological Complex. The collections from several families summering in the North Fork of the American River area were examined and seven different point types were identified. Gortner analyzed three large private collections containing 234 projectile points. He found a very close similarity of percentages of the seven different types among the three collections. Nearly all of the points were of basalt, with only a few made from chert or obsidian. Although six projectile points in one collection appeared to belong to the late period, Gortner concluded that many of the projectile points examined closely resemble points of the Martis Complex (1984: 20).

A recent review of reports on 19 archaeological sites in the Lakes Basin and Mohawk Valley area revealed that of 119 projectile points, only one Desert Side-Notched point could be attributed to the Kings Beach or Late Prehistoric period (Neuenschwander 1994: 185). This seems to be an indication of a much less intensive utilization of this region during the Late Prehistoric period.

Recent investigations at CA-PLU-88, Lakes Basin Campground, also provide dramatic evidence in support of the association of Style 7 rock art and the Martis Complex. This is the first major excavation reported for any Style 7 rock art site. Extensive excavation of 54 units produced a 54.25 cubic meter sample. The cultural deposit appeared to have sustained minimal disturbance and to have retained stratigraphic integrity. Evidence from this deposit suggested that human activity may have occurred at this site for nearly 10,000 years. The most intensive period of utilization, however, is concentrated from 4,000 to 1,500 years B.P. during the Middle Archaic time period, which is equated with the Martis Complex. Of the 38 classifiable projectile points re-

covered, 35 have been assigned to the Martis and Elko Series, which are considered diagnostic of the Middle Archaic period (Neuenschwander 1994).

Several sites have been discovered in recent years that have produced artifact assemblages that provide additional evidence of potential archaeological affiliations. At Lots-O-Granite, 20 basalt projectile points have been found, including several Martis-series types. One obsidian projectile point, a basalt spokeshave, and a quartzite scraper have also been found at this site. An assemblage of artifacts recently documented from the Snow Mountain site includes eight basalt projectile point fragments, a basalt drill, and a basalt scraper (Figure 15a-d, l-q). Three basalt projectile point fragments were mentioned on the site record for Rhoades Holler, with one corner-notched specimen documented. Artifacts found at the Lacey Valley site included four basalt projectile points, two basalt bifaces, a basalt scraper, and a basalt drill.

During the course of recent detailed recording at Style 7 sites, artifacts have been documented that contribute additional evidence of archaeological affiliations. Twenty-six projectile points or point fragments have been reported from MF-B,P,Q including two small chalcedony points, one obsidian point, 13 points of basalt or slate, three basalt point fragments, and seven point fragments of unspecified material. Three basalt projectile point fragments were recently documented from Old Baldy Crest including a corner-notched base fragment, a nearly complete contracting stem point, and a non-diagnostic point midsection (Figure 15i-k). A large basalt flake with possible edge wear was also observed.

A variety of artifacts have been collected from the Palisade Creek site, including basalt flakes, formed tool fragments, and two basalt contracting stem projectile points (Figure 15f-g). The base of a basalt side-notched projectile point was also found at the Miller Meadows site (Figure 15e), and a complete Martis projectile point was found at Wabena (Figure 15h).

Of the 92 Style 7 rock art sites included in this study, 43 (47%) have associated lithic materials. At least 21 (23% of all sites or 49% of sites with associated lithic material) contained large basalt projectile points. Data are not always sufficient for definite typological determinations, but these points are generally characteristic of Martis-series types. Only three sites (3.26% of all sites or 7% of sites with associated lithic material) included in this study provided evidence of a late prehistoric occupation, Bear Valley, MF-B,P,Q, and Soda Springs.

In the case of Bear Valley, this evidence consists of a single obsidian Desert Side-Notched projectile point. The group of 40 bedrock mortars, the most extensive at any Style 7 site, could also be an indication of Late Prehistoric period occupation (Elsasser 1960: 13). Bear Valley has other unique attributes: it is the lowest-elevation site of this study, it is the only site on the Bear River drainage, and its location on a valley floor adjacent to a large grassy meadow is unusual for a Style 7 site.

Several other sites in Bear Valley contain evidence of late prehistoric occupation. At MF-B,P,Q, two small chalcedony projectile points, one obsidian point, and the variety of lithic debitage present suggest that a Late Prehistoric temporary camp was located in one portion of this extensive site area. Lithic materials in other portions of the site, however, are more characteristic of Martis, including numerous basalt projectile points and biface fragments.

As for the Soda Springs site, a detailed description of lithic artifacts and material types observed at this site during the nineteenth century gives a strong impression of abundant Late Prehistoric period artifacts (Avery 1873). Payen singled this site out as the only Style 7 site with both Martis and Kings Beach materials (1966: 71). Gortner describes a private collection from the Soda Springs vicinity with 40 Desert Side-Notched projectile points, and discusses the possible Late Prehistoric or Kings Beach occupation at this site (1984: 20). Our data continue to support

the observation that Soda Springs is the primary Style 7 site with abundant evidence of a Late Prehistoric occupation.

The final line of evidence that suggests an association between Style 7 rock art and the Martis Complex is the overall distribution pattern of the rock art sites throughout the region (Figure 1). All of the Style 7 sites included in the current study are located within the nuclear territory of the Martis Complex area as defined by Elsasser (1960). The rock art sites are concentrated in the upper watersheds of the Yuba and American River drainages, with five sites extending north into the Feather River drainage. The absence of known Style 7 rock art sites beyond the area containing Martis sites suggests an association.

The northern and southern boundaries of both Martis and Style 7 are remarkably consistent. The Style 7 sites included in the current study only extend as far south as the Rubicon River. Moving south from this area, archaeological assemblages are known to change, exhibiting fewer of the characteristics typically associated with the Martis Complex (Sandelin n.d.). A similar change occurs at the North Fork of the Feather River. Glaciated rock outcroppings are abundant along the Sierra crest south of the proposed Style 7 boundary depicted on Figure 1, which suggests the absence of Style 7 sites is influenced by cultural, not environmental, factors.

The east-west boundaries of Style 7 and Martis exhibit less of a correspondence. Martis sites are found in lower elevations to the west and extending into Nevada on the east with no Style 7 petroglyphs in association. This site distribution pattern suggests that the petroglyphs were associated with activities conducted in the higher elevations of the range.

CONCLUSIONS

Additional discoveries undoubtedly remain to be made, and as our research continues we hope to be able to add to the extraordinary corpus of prehistoric art found within our study area. Similarly, many additional avenues of Style 7 rock art investigation remain to be explored; we hope to expand our analysis to include additional environmental attributes and a more detailed petroglyph element inventory.

Yet even at this stage of our research it seems clear that a region once thought to be sparsely endowed with rock art (Kroeber 1925: 937), or even a "barrier to the westward spread of petroglyphs" (Steward 1929: 219), has now been shown to be remarkably rich in this form of cultural expression. A constantly growing body of northern Sierra Nevada rock art data reaffirms Payen's original identification, four decades ago, of a unique style of rock art within this region.

These Style 7 rock art sites are found within the area proposed for the enigmatic Martis basalt tool tradition, and basalt artifacts found while recording Style 7 rock art sites indicate a direct cultural association between Style 7 rock art sites and the Middle Archaic Martis Archaeological Complex. This evidence is pervasive and argues for the placement of the Style 7 rock art sites firmly within Middle Archaic times, roughly from 4,000 to 1,500 B.P.

Our research has established a cultural link between a distinctive but hitherto undated prehistoric art style, Style 7 rock art, and a vanished people previously known only through their unusual lithic artifact assemblage. If, as we believe, Style 7 equals Martis Rock Art, then the shadowy Martis Culture, as a result, is now a little less mysterious, a little more familiar.

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REFERENCES CITED

Avery, B. P.
1873 Chips from an Indian Workshop. Overland Monthly 11 (6): 489-493. (Reprinted as UCAS-R, No. 21:33-36).

Betts, John
1998 The Donner Pass Petroglyphs: CA-NEV-4. Report for the Tahoe National Forest, in preparation.

Claytor, Michael P.
1973 An Archeological Survey of the Bear Valley Locality, Placer, and Nevada Counties, California. Unpublished master's thesis, California State University, Sacramento.

Clewlow, C. William, Jr.
1978 Prehistoric Rock Art. HNAI 8: 619-625.
1984 Archaeological Data Recovery Program, Ancient Enterprises, Inc. CALTRANS, Marysville, California.

Elsasser, Albert B.
1960 The Archaeology of the Sierra Nevada in California and Nevada. UCAS-R, 51: 1-93.

Elsasser, Albert B., and Willis A. Gortner
1991 The Martis Complex Revisited. North American Archaeologist 12 (4): 361-376.

Elston, Robert G.
1986 Prehistory of the Western Area. HNAI, 11: 135-148.

Farber, Alfred
1982 Archaeological Excavations at the Chalk Bluff Ridge, Nevada County, California, with a New Interpretation of the Martis and Mesilla Complexes. Anthropological Papers of University Foundation, No. 3. California State University, Chico.

Foster, Daniel G., and John Betts
1990 Rock Art Conservation at Wabena Point. Society for California Archaeology Newsletter 24 (2): 1,12-13.

Gortner, Willis A.
1984 Ancient Rock Carvings of the Central Sierra: The North Fork Indian Petroglyphs. Portola Press, Woodside, California.
1986a The Willis Gortner Site Records: Petroglyph Sites Near "The Cedars," Placer County, California. CDF.
1986b The Martis Indians: Ancient Tribe of the Sierra Nevada. Portola Press, Woodside, California.
1987 The Willis Gortner Site Records, Vol. 2. 19 Petroglyph Sites along the Middle Fork of the American River, Placer County, California. CDF.

Grant, Campbell
1967 Rock Art of the American Indian. Thomas Y. Crowell, New York.

Heizer, Robert F., and C. W. Clewlow, Jr.
1973 Prehistoric Rock Art of California. Ballena Press, Ramona, California.

Heizer, Robert F., and Albert B. Elsasser
1953 Some Archaeological Sites and Cultures of the Central Sierra Nevada. UCAS-R 21: 1-47.

Heizer, Robert F., and Karen M. Nissen
1977 Prehistoric Rock Art of Nevada and California. Jahrbuch für Prahistorische und Ethnographische Kunst, band 245, 1974-1979:148-156.

Kibbey, Mead B.
1996 The Railroad Photographs of Alfred A. Hart, Artist. California State Library Foundation, Sacramento.

Kroeber, Alfred L.
1925 Handbook of the Indians of California. BAE Bulletin 78, Washington, D.C.

Mallery, Garrick
1893 Picture-Writing of the American Indians. BAE-B, Tenth Annual Report.

Moratto, Michael J.
1994 California Archaeology. Academic Press, Orlando, Florida.

Neuenschwander, Neal
1994 Archaeological Excavation at CA-PLU-88, Lakes Basin Campground, Plumas County, California. Peak and Associates. U.S.F.S., Plumas National Forest, Quincy, California.

Office of Historic Preservation
1995 Instructions for Recording Historical Resources. Office of Historic Preservation, Sacramento, California.

Payen, Louis A.
1966 Prehistoric Rock Art in the Northern Sierra Nevada, California. Unpublished master's thesis, Sacramento State College, Sacramento.
1967 An Archaeological Reconnaissance of Potential Land Exchanges in the Sierra Valley, Lacey Valley and Independence Lake Areas. Tahoe National Forest Cultural Resources Report, No. 2.
1968 "Whether Pliocene or Miocene, They Unquestionably were Obscene": History of Investigations at the Hawley Lake Petroglyph Site. Paper read at the Annual Meeting of the Society for California Archaeology, Santa Rosa.
1969 Archaeological Excavations at Shoot Hill, Malakoff Diggins State Historic Park, Nevada County, California. DPR.

Payen, Louis A., and Lyle R. Scott
1982 An Archaeological Sample Survey of the Hawley Lake Area, Sierra County, California. Tahoe National Forest, Cultural Resources Report, No. 11.

Peak & Associates, Inc.
1989 Report on the Recordation of Four Rock Art Stations at CA-PLU-88, Lakes Basin Campground, Plumas National Forest. U.S.F.S., Quincy, California.

Rhode, Pete
1996 The Lakes Basin Field Trip Report. Bay Area Rock Art News 14 (2): 1, 8-10.

Ritter, Eric W., and E. Breck Parkman
1991 Rock Art of the Foothills of the Northern Sierra Nevada–Southern Cascade Range Interface. In American Indian Rock Art 18: 81-104. ARARA, San Miguel, California.

Rondeau, Michael F.
1982 The Archaeology of the Truckee Site, Nevada County, California. California Department of Food and Agriculture, Sacramento.

Sandelin, Linda C.
n.d. An Analysis of the Flaked-Stone Assemblage from the Dad Young Springs Site, CA-PLA-689, Placer County, California. Master's thesis in preparation, California State University, Sacramento.

Smith, Clarence E.
1946 A Supplement to Petroglyphs and Pictographs of California and Adjoining States. UCARF-C, Ms. 61.
1948 Additional Notes on the Petroglyphs of California. UCARF-C, Ms. 27.

Smith, Jack E.
1957 Petroglyphs from Site PLA-26, UCARF-C, Ms. 242.

Steward, Julian H.
1929 Petroglyphs of California and Adjoining States. UCPAAE 24 (2).

Van Tilburg, JoAnne, Frank Bock, and A.J. Bock
1987 The Church Rock Petroglyph Site: Field Documentation and Preliminary Analysis. Occasional Papers of the Redding Museum (4).

Wellmann, Klaus F.
1979 A Survey of North American Indian Rock Art. Akademische Druck- u. Verlagsanstalt, Graz, Austria.