

Leonards Basin/Palmer Gulch Rock Art Documentation (Archaeological Assessment) Project #2006-AS-005

Delta County

Site Numbers:

5DT64

5DT68

5DT53

5DT1690

5DT1691

5DT1692

5DT1693

5DT1694

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Executive Summary

The rock art sites located in Leonards Basin and Palmer Gulch, Delta County are on the west side of the Gunnison River. Leonards Basin and Palmer Gulch are approximately 2 to 2.5 miles down stream from the bridge crossing Escalante Canyon. There are two sites in Leonards Basin and six sites in Palmer Gulch. They occur in shallow rock shelters and along exposed sandstone cliffs in the Dakota Sandstone. None of the sites in Palmer Gulch have been recorded. Both sites in Leonards Basin have been recorded but not fully documented.

Petroglyphs and charcoal drawings comprise the form of rock art at these sites. They consist of small quadrupeds with horns, mounted riders, bear paws and baskets. Large, wide anthropomorphic figures, spirals, meandering lines and dots make up the unusual and very extensive panel at the end of Palmer Gulch.

The sites in Palmer Gulch are significant because they contain relatively old archaic motifs that are part of a larger Uncompahgre Style complex. The main panel at the end of Palmer Gulch has drawn interest from Ute Elder Clifford Duncan who interprets it as a healing site. The petroglyph symbols and rock incorporation are interactive with the patient as part of a curing ceremony in Ute tradition.

These sites are in excellent condition and present an opportunity for visitors to observe and learn about Ute life and culture from the petroglyphs. The sites are conveniently located a short distance from the Gunnison River and they could be made accessible by recreational boaters and hikers.

Little interventional conservation is needed to preserve the petroglyphs. The objectives of site management are to preserve and improve the existing qualities of the rock art panels and archaeology, and to use the site to educate the public about the range of motifs, their cultural significance and possible meanings, and the age depth represented. To achieve these objectives the managers should decide whether to open the sites to public access, and if this were the case then consideration would need to be given to consulting with the private land owner to gain access.

These sites are within the proposed Escalante-Dominguez Special Management Area and therefore could be opened for public access. Access other than through the adjacent private land would be necessary to facilitate convenient visitation. When open for educational purposes the main management strategies should be; 1), ensure the protection of the rock art and shelter floor deposits, and 2), provide appropriate interpretive materials (brochures, signs, pamphlets, etc.). Regular monitoring of the site should be made an essential part of the overall management of the Uncompahgre Plateau.

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Chapter 1 Introduction

This work addresses the re-evaluation, documentation, interpretation, and management plan of rock art sites in Leonards Basin, (5DT64 and 5DT68) and Palmer Gulch, (sites 5DT53, 1690 – 1694). The study areas are found in two western drainages of the Gunnison River north of Delta, Colorado. Leonards Basin has two sites with a variety of petroglyphs and scratched images. They form a homogeneous style and are of the Proto-historic and Historic Ute eras. There is only one panel that has historic petroglyphs superimposing an older engraving of a deer (5DT64, Panel 4). The imagery of riders on horseback, depictions of rabbit hunts, teepees, horse heads, and horned quadrupeds in context with mounted riders are consistent with historic Ute cultural iconography.

Palmer Gulch consists of 6 sites over 3 miles up the drainage consisting of petroglyphs pecked in either shallow sandstone rock shelters or on a cliff face. The petroglyphs span a range of style and age estimations that include late Archaic, Formative, Proto-historic and Historic Ute eras. The interpretive discussion of these panels is based on regional ethnographic information of Ute culture. More specific element identifications given by Ute elder, Clifford Duncan provide a personal perspective on site 6, an extensive site at the far end of Palmer Gulch. Figure 1.1 shows the regional location of the two study areas.

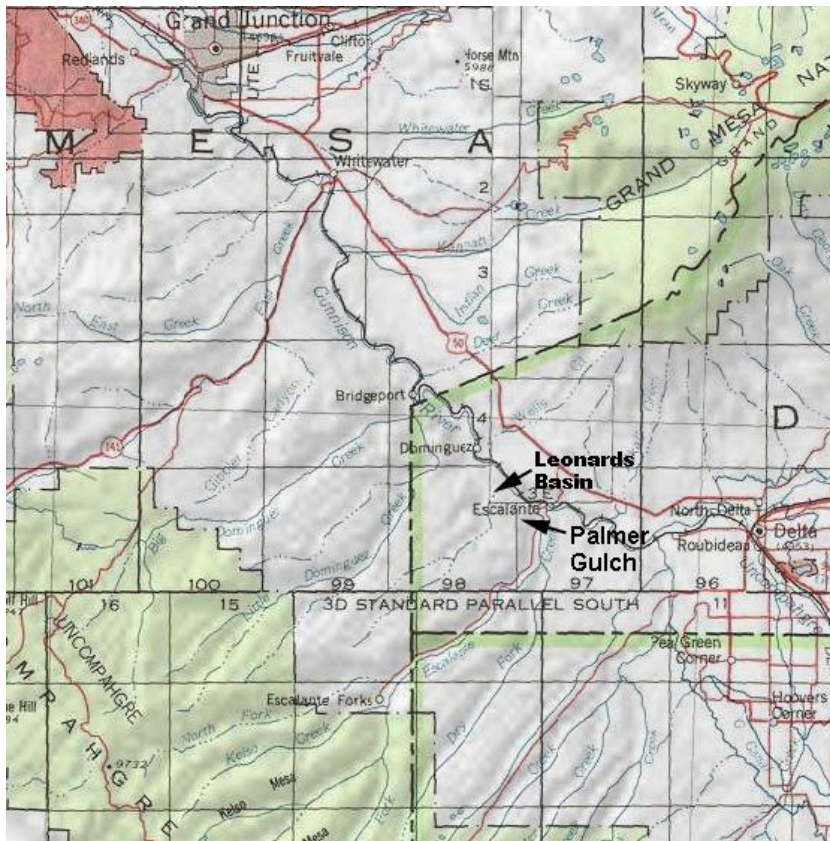


Figure 1.1. Location of the study area within the region.

Methodology

The methodology for this report includes a detailed field inspection and recordation of 4 new sites and re-evaluation of sites 5DT53 and 5DT54 that were originally recorded in 1975. This report includes the current Colorado Office of Archaeology and Historic Preservation site forms and Re-evaluation site forms. Actual site boundaries for all sites were plotted on USGS topographic maps, labeled with the site number, map name, and legal description. These sites have been evaluated for eligibility to the National Register of Historic Places.

Digital photography was used with a centimeter scale in every photograph and was taken perpendicular to the panel face to avoid distortion. Computer enhancement of each photograph allowed for closer analyses of the subtle markings on the rock surface and to distinguish between natural rock marks and human peck marks. Computer manipulation was used to enhance photographs for tracing and reproduced as black and white graphic images. The graphic reproductions of the motifs were then inserted into the State report forms and used as illustrations in this report.

This report contains detailed descriptions of each rock art panel, the individual motifs, their age estimations, and the interpretations based on available ethnographic information. Scale drawings were made of the site plans and profiles. Ethnographic research and video-taped interviews on-site form the interpretive analysis of each site. The geomorphology analysis is used to estimate its age and possible selection for previous use. A summary of the Ute archaeology, ethno-history, and previous rock art studies for this site and surrounding region was developed from a comprehensive literature search.

This report also includes a brief Management Plan with an assessment of the rock surface conditions leading to possible conservation, interpretation, and management recommendations.

Qualifications:

Urraca Archaeological Services has a specialized team for documenting rock art. The project director has a valid BLM Colorado Cultural Resource Use Permit, specifically authorized for Rock Art, and a Fieldwork Authorization was obtained prior to the initiation of fieldwork. Dr. Carol Patterson has over 30 years experience in cultural anthropology, archaeology and rock art documentation. The team partner Dr. Alan Watchman is a geologist by training and has 20 years experience in rock art documentation, mapping, conservation, archaeometry, and dating.

The Site Descriptions

Leonards Basin (Site 5DT64) is located three hundred meters south of the Gunnison River and one hundred meters northwest of 5DT60, a lithic reduction site. This petroglyph site is at the base of the northwest slope of Good Point. It is 14 m long and 4.5 m wide and 3.7m high. The assembly of panels is situated beneath the overhang of Entrada Sandstone. A massive fallen block rests in front of the main panel.

The second site in Leonards Basin (Site 5DT68), is the largest site found and is located north of the intermittent stream that runs in front of 5DT64 and is three hundred meters northwest of site 5DT66. It is a narrow shelter formed at the base of a cliff in the Entrada Sandstone. The site faces south and is 60 m long, 3 m wide and 5 m high. Three petroglyph panels were cited in the 1975 report, but 7 panels were found in this study.

Palmer Gulch contains 5 new sites and one previously record Site 5DT53. The first site, 5DT53 is located on the south bank of the Palmer Gulch one thousand meters south of Gunnison River. The other five sites are scattered along the drainage for three miles heading west up Palmer Gulch. The sixth site is extensive with 7 panels along a cliff face extending for 30 feet.

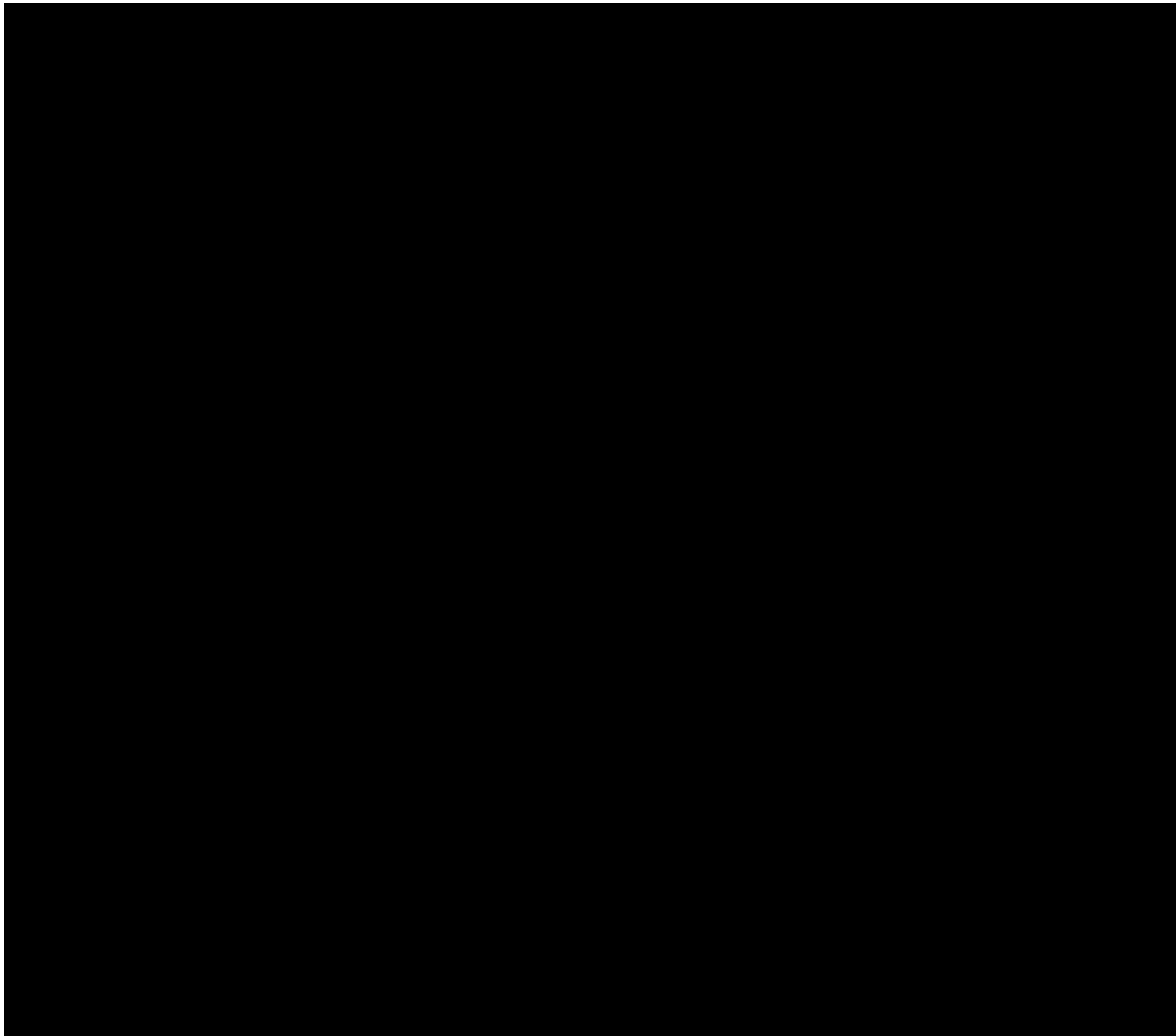


Figure 1.2. Location of Leonards Basin and Palmer Gulch study areas .

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Several of the previously recorded sites were visited. In this report, one site, 5DT53 is re-evaluated and 5 other sites are new. They lie further up the drainage and were unknown except by ranchers.

Site 5DT54 is in an adjacent unnamed gulch and is given reference for motif context in this report. Site 5DT54 is located about three quarters of a mile southwest of the Gunnison River and south of Good Point.

Site 5DT51 was previously recorded as a lithic scatter and the rock art was not mentioned in the report. It may not have been noticed by the investigating archaeologist.

The petroglyphs of this drainage differ in many ways to those found in Leonards Basin. Palmer Gulch contains several panels that are of greater antiquity and style variation. The motifs of walking bears and bear paws, baskets and tree motifs dominate here. In contrast, Leonards Basin which is just the next drainage over has rabbits, horse riders and quadrupeds that dominate the imagery.

Interpretations

The interpretations presented in this report are based on previous studies of the semiotic relationships between gestural and iconic representations. The emphasis is on body gestures of both animals and humans that have cultural meanings and signify phrases or concepts that form a narrative. Identification of a motif is not an absolute fact and therefore it is placed within inverted commas. This is a standard of practice among rock art scholars. For example, a motif identified as a „rabbit“ is set apart with apostrophes. This leaves it open to the reader whether the motif can be identified positively or possibly as something else.

The identification of known phrases or meanings is placed in quotation marks. . For example, if the ears of any animal are erect and forward, the gesture is interpreted as “listening” or “looking”. References to these meanings can be found in the literature dating back two centuries and in some cases are universal world wide

The ethnographic documentation of sign language, Ute religion and contemporary Ute ethnographic information is presented as supporting evidence for the interpretations of the Ute petroglyphs. While an absolute interpretation cannot be made, the analysis is considered to have a high degree of probability based on field experience and the accumulation of a large data base of similar examples found in the region, and many years of knowledge gained from discussions with Ute elders. As new information from other sites and sources becomes available, the preliminary interpretations given here may need modification and updating.

Chapter 2 Cultural Context Review

The study area is part of the Gunnison River drainage system in the west-central region of the Northern Colorado Basin. Leonards Basin sites 5DT68 and 5DT64 are essentially Historic Ute in age based on the petroglyph iconography and style. The narrow time frame for this rock art has provided an opportunity for describing details of the ethno-history and ethno-botany relevant to the interpretation of this site. Palmer Gulch, sites, 5DT53 and 5DT1690 - 94 range in age from Late Archaic to Historic based on style and analysis of the rock surface weathering.

Previous Work

Previous studies in adjacent areas include the Uncompahgre Plateau by Buckles (1971) and the Colorado Plateau, in general, by Cole (1987). These authors have identified the Paleo-Indian Tradition from 12,000 - 7500 BP; the Western Archaic, 7500 to 2000 BP; the Uncompahgre Complex, 9000BP to 700 BP; the Numic entrance (Formative Era) at 850 - 700 BP, and the Historic AD1730 to the present (Cole 1987). Of these eras only the Late Archaic, the Formative and Pro-Historic, and Historic are represented in Palmer Gulch. Literature search for previous work in Palmer Gulch contains only two site reports for site 5DT52 - 54 by Philip Born in July of 1975. Bill Buckles (1971) pioneered the rock art chronology for the Uncompahgre Plateau. Cole 1988 and 1989 provided a comprehensive analysis of a large sample of rock art in the Uncompahgre Plateau, and based her formulation of the rock art chronology on Buckles' previous studies. Cole's survey included the panel at 5DT54, but she mislabeled it as 5DT53 in her publications.

Cultural History

Previous studies of the archaeological context for this study area have been documented most notably by Reed and Gebauer (2004), and a brief summary is presented here beginning with the relevant eras associated with the rock art found in Palmer Gulch.

The study area is part of the Gunnison River drainage system in the west-central region of the Northern Colorado Basin. Sites 5DT68 and 5DT64 are essentially Historic Ute in age based on the petroglyph iconography and style. The narrow time frame for this rock art has provided an opportunity for describing details of the ethno-history and ethno-botany relevant to the interpretation of this site. There is only evidence of Ute occupation the study areas. No Fremont, Navaho, or Ancestral Pueblo motifs are present. Leonards Basin was mainly an historic Ute occupation site spanning 50 to 100 years (late 1700s to 1880). Palmer Gulch was utilized as a migration route by earlier people as well as historic Ute. This is evidenced by the older, archaic style animal motifs found partly exposed on cliff faces and associated with archaic occupation sites. There were no Paleo-Indian rock art panels at these locations.

Archaic Era

Dating between 6400 and 400 B.C., this era represents adaptations to an environment similar to that which is found today (Reed and Metcalf 1999). Increasing hunting and gathering subsistence practices occurred with greater emphasis on smaller game and more diverse plant resources. Milling stones are found in increasing amounts. Projectile points are smaller, and the corner and

side-notched varieties are common. House constructions are of the Basin type along with pit structures and ephemeral brush configurations (Reed and Metcalf 1999).

The Archaic Era is characterized by an increase in population and intensity of subsistence strategies to exploit the natural resources. People were highly mobile, traveling to higher elevations during the summers for maturing plant resources, and wintering in the lower elevations where deer and elk migrated.

These people exploited various elevation zones in response to the paleo-environmental conditions. The areas above 7,000 feet elevation (2,100 m) were more intensely occupied before 2000 B.C, and lower areas after 2000 B.C. The climate before 2000 B.C. was warmer and drier than the modern environment, and the conditions after 2000 B.C. were cooler and moister (Reed and Metcalf 1999, Reed et al. 2001).

Depictions of archaic projectile points in the rock art have been found at the Shavano Valley petroglyph site (5MN5) and at the Escalante Bridge site (5DT4), near the study area. These panels are both of the Archaic Era. To the north are more depictions of archaic style animals found in Dominguez Canyon and near the town of White Water on the Gunnison River.

Formative Era

The Formative Era is a period marked by the adoption of the bow and arrow, and the advent of corn in the western part of Montrose and San Miguel Counties, around 400 B.C. to A.D.1300. There are three traditions that dominate the Formative Era; the Anasazi, Gateway and Aspen traditions (Reed and Metcalf 1999). Sites found in the areas north of the San Miguel River in west-central Colorado are different from the Anasazi ones to the south. They lack kivas or sipapus and unit pueblo architecture that are typical of the Anasazi. Being neither fully Anasazi nor Fremont, as Schroeder (1964) has suggested, Reed (1997) calls this group of people the Gateway Tradition.

The Gateway tradition is characterized by a limited reliance on corn horticulture. The people manufactured small arrow points including the Rosegate variety and used the bow and arrow. They traded Anasazi pottery between A.D. 900 and 1050, but did not produce pottery themselves. They later built noncontiguous circular masonry structures but most habitation structures were of short term use. They constructed granaries and storage cists in rock shelters (Reed and Metcalf 1999). The Gateway tradition (400 B.C. to A.D. 1300) existed during the time period that corn was produced and traded heavily to the south. These sites occur further south in western Montrose and San Miguel counties.

Contemporaneous to the Gateway Tradition was the hunting and gathering **Aspen Tradition** that experienced population increases in the region (Reed and Metcalf 1999). These people intensified their hunting and gathering techniques, a continuation of the Archaic hunter-gatherers who utilized rock shelters and adopted technology such as the bow and arrow. There are some structural remains that are similar to the Archaic Era, including shallow basin houses and ephemeral brush structures that leave stone circle remains (Reed et al. 2001, Reed and Gebauer 2004). The assessment of absolute dates from a small survey in Mesa, Delta and Montrose counties, results in a gap of nearly 300 years between the latest Aspen Tradition and the earliest Ute components (Reed et. al 2001). Distinguishing between the Aspen Tradition and the proto-historic Ute phases may be difficult, but diagnostic elements in the rock art along with scientific age estimations can be used to clarify these phases.

Proto-Historic Era

The archaeological and linguistic evidence indicate that the ancestors of the Ute (Numic linguistic group) immigrated into the region from a homeland in southwestern Nevada and southeastern California around 1000 BP. The Proto-Historic era begins about this time and Reed and Metcalf (1999) have described two phases: the **Canalla** (pre-horse) and **Antero** (post horse). The **Canalla** phase beginning after A.D. 1100 extends until the adoption of an equestrian lifestyle – approximately A.D. 1650 (Reed and Metcalf 1999). In the Uncompahgre Valley, the adaptation of the horse began around 1765 when the Spanish expeditions into the valley reported seeing the Utes mounted. These people relied on hunting and gathering with habitation structures of wickiups, ephemeral brush structures lacking excavated floors or postholes. Near the end of this phase they manufactured small amounts of brown ware pottery (Uncompahgre Brown Ware with wide orifices and conical bases, mostly micaceous). They made Desert side-notched and Cottonwood Triangular projectile points. For a more complex description of the Proto-Historic and Historic eras, see Baker (2003). Baker (1988) defines the end of the Canalla phase at A.D. 1540 and adds Phase II of early contact with Europeans and the Rivera Phase from A.D. 1540 to 1820 with the proto-history ending by 1765.

Reed and Metcalf (1999) describe the **Antero** phase – A.D. 1650 to 1881 as a period characterized by horse-mounted Ute bands ranging onto the Plains to hunt bison and into the Southwest to trade and raid for slaves. Wickiup architecture persisted although, with the horse, the use of teepees for lodging was adopted. European trade items, such as beads, metal knives, tin cans, equestrian bits and saddle parts appear in the Antero phase sites. The Ute occupied the areas north of the San Juan Mountains and west to the Colorado River at present day Moab in Utah. At the time of European contact, the Ute Indians were highly mobile hunters and gatherers.

By the late 1700s the Utes were captured Indian women and children from other tribes, and trading them for horses with the Spanish in New Mexico and California. The Utes developed and maintained an amiable relationship with the Spanish. The Ute band, the Caputas were the closest in proximity to the Spanish settlements and adapted readily to an equestrian life style along with Hispanic material culture and language (Wroth 2002). The colonial authorities allowed trade and captive ransom fairs to take place on a regular basis at Abiquiu by 1776 (Swadesh 1974, 47), and Santa Clara Pueblo by 1791 (Concha 1949:238). The Utes traded good deerskins, as many as 15 to 20 for a horse. Skins were also traded for knives and other metal tools (Dominguez 1956:252-253).

Baker describes the first use of ceramics in the Late Precontact Phase “where there is evidence to suggest the Utes once had a ceramic tradition even if weakly developed” and was dropped out of the cultural assemblage during the Middle Contact Phase as the Utes became increasingly equestrian” (Baker 1991, II-8). Baker (2003) adds Phase II – Early contact, Rivera Phase A.D. 1540 -1820 with Proto history to c.a. 1765. Phase III – Middle Contact, the Robideau Phase 1820 to 1860, Ute culture flourished. Phase IV – Late Contact, Pre-removal, 1860 to 1881 and Phase V – Post Removal Phase 1881 to 1900 when the Utes were sent to Fort Duchene in Utah.

History

The Ute term for themselves is the *Nuche*, and they speak *Nuu-a-pagia*. “The Spanish first called the Nuche, the Yutas because that was the term used by the Puebloan people at Jemez Pueblo who were the first guides for the Spanish into Ute country. Those terms “Utah” and “Ute” are corruptions of the Spanish “Yuta” which isn’t a Ute word at all” (Goss 2002,35).

The band affiliation and consolidation for the Uncompahgre Valley study area is show below in Table 1.

Date	Band Name	Territory
1900s	Northern Utes	Ft. Duchene
1800s	Uncompahgre Utes	Uncompahgre Plateau, Uncompahgre Valley
1700s	Sabuaguana	Uncompahgre Valley Rio de las Sabuaganas 1700s by Rivera and Escalante.
1600		
1500	Tabeguaches	West Central Colorado Dolores and San Miguel River Sierra de los Tabeguaches

Table1. Band affiliation for the Project Study Area

In the late 1700s the Uncompahgre Valley was home to the Sabuagana Utes. Tabeguache Utes occupied the area around the San Miguel river drainage on the west side of the Uncompahgre Plateau (Wroth 2002). These people were first documented by Juan Rivera in his second expedition of 1765 as the first Spaniard to pass into the Ute Country north of the San Juan Mountains. In October of 1765, Rivera traveled to the Robideau Bottoms west of Delta and turned south following the Uncompahgre Valley on his way back to Santa Fe. This expedition was followed by the Sandoval-Mora trading expedition to the Gunnison River in 1775. The next year, the 1776 Dominguez and Escalante party traveled north from Santa Fe over the Uncompahgre Plateau and camped near Horsefly peak. Then they traveled through the Uncompahgre Valley and turned east near Delta and climbed the Grand Mesa north of Hotchkiss. Their accounts in 1776 put the Tabeguaches north of the San Juan River incorporating both sides of the San Miguel and Delores rivers. These men called the area *Sierras de los Tabeguachis*. Northeast of the area that incorporated the Uncompahgre River drainages and the Gunnison River, dwelt the Sabuaganas which they named the *Sierras of the Sabuaganas* (Warner and Chavez 1995). See map of Ute Bands, Figure 3.

The Sabuaganas liked to winter as far south as New Mexico. Wroth (2002,63) writes that the Sabuaganas traveled down the Rio Chama trail to the watercourse near Abiquiu. Known today as Chicuahuenos Creek, it was shown on old maps as Chaguaguas (Sabuaganas) Creek, because the Sabuaganas camped by it. They usually came once a year in the month of October to Santa Clara Pueblo to trade skins for horses.

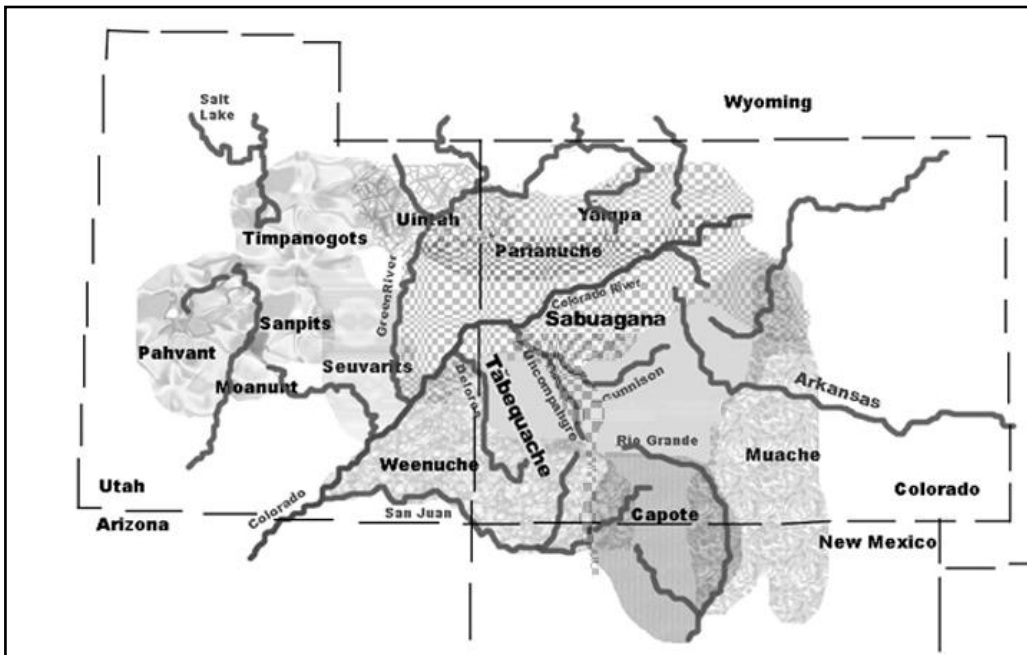


Figure 2.1. Map of Ute Tribes at the time of contact (After Simmons 2000).

The proximity of the Muache and Capote bands with the Spanish horse trade and breeding farms in Northern New Mexico predated the acquisition of the horse and equestrian life style in the Uncompahgre Valley. In the 1820-40s Antoine Robideau brought his trading activities to the Gunnison Valley and established Fort Robidoux on the Gunnison River near Delta. His trading post provided horses and rifles to the Utes living in this area. Horses depicted in the Ute rock art in the Uncompahgre Valley and Gunnison River drainages therefore probably date from the mid to late 1800s.

Contact between Utes and Europeans accelerated over the next half of the century. It is marked in 1853 by Captain John W. Gunnison's expedition into the Uncompahgre Valley, and in 1857 by the Marcy Expedition. In 1859 gold was discovered in Cherry Creek near Denver. This brought an increase in exploration of Western Colorado in the following years. During the 1860s treaties were drawn between the Utes and the Federal government to protect settlers and miners. The Sabuagana and Tabeguache bands were consolidated into what is called the Uncompahgre Utes. In 1868 the Los Pinos Agency was built on Los Pinos Creek near Cochetopa Pass in the mountains just south of Gunnison. In the 1870s large ore deposits were discovered in the San Juan Mountains. The federal government negotiated the Bruno Treaty in 1873 for the Moache, Capote, and Weeminuche bands to settle on the present Southern Ute Reservation. The Los Pinos Agency was moved to the Uncompahgre Valley in 1875. The 1879 Meeker Incident and other hostilities between the Utes and white settlers in the 1880s led the Federal government in 1881 to force the Uncompahgre (Tabeguache and Sabuagana) and the White River (Yampakita) to move to northeastern Utah. White settlers quickly staked claims in Ute reservation land. In 1895 the Gunnison Diversion project brought water to the Uncompahgre Valley, which allowed farming of fruit tree orchards, growing corn, and grazing of cattle and sheep.

Ethnography

The following excerpts of Ute ethnography pertain to the motifs found only in the two study areas. Of the two sites in Leonards Basin (5DT64 and 5DT68), the themes identified include horses, teepees, game drives or rabbit hunts, and riders on horseback with guns or sticks occur in Leonards Basin. To the south in Palmer Gulch, themes of the Bear Dance Ceremony associated with bears and bear paws and bear paw baskets, and possible curing practices are present. These themes are the focus of the ethnographic context presented in this report.

At the time of contact with Europeans the different Ute bands shared the same customs relating to birth, puberty, marriage and death, kinship systems and family structure. The practices and beliefs of shamanism and curing ceremonies, social dances and mythologies are related to the Great Basin cultures and are very different from the Plains, the Apache, the Navaho and the Pueblo people. After the adaptation to an equestrian life style, the material culture of the Utes was influenced by these other groups (Smith 1974).

Before the entry of the horse, the Utes were distributed over the mountain landscape in small family groups that moved throughout the year from one place to another. The landscape was considered sacred. Each of these local groups had a sacred mountain center and identified mountains on the margins in the four directions (Goss 2000, 42). The family groups gathered for social dances once or twice a year, but spent the rest of the year foraging over great distances to sustain themselves.

Horses

The southern Ute bands in Colorado (i.e. Moache and Capote bands) probably acquired horses around A.D.1640 – 1670. The Uncompahgre Utes (Tabeguaches and Sabuagana) in the study area were described by Dominguez and Escalante as mounted in 1776. The spread of the horse by trading with the Spanish in the south, probably dates the horse motifs in the petroglyphs to the beginning of the 1770's and most uniformly by 1800. The horse had a direct influence on the Ute material culture, including the type of shelters they built, the clothing they wore, and the type of food they hunted and gathered. Weapons changed as the horse was incorporated, and rifles were acquired. Large shields were reduced in size for equestrian use. Metal replaced stone in projectile points, cooking implements, and processing tools. Clothing styles more suited for an equestrian life style were adopted from Plains tribes. Travel on horseback included native fashioned saddles with beadwork incorporated in the bridles and other leather portions of the gear. Social organization was also influenced by the acquisition of the horse because it added value to the bride price and increased efficiencies that enabled the support of larger families (Smith 1974).

Food Strategies

The staple diet of the Utes in the Colorado mountain areas consisted largely of deer meat, but rabbits, elk, antelope, fish, pack rats, prairie dogs, ducks, and sage hens were also eaten. Seeds of all kinds, berries, both fresh and dried were collected and consumed. Yampa (wild carrot) was a staple, as were pinion nuts when they were in season. In times of great hunger, when the pine nut and berry crops had failed, game was scarce, and the people were close to starvation, they would eat their rawhide containers by parching them over the fire until the skin began to pucker, then cut the rawhide into small pieces and boil them in water (Smith 1974, 47).

Rabbit Hunts

Rabbits were hunted by all bands. Rabbits were chased on horseback and killed with a straight throwing stick. Rabbits were smoked out of their holes by setting a grass fire in a circle. Snares of sinew were set with a four inch noose on a rabbit trail. Other methods of catching rabbits included digging them out of their holes with a sharp stick and imitating the cry of a rabbit by whistling through the hands or blowing through an old rabbit skull (Smith 1974). Cooperative hunts were headed by a boss, an experienced man who was respected for his knowledge of the country and of hunting. He would call the men together and decide where they would hunt. The slain rabbits were carried on a string run through a hole made in the front legs. If there were only a few rabbits, they were carried by tucking the heads under the hunters' belts (Smith 1974, 57).

With the adoption of the horse the inner mountain and plateau bands were mobile enough to venture out onto the Plains and hunt for buffalo. They could compete with the Plains tribes and escape violent attacks. Good fast horses were essential for a successful buffalo hunt, and additional horses were needed to pack the meat home.

Elk was hunted in the winter when the snow was deep. Antelope was hunted in the late fall when they were fat. Mountain sheep were driven into high rocks where hunters were waiting, or surrounded by men on horseback.

Slave trade

Antoine Robideau established his fort in the Uncompahgre Valley 2 miles west of present day Delta on the Gunnison River at the confluence with Robideau creek, where he knew the Ute occupants would find it more convenient to trade with him rather than make the journey to Santa Fe. The Utes wanted horses and rifles. "The advantages of the horse for travel and transportation were so great that they were greatly desired. Trade of children for horses is documented in many accounts of the second quarter of the nineteenth century" (Smith 1974, 31-32). Robidoux accommodated the slave trade with the Utes from the 1830s to the 40s. The Utes raided Paiute bands in the west to capture boys between the ages of eight and twelve because they were worth from \$50 to \$100 in trade goods. Girls were worth twice as much. Robidoux traders put the children on mule caravans to Taos and Santa Fe and sold them for Spanish silver. The children were used to herd sheep and cattle. Young male slaves at the age of eighteen to twenty were commonly adopted into the households and given the family name. Chief Ouray spent his boyhood years in this manner. The Spanish taught the children to read and write Spanish and to run the ranches (Reyher 1998).

Warfare

The Utes are part of a Great Basin culture that ranged widely to exploit the natural resources. Unlike the Plains cultures, which placed counting coups as the highest act of bravery, the Utes regarded making war as the means to gain material goods, such as food, and taking captives to trade for horses and rifles. "For them war honors played no formalized role and bravery was not valued for its own sake" (Opler 1940, 163-4).

Enemies

The oldest enemies of the Ute documented in the Spanish chronicles were the Comanche, who raided them from the north and then moved out onto the Plains where they remained enemies to

Ute hunting parties. In the early 1800's the Arapahos came west across southern Wyoming and fought Utes in their northern territory in Grand Lake, South Park, Middle park and Steamboat Springs. By 1840 the Ute's fiercest foes were the Arapahos. A battle occurred near Carbondale on the Roaring Fork in west-central Colorado, and a famous battle took place in 1849 on Battle Mountain near Red Cliff, Colorado (Simmon 2000).

World View and Religious Beliefs

At the time of contact with Europeans the different Ute bands shared the same customs relating to birth, puberty, marriage and death, kinship systems and family structure. The practices and beliefs of shamanism and curing ceremonies, social dances and mythologies are related to the Great Basin cultures, and are very different from the Plains, the Apache, the Navaho and the Pueblo people. After the adaptation to an equestrian life style, the material culture of the Utes was influenced by these other groups (Smith 1974).

Before the arrival of the horse the Utes were distributed over the mountain landscape in small family groups that moved through the year from one place to another. The landscape was considered sacred. Each of these local groups had a sacred mountain center and identified mountains on the margins in the four directions (Goss 2000, 42). The family groups gathered for social dances once or twice a year, but spent the rest of the year foraging over great distances to sustain themselves. The ceremonial healing and seasonal celebrations of the Numic dominated their life. The significance of the bear is revealed in many aspects of life and culture.

Little about Ute religion at the time of contact with the Spanish was recorded. Dominguez and others were incapable of appreciating the religious and cultural significance of the way in which the Utes perceived their cosmos and their relationship to other animals (Wroth 2002). John Wesley Powell compiled a list of cultural traits and pointed out the linguistic distinction between actual animals and mythical animals. The name of an animal was given to a person with mythological connotation (Fowler and Fowler 1971). Ute cosmology is ordered by the correspondences between sacred animals and cosmic levels. These correspond further to kinship relationships. The same root word is used for the kin relationship, the mythic being and the animal in nature (Wroth 2002). In this way, the Utes considered animals and people as interchangeable. In the past, animals were brothers and interacted in human affairs. This may provide an insight as to the use of animals—as-people in many of the petroglyph motifs.

The Numic traditions of different tribes across the Great Basin have many things in common, including the basic concepts of seasonal cycles that move in a clockwise direction from the vernal equinox. For the Ute, the spring equinox begins with the Bear Dance and moves through the summer to the fall pine nut round dance. Their seasonal cycle is movement from the low valleys in winter to the high mountains and parks in the summer. The first snows in fall are signals to move down out of the mountains.

In pre-historic times, the Bear Dance was held at the vernal equinox on the first day of spring, around March 20th or 21st. The first spring thunder storm is thought by the people to be the voice of the bear turning over and growling in his den where he has been hibernating all winter. It is a signal for the people to have a Bear Dance.

On another level, the Grizzly Bear is the guardian of the mountain resources, and because the Utes and the Bear both share the resources of the mountains, the Bear Dance is specifically

designed to appease the bear. This ceremonial dance is important for gaining the respect of the bear as the Utes move up into the Bear's territory for the summer season.

The fall snows bring the Utes down to the lower elevations to harvest pine nuts and at the vernal equinox the pine nut round dance is held. It is this ceremony that signals the right time for nut gathering in the pinyon elevations (Goss 2000).

Figure 2.2 shows the Ute cycle of seasons and ceremonies. The orientation is to the south, in the direction of the sun. The cycle turns „sun-wise“ or clockwise, with the rising sun on the viewer's left and setting sun on the viewer's right. The majority of horses and riders depicted in Historic Ute rock art are shown moving from left to right in accordance with Ute tradition and world view.

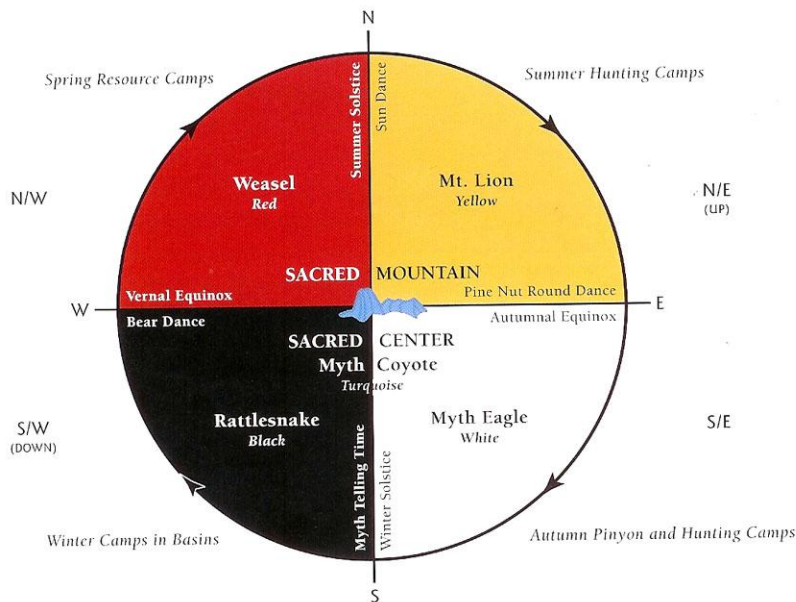


Figure 2.21. Diagrammatic representation of the Numic world view. After Goss 2000, 43 (Figure 2).

Bear Dance

The Bear Dance is called *mamaqui mawats*, meaning to dance forward and back or *mamaqui niqap*, “Forward-backward dance” Opler 1941, 25).

For the Ute Mountain Utes the annual Bear Dance is social and honors the Grizzly Bear, who was created by *Sinawaf*, to teach the Utes strength, wisdom, and survival, and to resist the mischief of Coyote. The dance is to awaken the bear, so that he will lead the people up into the mountains to gather roots, nuts, and berries. During this four-day festival, the women choose dancing partners, which often leads to courtship and marriage.

The annual Ute Bear Dance is traditionally held in the spring at the first sound of thunder; about the middle of March. Preparations for the dance are made all winter, around the campfires and the story teller tells tales of the way of life while the singers practice songs which have come to them in dreams. As the time draws near the men prepare the Bear Dance corral and do other necessary

work, while the women make the family's clothes for the dance. Then the bands come and set up camp. After the long winter the festivities begins. The men and women enter the corral wearing plumes that signified their worries. At the end of the dance, on the fourth day, the plumes are hung on a cedar tree at the eastern entrance of the corral where the people leave their troubles behind (Ute Mountain Ute web site).

Jorgensen contends that the pre-contact Bear Dance is uniquely Ute. It was performed in March and each band invited others to participate. The sponsoring band provided food, built a large, circular brush enclosure, and organized the dance. Bear Dances lasted about 10 days during which time, an all-male orchestra played musical rasps on the top of a drum resonator to charm the dancers and to appease bears (Jorgensen 1986, 662).

The Ute Mountain Utes tell the origin of the Bear Dance this way. "Two brothers were hunting in the mountains and stopped to rest. One of the brothers saw a bear clawing and singing as he danced around a tree. As one brother went on to hunt the other watched the bear, who taught him the dance and the song. The bear told him to teach this to his people as a sign of respect for the bear's spirit, which gives strength (Ute Mountain Ute web site).

Stewart (1942,348) writes: A Ute dreamed about a she-bear, then lived with her all winter, and she taught him the dance. Jim Goss also tells the story of a Grizzly Bear woman who captures a Ute man and keeps him all winter with her during hibernation (Goss 2000,46).

Another story is recorded by Opler and told by Clifford Duncan as follows: "A woman was kidnapped by a bear and she had a child. The child ran away and got back to the people. The people wanted the mother back to the tribe. The brush arbor or circle has the bear (man in a bear skin) in the middle. The woman dances toward the bear. She likes it. It's a seductive dance. These are old stories. The Bear Dance and Round Dance are all old."

The Bear is not just an animal. It has spiritual powers. A person gains power from the bear. In the old days, the Grizzly Bear was abundant in this land. It was a "made" person. It possessed objects for rituals. We make objects, but must get permission from the bear to use them (Duncan personal conversation 2005).

Instruments Used

The primary instrument used for the Bear Dance is a rasp made of a notched stick two and a half feet long, painted with red ochre and sometimes decorated with other colors. The ankle bone of an animal was rubbed back and forth over the notches. A deep hole covered with an upside-down basket was used as a resonator. The basket of twined ware was about two feet in diameter. It was the bear who in the first instance told the Ute in a dream how to make the music by scraping the stick with a bone scraper one end over the basket. The resulting sound is very loud and can easily be heard for a mile or two. They say the bear hears this sound from a great distance, and it helps him to wake up in the spring (Opler 1941,26).

Clifford Duncan commented: "They used to tip a basket over to use as a resonator. To make different sounds they would use a hollow log. Now they use a box with tin over the top. Flat baskets and wedding baskets were used. The White Mesa Paiute made baskets that were traded. The instruments for the Bear Dance were used for other ceremonies too. The Bear Dance then was not as big as it is today, but it is the oldest" (Duncan personal conversation July 27, 2006).

Healing practices

Opler (1941,26) states that “The Utes claim also that the Bear Dance helps keep sickness away from the big camp. The corral open to the east represents a slightly elliptical shaped bear’s cave, and inside the musicians always sing at the west end of the enclosure, while the men are separated from the women along the walls of the corral.”

After the Bear Dance, if sickness had been reported in the neighboring camps, a Round Dance was held, during which the shamans fanned the people as they danced around them sideways going in a clockwise direction. The fanning was designed to drive the evil spirits away, and the songs of the shamans called for health and vigor to be vouchsafed for the whole group. The shamans prayed to Creator-of-Humans and to the sun as they fanned their fellow bandmen, helping to keep them well, it was thought, till the following year. The Bear and Round Dances, taken together as was customary in former days, insured good health and good fellowship for the entire band group (Opler 1941,28).

Medicine men used power to heal their patients from spirit sources. They drew upon animal spirit helpers, but most interesting in the Great Basin traditions were the dwarf spirits that were powerful assistants for curing sickness or for achieving success in hunting.

Smith (1974,155) writes: “The /pituku=pi/ are a class of dwarfs, about two feet tall, usually dressed in green. They lived in cracks in the rocks or underground and their homes were often located by a small wisp of smoke coming out of the ground. Of all the sources of power, they were the greatest and most dangerous. Anyone having the /pituku=pi/ as a source of power could cure any illness, including those exhibiting soul loss and those caused by ghosts. The /pituku=pi/ liked to have gifts left at his home, and laymen as well as shamans whose power came from him would leave gifts, preferably beads or rings, at the hole supposed to be the entrance to his home. /pituku=pi were usually good natured, though on occasion--he would be grouchy. Sometimes they would kill the best of the horses grazing near their home.”

The little green man was uniformly dreaded by all Numic peoples and attracted more attention than any other religious beliefs (Hultkrantz 1986,632). In mentioning them to Clifford, he commented that when a medicine man gets into a difficult situation, it is the power from a little green man that is called upon.

Trees

Clifford talks a lot about the importance of “trees”. The Ute Mountain Ute refer to the cedar tree at the eastern entrance of the Bear Dance corral where they would leave bird plumes signifying their worries, and leave them behind. The tree would clear them in mind and spirit.

Clifford says “The tree is sacred. The sacred tree was used by the bear to transform. To the Indian they are the same as the bear. The tree possesses all kinds of Indian medicine. In a different era all Indians used it to unlock the self. Walk through the door” (Duncan, personal communication July 4, 2006).

The Round Dance took place around a pole – a cedar tree, a pine tree, or a willow pole – among many Great Basin groups. The symbolism of the pole is never explained in the ethnographic sources. However, in other American cultural areas the pole stands for the axis of the world, the

world pillar that carries the universe and connects man with God (Haekel 1955). The Southern Ute thought that the sky was supported by one cottonwood tree in the west and another in the east (Lowie 1924,293). The cedar tree of the Eastern Shoshone Round Dance was, like the dance itself, transmitted to the Ghost Dance (Mooney 1896,809; Hultkrantz 1981a, 264-281).

Clifford talks about “After the Bear Dance there is a feast. Lots of fruit, meat and other things are passed around. A stand selling hamburgers and food is kept open till very late. Young people come back late and gather around. They have a Round Dance. It’s for the younger people, a social. Three or four boys will start singing and play the hand drum, or a box and start hitting it for rhythm like a drum. They dance a regular Round Dance, beginning slow and picking up speed with each successive song. It lifts the people and they get into the dance. At the end they used to burn the corral. They would make a big fire out of it so all could see” (Duncan, personal conversation July 28, 2006).

Summary

The themes identified in Leonards Basin seem to be horses, horse riders with rifles and rabbit hunts. The contextual background for these elements are important in understanding the need to express narratives of conflict or food procurement.

The relevant elements identified from the ethnographic literature that have possible links to the rock art in Palmer Gulch are:

- The clock-wise or sun-wise direction of orientation in movement, ceremony and depictions of Numic traditions (spirals, circles and facing of animals),
- The importance of the Bear Dance for spring renewal and seasonal migrations (repetitive bear paw and pad motifs),
- The use of the basket as an instrument for a resonator in the Bear Dance (depictions of baskets and bear paws in the same or adjacent motifs).
- The importance of the tree as an instrument for healing, (depictions of tree symbols), and
- The Round Dance for socializing and healing done in a sun-wise direction (concentric circles).

The iconography found at the petroglyph panels in Palmer Gulch seems to be directly associated with these cultural elements of the Numic people of the Great Basin.

Chapter 3 Geomorphology

Introduction

The purpose of reporting the geomorphological observations is to place the sites in the evolving landscape, and therefore to understand the processes and possible rates of aging and deterioration of the rock surfaces on which the petroglyph panels are located.

Study Area Description

The floor of the Leonards Basin extends about 3.5km (2 miles) from the Gunnison River at an elevation of between 1600-1700m (4387 and 4661 feet). A sinuous perennial stream flows from higher elevations, up to 2000 m (5484 feet), in a northeasterly to easterly direction before turning sharply to the north and entering the Gunnison River 6.3 km (4 miles) downstream from the Escalante Bridge crossing.

The valley varies in width from 100m (91 yards) to 600 m (548 yards) near the confluence. The Leonards Basin drainage was entrenched into the underlying Entrada Sandstone formation at the same time and rate as the Gunnison River was cutting downwards, presumably during the Pleistocene.



Figure 3.1. View looking upstream along the western bank of the Gunnison River showing the low ridge of remnant T3 gravels leading up to the red cliffs of the Entrada Sandstone (the first site is to the right of the picture).

At least three base levels were reached and attained for some time before the progressive resumption of more down-cutting; as seen by the formation of distinctive terraces along the margins of the Gunnison River. The base of the Leonards Basin drainage consists of large

sub-angular boulders about 1m in length and smaller sub-rounded boulders and rounded cobbles that rest on Entrada Sandstone. Erosion during the Pleistocene removed weathered sandstone along the valley floor and stranded large boulders as remnant lag deposits along the base of the stream. These massive boulders consist mostly of Dakota Sandstone and silicified sandstone (silcrete) from the Brushy Basin Member of the Morrison Formation, with smaller boulders of chert, porphyry and limestone. Cobbles, gravels, and sands cover this coarse basement layer. A brown sandy loam forms the present surface in the valley where the stream has not eroded the soft deposits and re-exposed the boulders. The sandy loam also blankets the elevated benches that overlook the valley.



Figure 3.2. View from the sandstone base of the Leonards Basin drainage looking at the boulders in the stream bed and the sandy loam on the T1 and T2 terraces. The T3 terrace is in the background in front of the red Entrada Sandstone.

Ancient terrace deposits and erosional features are present near the confluence of the Leonards Basin stream and the Gunnison River. The highest terrace (T3) of late Pleistocene age formed above 1600m (4387 feet) and consists of large sub-rounded to sub-angular boulders and cobbles of basalt, sandstone, siltstone, limestone. It partly covers a ridge of sandstone opposite petroglyph site 1 and abuts a sandstone promontory that runs parallel to the river and adjacent to the vehicle track. Its distribution is restricted to the Gunnison River valley and it was not deposited in, or has been completely eroded from, the Leonards Basin drainage. The Gunnison River presumably carried this high-energy stream load during and after the last glacial maximum when considerably more water volume flowed than at present. The Leonards Basin drainage has cut through this terrace about 300m (275 yards) from the junction with the Gunnison River.



Figure 3.3. View looking downstream from the promontory consisting of boulders and cobble (T3), across the T2 terrace incised by the Leonards Basin stream (left) to the Gunnison River.

A second terrace, of lower elevation (just below 1600 m or 4387 ft) has been eroded into the high terrace deposits. The Leonards Basin stream cut a meandering path through the T3 terrace producing a wide flat area (T2) about 10m (27 feet) below the top of T3. Brown sandy loam covers this surface. Another eroded flat area (T1) occurs 2-3 m (5.5-8.2 feet) below this level, and near the junction with the Gunnison River. Sandy loam also covers this lower terrace. The present bed of the Gunnison River is entrenched within cobbles and sediments that form small islands and shoals along its course (T0).

Palmer Gulch

The Palmer Gulch drainage has cut down through the sequence of Dakota Sandstone and Morrison Formations into sandstone of the Entrada Formation where the shelters and cliffs host the petroglyph panels. The lowest exposure of a geological formation in Palmer Gulch is the Entrada Sandstone; recognized by its orange, cross-bedded appearance, and because it is beneath the variously colored shales of the Morrison Formation. The exposed rocks adjacent to the drainage are not sandy shales and mudstones, typically found in the Summerville Formation.

The base level of the drainage, which converges into the Gunnison River, was probably attained during the Pleistocene. At that time, the sandstone bedrock was exposed along parts of the stream bed. Locally derived large boulders and cobbles of sandstone, limestone, chert and mudstone were washed into the bottom of the gulch from colluvial deposits and naturally spalling rock from elevated cliffs (Figure 3.4), indicating high energy fluvial and slope wash processes. Subsequent deposition of coarse-grained sands and gravels gradually accumulated a substantial profile above the boulder base. Accumulation of a thick sand deposit, up to 1.2 m thick developed over the coarse material (Figure 3.5). The length of time needed for

accumulation of this thick sandy loam to develop is unknown, but probably represents the early part of the Holocene period. Sandy loam also occurs on the benches above the stream. The origin of the sand is unknown, but regional loess or local aeolian sources are likely. Soil and grass covered the sandy surface under stable geomorphic and environmental conditions.



Figure 3.4. Large sandstone and limestone boulders in the base of the intermittent stream in Palmer Gulch adjacent to a low cliff of Entrada Sandstone.

Severe down cutting by the intermittent stream since that stable period has eroded much of the sandy loam leaving remnant deposits in the inner parts of stream meanders. Large boulders and cobbles consisting mostly of sandstone with minor limestone, silicified sandstone, chert, siltstone and porphyry are exposed at the base of the stream bed. The energy of the intermittent stream is currently sufficient to erode into the previous sediments and undercut sandstone cliffs adjacent to the channel, but it is not moving the large boulders. This down-cutting process may have started after the onset of a series of droughts about AD1300 and accelerated because of over-grazing of rangelands by cattle and sheep after European settlement.



Figure 3.5. Eroded bank of the stream in Palmer Gulch showing the basal cobble and boulder bed overlain by sandy loam (1.2 – 1.5m thick).

All the petroglyph sites in Palmer Gulch are located adjacent to the drainage. Sites 1 5DT53 and 3, 5DT1691 are alongside the channel of the sporadically flowing stream whereas Sites 2, 5DT1690, Site 4, 5DT1692, Site 5, 5DT1693, and 6, 5DT1694 are on cliffs set back from the channel at the junction of residual sandy terrace deposits and sandstone cliffs.

Conclusions

Palmer Gulch has been through at least one cycle of down cutting and sedimentation, and is now in a revitalized down cutting phase. This sequence is the same as observed in the adjacent Leonards Basin. In an earlier phase the Entrada Sandstone was exposed as bedrock and short cliffs alongside the drainage, and some of the rock surfaces where these cliffs stabilized have been used for petroglyphs. Dark rock varnishes have formed on stable cliffs and surfaces where they are exposed to natural weathering. In sheltered cliffs and on eroding surfaces the dark varnish has not formed or has been eroded and is no longer visible.

The main causes of cliff erosion are undercutting by the intermittent stream and ceiling and rock collapse, crystallization of salts and granular disintegration of the surface, water erosion and loss of cement followed by granular degeneration, and thermal fluctuations that result in spalling. These processes and consequences affect each of the rock art sites to different extents depending upon the geometry of the cliff, orientation and aspect, local overhanging rocks, and water regime from the cliff top.

Petroglyph panels are protected from surface runoff where a protrusion of rock directs water flow away from the panel below. Muddy deposits have formed over petroglyphs where such a natural dripline is not present. Pitting and erosion of sandstone is occurring in cases where water falls down from high cliff faces and hits the underlying rock. Spalling is occurring on rocks that are exposed to extended periods of direct sunlight and where expansion and contraction forces create stresses near the rock surface. These processes are likely to vary in

force and extent over time depending on the general environmental conditions, and therefore it is difficult to estimate the rate of weathering on each panel. Estimation of age of the petroglyphs based on patination is compounded by the accumulation of dust in the peckings.

Rock varnishes have formed on stable surfaces where water has not flowed across the surface and where slow accumulation of microbiological matter and dust have accumulated. The rate of varnish formation is likely to be slow, and about 1500-2000 years is necessary for the complete coverage of stable surfaces. Peckings through such varnishes are therefore younger than that estimate, as at sites 5 and 6. This is consistent with an approximation of Formative Era for most of the well patinated petroglyphs.

Chapter 4 Leonards Basin

Site 1

Petroglyphs at Site 1 are located on several panels with different orientations. The site is an alcove in Entrada Sandstone that formed because of collapse of a massive block of sandstone along an inclined joint plane that forms an angle of 40° (Figure 4.1). The alcove measures 13m long by 4m deep and is 6m high (Figure 4.2). A small panel (1) lies at the western edge of the alcove on a small part of the joint plane parallel to the main inclined surface. Horses and riders are pecked into the sloping surface. Panel 2 is on the back sub-vertical wall. Panel 3 encompasses the petroglyphs on the large tilted surface, the lower part of which has a thin veneer of rock varnish. Panel 4 is on the eastern side of the alcove and forms the sub-vertical side wall. Two panels 5 and 6 are located near the ends of one large rectangular block of sandstone that forms part of the collapsed rocks in front of the alcove. Two sets of petroglyphs form panel 5 near the eastern end, and panel 6 occurs near the western end. All the panels inside the alcove (1-4) are protected from water running off the cliff top by a strong dripline, but panels 5 and 6 are more weathered as they are exposed to natural deterioration. Solar radiation falls on the back wall of the shelter, but the sandstone is relatively stable.

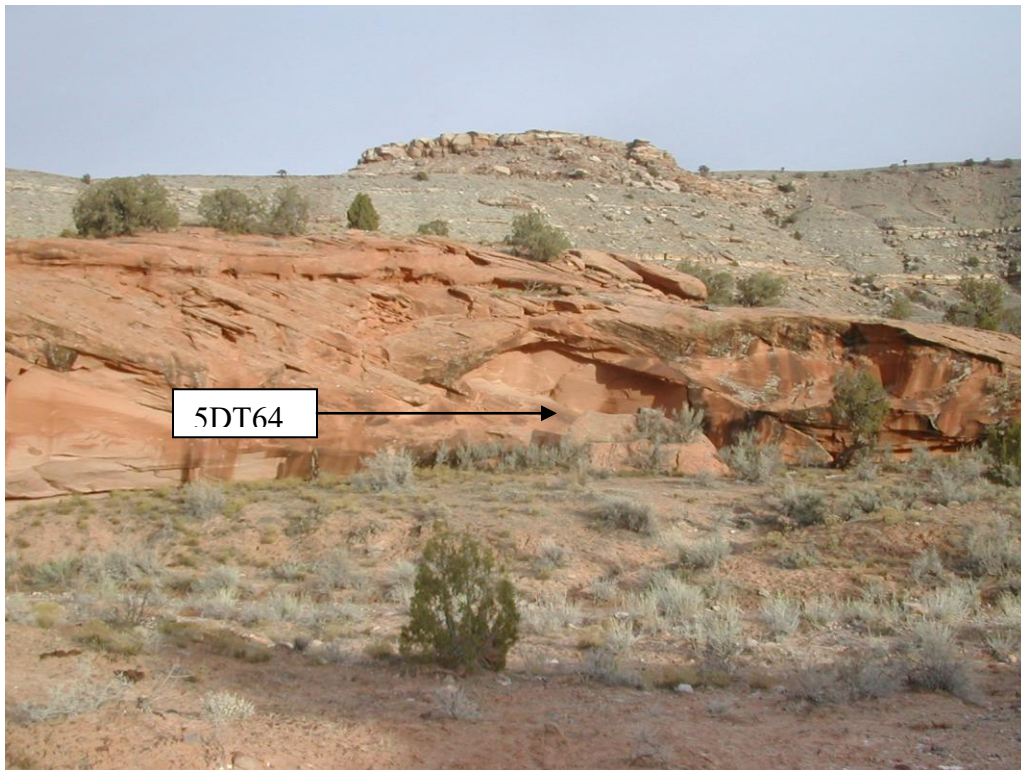


Figure 4.1. General view from the west of site 5DT64.

The site plan for Site 1 5DT64 is shown below with a central horse figure in panel 3 for orientation. The site spans a 9m length and rises to the height of 6.6m.

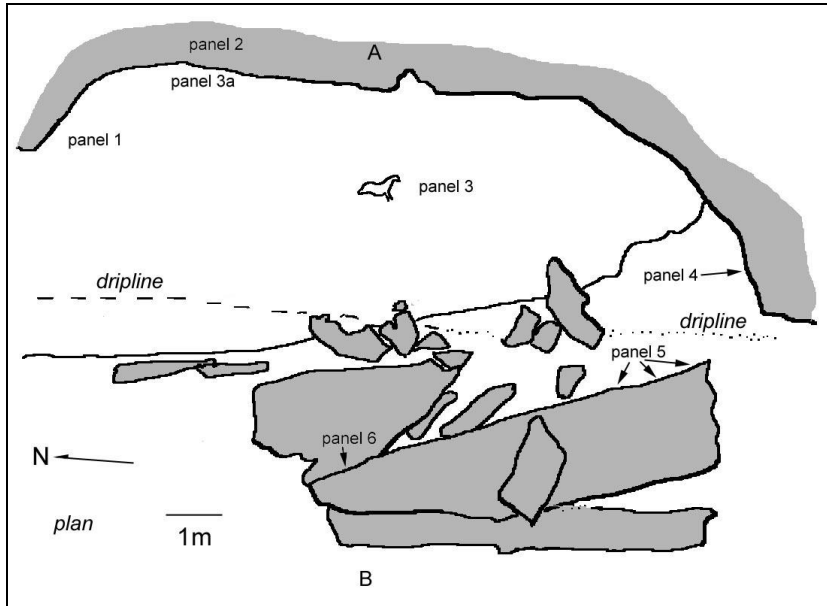


Figure 4.2. Plan view of site 5DT64 showing the locations of the 6 panels.

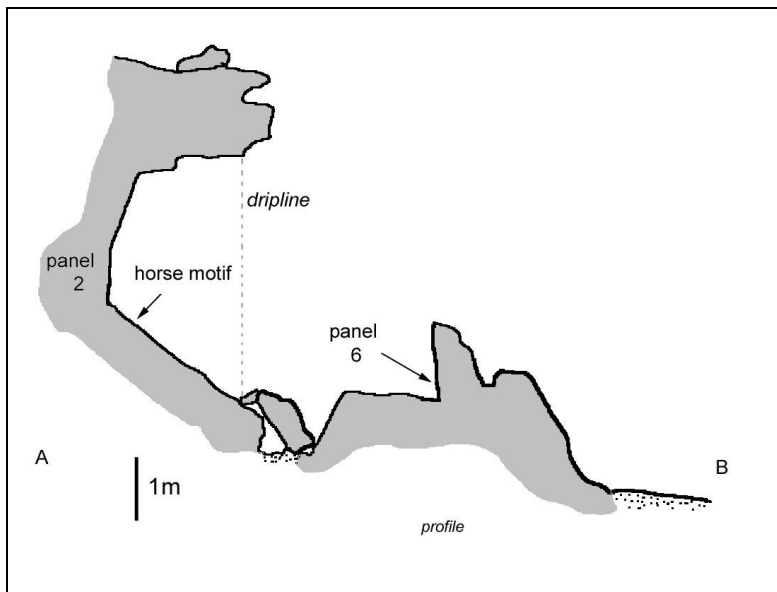


Figure 4.3. Section drawing through site 5DT64.

Panel 1 is on a small subhorizontal ledge on the left hand (northern) side of the shelter. Panel 2 is on the vertical back wall of the overhang facing west. Panel 3 is on a large sloping joint surface

that forms a plane at 45°. It contains many petroglyphs spaced out across a 9m span. Panel 4 is on the southern side wall and the petroglyphs are on a vertical surface. Panels 5 and 6 are on the east facing surface of a large fallen sandstone block. Figure 15 and 16 show views of the cave from the front and side with the panel locations.

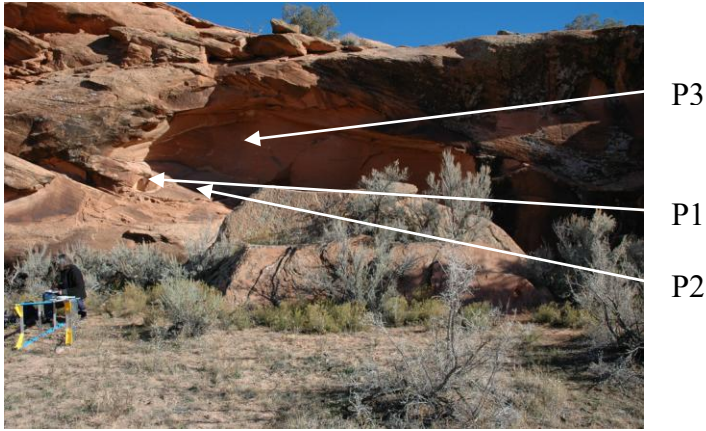


Figure 4.4. View of Site 1, 5DT64 showing the locations of panels 1, 2 and 3.

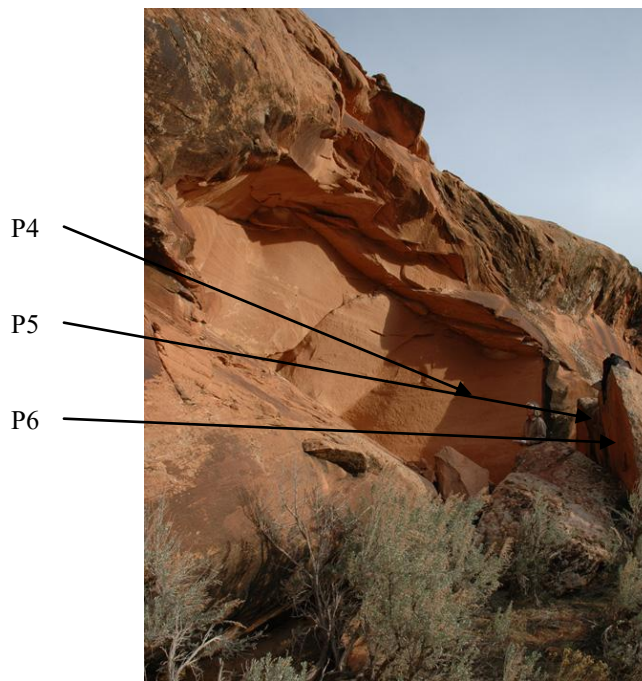


Figure 4.5. View looking south showing the locations of panels 4, 5 and 6.

Photographs and a general description of each panel are presented in the next section. Following the photographs are graphic illustrations of each panel to make the petroglyphs more visible.

Leonards Basin Site 1, Panel 1

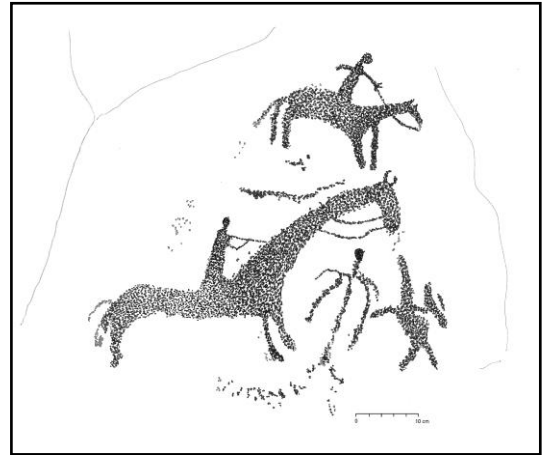


Figure 4.6. Site 1, panel 1, photograph and drawing.

General Description

This panel is located on a subhorizontal ledge near a complex of adjacent panels (2 and 3) that are on vertical and 45° slopes, respectively. The panel is approximately square, measuring 70 cm wide and 70 cm high. It faces slightly southwest because the surface is tilted from the horizontal.

Condition

The condition of the panel is excellent with no signs of vandalism. There are small amounts of salts appearing on the upper portion of the panel, and these are leaching from fractures and running down on to the top of the panel.



Minerals and salts are leaching through the rock and seeping onto the edge of the panel.

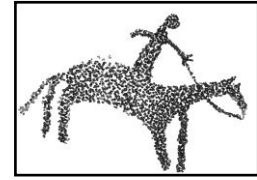
Figure 4.7. Panel 1 close-up of minerals and salts on the panel.

Age Estimation

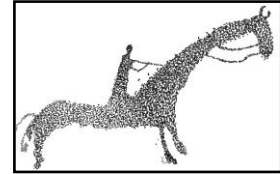
This panel clearly dates to the early 1800s when rifles were available to the Tabeguache and Sabaguache Utes, later known as the Uncompahgre Utes.

Interpretation and analysis

The motifs in this panel can be positively identified as two mounted riders, one carrying a rifle. Two unidentifiable motifs are believed to represent sign language equivalents. The spatial positioning of the two riders indicates that the rider at the top is in the distance because he is elevated in position, and smaller in size.



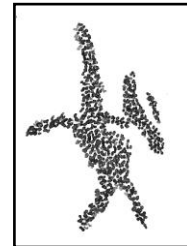
The central rider is possibly shooting a rifle from horse back. The horse is exaggerated with a long neck reaching out over two more figures. According to Clifford Duncan, Ute Elder (2001) the elongated horse's neck is a metaphor for 'speed' and 'swiftness' in Ute culture.



The abstract symbol on the right of the horse is unidentified. It is very purposefully executed with emphasis on the dotted lines and the heavily pecked dot.*



The final motif is unidentified.



Conservation

No chalking is present nor any vandalism. It is located in a very difficult place for easy access. It is not threatened by wildlife or human activity. The salt activity and degradation is relatively slow and does not pose a threat.

Management

The panel should be part of an overall management plan for the 5DT64 complex. With the potential for increasing tourism to this area, educational material should be available to inform visitors of site etiquette and their responsibility for maintaining the integrity of this panel.

* As depicted in Mallery's *Picture Writing of North American Indians*. It may be a description of a volley of bullets coming from many directions.

Leonards Basin, Site 1, Panel 2

General Description

Panel 2 is on the back wall of the shelter and contains many complex images both independent and superimposed over older petroglyphs. The panel is vertical, measures 2.2m high and 3.3m wide and faces southwest.



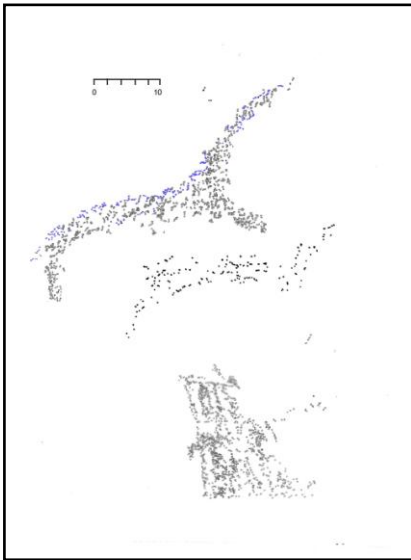
Figure 4.8. Panel 2 on the back vertical wall of the shelter. High contrast manipulation brings out many of the scratched motifs and remnant paint present.

Petroglyph Description

This panel contains crudely pecked quadrupeds and finely scratched motifs. It is often very difficult to see the scratched motifs under normal lighting conditions. The dominant motif in this panel is a scratched engraving of a horse, drawn in the Historic Ute tradition. The faint scratch motifs are of teepees, and a crowned squatting figure on the left.



Figure 4.9. The photograph of the lower part of Panel 2 has been enhanced to show areas of remnant blue paint.



Pictograph Description

Close observation reveals that the remnant blue paint forms the shape of a horse motif.

The white paint has been added to a „tepee“ motif near the bottom of the panel and to the three quadrupeds. Two of the quadrupeds have horns, and the third one is probably a horse in outline. The engraved animals and the faded paint may be of the Proto-Historic era. Weathering of the paint since it was applied has left only traces.

Figure 4.10. Graphic reproduction of the blue remnant paint area on Panel 2.

Superimposition and Scratch Motifs

The upper portion of the panel has several hard to see scratched motifs, plus a small patch of remnant blue paint. The following photographs have been enhanced to reveal the scratched motifs.

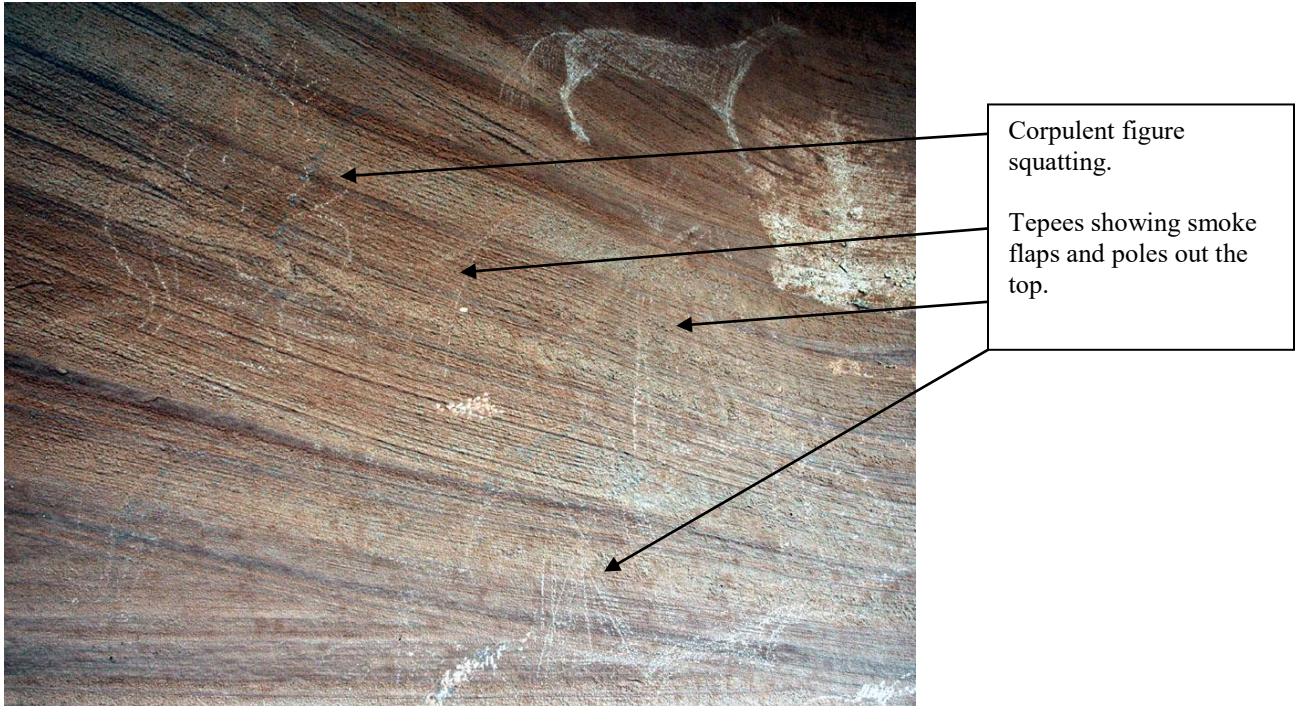


Figure 4.11. Panel 2 enhanced photograph to show the “scratch glyph” motifs.

The upper portion of the panel has several episodes of painting and scratching. The scratch glyph of a crowned female figure is sitting or squatting. She has a three pronged crown on her head. This drawing may not be Ute, but could belong to the early settlers who herded sheep and cattle in this basin. The scratched tepee motifs have great details of smoke flaps and teepee poles and they may also be from the Historic Era.



Figure 4.12. The uppermost part of Panel 2 has a finely scratched horse that shows the detail of the hair and bone structure of a horse's tail.

Stylistic Interpretation

This panel is complicated because of the different styles and superimpositions of figures. The squatting figure is unique and does not fit within the Ute repertoire of motifs. Scratched motifs

are commonly found in the Leonards Basin, Palmer Gulch, and Dominguez Canyon areas. Many are silhouettes of people or objects. The indigenous motifs are diagrammatic showing what they „know“ rather than what they „see“. Many things are drawn out of scale and proportion to emphasize ideas and to convey specific meaning. It was not important to replicate an object or animal, but rather to abbreviate known characteristics to indicate its identity. In instances where realism is used in rock art, the influence of European artistic expression is evident. These renderings are much later in the rock art chronology when „drawing“ was introduced to Utes from settlers and sheep and cattle herders.

Condition

The overall condition is generally very good. There is evidence of mineral and salt efflorescence on the right side of the panel.

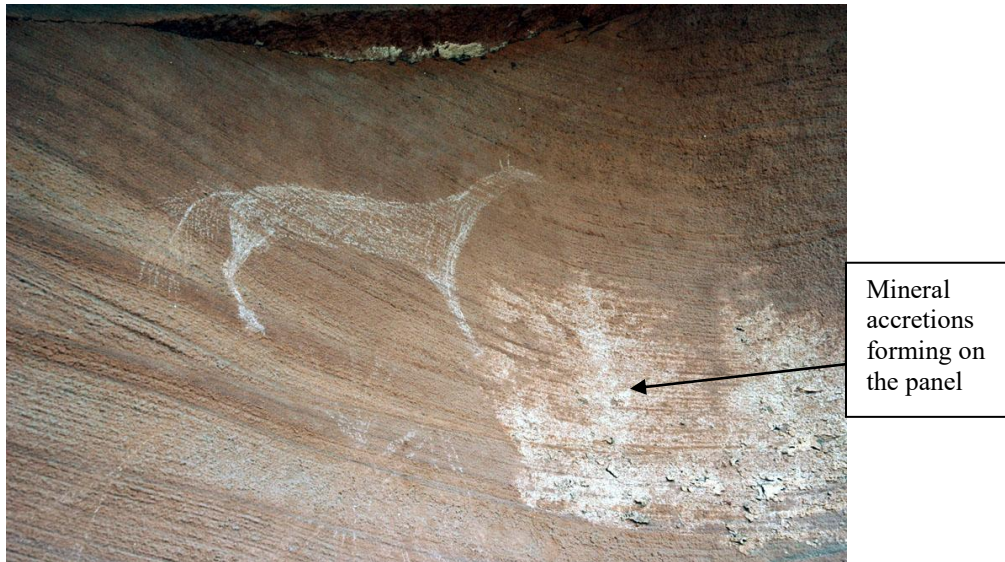


Figure 4.12. Panel 2 showing mineral accretions forming on the sandstone surface.

Age

The age of the petroglyphs falls within the Proto-Historic and Historic Eras. The paint remnants are also probably historic.

Conservation

This site does not exhibit any vandalism, except for the question of the scratched motifs, of which the squatting figure may not be of Ute origin. The panel is high and out of reach for normal visitor traffic. It is not endangered by animal behavior.

Management

The panel should be managed as part of the whole complex. Site development for tourism should include a descriptive pamphlet and educational literature that would highlight the different ages and styles of rock markings.

Leonards Basin Site 1, Panel 3

General Description

This is a very long and complicated panel that is located on a 45° slope which forms a joint plane in the Entrada Sandstone.

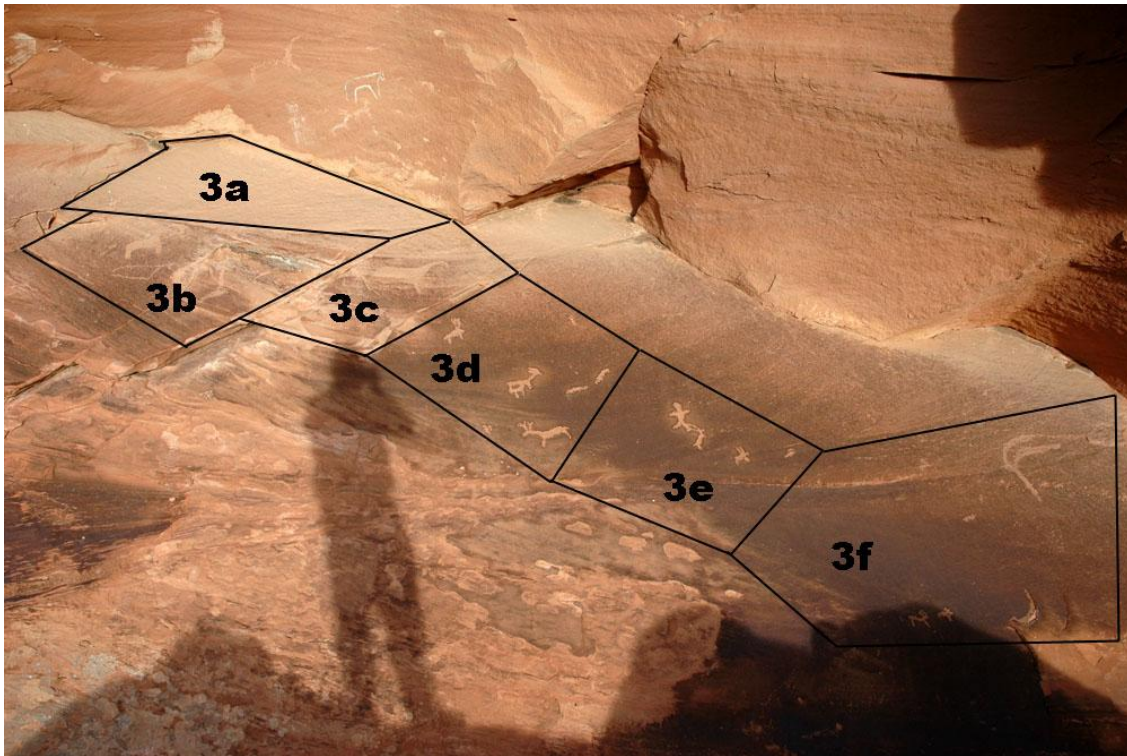


Figure 4.14. A wide-angle photograph of panel 3 showing the panel divisions.

Petroglyph Description

This section combines a description of each cluster of images and a preliminary interpretation of each group of motifs. The motifs can be progressively described from upper left to lower right across the slope.

At the top left of this panel is a very dusty area (3a) that contains a series of petroglyphs that are very hard to see. At first, they appear old, but as the motifs are of horses and riders, they are Historic in age.

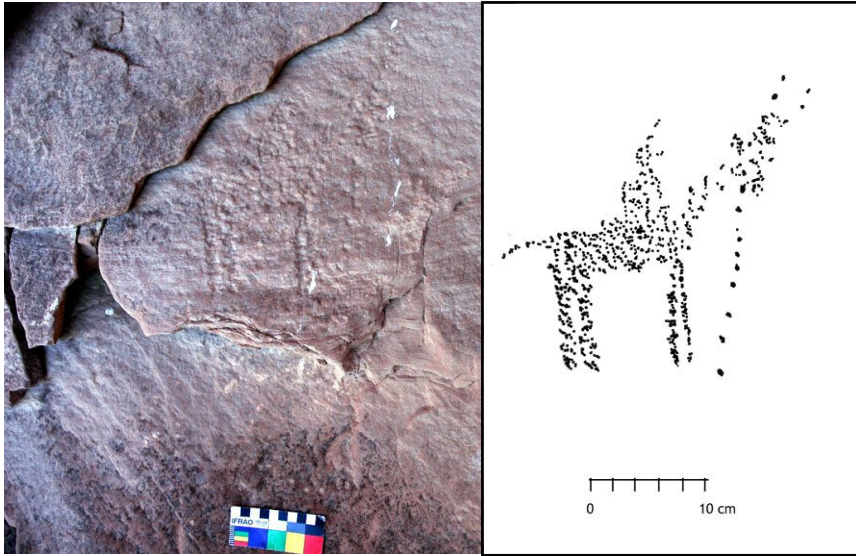


Figure 4.15. Panel 3a top left corner,

close up.

At the top left corner of Panel 3a is an image of a horse and rider looking towards the other figures on the panel to the right.

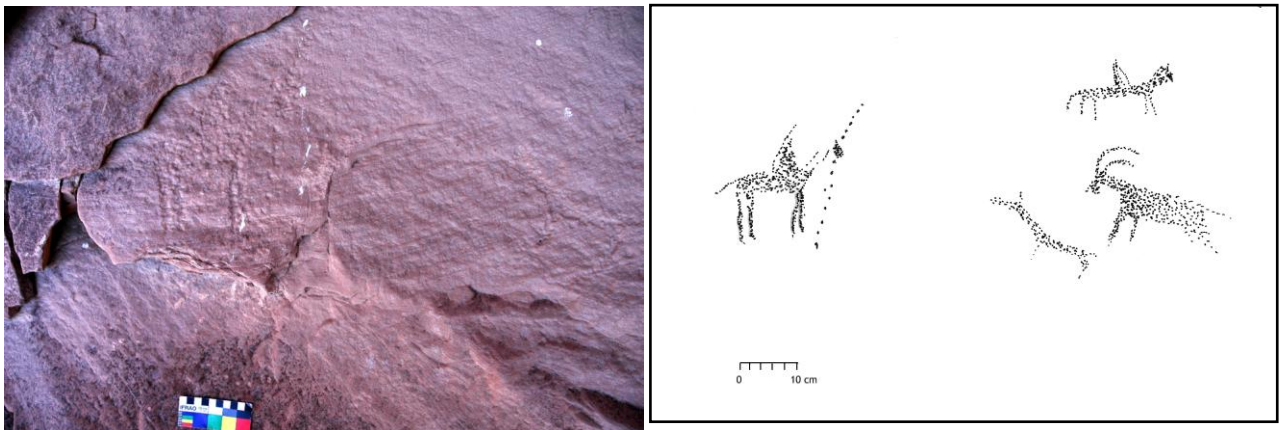


Figure 4.16. Panel 3a top left.

To the right of the mounted figure are two quadrupeds, one with horns and the other may be a „wolf“ or „dog“. Above these animals is a rider. This rider is holding on to the horse or reins indicated by the long lines for arms. The smaller size and proportions of this rider may indicate that he is in the distance.

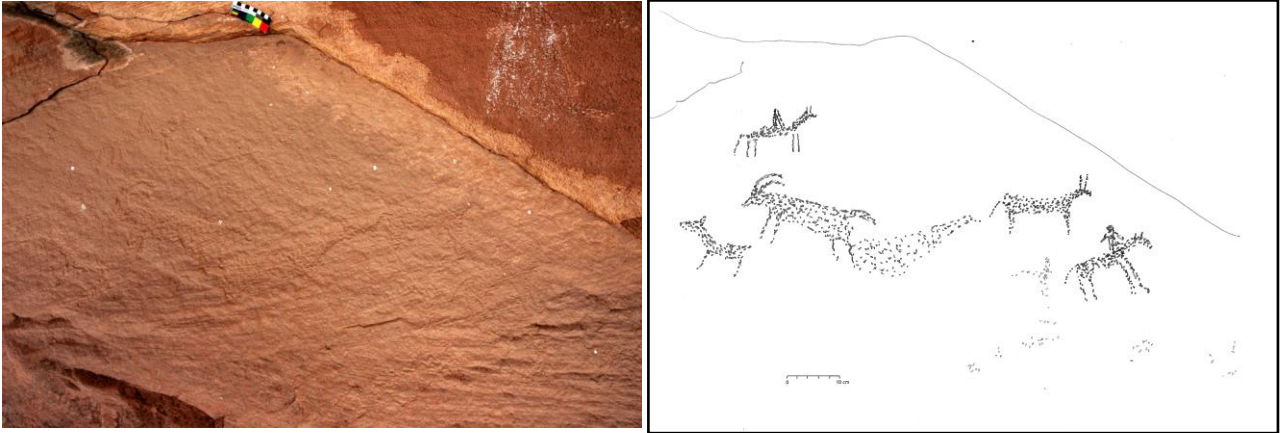


Figure 4.17. Panel 3a top center showing mounted riders and quadrupeds

Figure 4.17 shows another quadruped (possibly a horse) with ears erect. A second rider in the foreground is heading to the right. The arm gesture of this rider is a motion downwards that may indicate the direction he intends to travel.

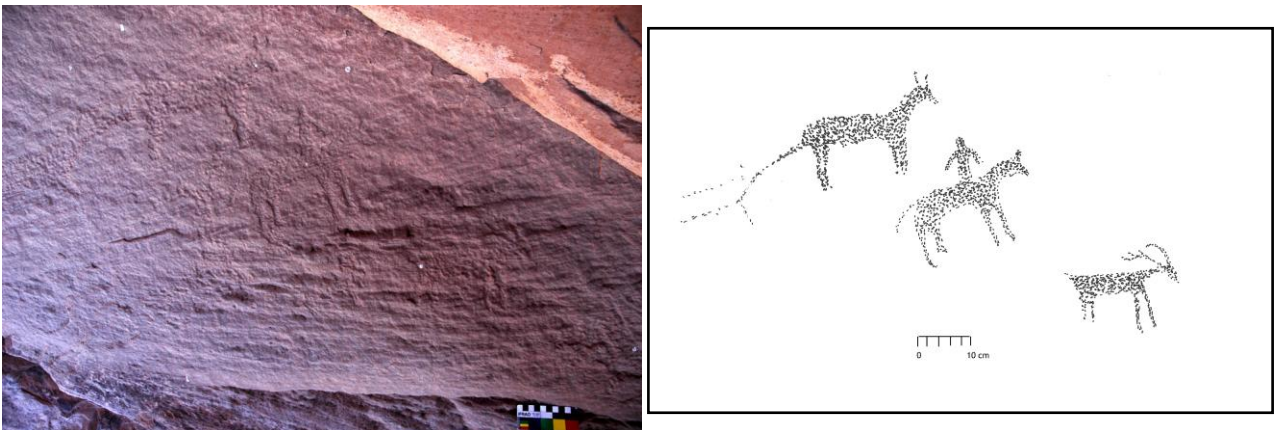


Figure 4.18. Panel 3a top center showing a closer view of a mounted rider with a horse and deer.

Figure 4.18 is a close up of 3a with a better angle of the lower portion of this obscure panel. The „horse“ has a tail attached to something behind it, perhaps a travois or something it is pulling. Its ears are erect as it is „looking“ or watching. Below it is a rider with his arms in the „downward“ gesture. Below the rider is a quadruped with branching horns and is probably a „deer“.

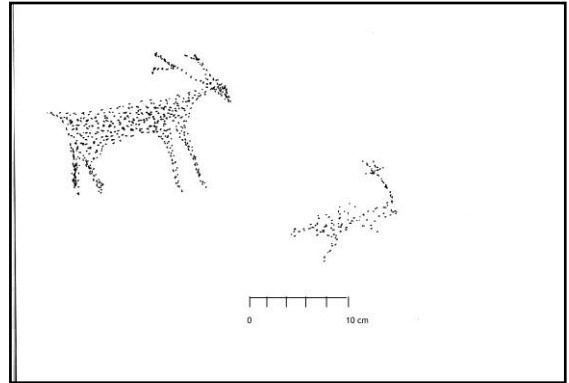
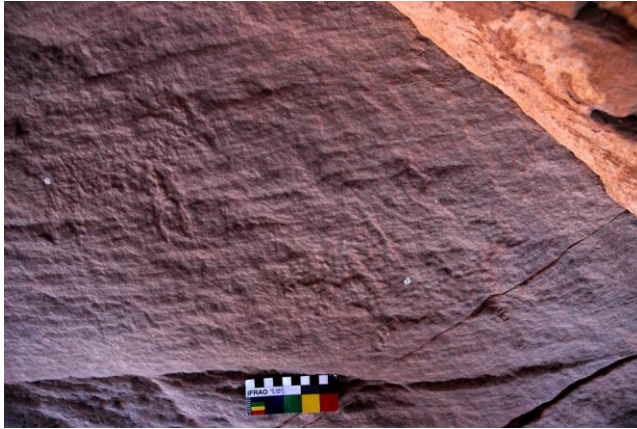


Figure 4.19. Panel 3a top left showing a close up of the petroglyphs in the lower corner.

The corner of the panel contains a deer and an unidentified motif.

Panel 3 continues on to a surface of sloping rock with petroglyphs that stand out more clearly because of surface darkening. The topic in the next series of motifs changes from „deer“ and „riders“ to that of „rabbits“ and humans engaged in “hunting”.

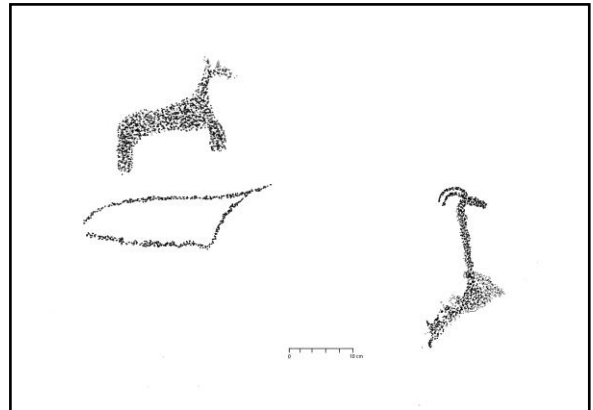


Figure 4.20. Panel 3b showing a hornless quadruped, an un-enclosed outline motif and a legless long-necked quadruped.

Farther down the slope, Panel 3b has more clearly defined motifs. The rock features may also play a role in the placement of each motif. The first motif is a hornless quadruped. It resembles a horse, but without a tail and so it cannot be positively identified. The motif below it is an outline shape that is not completely closed. A common technique used to indicate „spirits“ is an un-enclosed outline form of an entity (The opening is for the entrance and exit of a spirit. A closed outline form has a different association.). The quadruped plus the „spirit“ motif may represent a narrative about a „spirit“ „animal“ looking on or being present. Spirit motifs are found in other examples of Ute rock art and discussed in Chapter 6.

The next image to the right is a horned quadruped with an extra long neck, but without legs. In gesture language, the extended neck indicates “looking up high” and the legless attribute

represents “sitting still” or “staying in one spot”. By placing this motif on a protruding ledge, the added rock incorporation may indicate „sitting up higher” than the rest of the action below.

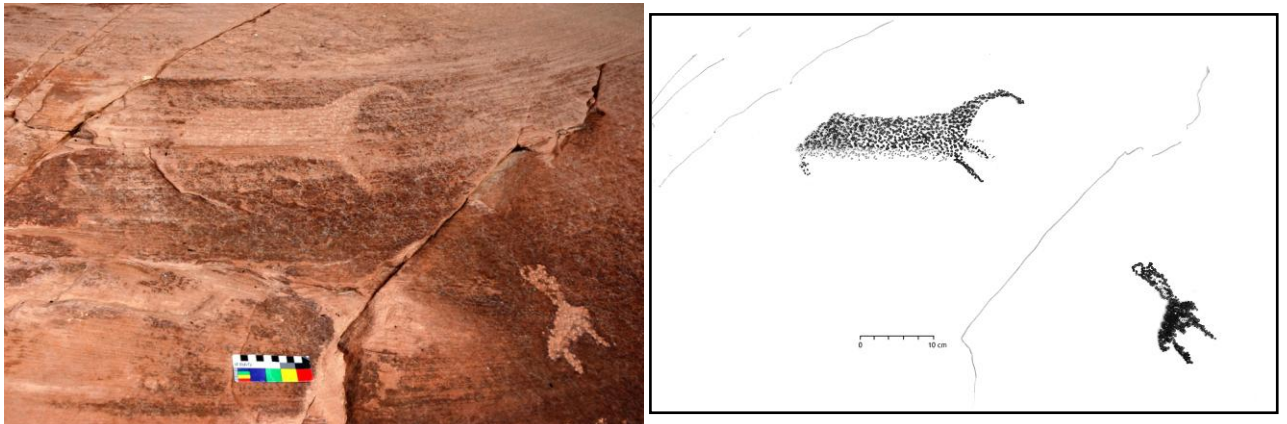


Figure 4.21. Panel 3c and top of d showing a tailless and earless quadruped and a „rabbit”.

This part of Panel 3 has a quadruped without ears or a tail and only three legs appear. It cannot positively be identified as a horse. The long rounded ears and short body of the second motif can be identified as a „rabbit”. The gesture of erect ears indicate “listening” and the straight legs indicate stationary, but vigilant, as opposed to a running or a sitting position.



Figure 4.22. Panel 3d, showing the rabbit at the top and two quadrupeds below.

Figure 4.22 shows the spacing between the previous „rabbit” at the top heading upwards with two lower quadrupeds. The center one has thick ears that are laid back. It may also represent a female „deer” with a „fawn” nursing at her belly. This deer has relaxed or backward ears, the gesture of a mother who is attentive to a fawn while it is nursing. A second quadruped with branching horns may also be identified as a „deer”. It is shown heading downward in the opposite direction. Dots and a couple of indistinguishable shapes cannot be identified.

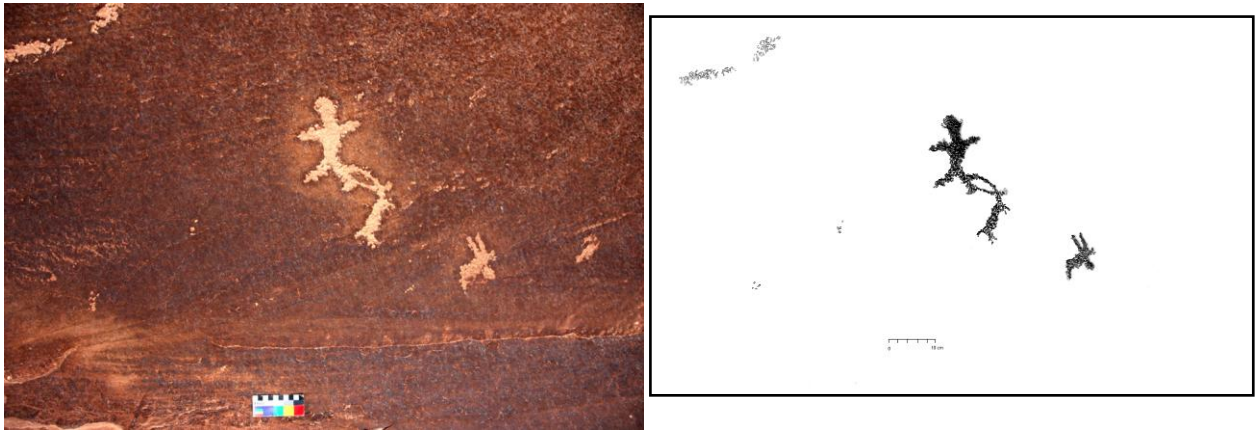


Figure 4.23. Panel 3e. The motifs below the previous sequence show a human form with a foot touching the ears of a „rabbit“ and a second „rabbit“.

Panel 3e, lower down the sloping surface shows a human motif and a „rabbit“ connected in some way. The horizontal arm gesture of the human indicates „stopped“ or „barring the way“. The rabbit’s ears are touching the man’s foot. In many cases, a foot is associated with a trail (where feet travel). This little sequence may indicate that the rabbit’s trail has been blocked by the human. It is another way of describing a trap that was set for the rabbit on his habitual trail. The second rabbit displays the gesture of “aware” or “look out” with the erect posture of its ears. This sequence may be a narrative relating to the trapping of rabbits.



Figure 4.24. Panel 3e up high and 3f lower down with the spacing between each group of images.

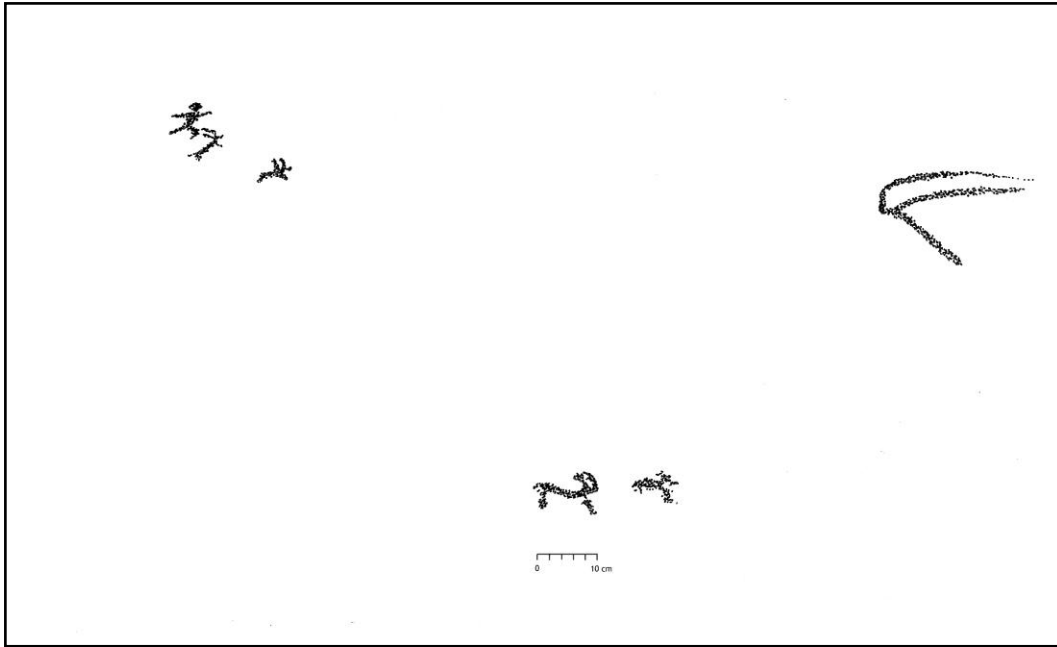


Figure 4.25. Drawing of panel 3e and 3f showing the spacing of the elements.

Figure 4.24 and 4.25 shows the great distance between the previous sequence of the trapping of a „rabbit“ and the next group of images placed below it.



Figure 4.26. Panel 3f close-up showing the forms in the lower portion.

The small motifs at the lower portion of this panel are difficult to identify. A large eared animal possibly a „rabbit“ is “running” indicated by its outstretched legs. The second image is an indistinguishable form.



Figure 4.27. Panel 3f showing the last motif located high on the right end.

The last motif on this panel is higher up on the right side and is unidentifiable. It may represent a tool used for chasing rabbits that consists of a long stem or handle with strands of leather or plant material attached at the end and used to whip the brush and drive out rabbits. If such an object exists in the archaeological collections it might support this hypothesis and identify this motif.

Overall, this panel is interesting because it utilizes a great expanse of rock surface as part of the narration about probable rabbit and deer hunts that took place over large areas. In the upper part of rock that has no contrasting patina, a separate narration of mounted riders and animals is isolated, and is clearly unrelated to the rabbit hunt. The gestures of both human and animal forms play an important role in the interpretive process. Each gesture in the petroglyphs is carefully executed and provides important clues for understanding the narrative picture writing portrayed.

Superimposition:

This panel does not have any superimposition sequences.

Pictograph Description

There are no pictographs on this panel.

Condition

The condition of this long panel is very good. The top part collects a lot of dust and the lower part has more patina forming perhaps due to added moisture collecting on the surface. It is located in a position that is not in danger of vandalism by tourists or cattle.

Age

This panel contains motifs of the early Historic Era.

Conservation

This panel is in relatively good condition and needs no treatment.

Management

This panel should be protected as part of the whole site complex management plan.

Leonards Basin Site 1, Panel 4

General Description

This panel is located adjacent to end of Panel 3 on a vertical wall that faces northwest.



Figure 4.28. Panel 4 with superimposition of horned quadrupeds.

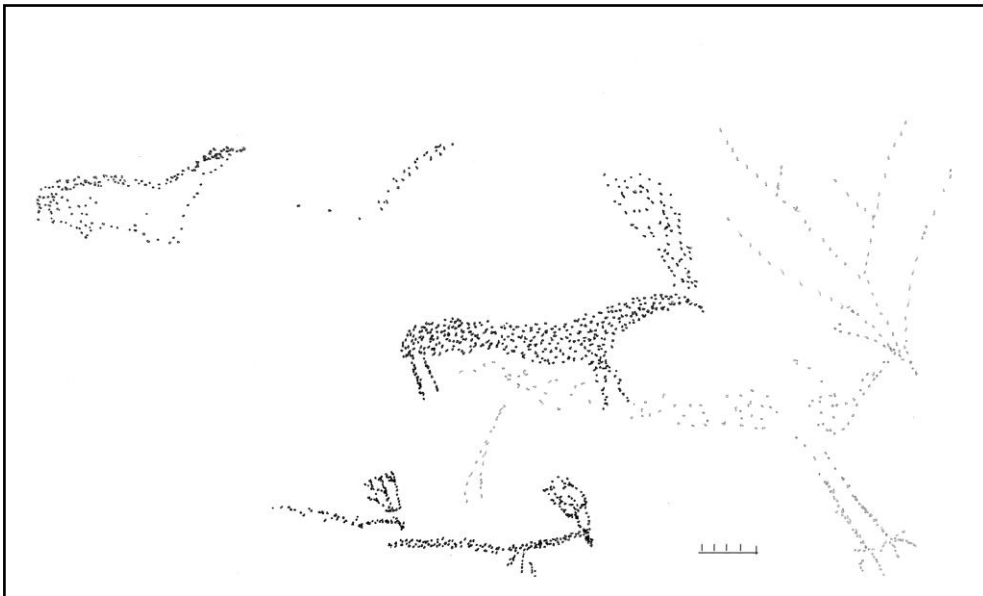


Figure 4.29. Drawing of Panel 4 showing quadrupeds superimposing older motifs.

Three episodes of engravings are represented in Panel 4. The oldest is the faintly toned deer on the right with long tapering legs and branching horns. The forefeet are prominent and the remaining parts of the figure are less easily seen. It is believed to be of the Archaic Era. The second episode involves several quadrupeds with antlers. They are heavily eroded and difficult to identify or interpret. Above them are abraded and crudely pecked quadrupeds with indistinguishable horns.

The third episode involves several scratched motifs of a train engine and a stylized horse neck and head. The scratched motifs are visible in certain lighting conditions. Digital enhancement revealed an image of a train engine complete with a curling smoke plume coming out of the stack.

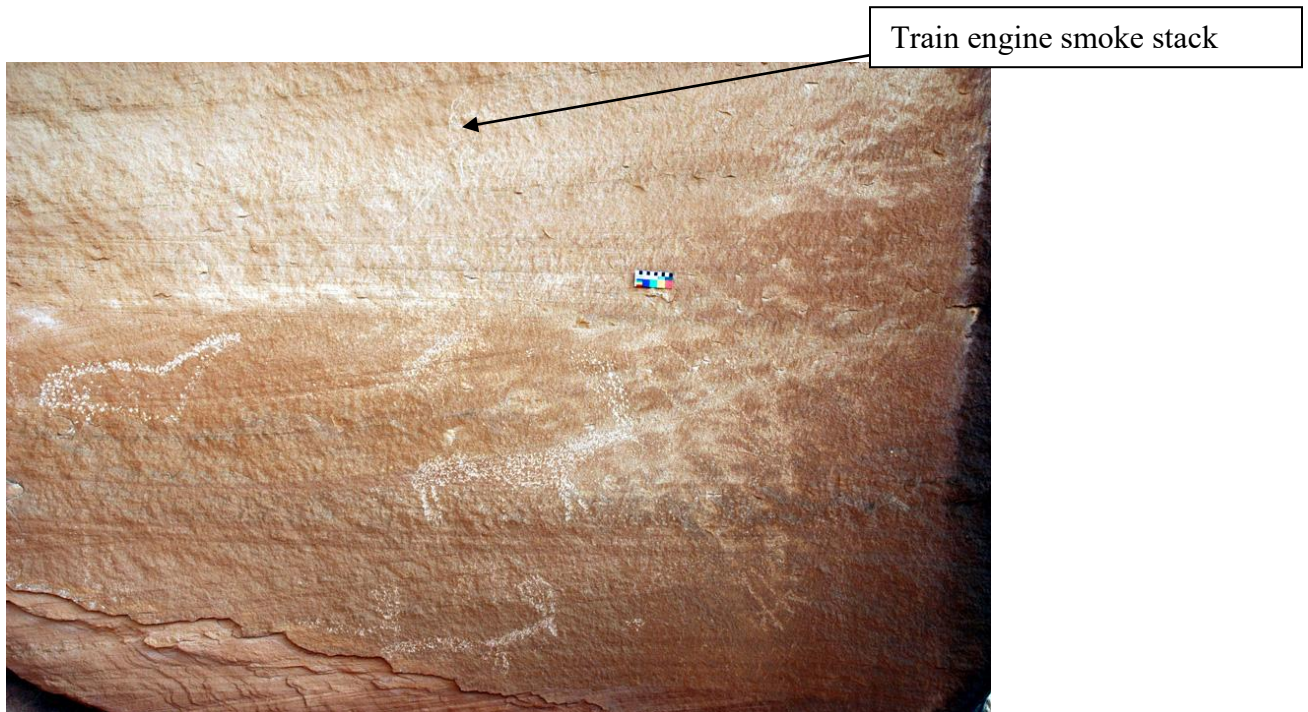


Figure 4.30 . Panel 4 showing the location of the train engine scratched motif and a drawing of it.

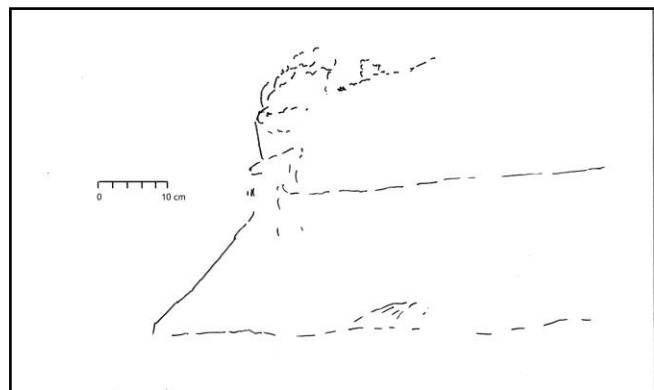


Figure 4.31 Drawing of the train engine and smoke stack.

To the right of the Archaic deer is another scratched outline of a horse head. It is very difficult to see, but it follows the pattern shown in Table 6.1, Chapter 6 with a right facing horse head depicted.



Figure 4.32. Panel 4 showing the feet of an archaic animal, and the lightly scratched horse head on the right.



Figure 4.33. Detail of the faint animal and the lightly scratched horse head.

Superimposition

The scratched motifs are very difficult to see but by close observation and under different lighting conditions can be discerned. They were scratched deliberately to the side of more visible petroglyphs. The scratched quadrupeds may superimpose the older archaic large deer and other old figures, but because they have weathered they are not easily seen.



Figure 4.34. Panel 4 showing the location of the remnant archaic deer head.

Pictograph Description

There are no pictographs.

Age

These scratched and abraded motifs could be placed within the Historic Era. The underlying engravings of a deer with large branching horns and long tapered legs is probably Archaic in age.

Condition

The condition of this panel is fairly good. The right end of it has suffered from weathering and animals rubbing against it.

Management

If cattle graze in the area, then they should be kept away from the corner of this panel to prevent rubbing, and further spalling and disintegration. People should also be kept away from the panel because it is just the right height to facilitate human contact.

Leonards Basin Site 1, Panel 5

General Description

Panel 5 is located on a fallen block that faces east and lies directly opposite and facing Panel 3. It has several quadrupeds on it that are very faint and hard to see. The panel measures 190 cm wide and 60 cm high. There are 3 elements, a horse on the left, a quadruped in the middle and an indistinguishable motif on the right, which may be a weathered quadruped.



Figure 4.35. Photographs of the left and right sides of panel 5.

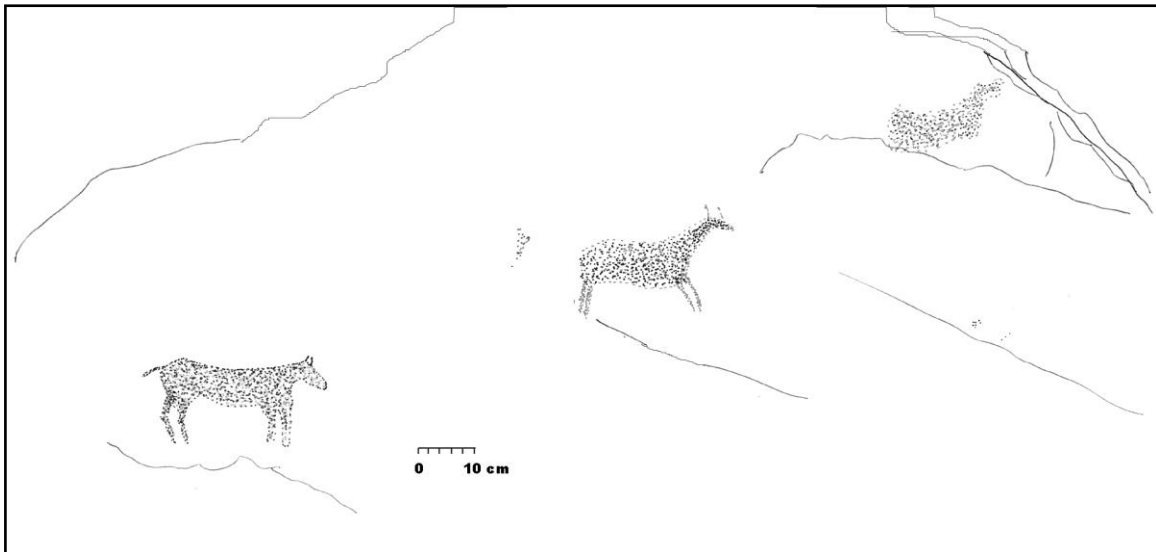


Figure 4.36. Composite drawing of Panel 5.

Petroglyph Description

The petroglyphs are deep and deliberately executed. They appear to have extensive weathering to render them the same color as the surrounding rock. They are very difficult to see without cross lighting to reveal their form in relief.

Pictograph Description

There are no pictographs.

Age

The motifs on Panel 5 appear to be old because of oxidation and algae growth. The images are those of horses and therefore are of the early Historic era. The horses are of a very early style that is not characteristic of Historic Ute depictions with elongated necks and bodies. This panel may be authored by proto-historic Numic (Paiute/Ute) people.

Interpretation

These depictions indicate one of the earliest impressions of horses and the basic attempts to render it in a petroglyph showing the realistic proportions. The horse facing to the right is consistent with all the other horses in this complex.

Condition

The condition of this panel is relatively good considering the rapid weathering and deterioration of the panel due to natural causes. Lichen and algae growth are encroaching on the sides and top.

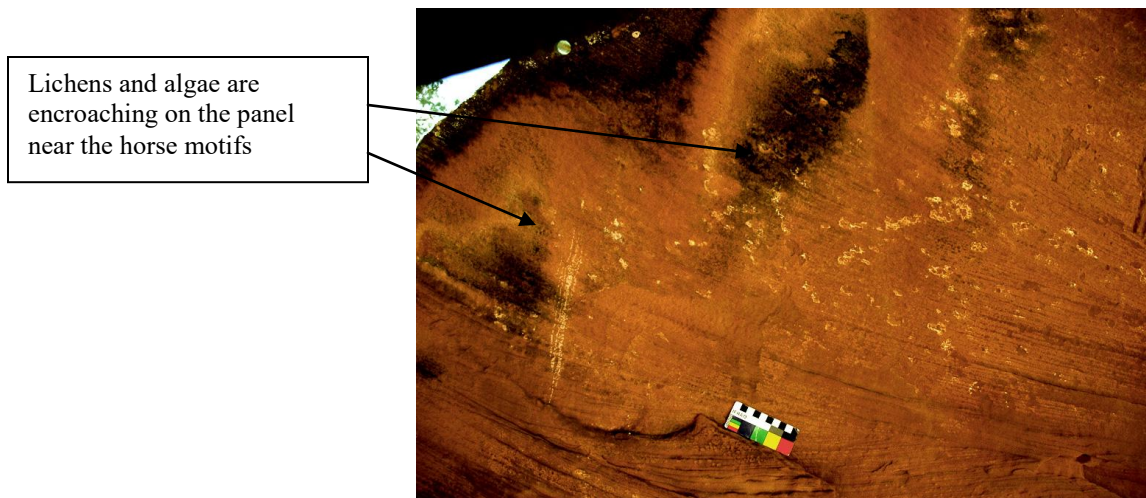


Figure 4.37. Panel 5 showing the microbiological threats to the panel.

Conservation

Threats to the panel include the natural weathering and encroachment by lichens and algae. Perhaps this panel could be treated to inhibit further biological growth.

Management

Cattle grazing in the area should be fenced away from this site. Tourists should be educated as to the value and importance of this panel, even though it may not be as obvious as the other panels. Educational material could be made available for the public explaining that the petroglyphs represent an early depiction of the horse.

Leonards Basin Site 1, Panel 6

General Description

Panel 6 is on the right end of the same fallen block as Panel 5. The fallen block is cracked in half so each end was given a separate number. The petroglyphs are very dim and difficult to see. They do appear to be early Historic because of the horse motifs.

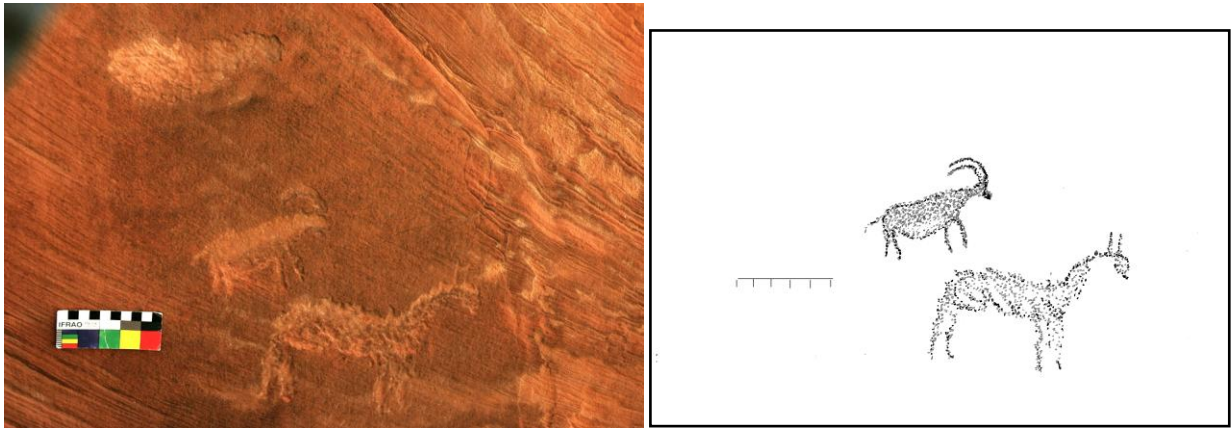


Figure 4.38. Photograph of Panel 6 with two quadrupeds and ink drawing.

Panel 6 has two quadrupeds, one with horns and a second one without horns. The second one has ears standing erect, and this may be a depiction of a horse.

Petroglyph Description

This panel is similar to Panel 5 in execution and weathering of the surface.

Pictograph Description

There are no pictographs.

Superimposition

There is none present.

Interpretation

The two motifs appear to be a horned quadruped and a „horse“. The style of the horse is similar to the two horses in Panel 5. It appears as an earlier style of rendering a horse because it lacks the exaggeration of form employed by historic Ute inhabitants of this area. The gesture and spatial positioning of the horned quadruped over the rump of the horse suggests “riding” or “mounting”, similar to one animal mounting another. This assemblage of motifs might be the first attempt at describing an animal (the horse) that is mounted or ridden.

Condition

A dark algae is growing around the corners of the blocks and lichens are also encroaching on the top. The petroglyphs do not show any signs of vandalism or deterioration due to animals or human behavior.

Age

The age of this panel is consistent with Panel 5 in that the petroglyphs are probably of the Proto-Historic era.

Conservation

Steps could be taken to kill the microbiological growths to preserve the petroglyphs.

Management

The panel should be managed as part of the whole complex. The site should be fenced off from cattle. Education material should be available for tourists and visitors to the site.

Leonards Basin Site 2

This is an extensive site consisting of 7 rock art panels along 90m of cliff face (Figure 4.39). On the western side of the valley, the Leonards Basin drainage has eroded the Entrada Sandstone to form a low bow-shaped cliff almost 6m high. A sandy loam deposit has stabilized in front of the cliff face and thick scatters of waste flakes lie strewn across the ground.



Figure 4.39. General view of Site 2, SDT68 showing the large boulders at the base of the drainage and the sandy loam slope in front of the cliff.

Panel 5 is on two fallen slabs of rock that have collapsed from the cliff face near the center of the site; whereas all the other panels are on the sub-vertical cliff face. A narrow dripline helps protect the petroglyphs from water that flows occasionally from the cliff top (Figures 4.40, 4.41).

Site Description

Archaeological test pits at this site in two locations revealed 15 cm of cow dung over at least 30 cm of midden. The authors of that report believed the occupation deposits probably extended below that depth estimate. Eight diagnostic artifacts were collected and described by Philip Dorn (1975).

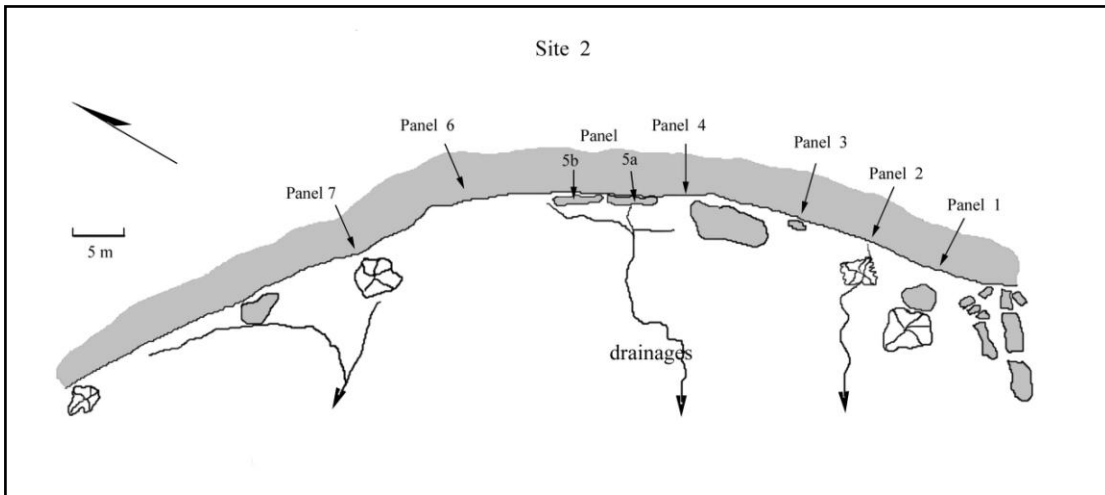


Figure 4.40. Section drawing of Site 2, 5DT68 showing the locations of the panels.

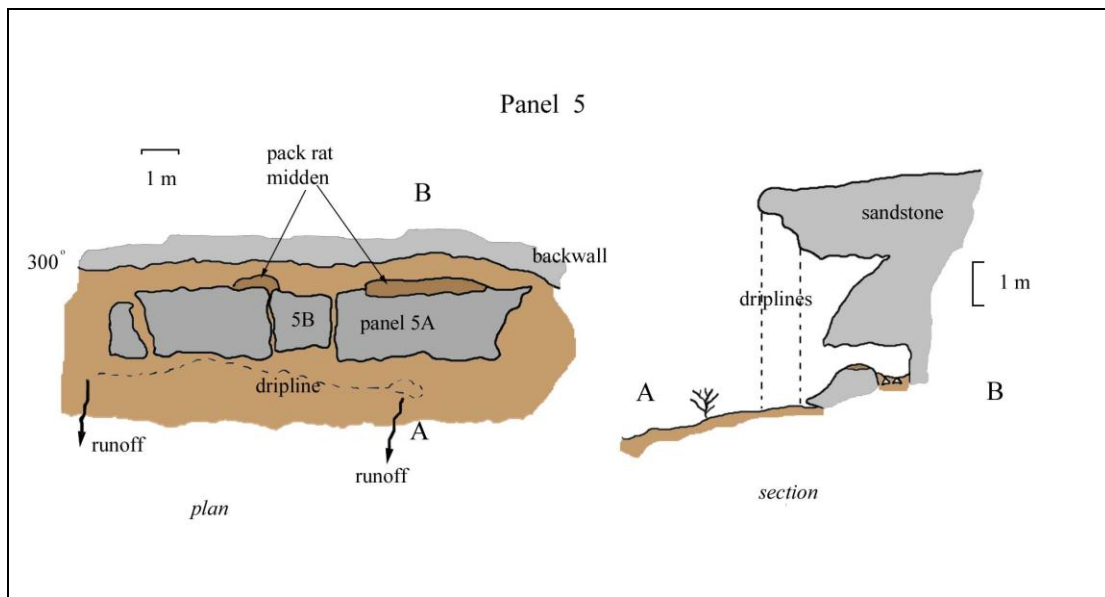


Figure 4.41. Plan and section drawings through Panel 5, Site 2.

Panel 6 is adjacent to Panel 5 and has a less complex profile because the back wall of the cliff has not collapsed (Figure 4.42). An extensive area of undisturbed floor deposit is protected from erosion by compacted animal dung. This part of the floor lies within the dripline and pothunters have not dug into the sediments. Waste flakes and broken artifacts are scattered outside the dripline and elsewhere across the site.

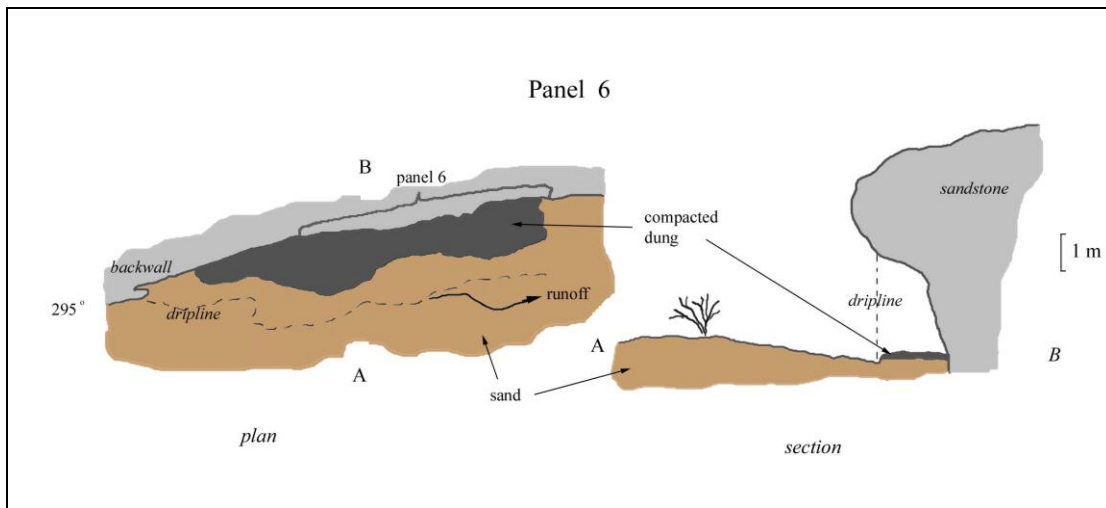


Figure 4.42. Plan and section drawings through Panel 6, Site 2 showing the extensive area of undisturbed floor deposits covered by compacted animal dung.

As the site faces southwest and has a high narrow overhanging ledge it is exposed to direct sunlight, and therefore the older petroglyphs are strongly weathered. Measurements and plotting of the sun path window indicates the extent of annual exposure to direct sunlight (Figure 4.43), confirming the impact of strong regular solar radiation on the cliff. Except for winter, the back wall at Panel 6 is exposed to sunlight for most of the day. On some panels the combination of shallow or no dripline, water runoff across the cliff from the cliff line, fractures and bedding planes, and the intense exposure to sunlight create powerful weathering agents, which are degrading the petroglyphs and their supporting rocks. Trees that grow in front of the cliff protect Panels 1 and 2, and Panel 7 is also partly shaded.

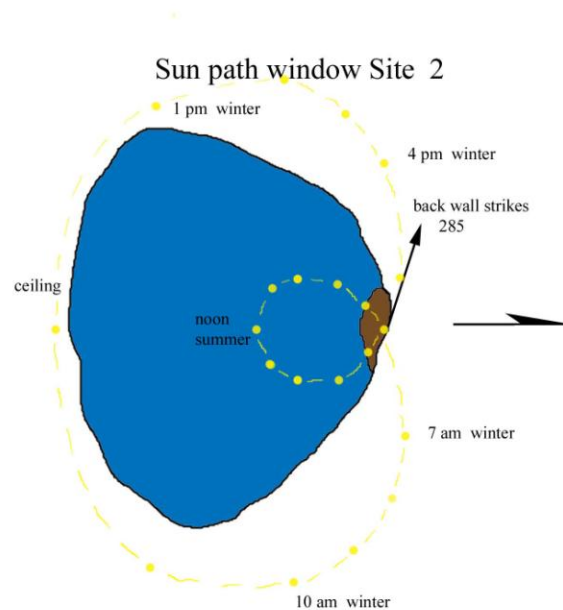


Figure 4.43. Sun path window and exposure of the back wall at Panel 6 to direct solar radiation.

Leonards Basin, Site 2, Panel 1

Figure 4.44. Panel 1 with anthropomorphs and quadrupeds.

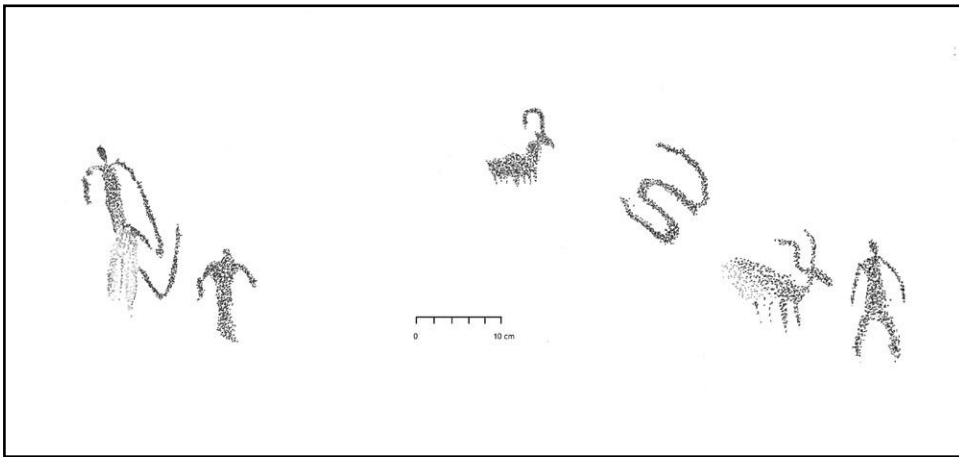


Figure 4.45. Drawing of Site 2 Panel 1 showing anthropomorphs and quadrupeds.

Description

This panel appears to have three anthropomorphic figures; the one on the far left may be holding a stick. The second one does not have distinct legs. The third one on the far right may also be holding a stick. Two quadrupeds and a serpentine line motif complete the panel.

Age Estimation

The age of this panel seems to be consistent with the others in the site, of the same age and cultural affiliation, and it is of the Historic Era.

Interpretation

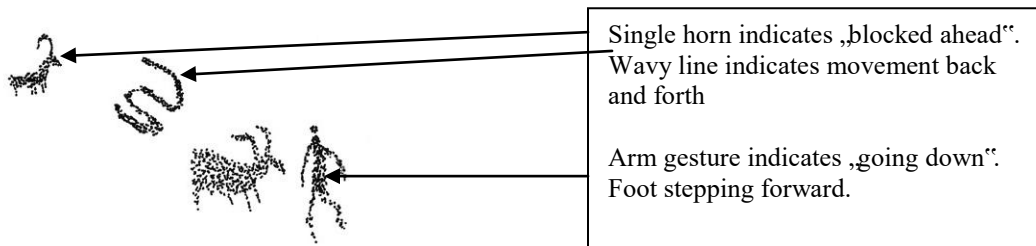
This panel may be an assemblage of random motifs including a „sheep“, a „snake“, another „sheep“ and a „human“.

There may be a narrative involving the sequence of animals and humans aligned in one direction to describe their movement.

The gestural interpretation based on Martineau (1973) may provide the identification of the central quadruped that has one solid horn indicating “encumbered” (Martineau 1973:49). The next motif to the right is a wavy line that may represent “movement back and forth”, characteristic of a trail winding out of the canyon. Together, these two motifs represent a phrase; “encumbered from moving back and forth” and be associated with the Ute’s annual movement from higher elevations in the summer to lower elevations in the winter.

The second quadruped has one horn bent at a right angle and one curved horn. In this sequence, the horns are open, yet one horn is bent at a right angle that indicates “not turning aside” (Martineau 1973:160). This combination of gestures may indicate a stance of resistance and then submission.

An interpretation of this panel might be related to the movement from high elevations to lower ones in the Ute annual migration pattern. The quadrupeds representing the Utes may be interpreted as follows: “The Utes who have been disrupted in their normal hunting and gathering lifestyle, (back and forth migrations) are asked to conform to the whiteman’s ways (follow him). The Utes may have resisted at first but then agreed to follow the man forward.



Condition of the panel

This panel is in excellent condition and no evidence of vandalism is present.

Threats to the site

This panel is difficult to see because of the vegetation blocking part of it from view. It is not located near a popular picnicking area and has gone unnoticed in the previous site records.

Conservation

This panel is exposed to weathering, but its location near a prominent juniper keeps it out of view from visitors who go to the center of the site.

Management

The panel should be managed as part of the whole complex. Site development for tourism should include a descriptive pamphlet and educational literature that would highlight the different ages and styles of rock markings. This site should have a site stewardship program in place to monitor activity on a regular basis.

Leonards Basin Site 2, Panel 2



Figure 4.46. Panel 2 showing human and animal forms.

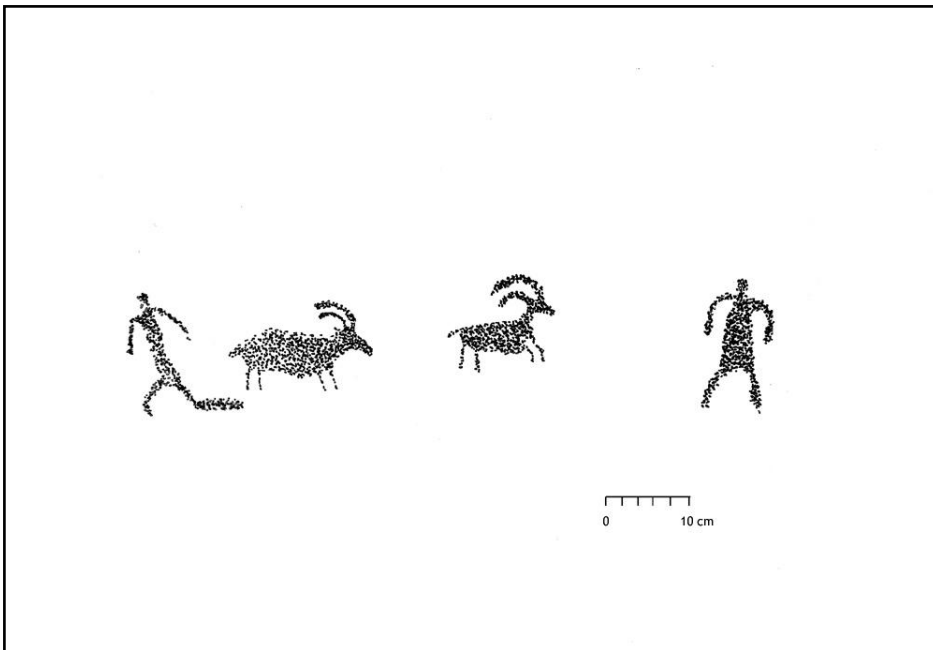


Figure 4.47. Drawing of Panel 2 showing two human and two animal forms

Description

This panels has a similar sequence of two anthropomorphic figures standing at either end of the panel and two quadrupeds between them.

Age Estimation

Historic Era.

Condition of the panel

This panel is in excellent condition because of its location behind a robust Juniper bush, making it difficult to access and even photograph.

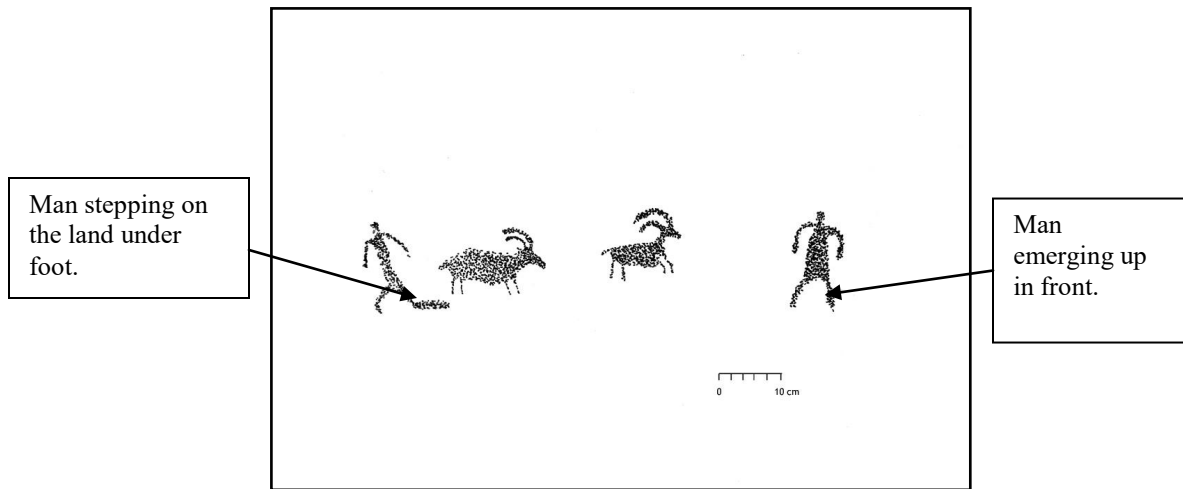
Threats to the panel

It does not appear to be in danger of vandalism.

Interpretation

This panel displays an assemblage of two anthropomorphs and two horned quadrupeds that may be identified as two „humans“ and two „sheep“. The narrative may simply be two men herding sheep.

The gestural analysis based on Martineau (1973) reveals a theme similar to that of Panel 1. The man on the left is stepping forward onto an area of „land“ under the first quadruped’s feet. The second quadruped is moving away but is confronting a man again. The second man has raised shoulders and curved arms that represent “brave or bold” in sign language. In one sense, the man on the left is driving the animals towards the other man on the right with an imposing stature.



In the Ute context, the quadrupeds represent the Utes, who’s land is being “stepped on” by the white man, and where ever they go, the white man will be in their path.

Conservation

This panel is in excellent condition and does not have any threats or reasons for conservation measures to be taken.

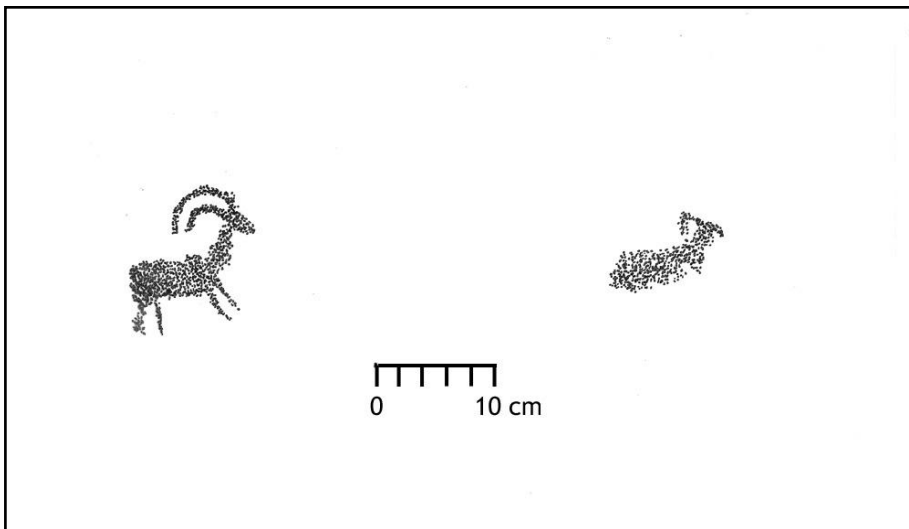
Management

The panel should be managed as part of the whole complex. Site development for tourism should include a descriptive pamphlet and educational literature that would highlight the different ages and styles of rock markings. This site should have a site stewardship program in place to monitor activity on a regular basis.

Leonards Basin, Site 2, Panel 3



Figure 4.48. Panel 3 with one quadruped and one partial quadruped.



4.49. Drawing of Panel 3 with one quadruped and one partial quadruped.

Description:

One quadruped with horns and a second partial figure.

Age Estimation:

Historic Era.

Condition of the panel

This panel is in excellent condition.

Threats to the panel:

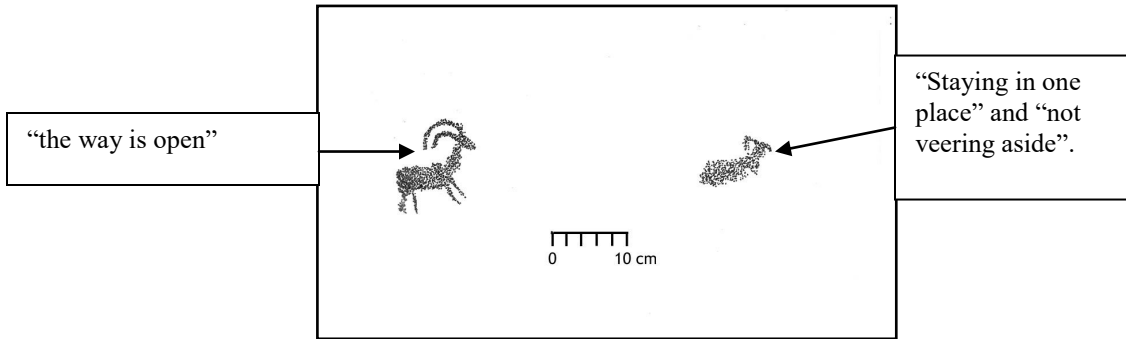
It does not appear to be in danger of vandalism. Exfoliation of the rock is occurring because of thermal expansion and contraction.

Interpretation:

This panel has two motifs that may belong to a larger assemblage of motifs. The arbitrary delineation of panels has made it difficult to interpret these two motifs.

The horned quadruped may represent a „sheep“. The second motif is unclear.

The gestural interpretation suggests a theme similar to that of Panel 1 and 2. The two quadrupeds are very purposefully drawn, despite the one on the right appearing incomplete. The left one has open horns indicating “good” or “open” and not blocked (Martineau 1973). The second one has no legs meaning “stayed” or “camped”. The one horn bent at a right angle means “not turning aside” and is an indication of resistance. The head is missing or disappearing. In the Ute view, the first quadruped represents the Ute’s way of life that is good. The next motif suggests “staying in one place” and “not turning aside”.



Conservation

This panel is in excellent condition and needs no further conservation measures.

Management

The panel should be managed as part of the whole complex. Site development for tourism should include a descriptive pamphlet and educational literature that would highlight the different ages and styles of rock markings. This site should have a site stewardship program in place to monitor activity on a regular basis.

Leonards Basin Site 2, Panel 4

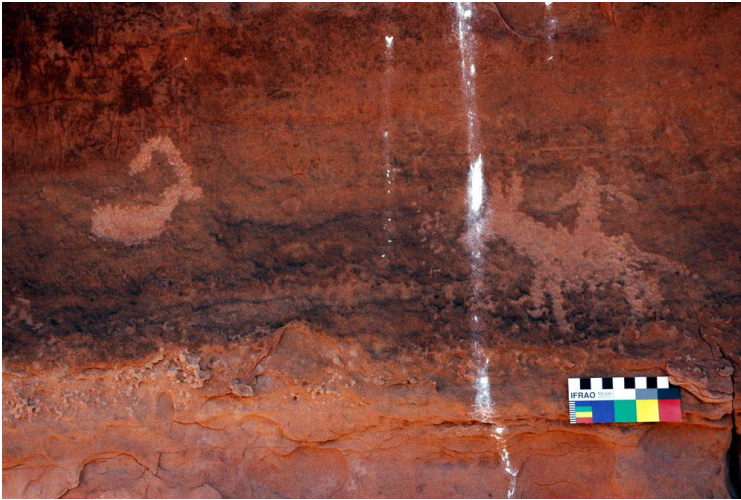


Figure 4.50. Panel 4 with one quadruped and a rider.

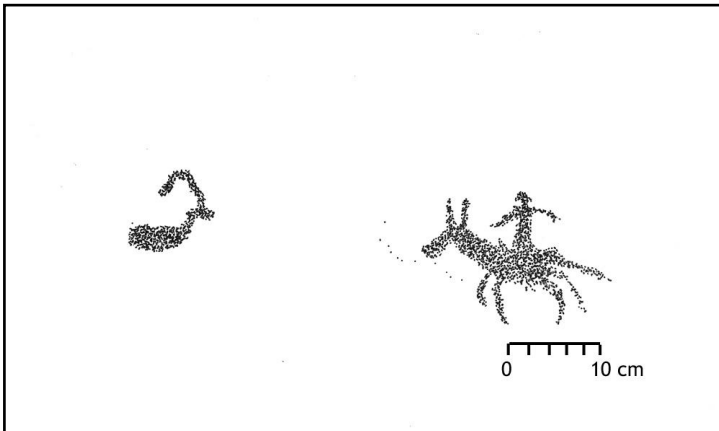


Figure 4.51. Drawing of Panel 4.

Description:

This panel has two clearly pecked motifs that depict one horned legless quadruped facing a mounted rider.

Age Estimation:

Historic Era.

Condition of the panel

This panel is in excellent condition.

Threats to the panel:

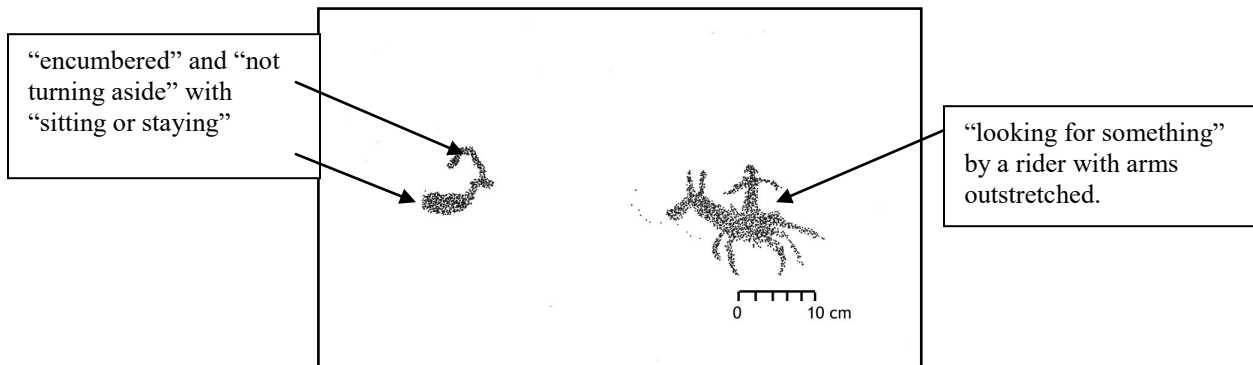
It does not appear to be in danger of vandalism. There is bird excrement flowing down across the panel from a small ledge above it.

Interpretation

The theme of this panel seems to be an interaction between the quadruped and the rider. The rider is approaching a one horned legless animal.

The gestural interpretation based on Martineau (1973) observes the arm gesture of the rider that is outstretched and the direction he is approaching the horned motif is significant. The ears of the horse are long and erect indicating “looking”. The horse’s feet are bent as if climbing upward. The rider has a brimmed hat and his horse is facing the left (contrary to the Ute horses and riders).

The legless horned motif is at a slightly higher level to the horse rider. „Legless“ refers to “sitting” or “staying” in a place. The single thick horn indicates “encumbered”. The horn is bent at a right angle to indicate “not turned aside” adding the idea of resistance. Together with the “sitting or staying” gesture this conveys the idea that the Utes would not leave their camp (or land where they are sitting). The rider may represent the white man “looking” for the Utes and trying to drive them off their land.



Conservation

The trail of bird droppings down the rock face could be removed and an obstacle placed on the ledge to deter the birds from perching.

Management

The panel should be managed as part of the whole complex. Site development for tourism should include a descriptive pamphlet and educational literature that would highlight the different ages and styles of rock markings. This site should have a site stewardship program in place to monitor activity on a regular basis.

Leonards Basin Site 2, Panel 5a



Figure 4.53. Photograph of the left side of panel 5.

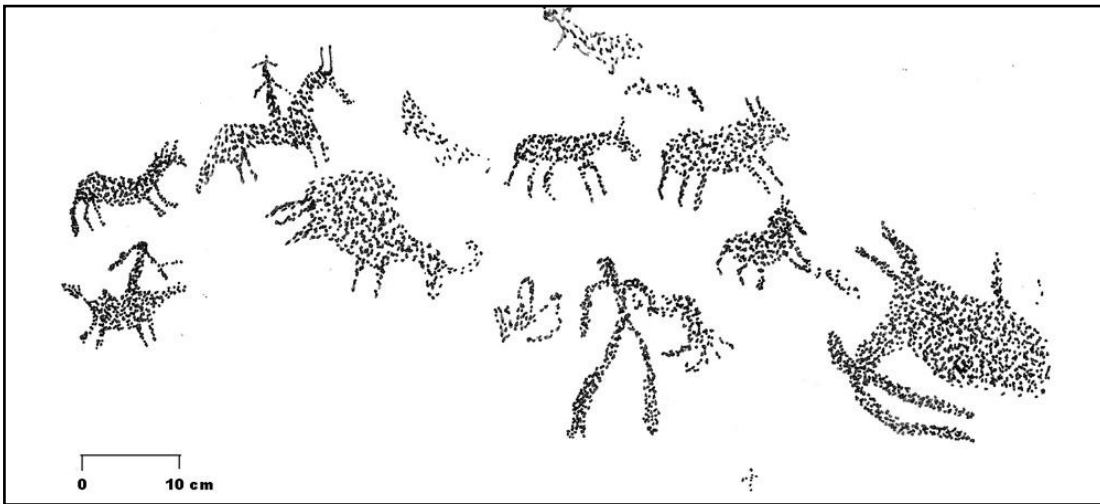


Figure 4.54. Drawing of Panel 5a, left side.

Petroglyph Description:

The petroglyphs on this fallen rock are quite distinct and obviously Historic. They are a mixture of mounted riders, possible dogs, mules and rabbits.

Age Estimation:

Historic Era.

Condition of the panel

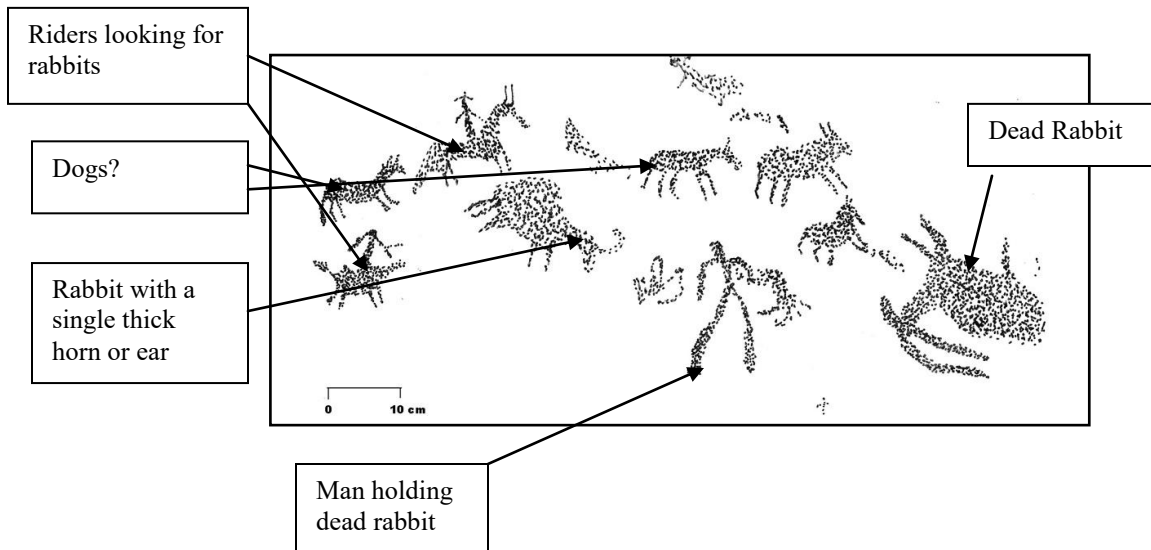
This panel is in excellent condition.

Threats to the panel:

It does not appear to be in danger of vandalism. The block is exposed to animals and visitors passing by. It is inside the dripline of the rock shelter, but salts are leaching from the ground into the block and causing flaking.

Interpretation:

The theme of this panel is a hunting scene, with riders and „dogs“ chasing after „rabbits“. The gestural interpretation identifies the rider with out-stretched arms on a horse with long erect ears that when combined indicate “looking” or “hunting”. The riders seem to be accompanied by dogs with erect ears as well. A dog is chasing a rather fat rabbit. The riders are moving from left to right, consistent with Ute tradition of illustrating themselves in a narration. In front of the rider are several rabbits, identified by fat round bodies and relatively short legs. The man in the center carries a stick and may be holding a dead rabbit he has killed. At the far right of the panel is a large inverted rabbit, identified by its long ears, and upside down posture that indicates „death“.



Conservation

The problem of water at the base of the fallen slab should be addressed to minimize the degrading effect of the salt.

Management

The panel should be managed as part of the whole complex. Site development for tourism should include a descriptive pamphlet and educational literature that would highlight the different ages and styles of rock markings.

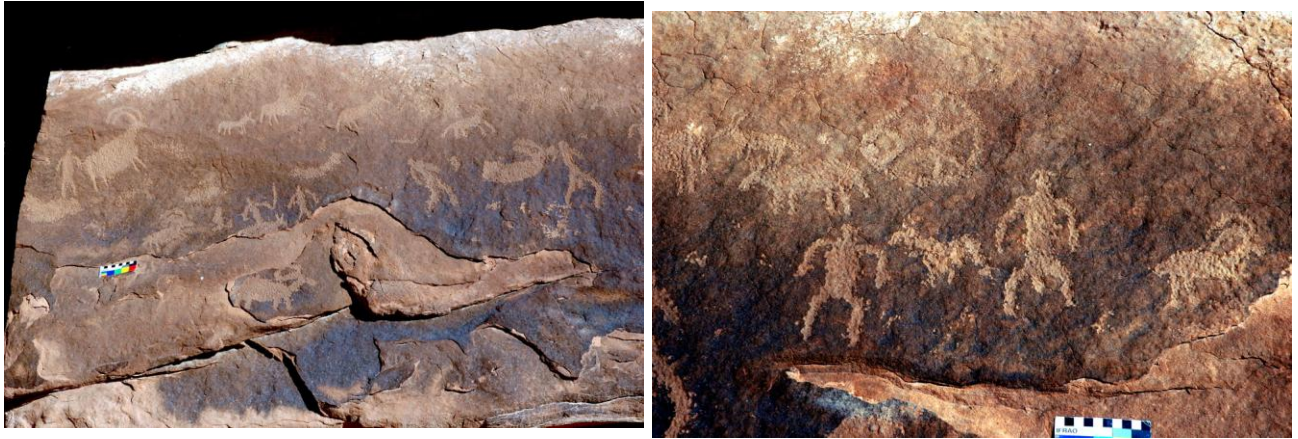
Leonards Basin Site 2, Panel 5b

Figure 4.55. Panel 5b, the right side of Panel 5 and a continuation of the narrative.

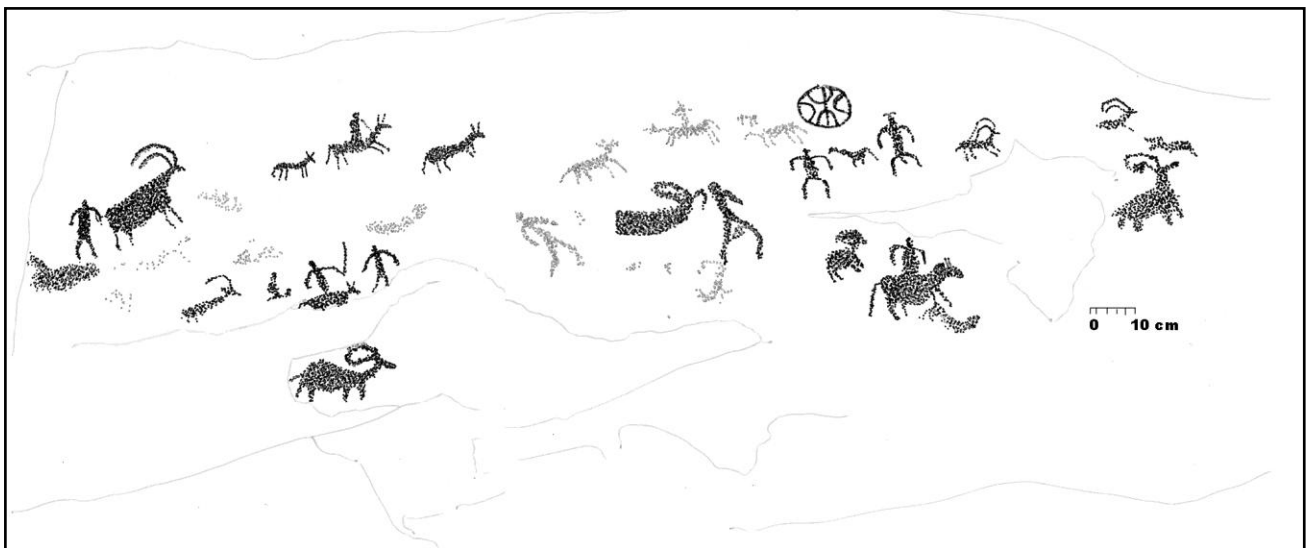


Figure 4.56. Drawing of Panel 5 b showing the animated rabbit hunt.

Description

The petroglyphs on the right side of the fallen boulder are well preserved and seem to incorporate features of the rock that form trails or cliffs. This panel is also composed of mounted riders holding sticks, anthropomorphs on the ground with sticks and possibly a bag, and several quadrupeds with horns of different shapes and sizes. There is a round geometric motif at the top right side.

Age Estimation

Historic Era.

Condition of the panel

This panel is in fair condition, but the spread of salts and their consequent spalling action will erode the petroglyphs.

Threats to the panel

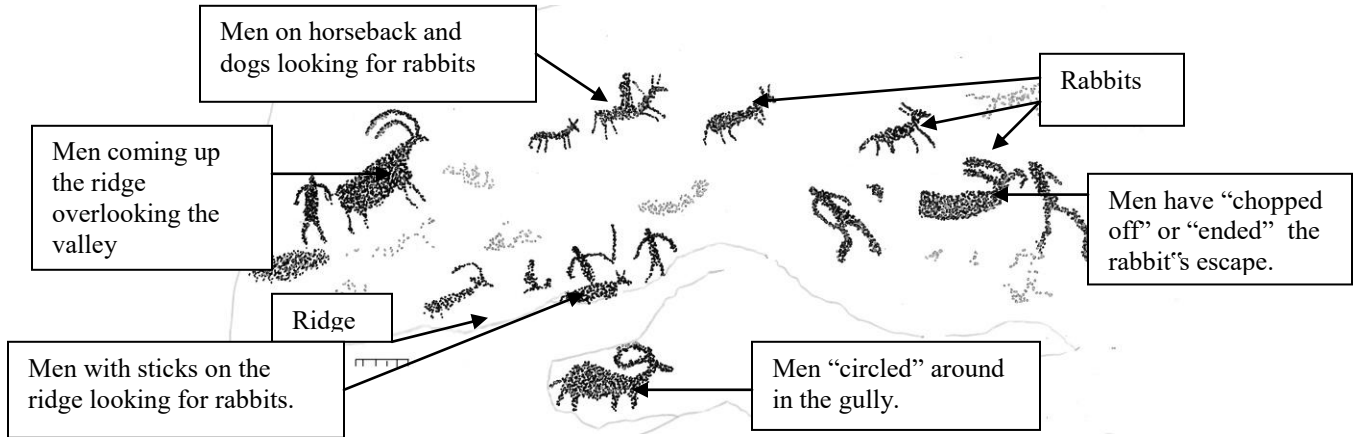
It does appear to be in danger of vandalism. This site does exhibit vandalism in the form of pot hunting or previous test pit excavations. The fallen block is exposed to animals and visitors passing by. It is weathering and spalling has occurred on the lower side.

Interpretation

This panel has various motifs interpreted as „humans“, „sheep“, „dogs“ and „rabbits“.

This panel was interpreted as a continuation of a rabbit hunt by Clifford Duncan.

The gestural interpretation identifies men quite active with their sticks in procuring rabbits. The first quadruped on the left indicates the movement upward overlooking the valley illustrated by the body shape of the quadruped that has a flat top and round bottom (Martineau 1973: 47-50). The second quadruped near the bottom is placed within a rock formation used to simulate the ridges between the valleys. The horns form a loop that means “returning” to where they started. The quadruped within this rock incorporation offers a narrative of where the men went, i.e. “into the gully” and “circled around”. On the right side is depicted the large body of a rabbit that has been „chopped off“. This idiom is often used in narratives, and in this example it means the men “cut off the rabbit’s escape”. (See Martineau 1973:43, 57, for “chopped off” or “ended”).



Conservation

The problem of spalling could be addressed. The rest of the site is in excellent condition and there is no need for further conservation measures.

Management

The panel should be managed as part of the whole complex. Site development for tourism should include a descriptive pamphlet and educational literature that would highlight the different ages and styles of rock markings. A site steward program would effectively curb any further attempts at removing some of the rock art panels.

Leonards Basin Site 2, Panel 6



Figure 4.57. Panel 6a with four anthropomorphs and two quadrupeds.

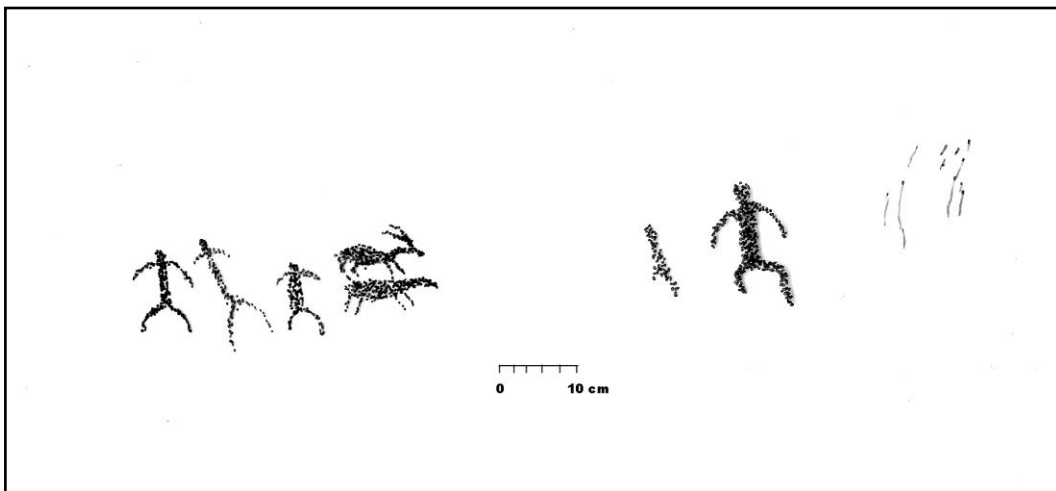


Figure 4.58. Drawing of Panel 6a.

Description

This is the first in a series of three areas that are part of a long surface of cliff face that has groups of very hard to see petroglyphs. Starting at the left, there appears to be three anthropomorphic figures with bowed legs and open arms. In the center are two quadrupeds, one on top to the other. Only one appears to have horns. On the right is a larger anthropomorph, again with bowed legs and open arms. An attempt has been made to make a mold or reproduction of the image and residue from glue or paint is still there.



Figure 4.59 Panel 6 b with four quadrupeds and one anthropomorph.

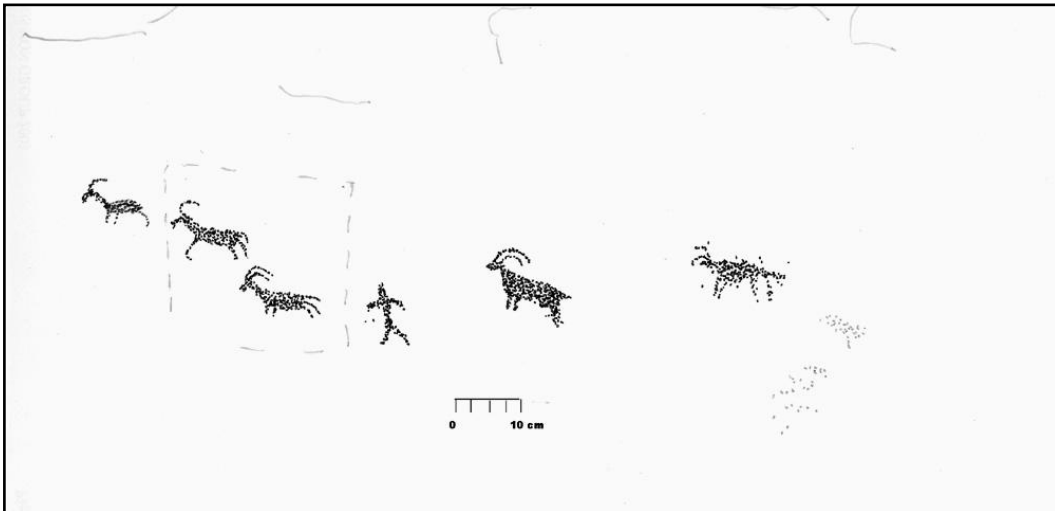


Figure 4.60. Drawing of Panel 6b.

Description

This panel has a pair of quadrupeds heading from right to left, followed by an anthropomorph. Two quadrupeds are elevated higher than the two either side of the anthropomorph. The quadruped to the right of the anthropomorph is in a slightly vertical position. At the end is a very dim and indistinguishable canine like motif.

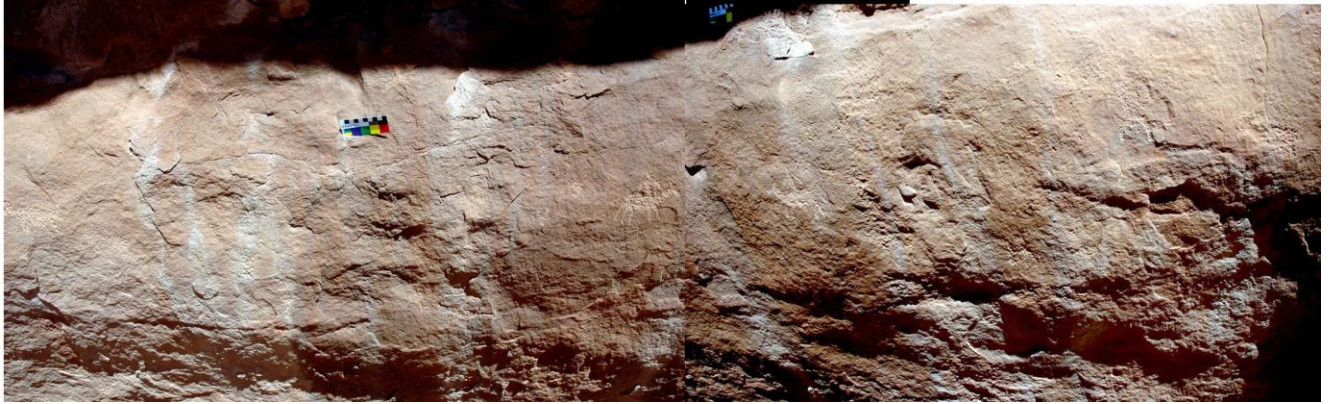


Figure 4.61. Panel 6c.

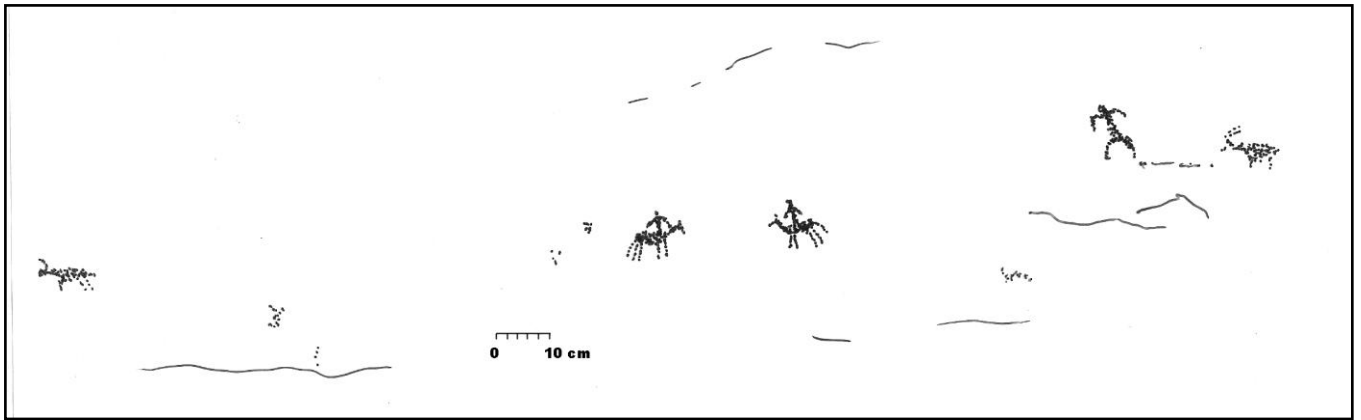


Figure 4.62. Panel 6c continued to the right with two riders, a pedestrian and a horned quadruped.

Description

This panel is the continuation of Panel 6 as one travels to the right from the last quadruped in Figure 4.60. There are two riders facing each other. The high rounded area of the cliff face on the far right side has a faint anthropomorph and another quadruped.

Age Estimation:

Historic Era.

Condition of the panel

This panel is in excellent condition despite attempts to cut out or mold elements of the panel.

Threats to the panel

This panel has evidence in two areas where vandals have attempted to remove or take molds of portions of the panel. This wall is exposed to weathering and bird nest residue. There is no protection from humans or animals.

Interpretation

The theme of this panel seems to be an interaction between the quadrupeds and anthropomorphs. On the far left are three bow-legged humans (Figure 4.58). The bow-legged posture may be associated with horseback riding. Next to them are two quadrupeds stacked one on top of the

other. In sign language it simply refers to “carrying or riding on the back of.” It does not appear to be a mating posture. The central figure has the bowed legs.

The next sequence (Figure 4.60), shows three quadrupeds heading to the left. Each is more elevated than the next and may be indicating “heading” up in elevation. More research is needed to determine what this sequence is trying to convey.

The last sequence (Figure 4.62), has two riders that are approaching each other from a distance. The Ute is on the left, with long ears or horns. He is a bit higher and is “watching” the other rider approaching. The rider on the right has his arms in a negation gesture. It means “bad” or something negative (Martineau 1973). The Ute’s horse has its ears back and legs forward in an apprehensive posture. The Ute is wary of the approaching rider bearing negative gestures of arms swept downward.



Conservation

This site does exhibit vandalism. People have attempted to saw out two areas of the rock art panel. The panel is well within the reach of visitors.

Management

The panel should be managed as part of the whole complex. Site development for tourism should include a descriptive pamphlet and educational literature that would highlight the different ages and styles of rock markings. This site should have a site stewardship program in place to monitor activity on a regular basis.

Leonards Basin Site 2, Panel 7

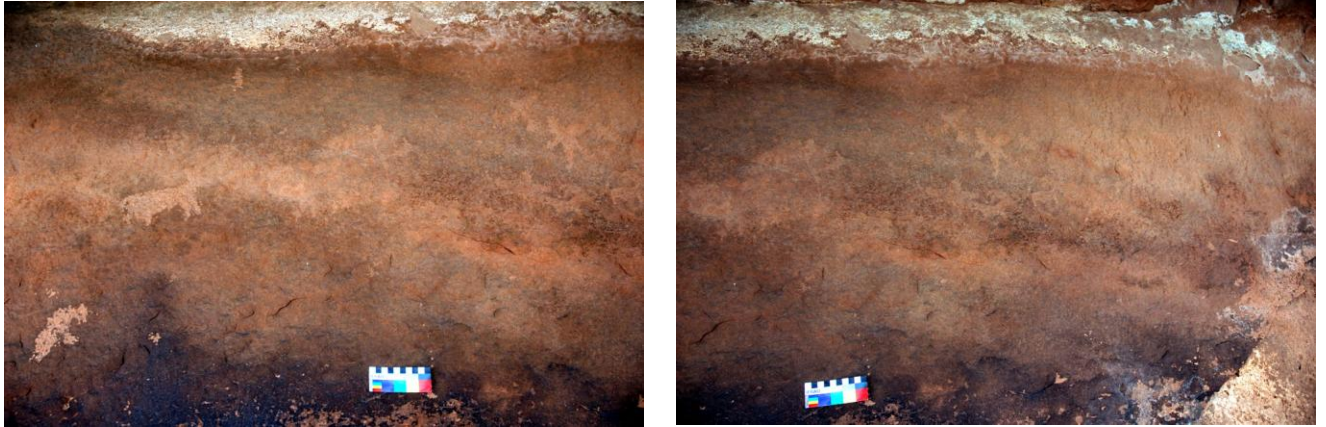


Figure 4.63. Photograph of Panel 7



Figure 4.64. Drawing of Panel 7 with very faint motifs.

Panel Description

This panel is located at the far northwestern end of the site. The petroglyphs are very difficult to see and were greatly enhanced to produce a drawing. It contains several quadrupeds and possible human forms.

Age Estimation

Possible of the Historic era, but because the panel appears more weathered than the others at this site (because of the extreme exposure to rain and sun), it may therefore belong to the Pre-Historic Ute era.

Condition of the panel

Unstable because of natural weathering by water and sun, and accumulation of dust and salts.

Threats to the panel

This panel has no protection from humans or animals. The direct exposure to sun and weather has damaged it to some degree.

Conservation

There is not much that can be done to protect this panel. Nature will take its course and soon make it impossible to see.

Management

Include in an overall site management strategy.

Chapter 5 Palmer Gulch

Site 1

Site 1 (5DT53) was first recorded as a petroglyph site in 1971. It consists of one panel of petroglyphs located on the south side of Palmer Gulch. (Figures 5.1-2).



Panel 1 at 5DT53

Figure 5.1. General view of Panel 1, 5DT53, from the northwest looking southeast.



Petroglyphs

Stream

Figure 5.2. Profile view of site 1, Palmer Gulch showing the proximity of the stream bed (right) to the back wall of the shelter and the petroglyph panel.

General Description

Site 1, 5DT153 is on the eastern side of the valley about 0.9km from the Gunnison River. The Entrada Sandstone cliff is approximately 5m high caused by undercutting by the intermittent stream (Figures 5

.1-2). Formation of the shelter is by collapse of the ceiling along joint and bedding planes weakened by the loss of underlying structural support. The shelter is more than 30m long, but the petroglyph panel measures less than 2m. A protective overhang extends 3-4m in front of the back wall. The shelter strikes at 200° and faces west (290°). Sand that has been deposited by a small rivulet that flows when water runs off the cliff face on the floor is eroding as the stream migrates laterally across the valley bottom.

Plan and Section

The plan for Site 1, 5DT53 is drawn in Figure 5.3. The petroglyph is on a small panel above stream level, but adjacent to an intermittent drainage.

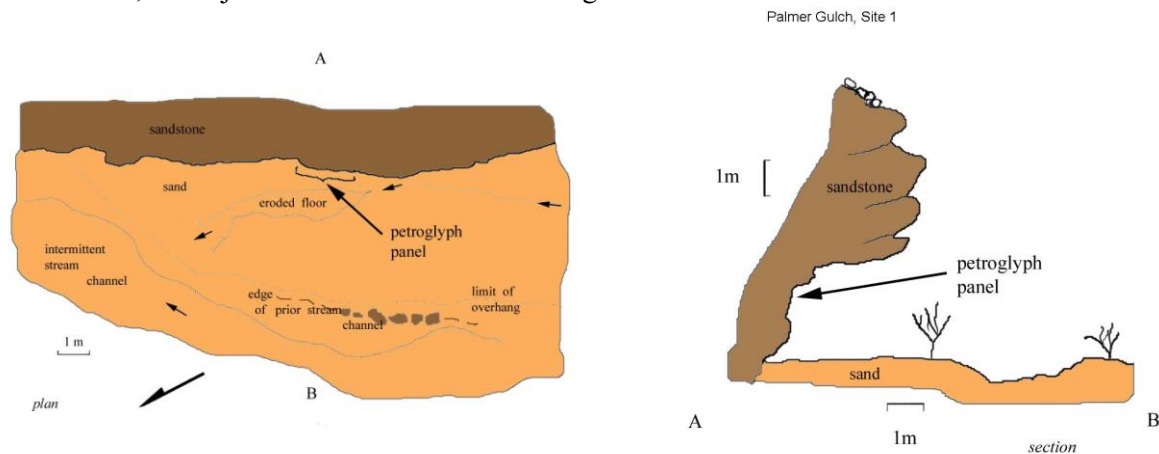


Figure 5.3. Plan drawing of Site 1, Section drawing of Site 1 showing the height of the petroglyph panel above the sandy bank of the stream.

Panel Description

The petroglyphs are located on a small panel about 1.5-2m above the sandy floor. They comprise a composite motif consisting of a wavy line which intersects a tree-shape design with four lateral branches (Figures 5.4-5). That motif occurs above a large horned quadruped. Two other smaller quadrupeds have also been pecked on the same panel, but at the extremities of the planar surface. Thin lines have been scratched into the narrow ceiling directly over the main motifs.

The degree of patination of the petroglyphs indicates two phases of pecking. The oldest phase is the making of the quadrupeds, while the tree and sinuous line are more recent. Both phases were probably created over the last several thousand years when the back wall of the shelter became available following spalling and collapse of the sandstone. The height of the petroglyphs above ground level indicates that the present floor level has dropped slightly since they were pecked.

A shallow overhang of sandstone within a small rock shelter protects the petroglyph panel from direct rainfall. Muddy water has washed down the rock face from the roof of the shelter and partly covered some petroglyphs (Figure 5.4).

Palmer Gulch Site 1, Panel 1



Figure 5.4. Photograph of the panel at Site 1 showing the dominant tree and wavy line.

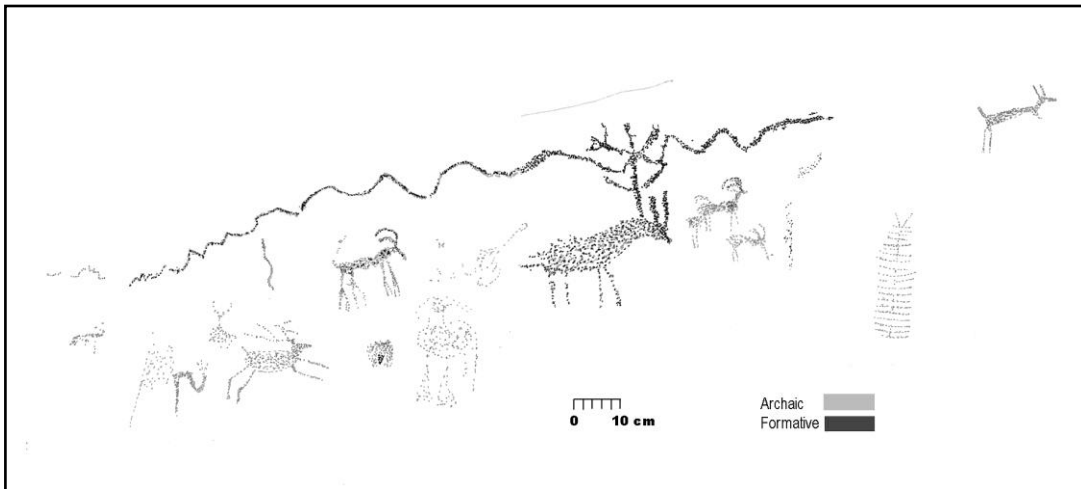


Figure 5.5. Drawing of Panel 1 showing the Archaic animals in light gray and later Formative motifs in black.

Panel Description

The panel has several ungulates, both 'deer' and 'sheep', identified by their cloven feet. A tall horizontally lined 'centipede' type motif is visible on the right. A wavy line and 'tree' motif

dominate the panel. The central motif is a quadruped with long ears and legs without hooves. These darker motifs seem to be superimposed over the lighter, earlier ones (Figure 5.5).

Interpretation

The panel at site 5DT53 is interesting because of the ‘tree’ motif combined with a quadruped and wavy line. These motifs are later, of the Formative or Proto-Historic era and are consistent with other sites in Palmer Gulch that depict trees, quadrupeds and wavy lines. The significance of trees in Numic culture is lightly documented, but is always present in ceremonies, especially the Bear Dance. Clifford Duncan, Ute elder talks at great length about the significance of trees in healing ceremonies. See Chapter 2 and Chapter 6. Clifford spent a considerable amount of time looking at this panel on his visit to Palmer Gulch. To him the tree signaled the theme of healing and ceremony.

Age Estimation

The later motifs of quadrupeds with short stumpy legs, and absence of hooves belong to the Formative Period. The wavy line and tree motif are also of the same period. The earlier style of quadrupeds with long tapered legs and cloven hooves, large branching antlers are of the Late Archaic era. The horizontal barred ‘centipede’ motif is of the Formative era.

Condition

The condition of the panel is excellent considering that it has some antiquity. It is high enough to escape cattle rubbing against it. Natural weathering has made most of the lower images difficult to see. The upper, later pecked motifs stand out and are clearly visible. Dust has settled and hardened in the peckings and some mud wash obscures the lower images. The panel is structurally stable except for some spalling along the lower edge.

Conservation

The muddy wash could be removed by washing with distilled water. The hardened dust in the pecking may be much more difficult to remove.

Management

Access to the sites in Palmer Gulch by the general public is not easy because permission is currently needed from the ranch owner to trespass across the property adjacent to the Gunnison River. While this restriction on access is in place the sites are relatively well protected from visitation. Monitoring should be done annually to ensure vandalism has not occurred.

Palmer Gulch Site 2

General Description

Site 2, (5DT1690) is located about 150m upstream from Site 1 and on the western side of the valley. The sandstone cliff is not as high as the previous site, but has also been undercut by water erosion. Four panels of petroglyphs are spread along 13m of the cliff which has a narrow overhanging roofline up to 2m wide (Figure 5.6 and 5.7). The back wall of the shelter strikes at 320° and faces south (Figure 5.8).



Figure 5.6. General view of Site 2 showing the locations of the four petroglyph panels.



Figure 5.7. Photograph showing the locations for panels 1, 2, 3, and 4 of Site 2.

Site Plan and Section

The plan and section for the four panels at Site 2 are shown below.

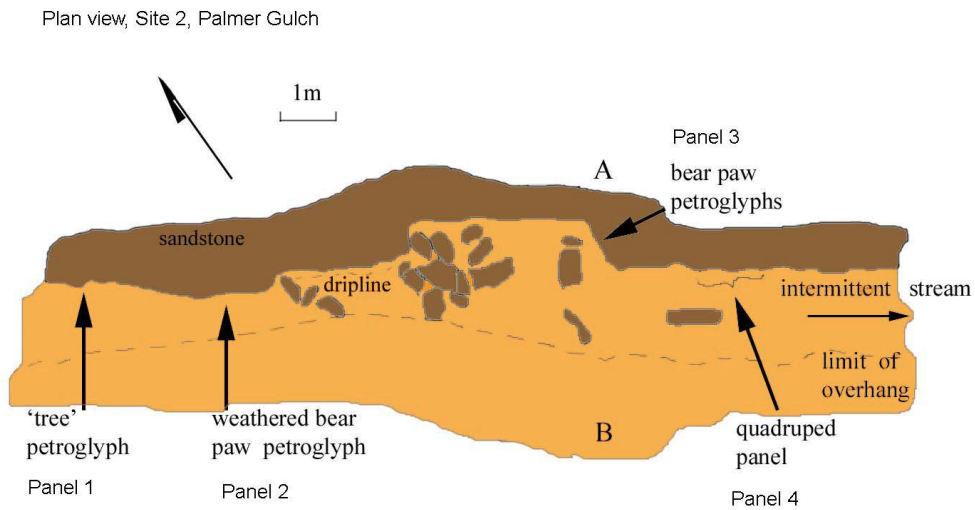


Figure 5.8. Plan drawing of Site 2, 5DT1690.

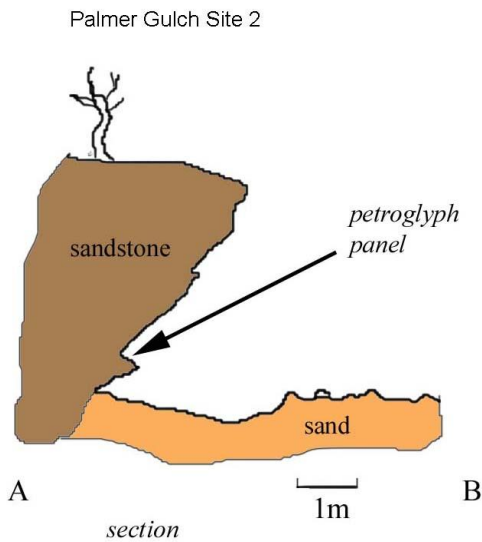


Figure 5.9. Section drawing of Site 2, 5DT1690 showing the profile through panel 3, the bear paw motifs.

Palmer Gulch Site 2, Panel 1

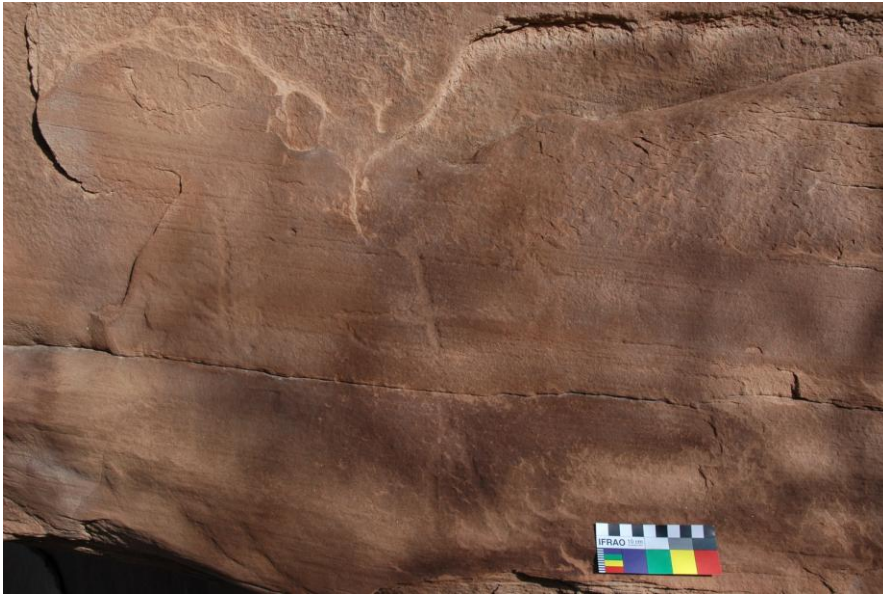


Figure 5.10. Photograph of Panel 1, a very eroded surface with a tree and human motif

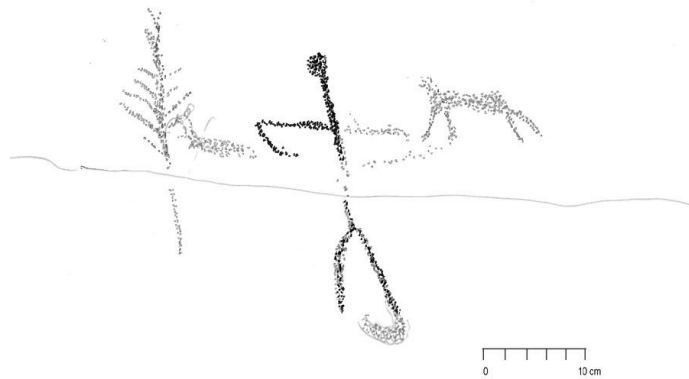


Figure 5.11. Drawing of Panel 1 showing the tree, stick figure and quadruped.

Panel Description

Panel 1 is located on a very exposed surface. It has heavy patina making it difficult to see in some lighting conditions. The remaining motifs appear to be a tree and stick human figure along with a possible quadruped or canine figure.

Interpretation

The tree motif in this panel is important in Ute and Numic traditions, as discussed in Chapter 2. There are multiple tree motifs in Palmer Gulch that tie in to the Bear Dance theme and healing ceremonies. The concurrence of the tree, bear paw, and a walking bear at this site is converging lines of evidence that support the Bear Dance theme displayed here in Palmer Gulch.

Age Estimation

The age of this panel may be within the Late Archaic to the Formative Era due to the degree of weathering and patination.

Condition

This panel is in good condition considering its antiquity and degree of patination. It will continue to weather because of its exposure and the motifs will disappear.

Palmer Gulch Site 2, Panel 2



Figure 5.12. Photograph of Panel 2 showing the extreme weathering of the panel.



Figure 5.13 Drawing of Panel 2 with the remains of a walking bear and a bear paw.

Panel Description

This panel is a very weathered surface that is deteriorating to the point that very little relief remains on the lower portion. It required a lot of computer enhancement and study to reproduce the images that remain of a walking bear with very large stylized paws. It is incorporated with a

crevice as part of its backbone. Above the bear is a deeply pecked bear paw that may be of a later period.

Interpretation

The bear motif is a repeated theme through out Palmer Gulch and adjacent river drainages. This style of bear is very similar to the one at Site 5DT54. The style of the head and ears is also nearly identical. The interpretation of this panel follows the discussion in Chapter 2 as proposed by Dr. Goss. The Numic world view is oriented to the south and moves „sun-wise“ from east to west. The bear is walking from right to left that may be symbolic of a specific season in the Numic cycle of migration. Sun-wise direction puts the Spring equinox in the east (left side) and moves around clockwise to the Vernal equinox in the west (right side). Thus, in theory, the bear emerges from hibernation in the east (walking to the left) and returns to hibernation in the west, (walking to the right). Comparative examples of walking bears are given in Chapter 6.

Age Estimation

This panel is deeply weathered and difficult to determine its age. Stylistically it is part of the Formative Era. The walking bear may be proto-historic and contemporary with other walking bears of the same style that are of the proto-historic period. The bear paw above may have been a later addition during the Historic period.

Condition

This panel is badly weathered and will continue to erode due to its extreme exposure to water wash, animals rubbing it and wind erosion.

Palmer Gulch Site 2, Panel 3



Figure 5.14. Photograph of Panel 3 showing the highly patinated surface.



Figure 5.15. Drawing of Panel 3 with up to 8 bear tracks, a deer track and human stick figure.

Panel Description

This panel is very difficult to see and was only discovered recently by „Squint“ Moore, who showed it to this me. The bear paws are very patinated and finely engraved. The style is of the Formative Era but the execution of the central bear paws is quite extraordinary. The peck marks are done in a circular motion giving the texture of the bear paw pad a swirl effect. It is undetectable to the eye at first, but under magnification and computer enhancement, tiny circular ridges within the pecked-out area appear. The large bear paws are extremely well crafted and executed. I was quite awed while retracing this panel and felt that I was in the presence of a master artist.

Interpretation

The bear paws that dominate this panel are varied and some are highly stylized. This panel can be compared to those found in Escalante Forks, 5DT3. Similarly large bear paws and pads with 6 toes appear. Bear paws are the major theme in Palmer Gulch and is discussed fully in Chapter 6. The significance of the bear paw and its association with water, fertility, and hunting success is supported by the literature discussed in Chapter 2.

Age Estimation

The age of this panel is suggested by the style that conforms to the Formative Era, although the panel is very patinated suggesting greater antiquity.

Condition

Panel 3 could be cleaned of dust and is generally protected from natural weathering agents and are therefore stable. It should be protected tourists who may try to clean or enhance the motifs for photographing.

Palmer Gulch Site 2, Panel 4

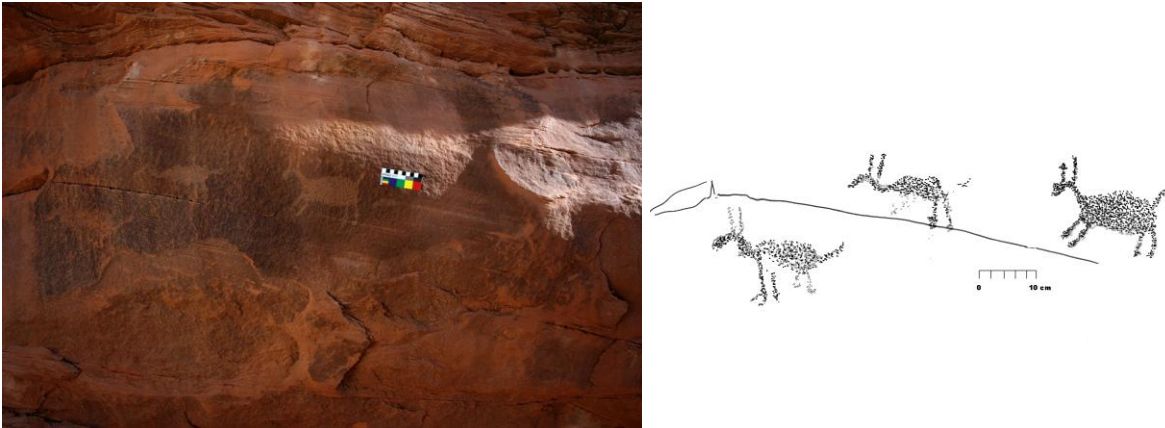


Figure 5.16. Photograph and drawing of Panel 4 with three quadrupeds facing to the left.

Panel Description

Panel 4 has three quadrupeds that are highly visible because of the darkly colored background. The sandstone has algae growth and patination that makes this panel different from the rest.

Interpretation

This panel has three quadrupeds with various body postures and numbers of legs. They all have erect ears that can be interpreted as “looking” or “listening” for something. They are moving in the direction of the bear track panel, to the left. They are visible from the trail and are positioned at eye level. They may be intended to attract attention to locate the nearly invisible panel to the left in the direction they are facing.

Age Estimation

This panel fits stylistically in the Formative Era with short stocky quadrupeds and relatively little patination inside the glyph.

Condition

This panel is in relatively good condition and well preserved. It is protected from direct exposure to weather and animals rubbing it. It is not threatened by water wash or salts.

Conservation

Panels 1 and 2 have degraded to such an extent that it is difficult to conserve the motifs in any way. Panel 3 could be cleaned of dust. Both Panels 3 and 4 are generally protected from natural weathering agents and are therefore stable. Cattle and other animals could affect Panel 3, but the other panels are relatively protected.

Management

The panels are not readily visible to the casual hiker and therefore are reasonably safe from willful damage. People with strong interests in rock art would readily find the site, but would not intentionally spoil the petroglyphs. No signage should be used to indicate the presence of this cultural heritage, but the location should be monitored for graffiti.

Palmer Gulch Site 3

General Description

Site 3, (5DT1691), occurs along a steep cliff adjacent to the intermittent stream of Palmer Gulch (Figure 4.19). The streambed has cut down into the rocks and then a period of aggradation and sediment accumulation took place. Cobbles and boulders, and then sand were deposited in the streambed. The present stream is gradually eroding those deposits and undercutting the sandstone cliff. A narrow bank abuts the sandstone cliff and forms a protective barrier against the eroding stream.

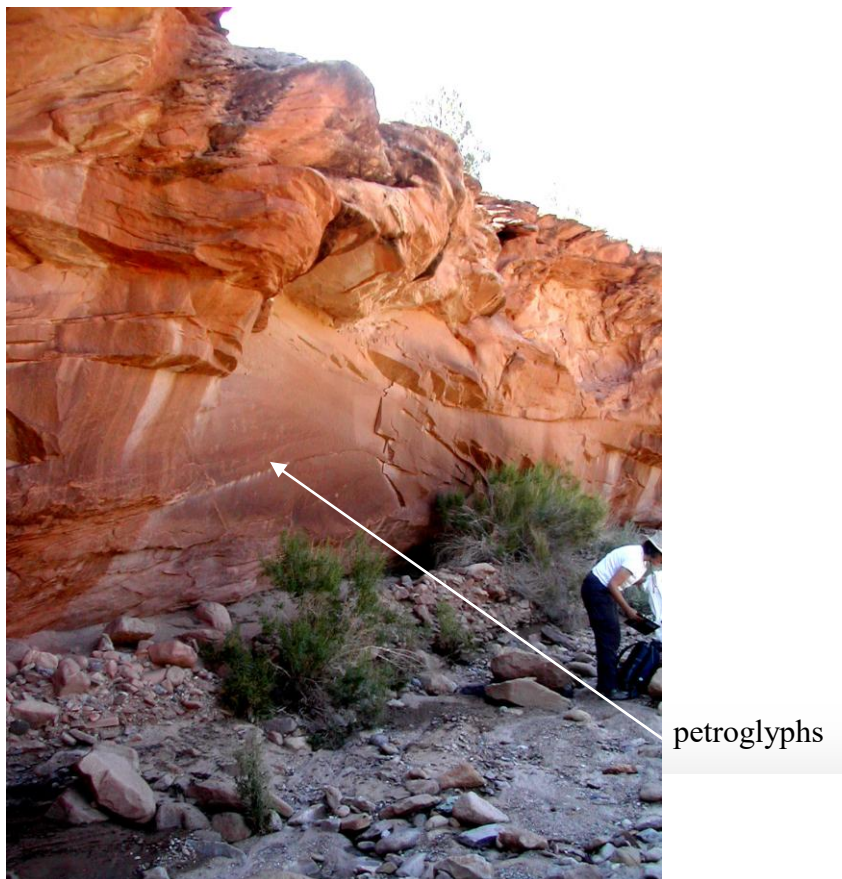


Figure 5.17. General view of the rock art panel at Site 3, 5DT1691, Palmer Gulch.

The location of the petroglyph is relatively high above eyelevel and may have been executed before the stream bed lowered the ground level from recent flash floods.

Site Plan and Section

The plan view of the site (Figure 5.18) shows a relatively straight cliff line as part of a much larger curved sandstone bluff. The petroglyph panel is about 1.5m above the bank of sediments at the base of the cliff.

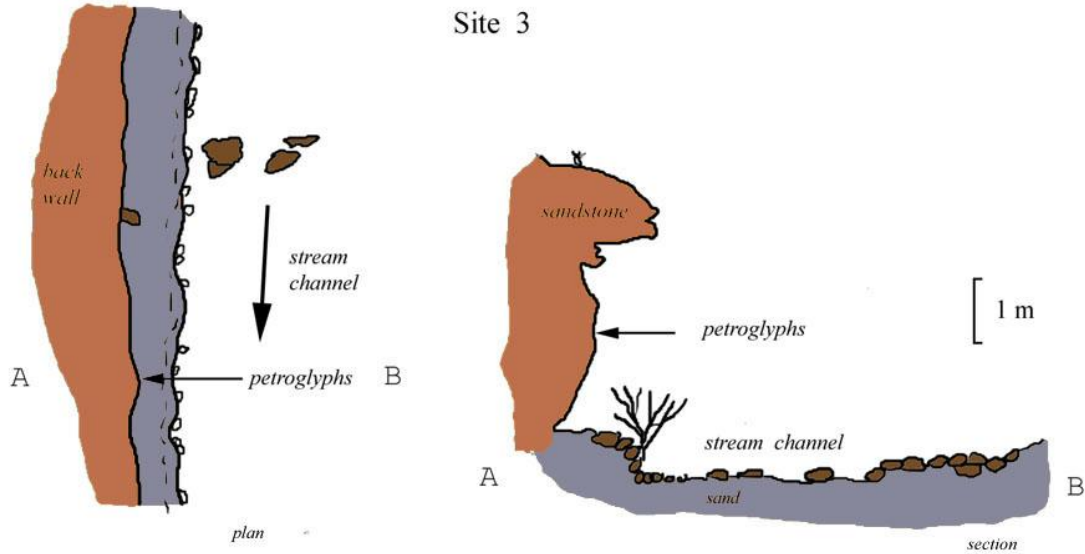


Figure 5.18. Plan and section drawings of Site 3 in Palmer Gulch

Petroglyph Description

Site 3 consists of a single panel with very expediently pecked motifs. The motifs are of stick figure humans of which two have shields, or are ‘shield figures’. (A stick figure with a circle pecked completely around it represents a person standing behind a shield). Three other stick figures are in various postures of walking in different directions, or ‘bracing’ for some kind of encounter. Other motifs are hard to identify due to the technique of lightly pecking and the lack of a more substantial image (Figure 5.19 and 5.20).



Figure 5.19. Photograph of Site 3 5DT1691 without enhancement showing the expedient nature of this petroglyph panel.

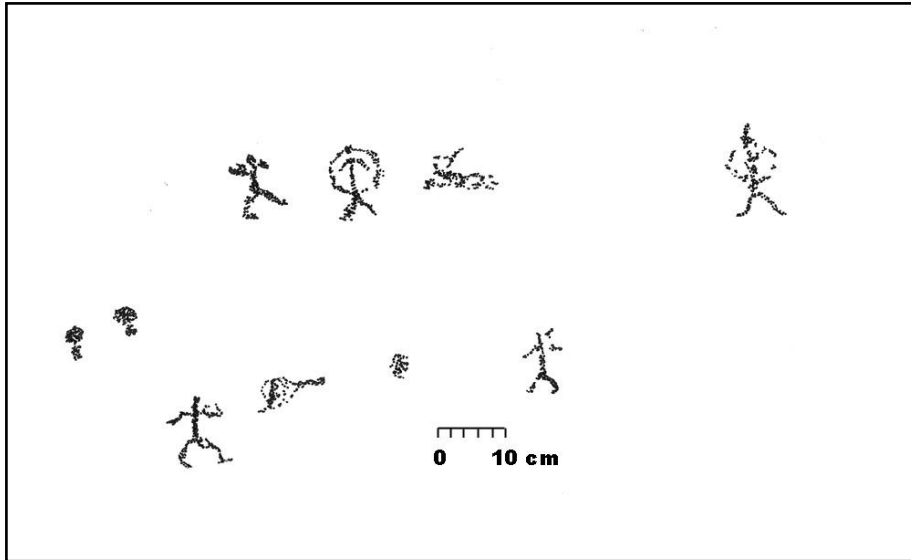


Figure 5.20. Site 3, 5DT1691 panel showing stick figures in various postures and two shield figures.

Interpretation

This panel is of a very expedient nature and technique. It seems to represent important information that needed to be conveyed in a hurry. It does not have any mythic iconography to suggest ceremony or religious themes. The body gestures of the stick figures suggest aggression and apprehension. The shield figures indicate conflict and perhaps warfare is the general theme of this panel.

Age Estimation

The petroglyphs have minor repatination and are not ancient. They belong to the Historic Era, even though depictions of horses are not present which would place it unequivocally within this era. The expedient nature of the pecking is characteristic of many late Historic Ute panels found throughout the Plateau.

Condition

Except for a small area of spalling the sandstone is in stable condition, and the petroglyphs are in good condition. Some dust and minor mud wash are affecting the surface.

Conservation

The stable rock surface condition and the lack of degradation agents are preserving the petroglyphs from deteriorating. A shallow overhang of sandstone also protects the petroglyphs from direct impact of rain and water wash.

Management

The petroglyphs are clearly visible from the opposite side of the drainage. The site needs little management action except monitoring. No signs should be used to indicate the cultural heritage artifacts on the rock face.

Palmer Gulch Site 4

General Description

This site (5DT1692) is located at the base of a low sandstone cliff (Figure 5.21). Massive cross beds exist in the sandstone, typical of the Entrada Formation. The weathered petroglyphs emerge from the sand at the base of the cliff and reach a few tens of centimeters above the ground. The drainage is not close to the site and erosion of the base of the cliff is not a problem. Sand appears to be accumulating against the cliff face.



Figure 5.21. Photograph of C. Patterson recording the petroglyphs and the view of Site 4.

Plan and Profile

The petroglyph panel is located at the base of a relatively straight cliff of sandstone (Figure 5.21). A narrow ledge of rock forms an overhanging ceiling from which water flows and drips onto the underlying sand.

This site is newly discovered and although archaeologists have surveyed the lithic scatter near and around the point, 5DT52 to the northeast of this panel. The petroglyphs were never documented in the reports. Figure 5.22 is the plan and profile of this site.

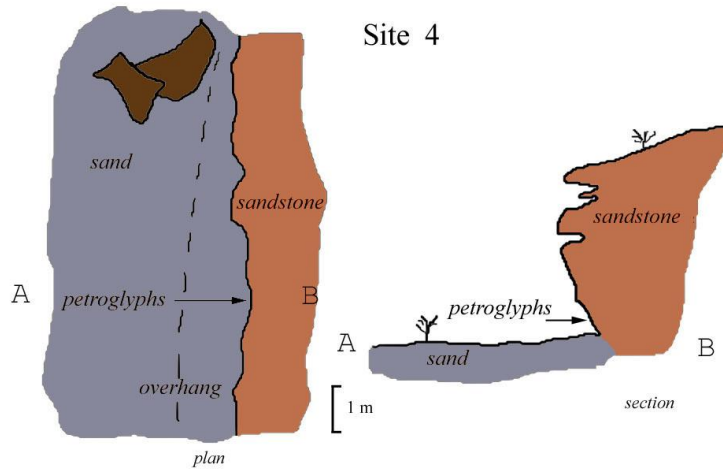


Figure 5.22. Plan and section drawings of Site 4.

Panel Description

The petroglyph panel is located at the base of a relatively straight cliff of sandstone. A narrow ledge of rock forms an overhanging ceiling from which water flows and drips onto the underlying sand.

This panel is very hard to see and was apparently not observed by archaeologists who surveyed this area and recorded 5DT52 to the northeast of this panel. Site 4 contains archaic animals above the soil line and other petroglyphs may exist below the sand. This panel, although partly protected by sand, is very weathered and some of the elements have completely eroded (Figure 5.23).



Figure 5.23 Photograph of the partially buried panel at Site 4.



Figure 5.24. Photograph of the petroglyph panel at Site 4.

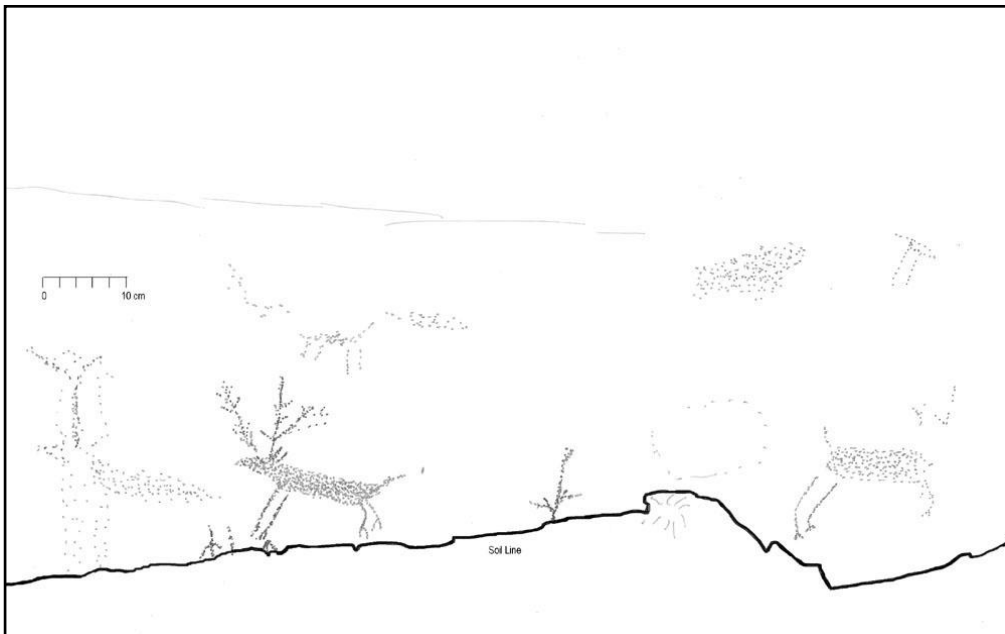


Figure 5.25. Drawing of the petroglyphs on the panel at Site 4.

Panel Description

This panel is extremely interesting in that it depicts archaic animals and it is obvious that there are more buried below the soil line. They are so weathered and the patina has obscured the contrast leaving them very difficult to see.

Interpretation

The Archaic Era is not accessible for interpretation based on available ethnographic information. The animals face to the left and to the right. These images are very different from any of the Numic Formative or Proto-Historic style motifs. They are rare and certainly deserve more study.

Age Estimation

The depth of this panel below the sand level is unknown and excavation will be required to determine the full extent of the petroglyphs. Dating of the sand could be done using Optical Stimulated Luminescence to determine when the lowest petroglyph elements were covered. Based on the style of the pecking they belong to the Archaic Era.

Condition

The petroglyphs are strongly weathered and difficult to discern. Granular disintegration of the sandstone from salt crystallization near the contact between sand and rock is one of the major causes of the degradation. Water wash and spalling are two other physical deterioration factors leading to loss of the petroglyphs.

Conservation

Little direct conservation action can be done to preserve the petroglyphs. The advanced state of weathering precludes any actions which might preserve them in better condition. Figure 5.26 shows the location of looting activity in the past.



Figure 5.26. Photograph showing the looted site to the right of the panel.

Management

As the petroglyphs are difficult to see, their preservation is reasonably secure. Monitoring should be done to maintain control over the rate of deterioration and to determine whether artifact hunting in the sand has taken place.

Palmer Gulch Site 5

General Description

This site of petroglyphs (5DT1693) is located on an almost vertical cliff face that stretches for tens of metres on the south side of the Palmer Gulch drainage. Three panels of petroglyphs are located at the base of a high cliff, on a surface which has been heavily varnished by a natural accumulation of iron and manganese oxides (Figure 5.27). The surface became exposed when a large section of roof and back wall collapsed leaving massive angular blocks on the foot slope about 8-10m from the base of the cliff. The drainage is not close to the site and therefore erosion and undercutting is not a problem. Sand has accumulated behind the fallen blocks in a colluvial deposit against the cliff.



Panel location

Figure 5.27. General view showing the locations of petroglyphs in a panel at the base of a high sandstone cliff, Site 5. 5DT1693.

Plan and Profile

As the photograph above shows the panel of petroglyphs is located along a linear portion of dark cliff on the south side of the Palmer Gulch drainage. A plan drawing was not made because of the edge of the cliff is essentially straight and there are no substantial overhanging ledges (Figure 5.28). For ease of description the large surface area of petroglyphs has been divided into three smaller panels (A, B and C), and each one is illustrated separately.

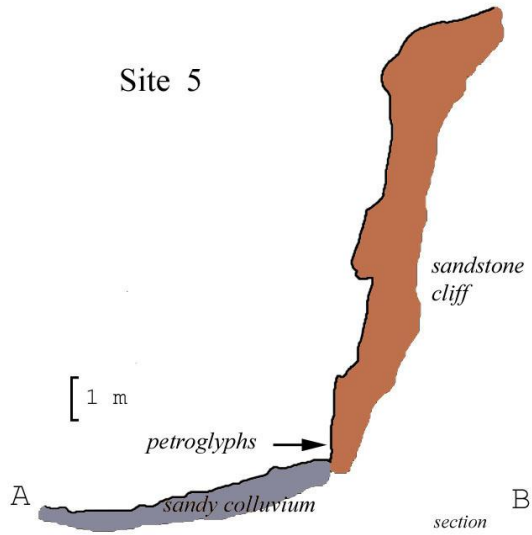


Figure 5.28. Section drawing through Site 5, showing the location of the petroglyphs at the base of a high sandstone cliff.

Figure 5.29 is a diagram of each section of the panel to break it up into manageable areas for analysis.

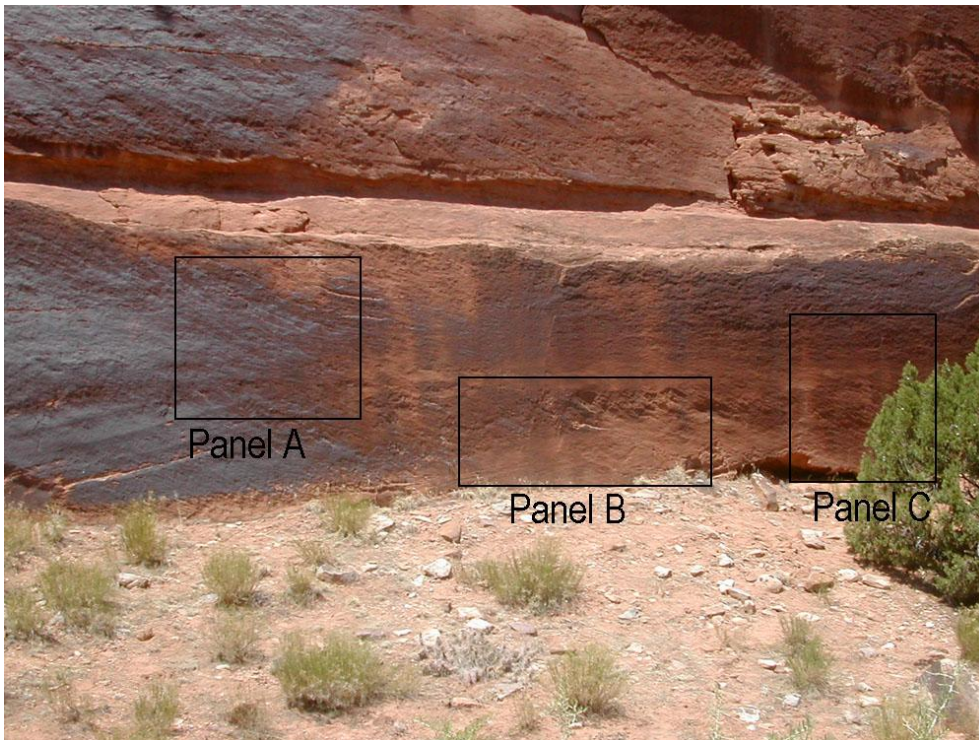


Figure 5.29 Photograph showing the locations of panel A, B, and C at Site 5.

Panel A



Figure 5.30. Photograph and drawing of Panel A of Site 5, showing the recently pecked figure of a human and a remnant of an unidentified Archaic motif below (near the colored scale).

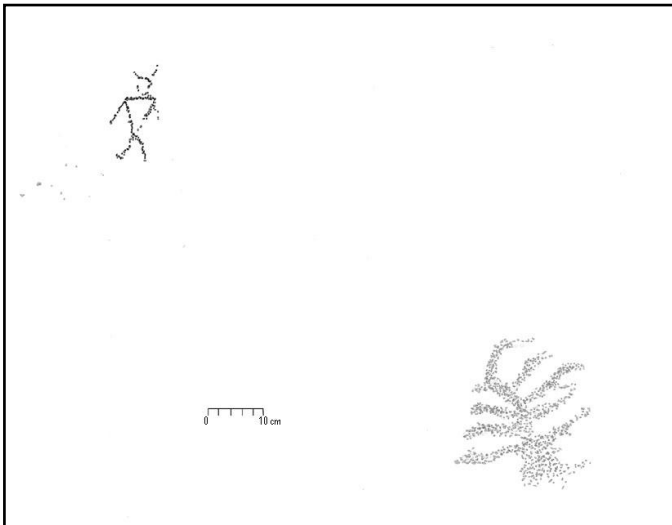


Figure 5.31. A drawing of Panel A.

Panel A Description

This section, Panel A, is heavily patinated and the engraving of the little triangle shaped anthropomorph at the upper left-hand corner is very bright in contrast (Figure 5.31). It is very recent and of the Historic era. It may be either Indian or cowboy in origin. The lower left has a completely patinated over image of a fern or tree-like motif. It may be remnant of antlers of a large animal. The rock face is too weathered and patinated to reveal any more petroglyphs in that area.



Figure 5.32. Photograph of Panel B near the ground level with depictions of animals considered to belong to the Archaic Era.

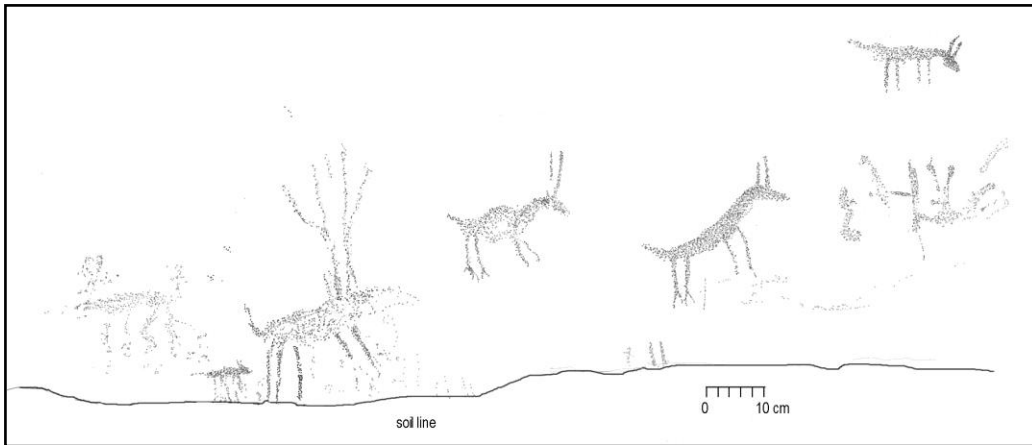


Figure 5.33. Drawing of Panel B showing the animals characteristic of the Archaic Era.

Petroglyph B Description

This area, Panel B, contains many animals of the Archaic Era with branching horns, long tapered legs and cloven feet. They emerge from the soil line and it is believed that more exist below the surface. The motifs include a possible canine near the top (Figure 5.33).



Figure 5.34. Photograph of Panel C on the right side of the cliff face.

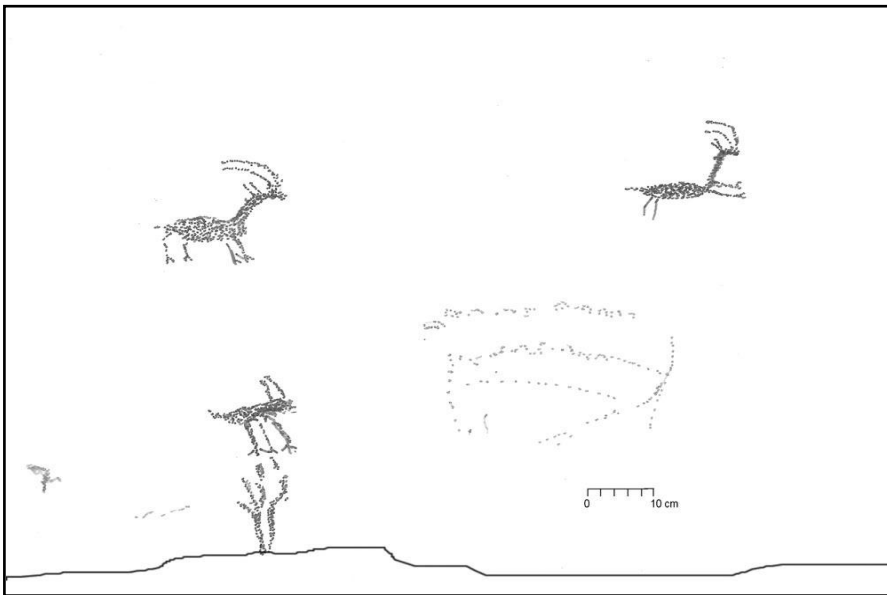


Figure 5.35. Drawing of Panel C on the right side of the cliff face.

Panel C Description

This section, Panel C, contains some very old glyphs near the bottom. They are of the Archaic Era and all that remains are the large branching antlers of an animal that has weathered off. At the top are two more recent quadrupeds of the Formative Era that display the typical stubby legs and rounded body of this period. Remnants of a possible bear paw can be seen in certain lighting condition (Figure 5.34, 5.35).

Condition

The base of the cliff and the cliff itself are structurally stable. Rock varnish has formed on the surface and almost completely covers the panel indicating a time depth for accumulation of

several thousand years. Some petroglyphs have been varnished by the remobilization of iron and manganese oxides from the rocks higher up the cliff. Minor spalling has taken place, but generally the petroglyphs are in a stable condition.

Interpretation

The animals of the Archaic Era are not accessible for interpretation. The later, quadrupeds of the Formative Era are perhaps meaningful to the Numic tradition. The two quadrupeds of this period exhibit different body postures and leg positions that may convey meaning.

Age Estimation

Apart from one figure which has been incised in the Historic Period, the other figures are probably late Archaic and Formative in age based on their degree of patination and accumulation of rock varnish. Those lower to the bottom are older, than the two quadrupeds high up on the panel.

Conservation

Little conservation action is necessary because the petroglyphs are in a stable condition.

Management

Site monitoring for vandalism is essentially all that is necessary.

Palmer Gulch Site 6

Site Description

This prominent site (5DT1694) is located up a side canyon that branches off from Palmer Gulch, approximately 3.5km from the Gunnison River. It is at the base of a 13m high sandstone cliff near a narrow portion of the valley (Figure 5.36). The cliff is more than 50m long, strikes 340° and faces west. The petroglyph panels are located along the southern end near the gap where the intermittent stream in Palmer Gulch has cut down through the cliff. Petroglyphs have been pecked into the sandstone at a height averaging 1.1m above the floor. The sandy floor of the shelter is more than 4m above the level of the stream and a talus slope has built up about 3m from the cliff base (Figures 5.36-37).



Panels 3 through 9

Figure 5.36. View of Site 6, 5DT1694, from the west.



Figure 5.37. General view from the south of Site 6 showing Panels 1 and 2, the talus slope, sandy floor, and vertical cliff profile.

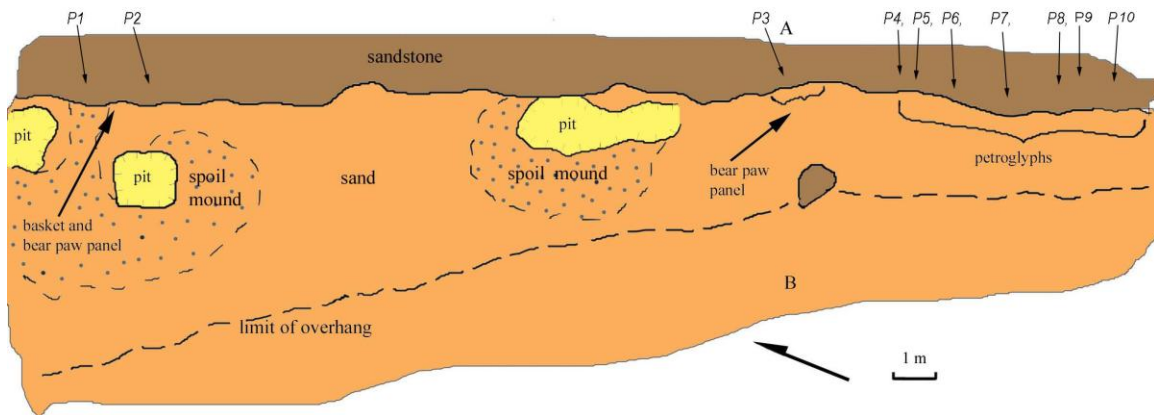


Figure 5.38. Plan drawing of Site 6 showing the three main areas of petroglyphs; Panels 1 and 2 at the northern end, the isolated Panel 3, and Panels 4 through 10 at the southern end. The plan also shows the illegal artifact looting pits.

Three artifact-hunting pits have been excavated illegally into the sandy floor of the shelter to depths of 40cm, and each is surrounded by low spoil mounds.

A definitive drip-line does not exist at any of the sites and after rain has fallen muddy water washes directly down the cliff and across the petroglyphs. Streaks and layers of mud have therefore developed across most of the panels making many of the petroglyphs difficult to discern clearly. Figure 5.39 is a photograph of the angle of the cliff face and a section drawing of the site.

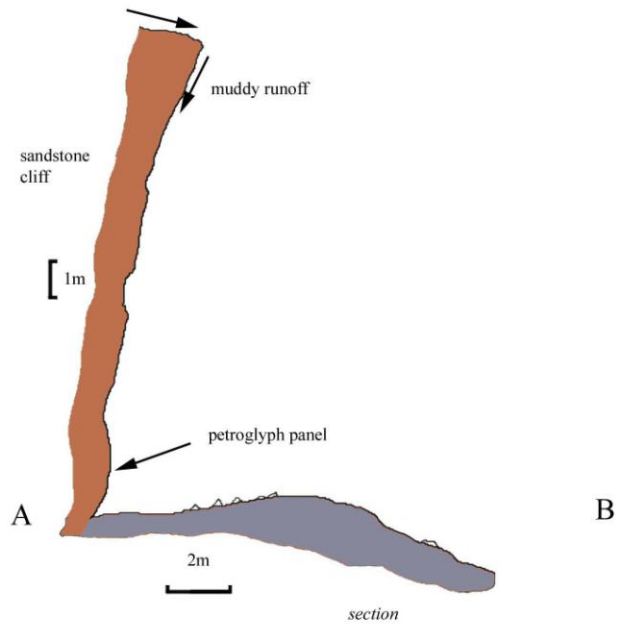


Figure 5.39. Photograph and section drawing through petroglyph Panel 3, Site 6 showing the location of the petroglyphs in relation to the height and geometry of the sandstone cliff.

Palmer Gulch Site 6, Panel 1

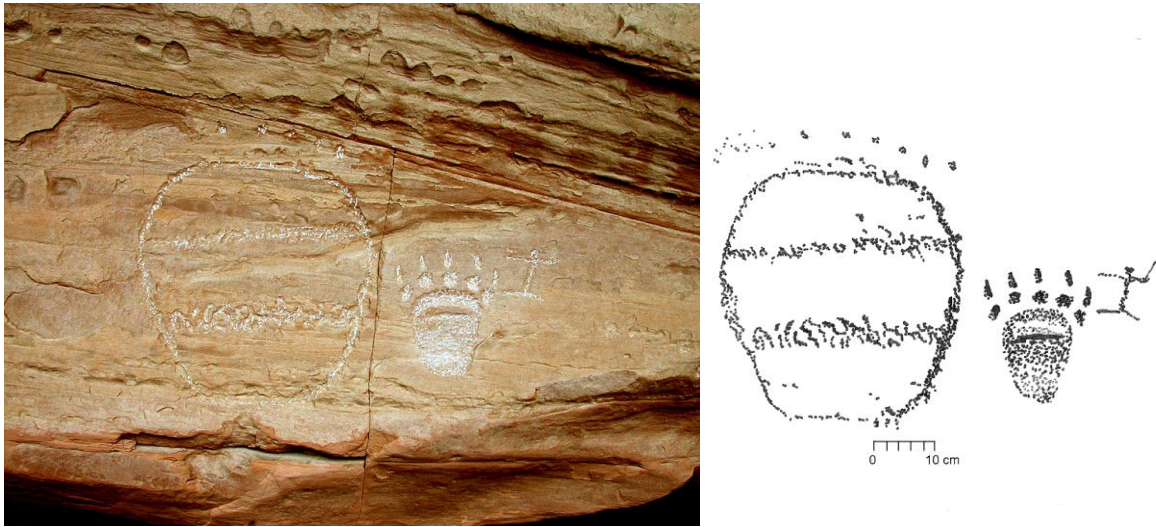


Figure 5.40. Photograph of Panel 1 showing evidence of chalking to enhance the motif, and a drawing of the markings.

General Description

Panel 1 is located at the northern end of the site, near Panel 2 and these are separated and isolated from the rest of the panels. This panel looks as if it were made in the recent past. It has very little weathering and retains details of the technique employed to create the curvy lines and sharp claws of the bear paw track. The markings have been previously chalked to add contrast and highlight the margins. The largest motif is a representation of a basket, with bands of a woven design across the front. The bear paw track very realistic with curved and pointed nails, round toes and rounded foot print. In contrast is the abstracted human stick figure.

Interpretation

The detail of the „weaving“ is evident in this panel. The basket and bear claw motifs are consistent with the theme of the Ute Bear Dance. The Utes trade for large baskets from the Paiutes to use for the Bear Dance, especially the „wedding“ baskets that were of this design (Duncan personal conversation 6/2006). The use of the basket as a musical instrument or resonator in the Bear Dance is referred to in the literature. Opler writes that it was bear who in the first instance told the Ute in a dream how to make the music by scraping the stick with one end over the basket, using the bone scraper. The ankle bone of any animal was used in rubbing over the notches and a deep hole covered with a basket, upside-down, was used as a resonator. The basket of twined ware is about two feet in diameter (Opler 1941:26).

Clifford Duncan looked at this panel and said that this large basket is “full” whereas a similar motif on Panel 3 is not. He sang a song and then commented moving his hand as he said, “it is round (moving clockwise) this way, like a water container, cut in half like a basket and bear paw” (Duncan 6/2006).

Condition

This petroglyph is in very stable condition. It is exposed to weathering and not protected by natural rock overhang. Someone has chalked the markings.

Age Estimation

This petroglyph is Proto-Historic to Historic in style and motif identification. The crisp lines of the engravings are young in age and have not weathered on the exposed cliff face.

Conservation

The chalk could be removed to dissuade other people from modifying or adding chalk to the other petroglyphs at this site.

Management

This panel is at eye level and is very photogenic. It should be included in part of a broader management plan that includes a stewardship program and educational pamphlets, and uses interpretive signage to prevent chalking.

Palmer Gulch Site 6, Panel 2



Figure 5.41. Photograph of Panel 2, Site 6.

General Description

This panel is located high on the cliff face and is difficult to see at first. It consists of a pecked meandering line with evenly spaced dots above it. Mud and water wash have flowed down the right side.

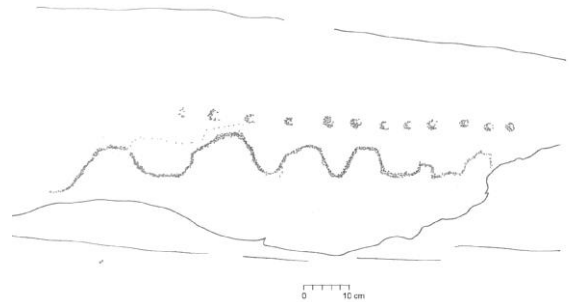


Figure 5.42. Digitally enhanced photograph showing the peckings, and the accompanying drawing of the motifs on Panel 1.

Panel Description

This panel is very difficult to see, since most of the motif has nearly weathered away on the soft sand-stone. It consists of a wavy line across the center and 12 visible dots across the top.

Interpretation

It is very difficult to interpret these abstract motifs that seem to be discontinuous in theme and style with the other panels at this site.

Age Estimation

This petroglyphs may be of the Late Formative to Proto Historic Era and has direct exposure to the elements resulting in extensive weathering and spalling.

Condition

The cliff is generally stable except for areas of spalling and erosion by undercutting through salt crystallization. Muddy water wash flows down the rock face during rain and some of these sediment trails cross petroglyphs and mask parts of their features. The panel itself is vulnerable to spalling as the lower portion has been breached by water. Patination of the markings is the result of direct exposure to weathering elements resulting in loss of sandstone through disintegration and spalling.

Conservation

The deposits of mud in trails across the side of the panel could be removed. Little action can be taken to prevent spalling of the panel.

Management

A sign could be placed below the panel to indicate that this area is a site of petroglyphs and that people should respect this cultural heritage.

Palmer Gulch Site 6, Panel 3



Figure 5.43. Photograph showing the isolated motif of Panel 3 separated from the other panels at Site 6.

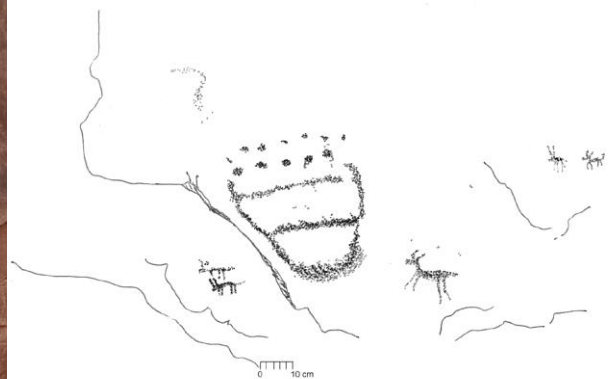


Figure 5.44 Photograph of Panel 3, and drawing of the rock markings of a bear paw and three quadrupeds.

Panel Description

This panel is about eye level and resembles both a bear paw and a basket. The U-shaped petroglyph is like a vessel with two lateral bars. It also has 5 dots like toes and smaller dots like toenail marks. To the left are two small quadrupeds, possibly canines, one on top of the other and to the right is a single quadruped. Up in the right are two small quadrupeds, one with erect ears and another with a curved tail like a canine.

Interpretation

The large motif is interpreted as a basket and bear paw incorporation that is associated with the Bear Dance. Clifford Duncan examined this motif and spoke about it being a vessel that held

water. The Bear Dance and bear motif are associated with rain and with the first sound of thunder in spring that brings rain. While examining this panel Clifford commented that “it holds something at different levels. This one is half full” (Duncan personal conversation 5/27/06).

Clifford Duncan made another comment that “They use to tip a basket over to use as a resonator, to make different sounds. They would use a hollow log. Now they use a box with tin over the top. But the flat baskets, like a wedding basket, were used. The White Mesa Paiute made baskets that were traded. The instruments for the bear dance were used for other ceremonies too. The bear dance then was not as big as it is today. But it is the oldest” (Duncan, personal conversation 7/28/06).

Condition

This panel is in very good condition, but there is a low probability of spalling. It has not been vandalized or chalked.

Age Estimation

The petroglyph seems to be of the Late Formative to Proto-Historic Era. The relative patination of the peckings compared to the surrounding rock indicates an antiquity consistent with at least the Proto-Historic Era. The quadrupeds are of a style found elsewhere in the Late Formative to Historic Era.

Conservation

As the panel is partly protected by the high rock overhang this panel is not in any danger or threats from the environment other than natural weathering, such as spalling. As the rate of spalling seems low the petroglyph panel is considered stable.

Management

The management strategy for this site should consider the stability of this panel, and little specific action is proposed except for describing the possible interpretive information.

Palmer Gulch Site 6, Panels 4 - 10

General Description

The long series of petroglyph panels that make up the southern end of the site seem related to each other and also incorporate the natural rock features. Figure 5.45 is a composite photograph made up of several overlapping photographs illustrating the complexity and uniqueness of the petroglyphs at this site. These panels were recorded as seven separate panels and then studied for interpretive purposes as one continuous unit or narration.



Figure 5.45. Composite photograph of Panels 4, 5, 6, 7, 8, 9 and 10.

Condition

The cliff is generally stable except for areas of spalling and erosion by undercutting through salt crystallization. Most petroglyphs are in good condition because few deterioration factors affect them. Muddy water wash flows down the rock face during rain and some of these sediment trails cross the petroglyphs and mask part of their features.

Age Estimation

The petroglyphs reflect the Late Formative Era in style and their patination is generally consistent with that age. The unique encirclement of natural rock depressions may indicate greater antiquity because there are deep pits that has formed over a long period of time. There is superimposition of less patinated Proto-Historic and Historic motifs over those of the Late Formative Era that provides supporting evidence for the relative ages estimations of each panel.

Palmer Gulch Site 6, Panel 4



Figure 5.46. Photograph and drawing of Panel 4 showing an anthropomorphic form within the curved contours of the rock face.

Panel Description

Panel 4 is unique with an anthropomorphic figure pecked into a dark varnished concavity on the rock surface. While anthropomorphic figures of this style are known in the area, this is the only one that has been placed within a curved natural rock feature. The figure has long flared fingers and possibly feet and toes that have weathered to the point of being difficult to discern.

Interpretation

This figure, along with others like it, is reminiscent of what is often referred to in the literature as the „little green man“ or dwarf spirit that lives in the rock cracks or bushes, and is very powerful. Medicine men draw upon the power of these dwarf spirits for healing ceremonies or to gain hunting success.

Examples of other sites with similar anthropomorphic figures are described in Chapter 6 of this report.

Age Estimation

The style of this motif fits into the Formative Era and possibly the late Archaic Era, but it is not revarnished like the surrounding surface and is therefore probably less than 2000 years old. The degree of patination reflects the protective natural environment of its location.

Conservation

The panel is naturally sheltered, and therefore, well protected. Under direct sunlight is difficult to see, and as it is not exposed to the elements, its condition is stable.

Management

This panel is included with the others in a broad management plan for the whole site. All the sites in the valley could be developed for tourism, but the limitations of a linear trail and the distance from a parking area and the river, may discourage all but the fittest of people from making the long hike and return. This site should be monitored for vandalism and new efforts made in a systematic way to unearth the archaeology.

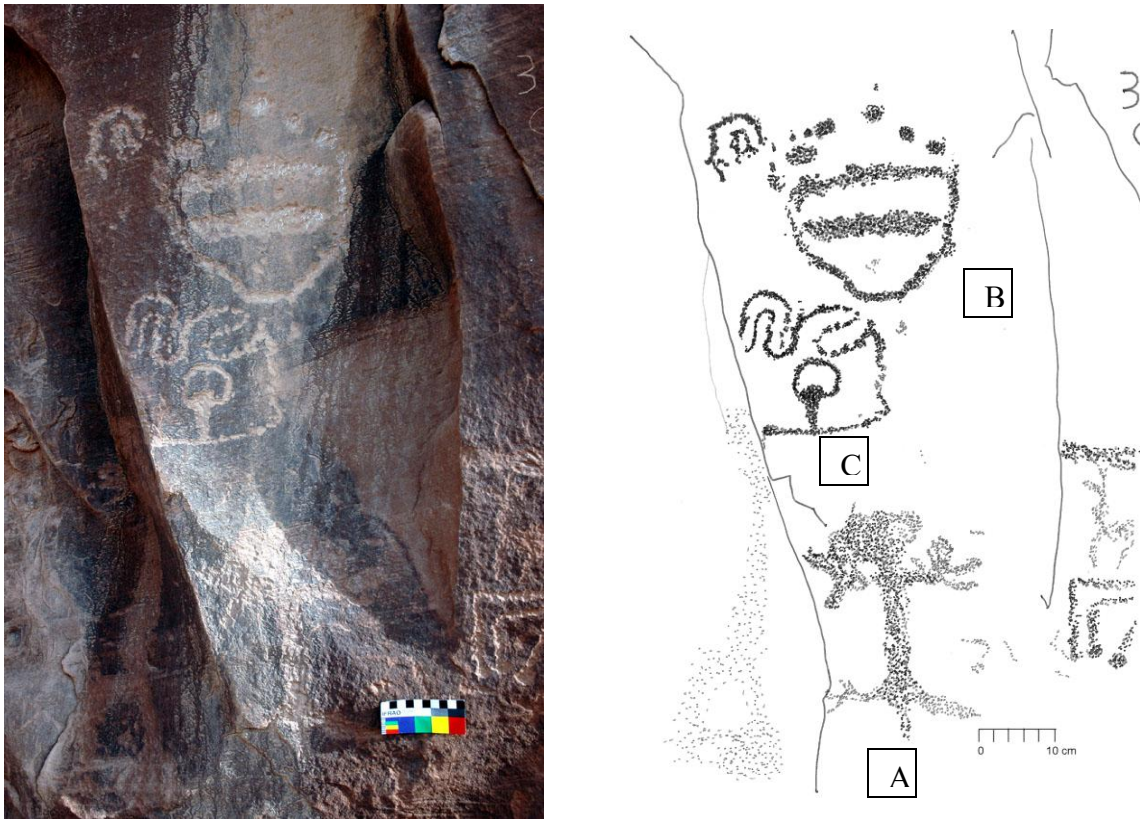
Palmer Gulch Site 6, Panel 5

Figure 5.47. Photograph and drawing of Panel 5 showing a bear paw/basket motif and several abstract motifs along with a weathered anthropomorphic figure.

Panel Description

This panel contains motifs of meandering lines and a basket/bear paw combination that are characteristic of the Uncompahgre Complex (Buckles 1971). A very weathered anthropomorph with flared fingers and toes can be made out in special lighting conditions. The panel appears to have several episodes of pecking, one very early and the other much later in time.

Interpretation

The basket and bear paw combination motifs are similar to other panels that probably represent an association with the Bear Dance ceremonies. The weathered anthropomorph may be associated with medicine and power as interpreted in the literature. The later curving lines may be associated with trails and locations of sites of importance.

Age Estimation

This panel has motifs of the Late Formative Era (A), consistent with other figures at the site of that age. Later motifs of the bear paw/basket are of the Proto-Historic Era (B). The curving lines

and other motifs are late, also Proto-Historic or Historic Era (C). See Figure 5.47, panel drawing with letters.

Condition

The panel shows signs of vandalism in the form of chalking and possible re-pecking to enhance the toes of the bear paw image. Water has flowed across the panel and deposited a muddy deposit down the surface. The presence of a dark rock varnish indicates a stable surface on which the petroglyphs have been made.

Conservation

The major problem affecting the panel is the flow of water down the rock face and the deposition of a muddy deposit. This intermittent flow could be redirected laterally above the petroglyphs. Redirecting the water is likely to affect the adjacent panels and so regular cleaning could be done to stop the accumulation and hardening of the sediment.

Palmer Gulch Site 6, Panel 6

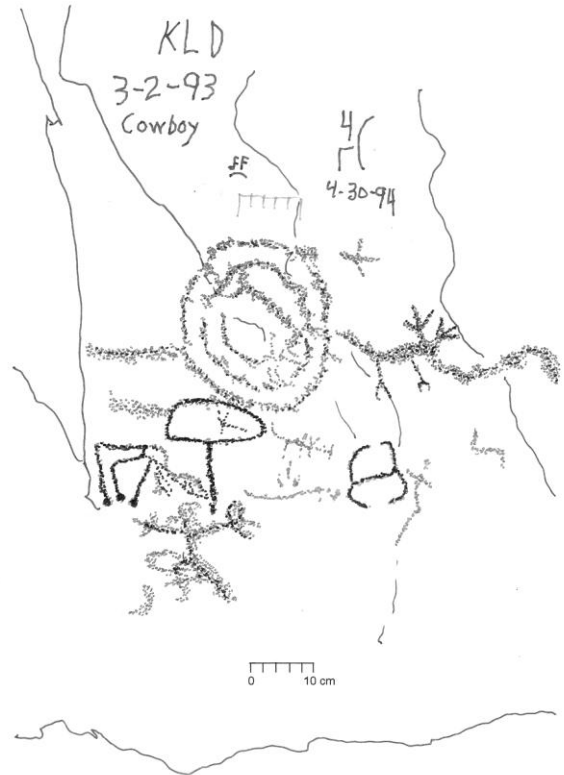
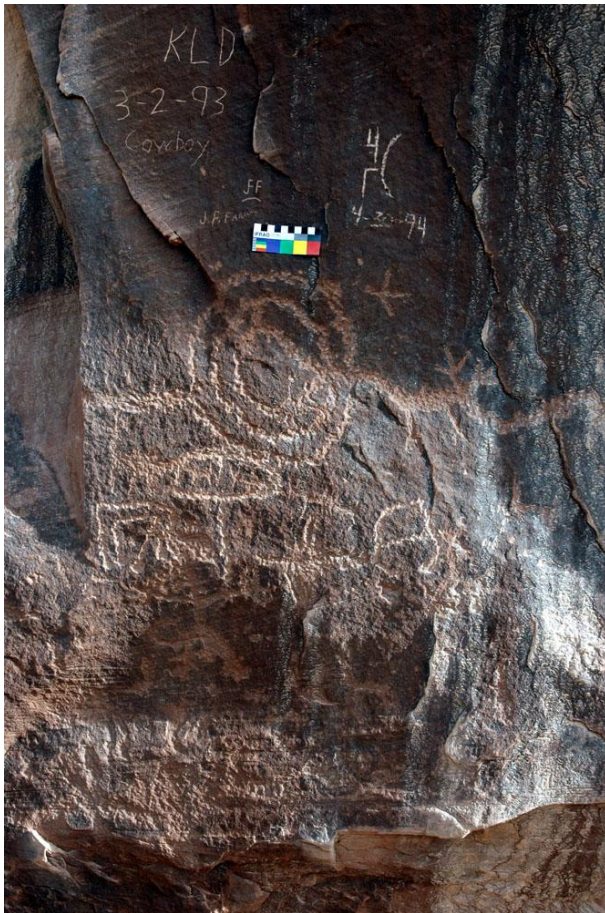


Figure 5.48. Photograph and drawing of Panel 6 showing a concentric circle and meandering line that incorporate rock features, and several animal and human motifs.

Panel Description

Three concentric circles form the dominant motif on Panel 6. A long meandering line bisects the outer ring of the concentric circle and leads off to the right, incorporating a hoofed quadruped. Bird tracks and other unidentifiable motifs accompany the main motif. Superimposed motifs of lighter patination may be of Ute origin. Several carved initials left by passing cowboys have been placed at the top of the panel.



Superimpositions

Figure 5.49. This photograph shows the areas of superimpositions on the panel.

Interpretation

The abstract motifs on this panel form part of the general theme across the cliff. The concentric circles bisected by a meandering line led Clifford Duncan to think they represented a ceremonial place or holding area along a path. He believed that this area was linked with healing ceremonies. Clifford said “Spirits live within the rock and come out from inside to tell you what’s happening. This site may be for vision quests in relation to the Bear Dance. In healing ceremonies one puts their hand down on the patient and circles to the left, counter clockwise until they feel something. When they do, they bring it out. They circle around and around to the right (clockwise) pulling out the sickness. People may have come here to cure sickness. A medicine man knows how to get power from a place like this” (Duncan 6/2006).

Age Estimation

The markings belong mostly to the Late Formative Era with some superimposition of elements characteristic of Proto-Historic or Historic Ute visitations.

Condition

The panel is stable considering the exposed situation and the presence of recent graffiti. Expansion and contraction of the sandstone through heating and cooling cycles is likely to increase the chances that the surface will spall.

Conservation

Little conservation action is necessary because the petroglyphs are remarkably stable.

Palmer Gulch Site 6, Panel 7

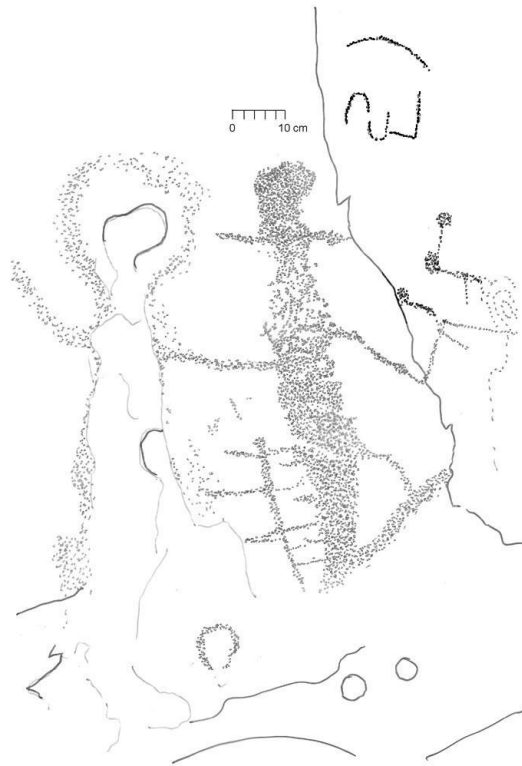
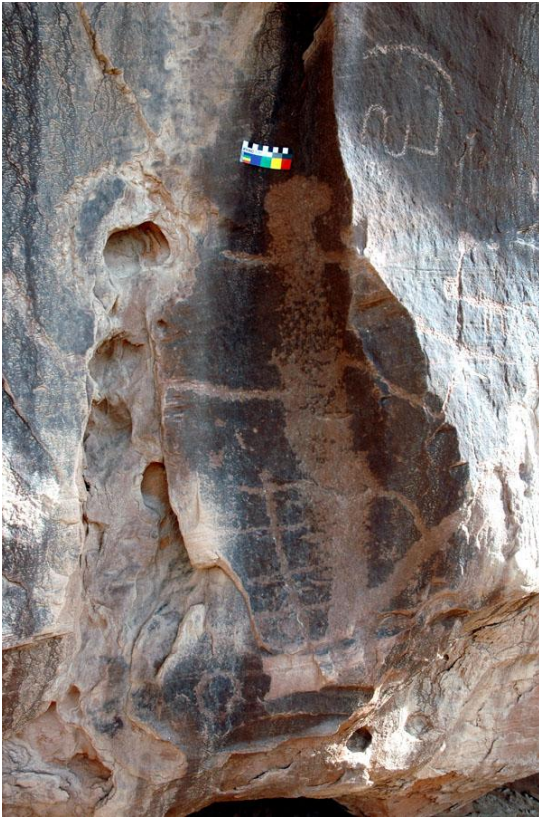


Figure 5.50. Photograph and drawing of Panel 7 showing an anthropomorphic figure that has been pecked around a series of vertically oriented pits in a concavity within the cliff, and an adjacent unidentified motif.

Panel Description

Panel 7 occurs as another concave rock feature containing an imprecisely pecked anthropomorphic figure. It is bisected by horizontal lines. The natural holes have also been pecked around and a meandering line goes from the central figure out to the weathered hole and around it, on to the next panel. The bisecting line leaving the central figure continues to the right into the next panel.

Interpretation

It is difficult to make an interpretation of such an abstract motif. Clifford Duncan became quite animated with this panel. He said, “some symbols might be sickness that is stuck in the body. The pain sticks in a person. This body has things sticking out. Ninety percent [of healing power] is how you think of Spirit and if you allow it to help you, it will work on you. People come here if they don’t feel good, and sit inside like this.” Clifford then sat inside the rock feature and filled the concavity in the same way that this motif is contained by the hollow. He then said, “Healing comes from the rock itself. The sick part will come out through these lines. Like the scarred trees (culturally scarred Ponderosas). The medicine man would tie a sick patient with their back against the skinned area of the tree. The tree is doctoring the person. They are connected to that tree and the power of the tree will make them well” (Duncan 6/2006).

Age Estimation

The degree of weathering and patination indicates that the petroglyphs probably belong to the Late Formative Era.

Condition

The panel has a major degradation problem associated with water flow down the rock and through the pits. Weathering by this process has been long and slow because the pecked area around the depressions has not been deeply eroded. The right hand side of the panel shows great stability because of the formation of dark rock varnish. Whereas some water has flowed across that surface the petroglyph is relatively unaffected by salts and sediments.

Conservation

Controlling the water flow across the rock face presents the greatest challenge because ideally it should be redirected, but in that process the stream would affect adjacent panels.

Palmer Gulch Site 6, Panel 8

Figure 5.51. Photograph of Panels 8 and 9 that are connected.

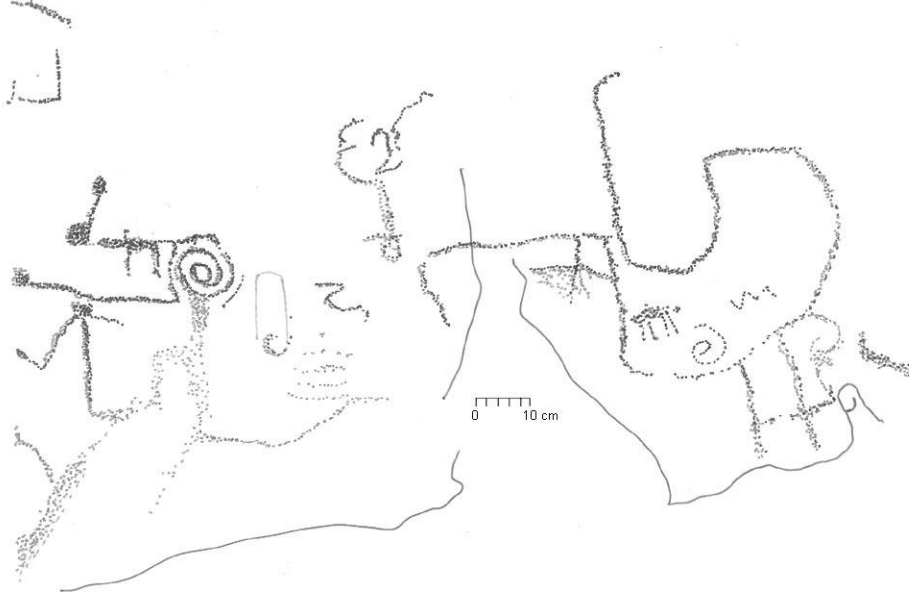


Figure 5.52. Drawing of Panels 8 (left) and 9 (right) showing the meandering line that connects the two.

General Description

Panel 8 and Panel 9 are only arbitrary divisions. This panel is a complicated display of lines, spirals, quadrupeds, graffiti, and meandering lines divided only by a deeply eroded crevasse down the center. See Figure 5.51 and 5.52.

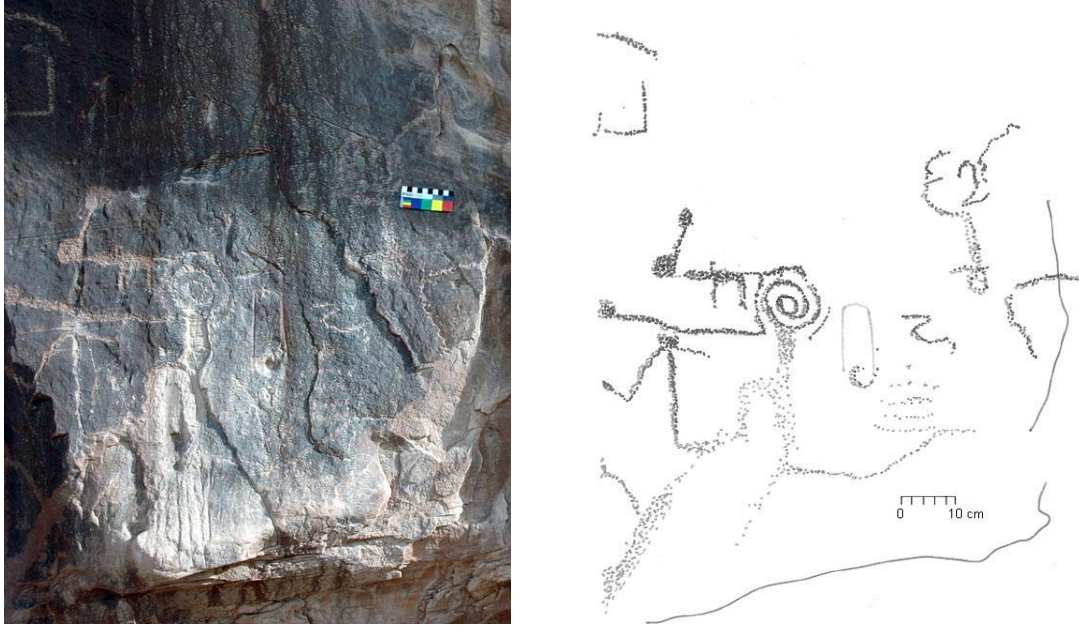


Figure 5.53. Photograph and drawing of Panel 8, which has been separated from Panel 9 by using as a demarcation an area of water erosion.

Petroglyph Description

Panel 8 is composed of older motifs that have weathered quite a bit that include a spiral and abstract lines terminating in large dots. The weathered-out sandstone depressions seem to be enhanced by pecking and the framing by meandering lines that encircle them. A quadruped has been pecked into a line incorporated with a spiral.

Interpretation

The central motif is a spiral that turns inward clockwise; a feature that is consistent with Numic tradition in moving from left to right or „sun-wise“ as discussed in Chapter 6. Clifford Duncan interpreted this panel as part of the healing ceremony using a clockwise motion gesture with his hands as he discussed it as a healing motif.

Age Estimation

The style of motifs is consistent with the Late Formative Eras. The incorporation of a quadruped within a thick line and a line connecting two large dots are more recent and probably belong in the Proto-Historic Era.

Condition

The panel is deteriorating near the bottom where water erosion and spalling are causing erosion. The upper portion is slightly better protected as indicated by the formation of dark rock varnish on the stable surfaces

Conservation

The main problem is water erosion and redirecting the water flow should be considered.

Palmer Gulch Site 6, Panel 9

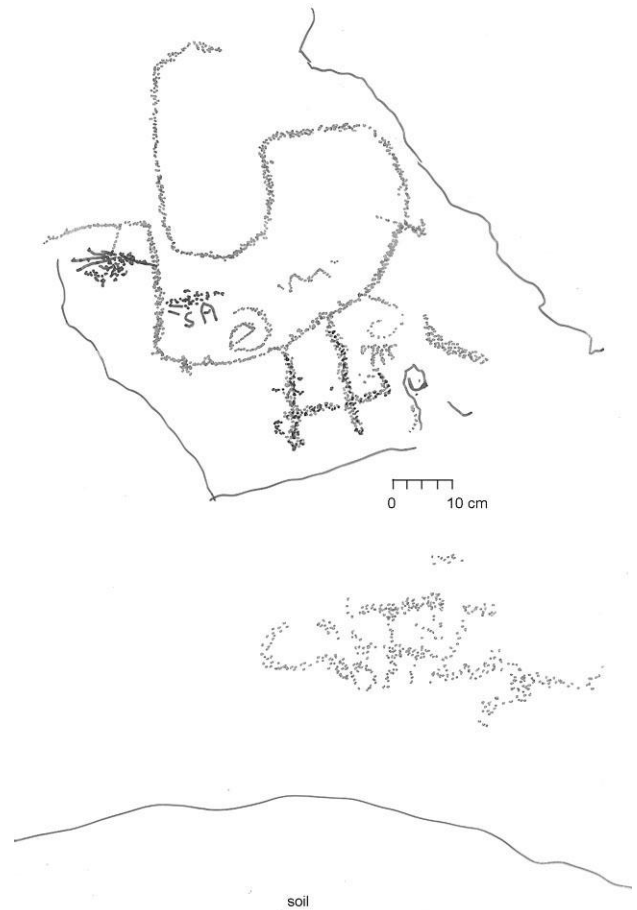


Figure 5.54. Photograph and drawing of Panel 9.

Panel Description

This panel is best described as a line that proceeds around the panel and back to the point of origin, resembling an incomplete bird-like figure. Three short curling lines and graffiti in the form of the letters „S A“ that have been added recently.

Interpretation

The meandering line is associated with a “pathway” or “trail”. It is difficult to interpret this panel in isolation from the other abstract motifs at the site.

Age Estimation

The style is similar to the previous panels and falls within the Late Formative Era. The superimposition motifs are Historic.

Condition

The panel is in sound condition except for the potential for spalling and the presence of the two recent letters.

Conservation

The two recent letters could be masked by intoning to obscure the light patination.

Management

Monitoring the panel to determine whether new graffiti has been added is essential so that further damage is controlled.

Palmer Gulch Site 6, Panel 10

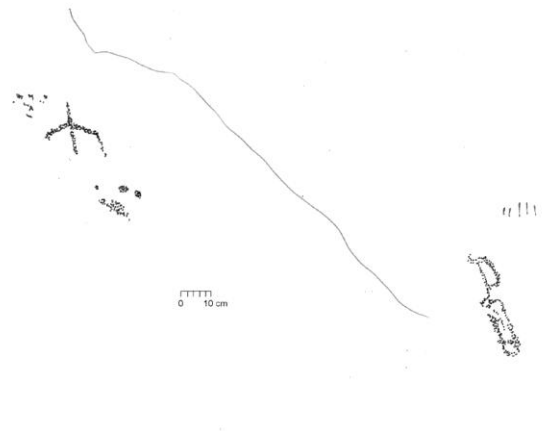


Figure 5.55. Photograph and drawing of Panel 10.

Panel Discussion

Panel 10 is a simple series of dots that surround an abstract inverted trident motif. At the right side are some indistinguishable peckings.

Interpretation

This abstract panel is difficult to interpret without more ethnographic data.

Age Estimation

This panel is similar to previous panels and belongs to the Formative or Proto-Historic Eras.

Condition

The petroglyphs have been placed on the most stable part of the surface where dark rock varnish has formed. The surrounding areas are strongly weathered because of water erosion.

Conservation

Little conservation action can be done except to monitor the spread of the degraded area on the sides of the petroglyphs. Controlling water is a major issue on this panel as it is on other panels at this site.

Management

Monitoring the degradation of the panel and consideration of the placement of an artificial dripline across this and other panels could be listed as possible actions.

Chapter 6 Rock Art Comparisons and Analysis

Leonards Basin

Creating a chronology for the Uncompahgre Plateau rock art is a complex process involving direct dating when possible and by making stylistic comparisons with motifs that have specific cultural associations that belong to known archaeological time periods. The methods used for estimating the age for the petroglyphs in Leonards Basin involve close observation of their exposure to weathering and sun. The degree of patination combined with the stylistic characteristics can be used to confidently place the petroglyphs within a cultural chronology. As a result of this assessment the Leonards Basin petroglyphs have consistent age estimations of late A.D.1700s to early 1900s. One panel (5DT64, Site 1 panel 4) has late Historic superimposition motifs over an archaic deer motif.

Previous studies in adjacent areas include the Uncompahgre Plateau by Buckles (1971) and the Colorado Plateau, in general, by Cole (1987). For this study, only the Late Archaic (with the Uncompahgre Complex), and the Ute Proto-historic and Historic Eras are represented in Leonards Basin. Both sites have examples of what Buckles (1971) determines is „Early“ (A.D.1640 until A.D 1830) and „Late“ (A.D.1830 to A.D.1880) Historic eras. For the two sites in Leonards Basin the following Table 6.1 shows the basic chronology and estimated age associations.


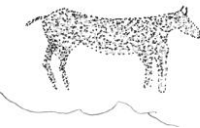

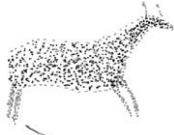





Site Number	Archaic-Formative	Proto-historic	Historic
5DT64			
			
5DT68			
			
			

Table 6.1. Chronology of Sites 5DT64 and 5DT68 rock art panels.

For Palmer Gulch, six sites with 15 panels the following Table 6.2 gives a description of the panels and where they fit into the chronology. The methods used for estimating the age for the petroglyphs in Palmer Gulch involve close observation of their exposure to weathering and sun. The degree of patination combined with the stylistic characteristics can be used to confidently place the petroglyphs within a cultural chronology. As a result of this assessment the Palmer Gulch petroglyphs have age estimations that span the whole sequence from Late Archaic to the early 1900s. The panel at site 3 (5DT1691) has only historic motifs.

Site Number	Archaic	Formative	Historic
5DT53 Site 1	Animals „deer“	Tree, quadruped, wavy line	
5DT1690 Site 2		Bear paws, stick anthropomorph quadrupeds	Bear paws
5DT1691 Site 3			Shield and stick figures
5DT1692 Site 4	Animals, „deer“		
5DT1693 Site 5	Animals, „deer“	Horned quadrupeds	
5DT1694 Site 6		Spirals, concentric circles, wavy lines anthropomorphs, canine, quadrupeds	Basket, bear paws

Table 6.2. Chronology of 6 Sites in Palmer Gulch.

Motif Identification in Leonards Basin

In the instances of questionable identification of a motif, inverted comas are used to indicate that it is a suggested identification. The motifs identified at these sites include mounted riders, one and two horned quadrupeds, „rabbits“, circular designs, partial animal and humans, and an archaic „deer“ motif. The remnant paint areas are thought to be partial horse motifs. The scratched motifs are of tepees, horse heads, a train engine and one opulent squatting female figure.

The panels of the late Historic Era have elements of the „biographical“ style that flourished on the Plains between A.D.1750 and 1900. This style is familiar in other media including ledger books for recording war honors 1830s to the 1860s. The biographical style is picture-writing that was studied extensively by Garrick Mallery in 1881. He included petroglyphs and pictographs from all over the Americas as part of this biographical/picture-writing tradition. Table 6.3 shows the easily recognizable motifs at both sites.


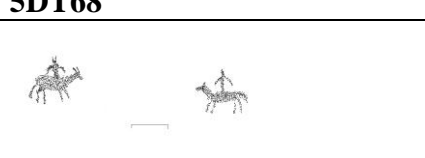
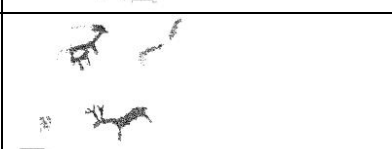


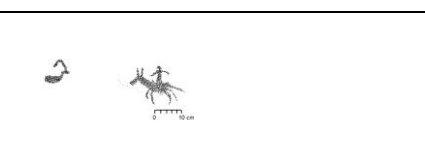


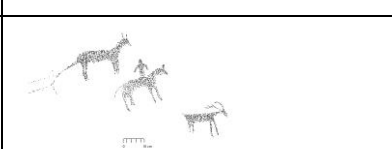

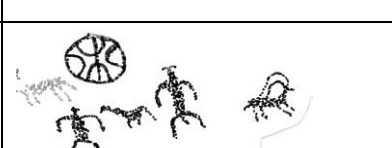

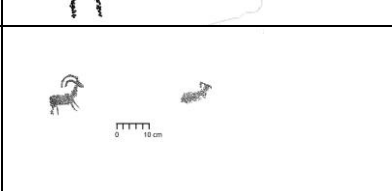
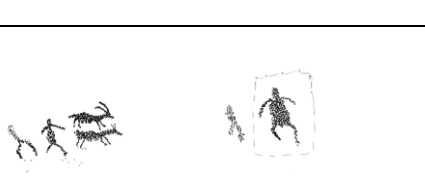
Site	5DT64	5DT68
Horse and riders		
Quadrupeds		
Horses and quadrupeds		
Rabbits		
Quadrupeds and horse rider or human		
2 humans and 2 quadrupeds		
Two quadrupeds and humans From 5DT64 only		

Table 6.3 showing distinctive patterns in the grouping of men and animals at sites 5DT64 and 5DT68.

Table 6.3 compares the organizational patterns of animal and human forms at the two sites. Each panel was probably comprehensible to a Ute fluent in picture writing of that time period. To an outside observer, patterns appear that show definite relationships between animals and riders, or specific sequences composed of either one animal and two men, or two animals and one man, or two animals and two men, as shown in this table. The quadrupeds seem to be interacting with the humans as subordinate actors in a narrative display.

Horses and Riders

Leonards Basin, Site 1, 5DT64 has a number of horses and horse riders depicted. The following table (Table 6.4) compares all of these horse motifs. Oddly enough, they all face to the right. I could find no exceptions at Site 1. In a study by Candice Green (2000) of Cheyenne ledger drawings depicting horse riders, a high percentage are facing to the viewer’s left. Protocol in Cheyenne ledger books is to draw as moving from right to left, the central figure of the warrior, from whom the action flowed toward the enemy (Afton et al. 1997). The exceptions are with the depictions of Cheyenne warriors who have fallen in battle or who are overcome by an enemy. In

those cases, the enemy is shown riding from right to left while the loser is on the left.. It seems plausible that the Utes may follow a similar rule of conformity in showing animals and riders moving from left to right. Table 6.4 shows all of the horses found at this site. There were no exceptions, they all faced to the right.






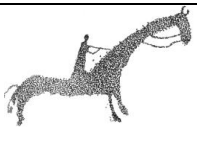
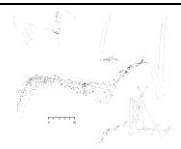





Panel 1	Panel 2	Panel 3	Panel 4	Panel 5 & 6
				
				
				

Table 6.4 shows the collection of horses represented at 5DT64. Notice they all face in the same direction.

Other sites in this region that depict Ute horsemen follow the same pattern of movement from left to right. Feathers adorn the heads and necks of the Ute horses. Although they seem thin or stick like, they still have curving necks and elongated bodies. (Figures 6.1)



Figure 6.1. Unaweep Canyon site with charcoal drawings of Ute riders.

West of Glenwood Springs, is a site called Sweetwater Cave where there are more charcoal drawings of Ute warriors with horses decorated with feathers. They are hung from their mouth to symbolize „power“ emanating from their mouths, according to Clifford Duncan (personal conversation 2001). Figure 6.2.



Figure 6.2. Sweetwater Cave, near Glenwood Springs, Colorado.

Another panel of Historic Ute shows what appears to be a successful buffalo hunt, found on a boulder in Cushman Creek, south of the study area, Figure 6.3. Again the hunters are riding from left to right with the buffalo.

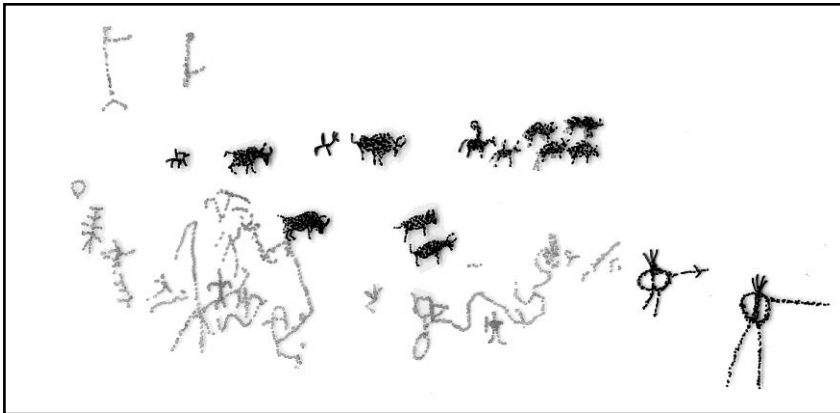


Figure 6.3. Cushman Creek panel in Gunnison River drainage showing Ute riders and buffalo.

Further study is needed with a larger data base, to determine the significance of right or left facing horses.

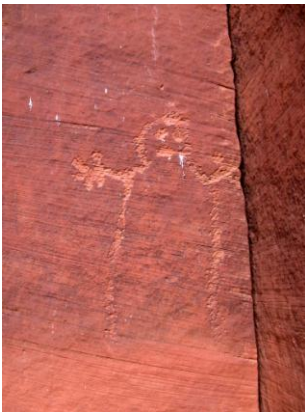
Spirit Animals and Humans

Leonards Basin, Site 1, (5DT64), panel 2 exhibits an example of an open outline figure that is associated with representations of spirits. In this case, it may represent a spirit horse. It has also been partially painted with a white outline and blue interior. Below it are horned quadrupeds.



As a general rule, „spirits“ are represented in petroglyphs as outline forms that are not closed. As opposed to living bodies that have solid bodies or are outlined with a complete line, spirits are open outlined forms that represent non living entities

Figure 6.4. Site 1, panel 2 with an open outline of a horse.



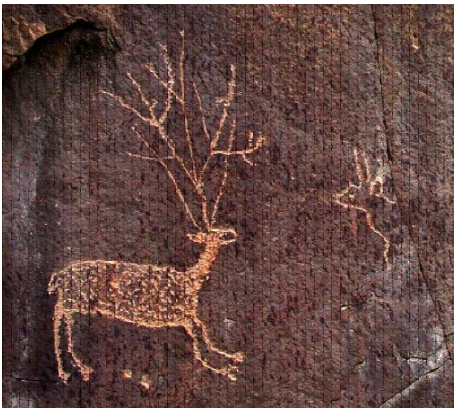
Other examples of Ute rock art depicting spirit forms are given below. A „ghost“ like motif is found in the Escalante Canyon site 5ME1 (Figure 6.5). The open outlined figure is associated with the Ute belief that ghosts live in square corners.

Figure 6.5. Escalante Forks, site 5ME1 with „ghost“ figure touching the crack in a squared off corner crevice.



A buffalo „spirit“ can be found in the complicated Ute panel called News Paper Rock, in Indian Creek south of Moab, Utah (Figure 6.6).

Figure 6.6. News Paper Rock in Indian Creek south of Moab showing the outline of a buffalo.



Another example of a „spirit“ animal appears on a high ledge above Plateau Creek on the Grand Mesa (Figure 6.7). This panel shows the outline of an animal emerging from a crack. The outline is open like the other examples given.

Figure 6.7. Panel in Plateau Creek showing a „spirit“ animal coming out from a crack in the rock.

The interpretations given in this report are from preliminary studies as part of a larger survey still in progress. It is hoped that with more ethnographic data on religious beliefs, cultural idioms and explanations for stylistic conventions, the preliminary interpretations given here can be supported and tested.

Motif Identifications in Palmer Gulch

The following Table 6.5 gives examples of the cultural traditions and selected panels found **only** in Palmer Gulch. A brief description is given of the visual characteristics and the archaeological events that occurred during that period.

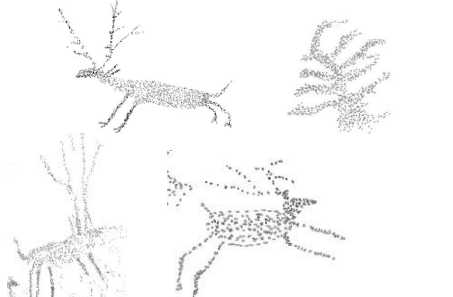
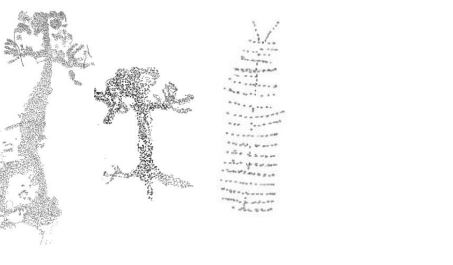
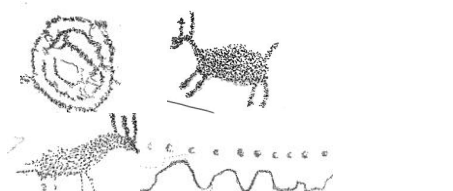
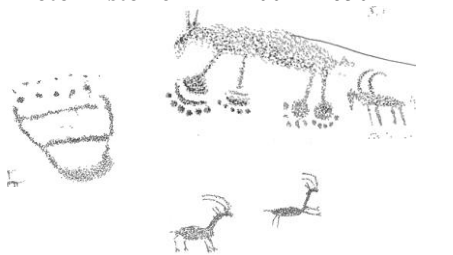
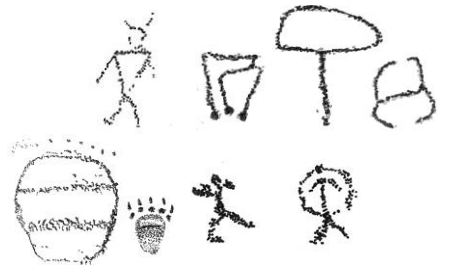
Cultural Tradition	Characteristics	Archaeological Description
<p>Archaic 6400 to 400 B.C.</p> 	<p>Large horned quadrupeds with long thin legs and cloven hooves. Anthropomorphic figures sometimes appear as stick figures with long fingers and toes. Spears and large projectiles and atlatls are depicted. Spirals, wavy lines, concentric circles, and „vulvas“ are present.</p>	<p>Characteristic of an increase in population and intensity of subsistence strategies to exploit the natural resources. People were highly mobile, traveling to higher elevations during the summers for maturing plant resources, and wintering in the lower elevations where deer and elk migrated.</p>
<p>Formative 400 B.C to A.D 1300</p> 	<p>Patinated tracks of bears, elk, deer and rabbits are common. Human like figures with large hands and feet. „centipede like motifs, abstract „tree“ and „plant“ like motifs.</p>	<p>The Uncompahgre Complex, a unit of the Archaic and Formative Era, endured for thousands of years and adapted to a variety of environments of the Uncompahgre Plateau (Buckles 1971). Bow and arrow are adopted. Trade networks are developed for corn and pottery in trade for animal products.</p>
<p>Late Formative A.D. 1000 - 1300</p> 	<p>Concentric circles, spirals, wavy lines, grids, rakes, and rayed circles. Rounded bodied horned quadrupeds with short legs. Animals appear resembling, „rabbits“, „coyote“, „mountain lion“, and „bear“.</p>	<p>Proto-Historic hunting and gathering people Numic-speaking Ute, Paiute, Shoshone and Athabaskan people migrate through.</p>
<p>Proto-Historic A.D.1100 to 1650</p> 	<p>Stylistic bear paw prints with walking bears. Quadrupeds with long curved horns, short legs and forked feet. Squares, ovals, bowl or mound shapes bodies. Human figures with bows and shields in battle scenes. Symbol incorporations that have sign language equivalents.</p>	<p>Evidence of ritual ceremonies, worship of deities, spirit figures. Tribal identity, warfare, territorial disputes, wife stealing and fear of ghosts. Adopt sign language for cross cultural communication.</p>
<p>Historic 300 to 125 BP</p> 	<p>Horse and riders, shield figures, and charcoal drawings of riders, shields, deer, elk, mountain lion, bear. Sign language equivalents dominate in very abstract compositions. Bear paw/basket symbol incorporation. Realistic bear paws and highly stylized bear paws</p>	<p>Though Ute dominate the area, Navajo and Apache came into southern Colorado and may have visited the Uncompahgre Plateau as part of Ute slave trade.</p>

Table 6.5. Panels found at 6 sites in Palmer Gulch with motifs that fit into the cultural traditions of the Palmer Gulch study area. There were no Paleo-Indian motifs observed.

Comparison with other Sites

The rock art panels found Palmer Gulch can be compared to other sites within the region. The following Figure 6.8 shows the location of comparable sites for the Archaic and Formative trees, quadrupeds and anthropomorphic figures mentioned in this report.

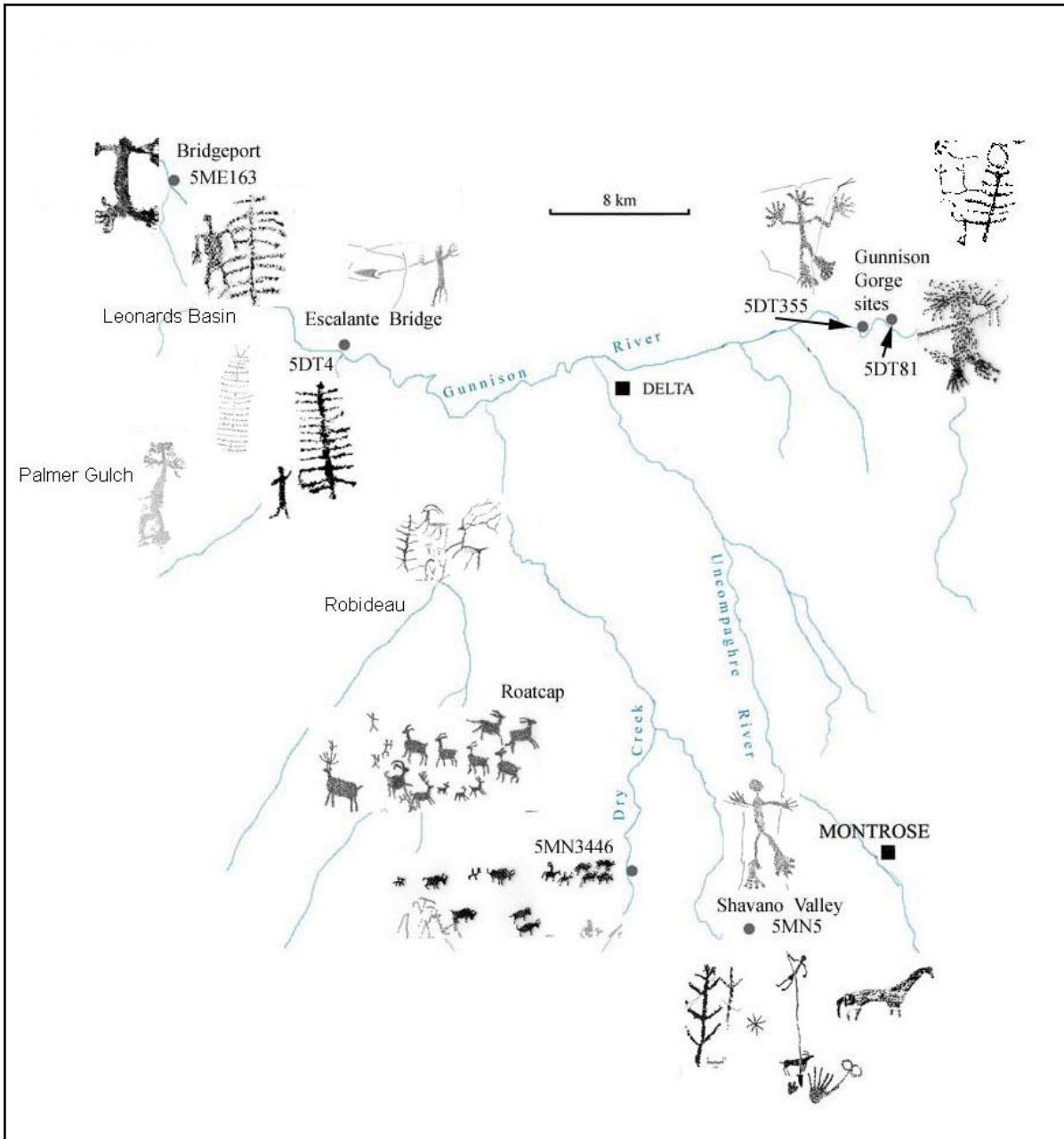


Figure 6.8. Location of regional petroglyph sites with similar characteristics.

Archaic Era

Archaic animals are depicted with thin toes that have a slight upward angle. They have large bodies and very thin legs. Antlers look more like tree branches. Legs are braced forward and tails are stubby (Figure 6.9 and 6.10).

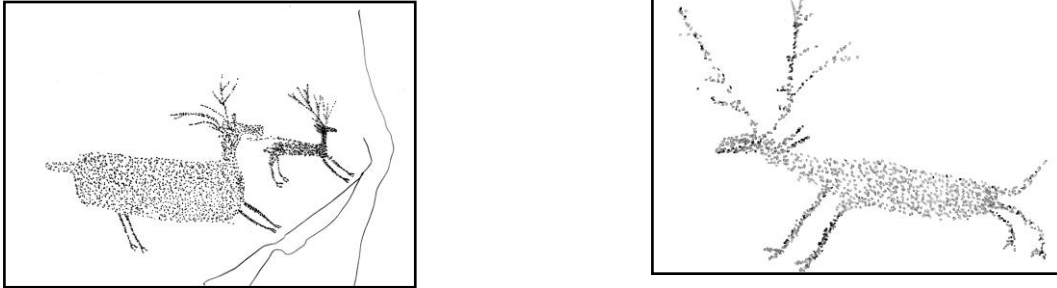


Figure 6.9. Escalante Crossing, 5DT4 depicting very large animals with long thin legs and cloven hooves (left). Similar panel of long thin legged animals at Gunnison Gorge 5DT813. These animals are of the Archaic Era.

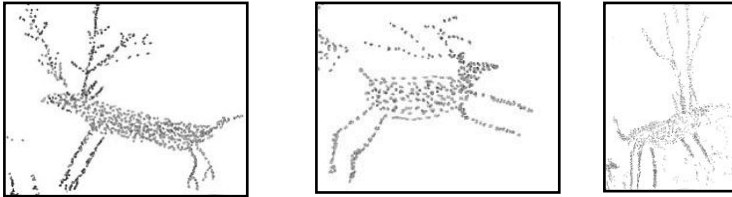


Figure 6.10. Archaic animals from other sites in Palmer Gulch with the characteristic branching horns and long spindly legs.

Humans are depicted as stick figures are found in Palmer Gulch. Figure 6.11 shows a few of the stick figures. They are badly eroded and it is not clear how they can be interpreted with the rest of the panels.

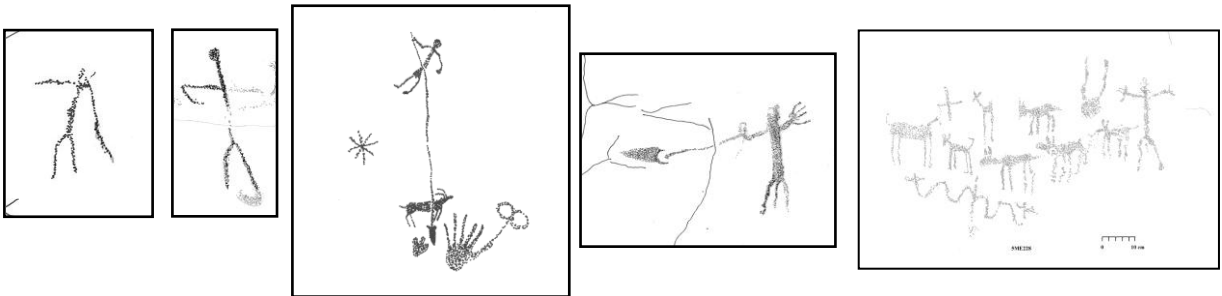


Figure 6.11. Two Stick figures from Palmer Gulch compared with an atlatl thrower at Shavano Valley, a spear thrower at Escalante Bridge and a stick figure with animals from Kanah Creek, a drainage of the Gunnison River drainage. The Shavano petroglyph depicting an atlatl.

Palmer Gulch, Site 6 portrays a very large anthropomorphic figure within the contour of the rock surface. The weathering has obscured much of the detail but large hands appear to be present. This figure is very similar to others in the region that has distinctly large hands and feet. (See Figures 6.12 and 6.13).

The Formative Era

This era is characterized by depictions of humans in a variety of forms, both stick-like and full bodied, holding bows and arrows.

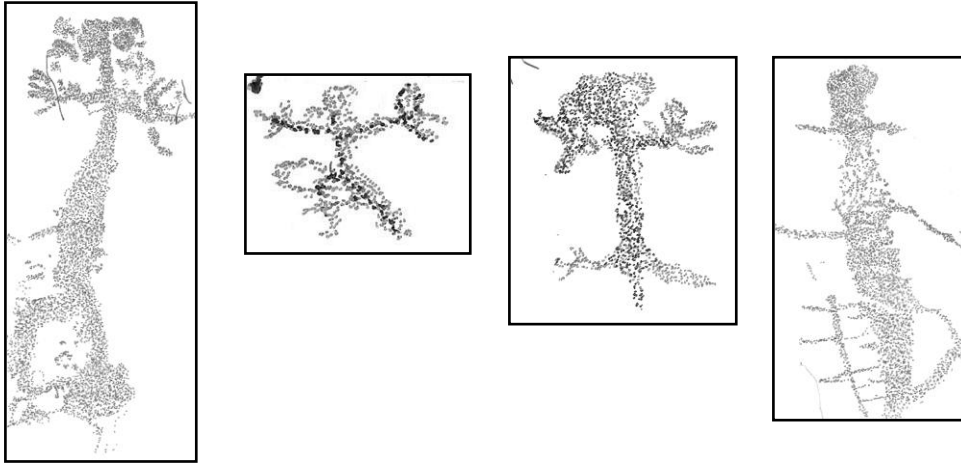


Figure 6.12. Anthropomorphic figures at Site 6. The two on either end are incorporated into the rock concave features. The two in the center are very weathered and are incorporated with rock cracks.

Chapter 2 provided some information about the dwarf-spirits or little green man that lives in the cracks of rocks. The emphasis on how powerful the entities are for medicine men supports the proposition that many of the odd anthropomorphic figures with distinctly large hands and feet may possibly be related. The literature provides clues that large hands indicate creative powers. These portraits of strange but distinct anthropomorphs should be studied in more depth.



Figure 6.13. Comparisons with similar figures found at other sites. The far left is a horizontal engraved figure overlooking Dry Creek Basin in the Uncompahgre Plateau. The middle figures are found near Delta on the Gunnison River, site 5DT335 and the far right is a figure found at the Gunnison Gorge site 5DT813.

Animals have legs that are thicker and shorter, and bodies are more rounded than those of the archaic animals. The bear appears during this era.

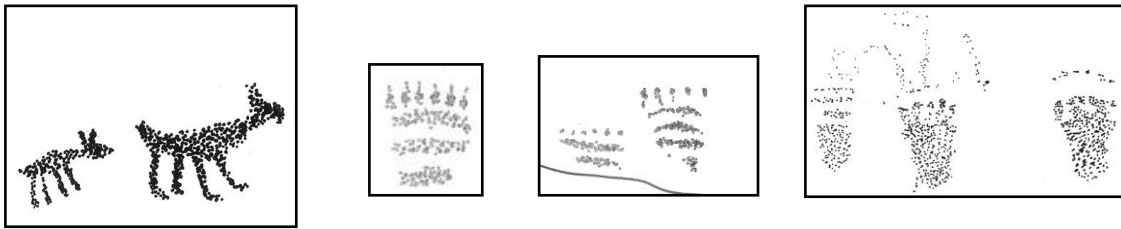


Figure 6.14. Drawings of Formative era bear and cub, and paw prints from Dominguez Canyon.

The Numic people moved into the Uncompahgre Plateau during the Formative period. Their petroglyph styles are characterized by the short-legged rounded body animals and full bodied people. Animal tracks of deer, elk, coyote, mountain lion, and bear paws appear. Meandering lines, spirals, concentric circles and „starbursts“ are present.

Bears are shown with flexed paws bearing claws. The bear paw motif appears very early in the Formative Era. It becomes highly stylized during the Proto-Historic Era.

Bear Paws and Walking Bears in the Late Formative

These examples show the detailed depictions of bear paws in walking bears found in the Palmer Gulch study area within a 20 mile radius. These petroglyphs are of the Late Formative Era with characteristics of square heads, short ears and a curved back. The paws are drawn in plan view while the body is in profile. Comparisons with other sites reveal a pattern in the bear characteristics. The bear has a rounded back, short ears, bear paws flexed so that all the toes are shown front on while the body of the bear is shown in profile. This technique is called „diagrammatic“ and is used to emphasize the important parts of an animal for spiritual or ritual purposes. Diagrammatic illustrations are not meant to be viewed as „naturalistic“. This technique is used to draw what one „understands“ rather than what one „sees“. The more fierce and aggressive a bear appears, the power it brings to a ceremony for healing or for hunting other game, or in choosing a life-long partner, as in the bear dance. (Figure 6.15).

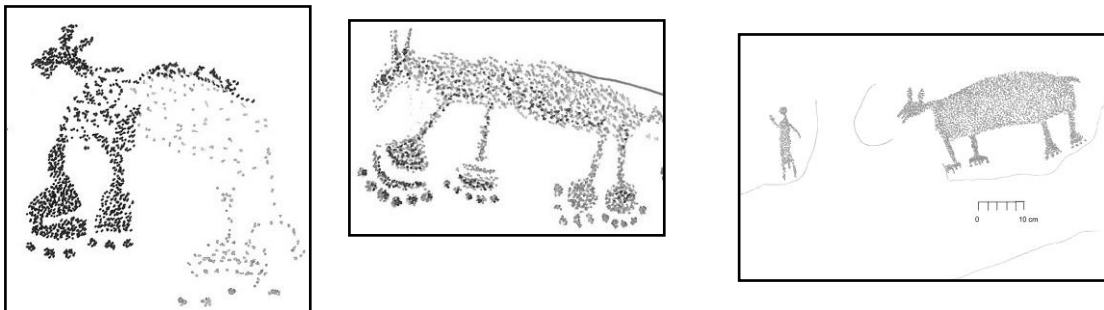


Figure 6.15. Drawing of walking bears of the Formative Era from 5DT54, Palmer Gulch and Escalante Canyon.

The paws often show 6 toes that may be significant in providing the bear with special powers.

Quadrupeds

The quadrupeds that are found in Palmer Gulch are typical of the Formative era. They can be compared to other sites of the same period, such as Roatcap Gulch, Figure 6.15

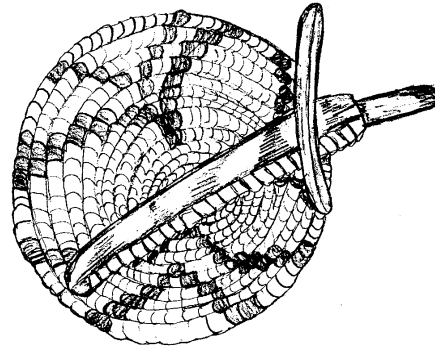
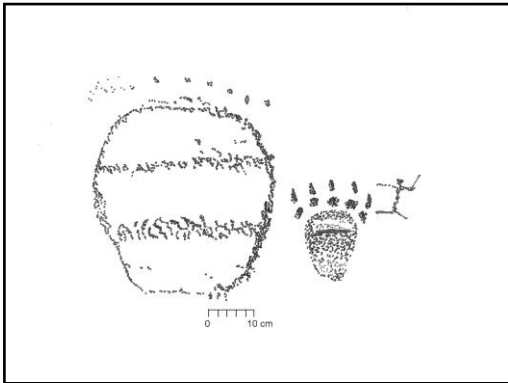


Figure 6.16. Quadrupeds from Site 2, and Site 5 compared to the large panel of animals at Roatcap site.

Animals of the Formative Era are quite plump with stubby legs. Bow hunters appear as stick figures. The relative size of the animals is smaller (Figure 6.16).

Bear Paws and Basket, Proto-historic to Historic

The strange motif of panel 2 at Site 6 in Palmer Gulch looks very much like a basket, complete with the weaving designs along the outline and across the front forming bands. The Stylized bear paw next to it reinforces the interpretation of a bear paw basket combined.



Bear Dance rasp or morache. Basket used to increase sound

Figure 6.17. Drawing of the bear paw/ basket motif from Palmer Gulch, Site 6. Illustration of the basket and morache used in the Bear Dance ceremony.

The Bear Dance rasp or morache is used to mimic the sound of the bear growling. A basket is used as a resonator to increase the sound. (Illustration from “Early Days of the Ute Mountain Ute”).

Clifford Duncan interpreted this panel as *Qwe-yah-ghut* (Bear) *Nah-wah* (track). He said “ When the bear turns over in his cave and emerges in spring, he makes a sound like thunder. The first thunder in Spring brings the rain. The noise is associated with rain and rain clouds,” Figure 6.17.

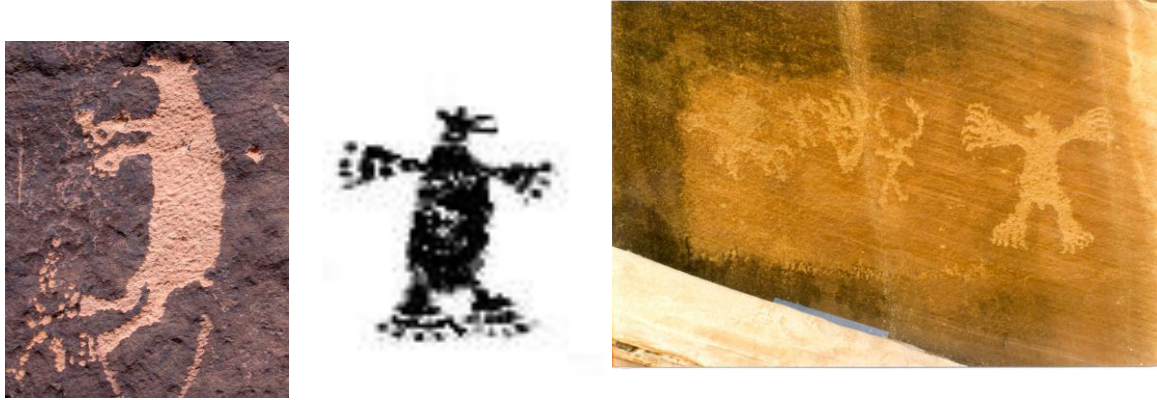


Figure 6.18. Bear with flexed paws from Shavano Valley, Montrose County, the Dewy Bridge site along the Colorado River, and the Gunnison River drainage in Mesa County.

The bear at Shavano Valley petroglyph site accentuates the claws to express ferocity. Blood drips from the mouth and the claws tear up the ground. There are dots coming from its mouth that may represent blood. Studies by Florence Densmore of the Ute Bear Dance music provide information about the dance and its symbolism. She writes; “sometimes (during the Bear Dance), the Utes would apply red paint around their mouth to look as though blood were dripping from the jaws, suggesting the ferocity of the bear” (Densmore 1972, 57). The bear from Mesa County may be historic due to the horse rider also portrayed. The bear’s claws are extended and it gives the impression of ferocity. Additional symbols of strength are found in the horned anthropomorph and the bear track with long curved nails.

Historic Bears

The Bears evolved during the Historic era. Historic panels are identifiable by the inclusion of the horse that was traded to the Utes by the Spanish as early as 1692. The horse appeared in the Uncompahgre Valley in the late 1700s. By the mid 1800s the horse was well established in Ute culture, along with western clothing, such as top hats.



Another historic panel appears in Dominquez Canyon. The bear is drawn in a very realistic manner, in profile. The stylized bear track is used to provide symbolism and meaning to the image of the bear. Multiple numbers of toes may signify power. The anthropomorphic figures wear cowboy hats and fringed chaps, a style of dress for the Utes during the late 1800’s. (Figure 6.19).

Figure 6.19. Profile of a bear and a stylized bear paw from Dominquez Canyon.

The following Table 6.6 compares the different bear paws showing the variety within the study area. The Bear paw/basket motif is found in high frequency in Palmer Gulch but occurs also at the Escalante Forks site, 5DT3. The stylized paw prints are depicted with one, two or three

horizontal bars. They range from flat or rounded, to V-shape heels. Sometimes long claws with nails are shown.












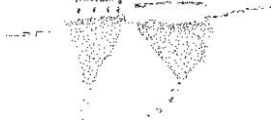
Bear Prints	 Shavano	 Shavano	 Escalante Forks	 Palmer Gulch
Bear Paw Basket Motif	 Palmer Gulch	 Escalante Forks	 Palmer Gulch	 Palmer Gulch
Stylized Bear Paws	 Palmer Gulch	 Palmer Gulch	 Dominquez Canyon	 Escalante Forks

Table 6.6. Comparison of bear paw prints and bear paw baskets.

Trees

The „tree“ motifs appear in Palmer Gulch and seem to be related to the bear paw motif and associated with the Bear Dance. Clifford Duncan had a lot to say about the importance of trees. Willow branches are used in healing ceremonies, in clearing sacred areas of bad spirits before ceremonies can begin. A Cedar tree is planted at the east entrance of the Bear Dance corral. The Round Dance is performed around a central pole. The tree is present in the mythic story of the bear dance given to the Utes when a young man witnessed a bear standing in front of a tree and doing a dance. The use of scared Ponderosa trees in healing sick patients was also described by Clifford Duncan when he gave a demonstration of how a patient is doctored using the tree as medicine, the same way in which the petroglyph at site 6 may have been used. Figure 6.20 shows the different tree glyphs found in Palmer Gulch.

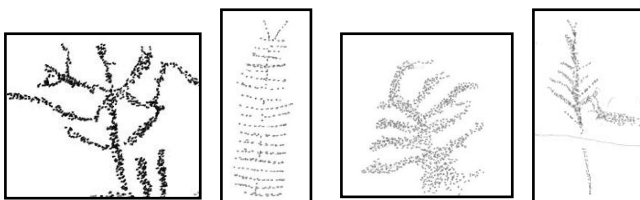


Figure 6.20. Tree motifs from sites in Palmer Gulch

Summary

The analysis of the sites in Palmer Gulch have shown that they play an important role in understanding the people who lived in this study area for the last thousand years. The petroglyphs of this one drainage seem to be unique in their association with healing practices and ancient Numic mythology surrounding the Bear. These sites need more study to determine exactly how they link up with similar sites in the Uncompahgre Plateau that feature bear iconography and ceremonial associations.

Form Follows Function: Gestures and Sign Language Depicted in Picture Writing

Ute rock art during the Proto-historic and Historic Era are characteristic of animated human and animal figures that express specific body gestures and postures that have known associations with Indian sign language. The use of sign language has been thoroughly documented in the literature, as the way in which guides of the early explorers could communicate with the various tribes. The connection between sign language gestures and postures and the depiction thereof in rock art was first made by Mallery who wrote:

The reproduction of apparent gesture lines in the pictographs made by our Indians has, for obvious reasons, been most frequent in the attempt to convey those subjective ideas which were beyond the range of an artistic skill limited to direct representations of objects, so that the part of the pictographs which still is the most difficult of interpretation is precisely the one which the study of sign language is likely to elucidate (1881, 370).

A decade later he wrote: "*Many pictographs are noted in connection with the gesture signs corresponding with the same idea*" (1893 II, 637).

The body gestures of humans depicted in the rock art have a simple repertoire of gestures that convey concepts including, "doing", "hunting", "driving", "stopping", "praying", "holding", "fearing", "leaving", "arriving", "surprising", "hungry", "looking", and so on. Many times stick figures are shown in animated gestures because they are neutral and are not representative of a specific tribe or individual. Often subtle gestures on full-bodied figures with headdresses and detailed costumes provide essential information for a narrative. A matrix showing all the arm and leg positions was developed and used for reference in studying gestures portrayed in rock art for Hawaii, Australia and the Americas (Patterson 2005). This study provided support for Martineau's theories on the gestures communicating information in rock art.

Based on the work of Mallery (1881;1886;1893) and Tomkins (1948) Martineau (1973), demonstrated the links between sign language gestures and anthropomorphic figures with quadrupeds in rock art from ethno-historic documentation. Martineau (1973) was the first to demonstrate the use of quadrupeds to convey information about travel or action within a narrative. Patterson-Rudolph (1992, 1997) calls these motifs „sign vehicles“ that are used within a simple linguistic structure as the „verbs“ in the rock picture-writing. They provide the movement needed in storytelling. These visual narratives can be „read“ by native people but prove difficult for outside cultures to see beyond the animal motif. The quadrupeds provide informative as „verbs“ within the construct of a visual narration. Their non-realistic horn and body shapes rule out the positive identification as a specific species such as „mountain sheep“ or „desert bighorn“.

By applying a semiotic approach in analyzing the gestures and horn configurations, the relationships between these sign-vehicles and other elements in the panel allow for movement within the visual narrative. See Table 6.7.

Quadrupeds					
Sign Vehicles					
Horns					
"heading"	"returned"	"emerged out"	"heading in two directions"	"heading back"	"many heading"
Body					
straight "traveling"	square "place"	bowl "valley"	inverted bowl "mountain"	oval "canyon"	curve "go around"
Legs					
bowed "avoided"	V shape "stood firm"	no legs "stayed in one place"	backwards feet "returned"	Human feet "humans"	"climbing up"

Table 6.7, Sign Vehicles, from Patterson-Rudolph 1987 showing various quadruped body shapes, horn configurations and leg variations with their associated meanings.

The sign-vehicles (quadrupeds) found in Leonards Basin display the common meanings of the horn configurations (Martieau 1973, Patterson-Rudolph 1992). See Table 6.8.

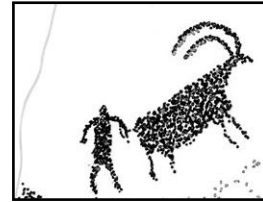
Site 2, 5DT68				
		„Blocked from going ahead“ (short legs)		„Returned back to where they started“
		„Sitting or staying in one place“ (no legs)		Different horns, two meanings combined.
		„Traveled in a circle“		„Circled but were blocked in one spot“.

Table 6.8 Leonards Basin, Site 2 showing the variations in the horns with their associated meanings.

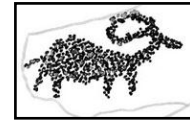
The common quadruped with curved horns was utilized by the Numic populations extensively throughout the Great Basin and Colorado Plateau. The Paiute tribes were the most proficient in expressing narratives through the use of the versatile quadrupeds. Their bodies, horns and feet take on all sorts of different shapes and configurations that set them apart from depictions of actual deer, elk or other game animals. During the 18th and 19th century, the historic panels depicted tales of battles against their enemies and important events such as Hunkup's train trip to the East (Martineau 1973,50-52). In this historic panel, the quadruped is used in conjunction with the depiction of a train and buildings to tell the tale of traveling on a train.

In Leonards Basin Site 2, the quadruped, as a sign vehicle, incorporates both the horns, body, legs and feet as units of information that vary with the message that needs to be conveyed. It is the rule, **Form Follows Function** in the most basic sense.

Example 1 shows a human and a quadruped walking at an angle. The upward direction is emphasized by the 4 legged animal that is placed in a diagonal position. The horns are open and natural looking. The man is attached to the animal to indicate they are one in the same, as a phrase. The body of the animal represents the surrounding terrain being referenced. It is flat on the top and rounded underneath. The phrase may read: „the man is traveling „up wards“ along the „flat top“ of the area.



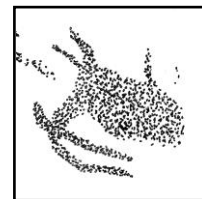
In the next example, the quadruped has a tear-drop shaped body. The horns make a full circle. Using Martineau's chart as a guide, the horns show the movement of the men "going around". The body represents a canyon. The rock features actually surround this motif creating a 3D canyon. The phrase would read: "The men (hunters) went into a canyon or gully and "circled around" to where they started.



The body shape has meaning even with other animals. This example shows the rabbit with its body chopped off. The ears and head are in the grasp of the hunter. In sign language, the idiom "chopped off" means to end quickly, or prematurely. In the context of this panel, the rabbit's escape or life was "cut short or chopped off". Martineau's (1973) symbol chart shows this symbol for "chopped off" or cut short, in reference to life.



The symbol for „dead“ is an inverted figure, either human or animal. The rabbit is characteristic of having long soft flowing ears and a round body with forward thrusting feet. The inverted position is generally universal with other cultures, representing the inversion of "living" that means "dead".



Conclusions

The methods used for interpreting these panels are based upon the study of Ute ethnography, sign language used by the Utes and related Indian groups at the time of contact. Included is the study of body gestures and postures that convey meaning. Added to this is the use of symbols that are specific to Ute culture and iconography. It is also acknowledged that many of the Ute motifs have levels of meaning that are not accessible to people outside that culture. The interpretations offered here are based on the information available in the ethnographic literature and personal conversations with Ute elders. Supportive examples of similar motifs depicting the same or related meanings are given when possible.

The interpretations of quadrupeds are offered in support of Martineau's theories. This author's 30 years of research and analysis of petroglyph panels containing horned quadrupeds concludes that these motifs play a supporting role in a narrative sequence. Using cryptanalysis, frequency checks, and symbol association analysis, the possibility of representing a „goat“, „mountain sheep“, or „desert bighorn“ falls way below the line of probability. It is not within the scope of this report to show the documentation and supporting arguments but is part of a larger study in progress. The Utes were using the quadrupeds to show lateral movement and as descriptors for various trails through a varied landscape until well after their removal to reservations.

Chapter 7 Conclusions

The area of Leonards Basin and Palmer Gulch must be studied as part of a larger context that includes Escalante Canyon, Dominguez Canyon, Robidoux Canyon, Dry Creek, Wells Gulch and other drainages with rock art sites. Documentation of these studies is an essential component for understanding the range and distribution of the entire complex of rock art in the Uncompahgre Plateau.

Leonards Basin

Both sites in Leonards Basin are shallow rock shelters that have formed in the red Entrada Sandstone. There are six rock art panels at 5DT64 and seven at 5DT68. The major forms of rock art are petroglyphs, but there are minor blue and white paint remnants. There are small quadrupeds with horns, mounted riders, horses, rabbits, canines and one large antlered animal motif at these sites. Minor motifs include abstract lines, partial human figures and outlines of animals

The sites in Leonards Basin are significant because they contain historic motifs done in a 'biographical' style that provides a visual narration or picture writing. Many of the panels can be interpreted by analogy with ethnographic information about the traditional Utes who lived in this area. Comparisons with other known Ute rock art sites in the local region support the interpretations presented in this report. The biographical style panels of the late Historic era have great value because they have counterparts in ledger art that flourished on the Plains between A.D. 1750 and 1900. The information available in the literature on picture writing during this period offers insights for interpreting the petroglyph panels.

The petroglyphs in Leonards Basin present a glimpse of the life and daily concerns of the Utes during the last half of the 19th century. This was a turbulent time, in which the Utes had to endure major cultural changes and impacts on their way of life. There were constant conflicts over land and resources, and frequent battles with enemy tribes. The petroglyphs of this era provide a record of these events for future generations to study and appreciate. The information gained from studying these sites adds to the existing body of knowledge concerning Ute archaeology and ethnography.

The mounted riders and horses facing to the viewer's right are ubiquitous in Ute rock art. They are significant and integral to Ute cultural identity. European and Cheyenne depictions of similar figures generally face the left. The consistency factor may therefore be a cultural identifier in Ute panels in the region, where battles are depicted between one group and another.

Scratched motifs are a mystery and very little has been written about them. There is no reference in the ethnography or oral histories as to their purpose or authorship. It is postulated that scratched motifs are the result of re-enacting an event while telling the story to an audience. The speaker draws the motif as part of storytelling. Scratched motifs may be the result of the Indian Boarding School experience when students were taught to 'draw' along with reading and writing from left to right. More research is necessary to understand the relationship between making petroglyphs and scratching.

Recommendations

These sites are within the proposed Escalante-Dominguez Special Management Area and are experiencing an increase in recreational use. Both sites could be opened for public access by vehicle provided permission from the private owner is obtained. They could also be opened for people on river craft who could land and walk on a designated loop trail. When open for educational purposes the main management strategies should be to 1), ensure the protection of the rock art and shelter floor deposits, and

2), provide appropriate interpretive materials (brochures, signs, pamphlets etc). Regular monitoring of the sites should be made an essential part of the overall management of the rock art in the Uncompahgre Plateau.

Little interventionist conservation action is needed to preserve the petroglyphs. The objectives of site management are to preserve and improve the existing qualities of the rock art panels and archaeology, and to use the sites to educate the public about the range of motifs, their cultural significance and possible meanings, and the age depth represented. To achieve these objectives the managers should decide whether to open these sites to the public, and if this were the case then consideration would need to be given to consulting with the private land owner to gain vehicle access. A landing platform would need to be installed along the bank of the Gunnison River to facilitate access.

These sites are in excellent condition and present an opportunity for visitors to observe and learn about Ute life and culture from the petroglyphs. The sites are conveniently located a short distance from the Gunnison River and they could be made accessible for recreational boating enthusiasts and hikers. A loop trail from the river docking area to sites 5DT68 and 5DT64 could be created with marked signs indicating appropriate behaviour and ethics statements. Pamphlets or trail guides could be made available at BLM offices and visitor centres. The loop trail could access both sites and traverse along a low ridge line, past a stone working area and provide views along the river and of the rugged canyon sides. The sites provide readily accessible petroglyphs, in safe conditions and could explain some of the Ute stories about hunting, life and resources.

Palmer Gulch

Palmer Gulch is just south of Leonards Basin and is located in a western drainage of the Gunnison River approximately 3 km (2 miles) downstream from the bridge crossing the Gunnison River at Escalante Canyon. Six rock art sites (5DT53, 5DT1690 – 1694) containing 17 panels were recorded in this project. Because additional petroglyphs may occur below the soil line at Sites 4 and 5, these two sites are potential candidates for scientific excavations and collections of subsurface sands. The unexposed portions of the panels could be used to obtain luminescence age estimates (OSL), indicating the minimum ages of the petroglyphs.

All of the rock art panels are located on Entrada Sandstone that is undergoing weathering by various agents and at different rates. The main agents of degradation are thermal expansion and contraction, spalling, water erosion, and deposition of sediment. Granular disintegration of the sandstone by crystallization of salt is not a major problem, and occurs locally. Consequently, cavernous weathering is not an issue because the environment of the rock art panels is too dry. A thin, patchy rock varnish consisting of dark microbiological material, and iron and manganese oxides has formed on several surfaces, particularly at Site 5, and indicates stability and long exposure. No oxalate salts have formed on the rock art panels because sunlight shines directly and intensely for long periods on all surfaces. The ultraviolet radiation prevents the colonization and growth of those microbes that produce oxalic acid. Some petroglyphs have been chalked to enhance the outlines of the motifs, but generally the pecked motifs are in good condition.

Petroglyphs comprise all of the panels and no charcoal or painted pictographs were found. They consist primarily of curved horned quadrupeds and branching antlered 'deer' like quadrupeds with long tapered legs and cloven feet. Human figures are of two main varieties; stick figures with shields of the Historic

Era, and thick stocky anthropomorphs with arms outstretched, and flared fingers and toes. Abstract motifs include spirals, concentric circles and wavy lines, some meandering lines that continue across several panels without a break. There are no incised lines that resemble tool-sharpening grooves.

Recommendations

Site 1, 5DT53 is located only 0.9km from the Gunnison River making it the first panel encountered by visitors as they walk up Palmer Gulch. The petroglyphs are located on a small panel about 1.5 - 2m above the sandy floor. The panel is significant because there are two pecking events separated by at least 1000 years or more. The oldest phase, consisting of branching antlered quadrupeds reflects the Archaic Era whereas the later phase contains a quadruped, tree and a long wavy line of the Formative Era.

Site 2, 5DT1690 is about 150m upstream and to the west of Site 1. The small sandstone cliff is slowly being undercut by water erosion.

Panel 1 is located on a very exposed surface and weathered to a great extent making it difficult to see the petroglyphs when they are in direct sunlight. The motifs resemble a tree, stick human figure, and a possible quadruped or canine figure. This panel seems to be consistent with the general theme of the rock art in Palmer Gulch that includes trees and bear paws that are associated with the Bear Dance ceremony. The degree of weathering and patination indicates that the age of this panel may be within the Late Archaic to the Formative Eras.

Panel 2 contains the remains of a motif resembling a walking bear with stylized flared bear paws, and a single bear paw in the upper part of the panel. This panel is very weathered and the image has deteriorated to the point that only the front paws are clearly visible. Computer enhancement was necessary to retrace the original features. The walking bear motif is similar to the one at Site 5DT54. The bear is depicted walking from right to left and this direction may symbolize a specific season in the Numic cultural cycle of migration (Goss 2000). The probable association with Ute traditions may indicate that petroglyphs of walking-bears and stylized bear paws belong to the Proto-Historic Era. This panel is badly weathered and will continue to erode due to its extreme exposure to water wash, and abrasion by cattle.

Panel 3 consists of multiple peckings of bear paws that are very difficult to see because they are highly patinated and finely engraved. These petroglyphs are remarkable in the fine detail of their execution and deserve further study. Although they are heavily patinated and appear much older they are of the Formative Era. Bear paw motifs are the major theme in Palmer Gulch and are associated with water, fertility, and hunting success as discussed in Chapter 2.

Panel 4 has three petroglyphs of quadrupeds that are positioned at eye level and are visible from the stream bed. They are more difficult to see from the main trail that traverses along the stream bed on the opposite side. This panel of short stocky quadrupeds and relatively little patination inside the glyphs fits stylistically into the Formative Era.

Site 3, 5DT1691 is a petroglyph panel created by someone standing on the bank of the stream bed before the recent down cutting actions that lowered the ground level. The petroglyphs are typical of expediently pecked motifs and they consist of stick figure humans, 'shield figures' and other unidentified motifs. The body gestures of the stick figures are indicative of aggression and therefore the general theme of this panel reflects conflict or warfare, and belongs to the Historic Era.

The petroglyphs are in stable condition and only have minor repatination, consistent with their Historic Era antiquity. Typically, this era is unequivocally defined by depictions of horses, but these are absent on this panel. The expedient nature of the pecking is characteristic of many late Historic Ute panels found throughout the Plateau.

Site 4 5DT1692 has very weathered petroglyphs that emerge from the sand at the base of the cliff. A narrow ledge of rock forms an overhanging ceiling from which water flows and drips onto the underlying sand. This panel is very hard to see, but is extremely interesting because it depicts Archaic animals above the soil line. Other petroglyphs may exist below the sand.

Site 5 5DT1693 is described in three sections. Panel A is heavily patinated creating a strong contrast to a recently pecked triangle shaped anthropomorph at the upper left-hand corner. The lower left side has a completely patinated image of a fern- or tree-like motif. It may be a remnant of the antlers of a large animal that has subsequently eroded. The rock face is too weathered and patinated to reveal other petroglyphs.

Panel B contains animals of the Archaic Era that emerge from the soil line. It is possible that more exist below the surface. Panel C contains some very old glyphs of the Archaic Era near the bottom. All that can be seen are the large branching antlers of an animal whose body has weathered off. Above this panel, at the top are two quadrupeds of the Formative Era.

Site 6 5DT1694 is an extensive 30 ft (10m) site with 10 panels spread across the base of a cliff within the confines of a shallow drip line. The drip line falls across some surfaces and the overhanging ledge therefore only partly protects the petroglyphs.

Panels 1 and 3 were made in the relatively recent past and are quite easy to see. They belong to the Proto-Historic or Historic Era. The only superimposition of motifs in Palmer Gulch has occurred at Site 6, and they are the Historic Ute motifs of a ‘bow’ and a ‘horned headdress’.

Chalking has occurred at Site 6. Panel 1 has been chalked extensively to enhance the basket weaving designs and the stylized bear paw. The stick human figure has been also chalked. Panels 3 and 5 have been chalked to enhance only the bear paw claws (Figure 6.1).



Figure 6.1. Photographs showing the chalking present in Panels 1, 3 and 5. Chalk is only in the toes of the bear paws on the two right hand photographs.

Panel 2 is exposed to weathering and the surface is spalling off. Mud is washing over the right end of the panel

Panels 4 – 10 are integrated parts of one panel that have been created over an undulating and varied surface. Panels 4 and 7 are located within concave features of the rock face, and are faint and patinated to the point where there is little contrast with the surrounding rock. They are protected and are less threatened by agents of weathering than the adjacent panels where rock features jut out.

The importance of the Palmer Gulch rock art sites

The rock art sites in Palmer Gulch are distinctly different from rock art sites in the adjacent drainages. Unlike the horses and riders and rabbit hunts depicted on panels in Leonards Basin the panels in Palmer Gulch represent probable mythic motifs associated with the bear. Bear paws and walking bear motifs in the petroglyphs are regarded as sacred and of great importance to the living Ute, Paiute and Shoshonean peoples of the Great Basin. Extensive reading of the ethnographic literature reveals that the ceremonies and mythologies associated with bears are very old and unambiguously Numic in origin.

The Palmer Gulch sites present a glimpse of the cultural life and daily concerns of the prehistoric people who lived in the Uncompahgre Plateau. The rock art indicates that they had a rich religious belief system and complex ceremonial structure. Palmer Gulch is one of the most important cultural resources present in the Uncompahgre Plateau. A unique attribute is the incorporation of physical features into the petroglyph motifs. Great time depth is also represented in the styles of petroglyphs, which range from the Late Archaic through to the Historic Eras. Palmer Gulch presents an opportunity to link the material culture (archaeology) with the ethnography and, by their association, enables the proposition of a model for the lifestyle and worldviews of the prehistoric peoples who inhabited the Plateau. The study of these sites contributes a wealth of information to the existing data, adding to our understanding of the Uncompahgre Plateau prehistory. More research is necessary at other sites to widen that knowledge and to close the gaps in the literature so that more comprehensive understanding can be established in support of the existing model of habitation and migration.

It is important to document and record the archaeology of Palmer Gulch so that a complete database is preserved for future generations to study and appreciate. Public education is an important element in preserving these sites for the future. The information obtained here should be made available to the public in the form of educational brochures, DVD or CD power point presentations. Eventually the data from this study should be incorporated into the global study of the Plateau that includes all of the rock art sites. The archaeology of the Uncompahgre Plateau has not been fully documented and analysed, and there needs to be a full inventory of all the rock art sites, their age estimations and their associations with habitation sites, water sources, river convergences, animal migration trails and food resources. A comprehensive study needs to build a 'context' that includes the geology, ecology, ethnobotany, wildlife habitation and archaeological data. This will produce a document that describes the prehistoric life style and seasonal migration patterns to help us understand what transpired over the last millennium in the Uncompahgre Plateau.

Recommendations

The Palmer Gulch sites are within the proposed Escalante-Dominguez Special Management Area and experiencing an increase in recreational use. The sites present an opportunity for visitors to observe cultural heritage relics (petroglyphs) and to learn about Ute life and culture. A loop trail from the Palmer Gulch sites (5DT53, 5DT1690-94) and north east crossing a drainage and hiking into Leonards Basin to Sites 5DT68 and 5DT64 could be created with marked signs indicating appropriate behaviour and ethics statements. Pamphlets or trail guides could be made available at BLM offices and visitor centres. The loop trail could access both drainages and educate the public about two very different aspects of prehistoric life and world views. Leonards Basin provides a glimpse of hunting and resources procurement while Palmer Gulch reflects the religious and ceremonial ideas that dominated the concerns for these people pertaining to healing and successful hunting. All of these sites could be opened for public access by foot or horseback from a car park at the BLM boundary provided the landowner gave permission to use the road. People could also gain access to BLM land by crossing private land from the river. They could raft or canoe down stream from Escalante Crossing and beach their crafts on the western side of the Gunnison River. The critical issue that must be addressed before any such development takes place is permission for the public to traverse private land. Alternatively, the BLM could negotiate with the private landowner so that the access road which runs alongside the western side of the river and adjacent to sandstone cliffs becomes part of the public land area in exchange for another parcel of land that it owns.

When Palmer Gulch is opened for recreational and educational purposes the main management strategies should be to;

- 1), ensure the protection of the rock art and site floor deposits,
- 2), provide appropriate interpretive materials (brochures, signs, pamphlets etc), and
- 3), monitor the sites regularly as part of the overall management of the rock art of the Uncompahgre Plateau.

Little interventionist conservation action is needed to preserve the petroglyphs because the panels are mostly in stable condition. Documentation of the petroglyphs, as in this report, is all that can be done where they have been strongly weathered. Removal of chalk from some of the petroglyphs at Site 6 should be done, even if the sites are not developed for tourism because this will dissuade casual visitors from marking other petroglyphs. Monitoring and selective washing of muddy trails that form across some panels should also be done so that the deposits do not harden and become difficult to remove. A conservator should be employed to remove the chalk and sediment trails.

Sites 4 and 6 have already been 'pot hunted' by people seeking artefacts and a series of systematic excavations should be done to collect evidence of cultural and archaeological value from occupation layers that remain intact. Such artefacts and information would provide additional information for educating the public and for complementing the existing database.

There is little scope for directly dating the petroglyphs at most of the Palmer Gulch sites because rock surface coatings containing carbon have not formed. The exception may be at Site 5 where rock varnish has developed in many petroglyphs. Opportunities for radiocarbon dating the formation of the varnish can exist where carbon has been encapsulated within the iron and manganese-rich coating. Alternatively, the use of uranium-series methods on selective mineral phases may also indicate when the coatings formed within petroglyphs. The buried petroglyphs at Site 4 could also be dated using luminescence methods to determine when they were covered by sand. These dating approaches could be considered when more information is sought for educational purposes.

Site 6, Panel 1-3 and 5 have been chalked that could be removed to dissuade other people from modifying or adding to the other petroglyphs. For Panel 3, there is a high rock overhang protecting the panel and is not in any danger or threats from the environment other than natural weathering such as spalling. As the rate of spalling seems low, the petroglyph panel is considered stable.

Site 6, panel 4 – 10

Panel 4 is naturally sheltered and therefore is well protected, but under direct sunlight it is difficult to see. As it is not exposed to the elements its condition is stable. The major problem affecting Panel 5 is the occasional flow of water down the rock face and the consequent deposition of a mussy trail. This intermittent flow could be redirected laterally above the petroglyphs. Redirecting the water is likely to affect the adjacent panels and so regular cleaning could be done to stop the accumulation and hardening of the sediment. Panel 6 needs little conservation action because the petroglyphs are remarkably stable. Controlling the water flow across the rock face on Panel 7 presents the greatest challenge because ideally it should be redirected, but in the process the stream would affect adjacent panels. Panel 8 also has a water erosion problem and redirecting the water flow should be considered. Panel 9 contains recent or historic superimposition of the letters 'SA' and conservation action could be taken to mask and obscure the light patination. Panel 10 needs little conservation action except for monitoring the spread of the degraded area on the sides of the petroglyphs. Controlling water is a major issue on this panel as it is on other panels at this site.

These panels are at eye level and are very photogenic. They should be included in a broader management plan that includes a stewardship program for monitoring the conditions, along with educational pamphlets and the use of interpretive signage.

Management

All of these panels should be included as part of a broad management plan for the whole site. The petroglyph sites in the valley could be developed for tourism, but the limitations of a linear trail and the distance from a possible parking area and a river landing beach for rafters may discourage all but the fittest of people from making the long hike to Site 6. If such a trail were established, then signage and illustrative pamphlets could be essential to indicate the locations for the sites, and to warn hikers of the distance and time involved to complete a return journey.

The last site on the trail, Site 6 should be monitored for vandalism and new efforts made in a systematic way to unearth the archaeology at the location and at Sites 4 and 5. Monitoring the panels to determine whether new graffiti has been added is essential so that further damage is controlled. Other monitoring that could be done include the natural rate of degradation of the panels and determining the expanding extent of muddy wash and its hardening. These observations would help in considerations for placing artificial drip lines across the panels to minimize water damage.

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