

LATEX MOLDS OF PETROGLYPHS AT LEGEND ROCK AND TORREY LAKE, WYOMING

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In 2015, a document titled *BBHC Rock Art Project Phase I: Technicians Report* was discovered in the McCracken Research Library at the Buffalo Bill Center of the West. This document, never published, describes the making of latex molds at Wyoming petroglyphs sites. In the present article, we identify the individual petroglyphs molded during the project to alert others who might be studying the sites.

INTRODUCTION

In May and June 1987, the Buffalo Bill Historical Center (BBHC), now known as the Buffalo Bill Center of the West, undertook a project to make latex cast replicas of petroglyphs at the Legend Rock state petroglyph site (48HO4), the Torrey Creek/Whisky Basin site (48FR311), the Castle Gardens petroglyph site (48FR108), and other sites where they encountered images needed to fulfill the obligations of the grant. An example of the latter was horses, which they planned to cast at a site near Lander, Wyoming. George Horse Capture (BBHC) was the curator of the Plains Indian Museum at this time and the principal investigator for the project with the actual casting done by Nancy Jo and Steve Arthur from Rangeley, Colorado.

The project was not very successful. The main issue was the unpredictable nature of Wyoming spring-time weather. The researchers experienced rain, snow and cold, elements not conducive to the casting process which requires sunshine and warmth to cure the layers of latex between applications. They were able

to make casts of 13 Legend Rock state petroglyph site figures and seven Torrey Creek/Whisky Basin petroglyphs. One of the Torrey Creek/Whisky Basin casts was damaged and could not be saved. Petroglyphs at Castle Gardens were not cast because of the inclement weather and an inability to access the site. Other sites were only photographed with no casting. In the project report, they state the figures they originally planned to cast included shields of Castle Gardens, horse figures, completely incised figures, bear figures, trapezoid-body shapes, astrological representations, round-body shapes, and completely abstract designs (Arthur 1987).

LATEX CAST PETROGLYPHS

In modern rock art research, the casting of petroglyphs is only practiced when there are no other alternatives to making good replicas of the images or in a situation where the rock art is about to be irreparably damaged or destroyed (Clottes et al. 1999). However, it should be clear this present article is not meant to demean or shame The Center or the Arthur's for their research project. Latex molds were accepted by many of the professional archaeologists of the time. The researchers were acting with permission from Wyoming State Parks for the Legend Rock work and the Wyoming State Game and Fish Commission for the Torrey Valley research under a Wyoming Humanities Council grant. They had also discussed the project with the Wyoming State Historic Preservation Office and the Wyoming

State Archaeologist.

In the 1970's and 1980s, the casting of petroglyphs was practiced across North America with the initial efforts using a variety of casting materials. Rapidly however, the most accepted technique was the use of latex compounds or making rubber molds (Brand 1974; Loendorf 1989). More recently, this technique has been criticized with the suggestion aluminum foil is less obtrusive (Bednarik 1990).

The usual explanation as to why researchers made casts of petroglyphs is they were preserving the petroglyphs. This is true in some cases but there are many examples where the petroglyph was damaged in the process. Sometimes the damage is apparent where the surface varnish was removed in the casting material. In some cases, the casting residue can be seen still adhering to the petroglyphs (Figure 1).

Equally important, however, is invisible damage to the rock surface because the casting can create problems with dating the petroglyphs. In a study done on the effects of various rock art recording techniques on cation-ratio dating, researchers learned the use latex peels made significant changes in the rock surface chemistry (Loendorf et al. 1998). The cation-ratio age of the surface before the latex peel was 14,900 B.P.; two samples taken after the peel dated at 8,300 B.P. and 36,700 B.P. (Loendorf 1989:162). The latter sample was from a chipped area in the surface, under the peel, and probably reflects the core stone rather than the surface. None the less, it is obvious latex peels can wreak havoc with cation-ratio dating.

These problems were noted in the project to establish a rock art chronology (Francis et al. 1993) where pictograph and petroglyph sites in southern Montana and the Wyoming Bighorn Basin were studied. The Legend Rock site was especially important because it included the oldest weathering rind organic (WRO) dates, cation-ratio (CR) dates and varnish microlamination (VML) dates used to

suggest a Paleoindian age for the Early Hunting style petroglyphs (Francis and Loendorf 2002). In fact, three figures, an outline anthropomorph, a fully pecked human hand, and a small, outlined quadruped were dated in excess of 10,000 years.

Other figures were dated by WRO/C14 to more recent ages. These dates were essential to setting up the cation-ratio curve for CR dates.

LEGEND ROCK CAST PETROGLYPHS

The purpose of the present paper is to publish images of the Legend Rock and Torrey Lake/Whisky Basin figures cast during the latex casting project. Through this paper, we hope to alert others to the fact the varnish on the figures might be altered and thus not good candidates for any future dating projects.

The casting project was less successful in the Torrey Creek location, which Arthur also referred to as Whiskey Basin. The Boardman and Murdock families, on whose land several of the larger petroglyphs are located, did not give their permission for casting the figures. The same was true for the Ring Lake Ranch whose director at the time, Gary Keimig, denied access to the ranch petroglyphs for making latex molds.

The project leaders then requested and received permission to do the casting at panels on the state lands managed by Wyoming Game and Fish Department. In some ways, this permission is curious because the detrimental effects of casting were apparently known to Ring Lake Ranch and the Boardman—Murdock families but the fact the latex peels were made on public lands is helpful in determining where the casts were made. It limits the possibilities to the petroglyphs along the road to the west of Trail Lake.

In the notes for June 6, 1987, Arthur writes they photographed and made notes about the petroglyphs to be cast in the Torrey Valley. Unfortunately these photographs are not in

the Buffalo Bill Center of the West files and an attempt to obtain them from Arthur was not successful. Although there are no photographs, there is a reproduction from one of the latex molds which can be used to assist in determining which figures were cast (Figure 15).

Arthur states the panels chosen for the casting were about two-tenths of a mile apart. Further she writes there were two sheep figures and five man/bird figures. There are only two or three sheep, in close proximity to each other, among the petroglyphs on the west side of Ring Lake which means the man/bird figure in the replicated cast is within a quarter mile of the sheep.

Trying to locate the sheep and man /bird combinations, it is possible to identify the panel cast with certainty and thereby narrow the location of the panels cast in the project (Figure 15). The birdman cast is found near other small bird-human combination figures which would suggest they were also part of the casting program. Arthur (1987:6) notes all of the figures were one to two feet in size so none of the major Torrey Lake figures were part of the program.

It may be possible to identify all of the panels in the field based on how clean they appear. Arthur notes after removing the latex from the Torrey Lake petroglyphs:

“The rock cleaned up well but it took a long time as one of the one came off in pieces. We took none of the white/green lichen but it did raise some of the black” [Arthur 1987:8].

With this information it is clear future researchers should neither attempt to date nor study the rock varnish Torrey Lake petroglyphs within a half-mile of the sheep panels. The group of man/bird figures near the one in the cast (Figure 16) should also be avoided.

CONCLUSIONS

The purpose of this short paper is to make public the Center of the West casting program so future researchers who work with rock varnish at Legend Rock or in the Torrey Valley will know there are compromised surfaces. This is especially important for any varnish microlamination studies.

Overall the casting program was not successful. The main reason for this lack of success was weather which delayed and stopped the field team assigned to make the latex casts. “Do not mold when the temperature will drop below 32 degrees Fahrenheit” (Arthur 1976:20). With the knowledge currently available about the damage done when casting petroglyphs, it is a good thing the weather was a deterrent.

Perhaps the worst outcome of the casting program was the lack of care for the latex molds after they were curated at the Center of the West. “The useful life of a mold depends on proper storage. With correct storage and proper use, they should last ten years” (Arthur 1976:21). By the time the report was discovered, the ten year period had come and gone.

Only three of the peels were made into the cast replicas of the petroglyphs they represented. The remaining peels were not kept in proper condition and after about 20 years, they were thrown away. This means the petroglyphs were compromised yet no replicated casts were made to show the results.

Fortunately the petroglyphs are still there and they can be photographed or studied by other measuring techniques. They cannot, however, serve as candidates for any studies involving the surface varnish.

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Figure 1: Casting residue on Castle Gardens shield panel. This likely represents a material pre-dating use of latex.



Figure 2: LRK 1 is the rabbit often referred to as the "Mimbres" rabbit prominently displayed at the east end of the main site. The rabbit was dated by WRO to 295 ± 55 B.P., an age used in setting up the cation-ratio curve for the regional chronology (Francis and Loendorf 2002:80). It was noted the chalk in the figure made it unsuitable for CR dating (Francis et al. 1993).



Figure 3: LRk 2 is the eagle/thunderbird and the small dog near its left foot in Panel 74. This figure has had extensive chalking to the extent that most of the panel is not suitable for dating projects (Francis and Loendorf 2002:106). One quadruped in the panel, however, did yield CR age in the Early Archaic.



Figure 4: LRk 3 is the canid-like figure on the upper right of Panel 74. It was not part of the dating project at the site.



Figure 5: LRk 4 is a small anthropomorphic figure in Panel 73. It was not part of the dating project.



Figure 6: LRk 5 is another small rectangular-body anthropomorph with two small interior figures on its body. It is similar in size and form to LRk # 4. The figure on Panel 67 was not in the dating project.



Figure 7: LRk 6 is a well-made buffalo figure on Panel 48. It was not in the dating project.



Figure 8: LRk 6a – Elk petroglyph is immediately below LRk # 6 on Panel 48. It is apparently a deer with the same upraised front legs as LRk # 7, an elk below it. The figure in LRk # 6a has incised horns are oriented upward rather than back over its body like the elk. This suggests it may represent a deer. It was not used in the dating project.



Figure 9: LRk 9 – Elk petroglyph is a prominent elk on Panel 48. It was dated by CR to 2500 ± 350 B.P. The latex peel may have altered the age.



Figure 10: LRk 8 – pecked bison petroglyph on panel 35 is an outline bison on the bottom right of Panel 48. It is associated with another outline quadruped, probably a bison and an outline anthropomorph. These figures look much like the group dated to Paleo-Indian ages on Panel 35.



Figure 11: LRk 9 – This is the Bighorn sheep petroglyph on panel 18 with the “MC 1911” graffiti. The figure was not part of the dating program.



Figure 12: LRk 10 – Thunderbird/golden eagle petroglyph, panel 36, LRk 10 is an eagle/thunderbird figure on Panel 36. The figure is often noted in association with a modern eagle nest above it to the east. No samples were taken from this eagle/thunderbird for the dating program.



Figure 13: LRk 11 – Feline figure on panel 24 is one of the four or five linear figures at the site often associated with mountain lions. Figure has a long body and straight legs but no claws. One of the other similar figures at the site does have claws which suggests it represents a mountain lion; but there are other possibilities. No samples were taken from this figure for the dating program.



Figure 14: LRk 12 – An anthropomorph on panel 10 is at the western end of the main Legend Rock panel. The panel includes a rectangular-body anthropomorph, a one-winged eagle/thunderbird and a partial quadruped. Apparently all of the figures were included in the latex peel. This panel had WARNING—NO TROJANS ALLOWED incised across it when it was cast in 1987. The figures were not used in the dating program.

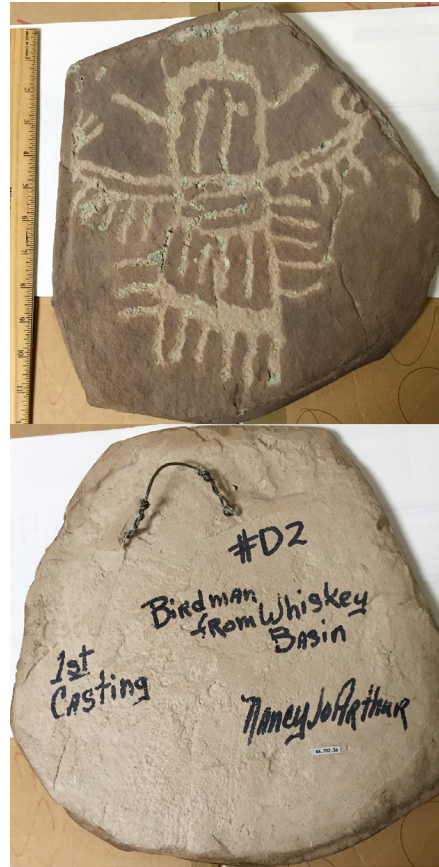


Figure 15: Plaster cast reproduction of Whiskey Basin Birdman made for the project and currently in the collections of the Buffalo Bill Center of the West.



Figure 16: Whiskey Basin “Birdman,” Torrey Valley petroglyph cast for the replica. Note the surface surrounding the bird-man figure more prominently shown on the left does not have much black lichen. This suggests it was also likely part of the casting program.



Figure 17: Whisky Basin Sheep panel near the latex cast “Birdman” in the Torrey Valley. Note the clean appearance of the sheep on the left with the arching horns over its back. The lack of surface lichen and varnish suggests it was part of the casting program.

