The University of Montana

Department of Anthropology
Social Science Building
The University of Montana
Missoula, Montana 59812-5112
Phone: (406) 243-2693
FAX: (406) 243-4918

December 11, 2011

Elaine S. Hale, Archaeologist
Branch of Environmental Compliance
Yellowstone Center for Resources
P.O. Box 168
Yellowstone National Park, WY 82190

Dear Elaine,
Please find enclosed our final report entitled *The 2010 Class III Archeological Investigation for Sheepeater Cliff Site, 48YE29, Yellowstone National Park, Wyoming.* This report takes into consideration comments that you provided in November, 2011. The report was authored by University of Montana Staff Archaeologist Michael Livers and graduate student Matthew Werle. This report submission is in partial fulfillment of work conducted under a cooperative agreement between the University of Montana, Yellowstone National Park, and the Rocky Mountain Cooperative Ecosystem Study Unit. The University of Montana Grant number is 365649, while the CESU/NPS Project Number is J1580090409.

As required by our task agreement, we have enclosed 15 copies for your distribution, including 14 bound and one unbound (as well as a digital version on CD).

Best,

Douglas H. MacDonald
Department of Anthropology
The University of Montana
Missoula, MT 59812
douglas.macdonald@mso.umt.edu
406-243-5814

cc: Pei-Lin Yu (RM-CESU)(with abbreviated report); Maureen Price

THE 2010 CLASS III ARCHEOLOGICAL INVESTIGATION FOR SHEEPEATER CLIFF SITE 48YE29, YELLOWSTONE NATIONAL PARK, WYOMING

By

Matthew Werle
Michael Livers, M.A.

Prepared For

Elaine S. Hale, Archeologist
Branch of Environmental Compliance
Yellowstone Center for Resources
P.O. Box 168
Yellowstone National Park, WY 82190

Submitted by

Douglas H. MacDonald, Ph.D., R.P.A.
Department of Anthropology
University of Montana, Missoula
59812

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ABSTRACT

The University of Montana archeological team, under the direction of Associate Professor Douglas H. MacDonald, conducted a full inventory of archaeological resources at the Sheepeater Cliff site (48YE29) in 2009-2010. Yellowstone National Park (YNP) proposes road widening and parking lot additions at the popular visitor attraction.

The Sheepeater Cliff site (48YE29) is a prehistoric lithic scatter located near a popular rest stop and parking lot along the Norris to Mammoth Hot Springs Highway, approximately two miles south of Swan Lake Flats, in the northern portion of YNP. The site is three miles southwest of Bunsen Peak, bounded by the Gardner River to the southeast and the columnar basalt cliffs from which it derives its name. The Gardner River meets with Glenn Creek upon exiting the Sheepeater Canyon and then merges with Lava Creek seven miles to the northeast. The river then combines with the Yellowstone just outside of Gardiner, MT. Just upstream of 48YE29 is the nexus of the Gardner River, where Obsidian Creek and Indian Creek unite.

48YE29 was originally recorded by Ann Johnson in 1989. The University of Montana (UM) conducted Class III subsurface testing during the 2009 UM field season as part of a Section 110 inspired proactive management funded by YNP. Shovel testing was located on both sides of the parking lot access road, beginning just north of the parking lot and continuing on a linear axis, southwest, to a point in which the Gardner River creates a bend, approximately 10 meters from the access road.

Further Class III testing of the site was completed during the UM 2010 field season, in response to a new proposed undertaking for Section 106 evaluation. The proposed project consists of a parking lot expansion of the rest stop. The Area of Potential Effect (APE) is 35 m wide by 92 m long. Twelve 1x1 m test units were placed within the APE and within the site's boundaries in order to determine the depth and significance of archaeological deposits. The total acreage of the APE is approximately 0.5 acres.

Based on the results of the archaeological work, the University of Montana recommends that the south eastern and northern portions of the site (Area A) contain information which will contribute to a better understanding of Yellowstone Prehistory. The central and western portions of the site (Area B) lack integrity and therefore do not contribute to the sites eligibility (**Error! Reference source not found.**). We recommend that YNP restrict construction to the non-contributing portions of the project area. As recommended, there will be no adverse effect to cultural resources by the proposed undertaking.

CHAPTER 1: UNDERTAKING/PROJECT DESCRIPTION

This report provides archeological results of the University of Montana (UM) archaeological survey and evaluation at 48YE29, the Sheepeater Cliff site, Wyoming. The work was completed under the auspices of the National Historic Preservation Act, Sections 106 and 110, which require federal agencies to consider the impacts of projects on cultural resources (Section 106) and to provide inventories of cultural resources on their lands (Section 110). In addition to the requirements of the NHPA, the project required an Archaeological Resource Protection Act (ARPA) permit and a Yellowstone National Park scientific research and collecting permit (No. YELL-2010-SCI-5656) to conduct archeological fieldwork in YNP during the summer months of 2009 and 2010.

This report summarizes UM's archaeological investigations conducted in response to a Section 106 proposed undertaking at a previously recorded archaeological site (48YE29), located at the end of the Sheepeater Cliff access road, surrounding the Sheepeater Cliff parking area **Error! Reference source not found.**. The APE is a 35 x 92 m area from the northernmost point of the existing parking lot, extending towards the Gardner River to the southeast and continuing southwest before reconnecting with the existing access road. 48YE29 is divided into two areas on both sides of the existing access road and parking lot, with the majority of artifact concentrations located on the southern and eastern half. The APE contains a total of 0.5 acres or 2023 m^2 of potential disturbance **Error! Reference source not found.**.

The site is located less than 1 mile north and east of the Indian Creek Campground, and 8.2 miles south of Mammoth Hot Springs along the Norris Junction to Mammoth Hot Spring Highway (**Error! Reference source not found.**). The highway is part of the greater Yellowstone Grand Loop Highway system. Obsidian Cliff, a well documented obsidian raw material source, is located 4.9 miles to the south. A large open sagebrush prairie, named Swan Lake Flats, is located 0.8 miles northwest of the site. The region is historically known to be utilized by several Native American groups due to its location along the Bannock Indian Trail. Additionally, 48YE29 is located within a larger network of prehistoric lithic scatter sites, including 48YE357, a 3 mile long lithic scatter (**Error! Reference source not found.**).

The Sheepeater Cliff site is also a prehistoric lithic scatter initially recorded by National Park Archeologist, Ann Johnson, during a visit to the parking lot area in 1989. The scatter is located on a small terrace adjacent to the Gardner River, just below the confluence of Indian Creek and Obsidian Creek, 600 m to the south. The terrace is vegetated by a mixture of sagebrush, lodgepole pine, and riparian shrubs. A dense forest of lodgepole pine surrounds the site location both across the river and above the nearby Sheepeater Cliffs themselves. No other archaeological investigations are known to have taken place since the recording of the site until UM began fieldwork. Due to the site's location along a popular rest stop, surface artifact collecting by tourists in the area is highly likely. Reliance upon surface finds would likely lack any primary context, necessitating subsurface investigation.

The goals of this multi-year project were twofold. First, to more accurately map the location of the site and any artifacts as well as provide full documentation on observations made during initial subsurface testing (STPs) of the site. This work was conducted during UM's 2009 field season. Second, in 2010, work was completed in order to

determine the NRHP eligibility of 48YE29. Funding for both survey and testing was provided by grants to UM through the Rocky Mountain CESU from Yellowstone National Park.

In August of 2009, archaeological work consisted of a Class III survey inventory of site 48YE29 to establish the extent of buried cultural deposits as well as define boundaries for the site, specifically to the south.

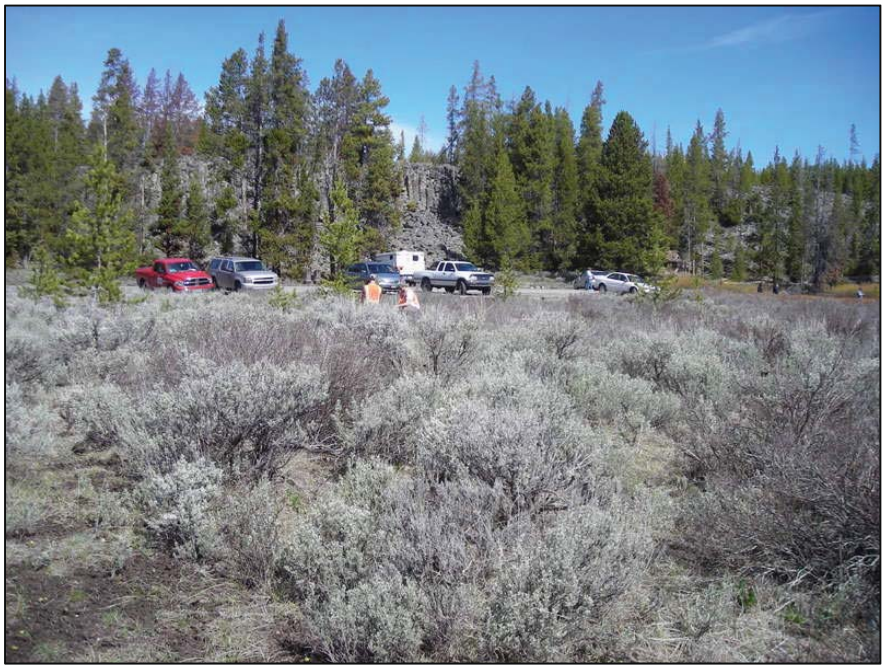

Figure 1: Overview of site looking northwest with columnar basalt cliffs in background.

During this initial evaluation, a total of 49 shovel test pits were placed on both sides of the access road and parking lot, with the majority located along the southern edge between the road and the Gardner River. UM returned to 48YE29 during the early months of the 2010 field season in response to a proposed expansion of the Sheepeater Cliffs parking lot by the National Park Service (NPS).

Further subsurface testing was completed in response to this proposed action, in order to determine 48YE29's NRHP eligibility. A total of 12 test units were excavated along the southern edge of the existing road and parking lot, extending to the Gardner River, within the APE and the site's boundaries. Test unit excavations sought to determine the significance of any buried cultural materials, as well as the presence of any stratigraphic context.

Based on the results of the archaeological investigations during the 2009 and 2010 field seasons, the University of Montana recommends that the portions of the site described as Area A in Chapter 6 be considered eligible for the National Register under Criterion D. Test unit excavations in portions of the site described as Area B demonstrate that the buried archaeological deposits were severely affected by geomorphological processes, damaging the stratigraphic integrity. This area is therefore recommended not eligible for the National Register due to a lack of stratigraphic integrity. The University of Montana recommends that YNP restrict construction of the proposed project to the non-contributing portions of 48YE29 and thereby avoiding any adverse effect to the eligible portion of 48YE29. As suggested, the University of Montana's recommendations will result in no adverse effect to cultural resources by the proposed undertaking