Project Completion Report
Rocky Mountains Cooperative Ecosystem Studies Unit (RM-CESU)

Project Title: DATA RECOVERY FOR MITIGATION OF SITE 48YE128, YELLOWSTONE NATIONAL PARK, WYOMING, PHASE 2 ANALYSIS OF MATERIALS AND FINAL REPORT PRODUCTION

Project Code: UWY-164, P12AC10466

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Partner University: UNIVERSITY OF WYOMING

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Project Summary, including descriptions of products, work accomplished and/or major results. If the information is restricted (e.g. location of endangered species or cultural resources), indicate the title and location of the final report. Also add web sites where project-related information may be found.

ARCHAEOLOGICAL REPORT IS RESTRICTED BUT THE INFORMATION IS LOCATED IN YELLOWSTONE NATIONAL PARK'S ARCHEOLOGICAL LABORATORY, AND THE LIBRARY BOTH LOCATED IN THE HISTORIC RESOURCE

CENTER, GARDINER, MONTANA.

Number of students participating in this project: undergraduates, graduate students, degrees conferred Four students, 2 undergraduate, 1 masters candidate, 1 doctorial candidate all from the University of Wyoming Anthropology Department worked on the excavation, artifact analysis, and the preparation of the report.

Data Recovery Results

Site 48YE128 was initially recorded in 1995 by the University of Wyoming's Office of the Wyoming State Archaeologist and National Register testing accomplished by the same group in 1997. The site is bisected by the 1930s alignment of the Grand Loop Road as it passes between Sheepeater Cliffs and the Indian Creek Campground. Initial collection of surface artifacts included many obsidian flakes and an obsidian Late Archaic projectile point base sourced to Bear Gulch ,Idaho, although the site is in close proximity to Obsidian Cliff National Historic Landmark. Proposed widening of the roadway through this area will impact a portion of the site so a data recovery plan was developed to recover as much buried cultural material as possible prior to construction activity. The data recovery plan, approved by the Wyoming State Historic Preservation Office, would confine the excavations to only the area of potential effect of the road widening , leaving most of the prehistoric archeological site intact.

The site occurs on the surface of a late Pleistocene kame terrace flanking Obsidian Creek. An apron of colluvial debris extends from the eastern valley slope across the kame terrace. Fluvial sand and gravel exist within a meter below the present surface. While abundant buried cultural materials exist at the site, burial processes have been limited to accumulation of slope wash debris derived from a significantly turbated surface. Intensive rodent burrowing activity, freeze-thaw action, and tree root disturbances have moved artifacts both up and down creating a mix of materials derived from a variety of depths. The extent of the mixing limits the potential for separating multiple occupation events.

Archaeological data recovery excavations were initiated in 2010 with the placement of a 4 meter X 5 meter excavation block adjacent to the 1997 excavations with the largest quantities of buried cultural material. 19 1 meter X 1 meter units were excavated from this block. To further investigate the area between the excavation block and the road an additional 20 shovel tests were placed at three meter intervals resulting in the identification of another area of high artifact counts. Another two meter X three meter block was excavated in this area in 2011 field season. All block units were excavated to approximately 80 cm below surface, at which point cultural materials became very sparse. Large quantities of mainly obsidian debitage and chipped stone tools were recovered from the excavations, only two unidentifiable bone fragments were found and no features or fire-cracked were recovered.

Cultural materials recovered from the 20 shovel tests included 1,027 flakes, 12 tools (five bifaces, five retouched flakes, and two utilized flakes), one core, and six edge

damaged flakes. The 19 square meters of the North block excavation yielded 11,782 flakes, 170 tools, 11 cores, four tested cobbles, 77 edge damaged flakes, and a bone fragment. The north block tools consisted of 83 bifaces, nine hafted bifaces, two end scrapers 25 retouched flakes, and 51 utilized flakes. Additionally, ten projectile points and point fragments were recovered. Three are nearly complete Late Archaic, corner-notched projectile points all sourced to Obsidian Cliff NHL and all stylistically similar and the same relative size. Point fragments consisted of a slightly concave, probable Late Archaic base, two basal ears that may have been Early to Middle Archaic, a slightly contracting stem with concave base and a basally notched Late Prehistoric point sourced to Bear Gulch, Idaho obsidian. The bifaces from the north block are mostly late stage of production with breakage occurring during production. The 11 cores and four tested cobbles were all obsidian, likely from a local source and all were exhausted –no longer able to produce usable flakes.

The six units excavated in the south block yielded 6,805 flakes, 76 tools, three cores, three tested cobbles, 54 edge damaged flakes, and a bone fragment. This is a slightly higher tool count per unit than the north block and the tools are also dominated by bifaces (n=36), with one hafted biface (a probable Late Archaic point base), one end scraper, 11 retouched flakes, and 27 utilized flakes. All but two of the bifaces were broken in later stages of reduction indicating bifacial reduction was one of the primary activities conducted within this area of the site.

Lessons Learned from this project.

The range of types of tools found in the excavations indicate that although some domestic activities such has hide scraping, food production, and projectile point production were taking place at the site, the area where the road will impact the site is mainly a lithic reduction, biface production area. High quality obsidian from the nearby quarry and from river cobbles were being prepared for transport. Domestic activities usually take place close to water and lithic reduction, due to the amount of sharp flakes produced, generally takes place away from other domestic work areas. This appears to be the case at this site. The dominant artifacts recovered from the excavations are flake stone debris and bifaces broken during manufacture.

Diagnosis of the projectile point types recovered from prehistoric site 48YE128 indicate that it was occupied in the Middle to Early Archaic (8,000 – 3,000 years before present), the Late Archaic (3,000-1,500 years before present), and in the Late Prehistoric (1,500-1,000 years before present) by people procuring obsidian from local sources. The site is in the vicinity of an ancient trail later named the Bannock Trail which was a travel corridor from both the east and the west into the north portions of the park for over 10,000 years.

The vast majority of the debitage recovered was small flake debris (less than 2.5 cm). Sites that reflect the procurement and initial preparation of obsidian for transport and

trade have a lithic assemblage dominated by large flakes, blades, blade cores, and large bifaces. Since this site did not yield any of these artifact types it is suggested that the tools and bifaces produced at this site were for the inhabitants' transport and use at other sites during their seasonal rounds. The presence of projectile points and a few bone fragments indicates that hunting activities occurred at the site.