# *MOUNT SHAVANO VEGETATION TREATMENT CULTURAL RESOURCES INVENTORY CHAFFEE COUNTY, COLORADO*

Bureau of Land Management
Royal Gorge Field Office
Report Number: CR-RG-18-037 P
SHPO Number: CF.LM.R132
NEPA Number: DOI-BLM-CO-F020-2018-0014 DNA

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September 16, 2019

## ABSTRACT

Between May 2018 and June 2019, 435 acres of BLM-administered land was subjected to intensive inventory for cultural resources as part of the Mount Shavano Vegetation Treatment Project. The Royal Gorge Field Office Foresetry Program proposes an undertaking which involves mechanical and hand thinning of vegetation to promote and enhance forest and herbaceous plant diversity, reduce heavy fuels and the risk of wildfire, and promote forage production for local wildlife.

The study area is located in T50N R07E, Sections 24 and 25, and T50N R08E, Sections 19, 29, and 30, Chaffee County, Colorado. Cultural resources located during the project include nine open lithic sites and 21 isolated finds. The project area broadly is located on a heavily eroded landscape. Local geomorphology largely precludes meaningful deposition. Local geology is largely composed of alluvial gravels overlain by thin deposits of sand, and soil formation is non-existent. The area is very erosive and actively deflating. The wide distribution of lithic materials and lack of stained sediment or any features (hearths) further suggests the entire plateau has been heavily impacted by erosion. The area is dissected by intermittent drainages that suggest that flash flooding and sheeting is common. None of the recorded resources have subsurface potential and the surface recording described herein has exhausted their data potential. Accordingly, none are considered eligible for inclusion on the National Register of Historic Places. Therefore, since no historic properties will be affected by the proposed undertaking, the BLM recommends that the Mount Shavano Vegetation Treatment Project proceeds.

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**Colorado Office of Archaeology and Historic Preservation**
**CULTURAL RESOURCE SURVEY MANAGEMENT INFORMATION FORM**

Federal acres of Potential Effect/Project: 435.62 Acres surveyed: 435.62

State acres of Potential Effect/Project: Acres surveyed:

Private acres of Potential Effect/Project: Acres surveyed:

TOTAL: 435.62 TOTAL: 435.62

*See appendix B for legal location*

| Site Number | Site Type | | | | Eligibility | | | | | | | Effect | | | Treatment / Management Recommendations | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Prehistoric | Historic | Paleontological | Unknown | Eligible | Needs Data | Not Eligible | Contributing | Non-Contributing | Supporting | Non-Supporting | No Historic Properties Affected | No Adverse Effect | Adverse Effect | No Further Work | Avoid / Preserve | Monitor | Test | Excavate | Archival Research | Archival Documentation | Other | |
| **SITES** | | | | | | | | | | | | | | | | | | | | | | | |
| 5CF.3194 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3195 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3196 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3197 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3198 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3199 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3200 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3201 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3203 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| **ISOLATED FINDS** | | | | | | | | | | | | | | | | | | | | | | | |
| 5CF.3202 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3204 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3205 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3206 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3207 | X | | | | | | X | | | | | X | | | X | | | | | | | | |

| Site Number | Site Type | | | | Eligibility | | | | | | | Effect | | | Treatment / Management Recommendations | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Prehistoric | Historic | Paleontological | Unknown | Eligible | Needs Data | Not Eligible | Contributing | Non-Contributing | Supporting | Non-Supporting | No Historic Properties Affected | No Adverse Effect | Adverse Effect | No Further Work | Avoid / Preserve | Monitor | Test | Excavate | Archival Research | Archival Documentation | Other | |
| 5CF.3208 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3209 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3210 | | X | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3211 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3212 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3213 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3214 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3215 | | X | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3216 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3217 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3218 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3219 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3220 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3221 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3222 | X | | | | | | X | | | | | X | | | X | | | | | | | | |
| 5CF.3223 | X | | | | | | X | | | | | X | | | X | | | | | | | | |

Principal Investigator Name: Michael D. Troyer Date: September 16, 2019
Principal Investigator Signature: Michael D. Troyer

## INTRODUCTION AND DEFINITION OF THE AREA OF POTENTIAL EFFECTS

The Mount Shavano Vegetation Treatment project involves mechanical and hand thinning of vegetation to promote and enhance forest and herbaceous plant diversity, reduce heavy fuels and the risk of wildfire and promote forage production for local wildlife.. Section 106 of the National Historic Preservation Act (NHPA, 54 U.S.C. § 306108) requires the BLM consider the effect of its actions on historic properties[1] within the project area of potential effect (APE). Following 36 CFR 800.16(d), the APE means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. Those alterations may occur later in time, be farther removed in distance, or be cumulative.

The Mount Shavano Vegetation Treatment project has the potential to directly impact public lands resulting from felling and piling of thinned forest materials using both hand-thinning as well as machine-thinning methods. The project also has the potential to create indirect impacts to historic properties. Potential indirect effects include near and long-term visual impacts, as well as near-term auditory and atmospheric impacts. Visual impacts may result from the thinning action itself (near-term) as well as changes in the visual character of the landscape (long-term). The thinning action also has the potential to create atmospheric and/or auditory impacts in the very near area, though these impacts are short term. Accordingly, the APE comprises those areas that may potentially be directly impacted by project activities and includes all acreage within the project boundary, as well as those areas that may be indirectly impacted by increased visibility and noise.

The BLM inventoried 435 acres, comprising the direct APE, at the Class III level in T50N R07E, Sections 24 and 25, and T50N R08E, Sections 19, 29, and 30, Chaffee County, Colorado. The archaeologists walked transects throughout the project areas spaced no more than 15 meters apart. The BLM also conducted a literature review of known properties within one mile of the project area, comprising the indirect APE, in order to determine if any historic properties would be indirectly impacted.

Section 106 of NHPA also requires the BLM to conduct consultation with the Advisory Council on Historic Preservation (ACHP) regarding historic properties that will be impacted by federal undertakings. Regulations detailed in 36 CFR 800 guide this consultation process, and include provisions for the development of programmatic agreements that substitute for the regulated process. Because of a National Programmatic Agreement among the BLM, the ACHP, and the National Conference of State Historic Preservation Officers (signed March 26, 1997), as well as the Colorado State Protocol between the Colorado BLM and the Colorado State Historic Preservation Office (SHPO) (signed October 29, 2014), BLM now makes most of its own

[1] In the present document, "historic property" is used as defined in 36 CFR 800.2 (a cultural resource that is eligible for listing in the National Register of Historic Places).

determinations of eligibility (DOEs) and effect[2]. In addition, the NHPA, Section 101(d)(6)(A) and (B), indicates that traditional cultural properties may be determined to be eligible for the National Register of Historic Places, and that federal agencies must consult with any interested Indian tribe.

## NATURAL ENVIRONMENT

The mountain zone in Colorado, east of the Continental Divide, is characterized by gentle to steep tree-covered slopes, drained by numerous small intermittent or running streams. Occasionally, small, treeless parks can be found among the hills. In general, most of the drainages in southern Colorado ultimately feed the Arkansas River, while those north of the Palmer Divide empty into the South Platte.

Mount Shavano and the Arkansas River Valley are the most notable physiographic landmark in the area of potential effect. The area of potential effect itself comprises a southeast-trending sloped landform along the southeast slopes of Mount Shavano, between Blank and Droney gulches, and approximately 1000 feet above and two miles west of the Arkansas River.

The climate of the mountain zone is capricious, due to topographic variations in elevation and aspect along with unpredictable prevailing winds. In general, however, summers are cool to warm, while winters are cold, with the highest precipitation falling in the spring months.

Vegetation in the area of potential effect is characteristic of the foothills zone. Common trees include piñon pine and juniper. Various forbs and grasses, dominated by cacti, yucca, and rabbitbrush, comprise the undergrowth, which is low in density.

Fauna observed during the inventory include small rodents and various raptors. Other animals that live in the area are coyotes, jackrabbits, deer, cottontail rabbits, antelope, elk, black bears, Sasquatch, mountain lions, and migratory waterfowl.

The topography and climate of the area of potential effect severely limit agricultural potential. Aboriginal use ranged from the Paleo-Indian through the protohistoric periods (Gilmore et al. 1999; Zeir and Kalasz 1999). Historic period aboriginal groups that might have used the area include the Utes, the Comanches, the Kiowas, the Cheyennes, the Arapahoes, the Sioux, and occasionally the Pawnees and Jicarilla Apaches. Europeans first explored the Colorado mountains in 1761, and fur trapping was carried on from about 1812-1840. The first gold rush occurred in 1859, and prospecting continued until the early 1900s. Currently, the area of potential effect is being used for grazing and recreation.

[2] Except in the following instances, when the project: (1) is a non-routine interstate and/or interagency project or program; (2) directly affects a National Register eligible or listed property; (3) has been determined by BLM, the SHPO or the Council to be highly controversial; (4) is one of the following: a land exchange, land sale, Recreation and Public Purpose lease, or transfer; (5) has been analyzed by a BLM staff person with limited experience or lacking appropriate expertise; (6) is one which BLM wishes to bring to the attention of the SHPO.

While some degree of erosion is possible on of the most of the BLM-administered acreage in the mountain zone, cultural remains in the area of potential effect are particularly affected by it. The project area broadly is located on a heavily eroded landscape. Local geomorphology largely precludes meaningful deposition. Local geology is largely composed of alluvial gravels overlain by thin deposits of sand, and soil formation is non-existent. The area is very erosive and actively deflating.

## CULTURE HISTORY AND PREVIOUS WORK

The prehistoric and historic cultural histories of Colorado have been summarized in several contexts (Gilmore et al. 1999; Zeir and Kalasz 1999; Church et al 2007; Guthrie et al. 1984). The reader is referred to these documents for additional references regarding the prehistory and history of the Colorado mountains.

The author conducted a file search using the Compass database. Both historic and prehistoric sites and isolates have been found in the vicinity of the area of potential effect (the interested and qualified reader may contact the Colorado Office of Archaeology and Historic Preservation for more details). The Bureau of Land Management Royal Gorge Field Office Cultural Resource files were also consulted (see Appendix A).

Paleo-Indian sites in the Colorado mountains are still poorly represented, but progress is being made in finding and recording the very earliest sites of human activity in the state (see, e.g., Brunswig 1999, 2001a, 2001b; Lincoln et al 2003). During the years ~11,000-5800 BC, the cultures of the mountains appear to have subsisted on large game (based on associated lithic tools), and supplemented their diets with a variety of small game and vegetal materials. Unfortunately, information about the period is limited to little more than environmental and lithic data. Because of the difficulties of preservation, sociocultural inferences are only very speculative. It appears that Paleo-Indian populations were living in relatively small groups, and seem to have been mostly nomadic.

Many more cultural materials dating to the Archaic period in the mountains (5800 BC-AD 150) have been found. The general size reduction of lithic tools, coupled with the presence of groundstone, vegetal and faunal evidence, suggests that a gradual shift in subsistence from large game to smaller game and possible horticulture was taking place (Butler 1997). As early as 7800 BP, Archaic populations were living in pithouses (Metcalf and Black 1991; Shields 1998), and, later, in structures with stone foundations (Guthrie 1981). Based on these and other data, it appears that Archaic groups were sedentary to some extent.

Evidence of the Late Prehistoric period (AD 100-1725) occupation is spotty in the mountain region, and the sparse data suggest a continuation of Archiac-period lifeways. Instead of a clearly defined "mountain formative culture", data suggest that surrounding groups (Anasazi, Fremont

and Woodland groups[3]) utilized the resources in the mountains near them [although Benedict (1990, 1992) suggests otherwise]. The area of potential effect is located in a region of the mountains that appears to have been used by Plains-oriented groups. However, there is little to indicate substantial Late Prehistoric settlement in the mountains (see Gilmore et al. 1999, and Zier and Kalasz 1999, for more details on this period).

Aboriginal populations during the Protohistoric period (AD 1540-1860) underwent significant changes due to the influence and encroachment of Euro-American culture. The Utes occupied the mountains, perhaps even as far east as the foothills, but other Plains tribes were present in the mountains as well. The Comanche, Apaches, Kiowa, Cheyenne, Arapaho, and the Sioux utilized the area to varying degrees. Most likely because of small populations, along with the relatively nomadic lifestyle of the Plains tribes, there are very few sites attributed to the protohistoric. Sites with identifiable Ute features (e.g., wikiups and distinctive Ute pottery) are rare east of the Continental Divide.

Euro-American activity in the mountain region was dominated by fur trapping and mining for the majority of the historic period. Exploration by the Spanish began in the early 1700s and fur trapping was at its height from 1812 through the 1840s. By 1848, Spanish control of the region was finally surrendered. The Colorado Gold Rush occurred in 1859; prospecting and mining continued, with varying intensity. Construction of towns, roads, and railroads followed and greatly facilitated access into the once remote mountains. Serious labor problems in the early part of the twentieth century resulted in a disastrous decline in mine production. By World War I, other minerals were in demand, and gold and silver mining dropped off sharply. More information and references regarding the history of the Colorado mountains are available in Mehls (1984) and Church et al (2007).

## STATEMENT OF OBJECTIVES AND RESEARCH DESIGN

The objective of the Mount Shavano Vegetation Treatment Project cultural resources inventory was to determine whether any historic properties will be impacted by activities associated with this federal undertaking (See Appendix C for a map of the undertaking). Following the steps of identification and evaluation, the BLM complies with the National Historic Preservation Act by ultimately identifying any necessary steps to mitigate the impacts of its actions.

Information collected during the literature review and the natural environment of the area of potential effect indicated that the aboriginal site density could be moderate. This is due to the presence of the pinon and juniper forest, whose seeds and berries were used in the production of food and medicine. The area is also a source of dispersed lithic raw material and a corridor for migratory game such as deer and elk. The area is also appealing due to its proximity to the

[3] Even, perhaps, populations influenced by Great Basin cultures, although Black's "mountain tradition" is associated with the earlier, Archaic, period (see Black 1991).

Arkansas River. Due to the relative proximity to the town of Salida (located approximately 4 miles away and founded in 1880), it was possible that historic sites relating to activities associated with local history would also have been found.

Since the location of both Euro-American and aboriginal remains was possible during the Mount Shavano Vegetation Treatment Project cultural resources inventory, general research orientations concern the elucidation of human behavior represented by both cultural categories of material remains. The often random way in which modern undertakings interact with historic and prehistoric remains, along with the limited data that can be collected during inventory, restrict the research questions that can be analyzed.

The general cultural affiliation (aboriginal or Euro-American), and, if diagnostic artifacts are present, the age of the site, can be tentatively established based on an inventory of surface materials. In the case of aboriginal diagnostic data, the affiliation of a site with a particular time period based on surface artifacts is risky because of the possible long-term effects of natural processes (erosion). In addition, unless a diagnostic lithic artifact (e.g., a projectile point) is found in a stratum with other reliable chronometric data, its use as a temporal marker is not entirely reliable. However, because of their relative "youth", historic sites are less likely to be impacted by erosion. In addition, historic artifacts that provide general age information were often mass-produced, and therefore, were not likely to be manufactured or altered by the site inhabitants so that they would suggest another time period.

Site function is also generally identifiable based on the presence of features and surface artifacts. The Colorado SHPO scheme of aboriginal site types applies well to the mountain area (e.g., open lithic, sheltered lithic, open camp). In general, a "camp" is suggested by the presence of a thermal feature or groundstone, and an architectural feature can indicate longer-term occupation or even a ceremonial function (Weimer 1999, 2002, 2010). Historic sites are even more easily analyzed for function, with most sites falling into mining, occupation, transportation, or ranching/agriculture categories.

If a large enough assemblage of sites is recorded during an inventory, broad questions regarding settlement patterns, technological trends, and environmental adaptations might be analyzed. Such research topics are detailed in the various contexts that apply to the mountain region (Gilmore et al. 1999, and Zier and Kalasz 1999, Mehls 1984, Church et al 2007).

The absence or a paucity of cultural materials can also be indicative of human behavior. In the case of aboriginal loci, a lack of sites might be a result of low population density, an uninviting natural environment, or other unknown socio-cultural factors. The antiquity of the occupation (causing sites to be so ephemeral as to be virtually invisible) or diminished visibility due to vegetation cover, light conditions or erosion might also be causes for apparently limited or non-existent cultural materials.

Euro-American sites might be absent or limited in number for a wide variety of reasons, including a lack of interest by early homesteaders as a result of the remoteness of the area of potential effect,

no economically viable resources present in the area or a general unfitness of the topography and/or geography for transportation use (e.g. roads, railroads). Although less likely to occur, historic era sites might also be missed due to diminished visibility.

## FIELD AND LABORATORY METHODS

Isolated finds are defined as evidence of an individual or limited behavioral episode or single human activity that does not meet any of the four criteria for NRHP eligibility. Sites are evidence of complex human activity, multiple behavioral episodes, and/or occupation that might meet one of the four criteria for NRHP eligibility.

When a site is found, the archaeologist takes GPS points of individual artifacts and features. Maps are drawn in the field, but boundaries are not set until the GPS data are analyzed. Sites are photographed using digital technology, and voice recordings of photo information are also captured. The data are compiled on the appropriate Colorado site forms, and site location and site maps, along with photographs, are attached to them.

Lithic and groundstone analysis is always conducted in the field. Lithic debitage is classified by raw material type and reduction stage[4]. In the rare instances that ceramic artifacts are found, they, and any other unusual and diagnostic artifacts, are collected for analysis and illustration.

Historic artifacts are also analyzed in the field. As with aboriginal artifacts, rare and unusual items are collected, however, in most cases diagnostics (such as hole-in-top cans and amethyst glass) are left in situ.

The current policy for artifact collection is that only diagnostics are removed for illustration unless on-site analysis is problematic. All artifacts removed are temporarily curated at the BLM, Royal Gorge Field Office in Cañon City. Field notes and digital photograph files are stored in the same location, and copies of digital photograph files are supplied to the Colorado Office of Archaeology and Historic Preservation.

Amie Andrews, Erica Hayes, and Michael Troyer, Royal Gorge Field Office Archaeologists, Bureau of Land Management, conducted an intensive cultural resources inventory of the Mount Shavano Vegetation Treatment area of potential effect. The archaeologists walked transects spaced no more than 15 meters apart across the entire study area.

[4] A cortical flake consists entirely of cortex; a primary flake is defined as one that exhibits 75 percent or more cortex; a secondary flake exhibits 0-74 percent cortex; an interior flake exhibits no cortex; and a microflake is 5 mm. or smaller in size. Cores are considered to be tools, and are distinguishable from angular debris by the presence of two or more culturally removed flakes. All lithic materials are examined for edgewear and heat treatment.

## RESULTS

### Review of the Indirect APE

The literature review of the area indicated that 21 surveys have been conducted and 13 sites and 13 isolated finds have been found within one mile of the project area. Of the 13 previously recorded sites, four are historic and nine are prehistoric in nature. One of the prehistoric sites (5CF.45) is listed as 'Needs Data'; the remaining eight prehistoric sites and all four historic sites are considered not eligible for inclusion on the National Register of Historic Places. The 13 isolated finds are not eligible for the NRHP, by definition.

Site 5CF.45 is an open prehistoric site located approximately 1000 meters southeast of the project area. The site is topographically removed from the project area, separated by a low ridge, and several hundred feet below the project area landform. Accordingly, the site will not be directly impacted as it falls outside the direct APE, and will be indirectly impacted by project activities since it is physically separated and not visible from the project area.

### Inventory of the Direct APE

Ground cover largely did not limit the visibility of cultural resources during the Mount Shavano Vegetation Treatment Project. Erosion is a serious problem, present throughout the project area, and has had a significant impact on cultural resources. The project area broadly is located on a heavily eroded landscape. Local geomorphology largely precludes meaningful deposition. Local geology is largely composed of alluvial gravels overlain by thin deposits of sand, and soil formation is non-existent. The wide distribution of lithic materials and lack of stained sediment or any features (hearths) further suggests the entire plateau has been heavily impacted by erosion. In the interest of locating any traditional cultural properties that might be present in the area of potential effect, the BLM archaeologist surveyed all hilltops and other places that appeared to be likely locations for such sites.

Nine open lithic sites and 21 isolated finds were located during the Mount Shavano Vegetation Treatment Project cultural resources inventory. These include sites 5CF.3194, 3195, 3196, 3197, 3198, 3199, 3200, 3201, and 3203. The cultural resources were relatively evenly distributed throughout the area of potential effect with no apparent environmental associations.

**Site 5CF.3194** consists of a widely distributed surface lithic and tool scatter consisting of 11 artifacts (9 flakes, 1 scraper, and one biface) spread across nearly 1.5 acres, yielding a density of approximately 1 artifact every 550 square meters.

**Site 5CF.3195** is a widely distributed surface lithic and tool scatter consisting of 13 red dendritic (Trout Creek) chert flakes and a single red dendritic chert biface. The site appears to represent the remains of a bifacial reduction episode that has been reshaped and scattered by surface erosion. The artifacts are spread across 71 square meters, yielding an artifact density of around 1 artifact every 5 square meters.

**Site 5CF.3196** is a widely distributed surface lithic and tool scatter consisting of 18 artifacts (13 flakes and 5 bifaces) spread across almost 8.5 acres, yielding an artifact density of approximately 1 artifact every 1800 square meters.

**Site 5CF.3197** consists of two lithic tools – a Archaic period dart point, and a broken unifacial tool located approximately 25 meters apart. The site encompasses 0.4 acres, yielding an artifact density of approximately 1 artifact every 850 square meters.

**Site 5CF.3198** consists of two artifacts - a Late Prehistoric projectile point and a single flake located approximately 50 meters apart. The site encompasses 0.7 acres, yielding an artifact density of approximately 1 artifact every 1450 square meters.

**Site 5CF.3199** consists of four artifacts (1 projectile point – possibly Archaic, 1 biface, and two unifacial tools) spread across 1.15 acres yielding an artifact density of approximately 1 artifact every 1150 square meters.

**Site 5CF.3200** is a widely distributed surface lithic and tool scatter consisting of 11 projectile points, 25 bifacial tools, two scrapers, 21 isolated flakes, and two flake concentrations (one with 11 flakes, one with 300 flakes). The site encompasses almost 94 acres, yielding an average artifact density of around 1 artifact per 1000 square meters. Within the larger flake concentration, the artifact density increases to around 1 flake per 245 square meters. Despite its size, the site is generally thinly distributed, suggesting extensive surface remodeling/erosion. Down-cutting from use of the road and dissection by small drainages across the site failed to reveal any evidence of subsurface components. The local geomorphology largely precludes meaningful deposition and the wide dispersion of artifacts suggests the site is surface exposed and has been compromised by erosion. The range of dates associated with the surface artifact assemblage (Early Archaic, Late Archaic, and Late Prehistoric) also suggests deflating, palimpsest sediments.

**Site 5CF.3201** consists of an artifact scatter measuring approximately 117 x 80 m and contains 56 flakes and two bifaces. The site encompasses almost 1.8 acres, yielding an artifact density of approximately 1 artifact every 122 square meters.

**Site 5CF.3203** is a surface lithic and tool scatter measuring 100 m x 80 m and comprising a Late Prehistoric pink quartzite projectile point fragment, a red and orange chert biface fragment, and red dendritic chert flake. The site encompasses 0.8 acres, yielding an artifact density of approximately 1 artifact every 1085 square meters.

Table 1 details the recorded isolated finds within the CF.LM.R132 area of potential effect. The IFs are, by definition, not eligible for inclusion on the NRHP.

**Table 1: Summary of Isolated Finds within the area of potential effect.**

| IF Number | Cultural Materials |
|---|---|
| 5CF.3202 | 4 red, orange, and pink dendritic chert flakes |
| 5CF.3204 | 13 red, orange, and white chert flakes between 2 and 3 cm |
| 5CF.3205 | 1 pink dendritic chert flake measuring ~ 1 cm |
| 5CF.3206 | 1 Late Archaic red chert projectile point measuring 2.3 x 1.8 x 1.1 cm |
| 5CF.3207 | 1 red dendritic chert unifacial tool fragment measuring approximately 2.4 x 2 x 1.5 cm. |
| 5CF.3208 | 1 reddish-brown Late Prehistoric projectile point fragment. The artifact measures 2.0 (width) x 1.8 (length) x 0.7 cm (width) with a neck width of approximately 0.4 cm. The point is missing the tip and base, but the ears are intact. |
| 5CF.3209 | 1 red and orange chert biface measuring 1.9 x 1.1 x 0.4 cm |
| 5CF.3210 | 3 salt-glazed white ceramic crockery fragments |
| 5CF.3211 | 1 pink chert Late Prehistoric projectile point fragment measuring 2.1 cm wide x 1.9 cm long, and 0.5 cm thick, with a 0.4 cm wide neck. The point has long, exaggerated ears, and is missing the tip. |
| 5CF.3212 | 5 dark red dendritic chert flakes between 2 and 3 cm in total length |
| 5CF.3213 | 1 white chert Late Archaic projectile point fragment (likely Besant), measuring 2.4 x 1.9 x 0.7 cm with a 1.1 cm wide neck and a concave base |
| 5CF.3214 | 19 red, orange, and yellow chert flakes between 1 and 2 cm in length spread across ~ 400 square meters |
| 5CF.3215 | 21 whiteware ceramic fragments, likely representing a broken historic cooking vessel. |
| 5CF.3216 | 1 red and orange chert Late Archaic projectile point measuring approximately 3.2 x 2.1 x 0.7 cm, with a neck width of 1.4 cm. |
| 5CF.3217 | 1 red chert flake measuring approximately 3 cm in length. |
| 5CF.3218 | 1 red and orange chert unifacial tool measuring 2.7 x 1.8 x 1.1 cm |
| 5CF.3219 | 1 red chert flake ~ 4 cm in length |
| 5CF.3220 | 1 red/brown Archaic (possible Early Archaic – Mount Albion-like) projectile point measuring 4.3 x 2.2 x 1.2 cm with a 1.5 cm neck width |
| 5CF.3221 | 1 orange dendritic chert biface fragment measuring 2.5 x 1.9 x 0.5 cm |
| 5CF.3222 | 1 red dendritic, heat treated chert projectile point (dart) measuring: length: 2.4, width: 1.6, basal notch: 0.3 deep, thickness: 0.3 cm |
| 5CF.3223 | 1 dark red dendritic, heat treated chert projectile point. The artifact measures: length: 2.4 (tip missing), width: 1.7, base width: 1.4, basal notch: 0.4 deep, thickness: 0.3 cm. |

## EVALUATION AND RECOMMENDATIONS

All the of the resources described herein have been heavily impacted by erosion and lack subsurface components. Pin-flag and trowel testing across these sites failed to reveal intact sediments or even meaningful soil formation. Despite the large number of artifacts distributed throughout the project area, all the sites uniformly express very low artifact densities, suggesting extensive surface remodeling and erosion. Moreover, the local geology, which is largely composed of alluvial gravels overlain by thin deposits of sand, largely precludes meaningful deposition. Indeed, it appears the area is actively deflating, not accumulating. The wide age-range of artifacts found on the surface supports this assertion. The area is dissected by intermittent drainages that suggest that flash flooding and sheeting is common, and none of these down-cutting drainages have revealed any buried materials. As such, none of the recorded resources have subsurface

potential, they all lack integrity, and the surface recording described herein has exhausted their data potential. Accordingly, none are considered eligible for inclusion on the National Register of Historic Places. Therefore, since no historic properties will be affected by the proposed undertaking, the BLM recommends that the Mount Shavano Vegetation Treatment Project proceeds.

**Table 2: Summary of eligibility and effect determinations for sites within the area of potential effect.**

| Site ID | Site Type | Description | Eligibility | Potential Effects |
|---|---|---|---|---|
| 5CF.3194 | Prehistoric | Open Lithic | Not eligible | None – surface inventory has exhausted data potential |
| 5CF.3195 | Prehistoric | Open Lithic | Not eligible | None – surface inventory has exhausted data potential |
| 5CF.3196 | Prehistoric | Open Lithic | Not eligible | None – surface inventory has exhausted data potential |
| 5CF.3197 | Prehistoric | Open Lithic | Not eligible | None – surface inventory has exhausted data potential |
| 5CF.3198 | Prehistoric | Open Lithic | Not eligible | None – surface inventory has exhausted data potential |
| 5CF.3199 | Prehistoric | Open Lithic | Not eligible | None – surface inventory has exhausted data potential |
| 5CF.3200 | Prehistoric | Open Lithic | Not eligible | None – surface inventory has exhausted data potential |
| 5CF.3201 | Prehistoric | Open Lithic | Not eligible | None – surface inventory has exhausted data potential |
| 5CF.3203 | Prehistoric | Open Lithic | Not eligible | None – surface inventory has exhausted data potential |

## SUMMARY AND CONCLUSIONS

Because the sites located during the Mount Shavano Vegetation Treatment Project cultural resources inventory do not meet any of the NRHP criteria and possess poor integrity, no historic properties will be affected by the proposed undertaking, and no further work on them is necessary. The BLM therefore recommends that the Mount Shavano Vegetation Treatment Project proceeds.

## REFERENCES CITED


Benedict, James B.
1990 *Archaeology of the Coney Lake Valley*. Center for Mountain Archaeology, Research Report No. 5. Ward, Colorado.
1992 Footprints in the Snow: High-Altitude Cultural Ecology of the Colorado Front Range, U.S.A. *Arctic and Alpine Research* 24: 1-16.

Black, Kevin D.
1991 Archaic Continuity in the Colorado Rockies: the Mountain Tradition. *Plains Anthropologist* 36: 1-29.

Brunswig, Robert H.
1999 Evidence of Mountain Paleoindian Use of the Colorado Piedmont and Plains Territories. *Current Research in the Pleistocene* 16: 16-18.
2001a Late Pleistocene/Early Holocene Landscapes and Paleoindian Economic Systems in Colorado's Southern Rocky Mountains. In *On Being First: Presenting the First Peoples in the Americas*, edited by C. de Mille, J. Gillespie and S. Tupakka. Department of Archaeology, University of Calgary, Calgary, Alberta.
2001b New Evidence for Paleoindian Occupations in Rocky Mountain National Park, North Central Colorado. *Current Research in the Pleistocene* 16.

Butler, William B.
1997 Cultural and Climatic Patterns in the Faunal Record from Western Plains Archaeological Sites. *Southwestern Lore* 63: 1-36.

Church, Minette C., Steven G. Baker, Bonnie J. Clark, Richard F. Carrillo, Jonathon C. Horn, Carl D. Späth, David R. Guilfoyle, and E. Steve Cassells
2007 *Colorado History: A Context for Historical Archaeology*. Colorado Council of Professional Archaeologists, Denver.

Gilmore, Kevin P., Marcia Tate, Mark Chenault, Bonnie Clark, Terri McBride and Margaret Wood
1999 *Colorado Prehistory: A Context for the Platte River Basin*. Colorado Council of Professional Archaeologists. Denver.

Guthrie, Mark R.
1981 *Testing of Archaeological Sites on the Basalt-Malta Transmission Line, Lake County, Colorado*. Cultural Resource Consultants.

Guthrie, Mark R., Powys Gadd, Renee Johnson, and Joseph J. Lischka
1984 *Colorado Mountains Prehistoric Context*. Office of Archaeology and Historic Preservation, Colorado Historical Society. Denver.

Lincoln, Tom R., Ed Freidman and Lori Tigner
2003 *Class III Archeological Survey of Four Parcels in South Park, Colorado*. Report prepared for the Bureau of Land Management, Royal Gorge Field Office. Canon City, Colorado.

Mehls, Steven
1984a *Colorado Mountains Historic Context*. Office of Archaeology and Historic Preservation, Colorado Historical Society. Denver.
1984b *Colorado Plains Historic Context*. Office of Archaeology and Historic Preservation, Colorado Historical Society, Denver, Colorado.

Metcalf, Michael and Kevin Black
1991 *Archaeological Excavations at the Yarmony Pit House Site*. USDOI-BLM Colorado, Cultural Resource Series, Number 31.

Shields, William L.
1998 Basin Houses in Colorado and Wyoming: Delineation of a Culture Area and Parsing Hunter-Gatherer Modeling. Unpublished Master's thesis, Department of Anthropology, University of Colorado. Boulder.

Weimer, Monica M.
1999 Cultural Resources Inventory of the Alta Vista Ranch Horseback Riding Special Recreation Permit Project Area. Unpublished manuscript, Bureau of Land Management. Canon City, Colorado.
2002 Cultural Resources Inventory of the Martellaro Fence Project Area. Unpublished manuscript, Bureau of Land Management. Canon City, Colorado.
2010 The Enduring Quest for a Clear Vision of the Past: Interpreting Aboriginal Stone Features on Two Archaeological Sites in South Park, Colorado. *Plains Anthropologist* 54 (212): 333-346.

Zeir, Christian J. and Stephen M. Kalasz
1999 *Colorado Prehistory: A Context for the Arkansas River Basin*. Colorado Council of Professional Archaeologists. Denver

# APPENDIX A: LITERATURE SEARCH

**Sites within 1 mile of CF.LM.R132**

| SITE_ID | SITE_TYPE | SITE_DESCRIPTION | ELIGIBILITY |
|---|---|---|---|
| **5CF.45** | PREHISTORIC | OPEN CAMP | Needs Data |
| **5CF.59** | PREHISTORIC | OPEN LITHIC | Not Eligible |
| **5CF.129** | PREHISTORIC | OPEN LITHIC | Not Eligible |
| **5CF.618** | PREHISTORIC | OPEN LITHIC | Not Eligible |
| **5CF.619** | HISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.620** | PREHISTORIC | OPEN LITHIC | Not Eligible |
| **5CF.651** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.652** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.875** | HISTORIC | TRASH SCATTER | Not Eligible |
| **5CF.918** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.919** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.920** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.921** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.922** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.1120** | HISTORIC | ISOLATED FEATURE | Not Eligible |
| **5CF.1148** | HISTORIC | FOUNDATION | Not Eligible |
| **5CF.1179** | PREHISTORIC | OPEN LITHIC | Not Eligible |
| **5CF.1180** | PREHISTORIC | OPEN LITHIC | Not Eligible |
| **5CF.1181** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.1182** | PREHISTORIC | OPEN LITHIC | Not Eligible |
| **5CF.1183** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.1184** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.1185** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.1186** | PREHISTORIC | ISOLATED FIND | Not Eligible |
| **5CF.1917** | PREHISTORIC | OPEN LITHIC | Not Eligible |
| **5CF.1918** | PREHISTORIC | ISOLATED FIND | Not Eligible |

**Surveys within 1 mile of CF.LM.R132**

| BLM_ID | SHPO_ID | AUTHOR | TITLE |
|---|---|---|---|
| **CRIR NO. 12-926** | CF.FS.NR28 | BENEDICT, TIM | CULTURAL RESOURCE SURVEY OF THE DRONEY GULCH PUBLIC FUELWOOD AREA |
| | CF.FS.NR54 | SULLIVAN, MARK | WELDON GULCH TIMBER SALE |
| | CF.FS.NR55 | SULLIVAN, MARK | DRONEY TIMBER SALE |
| **12-1504.11** | CF.FS.NR74 | SEGIN, STEVE | CULTURAL RESOURCES INVESTIGATION OF THE VALLEY VIEW PLACER |
| **CRR 12-1584.11** | CF.FS.NR89 | SEGIN, STEVE | THE PLACER CREEK AND DRONEY GULCH PRESCRIBED FIRE PROJECT |
| | MC.FS.R477 | BARCLAY, et al. | FINAL REPORT OF THE SALIDA RANGE ALLOTMENT PLAN MANAGEMENT PLAN PROJECT |
| **CR-RG-95-5 N** | CF.LM.NR27 | WEIMER | ANDERSON ROAD PROJECT AREA |
| **CR-RG-12-140 N** | CF.LM.NR74 | BLM | BROWN CREEK AND MT SHAVANO FENCE |
| **CR-RG-90-40 P** | CF.LM.R14 | WEIMER | TOM SMITH EXCHANGE PROJECT AREA |
| **CR-RG-97-13 P** | CF.LM.R28 | WEIMER | EVERETT LAND EXCHANGE |
| **CR-RG-08-20 N** | CF.LM.NR60 | WEIMER, MARTIN | MT. SHAVANO FENCE, CHAFFEE COUNTY |
| **CR-RG-86-10 N** | | SOUNART | SHAVANO SPRING |
| **C 2853-002** | CF.CH.NR5 | JEPSON, DANIEL A. | AN INTENSIVE ARCHAEOLOGICAL INVENTORY ALONG US HIGHWAY 285 |
| **CRR 12-1394.11** | CF.FS.R26 | HICKS, KERI | CULTURAL RESOURCES INVESTIGATION OF THE SQUAW CREEK SALVAGE SALE |
| **CRR 12-1519** | CF.FS.R31 | SEGIN, STEVE AND ALLEN E. KANE | WESTSIDE ECOSYSTEM MANAGEMENT PROJECT |
| | CF.FS.R52 | SULLIVAN, MARK E. | SAWMILL GULCH TIMBER SALE |
| **CR-RG-99-25 N** | CF.LM.NR42 | WEIMER | MAYSVILLE MOUNTAIN PINE BEETLE INFESTATION |
| **CR-RG-83-13 P** | CF.LM.R2 | SOUNART | SHAVANO GRAVEL QUARRY |
| **CR-RG-98-1 P** | CF.LM.R32 | WEIMER | MOUNT SHAVANO HPP PJ CUTS |
| **CR-RG-99-15 P** | | HICKS(USFS) | SQUAW CREEK SALVAGE SALE |
| **CR-RG-01-58 P** | | SEGIN (USFS) | WESTSIDE ECOSYSTEM MANAGEMENT PROJECT |

# APPENDIX B: PROJECT LEGAL LOCATION

# APPENDIX C: PROJECT PHOTO LOG

# Photo Log

## CF.LM.R132 Project Overview

| Photo Number | Subject | Direction |
|---|---|---|
| Figure 1 | Project Setting | West |
| Figure 2 | Project Setting | SW |
| Figure 3 | Project Setting | NE |
| Figure 4 | Project Setting | East |
| Figure 5 | Project Setting | East |
| Figure 6 | Project Setting | East |
| Figure 7 | Project Setting | SE |

**Figure 1: CF LM R132 Overview (1). Photo by Erica Hayes.**

**Figure 2: CF LM R132 Overview (2). Photo by Erica Hayes.**

**Figure 3: CF LM R132 Overview (3). Photo by Erica Hayes.**

**Figure 4: CF LM R132 Overview (4). Photo by Erica Hayes.**

**Figure 5: CF LM R132 Overview (5). Photo by Erica Hayes.**

**Figure 6: CF LM R132 Overview (6). Photo by Erica Hayes.**

**Figure 7: CF LM R132 Overview (7). Photo by Erica Hayes.**

# APPENDIX D: PROJECT MAPS – PUBLIC

U.S.D.I. BUREAU OF LAND MANAGEMENT ROYAL GORGE FIELD OFFICE - CANON CITY, CO

# CR-RG-18-037 P

**New Mexico Principal Meridian**
**T. 50 N., R. 7 E.**
**T. 50 N., R. 8 E.**

**Chaffee County**

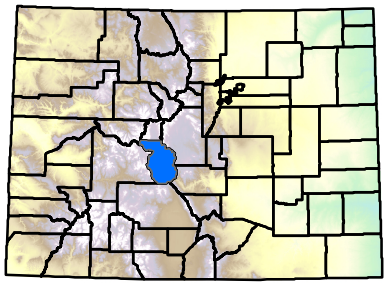
**Maysville 7.5'**
**Salida West 7.5'**

**8277 feet**

**1:24,000**

**NAD 1983 UTM Zone 13N**

CF.LM.R132



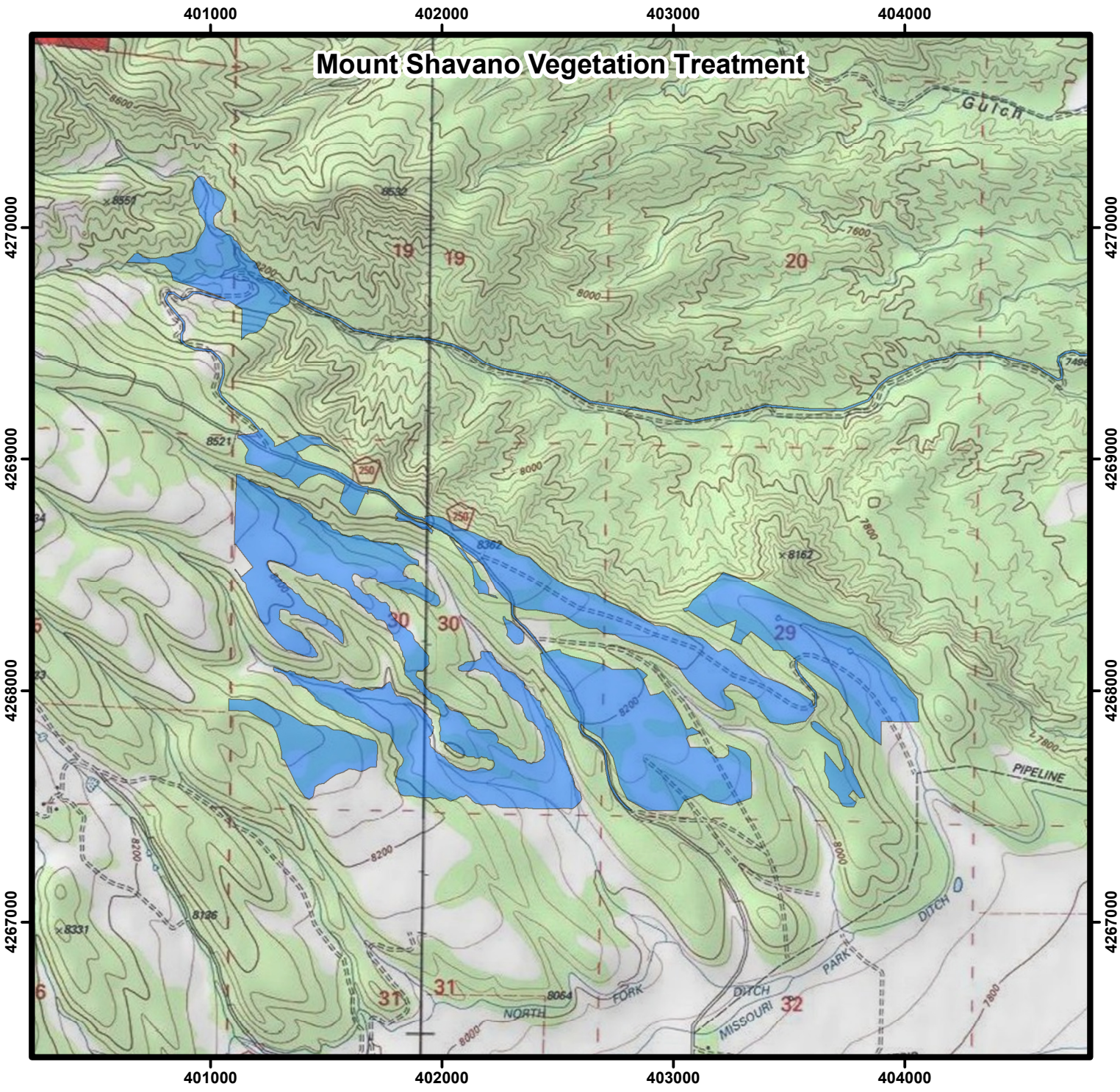


Meters

0 250 500 1,000

Michael Troyer

5\1\2019



# APPENDIX E: PROJECT MAPS – NON-PUBLIC