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A Class III Cultural Resource Inventory of the Mountain Coal's West Elk Mine Panels 15–17 in Gunnison County, Colorado

by

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Prepared for
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MANAGEMENT SUMMARY

Mountain Coal Co., LLC (Mountain Coal) is proposing to mine three new subsurface longwall panels (Panels 15–17) at the West Elk Mine, in Gunnison County, Colorado. The proposed work does not include any direct surface disturbances, but there is some potential for surface subsidence related to the proposed panel mining. Because the project is federally authorized and extends across United States Forest Service (USFS)-managed land, various cultural resource laws apply. To meet these historic preservation law requirements, Mountain Coal retained Alpine Archaeological Consultants, Inc. (Alpine) to conduct a literature review and an intensive pedestrian cultural resource inventory of the project's Area of Potential Effect (APE) in advance of the project. Alpine's inventory examined 302.6 acres of land, comprising 201 acres of private land and 101.6 acres of lands on the Gunnison National Forest. No historical or prehistoric cultural resources were encountered during the survey. Alpine does not recommend any additional cultural resource work for the project.

CONTENTS

APPENDICES

FIGURES

TABLES

INTRODUCTION

Mountain Coal Co., LLC (Mountain Coal) is proposing to mine three new subsurface longwall panels—Panels 15–17—at the West Elk Mine, in Gunnison County, Colorado (Figure 1). Because the project is federally authorized and extends across United States Forest Service (USFS)-managed land, various cultural resource laws apply. Federal mandates for the examination of the project area include Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (54 U.S.C. § 300101 et seq.). These laws require that all significant cultural resources be identified prior to the planned development, and are intended to ensure that historical and prehistoric cultural resources important to our national heritage are not inadvertently harmed or destroyed by federally initiated or authorized actions. To comply with these laws, Mountain Coal retained Alpine Archaeological Consultants, Inc. (Alpine) of Montrose, Colorado, to conduct a literature review and an intensive pedestrian cultural resource inventory along the project's Area of Potential Effect (APE). The inventory examined 302.6 acres of land, including 201 acres of private land and 101.6 acres of lands managed by the USFS Paonia District of the Gunnison National Forest (GNF).

The cultural resource inventory took place from May 10–19, 2022, led by Project Director Sara A. Millward and assisted by Renee L. Collins and George Dombrowski. Rand A. Greubel served as the project's Principal Investigator. Connor Johnen performed the Geographic Information Systems (GIS) work on the project and Jessie Boyd assisted with the preparation of cultural resource record forms. Jacki Mullen was the technical editor for the report. The work was performed in accordance with maps provided by Mountain Coal. Field notes and photographs resulting from the inventory are on file at Alpine's office in Montrose, Colorado. No artifacts were collected during the project.

Project Description

Mountain Coal is proposing to mine three new subsurface longwall panels at the West Elk Mine. Mining will not entail any proposed surface disturbances within the APE. The cultural resource inventory is being conducted largely in advance of any possible future subsidence of the area above the proposed panels. Alpine inventoried the full extent of the APE.

LOCATION AND ENVIROMENTAL SETTING

The project area is 7.5 miles (mi.) east of the town of Paonia, in Gunnison County, Colorado (Figure 2). The project is above and south of the North Fork Gunnison River, in uplands extending below Mount Gunnison (part of the West Elk Range), which rises to the southeast (Figure 3). Elevations range from 7,740–8,120 feet (ft.). The project area is upon mapped deposits of the Cretaceous-aged Mesaverde Group sandstones and shales (Tweto 1979). Vegetation in the project area comprises a dense shrub ecosystem that includes Gambel oak, chokecherry, and snowberry with various grasses and forbs. The higher elevation portions of the project extend within aspen woodland.

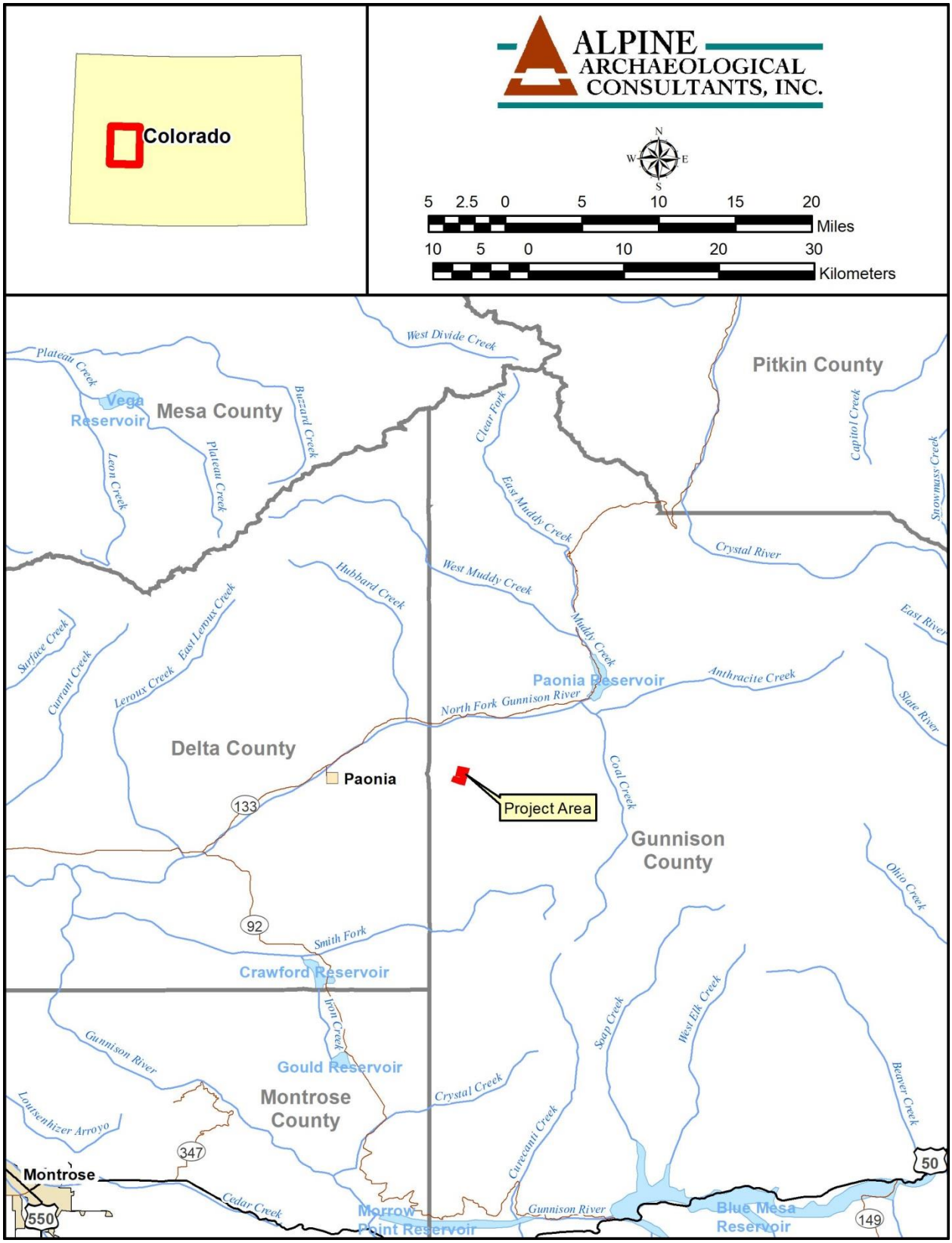

Figure 1. General location map.

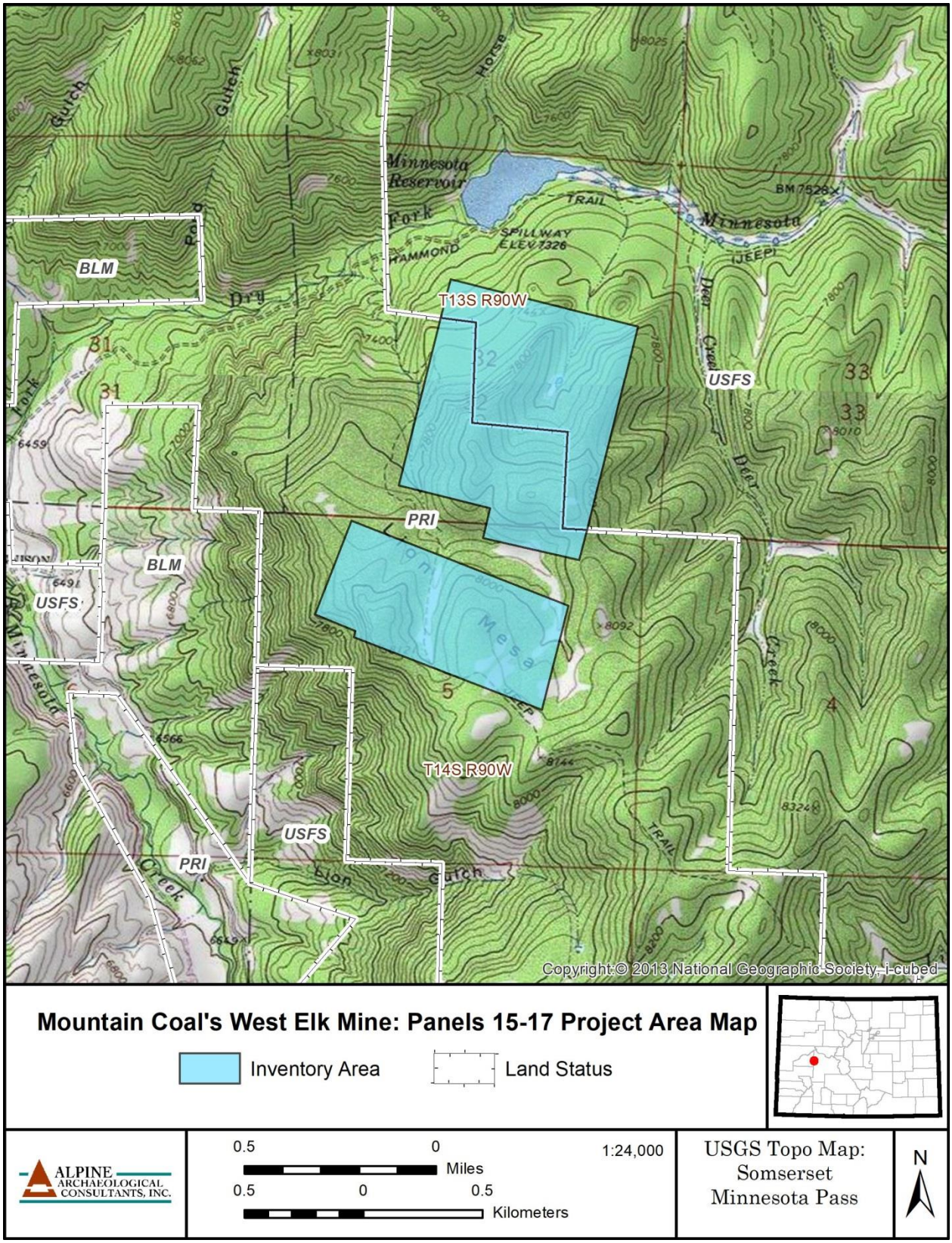

Figure 2. Project area map.

Figure 3. Project area overview, facing southwest.

CULTURAL HISTORY

The following is a brief summary of the cultural history of west-central and northwestern Colorado, which includes the study area. The summary is adapted from the Bureau of Land Management–Uncompahgre Field Office Class I Cultural Resource Overview (Greubel et al. 2010). Additional information about the prehistoric occupation of the region may be found in the Northern Colorado River Basin regional prehistoric archaeological context by Reed and Metcalf (1999). The Colorado historical archaeology context by Church et al. (2007) provides more information regarding the history of the area.

Prehistoric Era

The prehistoric occupation of the area can be divided into four different eras. The first of these is the Paleoindian era, dating between approximately 11,500 and 6400 cal BC. The Paleoindian lifeway represents an adaptation to terminal Pleistocene environments. The tools characterizing this era include finely flaked lanceolate projectile points and spurred scrapers, among others. Paleoindian peoples employed a highly mobile lifeway, focused upon big-game hunting, especially in the early portion of the era. Four cultural traditions are recognized across the Paleoindian era: the Clovis (11,500–9500 cal BC), the Goshen (11,000–10,700 cal BC), the Folsom (10,800–9500 cal BC), and the Foothill-Mountain (9500–6400 cal BC) traditions. The Foothill-Mountain tradition is thought to represent a more Archaic-like adaptation, characterized by less annual mobility, more extensive exploitation of local environments, and more regional variation.

The Paleoindian era is followed by the Archaic era, dating between approximately 6400 and 400 cal BC. Archaic-era lifeways were characterized by hunting and gathering, lessened group mobility, and extensive familiarity with and exploitation of local resources. The Archaic era in western Colorado has been divided into four periods that reflect increasing population growth and concomitant intensification of subsistence strategies over time: the Pioneer (6400–4500 cal BC),

Settled (4500–2500 cal BC), Transitional (2500–1000 cal BC), and Terminal (1000–400 cal BC) periods.

The Formative era (400 cal BC–AD 1300), which follows the Archaic era, refers to the period in western Colorado when corn cultivation began in some portions of the region. Horticultural adaptations were most successful in southwestern and northwestern Colorado, where the Ancestral Pueblo and Fremont traditions are represented. The majority of the area's Formative-era sites are campsites, probably representing habitation by comparatively mobile, foraging groups. Reed and Metcalf (1999) proposed the term Aspen tradition in reference to these mobile, non-farming, Formative-era foragers.

Following approximately cal AD 1300, horticultural lifeways were abandoned, ushering in the beginning of the Protohistoric era, which, as defined by Reed and Metcalf (1999), lasted until the final expulsion of the Ute to reservations in AD 1881. Roughly concurrent with the ending of horticulture was the expansion of Numic-speaking groups into the region. These peoples are thought to have been the ancestors of the Ute and Shoshone. They were relatively mobile hunters and gatherers, manufacturing small quantities of brown ware ceramics, and relying on the bow-and-arrow for hunting. These groups inhabited small conical brush structures called wickiups.

Historical Era

The Ute lifeway was greatly influenced by contact with the Spanish. Contact between the Ute and Spanish probably commenced in the early AD 1600s (Callaway et al. 1986). Although Spanish authorities often prohibited direct trade with the Ute, the Ute were able to acquire horses and a variety of Euroamerican items, through a combination of unauthorized trade and raiding. These were integrated into Ute culture, with the Ute acquisition of horses occurring earlier than tribes to the north and west.

The first European people to enter the area were Spanish explorers. Juan de Rivera led an expedition through the area in 1765 in search of mineral wealth. In 1776, the Spanish Fathers Escalante and Dominguez traversed western Colorado in search of a route to missions in California (Warner 1995). The Escalante/Dominguez expedition passed near present-day Paonia, crossed the Grand Mesa in this area, and crossed the Colorado River east of DeBeque.

The fur trade was commenced in the 1820s. Trading posts were constructed near Delta, Colorado, on the Spanish Trail's northern branch and in Browns Park in northeastern Utah. The Ute were directly involved in the fur trade and were regular participants of the trapper rendezvous in extreme northwestern Colorado, which began in 1825 and continued until 1840. The Ute obtained considerable quantities of firearms and other Euroamerican items through participation in the fur trade.

The Ute lifeway of hunting, gathering, and raiding continued to be successful until the 1850s, when gold was discovered in Colorado and colonial settlement intensified. Conflict increased when precious metals were discovered in the San Juan Mountains of southwestern Colorado. The Ute were pressed to sign a treaty in 1863, designed to reduce conflicts with the miners and their supporting industries. The agreement terminated Ute mineral rights and forced them to relinquish all mountain areas settled by whites, as well as the San Luis Valley. In exchange, the Utes received a reservation composed of approximately 18 million acres in western Colorado. In 1881, the Ute were removed to three smaller reservations, two in southwestern Colorado and one in northeastern Utah.

The period immediately following the forced removal of the Ute saw a massive influx of settlers pursuing mining, ranching, agriculture, and logging. Settlement of the North Fork Valley commenced in 1881, and the town of Paonia was founded soon after. Nearby towns (e.g., Aspen and Glenwood Springs) were founded in the late 1870s and mid-1880s, and coal was found in neighboring

valleys in the late 1890s. The region produced coal, precious minerals, marble, and timber. Cattle ranching was important from the time of the earliest settlement; sheep ranching became established later. Agriculture was prominent in the low-lying areas, particularly in the North Fork Valley, which specialized in fruit production. Many of these industries remain prominent to this day, particularly coal mining, logging, cattle ranching, and fruit growing. Exploration for liquid hydrocarbons began with the extraction of oil in the 1920s and later expanded to natural gas, an industry that has remained important into the twenty-first century. Other important revenue-generating modern uses of the region's natural environment include tourism, hunting, and other forms of recreation.

PREVIOUS INVESTIGATIONS AND EXPECTED RESULTS

A literature review and records search was conducted prior to fieldwork to identify and review previous cultural resources investigations and previously documented sites within 0.5 mi. of the project's APE. The identification of previous work and known sites helps develop field strategies based upon expected site densities. Additionally, the file search assists in ensuring that all previously documented archaeological sites within the project area are relocated, to assess the potential impacts of the proposed undertaking, and to evaluate whether portions of the project area have been adequately surveyed by previous projects. Alpine reviewed data obtained through a request to the Colorado Office of Archaeology and Historic Preservation (OAHP) on May 9, 2022.

Only one previously documented cultural resource has been documented within the file search area. The resource, 5GN1103, comprises a prehistoric isolated find (IF), and is 0.35 mi. northeast of the project area.

Six previous cultural resource inventories have been previously conducted within 1/2 mi. of the project APE. These were completed from 1984–2006, in advance of reservoir and pond projects, projects associated with the West Elk Mine, and an oil and gas project. Two of the surveys intersect the current APE, comprising a methane drainage well project for the West Elk Mine (GN.FS.NR210) and a seam drilling project for the mine (GN.FS.NR246).

General Land office (GLO) plats for the project area were also inspected to identify potential historical sites that might be encountered during the inventory (Table 1). No cultural features are depicted on either the 1885 original survey for Township 13S Range 90W, or the 1916 resurvey, that encompass the project's APE. Mapped resources within the file search area include a cabin and a trail—the latter unnamed in 1885 but designated as the "U.S. Trail Paonia to Coal Creek" by 1916, as well as the Minnesota Reservoir and a road that leads to the reservoir. Several labels noting "coal cropping" are also depicted on the 1914 GLO plat for Township 14S Range 90W adjacent to, but not within, the project area.

Several historical topographic maps were also consulted. These maps postdate the 1930s and show similar resources as the GLO plat. The maps do not depict any historical resources within the project area; nearby resources comprise the Minnesota Reservoir and a trail along Minnesota Creek (Table 2).

Based on the results of the file search, the potential for prehistoric sites in the project area was expected to be low. There was thought to be a higher probability for historical use of the project area, likely associated with use along areas above Minnesota Creek and early mineral extraction.

Table 1. Features Depicted on Historical GLO Maps within a 1/2 Mile of the Project Area.

Map Year	Township Range	Historical Feature	Within APE?
1885	T13S R90W	Unnamed trail	No
1916	T13S R90W	Minnesota Reservoir, Unnamed road to reservoir, U.S. Trail Paonia to Coal Creek	No
1914	T14S R90W	Several "Coal cropping" areas depicted.	No

Table 2. Summary of USGS Historical Topographic Map Features within a 1/2 Mile of the Project Area.

Map Name	Scale	Year	Historical Feature	Within APE?
Mount Gunnison	1:62,500	1938, 1945	Minnesota reservoir, Trail along Minnesota Creek	No
Mount Gunnison	1:48,000	1938	Minnesota reservoir, Trail along Minnesota Creek	No
Minnesota Pass	1:24000	1964	Unnamed trails	Unnamed trail

STATEMENT OF OBJECTIVES

The primary objective of the cultural resource survey was to identify and assess cultural resources in the project area and to evaluate their significance under applicable federal cultural resource laws. This process is intended to aid in the preservation of significant cultural resources, either by providing boundaries that can be avoided or by facilitating a thorough understanding of a site's components in advance of the creation of adequate mitigation strategies. This objective was accomplished, first, by conducting a site file search and literature review and, second, by conducting an intensive pedestrian survey of the project area. Recommendations regarding the significance of the cultural resources found during the project are made using the criteria for determining eligibility for inclusion in the National Register of Historic Places (NRHP). The historic preservation laws mandating the cultural resource study specifically identify eligibility for inclusion in the NRHP as the key factor in determining preservation needs.

The criteria for assessing site significance, as published in the U.S. Government Code of Federal Regulations (36 CFR 60) read as follows:

National Register Criteria for Evaluation

The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

A) that are associated with events that have made a significant contribution to the broad patterns of our history; or
B) that are associated with the lives of persons significant in our past; or
C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D) that have yielded, or may be likely to yield, information important in prehistory or history.

Prehistoric sites can meet any of the four criteria for eligibility to the National Register and their association with important events, individuals, and thematic construction in prehistory is

equally important in determining their significance. However, prehistoric cultural resources are most frequently evaluated under NRHP Criterion D, which pertains to the potential for the resource to yield scientifically important information. The measure of importance of the scientific data is based on research questions that are widely recognized as appropriate by the scientific community. Regional contexts documents often serve as the foundation for evaluating scientific significance.

Historical sites can potentially meet any of the four criteria for eligibility to the National Register. The focus of historical site significance is generally on architectural significance or association with individuals or events of historical importance, though the value of archaeological data is no less important. Under Criterion D, the condition of structures is less important than the presence of artifacts and cultural features that can yield important information that can be used to address research questions. Regional historical contexts identify the attributes of sites that justify inclusion in the NRHP for historical archaeology.

Once evaluated for eligibility, a site must also display enough integrity (i.e., aspects of location, setting, design, materials, workmanship, feeling, and association) to properly convey its significance {Little, 2000 #6537;National Park Service, 2002 #11481}. The importance of each aspect of integrity depends on the nature of the site and the relevant criterion of NRHP eligibility and any single site need not retain all aspects of integrity to be significant. For example, if a site is recommended eligible under Criterion A or B, then integrity of location, setting, design, materials, and association are important. A site recommended eligible under Criterion C should retain sufficient integrity of design, materials, and workmanship while a site recommended eligible under Criterion D is likely to retain integrity of location, design, materials, and association, though workmanship may not be necessary. Other aspects of integrity (i.e., setting and feeling) may increase an ability to recognize or interpret a site and are important for sites that might be eligible under any criteria.

Identification and evaluation of significant cultural resources in the project area permit formulation of management recommendations, which generally include site avoidance or data recovery. Management recommendations are typically based on careful assessment of project-specific impacts to sites, although site impacts may not be well understood for some undertakings (e.g., land exchanges) and in those cases only very general recommendations are possible. Sites and IFs that are determined to be not eligible for inclusion in the NRHP by state and federal agencies require no further management consideration.

METHODS

The project area was surveyed by three archaeologists walking transects spaced no wider than 15 m (50 ft.) apart to cover the block inventory areas. When cultural materials were discovered, the surrounding area was examined to determine whether a site or IF was present. Sites were defined as discrete areas with cultural features or culturally patterned distributions of artifacts in excess of 50 years in age, at which the preponderance of evidence suggests either one-time diagnostically interpretable use or repeated use over time, a prehistoric or historical occupation or activity, or a building or structure, whether standing or ruined, where the location itself possesses historical, cultural, or archaeological value regardless of the value of any existing structure. Loci with artifacts that do not indicate discrete human patterning beyond use of the area in a single-activity event were defined as IFs, regardless of the quantity of artifacts. Alpine's site recording focused on the portions of the site within the APE. All cultural resources were recorded on the appropriate Colorado OAHP Cultural Resource Survey forms (Appendix B) and evaluated for eligibility for inclusion in the NRHP by assessing the specific criteria discussed in the previous section.

Sites, features, and IFs were recorded with a Global Positioning System unit capable of submeter accuracy. Photographs were taken using a digital camera to document site condition, site features, and to supplement descriptions. No artifacts were collected during the project.

RESULTS

No cultural materials were found during the cultural resource inventory.

SUMMARY AND RECOMMENDATIONS

Mountain Coal is proposing to mine three new longwall panels (Panels 15–17) at the West Elk Mine, within Gunnison County, Colorado. Because the project is federally authorized and extends across Gunnison National Forest lands, various cultural resource laws apply. To comply with these laws, Mountain Coal retained Alpine to conduct a literature review and an intensive pedestrian cultural resource inventory within the project's APE. The inventory examined 302.6 acres of land, including 201 acres of private land and 101.6 acres of lands managed by the USFS-GNF. No cultural resources were identified during the inventory. No further work is recommended for the project.

The objectives of the literature review and cultural resource inventory were to locate all visible cultural resources within the project area, to evaluate the NRHP eligibility of those resources, and to make management recommendations. These objectives have been achieved. Based on the results of the literature review, site density was expected to be relatively low in the project area. Overall, the density of resources was less than expected. These low results likely reflect a combination of the upland location of the project area and lack of easy access to the areas, lack of permanent water, and low ground surface visibility.

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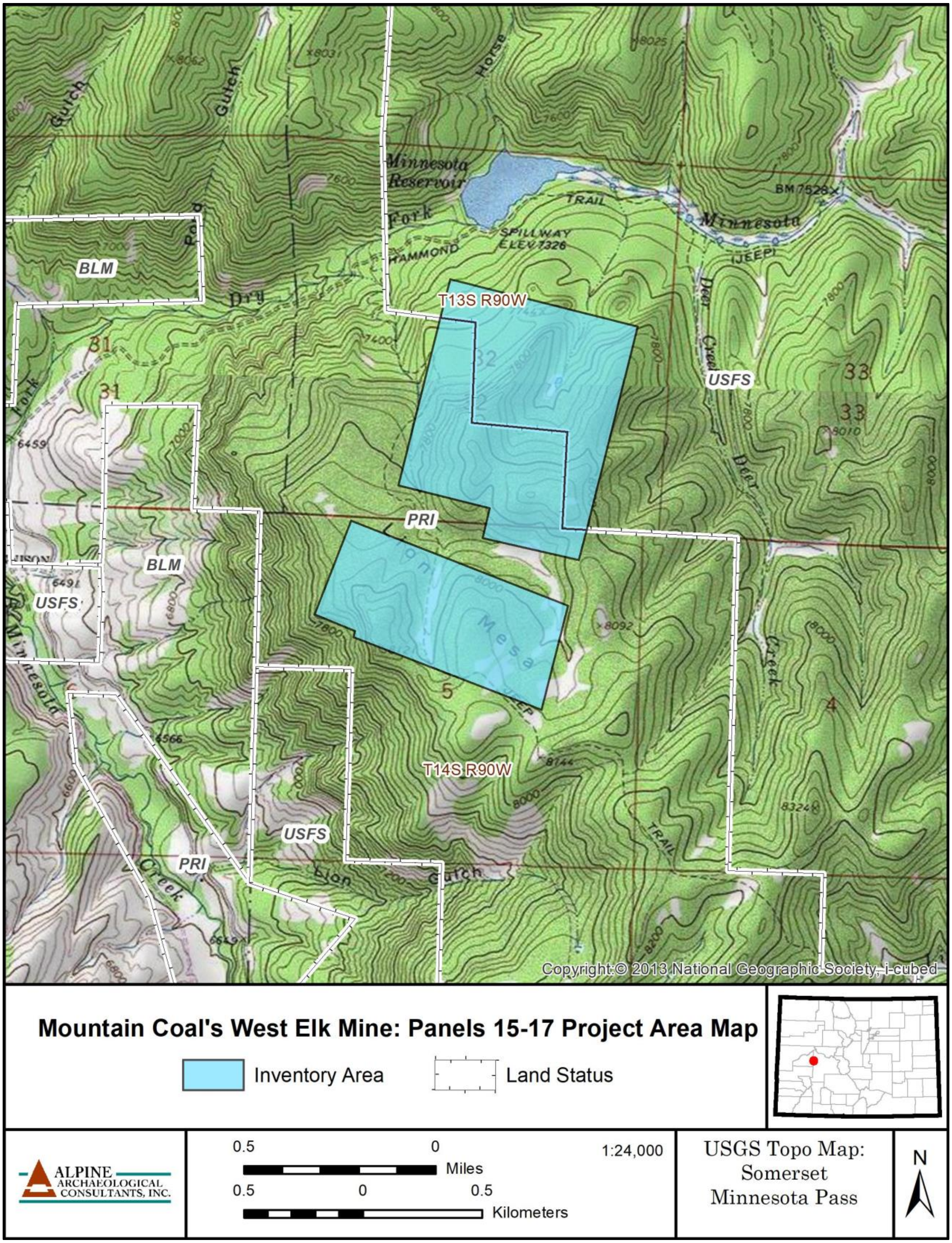
Appendix A
Project Results Map


Minnesota Reservoir
Fork
Dry
Gulch
Horse
Pond
TRAIL
SPILLWAY
ELEV 7326
HAMMOND
Minnesota
(JEEP)
BM 7528
Deer Creek
T13S R90W
T14S R90W
BLM
USFS
PRI
31
32
33
4
5
Mesa
Lion
Gulch
Creek
TRAIL
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Mountain Coal's West Elk Mine: Panels 15-17 Project Area Map
Inventory Area
Land Status
0.5
0
Miles
0.5
0
0.5
Kilometers
1:24,000
USGS Topo Map:
Somerset
Minnesota Pass
N
ALPINE
ARCHAEOLOGICAL
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