

facilities is shown on Map 11, Surface Facilities and Roads – East Portal. The rest of the study area was considered to be cleared archaeologically.

On January 19, 1984 Dr. Gordon C. Tucker, Jr. completed investigations for cultural resources on lands proposed to be impacted by construction and operation of the preparation plant area (PPA) and associated refuse disposal area (RDA). This area contained 86 acres as shown on Figure 2, Regional Map Showing Locations of Project Area. A summary of the survey report is contained in the following paragraphs.

Site file search and intensive inventory were used to determine the likelihood of cultural resources in the project area. The procedures are described below.

A Site File Search Request was made on January 18, 1984 to the Colorado Historical Society for Sections 14 and 23 of T33S, R68W. This was done to determine the nature and location of all cultural resources within a large area encompassing the project facilities.

An intensive pedestrian survey tactic was used to inspect the project area. In the proposed RDA, one archaeologist walked a zig-zag path up the eastern edge of the canyon, across the ridge-crest and back down the western edge. All likely site localities, such as level areas and rock outcrops, were checked for cultural materials. Most of the area consisted of relatively steep (greater than 30 percent) slopes and these areas were not intensively inspected as cultural resources are not likely to be found there. Greater attention was paid, however, to a small area of flat ground at the mouth of the canyon, close to Colorado Highway 12, where it was believed that prehistoric, or, more likely, historic resources might be found.

The PPA, on the opposite side of the highway adjacent to the Middle Fork, was inspected by walking a number of swaths in an east-west direction across the area. Close attention was paid to the narrow river channel, the only undisturbed portion of the area.

A file search of the Colorado Inventory of Cultural Resources by the Colorado Historical Society revealed that no cultural properties in the proposed impact area. These results are presented in Exhibit 7, Archaeological Information.

The intensive field investigations recorded no significant cultural resources. The only phenomena of cultural origins observed in the area was a stock pond, located in the drainage bottom immediately north of the highway (Figure 2, Regional Map Showing Locations of Project Area). This feature consists of an earthen dam piled in a curvilinear shape across the width of the drainage. A small pond (now dry) is impounded behind this embankment. It is considered to be a fairly recent age.

No significant cultural resources were observed on the PPA. Through the likelihood of cultural resources being found in this area is greater than for the RDA, that possibility was negated by deposits of underground development waste.

No cultural resources were recorded in the proposed project area. Consequently, no further archaeological work is considered to be necessary in those localities and clearance is recommended.

During 2011 a Cultural Resources Inventory was performed on the proposed RDA#1 expansion area and the associated RDA#1 geotechnical investigation area. One site was recorded. The site is not within the area of proposed disturbance. The report is located in Exhibit 7.

On August 6, 2021, DRMS received a letter from History Colorado, from the State Historic Preservation Officer (SHPO; Exhibit 7). The SHPO recommended that a class III cultural resource inventory be completed prior to construction activities to determine the presence of cultural resources in the area of potential effect and to assess the eligibility of any resources for the National Register of Historic Places (NRHP). Rule 2.04.4 requires such an analysis for areas potentially impacted by surface activities or probable subsidence. Given this, DRMS sought clarification on SHPO's recommendation since no new surface disturbance is proposed with PR5 and since subsidence is not anticipated given the proposed mining method using room and pillar mining and no proposed secondary mining. SHPO responded to DRMS with the enclosed correspondence dated August 20, 2021 (Exhibit 7). As a result, NECC requests that a class III cultural resource inventory of the PR5 not be required.

#### **2.04.5 General Description of Geology and Hydrology**

##### 2.04.5 (1a, b and c)

A thorough description of the geology and hydrology, including surface and groundwater systems, water quality within the proposed permit area and region are contained within the following sections of 2.04.6 and 2.04.7. All permit information on the geology and hydrology, as set forth by the regulations, are made available to the Division.

Geologic and hydrologic maps of the mine plan area (**Map 5-Regional Geology, Map 6-Surface and Bedrock Geology (Refuse Area) and Map 8-Regional Hydrology**) present the baseline conditions in the permit area. Due to the proximity of the Golden Eagle and New Elk Mines to each other, historical baseline data for both mines have been considered in defining the geologic and hydrologic environments.

##### 2.04.5(2)

Approved hydrologic modeling techniques have been utilized as part of this permit application and data used in modeling is made readily available within the document in 2.04.7. Coal seam correlations, cross-sections, structure maps, interburden maps, overburden maps and isopach maps were generated by the use of Carison's SurvCADD software which is commonly used in the coal mining industry.