

U.S. DEPARTMENT OF INTERIOR
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

for

Kayenta Mine

Renewal of Permit Number AZ-0001D¹

A. Introduction

Peabody Western Coal Company (PWCC) submitted to the Office of Surface Mining Reclamation and Enforcement (OSM) a timely application to renew Permit AZ-0001D for the Kayenta Mine under the 30 CFR 774.15(a) and (b) (1). The Kayenta Mine permit area is located on approximately 44,073 acres of land leased within the boundaries of the Hopi and Navajo Indian Reservations in northern Arizona, approximately 20 miles southwest of the town of Kayenta, in Navajo County (about 125 miles northeast of Flagstaff, Arizona). The request for permit renewal proposes to continue mining operations in coal resource areas N-9, J-19, and J-21 from July 6, 2010 through July 5, 2015. The proposed mining during the permit renewal period would create 1,159 acres of surface disturbance and reclaim 1,692 acres in the three coal resource areas on Navajo Indian Reservation lands. While the permit renewal will develop jointly held Navajo and Hopi coal resources, no surface disturbance will occur on Hopi Indian Reservation lands. The proposed permit renewal does not include any revisions to the mining and operations plan or the addition of any new mining areas. For the proposed five year renewal period, coal-mining operations are assumed to continue at the recent historical pace and existing facilities will be used for ongoing operations.

Pursuant to Section 506(d)(1) of the Surface Mining Control and Reclamation Act (SMCRA) of 1977, as amended, and 30 CFR 774.15 of the regulations promulgated thereto, any valid permit shall carry with it a right of successive renewal upon expiration with respect to areas within the boundaries of the existing permit. Under SMCRA and the adopted regulations, OSM must approve a complete and accurate application for permit renewal unless it finds that the criteria for approval as defined by 30 CFR 774.15 (c) are not met.

B. Statement of Environmental Significance of the Proposed Action

The undersigned person has determined that the renewal of Kayenta Mine Permit AZ-0001D would not have a significant impact on the quality of the human environment under section 102(2) (C) of the National Environmental Protection Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4332(2) (C) and therefore, an environmental impact statement (EIS) is not required. This finding of no significant impact (FONSI) is

¹ Upon issuance, the renewed Permit will be designated as AZ0001E.

based on OSM's environmental impacts analysis of the proposed action within an environmental assessment (EA), which identifies and discusses potential effects that are stated below.

C. Reasons

The FONSI is based on the attached EA that analyzes the potential environmental impacts of renewing the Kayenta Mine permit for the period of July 6, 2010 through July 5, 2015. This EA was prepared by a consulting firm, at the direction of OSM. During the development of the draft EA, OSM independently reviewed the document to ensure compliance with 43 CFR 46.320 and all relevant provisions of the Council on Environmental Quality (CEQ) regulations, and other program requirements. This independent review of the EA included OSM's evaluation of all environmental issues discussed therein. OSM subsequently adopted the EA and takes full responsibility for the scope and the content of this document.

Data, information, and maps presented within this EA were gathered from a number of sources, including OSM, PWCC, the US Geological Survey (USGS), the US Fish & Wildlife Service (USFWS), the Navajo Nation and the Hopi Tribe. OSM has evaluated the information presented within this EA and has determined that the proposed action would cause no significant adverse environmental effects that would not be mitigated in accordance with the eight standard permit conditions within the federal regulations at 30 CFR subpart 773.17, the standard permit terms and specifications of the permit application package (PAP), and one existing retained Special Permit Condition pertaining to the monitoring plan for the Mexican spotted owl.

The attached EA considers a reasonable range of alternatives to the proposed action, discusses the potential environmental effects of the proposed action and provides sufficient evidence and analysis for this FONSI.

Based upon OSM's review of the attached EA and the supporting documents, I have determined that the proposed action is not a major federal action that will have a significant effect on the quality of the human environment individually or cumulatively with other actions within the region. No environmental effects meet the definition of significance in context or intensity, as defined within the federal regulations at 40 CFR 1508.27. Therefore, an EIS is not required. This finding is based on the context and intensity of the project as described in the following paragraphs.

Context: The renewal of the Kayenta Mine permit is a site-specific action directly involving lands within the PWCC coal permit area that does not in and of itself have international, national, or regional importance. The three coal resource areas are entirely within the Kayenta Mine permit area where coal mining has occurred since 1970.

Intensity: The following discussion is organized around the 10 Significance Criteria described within the federal regulations at 40 CFR 1508.27. The following have been considered in evaluating intensity for this proposal:

1) *Impacts that may be both beneficial and adverse:*

The attached EA has analyzed and disclosed both beneficial and adverse effects of the proposed action. The proposed action will not result in any significant impacts.

2) *The degree to which the proposed action affects public health or safety:*

The proposed action does not affect public health or safety either adversely or in a significantly beneficial manner. Existing concentrations of criteria pollutants as measured in the region remain well below applicable National Ambient Air Quality Standards (NAAQS). Thus, emissions from low level releases from mining operations will not significantly impact any existing non-attainment area nor interact significantly with other sources. The emissions of PM₁₀, PM_{2.5} and NO_x relative to the NAAQS for those criteria pollutants are all below the annual and short-term NAAQS standards and the concentrations of other criteria pollutants in the region remain well below applicable NAAQS.

Sensitive noise receptors are located at a distance where the noise intensity will typically be within standards established in 30 CFR 816.67. Temporary effects from vibration and airblast levels within standards established in 30 CFR 816.67 is not considered capable of producing injury or property damage. With the nearest sensitive receptor at a distance of approximately 1 mile from the active mining area, noise and vibration impacts are not expected to exceed federal regulations. Regulatory changes in health and safety requirements will be included in standard operating procedures, and compliance with mandated safety rules will continue to be required. Blasting operations will continue to occur, and pre-blast surveys will be conducted as requested. Residents will continue to be notified and warned of blasting operations, and notification of the blasting schedule will continue to be posted and advertised.

3) *Unique characteristics of the geographic area such as proximity to historical or cultural resources, park lands, prime farmlands, wild and scenic rivers, or ecologically critical areas:*

There are no park lands, prime farmlands, wild and scenic rivers, or ecologically critical areas within the area that would be disturbed by surface mining in the three coal resource areas. The potential effects on cultural resources is not significant because permit terms require PWCC to report the discovery of any previously unrecorded cultural resources that might be made during the permit renewal period and to suspend work in the vicinity to protect discoveries until OSM determines appropriate disposition. The permit terms also require PWCC to address the potential effects on sacred and ceremonial sites that might be identified during the 5-year permit renewal period. Under the permit terms, PWCC will address any human remains that might be disturbed in accordance with the Native American Graves Protection and Repatriation Act and the Navajo Nation Policy for the Protection of Jishchaá: Gravesites, Human Remains, and Funerary Items.

The restoration of channel geometry, morphology, or location resulting from the destruction and reconstruction of drainage channels and the use of sediment control structures to manage discharge of surface water from the mine areas would not alter surface flows into regional drainages beyond the short-term. Furthermore, OSM requires PWCC to monitor water quality in proposed permanent impoundments in order to determine whether the impounded water is suitable on a permanent basis to support livestock grazing and wildlife habitat at final bond release. If the data indicate a proposed permanent impoundment does not meet the performance standards at 30 CFR 816.49(b) including applicable Tribal water quality standards, OSM will require PWCC to reclaim the impoundment.

At proposed sediment ponds, PWCC will use design and construction methods that minimize seep formation by identifying geochemically inert materials for constructing the embankments, compacting embankments based on engineering design standards, and siting embankments at locations with low permeability geologic units to the extent practicable. Sediment ponds are designed to treat the equivalent volume of runoff generated by a 10-year, 24-hour precipitation event.

Sediment control structures will allow the water to discharge with minimal erosion. In all cases, rates of erosion or deposition of sediment would reach a balance with natural rates in receiving streams over relatively short distances (i.e., several hundred yards), well before the washes exit the PWCC lease area. The diversion and reconstruction of natural streamflow also will be designed to preserve geomorphic and fluvial stability and prevent uncontrolled erosion or sedimentation. Reclaimed watersheds will be constructed using similar ranges of naturally occurring geomorphic features. These constructed features would be similar to natural variability of the unmined watersheds within and adjacent to the PWCC lease area.

SMCRA regulations at 30 CFR 816.41(h) specifically requires PWCC to replace water supplies that have been adversely impacted by mining. PWCC has committed to replace three windmill wells that have or would be removed by mining. Any other water supply that could be adversely impacted by mining during the five-year permit term would be replaced by PWCC. PWCC continues to provide public access to two potable water standpipes for unlimited public water hauling use and consumption.

The potential for formation of acidic seepage and trace-metal migration is minimal because of the high carbonate content of the soils. Acid reactions in the spoil water could occur, but are unlikely to be widespread. There are sufficient carbonate minerals in the overburden materials to neutralize most acidic water that could be produced by the oxidation of sulfides. Local areas where acidic waters form could result in the release of trace elements present in the sulfide minerals. However, the acidic drainage likely will not be widespread and will be contained to the mine pit and adjacent area. Some degradation of surface-water quality could result, however discharges from springs with low pH water would likely be neutralized by the alkaline soils prior to discharge outside the permit area.

Unconsolidated aquifer systems have the potential for subsidence due to compression of fine-grained layers during groundwater withdrawal. In addition, the removal of cavity filling material and dissolution of limestone in some limestone aquifers can foster sinkhole development. However, the primary water-bearing units of the D and N aquifers are not composed of unconsolidated sediments or limestone that would be subject to subsidence effects.

Pumping has been primarily occurring within the confined part of the N aquifer, and water levels are currently rising or are predicted to rise because of the 70-percent reduction in PWCC's pre-2006 pumping annual volumes. Groundwater levels are recovering because less groundwater has been used by PWCC since the coal slurry pipeline was discontinued on December 31, 2005. Available monitoring data indicate that PWCC pumping to date has not significantly reduced the monitored N aquifer spring flow at the confined-unconfined N aquifer hydrologic boundary. Additionally, the calibrated and validated PWCC groundwater flow model reviewed and

approved for predicted use by OSM indicates a negligible reduction in N aquifer baseflow discharge to intermittent stream reaches in the all area washes.

In coal resource areas, topsoil and suitable subsoil will be removed and replaced immediately for reclamation following backfilling and regrading or stockpiled for use after mining operations. Topsoil stockpiles are protected from wind and water erosion by seeding the stockpiles and placing berms around the perimeter of the stockpile. Slope reclamation operations generally include regrading, smoothing, and slope contouring to approximate the original topographic contours, taking into consideration the need to minimize erosion and support the post-mining land uses of livestock grazing, wildlife habitat, and cultural plants. Soil productivity would be maximized by reclamation procedures that create a suitable 4-foot-deep plant root zone over the entire reclaimed area and establishing a diverse and permanent vegetation cover. The soil loss on restored land would be approximately 3 to 9 tons/acre/year after 10 years, which is less than the 7 to 22 tons/acre/year that can be expected on undisturbed slopes.

Reclamation will establish on the areas mined during the permit renewal period all-purpose rangeland and wildlife habitat composed primarily of native species. The reclamation vegetation will be dominated by grasses and shrubs and scattered groupings of trees. No lands with mixed conifer or tamarisk riparian shrubland will be removed by coal mining activities during the permit renewal period. The conversion of existing vegetation communities to the reclaimed vegetation community will affect less than one percent of the total available acres of plant communities in the study area. Reclaimed sites would transition to a stable vegetation community. Wildlife habitat will be established in the reclaimed areas and will include small, periodic clusters of exposed rock, water features, and clusters of planted piñon, juniper, forbs, and shrubs. Cultural plant locations will be established on select sites comprising approximately 5 percent of the reclamation areas. PWCC maintains a twice per year vegetation monitoring and weed control program for 10 years after reseeding areas. This program identifies the measures to control noxious weeds that could establish in the Kayenta Mine permit area. With ongoing reclamation and mitigation efforts, potential establishment of invasive plant species or noxious weeds will be temporary and highly localized.

The reclaimed areas will provide habitat for species adapted to habitat edges, early successional environments, and grassland habitats. Species that are highly adaptable could increase in abundance in reclaimed areas. In the long-term, the breeding potential for all raptors, except the bald eagle, could increase as trees develop in portions of the reclamation.

Water withdrawals for mining activities are not likely to affect riparian vegetation in areas downstream as the amount of groundwater and surface water quantity and quality will not change during the permit period. Monitoring of the N aquifer water withdrawal has not shown impacts on surface water or effects on riparian vegetation downstream of the Kayenta Mine permit area. Similarly, the results of modeling water withdrawal during the permit period indicate no effects from water withdrawal on surface water downstream of the Kayenta Mine permit area.

There are no unique or valuable geologic resources within the areas that would be mined during the permit renewal period. Field surveys in coal resource areas N-9, J-19, and J-21 would document any important fossils that are discovered. In the event that mining activities would

result in impacts on fossils not detected prior to mining activity, work in the area would cease and a qualified professional would evaluate the area. PWCC will work with regulatory officials for the recovery of important fossils prior to resuming mining operations.

4) *The degree to which the effects on the quality of the human environment are likely to be highly controversial:*

No anticipated effects have been identified that are scientifically controversial. As a factor for determining within the meaning of 40 C.F.R. § 1508.27(b)(4) whether or not to prepare a detailed environmental impact statement, “controversy” is not equated with “the existence of opposition to a use.” The term ‘highly controversial’ refers to instances in which ‘a substantial dispute exists as to the size, nature, or effect of the major Federal action rather than the mere existence of opposition to a use.’ The proposed action would authorize the continued operation of coal mining and reclamation activities at historical production rates within the Kayenta Mine permit area. The proposed permit renewal does not include any revisions to the mining and operations plan or the addition of any new mining areas. The effects of surface coal mining and reclamation in this area are well known and documented with over 30 years of monitoring. The 2011 Kayenta Complex Cumulative Hydrologic Impact Assessment (CHIA) required under SMCRA regulations at 30 CFR 780.21(g), determined that the mining operation has been designed to minimize impacts to the hydrologic balance within the permit and adjacent area, and prevent material damage to the hydrologic balance outside the permit area. Specifically, N aquifer water quantity use impacts are negligible to minor, and the N aquifer drinking water use designation remains uncompromised.

Within the J-21 coal resource area, four of the 83 occupied houses within the Kayenta Mine permit area would be relocated. PWCC, in cooperation with the Navajo Nation and according to approved procedures, relocates households to an agreed location, to accommodate surface coal mining activities. Relocated residents are compensated for the replacement of all structures and for lost grazing acreage if the resident can establish a customary use area claim.

Continued mining activities within the N-9, J-19, and J-21 coal resource areas would disturb 1,159 acres of land used for grazing and traditional land uses, resulting in a localized moderate short-term impact. However, reclamation of these disturbed areas would improve the productivity and quality of grazing lands.

Employment opportunities and revenues to the Navajo Nation and Hopi Tribe will continue through the permit renewal period. The number of people employed at the Kayenta Mine will increase from 422 in 2010 to 432 in 2015. The average annual revenue paid to the tribes from 2005-2009 was \$43.2 million, plus an additional average annual payment of \$6.2 million to Navajo Tribal Utility Authority and scholarship funds. These revenues are expected to continue throughout the renewal period.

Executive Order 12898 provides that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.” The attached EA includes an analysis of environmental justice effects, and based on that analysis the proposed action would not have disproportionately adverse effects on minority or low-income populations.

- 5) *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks:*

The conditions present within the coal resource areas are similar to other previously mined areas within the Kayenta Mine permit area. The permit terms and conditions have been shown to be effective in minimizing impacts to protected and sensitive wildlife and plant species when properly implemented. The effects of surface coal mining and reclamation in this area are well known and documented with over 30 years of monitoring. Therefore the effects are not highly uncertain and do not involve unique or unknown risks.

- 6) *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:*

The site specific NEPA analysis associated with this proposal would not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration. SMCRA regulations provide that a mining permit may not be renewed for a period greater than 5 years, and any future renewal period will be considered under the same statutory criteria as applied to this renewal application and subject to additional NEPA analysis. (30 CFR 774.15).

- 7) *Whether the action is related to other actions with individually insignificant, but cumulatively significant impacts:*

The attached EA contains a cumulative impact analysis which assesses the effects of other past, present and reasonably foreseeable future actions in the region where direct and indirect effects of the proposed action may overlap and combine to form collectively significant effects. As analyzed in the EA, the proposed action does not incrementally contribute to a significant cumulative effect.

- 8) *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources:*

Through the Black Mesa Archaeological Project, OSM completed Section 106 requirements for the entire Kayenta Mine permit area. Therefore, the proposed permit renewal does not require additional Section 106 consultations to address the effects of coal mining on recorded properties eligible for the National Register.

- 9) *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973:*

The proposed action will not adversely affect endangered or threatened species or their habitat because there is either no potential habitat, requisite foraging opportunities, or the mining in coal resource areas N-9, J-19, and J-21 will not remove any suitable habitat for listed species. Furthermore, the proposed action will not indirectly affect any listed species because there is no predicted decrease of flows in seeps and springs associated with the N aquifer.

10) *Whether the action threatens a violation of Federal, State, local or tribal law or requirements imposed for the protection of the environment:*

This action is consistent with Navajo Nation, Hopi Tribe, federal, state, and local laws and other requirements for the protection of the environment. All agencies were properly notified of the proposed action and given appropriate comment time to respond.



Rick Williamson



Date

Manager, Indian Programs Branch
Program Support Division
Western Region-OSM