

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DRAFT PERMIT FACT SHEET
November 2020

Permittee Name: Peabody Western Coal Company
Black Mesa/Kayenta Mine Complex

Mailing Address: P.O. Box 650
Kayenta, AZ 86033

Facility Location: Route 41
Kayenta, AZ 86033

Contact Person(s): Marie Shepard, Environmental Manager
(928) 677-5130
mshepard@peabodyenergy.com

NPDES Permit No.: NN0022179

I. STATUS OF PERMIT

Peabody Western Coal Company (PWCC or the “Permittee”) applied for the renewal of their National Pollutant Discharge Elimination System (NPDES) permit (the Permit) to authorize the discharge of treated effluent from Black Mesa/Kayenta Mine Complex to waters of the United States located in Kayenta, Arizona. A complete application was submitted to the United States Environmental Protection Agency, Region 9 (EPA or Region 9) on April 15, 2015. Supplemental information to the application was submitted on November 5, 2018, January 2, 2019, February 11, 2019, April 2 and 8, 2019, May 10, 2019, June 28, 2019, October 8, 2019, and January 9, 2020. Region 9 has developed this Permit and fact sheet pursuant to Section 402 of the Clean Water Act (CWA), which requires point source dischargers to control the amount of pollutants that are discharged to waters of the United States through obtaining a NPDES permit.

The Permittee is currently discharging under NPDES permit NN0022179 issued on September 16, 2010, which became effective November 1, 2010 and expired on October 31, 2015. EPA issued modifications to that permit on February 1, 2013 and June 1, 2013. Pursuant to 40 CFR 122.21, the terms of the existing 2010 permit and 2013 modifications are administratively extended until the issuance of a new permit. PWCC also has coverage under EPA’s Multi-Sector General Permit (MSGP) for stormwater (AZR05I302).

This NPDES Permit authorizes PWCC to discharge treated wastewater from the mine site that is composed of runoff from mine areas, coal preparation plant areas, and reclamation areas. In addition to this NPDES Permit, PWCC has a Life-of-Mine permit issued by the United States Department of Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE). The Life-of-Mine permit is a separate permitting activity from the NPDES permit and authorizes PWCC to mine coal. PWCC filed a request with OSMRE to renew the Life-of-Mine Surface

Mining Permit for Kayenta Mine Complex on February 26, 2015. OSMRE approved the Life-of-Mine permit (AZ-0001F) on October 3, 2017 and it is effective until July 6, 2020. PWCC submitted a revised Sediment Control Plan, as part of the Life-of-Mine permit requirements, on June 28, 2019 and October 16, 2019 which was approved by EPA and OSMRE on January 7, 2020. This Permit, including the outfalls listed in Attachments A, B, and C, are consistent with the associated impoundments in the revised Sediment Control Plan as approved on January 7, 2020 as part of the Life of Mine permit.

The facility has been classified as a major discharger.

II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

This Permit is substantially similar to the previous permit (issued in 2010) but does include several changes. First, this Permit renewal contemplates changes to the facility's use, as the facility transitions from its status as an active mine through a closure and final reclamation process. According to the Permittee, active coal mining at the facility ceased on August 26, 2019 and mine operations have been idled since then. The remaining activities at the mine site will involve reclamation of the mine which is anticipated to occur over the next five to ten years. More information about the Permittee's planned reclamation activities can be found in Part III of this fact sheet. Second, several outfalls have been eliminated to reflect changes due to ongoing activities at the complex. Due to the ongoing nature of the reclamation process, changes to the Permit during the Permit term will include the reclassification of certain outfalls to support reclamation activities (i.e. classification of outfalls currently listed as Alkaline Mine Drainage or Coal Preparation and Associated Areas, may change to the Western Alkaline Reclamation Area category, as defined by 40 C.F.R. § 434). See table below for the specific significant changes.

Table 1. Modifications to the previous permit, issued in 2010.

Permit Condition	Previous Permit (2005 – 2010)	Re-issued permit (2019 – 2024)	Reason for change
Remove Outfalls	Included outfalls 168 & 087 (ponds N14-T & WW-9) Included outfall 193 (pond N9-J)	Outfalls 168 & 087 not included Outfall 193 not included	EPA and OSMRE approved removal of outfall on January 2, 2013 and outfall 168 on July 22, 2019. Permittee request to remove outfall 193 since pond N9-J will not be built.
Recategorize outfall	Outfall 188 (pond N9-E) was in "Alkaline Mine Drainage" category	Outfall 188/N9-E is now in "Coal preparation & Associated Areas" category	Permittee request to recategorize outfall on November 3, 2015 due to error in original designation of this outfall in 2010 Permit.
Reclassify Outfalls	Outfalls 005(N5-A), 008(N10-A1), 013(N10-B), 033(J16-G), 151(N6-H), 153(N6-I), 157(N6-J),	All twelve (12) Outfalls are now in "Western Alkaline Reclamation Areas" category	Permittee request to recategorize outfalls on October 16, 2019. EPA and OSMRE approved the revised Sediment Control Plan on January 7, 2020.

	160(N11-C), 161(N11-E), 164(N6-L), 165(N6-M) and 176(J21-F) were in “Alkaline Mine Drainage” category		
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III. GENERAL DESCRIPTION OF FACILITY

The Black Mesa/Kayenta Mine Complex has operated since the early 1970s and is located southwest of Kayenta, Arizona. The complex is located on approximately 64,858 acres of land leased within the boundaries of the Hopi and Navajo Indian Reservations, primarily located in Navajo County, Arizona. About 25,000 acres of the lease area mineral rights are owned exclusively by the Navajo Nation, and 40,000 are owned jointly by the Navajo Nation and Hopi Tribe. The Black Mesa portion of the mining operation was the sole supplier of coal to the Mojave Generating Station, located in Laughlin, Nevada. The Mojave Generating Station ceased production in December 2005, and PWCC has ceased mining operations at the Black Mesa Mine related to Mojave Generating Station. The Kayenta Mine portion of the mining operation was the sole supplier of coal to the Navajo Generation Station, located near Page, Arizona. The Navajo Generating Station ceased power production on November 18, 2019, and mining ceased at the Kayenta Mine on August 26, 2019.

Due to the closure of both portions of the Black Mesa/Kayenta Mine Complex and the onset of reclamation activities, PWCC will not be disturbing any new areas for coal extraction. Instead, PWCC will begin regrading, top soiling and seeding previously disturbed areas, with plans to reduce the number of NPDES outfalls down to approximately 24 permanent impoundments. Thus, PWCC will be actively seeking reclassification of the remaining alkaline mine drainage or coal preparation areas to become Western Alkaline Coal Mining outfalls as soon as areas have been stabilized and have the required vegetation cover following procedures outlined in PWCC’s approved reclamation plan in the Life-of-Mine permit, issued by OSMRE in 2017.

The Sediment Control Plan is a requirement of the Life-of Mine permit and this Permit. Revisions to the Sediment Control Plan must meet all requirements contained at 40 CFR § 434.82; all drainage areas to an outfall that have been disturbed by mining must meet the definition of Western Alkaline Coal Mining Subpart H to be considered for coverage under Subpart H of this Permit. Based on recent plans to cease mining operations, continue reclamation activities and eventually close the mine complex, the Permittee submitted a revised Sediment Control Plan on June 28, 2019 and October 16, 2019, which was approved by EPA and OSMRE on January 7, 2020. Pursuant to this Permit, outfalls listed in Attachment A (Alkaline Mine Drainage outfalls) and Attachment B (Coal Preparation & Associated Areas outfalls) may be reclassified during this Permit term as outfalls under Category C (Western Alkaline Reclamation Areas outfalls), in order to support PWCC’s reclamation activities at the Black Mesa/Kayenta mine complex.

IV. DESCRIPTION OF RECEIVING WATERS

The Black Mesa/Kayenta Mine Complex discharges to receiving waters located on the Navajo Nation and Hopi Tribe Reservations. The receiving waters are two principal drainages within the Black Mesa/Kayenta Mine Complex, the Moenkopi Wash and Dinnebito Wash. These washes drain southwest to the Little Colorado River system. Moenkopi Wash has the following tributaries: Coal Mine Wash, Yellow Water Canyon, Yucca Flat, Red Peak Valley, and Reed Valley Washes. Three other waterbodies are also part of these tributaries: Wild Ram, Klethla and Long House Valley. Moenkopi Wash and its tributaries drain a watershed of approximately 1985 square miles.

Both the Navajo Nation Surface Water Quality Standards (1999 and 2007 and 2020) and the Hopi Surface Water Quality Standards (1997 and 2011) apply to the receiving waters mentioned above, and this Permit incorporates limits and standards for the protection of receiving waters in accordance with those standards.

The designated uses of the receiving waters for the Moenkopi Wash and its tributaries and Dinnebito Wash on the Navajo Nation are Primary Human Contact (Moenkopi Wash only), Secondary Human Contact (ScHC), Warm Water Habitat (WWhbt), and Livestock and Wildlife Watering (L&W).

The designated uses of the receiving waters for the Moenkopi Wash and its tributaries and Dinnebito Wash on the Hopi Reservation are Aquatic and Wildlife warm water habitat (A&Ww), Partial Body Contact (PBC), Agricultural Livestock Irrigation (AgL), Agricultural Irrigation (Agl), and Groundwater recharge (GWR).

No waterbodies receiving discharges from Black Mesa/Kayenta Mine Complex have been identified as impaired and therefore have not been listed on the Clean Water Act Section 303(d) List of Water Quality Limited Segments. No TMDLs have been developed or approved for these waters.

V. DESCRIPTION OF DISCHARGE

The discharge from the Black Mesa/Kayenta Mine Complex includes runoff from mine areas, coal preparation plant areas, and reclamation areas. The discharge meets the definition of “alkaline, mine drainage,” defined at 40 CFR Part 434 and is mine drainage which, before any treatment, has a pH equal to or greater than 6.0 and total iron concentration of less than 10 mg/l. 40 C.F.R. § 434.11(c).

The Permit authorizes discharge from 107 outfalls. During the previous permit term (from 2010-2018), there have been a total of 27 discharges from the Black Mesa/Kayenta Mine Complex, either due to precipitation events or as a result of pond dewatering. Table 2 lists the discharges occurring from 2010-2018 and the volume of each discharge. More information is available on Enforcement and Compliance History Online (ECHO) at <https://echo.epa.gov/>.

Table 2: Frequency and Volume of pond discharges by year, since 2010 permit.

Year	Number of Discharges	Cause of Discharge	Amount Discharged
2019	1	Precipitation event	0.01 acre-feet
2018	1	Lagoon dewatering	0.18 acre-feet
2017	0	n/a	0
2016	0	n/a	0
2015	7	Lagoon dewatering or precipitation events	64.3 acre-feet
2014	2	Lagoon dewatering	8.3 acre-feet
2013	9	Lagoon dewatering or precipitation events	139.5 acre-feet
2012	4	Lagoon dewatering or precipitation events	95.6 acre-feet
2011	3	Lagoon dewatering	145 acre-feet
2010	1	Lagoon dewatering	33.8 acre-feet

VI. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

EPA has developed effluent limitations and monitoring requirements in the Permit based on an evaluation of the technology used to treat the pollutant (e.g., “technology-based effluent limits”) and the water quality standards applicable to the receiving water (e.g., “water quality-based effluent limits”). EPA has established the most stringent of applicable technology-based or water quality-based standards in the Permit, as described below.

A. Applicable Technology-Based Effluent Limitations

The discharge of wastewater from coal mines is subject to 40 C.F.R. Part 434: Coal Mining Point Source Category Best Practicable Control Technology (BPT), Best Available Technology (BAT), Best Conventional Pollutant Control Technology (BCT) Limitations and New Source Performance Standards (NSPS). The Black Mesa/Kayenta Complex has the potential to discharge wastewater from separate sources that are subject to separate subcategories of Part 434. These include:

1. Attachment A – “Alkaline Mine Drainage Outfalls”

The outfalls listed in Attachment A of the Permit meet the definition of “alkaline, mine drainage” in 40 C.F.R. § 434.11(c). Federal regulations at 40 CFR Part 434, Subpart D provide effluent limitation guidelines (ELGs) for alkaline mine drainage from active mining areas. In accordance with the applicable ELGs, technology-based effluent limitations are proposed for the following pollutants based on nationally promulgated effluent limitation guidelines for iron (Fe) (total), total suspended solids (TSS), and pH. These ELGs represent the degree of effluent pollutant reduction attainable by the application of best practicable control technology (BCT) and best available technology (BAT). These requirements are described below.

The Permit sets discharge limits for these outfalls for Fe total (3.5 mg/l daily average and 7.0 mg/l daily maximum), TSS (35 mg/l daily average and 70 mg/l daily maximum), and pH (6.0 to 9.0 standard pH units). Flow volumes, Fe total, TSS, and pH monitoring is required during any discharge event. These requirements are consistent with those of the previous permit.

2. Attachment B – “Coal Preparation & Associated Areas Outfalls”

The outfalls listed in Attachment B of the Permit meet the definition in 40 C.F.R. Sections 434.11(e), (f) and (g) for "coal preparation plants," "coal preparation plant and associated areas," and "coal preparation plant water circuit," respectively. Therefore, the Permit sets limits for the outfall in accordance with Subpart B - Coal Preparation Plants and Coal Preparation Plant Associated Areas for BPT, BAT, and BCT regulations that apply to such discharges. The requirements for the outfalls listed in Attachment B are the same as those for "alkaline, mine drainage," with the addition of limitations and monitoring requirements for oil and grease (15 mg/l daily maximum). These requirements are consistent with those of the previous permit.

3. Attachment C – “Western Alkaline Reclamation Area Outfalls”

The outfalls listed in Attachment C of the Permit meet the definition of Subpart H - Western Alkaline Coal Mining, which applies to “alkaline mine drainage at western coal mining operations from reclamation areas, brushing and grubbing areas, topsoil stockpiling areas, and regraded areas.” 40 C.F.R. § 434.81. As established by the Memorandum of Understanding between EPA Region 9 and OSMRE, in order for the technology standards in Subpart H to apply to outfalls, the Permittee must meet the basic requirements listed in Subpart H, and OSMRE must conduct a technical review of and approve the Permittee’s Sediment Control Plan. See Memorandum of Understanding between EPA Region 9 and OSMRE, Process for Obtaining A NPDES Permit Under Subpart H - Western Alkaline Mine Drainage Category (December 19, 2003).

First, EPA has determined that PWCC has met the basic requirements of Subpart H. In accordance with the requirements established in Subpart H, PWCC has:

- a) submitted a site-specific Sediment Control Plan to EPA incorporating the minimum requirements of 40 C.F.R. § 434.82; and
- b) demonstrated that implementation of the Sediment Control Plan will result in average annual sediment yields that will not be greater than the sediment yield levels from pre-mined, undisturbed conditions.

The Permittee submitted its most recent Sediment Control Plan to EPA on June 28, 2019 and updated on October 16, 2019, which was approved by EPA and OSMRE on January 7, 2020. This Permit approves the Sediment Control Plan as being consistent with the requirements of Subpart H. Additionally, in accordance with Subpart H, the Permit incorporates the Sediment Control Plan as an effluent limit and requires that the Permittee design, implement, and maintain the best management practices (BMPs) in the manner specified in the Sediment Control Plan. As

existing outfalls defined in this Permit as “alkaline, mine drainage” or “coal preparation areas” are reclaimed, PWCC must update the Sediment Control Plan to incorporate outfall reclassifications and identify temporary outfalls. PWCC must submit a revised plan to be approved by EPA before it becomes effective. A revised Sediment Control Plan will also be reviewed by OSMRE prior to EPA approving the revisions. Revisions to the Sediment Control Plan must meet all requirements contained at 40 CFR § 434.82, and all of the drainage areas to an outfall that have been disturbed by mining must meet the definition of Subpart H to be considered for coverage under Subpart H. These requirements are consistent with those of the previous permit.

B. Water Quality-Based Effluent Limitations

Water quality-based effluent limitations are required in NPDES permits when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to, an excursion above any water quality standard (40 CFR 122.44(d)(1)).

When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and, where appropriate, the dilution of the effluent in the receiving water (40 CFR 122.44(d)(1)(ii)).

- Applicable standards, designated uses and impairments of receiving water
- Dilution in the receiving water
- Type of industry
- History of compliance problems and toxic impacts
- Existing data on toxic pollutants

Effluent water quality data show only TSS and Fe total exceedances; therefore, these two parameters demonstrate “reasonable potential” to cause or contribute to an exceedance of water quality standards. Based on review of other effluent monitoring results, EPA concludes that there is no “reasonable potential” to cause or contribute to an exceedance of water quality standards for other pollutants. TSS and Fe and pH are included as technology-based effluent limits as described in Section A above. Since the facility discharges to washes with intermittent flows, EPA has not considered available dilution, which may be present at times in the receiving waters. Therefore, EPA has made the most protective assumption of no available dilution in its analysis and that water quality standards must be met at the end of pipe prior to discharge.

As noted above, the Kayenta Mine Complex discharges infrequently. With approximately 105 permitted outfalls located over a 65,000-acre lease area, the facility has discharged, on-average, only three (3) times per year between 2010 and 2019. All such discharges of wastewater have been treated using settling pond systems to remove suspended solids and sediment that may have accumulated from the mining activities prior to discharge. Consistent with the previous permit, EPA will continue to require monitoring for arsenic, cadmium, chromium (total), lead, mercury, and selenium at outfalls located on Hopi lands, to assess whether any such pollutants

may be present and may have the potential to cause or contribute to a violation of any water quality standards.

The Permit sets general conditions based on narrative water quality standards contained in Navajo Nation Surface Water Quality Standards (1999 and 2007) and Hopi Water Quality Standards (1997 and 2011). These standards are set forth in the Permit at Section G (Receiving Water Limitations).

D. Anti-Backsliding

Section 402(o) and 303(d)(4) of the CWA and 40CFR 122.44(l)(1) prohibits the renewal or reissuance of an NPDES permit that contains effluent limits and permit conditions less stringent than those established in the previous permit, except as provided for by the statute or associated regulations. The Permit does not establish any effluent limits less stringent than those in the previous permit and does not result in backsliding.

E. Antidegradation Policy

EPA's antidegradation policy under CWA Section 303(d)(4) and 40 CFR 131.12 and Navajo Nation Surface Water Quality Standards and the Hopi Water Quality Standards require that existing water uses and the level of water quality necessary to protect the existing uses be maintained.

As described in this document, the Permit establishes effluent limits (for TSS, iron and pH) and monitoring requirements to ensure that all applicable water quality standards are met. The Permit does not include a mixing zone; therefore, these limits will apply at the end of pipe without consideration of dilution in the receiving water. Furthermore, the receiving waters are not listed as an impaired waterbody under CWA section 303(d).

Since reissuance of 2010 permit, nineteen (19) ponds have been physically removed and a total of thirty (30) ponds have been reclassified from alkaline mine drainage to western alkaline reclamations areas. The net effect of these actions is considered minimal and does not degrade overall water quality. Note that this Permit does not authorize the simultaneous use of all of the outfalls listed in Attachments A, B, and C. Rather, it authorizes discharge by the Permittee of certain of these outfalls on an as-need basis as the Permittee works to reclaim the facility in the post-mining landscape. This Permit authorizes The Permittee to remove certain outfalls and/or impoundments during the reclamation process, following submission of a request to EPA to remove such outfalls from the Permit. EPA believes that the authorization of discharges from approximately the same number of outfalls for this Permit (as compared to number of outfalls during prior permit) is consistent with EPA's antidegradation policy, as well as Navajo Nation Surface Water Quality Standards and the Hopi Water Quality Standards requirements that existing water uses and the level of water quality necessary to protect the existing uses must be maintained. See Section IX., below, for more information.

The Permittee previously performed priority pollutant monitoring in 1984, and EPA notes that no results were above the criteria. EPA also notes that metals monitoring results in the previous permit did not show exceedances of applicable water quality standards, therefore, EPA anticipates low levels of toxic metals will be present in the effluent. EPA acknowledges the level of treatment being

obtained and the applicable water quality-based effluent limitations; thus, any potential discharge is not expected to adversely affect receiving water bodies or result in any degradation of water quality.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

The Navajo Nation Surface Water Quality Standards (Section 203) and the Hopi Water Quality Standards (Chapter 3) contain surface water quality standards applicable to the receiving water. Therefore, the Permit incorporates applicable narrative water quality standards in Part I, Section E.

VIII. MONITORING AND REPORTING REQUIREMENTS

The Permit requires the Permittee to conduct monitoring for all pollutants or parameters where effluent limits have been established, at the minimum frequency specified. Additionally, where effluent concentrations of toxic parameters are unknown or where data are insufficient to determine reasonable potential, monitoring may be required for pollutants or parameters where effluent limits have not been established.

A. Effluent Monitoring and Reporting

The Permittee shall conduct effluent monitoring to evaluate compliance with the Permit conditions. The Permittee shall perform all monitoring, sampling and analyses in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the permit. All monitoring data shall be reported on monthly DMRs and submitted quarterly as specified in the permit. All DMRs are to be submitted electronically to EPA using NetDMR.

The Permit requires discharge data obtained during the previous three months to be summarized and reported quarterly. If there is no discharge for the quarter, PWCC shall indicate “zero discharge.” These reports are due January 28, April 28, July 28, and October 28 of each year. Duplicated signed copies of these, and all other required reports, shall be submitted to the EPA (via NetDMR), the Navajo Nation EPA (via email or hardcopy), and the Hopi Tribe Water Resources Office (via email or hardcopy).

IX. SPECIAL CONDITIONS

A. Reclassification of Outfalls

This Permit authorizes the discharge of wastewater from 107 existing outfalls. The outfalls approved by this Permit are categorized into three (3) distinct subcategories, A, B, and C, with coordinates of each outfall listed in Permit Attachments A, B, and C, respectively. The outfalls in Attachment A are currently classified as Alkaline Mine Drainage Outfalls, the outfalls in Attachment B are currently classified as Coal Preparation & Associated Area Outfalls, and the outfalls in Attachment C are currently classified as Western Alkaline Reclamation Area Outfalls.

As noted above, the Permittee ceased mining operations in the Black Mesa/Kayenta mine complex on August 26, 2019. As a result, throughout the forthcoming Permit term, no new mine

areas will be created During the Permit term, several of the ponds (and associated outfalls) in both Attachment A and Attachment B will be reclaimed and removed via regrading and revegetation.

Because reclamation will change their use, the outfalls that are removed will need to be reclassified into reclamation outfalls (i.e. falling under Attachment C Western Alkaline Reclamation Area outfalls). The Permittee anticipates reclassifying approximately 27 outfalls from Attachment A to Attachment C-category outfalls and reclassifying about all of the outfalls from Attachment B to Attachment C-category outfalls. The remaining outfalls (in Attachment A) will be removed under terms of a Small Area Exemption (SAE) through OSMRE. Of the 107 outfalls listed in the three attachments, 24 are proposed to become permanent structures in the post-mining landscape, including nine outfalls that are already classified under the Western Alkaline Reclamation areas (Attachment C).

When the Permittee completes the reclamation and reclassification of an impoundment and its associated outfall from category A or B to category C, the Permittee shall submit to EPA a letter within thirty (30) days of the change, indicating what change(s) have occurred and whether that change permanently reclassifies the outfall to a category C outfall.

If the Permittee finds the need to discharge from a new outfall (i.e., outfall latitude and longitude that is not included within Attachments A, B, and C), then the Permittee must notify EPA to identify the new outfall with classification status, provide specific latitude and longitude values and not discharge from this new outfall until EPA has completed a major modification to this Permit.

B. Seep Monitoring and Best Management Plan

Over 230 impoundments exist on the Black Mesa/Kayenta Complex. Many are internal impoundments for treatment and storage, which do not discharge to a water of the United States. There are currently 107 impoundments at the Black Mesa/Kayenta Mine Complex with associated NPDES outfalls that are approved to discharge to waters of the United States and which, therefore, are listed as NPDES outfalls in compliance with this permit. Seeps have been identified at approximately 23 of these impoundments. A seep is an area not related to the outfall location, which may exhibit moisture or flow, generally at the toe of an impoundment where the stormwater has filtered into the soils and then re-appears at an area hydrologically downgradient from the impoundment. As documented in the characterization reports, seeps may exhibit flows up to a few gallons per minute, although many do not exhibit measurable volumes of flow. Typically, the seeps will disappear back into the soils within a short distance (ranging from several feet to a hundred feet). Seep flows that do not reach ambient waters are not considered traditional point sources.

Section A.5 of the previous permit required that PWCC design and conduct a Seepage Monitoring and Management Plan to determine the source of and pollutants in seepages below impoundments. The permit specifically required PWCC to:

- Identify all seeps located within 100 meters downgradient of sediment impoundments;

- Conduct sampling (or summary of current data if sufficient and valid) of seepages identified for pH, Selenium (Total and Dissolved) and Nitrate;
- Conduct hydrogeologic modeling or studies in order to determine if the source of the seeps are the impoundments and, if so, which impoundments; and
- Determine the source of Selenium and Nitrates if data indicates that seepages have a reasonable potential to violate water quality standards.

PWCC submitted a revised Seepage Management Plan to EPA on September 27, 2011. EPA and OSMRE accepted this plan and requested that PWCC formulate a Special Reclamation Plan for the removal of sediment ponds J16-E and J16-F. PWCC submitted several successive Special Reclamation Plans between 2013 and 2017. OSMRE approved each plan for the removal of individual impoundments, with the latest plan approved February 27, 2017.

In addition, the previous permit required PWCC to submit an annual Seepage Monitoring and Management Report based on the monitoring required by the Seep Monitoring and Management Plan. Accordingly, PWCC has submitted Seep Monitoring and Management Annual Reports that include the following information:

- Number of seep inspections;
- Number of flows observed;
- Range of flows observed;
- Number of samples taken;
- Exceedances of livestock standards, acute standards, and chronic standards;
- Current use of impoundment (e.g., outfall location or treatment within the mine site; treatment for reclaimed area, active, shop areas, etc.);
- Final use of impoundment, including an estimation of whether the impoundment can be removed;
- Best Management Practices (BMPs) utilized (e.g., vegetation, fencing, dewatering); and
- Potential BMPs to be evaluated (e.g., pond removal, vegetation, passive pH treatment, clay lining, dewatering, other).

Using the information PWCC gathered and submitted in annual reports, EPA evaluated the risk level to water quality from the seeps and assessed what BMPs would be applicable to control that risk. The following is a description of the three risk levels EPA used to evaluate the seep information:

- Level 1: Generally, contains very low flows, few instances of observed seeps. If seep observed, seep meets water quality standards (WQS) or had one sample slightly above WQS.
- Level 2: Generally, contains medium flows, but seeps detected at higher frequencies. Multiple samples may be above WQS, but samples above WQS are only slightly above WQS. No samples significantly above WQS. No bioaccumulative toxic pollutant above

WQS.

- Level 3: May be one or a combination of high flows, high occurrences of seeps, multiple samples above WQS, or any sample significantly above WQS. Any sample of bioaccumulative toxic pollutant above WQS is a Level 3 risk.

EPA reviewed the most recent Seep Monitoring and Management Annual Report (2019 and previous years' information therein) and generally agreed with PWCC's conclusion of seep characterization and remediation if necessary. Results showed that nearly all ponds were risk Level 1 and three ponds were risk Level 2. EPA notes there are no Level 3 seeps and thus bioaccumulative toxins are not associated with any of the seeps at the Black Mesa/Kayenta mine complex.

EPA also concluded that Level 2 seeps are not causing exceedances of numeric water quality standards in receiving waters. This is because seep flows don't reach so far as to enter receiving waters, thus the water quality characterization and assessment of the seep chemistry is not a traditional reasonable potential analysis.

Based on this assessment, EPA has concluded that PWCC should continue to implement its Seep Monitoring and Management Plan, as described in this Section, and revise it, as necessary. Several impoundments where water quality problems in the seeps have been identified will ultimately be removed via reclamation. PWCC should continue to provide EPA with annual reports for the Seep Monitoring and Management Plan.

C. Development and Implementation of Best Management Practices

Pursuant to 40 CFR 122.44(k)(4), EPA may impose BMPs which are "reasonably necessary...to carry out the purposes of the Act." The pollution prevention requirements or BMPs proposed in MSGP permit operate as technology-based limitations on effluent discharges that reflect the application of Best Available Technology and Best Control Technology. The Permittee is required, through other permits including the 2017 MSGP permit, to prevent pollutants from entering ambient surface waters downstream of these mine drainage ponds or seeps while performing normal processing operations at the facility.

If EPA deems necessary, the Permittee may need to develop and implement additional BMPs that are necessary to control sediment erosion and seepage from impoundment ponds.

X. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Consideration of Environmental Justice

In February 2019, EPA conducted a screening level evaluation of vulnerabilities in the community posed to residents near the vicinity of the permitted Black Mesa/Kayenta mine site using EPA's EJSCREEN tool. The purpose of the screening is to identify areas

disproportionately burdened by pollutant loadings and to consider demographic characteristics of the population living in the vicinity of the discharge when drafting permit conditions.

Of the eleven (11) environmental indicators screened through EJSCREEN, the evaluation determined an elevated indicator score for ozone only; however, this air pollutant is not directly attributable to discharges and associated treatment processes covered by this Permit. Additionally, the Permittee has indicated that mining operations and coal shipment ceased on August 26, 2019, and thus the facility is unlikely to discharge any noticeable ozone from activities regulated by this permit.

As a result of the analysis, EPA is aware of the potential for cumulative burden of the permitted discharge on the impacted community and will issue this Permit in consideration of Navajo and Hopi tribes' water quality standards and consistent with the Clean Water Act, which is protective of all beneficial uses of the receiving water, including human health.

B. Impact to Threatened and Endangered Species

Under section 7(a)(2) of the Endangered Species Act of 1973 (ESA), federal agencies are required to ensure, in consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service (together, the Services), that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed threatened or endangered species, or destroy or adversely modify the designated critical habitat of such species. 16 U.S.C. § 1536(a)(2). Under the Services' ESA implementing regulations, where appropriate, agencies review their actions to determine whether an action may affect listed species or critical habitat. See 50 C.F.R. § 402.13 and § 402.14. When a particular action involves more than one federal agency, one agency may be designated as the "lead agency" and engage in consultation and/or conference with the Services on behalf of all involved federal agencies. The lead agency is required to notify the Services of its status as such. See 50 C.F.R. § 402.07.

Here OSMRE consulted with FWS on the issuance of a Life-of-Mine permit for the mine complex. To that end, OSMRE obtained a species list from FWS on September 20, 2016. OSMRE then hired a consultant to perform a Biological Assessment of the species in the affected area and subsequently sought consultation with FWS regarding the findings in the Biological Assessment. See OSMRE Biological Assessment (2016). In Section 1.0 of the Biological Assessment, OSMRE identifies itself as the lead agency for purposes of consultation under the ESA. Additionally, the consultation request submitted by OSMRE considered the activities and consequences of this Permit on threatened or endangered species and critical habitat that are reasonably likely to occur as a result of this Permit and determined that the activities were not likely to result in an adverse effect. OSMRE's consultation with USFWS concluded on September 19, 2017, when USFWS issued a letter concurring with OSMRE's determination that issuance of a mining permit for the facility "may affect, but is not likely to adversely affect," certain listed species (see below).

The consultation conducted by OSMRE encompassed the potential effects of EPA's action. EPA sought technical assistance from USFWS (email dated September 30, 2019) and

determined that there are no newly listed species or critical habitat or newly available information that would change the conclusions of the consultation conducted by OSMRE.

OSMRE made the following ESA determinations for the species identified by USFWS to OSMRE on September 20, 2016.¹

For the species listed in Table 3, OSMRE made a “may affect, but not likely to adversely affect” determination for the species and/or their associated critical habitats, where applicable. OSMRE made a “no effect” determination for the critical habitats of three of the species listed in Table 3, determining that the critical habitats of the Fickeisen plains cactus, Mexican spotted owl, and the western yellow-billed cuckoo will not be affected by NPDES discharges. See Table 4 below.

Table 3: Species and Critical Habitats for which the proposed action may affect but not likely to adversely affect.

Status ²	Species/Listing Name	Critical Habitat
E	Bonytail chub (<i>Gila elegans</i>)	Yes.
E	Brady pincushion cactus (<i>Pediocactus bradyi</i>)	N/A.
E	Colorado pikeminnow (<i>Ptychocheilus lucius</i>)	Yes.
E	Fickeisen plains cactus (<i>Pediocactus peeblesianus</i> var. <i>fickeiseniae</i>)	No. ³
E	Humpback chub (<i>Gila cypha</i>)	Yes.
T	Mexican Spotted owl (<i>Strix occidentalis lucida</i>)	No. ³
T	Navajo sedge (<i>Carex specuicola</i>)	Yes.
E	Razorback sucker (<i>Xyrauchen texanus</i>)	Yes.
T	Welsh’s milkweed (<i>Asclepias welshii</i>)	Yes.
T	Western yellow-billed cuckoo (<i>Coccyzus americanus</i>)	No. ³

³ EPA has made a “no effect” determination for the species critical habitat, see table below.

¹ Note that the ESA Section 7 consultation regulations were revised in 2019 and went into effect on October 28, 2019. Despite a functional change to the language of the consultation regulations, the legal change and application of the facts here to the new test encompassed in those regulations does not impact EPA’s reliance on the FWS consultation with OSMRE in 2017.

² T = Threatened; E = Endangered; NE = nonessential experimental.

Table 4: Species and Critical Habitats for which the proposed action will not effect.

Status	Species/Critical Habitat
E	Black-footed ferret (<i>Mustela nigripes</i>)
NE	California condor (<i>Gymnogyps californicus</i>)
N/A	The critical habitat of the California condor (<i>Gymnogyps californicus</i>)
N/A	The critical habitat of the Fickeisen plains cactus (<i>Pediocactus peeblesianus</i> var. <i>fickeiseniae</i>)
N/A	The critical habitat of the Mexican Spotted owl (<i>Strix occidentalis lucida</i>)
N/A	The critical habitat of the Western yellow-billed cuckoo (<i>Coccyzus americanus</i>)

N/A- not present in the action area

C. Impact to Coastal Zones

The Coastal Zone Management Act (CZMA) requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

The Permit does not affect land or water use in the coastal zone, thus CZMA does not apply to this federally issued permit.

D. Impact to Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (MSA) set forth a number of new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat (EFH) in marine waters.

The Permit contains technology-based effluent limits and numeric and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses. The Permit does not directly discharge to areas of essential fish habitat; thus, EPA has determined that the Permit will not affect essential fish habitat.

E. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. EPA's action in renewing the Permit is

considered an undertaking under the NHPA, which triggers application of the NHPA Section 106 process.

EPA reviewed the analysis conducted by OSMRE for the Life-of-Mine permit. See OSMRE Environmental Assessment for Life-of-Mine permit renewal (September 2017). EPA determined the Area of Potential Effects (APE) is completely within the area analyzed by OSMRE. As described within the Environmental Assessment, historic cultural resources had previously been identified within the APE through previous studies conducted between 1967 and 1987. The Permittee followed procedures in accordance with the Native American Graves Protection and Repatriation Act as well as the Navajo Nation policy for the Protection of Jishchaá: Gravesites, Human Remains, and Funerary items. The Tribes participated in the development of reburial protocols and gave their consent for reburial. See Bureau of Reclamation Environmental Impact Statement (2016). Since 1990, there have been several instances of cultural resources discovered and mitigation measures were required.

The Permittee has indicated that mining activities ceased on August 29, 2019; therefore, there are no projected new disturbances related to construction activities. If any new cultural resources were to be discovered, EPA expects that continued implementation of the standard conditions and the measures described in the Life-of-Mine permit would satisfactorily mitigate any such impacts to cultural resources.

EPA will send this Permit and factsheet to the Hopi and Navajo Tribal Historic Preservation Office for their review and consultation.

F. Water Quality Certification Requirements (40 CFR 124.53 and 124.54)

For this permit, the Permittee is required to seek water quality certification that this Permit will meet applicable water quality standards (including paying applicable fees) from the Navajo Nation EPA and Hopi Tribe. Certification under section 401 of the CWA shall be in writing and shall include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Territory law. EPA cannot issue the Permit until the certifying Tribes have granted certification under 40 CFR 124.55 or waived its right to certify.

If the Tribes does not respond within 60 days of public notice date, it will be deemed to have waived certification.

XI. STANDARD CONDITIONS

A. Reopener Provision

In accordance with 40 CFR 122 and 124, this Permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards or TMDL implementation or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

B. Standard Provisions

The Permit requires the Permittee to comply with EPA Region 9 Standard Federal NPDES Permit Conditions.

XII. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR 124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application.

B. Public Comment Period (40 CFR 124.10)

Notice of the draft permit and factsheet will be placed on EPA's website for a minimum of 30 days to allow for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

C. Public Hearing (40 CFR 124.12(c))

A public hearing may be requested in writing by any interested party during the public comment period. The request should state the nature of the issues proposed to be raised during the hearing.

A public hearing will be held if EPA determines there is a significant amount of interest expressed during the 45-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

XIII. CONTACT INFORMATION

Comments, submittals, and additional information relating to this proposal may be directed to:

Peter Kozelka, kozelka.peter@epa.gov
EPA Region 9, NPDES Permits Office
(415) 972-3448

XIV. REFERENCES

- EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water, EPA. EPA/505/2-90-001.
- EPA. 2010. *U.S. EPA NPDES Permit Writers' Manual*. Office of Water, EPA. EPA-833-K-10-001.
- EPA. 2013. *National Recommended Water Quality Criteria*. Office of Water, EPA. Aquatic Life Criteria Table. <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table#table>
- EPA. 2015. *National Recommended Water Quality Criteria*. Office of Water, EPA. Human Health Criteria Table. <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>
- EPA 2016. *Compliance Evaluation Inspection Report for Black Mesa/Kayenta Mine Complex*. Final, March 25, 2016.
- EPA 2018. *Compliance Evaluation Inspection Report for Black Mesa/Kayenta Mine Complex*. Final, September 26, 2018.
- EPA. 2019. IPaC report for Endangered and Threatened species list within Black Mesa/Kayenta mine complex area. dated August 9, 2019.
- EPA. 2019. Letter to US Fish and Wildlife Service for clarification on two species within EPA's IPaC search within Black Mesa/Kayenta mine complex area. From P. Kozelka (EPA) to J. Lusk FWS), dated September 5, 2019.
- Hopi Water Quality Standards (1997 and 2011)
- Navajo Nation Water Quality Standards (1999 and 2007 and 2020)
- Navajo Nation (2020) Moenkopi Wash Watershed - Surface Water Quality Assessment Report (Integrated 305(b) Report and 303(d) Listing), dated Jan. 31, 2020.
- Navajo Nation (2020) Dinnebito Wash Watershed - Surface Water Quality Assessment Report (Integrated 305(b) Report and 303(d) Listing), dated October 21, 2020.
- PWCC. NPDES permit application (2015) and supplemental information (2018; 2019, 2020).
- PWCC. Annual Seep Monitoring and Management Reports (2018, 2019).
- PWCC. Life-of-Mine Surface Mining Permit for Kayenta Mine Complex, #AZ-0001F. OSMRE approved this permit on October 3, 2017; the permit is effective until July 6, 2020.

PWCC, Kayenta Mine Permanent Program Permit AZ-0001F, Sediment Control Plan and Permanent Impoundment Permit Revision, Submitted on June 28 and October 16, 2019. Approved by OSMRE on January 7, 2020.

US Department of the Interior, Office of Surface Mining, Environmental Assessment for Kayenta Complex Life-of-Mine permit (AZ-0001F) renewal, September 2017.

US Department of the Interior, Office of Surface Mining, Biological Assessment for 2015 -2020 Kayenta Mine permit renewal, prepared by Stantec consulting, August 7, 2017.

US Department of the Interior, Office of Surface Mining, Approval of Sediment Control plan and Permanent Impoundment Permit Revision, Life of Mine permit no. AZ-0001F. Letter from A. McGregor (OSM) to G.Altisi (PWCC), dated January 7, 2020

US Department of Interior. Bureau of Reclamation (BOR). 2016. Kayenta Mine Complex-Navajo Generating Station Life-of-Mine Permit Draft Environmental Impact Statement.

US Dept. of Interior – Office of Surface Mining, 2003. Memorandum of Understanding: Process for Obtaining A NPDES Permit Under Subpart H - Western Alkaline Mine Drainage Category, EPA Region 9 and the Office of Surface Mining Reclamation and Enforcement Office (OSM), dated December 19, 2003.

US Fish and Wildlife Service. Concurrence letter to OSMRE for Endangered Species Act consultation on Kayenta Life-of-Mine permit (no. AZ-0001F) renewal. Letter from S. Spangle (USFWS) to M. Yellowman (OSMRE) dated, September 19, 2017.

US Fish and Wildlife Service. Email from J. Nystedt (USFWS) to P, Kozelka (EPA) dated, September 30, 2019, clarifying two species are not in action area for permit renewal.