



Water Quality Division

Montana Pollutant Discharge Elimination System (MPDES) ▪ Fact Sheet

Permit Number:	MT0000884
Permittee:	Big Sky Coal Company
Receiving Water:	Emile and Miller Coulees
Facility Information:	Big Sky Mine State Highway 39 South, Colstrip, MT 59323
Facility Contact:	Bryce West, President 701 Market Street, St. Louis, MS 63101
Type of Facility:	Privately Owned Treatment Works – Minor Surface Coal Mine (SIC 1221)
Number of Outfalls:	1 (fee determination only) Group A: 001, 002, 006
Fact Sheet Date:	June 2021

I. Summary

Montana Department of Environmental Quality (DEQ) proposes to renew the Montana Pollutant Discharge Elimination System (MPDES) permit for Big Sky Mine (hereinafter Facility), MT0000884. This fact sheet documents the legal requirements and technical rationale that serve as the basis for MPDES permit renewal and describe the decision-making process involved with developing effluent limits, monitoring and reporting requirements, and special conditions which are specific to the Big Sky Coal Company (hereinafter Permittee). For the purposes of this Permit, references to the “discharger” or “permittee” in applicable Federal and State laws, regulations, policy, plans, or implementation procedures are held to be equivalent to references to the Permittee.

A. Permit Status

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|---------------------|---|
| • July 1, 2016 | 2016-issued permit became effective |
| • December 17, 2020 | Renewal application received |
| • December 29, 2020 | Renewal application determined complete |
| • June 30, 2021 | 2016-issued permit will expire and become administratively extended |

B. Proposed Changes

There are no proposed changes to this permit.

II. Background

A. Facility Information

The Facility is a former surface coal mine split into Area A and Area B, located approximately six miles south of Colstrip, MT, on Highway 39.

Mining commenced in Area A of the facility in 1979 and expanded into Area B in 1989. Mining in Area A was completed in 1989, and mining in Area B was completed in 2004. All of Areas A and B have been reclaimed under the requirements of Surface Mine Permits (SMPs) C1983004CR and C1988004B, and are in various stages of the four-phase process leading to final reclamation bond release.

Mine Area B achieved Phase 4 final bond release on March 19, 2020, terminating SMP C1988004B. On September 28, 2020, DEQ issued a modification to the MPDES permit, removing 15 outfalls located in Area B in response to final bond release, and 3 outfalls in Area A in response to final bond release for those associated drainages. Only 3 outfalls in Area A remain covered under this MPDES permit: outfalls 001, 002, and 006.

B. Wastewater Treatment or Controls

Wastewater source at the Facility consists of precipitation runoff from post-mining areas as defined at 40 CFR 434.11(k). As such, drainage specific sediment control measures as described in the DEQ approved Sediment Control Plan (SCP) are utilized.

C. Outfall Information

Table 1 describes the location and receiving water for each of the three outfalls associated with the remaining reclamation areas. Outfall numbers and locations remain unchanged from the previous Permit.

Outfall	Mine Area	Latitude	Longitude	Effluent Description	Total area drained (acres)	Receiving water
001	A	45° 48' 44" N	106° 35' 42" W	Precipitation runoff	1948.19	Miller Coulee
002	A	45° 49' 45" N	106° 36' 01" W	Precipitation runoff	1079.60	Emile Coulee
006	A	45° 49' 03" N	106° 35' 53" W	Precipitation runoff	12.94	Emile Coulee

D. Permit History and Summary of Existing Permit Requirements

The Facility is currently regulated by MPDES permit No. MT0000884, which became effective on July 1, 2016 and expires on June 30, 2021. The Permit was modified on September 23, 2020 (Modification 1). The Permittee submitted an application for renewal of its MPDES permit, which was received by DEQ on December 18, 2020 and determined to be complete on December 29, 2020. Currently, only discharges from Mine Area A are authorized by this permit.

Effluent limitations applicable to all outfalls consist of an approved SCP as described in Section III.A, below.

E. Fee Determination

Permit fees are based on the type of waste (sewage, process wastewater, storm water, noncontact cooling water, etc.) and receiving waters. Based on ARM 17.30.201(6)(a), there is one category of outfalls for fee purposes.

F. Compliance History

In May 2018, there was a significant leak of waste oil from storage barrels. The barrels were subsequently removed in November 2018, and the area was backfilled with clean soil and reseeded prior to spring 2019.

DEQ inspected the facility on August 16, 2018. No findings were reported.

III. Technology Based Effluent Limits

Technology-based effluent limits (TBELs) are based on Federal or State technology-based standards and represent the minimum treatment requirements implemented in MPDES permits. The limits are based on actual, available control technologies to treat pollutants, and must be met prior to dilution.

A. Applicable Effluent Limits

The United States Environmental Protection Agency (EPA) has established effluent guidelines for the coal mining industry at 40 CFR Part 434, Effluent Limitations Guidelines for the Coal Mining Point Source Category. Subpart H – Western Alkaline Coal Mining is applicable to discharges from all outfalls at the Big Sky Mine and has been used to determine TBELs in this permit.

The Facility meets the definition of a western coal mining operation as defined in 40 CFR 434, Subpart H by operational, location, and climatic criteria:

- The facility is a surface coal mine.
- The facility is located within the interior western United States (southeastern Montana), west of the 100th meridian (106° W).
- The region containing the Facility is classified as a cold semi-arid climate (BSk, Köppen climate classification), with an average annual precipitation of 26.0 inches or less.

The provisions described in 40 CFR 434, Subpart H are applicable to reclamation areas, brushing and grubbing areas, topsoil stockpiling areas, and regraded areas meeting definition and applicability criteria outlined in §434.80 and §434.81. These provisions are not applicable to active mining areas, coal preparation associated areas, and coal preparation plant areas as defined by 40 CFR §434.11.

ELGs for the Western Alkaline Coal Mining subcategory require the following narrative effluent limitations in applicable areas:

- The operator must submit a site-specific Sediment Control Plan (SCP) to the permitting authority that is designed to prevent an increase in the average annual sediment yield from pre-mined, undisturbed conditions. The SCP must be approved by the permitting authority and be incorporated into the permit as an effluent limitation. The SCP must identify best management practices (BMPs) and must also describe design specifications, construction specifications, maintenance schedules, criteria for inspection, and expected performance and longevity of the BMPs.
- Using watershed models, the operator must demonstrate that implementation of the SCP will result in average annual sediment yields that will not be greater than the sediment yields from pre-mined, undisturbed conditions. The operator must use the same watershed model that was, or will be, used to acquire the SMCRA permit.
- The operator must design, implement, and maintain BMPs in the manner specified in the SCP.

Western Alkaline Coal Mining ELGs represent the degree of effluent reduction attainable through application of best practicable control technology (BPT), the best available technology economically

achievable (BAT), and new source performance standards (NSPS). All outfalls authorized by the Permit are regulated by the Western Alkaline Standards.

Only effluent limitations enforceable under 40 CFR 434 Subpart H are applicable to the outfalls designated under Western Alkaline Standards and effluent limitations associated with active mining are not applicable.

The DEQ approved SCP for Area A was resubmitted with the permit renewal application. The SCP was revised in November 2013 and is applicable until the facility receives final, Phase 4, bond release.

IV. Water Quality Based Effluent Limits

Permits are required to include water quality-based effluent limits (WQBELs) when TBELs are not adequate to protect state water quality standards.

A. Scope and Authority

The Montana Water Quality Act states that a permit may only be issued if DEQ finds that it will not result in pollution of any state waters. No wastes may be discharged that can reasonably be expected to violate any state water quality standards. Montana Water Quality Standards (WQS) define both water use classifications for all state waters and numeric and narrative standards that protect those designated uses. The WQS applicable to the receiving waters for the discharges regulated by this Permit establish a basis for WQBELs in the Permit.

B. Receiving Water Characteristics

The Facility discharges wastewater to the following State waters: Miller Coulee and Emile Coulee. They are tributary to Rosebud Creek, which is tributary to the Yellowstone River. All receiving waters are located within the Middle Yellowstone watershed, belonging to the Rosebud Hydrologic Unit (HUC 10100003). The receiving waters fall under the Water-Use Classifications for the Yellowstone River drainage from the Billings water supply intake to the North Dakota state line (ARM 17.30.611(1)(c)). At the point of discharge for all permitted outfalls, the hydrologic condition of the receiving water is ephemeral as that term is defined at ARM 17.30.602(1).

1. Summary

- Water Use Classification: C-3
- Watershed: Yellowstone
- Waterbody Name/Location: Big Rosebud Creek, Northern Cheyenne Reservation boundary to boundary at S28/29 T6N R42E
- Montana Stream Segment: MT42A001_012
- USGS Hydrologic Unit Code: 10100003
- Ecoregion: Northwestern Great Plains
- Impairment: Aquatic life
- TMDL: None
- 7Q10: 0

2. C-3 Classification Standards

Classification	Beneficial Uses
C-3	<ul style="list-style-type: none"> • Bathing, swimming, and recreation • Growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl, and furbearers • Natural water quality is marginally suitable for drinking, culinary and food processing purposes, agriculture, and industrial water supply.

3. Impairments

Emile and Miller Coulees have not been assessed for impairments. However, the State of Montana final 2020 Integrated Report and 303(d) List identifies segment MT42A001_012 of Rosebud Creek as impaired for aquatic life, the probable source being dam construction (other than upstream floor control projects). The Integrated Report and 303(d) List are sources of general water quality information for the public. The results of the assessment process are the basis for listing waters in need of TMDL development. Actual causes and sources of impairment are identified and quantified during the TMDL development process. It is not anticipated that the Facility is a source of any parameters contributing to the impairment of Rosebud Creek.

C. Nondegradation

Discharges from this facility are considered existing discharges, not new or increased sources. Montana nondegradation policy has three tiers:

- a. Tier 1: Existing uses of State waters and the level of water quality necessary to protect those uses must be maintained and protected [75-5-303(1) MCA]. ARM 17.30.705(2)(a) requires that, for all State waters, existing and anticipated uses and the water quality necessary to protect those uses must be maintained.
- b. Tier 2: Unless authorized by DEQ through a nondegradation analysis or exempted from review under 75-5-317 MCA, the quality of high-quality waters must be maintained [75-5-303(2)].
- c. Tier 3: The Board may not authorize degradation of State waters classified as “outstanding resource waters” [75-5-303(7)].

All outfalls are existing sources and discharge to hydrologically ephemeral drainages, which have zero flow or surface expression for more than 270 days in most years. Therefore, these waters are not high-quality waters as defined at 75-5-103(13) and are afforded Tier 1 protection meaning existing and anticipated uses and water quality necessary to protection those uses must be maintained, see 75-5-303(1), MCA and ARM 17.30.705(2)(a).

D. Mixing Zones

Mixing zones are granted by DEQ only when a permittee has applied for a mixing zone, where they are needed (where a discharger cannot meet the applicable numeric WQS at the point of discharge), and where they are appropriate (based on the criteria specified in the regulations).

This facility may not have a mixing zone due to the ephemeral nature of the receiving water. The Permittee did not submit a request for an acute, chronic, or human health mixing zone its MPDES Permit renewal. Additionally, this facility may not have a mixing zone as Emilie and Miller Coulees ephemeral streams having a critical low flow of 0 cubic feet per second, which provides no dilution for a mixing zone.

E. Determining Need for WQBELs

The primary pollutant of concern for drainage from reclamation, brushing and grubbing, topsoil stockpiling, and re-graded areas is suspended solids. As demonstrated in the approved SCP, reclamation BMPs used by the permittee are effective at maintaining postmining sediment yields at are below premining conditions (BSCC, 2009b, 2009c, and 2013). Implementation of the approved SCP will not create discharges at levels that will have the reasonable potential to exceed State WQS. Therefore, WQBELs are not required.

V. Final Effluent Limits

Final effluent limitations for all outfalls consist of restrictions on settleable solids via the implementation of an approved SCP. Narrative limits specific to all outfalls include those addressed in the approved SCP. The permittee must adhere to design specifications, construction specifications, inspection criteria and maintenance schedules for BMPs as specified in the SCP.

Section 402(o) of the CWA and section 122.44(l) require that effluent limitations or conditions in reissued permits be at least as stringent as those in the existing permit based on the submitted sampling data.

a. Satisfaction of Anti-backsliding Analysis

All effluent limitations and monitoring requirements remain unchanged from the previous permit.

b. Stringency of Requirements for Individual Pollutants

This permit contains technology-based effluent limitations for sediment. Effluent limitations for all outfalls consist of restrictions on settleable solids via the requirement for a SCP.

VI. Monitoring and Reporting Requirements

Regulations requiring the establishment of monitoring and reporting conditions in MPDES permits are found at 40 CFR 122.44(i) and 122.48 and ARM 17.30.1351. Section I.C of the permit establishes monitoring and reporting requirements to implement Federal and State requirements. The following provides the rationale for the monitoring and reporting requirements for this Facility.

A. Monitoring Locations and Frequency

All outfalls will be monitored as dictated by the SCP. Qualified personnel shall inspect the BMPs described in the permit following each significant storm water rainfall event resulting in 2.0 inches of precipitation or more, or after significant snowmelt events. Inspections must be documented and maintained by the Facility. Inspections and their respective records must include tracking or follow-up procedures to ensure adequate response and corrective actions have been taken based on any problems or

deficiencies observed during the inspection. The permittee must perform a Comprehensive Site Inspection to evaluate whether BMPs are adequate and properly implemented in accordance with the approved SCP. The Comprehensive Site Inspection must assess whether the BMPs implemented to control sediment and any other pollutants are adequate to control pollution from the site and whether any revisions to the SCP such as additional BMPs are necessary.

B. Other Monitoring Requirements

Precipitation Monitoring. The permittee is required to monitor and report precipitation using a precipitation gauge that meets the standards provided in National Weather Services Instructional Bulletin 10-1302 (October 4, 2005), Instrument Requirements and Standards for the NWS Surface Observing Programs (Land), which are provided in the permit. Precipitation monitoring is required to provide evidence that a precipitation event resulted in a discharge, and that alternate limitations and monitoring requirements apply.

C. Reporting Requirements

The permittee must comply with reporting requirements as specified in the permit in accordance with ARM 17.30.1342.

VII. Special Conditions

A. Best Management Practices and Pollution Prevention

BMPs will be implemented, inspected, and maintained per the approved SCP.

B. Reopener Provisions

These provisions are based on 40 CFR Part 123 and the previous permit. DEQ may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new Federal regulations, modification in toxicity requirements, adoption of a TMDL or adoption of new regulations by DEQ.

C. Storm Water Management

Storm water runoff will be managed per the approved SCP.

VIII. Standard Conditions

Standard Conditions, which apply to all MPDES permits in accordance with ARM 17.30.1342 and additional conditions applicable to specified categories of permits in accordance with ARM 17.30.1343, are included in Section III of this permit. The permittee must comply with all standard conditions under ARM 17.30.1342 and the additional conditions that are applicable to the permittee under ARM 17.30.1343.

40 CFR 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this permit omits Federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the ARM is more stringent. In lieu of these conditions, this permit incorporates by reference MCA 75-5-633.

IX. Public Participation

A. Public Notice

DEQ issued a public notice stating that a tentative decision has been made to issue an MPDES permit to Big Sky Coal, and that a draft permit, fact sheet and environmental assessment (EA) have been prepared. Details are below:

- Public Notice No. MT-21-15 dated July 12, 2021
- Public comments are invited any time prior to the close of the business August 11, 2021.
- Comments may be directed to:
Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, MT 59620
or DEQWPBPublicComments@mt.gov
- All comments received or postmarked prior to the close of the public comment period will be considered in the formulation of the final permit.
- DEQ will respond to all substantive comments and issue a final decision within sixty days of the close of the public comment period or as soon as possible thereafter.

All persons, including the applicant, who believe any condition of the draft permit is inappropriate shall raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period.

B. Notification of Interested Parties

Copies of the public notice were mailed to the discharger, state and federal agencies and interested persons who have expressed an interest in being notified of permit actions. A copy of the distribution list is available in the administrative record for this permit.

- In addition to mailing the public notice, a copy of the notice and applicable draft permit, fact sheet and EA were posted on DEQ's website for 30 days.

Any person interested in being placed on the mailing list for information regarding this MPDES permit should contact DEQ, reference this facility, and provide a name, address, and email address.

C. Public Hearing

During the public comment period provided by the notice, DEQ will accept requests for a public hearing. A request for a public hearing must be in writing and must state the nature of the issue proposed to be raised in the hearing.

D. Permit Appeal

After the close of the public comment period DEQ will issue a final permit decision, which is a final decision to issue, deny, modify, revoke and reissue, or, terminate a permit. A permit decision is effective 30 days after the date of issuance unless a later date is specified in the decision, a stay is granted, or the applicant files an appeal.

The Permittee may file an appeal within 30 days of DEQ's action to the following address:

Secretary, Board of Environmental Review
Department of Environmental Quality
1520 East Sixth Avenue
PO Box 200901

Helena, Montana 59620-0901

E. Additional Information

Requests for additional information or questions regarding this permit should be directed to the Water Protection Bureau at 406-444-6747.

X. Information Sources

Administrative Rules of Montana Title 17 Chapter 30 – Water Quality

- Subchapter 2 - *Water Quality Permit and Application Fees*
- Subchapter 5 - *Mixing Zones in Surface and Ground Water*
- Subchapter 6 - *Montana Surface Water Quality Standards and Procedures*
- Subchapter 7 - *Nondegradation of Water Quality*
- Subchapter 12 - *Montana Pollutant Discharge Elimination (MPDES) Standards*
- Subchapter 13 - *Montana Pollutant Discharge Elimination (MPDES) Permits*

CWAIC: Clean Water Act Information Center, Department of Environmental Quality. Accessed April 2021.

Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. §§ 1251-1387, October 18, 1972, as amended 1973-1983, 1987, 1988, 1990-1992, 1994, 1995 and 1996.

Integrated 303(d) Water Quality Report for Montana (2020).

Montana Code Annotated (MCA), Title 75-5-101, *et seq.*, “Montana Water Quality Act.”

Big Sky Coal Company (BSCC), 2008. Big Sky Area B Permit Application Package for SMP No. 88004B.

Big Sky Coal Company (BSCC), 2009a. 2008 Annual Surface Mine Report Areas A and B.

Big Sky Coal Company (BSCC), 2009b. Sediment Control Plan for Area A.

Big Sky Coal Company (BSCC), 2009c. Sediment Control Plan for Area B.

Big Sky Coal Company (BSCC), 2013 (revised). Sediment Control Plan for Area A.

Montana DEQ. Montana Pollutant Discharge Elimination System (MPDES) Permit Number MT0000884
Administrative Record

US Code of Federal Regulations, 40 CFR Parts 434 Subpart H.

Prepared by: Melinda Horne

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