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The BLM and OSMRE have considered the potential environmental impacts of this proposed action in compliance with the National Environmental Policy Act (NEPA), and this environmental assessment represents BLM and OSMRE's good-faith effort to prioritize documentation of the most important considerations required by NEPA within the congressionally mandated page and time limits. This prioritization reflects BLM and OSMRE's expert judgment and any considerations addressed briefly or left unaddressed were, in BLM and OSMRE's judgment, comparatively not of a substantive nature that meaningfully informs the consideration of potential environmental effects and the resulting decisions on how to proceed.

_____ _____

Tessa Wallace, Branch Chief, Solid Minerals Date
BLM Montana-Dakotas

_____ _____

Marcelo Calle, Acting Regional Director Date
Regions 5 & 7-11, OSMRE

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1. Introduction

1.1. Proposed Action and Background

This environmental assessment (EA) was prepared to examine the potential environmental impacts of the proposed action and alternative actions to support informed decision-making. This analysis is consistent with the purpose and goals of the National Environmental Policy Act (NEPA) as amended; longstanding federal judicial and regulatory interpretations; the Department of the Interior's (DOI) NEPA regulations (43 CFR Part 46); 516 DM 1 – U.S. Department of the Interior Handbook of National Environmental Policy Act Implementing Procedures; and Administration priorities and polices.

This EA has been prepared jointly by the Bureau of Land Management (BLM) and the Office of Surface Mining Reclamation and Enforcement (OSMRE) to disclose and analyze the potential effects on the environment of issuing a Federal coal lease for the proposed Lease-By-Application (LBA) MTM 105485-01, Lease Modification Application (LMA) of existing lease MTM 110693, and recommendation for approval of the Federal mining plan by OSMRE to the Assistant Secretary of Lands and Minerals (ASLM) enabling the Federal coal to be mined.

On December 18, 2012, Spring Creek Coal, LLC submitted an LMA for Federal Coal Lease MTM 110693. The application was corrected in February 2013, updated in May 2016, and again in March 2019 to add 150 acres, more or less, of contiguous or cornered coal lands to existing Federal Coal Lease MTM 110693, containing approximately 6.9 million tons (Mt) of minable coal (see **Table 1**). Effective October 24, 2019, Navajo Transitional Energy Company, LLC (NTEC) acquired all assets owned by Cloud Peak Energy, Inc. (CPE), including the assets held by Spring Creek Coal LLC, which included the Spring Creek Mine (SCM). An updated application (applicant to reflect NTEC's acquisition of assets) was submitted to the BLM on June 17, 2021, to reflect the name of the Applicant for LBM MTM 110693 to NTEC. No other substantial changes were included in the application of June 17, 2021.

On February 8, 2013, Spring Creek Coal, LLC submitted an LBA to the BLM Montana/Dakotas State Office to lease multiple Federal tracts. The application was updated in May 2017 and again in June 2017, resulting in the final application proposing to lease Federal tracts containing approximately 170.2 million tons of minable coal (see **Table 2**) over 1,262.57 surface acres. An updated application (applicant to reflect NTEC's acquisition of assets) was submitted to the BLM on August 24, 2021, to reflect the name of the Applicant for LBA MTM 105485-01 to NTEC. No other substantial changes were included in the application of August 24, 2021.

The delineated areas of the Federal lease tracts associated with the Proposed Action and No Action Alternative will be referenced by tract number as indicated in **Table 1** and **Table 2.** Legal land descriptions for each tract are as follows:

Table 1. LMA Proposed Lease Tracts from 2021 Updated LMA Application MTM 110693

MTM 110693 Tract	Legal Land Description	Acres	Minable Coal Resources (short mt)
1	T 8 S., R. 39 E. Sec. 13, NW1/4SW1/4NE1/4, S1/2SW1/4NE1/4, N1/2NW1/4NW1/4, SE1/4NW1/4NW1/4, N1/2SE1/4NW1/4, SE1/4SE1/4NW1/4, S1/2NE1/4NW1/4, NE1/4NW1/4SE1/4, W1/2NE1/4SW1/4	140	5.76
2	T 8 S., R. 39 E. Sec. 14, NE1/4NE1/4NE1/4	10	0.1
	Total:	**150**	**5.86***

*Minable coal reasources reflect BLM modeled tons based on data sourced from NTEC

Table 2. LBA proposed lease tracts from 2021 Updated LBA Application MTM 105485-01

MTM 105485-01 Tract	Legal Land Description	Acres	Minable Coal Resources (short Mt)
3	T. 8 S., R. 39 E. Sec. 35, E1/2	320	42.91
4	T. 9 S., R. 39 E. Sec. 1, lots 1 thru 4, W1/2NE1/4, NW1/4 and E1/2W1/2SE1/4	441.09	56.98
5	T. 9 S., R. 39 E. Sec. 2, NE1/4	160	21.40
6	T. 9 S., R. 40 E. Sec. 6, lots 5 thru 7, S1/2SE1/4NW1/4, E1/2SW1/4, NW1/4NW1/4SE1/4, S1/2N1/2SE1/4, and S1/2SE1/4	341.48	46.22
	Total:	**1,262.57**	**167.51***

*Minable coal reasources reflect BLM modeled tons based on data sourced from NTEC

NTEC is the most recent operator who has been mining coal via conventional surface mining methods at the SCMine (Permit C1979012 [i.e. existing permit]) (see **Figure 1**) in Big Horn County, Montana since the MT DEQ issued the permit 1979. The permit has been approved by the Coal Section, Mining Bureau of the Montana Department of Environmental Quality (DEQ) the regulatory authority authorized by the Surface Mining Control and Reclamation Act of 1977 (SMCRA) and the DOI to regulate surface coal mining operations and the surface effects of underground coal mining on private and state lands within the State of Montana.

Tracts 1, 2, 3, and 6 are within the existing SCM permit boundary. Tracts 4 and 5 are outside of the existing SCM permit boundary. All of the Federal coal tracts, with the exception of Tract 3 and a portion of Tract 6 (T. 9 S., R. 40 E., Sec. 6 Lot 5), are comprised of private surface lands. Tract 3 and the listed portion of Tract 4 are federally owned surface managed by the BLM. All of the tracts are fully Federal minerals.

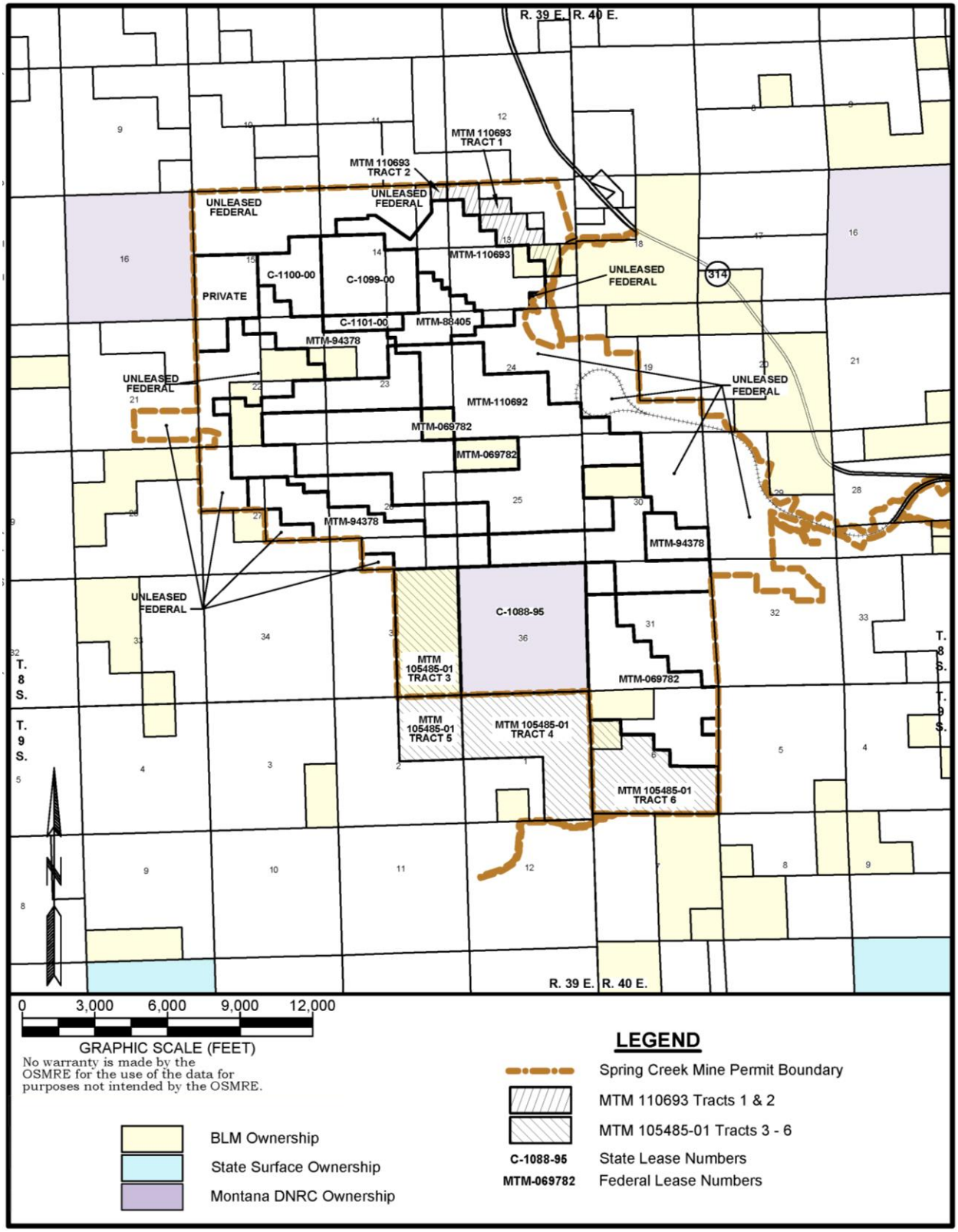
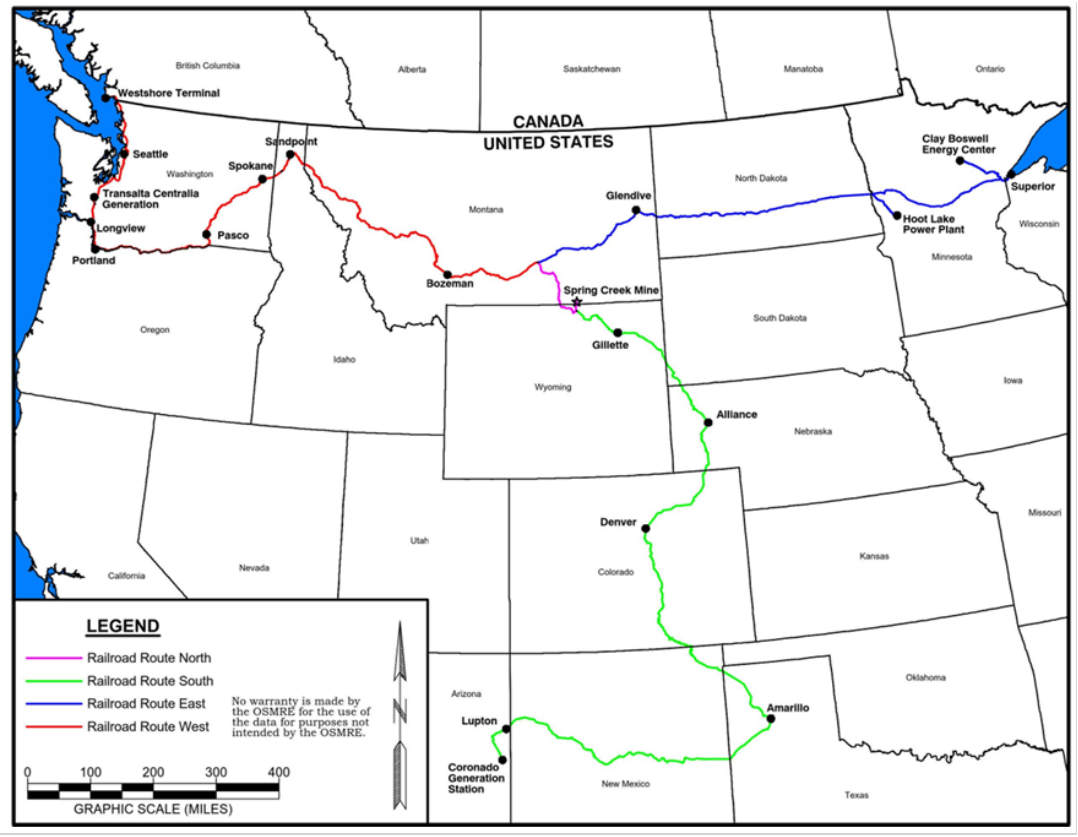


Figure 1. Existing mine permit boundaries and Proposed Tracts in LBA MTM 105485-01 and LM MTM 110693

Between 2016 and 2023, approximately 66 to 95 percent of the coal mined from the SCM was shipped to U.S. markets and the remaining coal was shipped to domestic industrial customers and foreign markets (NTEC 2022, 2024a). In the United States, the coal was transported by rail from the SCM to various power plants including, TransAlta Centralia Generation in Washington, Coronado Generating Station in Arizona, Boswell Energy Center and Hoot Lake Plant in Minnesota, and D.E. Karn Generating Plant and Belle River and St. Clair Power Plants in Michigan. Coal was also transported by rail to terminals in Superior, Wisconsin and British Columbia, Canada for vessel transport. The primary routes for Burlington Northern Santa Fe Railway (BNSF) rail transport and vessel transport in North America are shown on **Figure 2**.

Figure 2. BNSF Railroad and Shipping Routes in North America Used to Transport Spring Creek Mine Coal



1.2. Purpose and Need for the Proposed Action

The purpose and need for the BLM's Federal action is to respond to NTEC's LBA to lease Federal coal resources at the SCM, and to respond to NTEC's LM to lease additional Federal Coal resources associated with existing Federal Lease MTM 110693, also at the Spring Creek Mine, and to fulfill the requirements of Section 50201 of the OBBB.

The purpose of OSMRE's federal action is to conduct a thorough analysis of the potential environmental effects of the proposed mining plan modification to inform its recommendation to the ASLM to approve, disapprove, or approve with conditions the proposed mining plan as required by the Mineral Leasing Act of 1920 (MLA) (30 United States Code [U.S.C.] 207(c); 30 CFR part 746). The ASLM will use

OSMRE's recommendation to decide whether the mining plan is approved, disapproved, or approved with conditions.

1.3. Decision to be Made

The BLM decision to be made is whether to lease all or a portion of the Federal coal resources contained within the lease proposed LMA and LBA tracts, and if so, under what terms, conditions, and stipulations. The OSMRE decision to be made is to provide a recommendation to the ASLM regarding the Federal mining plan associated with development of the Federal lease tracts. The ASLM will use OSMRE's recommendation to decide whether the new mining plan is approved, disapproved, or approved with conditions. OSMRE's recommendation to the ASLM is based, at a minimum, on the documentation specified at 30 CFR § 746.13.

1.4. Conformance with Bureau of Land Management Land Use Plan

On July 4, 2025, the President signed the One Big Beautiful Bill Act (OBBB), (Pub. L. No. 119-21). Section 50201 of the OBBB requires that not later than 90 days after July 4, 2025, the Secretary of the Interior shall, with respect to each qualified application, (1) if not previously published for public comment, publish any required environmental review; (2) establish the fair market value of the applicable coal tract; (3) hold a lease sale with respect to the applicable coal tract; and (4) identify the highest bidder at or above the fair market value and take all other intermediate actions necessary to identify the winning bidder and grant the qualified application.

The BLM is processing the applications submitted by NTEC for LMA MTM 110693 and LBA 105485-01 in accordance with the OBBB.

The Federal Land Policy and Management Act (FLPMA) of 1976 dictates that the Bureau of Land Management (BLM) create and maintain land use plans, known as Resource Management Plans (RMPs). These RMPs act as blueprints for how BLM-administered public lands will be managed, considering a variety of factors and balancing competing demands for resources like grazing, recreation, mineral extraction, and conservation. RMPs establish the overall goals and objectives for resource management, identify areas open or closed to specific uses, and provide general management practices to achieve these goals.

In 2015, the Miles City Field Office updated and consolidated two previous Land Use Plans (Big Dry RMP of 1996 and the Powder River RMP of 1985) into one plan (the Miles City Resource Management Plan). This plan (2015) assessed 1,123,600 acres of federal coal with development potential and identified 1,000,691 acres (from the Big Dry and Powder River RMPs (BLM 1996 and 1985c)) as acceptable for further consideration for coal leasing; these lands were carried forward in the new 2015 RMP and again in the 2019 RMP Amendment.

As required by 43 CFR Part 3460, Subpart 3461, unsuitability criteria, all 1,123,600 acres of federal coal with development potential identified in the land use planning analysis were assessed to see what unsuitability criteria applied. As a result, 61,615 acres containing 4.8 billion tons of coal were found unsuitable without exception for coal leasing. An additional 39,713 acres were identified as containing unsuitability criteria where an exception has been made or may be applied in the future and carried forward for further leases or exchange consideration with stipulations.

The BLM amended the 2015 ARMP in 2019 to change the allocation of lands acceptable and unacceptable for further consideration for coal leasing and to guide coal management on public lands administered by the MCFO into the future. To determine areas acceptable for further consideration for coal leasing in the RMP Amendment, the BLM updated the coal screening (Appendix A of the Final SEIS/Proposed RMP Amendment), updated the reasonably foreseeable development scenario (**Appendix A**), and developed a stipulation for coal development for unsuitability criterion 15, Habitat for Species of High Interest to the State (Appendix A of the Final SEIS/Proposed RMP Amendment). This stipulation

requires reclamation using an approved seed mix that is appropriate to the soil type(s) found within the disturbance area. The result of the coal screening criteria for the 2019 Amendment is 1,214,380 acres acceptable for coal leasing and 530,420 acres unacceptable for coal leasing. The majority of the lands falling under the category of acceptable for coal leasing are identified as being able to apply criterion 15 "Habitat for Species of State Interest" with exception or stipulation.

In 2024, Miles City Field Office again amended the Resource Management Plan making no BLM-administered coal available for further consideration for coal leasing within the planning area applying an Air and Climate screening criterion (Screen 3) that contained 1,525,190 acres and excluded lands outside an 8-mile infrastructure area around existing mines. The 8-mile area encompasses existing transportation infrastructure associated with load-out facilities at the existing mines.

Although the 2024 Miles City Field Office RMPA makes no BLM-administered coal within the planning area available for consideration for leasing, the OBBB requires the BLM to process LBA 105485-01 within 90 days of July 4, 2025, the date of enactment of the Act. Responsive to the statutory mandate in Section 50201 of the OBBB, the BLM is processing LBA 105485-01. The BLM is also processing LMA MTM 110693 for efficiency, as it was a previously submitted application within the existing mining plan. Processing NTEC's pending LBA and LMA jointly will allow for further administrative efficiency to fully analyze lands that will result in separate decisions by the agencies, as the decision by BLM will be whether to lease all or a portion of the Federal coal resources contained within the proposed LMA and LBA tracts, and the decision by OSMRE will be to inform its recommendation for the mining plan modification to the ASLM to approve, disapprove, or approve with conditions the proposed mining plan. The BLM will not issue any leases unless and until the subject BLM-administered coal is open for leasing.

1.5. Relationship to Statues, Regulations, or Other Regulatory Framework[1]

Federal agencies must consider the effects of their actions on cultural resources under NEPA and under Section 106 (54 U.S.C. 306108) of the NHPA (54 U.S.C. 300101 et seq.). Specifically, Section 106 directs Federal agencies to consider the effects of their actions on historic properties and provide the Advisory Council on Historic Preservation a reasonable opportunity to comment. The Section 106 process is separate from, but often conducted in parallel with, the preparation of an EA. Other Federal legislation applicable to cultural resources in the analysis area includes the following:

- American Antiquities Act of 1906 (54 U.S.C. §§ 320301 *et seq*.)
- Archaeological Resources Protection Act of 1979 ((16 U.S.C. §§ 470aa–470mm)
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. §§ 3001–3013)
- E.O. 13007, Indian Sacred Sites
- E.O. 13287, Preserve America
- E.O. 13175, Consultation and Coordination with Indian Tribal Governments

[1] Executive Order 14154, Unleashing American Energy (Jan. 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The BLM and OSMRE have verified that they have complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 CFR Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum.

The State Historical Society of Montana, through the Montana State Historic Preservation Office (SHPO), is responsible for ensuring that effects on historic properties resulting from Federal undertakings on any lands within the state, as well as on lands under the jurisdiction of the state, are considered under applicable state laws and that state cultural resources and historic properties laws are followed. State of Montana statutes and guidelines applicable to cultural resources in the analysis area include the following:

- MCA 22-3-424 indicates it is policy for the state to adopt rules for the identification and preservation of heritage properties and paleontological remains
- MCA 22-3-429 indicates the requests for consultation and public notice and appeal for any findings
- MCA 22-3-430 determines that the avoidance of impacts to heritage property or paleontological remains is preferred
- MCA 22-3-432 requires a permit be obtained from the state to excavate, remove, or restore any heritage property or paleontological remains on lands owned by the state of Montana under Section 106 of the NHPA.
- MCA 22-3-435 requires any person conducting activities, who discovers on any lands owned by the state any heritage property or paleontological remains shall report such findings

Federal undertakings may take place on lands under the jurisdiction of the state. In accordance with Section 101(b)(3) of the NHPA, the Montana SHPO is also responsible for advising and assisting Federal agencies in carrying out their Section 106 responsibilities and for cooperating with agencies, local governments, organizations, and individuals to ensure that historic properties are taken into consideration at all levels of planning and development (36 CFR § 800.2(c)(1)(i) and 36 CFR §800.2(c)(2)(ii)). BLM and OSMRE are currently working with the Montana SHPO and interested parties as described in 36 CFR § 800.2 and Chapter 4 to fulfill Section 106 responsibilities

The LBA and LMA for the Federal tracts will be processed and evaluated under BLM and OSMRE statutory mandates, DOI authority governing Federal coal leasing and mining, and other applicable Federal laws, regulations, and guidance documents, including but not limited to:

- Migratory Bird Treaty Act of 1918
- Mineral Leasing Act for Acquired Lands of 1947
- Mineral Leasing Act of 1920 (MLA), as amended by the Federal Coal Leasing Amendments Act of 1976
- Bald and Golden Eagle Protection Act of 1940
- National Historic Preservation Act (NHPA) of 1966
- NEPA of 1969, as amended
- Clean Air Act (CAA) of 1970
- Clean Water Act (CWA) of 1972
- Endangered Species Act (ESA) of 1973
- Archaeological and Historical Act of 1974
- FLPMA of 1976
- SMCRA
- Archaeological Resources Protection Act of 1979

- Energy Policy Act of 2005
- 2020 ESA Section 7 Consultation Final Programmatic Biological Opinion and Conference Opinion on the OSMRE Title V Regulatory Program (U.S. Fish and Wildlife Service [USFWS] 2020a)
- E.O. 14154 Unleashing American Energy
- 43 CFR Part 3400 Coal Management, and all subparts therein

The BLM regulates coal leasing primarily to ensure that the maximum economic recovery of the coal resource is achieved (30 U.S.C. § 201(a) and 43 CFR Part 3480), while maintaining compliance with other applicable laws and regulations.

On January 20, 2025, President Trump issued E.O. 14154, Unleashing American Energy. The Executive Order revoked E.O. 11991, which had directed CEQ to issue regulations implementing NEPA and required Federal Agencies to comply with those regulations. On July 1, 2025, the Department of the Interior issued an Interim Final Rulemaking (90 FR 29498) which codified revised DOI NEPA implementing regulations at 43 CFR Part 46. This EA has been written in compliance with the requirements of NEPA, 42 U.S.C. §§ 4321 et seq., and the DOI NEPA implementing regulations and procedures found in 43 CFR Part 46 and 516 DM 1, U.S. Department of the Interior Handbook of National Environmental Policy Act Implementing Procedures, updated and released in 2025.

In Montana, MTDEQ has primacy over surface coal mining operations on non-Federal, non-Indian lands within its borders, and Montana and DOI have entered into a State-Federal Cooperative Agreement (30 CFR 926.30) to allow MTDEQ primacy for permitting surface coal mining operations on Federal lands within Montana. Under SMCRA, OSMRE has an oversight and enforcement role that includes evaluating and assisting the state in the administration, implementation, enforcement, and maintenance of its approved state surface mining program. If the Federal coal is leased, OSMRE reviews the Federal mining plan modification as required by 30 U.S.C. § 207(c) and will prepare a recommendation to the ASLM whether to approve, disapprove, or approve with conditions the Federal mining plan modification.

1.6. Roles and Responsibilities

A bureau is required only to consider the effects of its proposed action and not effects from separate projects, activities, or proposed actions. As the Supreme Court clarified in *Seven County Infrastructure Coalition v. Eagle County,* environmental effects from a "separate project" should not be attributed to the proposed action, as division or separation among projects "breaks the chain of proximate causation between the project at hand and the environmental effects of the separate project." Instead, as the Court explained, bureaus must evaluate "other projects [only when] interrelated and close in time and place" to the proposed action. Additionally, "agencies are not required to analyze the effects of projects over which they do not exercise regulatory authority." Instead, agencies' responsibilities are determined by the principle previously established by the Court in *Department of Transportation v. Public Citizen*, 541 U. S. 752, 770 (2004): "where an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant 'cause' of the effect."

Bureau of Land Management (BLM)

The BLM is responsible for the issuance, readjustment, modification, termination, cancellation, and/or approval of transfers of Federal coal leases pursuant to the MLA, as amended. The BLM has the general responsibility to administer the MLA with respect to coal mining, production, and resource recovery and protection operations on Federal coal leases and licenses, and to supervise exploration operations for

Federal coal. The BLM must decide whether to grant a lease and lease modification for Federal coal reserves.

Office of Surface Mining, Reclamation, and Enforcement (OSMRE)

SMCRA is a comprehensive statute designed to establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations. SMCRA establishes a program of cooperative federalism, allowing States to enact and administer their own regulatory programs on non-Federal and non-Indian lands, within limits established by minimum Federal standards, and subject to oversight and enforcement by OSMRE. For Federal mining plan modifications, a operator or permittee may not commence mining unless the mining plan modification is approved by the ASLM. OSMRE is responsible for preparing and submitting a decision document to the ASLM recommending approval, disapproval, or approval with conditions of a proposed mining plan modification. Pursuant to 30 CFR § 746.13, OSMRE's recommendation is based, at a minimum, upon:

- The Permit Application Package (PAP)
- Information prepared in compliance with NEPA, including this EA
- Documentation assuring compliance with the applicable requirements of Federal laws, regulations, and executive orders other than NEPA
- Comments and recommendations or concurrence of other Federal agencies and the public;
- Findings and recommendations of the BLM with respect to the Resource Recovery and Protection Plan (R2P2), Federal lease requirements, and the MLA
- Findings and recommendations of the MTDEQ with respect to the mine permit C1979012 and the Montana State program and,
- The findings and recommendations of OSMRE with respect to the additional requirements of 30 CFR Chapter VII, Subchapter D

1.7. Resource Issues Identified for Detailed Analysis

Resource analysis issues include resource issues that could be affected by Federal coal leasing. The BLM and OSMRE focuses their analysis on relevant environmental information to ensure informed decision making by Federal agencies.

Site-specific resource concerns were identified by the BLM and OSMRE. The BLM and OSMRE focus their analysis on issues that: are determined to be potentially significant as related to the action alternatives, have a cause-effect relationship with the action alternatives, are within the scope of analysis, and are amenable to scientific analysis. The following resources/issues will be analyzed in detail in this EA:

Air Quality

- Would leasing, mining, reclamation, and combustion activities (associated with end-user facility operations) increase air pollutant concentrations above the National Ambient Air Quality Standards (NAAQS) and impact human health?
- How would leasing, mining, reclamation, and combustion activities (associated with end-user facility operations) cause or contribute to Hazardous Air Pollutants (HAPs) concentrations that are detrimental to human health or the environment?
- How would leasing, mining, reclamation, and coal combustion activities (associated with end-user facility operations) cause or contribute to visibility impacts at Class I Areas?

- How would impacts from the action alternatives in combination with emission-generating activities within the analysis area impact air quality, visibility, mercury deposition, and HAP concentrations?

Greenhouse Gases

- How would the leasing, mining, reclamation, and coal combustion (associated with the end-user facility operations) contribute to greenhouse gas (GHG) emissions?

Cultural Resources and Native American Religious Concerns

- What are the potential impacts to cultural resources and Native American Religious Concerns on the Federal tracts related to leasing, mining, and reclamation activities?

Socioeconomics

- How would leasing, mining, and reclamation activities of the action alternatives affect community services such as public institutions and services that receive Federal coal royalty payments?

Water Resources

- How would the alternatives affect the quantity and quality of groundwater?
- How would the alternatives affect wetlands function and/or contribute to erosion, surface water runoff, and sedimentation?
- How would the alternatives affect the acreage of available seasonal and temporary wetlands?

Wildlife

- How would the alternatives potentially impact designated big game habitat for mule deer and pronghorn?
- Threatened and Endangered Species
    - How would the alternatives potentially impact the following proposed endangered and proposed threatened species: Suckely's cuckoo bumble bee, monarch butterfly, and Western regal fritillary?

1.8. Resources Considered but Eliminated from Further Analysis

The interdisciplinary team identified potential issues for resources that may be impacted with the leasing of the Federal coal resources contained in the tracts and identified recommendations for the proposed mining plan associated with development of the tracts. Scoping for the action alternatives included: BLM specialists' professional expertise and site knowledge, and agency specialists' review of data available from regional and site-specific datasets; existing permit documents and reports for the SCM, other regional survey work, and peer-reviewed literature; and discussion with other Federal and state agencies (e.g., USFWS, State Historic Preservation Office [SHPO]). Based on internal agency scoping, the resources described in **Table 3** were determined to be present within the Federal lease tracts but not affected to a degree that additional analysis is required. If a resource issue was identified for a resource,

then it is analyzed in detail in Chapter 3. If no resource issues were identified, then the analysis pertaining to that resource was eliminated.

Rationale for each resource eliminated from detailed analysis is provided in **Table 3**.

Table 3. Resource Issues Not Carried Forward for Analysis

Resource	Rationale for Determination to Eliminate from Detailed Analysis
Geology and minerals (other than coal)	SCM coal deposits are in the Paleocene age Fort Union Formation. The Fort Union Formation is divided into three members including, in descending order, the Tongue River, Lebo Shale, and the Tullock Members. The thick coal beds occur in the upper 900 feet of the Tongue River Member. The clastic beds in the Tongue River Member were deposited on floodplains of large rivers, in river and stream channels, or on deltas extending outward into swamps. The clastic beds tend to be lenticular in shape and limited in areal extent. The geology from the base of the A/D coal seam to the land surface would be permanently changed within the LBA1 tracts. Mining would substantially alter the resulting subsurface physical characteristics of the lands associated with the LBA1 tracts. The replaced overburden (backfill) would be relatively homogenous (compared to the premining layers of shale, siltstone, and sandstone overburden) and partly recompacted mixture. The replaced backfill would range from 180 to 300 feet thick. These impacts are occurring on the existing SCM coal leases as coal is mined and the mined-out areas are reclaimed. Drilling and sampling programs are conducted by all mine operators to identify overburden material that may be unsuitable for reclamation (i.e., material that is not suitable for use in reestablishing vegetation or that may affect groundwater quality due to high concentrations of certain constituents such as selenium or adverse pH levels). As part of the mine permitting process, each mine operator is required to develop a management plan to ensure that this unsuitable material is not placed in areas where it may affect groundwater quality or revegetation success. Each mine operator must also develop backfill monitoring plans as part of the mine permitting process to evaluate the quality of the replaced overburden. These plans are currently in place on the SCM permit. Overall, direct, and indirect effects on geology would be moderate and permanent. The geology within the proposed tracts would be permanently changed as they are replaced with backfill material during reclamation. Because the Proposed Action would be an extension of existing operations and impacts to geology and minerals were previously evaluated in the 2024 SCM EIS, they are not carried forward for analysis in this EA.
Land use and access	Land use estimates on the MTM 10548-01 Federal lease tracts based on MRLC (2022) are as follows: • Barren land: 1.1 acres • Shrub/Scrub: 648.3 acres • Grassland/Herbaceous: 613.2 acres Land use estimates on the MTM 110693 Federal lease tracts based on MRLC (2022) are as follows: • Shrub/Scrub: 76.1 acres • Grassland/Herbaceous: 73.9 acres Livestock grazing occurs in portions of the Federal lease tracts during the summer months; however, NTEC already has appropriate surface leases in place with the private landowners that allows the mine to conduct surface-disturbance preparatory work on the private lands overlying the Federal lease tracts. The BLM does not have authority to manage surface operations on the Federal lease tracts. Additionally, mining operations would not interfere with access to adjacent private lands. The Proposed Action is not expected to result in substantial impacts to land use, grazing or access. Further analysis of the impacts to land use and access is not required.

Resource	Rationale for Determination to Eliminate from Detailed Analysis
Paleontology	The BLM uses the Potential Fossil Yield Classification (PFYC) System to classify geologic units based on the relative abundance of paleontological resources with scientific interest and their sensitivity to adverse impacts. Class 1 (Low) geologic units are not likely to contain recognizable paleontological resources. Class 2 (Low) geologic units are not likely to contain paleontological resources. Class 3 (Moderate) are sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence. Class 4 (High) geologic units are known to contain a high occurrence of paleontological resources. State geologic maps indicate the presence of the following geologic units, with their respective PFYC values: Tongue River Member (4), Wasatch Formation (3), and generalized Clinker (1) in the Spring Creek Mine area. Fossils with scientific importance could be present in the Federal lease. Prior to surface disturbance a qualified BLM-permitted paleontologist must survey the BLM surface parcels to salvage any currently exposed fossils. It is recommended that the other surface parcels be likewise surveyed, with the surface owner receiving any fossils recovered. Also it is recommended that Unanticipated Discoveries Plan be developed. The Unanticipated Discoveries Plan would require mining operations in that area to temporarily cease, and outline what process should be followed. Having a plan in place will minimize confusion about who to contact or how to proceed, minimizing any delay to returning to normal operations. The BLM-permitted paleontologist could draft the plan. The effects on paleontological resources resulting from the Proposed Action are not expected to be substantial but would be permanent.
Soils: prime farmland	The Natural Resources Conservation Service (NRCS) Web Soil Survey was used to determine the if any prime farmland existing within the proposed tracts. There are six soil types associated with MTM 110693, none of which are classified as prime farmland. There are eleven soil types associated with MTM 105485-01, none of which are classified as prime farmland. Because there is no prime farmland within the proposed tracts, analysis of the impacts to prime farmland is not carried forward in this EA.
Soils: topsoil and subsoil	Soil surveys have been completed within the proposed tracts. The soil surveys assist in determining the quality and quantity of topsoil. Soils within the proposed tracts are similar to those within the SCM permit boundary that have been disturbed. Soil resources associated with mining the Federal coal would not be affected because of the reclamation requirements approved by the MDEQ and, specifically, the soil-handling requirements described in SMP C1979012. Further analysis of soil resources is not carried forward in this EA under the issue-based analysis because there is no action that would likely result in a substantial impact to the resource.
Transportation	There are no primary transportation systems in the proposed tracts. Nearby transportation facilities include the FAS 314 (which is a continuation of Wyoming Secondary Route 87), a railroad spur owned by NTEC and used by BNSF Railroad, and local access roads. Coal mined at the SCM is shipped to various destinations using a railroad spur owned by NTEC and used by BNSF and BNSF-owned/maintained mainline railroad tracks. Because there are no transportation systems within the proposed tracts, analysis of the impacts to transportation is not carried forward in this EA.
Vegetation: noxious and invasive weeds	SCM will utilize weed-free seed to control noxious weeds. If mulch is used, weed-free sources will be utilized if available and cost-effective. Additionally, SCM will utilize good cultural and management practices to prevent establishment of or to control noxious weeds until Phase IV Bond Release. Methods of weed control are, but not confined to: prevention, cutting or mowing, cultivation or tillage, crop or plant competition, burning, biological and chemicals/herbicides. Implementation of these practices will adhere to established criteria as outlined by the State of Montana Department of Agriculture Environmental Management Division's County Noxious Weed Control Act, Title 7, Chapter 22, Sections 7-22-2101 through 7-22-2153 and Rules 4.5.201 through 4.5.203 and supplemental Weed Control Guide and Title 82, Chapter 3, regulating coal mining. Reference Addendum 308A for Noxious Weed Management Plan. Further analysis of noxious and invasive weeds is not carried forward in this EA under the issue-based analysis because there is no specific action that would likely result in a substantial impact to the resource.

Resource	Rationale for Determination to Eliminate from Detailed Analysis
Vegetation: upland (non-special-status species)	Vegetation characteristics on the proposed Federal lease tracts are very similar to surrounding vegetation at the SCM. Vegetation surveys were previously conducted and in 2017 SWCA completed vegetation sampling using the BLM's Assessment, Inventory, and Monitoring (AIM) protocol. The AIM method was used to document current habitat conditions that can be used for developing a project monitoring plan and assessing Habitat Assessment Framework (HAF) habitat suitability indicators, as described in the Miles City Field Office (MCFO) Approved Resource Management Plan (BLM 2015). The AIM was completed within the proposed tracts. Direct impacts associated with the removal of vegetation from the proposed tracts would include increased soil erosion and habitat loss for wildlife and livestock. The Proposed Action could also cause the spread of invasive species and noxious weed populations. During construction, increased soil disturbance and higher traffic volumes could stimulate the introduction and spread of undesirable and invasive, n Indirect impacts on reclaimed lands would include loss of habitat for some wildlife species as a result of reduced plant species diversity, particularly big sagebrush. However, grassland-dependent wildlife species and livestock would benefit from the increased grass cover and production. on-native species. Non-native species often out-compete desirable species, rendering an area less productive as a source of forage for livestock and wildlife. Reclamation of disturbed lands with the SCM permit boundary is performed according to MDEQ regulatory standards (ARM 17.24.3). Reclamation would occur contemporaneously with mining on adjacent lands, i.e., reclamation would begin once an area is mined. To approximate premining conditions, the SCM would plan to reestablish vegetation types during the reclamation operation that are similar to the premine types. Reestablished vegetation would be dominated by species mandated in the reclamation seed mixtures approved by MDEQ. The reclamation plan for the SCM includes steps to control invasion by weedy (invasive nonnative) plant species. The direct and indirect effects related to the Proposed Action on vegetation would be moderate and short term. Further analysis of upland vegetation is not carried forward in this EA under the issue-based analysis because there is no specific action that would likely result in a substantial impact to the resource.
Wastes: hazardous and solid	Non-hazardous waste, which is similar to domestic or municipal solid waste, is currently disposed of onsite or shipped offsite. The SCM is permitted to dispose of used tires, concrete with rebar cut off, and non-greasy wood/steel/aluminum at the SCM, as described in the mine's existing MDEQ permit to mine. All other non-hazardous waste is shipped offsite to a permitted landfill. No solid wastes will be deposited within 8 feet of any coal outcrop or coal storage area, or at refuse embankments or impoundment sites. At the SCM, materials that may be classified as hazardous or are handled as hazardous include some greases, solvents, paints, flammable liquids, and other combustible materials determined to be hazardous by the EPA under the Resource Conservation and Recovery Act (RCRA). These types of wastes are disposed of at an off-site EPA-permitted hazardous waste facility.
Alluvial Valley Floors	No AVFs have been delineated within the tracts so there would be no direct or indirect effects to AVFs from any of the alternatives considered in this EA.
Wildlife (lagomorphs, black-tailed prairie dogs, waterfowl and shorebirds, and amphibians and reptiles	Lagomorphs: No impacts are expected to lagomorphs are expected to occur as a result of the Proposed Action. The surveys completed for SCM are voluntary and the presence of lagomorphs (rabbits and hares) is used only as an indicator for prey species. Therefore, these species are not carried forward for detailed analysis. Black-Tailed Prairie Dog Colonies: Mapping of active black-tailed prairie dog colonies occurs at 5-year intervals within the historic annual monitoring area. NTEC voluntarily expanded those efforts to include the entire combined wildlife monitoring area during the last two mapping rounds (2016, 2021). Black-tailed prairie dogs are used to determine presence/absence of black-footed ferrets. The existing black-tailed prairie dog colonies are located outside the proposed tracts and disturbance and are therefore not analyzed in this EA. Waterfowl and Shorebirds: Waterfowl and shorebird are present near water, which is not present within the proposed tracts. Based on this, the Proposed Action would not impact waterfowl and shorebirds and are therefore not analyzed in this EA. Amphibians and Reptiles: General visual surveys for amphibians and reptiles were conducted concurrently with those for waterfowl, certain nesting raptors, and grouse brood surveys in 2024 due to the overlap in habitats used by those species. No impacts are expected to occur to amphibians and reptiles as a result of the Proposed Action and are therefore not analyzed in this EA.
Human Health	Literature has indicated that there are many effects to human health associated with coal development, particularly (but not exclusively) in areas that are proximal to coal mining. Some of these effects include reproductive harms, air pollution (particulate inhalation), changes to DNA, respiratory health effects, possible disruption of the immune system, chronic exposure in utero and/or early childhood to the solid burning fuels causes immune modulation and predisposes infants to acute lower respiratory tract infections (Lee et al., 2015), and cancer (lung cancer and other types of cancer). This analysis has not identified any impacts resulting in business or residential relocations. All affected landowners have been notified and either have consented to their surface land being disturbed or have been contacted by the proponent for concurrence to disturb privately owned surface lands. Contaminated and hazardous waste encounters are not expected with this project and there are no permanent impacts to any public parks or recreational facilities, or any other valuable resources.

2. Alternatives

2.1 Introduction

This section describes Alternative A (No Action Alternative) and Alternative B (Proposed Action) which are considered and analyzed in detail in this EA and provide information on the existing operations at the SCM and how those operations may change under the action alternatives.

Action alternatives were developed based on national and state BLM and OSMRE direction and policy, existing conditions, including surface access agreements and resource issues. Resource issues are presented in Chapter 1.

Alternative A (No Action)

Under the No Action Alternative, the BLM would not approve the LBA for MTM 105485-01 or the LMA for MTM 110693. OSMRE would not recommend and the ASLM would not approve NTEC's proposed mining plan modification. NTEC would mine its remaining 85 Mt of recoverable coal reserves in approximately 8.5 years, at an average annual production rate of approximately 10 Mtpy. The 177.1 Mt of Federal coal resources contained within the Federal lease tracts would not be mined.

The No Action Alternative discloses the potential consequences of not mining the LMA and LBA Federal lease tracts, under the assumption that the coal within the tracts would not be mined in the foreseeable future if the No Action Alternative is selected.

The No Action Alternative assumes that mine-related surface disturbance would only occur within existing permit boundaries and in areas where surface access agreements are in place. If surface access agreements have been obtained on areas adjacent to the Federal coal tracts, the No Action Alternative assumes surface disturbance to the Federal coal tracts and mining of the non-Federal coal resources located adjacent to the lease tracts is reasonably foreseeable.

Nearly all of the coal resource surrounding the SCM, including MTM 105485-01 and MTM 110693, are federally owned. Under the No Action Alternative, NTEC would continue existing approved mining operations at the SCM until 2034 when all mining would cease, and final reclamation would continue through 2038. Approximately 265 employees from Big Horn County, Montana and Sheridan County, Wyoming would lose employment, and the taxes and royalties paid to the federal government and State of Montana would cease.

Alternative B (Proposed Action)

Under the Proposed Action:

- The BLM would approve the LMA and OSMRE would recommend approval of the mining plan modification to authorize the NTEC would to mine approximately 150 acres of Federal coal to recover approximately 6.4 Mt of the 6.9 Mt of mineable Federal coal, comprising all proposed federal lease tracts (See **Table 1**) as submitted in the final Lease Modification Application; and
- The BLM would approve the LBA and OSMRE would recommend approval of the mining plan to authorize NTEC to mine approximately 1,262 acres of Federal coal to recover approximately 158.3 Mt of the 170.2 Mt of mineable Federal coal, comprising all federal lease tracts (see **Table 2**) as submitted in the amended Lease-By-Application.

The Proposed Action would require NTEC to submit an application package to MDEQ to revise the Spring Creek Mine's existing SMCRA permit (State Mining Permit C1979012) because two of the LBA federal lease tracts are entirely outside of the approved permit boundary.

The Proposed Action was developed by NTEC in its Lease Modification Application and Lease-By-Application based on SCM's proximity to existing lease holdings, and the mining sequence enabling for the continued development of an existing mining block. It does not represent an independent economic venture based on a stand-alone development but is based on access to the Federal coal resources at the SCM, and surface access agreements. NTEC would continue to use permitted mining and reclamation methods to mine the new lease tracts.

A resource evaluation conducted by NTEC estimated that there are approximately 177.1 Mt of minable and 164.7 Mt of recoverable Federal coal contained in the Proposed Action. NTEC intends to produce the Federal coal at a rate of 10 million tons per year (Mtpy), which would extend the life of mine by 16.5 years. The potential impacts of leasing, mining, and combustion of the Federal coal from the Proposed Action are analyzed in this EA.

Approximately 99 acres within proposed LMA tracts have been disturbed (surface only) due to mining related activities on adjoining leases within the SCM permit boundary. Approximately 1,211 acres within the proposed LBA tracts have been disturbed (surface only) due to mining related activities on adjoining leases within the SCM permit boundary. An additional 51 acres of disturbance will occur on the LMA proposed tracts under the Proposed Action. Mining associated with the proposed LBA tracts will disturb approximately 2,228 acres; this disturbance acreage includes all 1,262.57 acres within the proposed LBA tracts as well as 965.4 acres on adjoining lands. These additional areas of disturbance will not occur until after the state permit is approved.

2.2 Alternatives Considered But Eliminated from Detailed Analysis

The BLM and OSMRE considered but eliminated from detailed analysis one alternative. The alternative would lease, or not lease, tracts based upon specific resource concerns identified during the NEPA analysis. The following alternatives are either outside of the BLM's and OSMRE's authority to make a decision or are within the range of alternatives analyzed in this EA:

- An alternative that would exclude portions of proposed Federal lease tracts that were identified as lands where effects to resources would be unmitigatable.

Tract 1 was identified as multiple use where the tract contains Federal Lands with and existing Right-of-way or Land Use Lease. The Land Use Lease was issued to SCM to allow for stockpiling of soils from existing mining operations. Should the proposed action be approved, existing Rights-of-ways associated with lands within the proposed permit area will be amended, as the ROW will no longer be needed.

Tract 1 also contains a public road. As public roads are administered by the county/state, it is possible that the road would be obliterated because of mining operations. The BLM has determined through engineering reports and modeling of the coal reserves that the portion of the proposed lands underlying the road will not have the potential to be mined. Therefore, the road will not be removed.

All proposed tracts contain wildlife species, particularly big game species. Big game is fully analyzed in section 3.7. A stipulation can be applied at the time of lease issuance that states: The holder shall seed all disturbed areas with the seed mix, as agreed upon by the BLM based on the soil type(s). There shall be no primary or secondary noxious weed seed in the seed mixture. Seed shall be tested, and the viability testing of seed shall be done in accordance with state law(s) and within 6 months prior to purchase. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with state law(s) and available for inspection by the BLM Authorized Officer.

Pursuant to 43 CFR § 3461.5, a lease may be issued if, after consultation with the state, if the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on species being protected. All affected species have been analyzed in the EA and it has been determined that there are not any significant long-term impacts. Further, regardless of the decision to issue a lease, or not, NTEC is the surface owner for all lands within the SCM existing mine boundary, with exception for those land associated with Tract 3 and Lot 5 associated with Tract 6 and is the surface owner for the proposed tracts that lie outside the existing mine boundary. Because of either existing land use leases issued by the BLM or the private surface ownership, either decision would allow for disturbance of the surface whether it be overburden placed here while mining adjacent private coal, or surface disturbance associated with a lease action. Therefore, the alternative to remove these lands are not carried forward for detailed analysis in Chapter 3.

2.3 Mining Plan and Existing Permits

The SCM is currently permitted to mine coal under the ASLM-approved Federal Mining Plan (OSMRE 2016), the MDEQ-approved State Mining Permit (SMP) C1979012 (MDEQ 2014), and the BLM-approved resource recovery and protection plan (R2P2; BLM 2017). The SCM is permitted to mine a maximum of 30 Mtpy under Montana Air Quality Permit #1120-12 (MDEQ/PCD 2014).

If a lease is issued and the Federal mining plan is approved, it is expected that NTEC would use the existing mine facilities and similar mining and reclamation methods, water requirements, and other mining operations/requirements described in the existing state-approved mine plan and reclamation plan for the existing permit. NTEC has the appropriate surface lease agreements, access agreements, and MDEQ approval within the listed permits that would allow the SCM to conduct surface activities (including surface disturbance and overburden removal) on tracts within the permit boundary regardless of if the Federal coal is leased and mined. Generalized mining methods used by NTEC are described below and are based on the existing mining and reclamation permits.

Mining Methods and Facilities

The SCM is a surface coal mining operation that uses standard surface mining techniques, including dragline, cast blasting, dozers, and truck/shovel systems. Overburden and coal are removed using combinations of blasting, excavation, and haulage by heavy equipment. Mining targets the Anderson-Dietz (A/D) coal seam, averaging 80 feet thick.

Prior to any mining disturbance, suitable plant growth material (SPGM) will be removed using scrapers or other equipment as necessary, while still adhering to salvage procedures. At times, it may be necessary due to steeply sloping terrain or other safety considerations, to use dozers to windrow material into positions where it is accessible by scrapers.

Overburden removal includes removal of any material between the SPGM and the minable coal bed. Following soil salvage operations, indurated sediments are occasionally encountered in the overburden and can be blasted if it is determined necessary to fracture rock prior to removal. The fragmented overburden will then be moved by draglines, truck and shovel fleets, tractor-scrapers, or other auxiliary equipment. When total overburden depth exceeds effective dragline stripping depths, prestripping may be conducted. The dragline will operate in various dig modes, including, but not limited to, simple side cast, overhand, two pass highwall side, extended bench and in-pit bench methods. In addition, the dragline pits will use cast-blasting and production dozing techniques as methods of overburden removal. Truck and shovel fleets, utilizing standard mining equipment such as, but not limited to, electric or diesel loading shovels/excavators, front-end loaders, and haul trucks, will operate in prestrip, ramp assist, and standalone pit modes. Associated equipment operations will include production dozing, scraper hauls, and other similar ancillary activities.

The coal mined will be entirely from the Anderson-Dietz coal seam, averaging approximately 80 feet thick. The coal will be shot using blasting agents and components similar to those used in the overburden. The coal will be blasted in lifts of varying depths and loaded out by typical mining equipment such as, but not limited to electric shovels, hydraulic shovels, front end loaders, and mining haul trucks. Removal will typically be in more than one pass, because of the thickness of the coal seam, quality and operational considerations. The coal will be transported to the primary crusher at the truck dump or the in-pit crusher for the overland conveyor by haul trucks. Production will frequently take place simultaneously, from more than one location in the mine, so as to blend the coals to create a marketable product and meet various consumer specifications.

Final placement of overburden will consist of dragline placed spoils as part of the normal overburden removal process. Pre-stripped or other truck-transported overburden will be placed into valleys between and in some cases over the top of spoil peaks to achieve the designed post-mining surface contours. Overburden removed via truck and shovel methods (e.g., during box-cut operations) will be preferably deposited in the same pit, however, to avoid material rehandle, it may be temporarily stockpiled or exported to other pits to achieve the post mining topography (PMT) in those locations. Material deficits (to achieve PMT) created by overburden export in specific pits will be addressed by overburden import from other pit operations.

Final, spoil topography will be achieved by re-grading spoiled material with dozers and/or scrapers. Final grading of overburden will follow the contours specified by the Post Mining Topography Maps and Plates within the permit. Final highwalls will be backfilled and regraded to slopes consistent with permit. Prior to topsoil re-distribution spoil procedures outlined in Section 313 (g)(iii) of the permit will be followed.

Reclamation

Storage areas for overburden and soil that exist currently in the mine area will be reclaimed to the approved post-mining contours illustrated in the permit. No soil stockpiles will be retained as part of the post-mining landscape. Current soil storage areas will be depleted of all stockpiled materials which will be utilized throughout the mine area to achieve post-mining contours. Overburden stockpiles will be reclaimed as a post-mining feature as described in the permit. Additionally, no structures are planned in conjunction with overburden or soil handling or storage.

Prior to topsoil re-distribution the re-graded spoil will be ripped or disked to an approximate depth of two (2) feet. Ripping will be conducted with motor graders or bulldozers. Again, this process will follow the topographic contours and be perpendicular to the slope of the land to minimize risk of erosion or instability. SCM will deviate from ripping spoils along the contour when slopes exceed 3H:1V due to equipment operational constraints. Where spoil slopes are 3H:1V or greater, the ripping direction and pattern will be directed downslope but will stay within a 45-degree angle of being perpendicular to the land slope to reduce the potential for erosion. During the spoil grading and ripping process, slopes will be configured to reduce runoff and alternate flow controls will be considered on runoff-affected reclaimed surfaces. Alternate flow controls will include use of pit drainage, check dams, sediment control fences, straw bales, contour ditches, toe ditches, containment ditches and berms. Redistributed soil will come from previously established stockpiles or direct apply operations. Topsoil and subsoil will be placed with scrapers or other equipment at prescribed depths. Excavations, artificially flat areas, and embankments will be promptly returned to the approximate original contour after they are no longer needed for prospecting.

Water Requirements

NTEC would use existing permitted water sources for dust suppression, sanitary use in mine facilities, firefighting reserve, and other mine water requirements. No increase in water use at the mine is anticipated from the leasing and mining of the Federal coal resources.

Waste Management

The SCM is permitted to dispose of used tires, concrete with rebar cut off, and non-greasy wood/steel/aluminum at the SCM, as described in the mine's existing MDEQ permit to mine. All other non-hazardous waste is shipped offsite to a permitted landfill.

Estimated Employment Requirements

Mining of the proposed tracts would use existing SCM mine employees and would not require the hiring of additional personnel.

Design Features

SCM's operations in the Federal lease tracts would be compliant with the environmental protection requirements described in Montana surface mining laws and regulations and would be implemented in the same manner as described in the existing permit (SMP C1979012). The environmental protection requirements include the following:

- Ponds and embankment design and requirement are described in 17.24.315.
- Overburden and soil handling operations will be conducted as described in Section 17.24.308(l)(a). SCM will selectively handle and stockpile as described in Section 313(g)(ii).
- Spoil material handling will be conducted according to commitments found in Sections 17.24.313(1)(g) and 17.24.308(1).
- Waste, garbage and other debris will be handled according to the requirements committed to in Section 17.24.507
- Construction, maintenance, use and modifications of water and air pollution control facilities shall conform to the manufacturer's specifications and/or BTCA practices. Removal of air pollution control facilities shall not occur until Phase III Bond Release. Water pollution control facilities removal shall occur before Phase IV Bond Release. (See Section 17.24.631(3)(a) for MPDES compliance commitments.)
- Construction, modification, use, maintenance, and removal of facilities or sites and associated access routes for environmental monitoring and data gather activities will conform to ARM 17.24.313(1)(i) & (j),17.24.608, 17.24.609, 17.24.632, 17.24.1001, and 17.24.1005 through 17.24.1013. Reference discussion and commitments found in Sections 17.24.313(1)(i) & (j), 17.24.608, 17.24.609, 17.24.632, 17.24.1001, and 17.24.1005 through 17.24.1013.
- SCM has a Contingency Plan on file at the mine site which details procedures to be followed during a fire.
- All drilling-related disturbance will be conducted in accordance with ARM Sections 17.24.1002(1)(2) and 1004 and will be reclaimed in accordance with the provisions of ARM Sections 17.24.1005 through 1013, and Section 17.24.313(i) and (j).
- Fish and wildlife monitoring activities will be conducted as prescribed in Sections 17.24.312, 723 and 751.

3. Affected Environment and Environmental Consequences

This Chapter describes the existing conditions and trends of the environment that may be affected by implementing the No Action Alternative (Alternative A) or the Proposed Action (Alternative B) and discloses the potential effects of implementing these alternatives. Direct impacts are defined as those effects that are caused by the action and occur at the same time and place. Indirect impacts are defined as those effects that are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Aggregate impacts are defined as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (RFFAs) regardless of which agency (Federal or non-federal) or person undertakes such actions[2]. Short-term effects are defined as effects that last through mining and concurrent reclamation activities. Long-term effects are defined as effects that last beyond mining and reclamation activities.

The issues identified in Section 1.7 and associated potential impacts are discussed for the No Action Alternative (Alternative A) and the Proposed Action (Alternative B) in this section. Past, Present, and Reasonably Foreseeable Future Actions.

Past and Present Actions Summary

Past and present actions in the air resources analysis area that would contribute to aggregate effects include mining activities, power plants, wildfires, oil and gas development, and agricultural and recreational activities.

Coal mines in the analysis area include the Decker Mines, Absaloka Mine, Rosebud Mine, and Brook Mine. The Decker Mine is a surface coal mine located approximately 1.5 miles southeast of the project area. Lighthouse Resources, Inc. is the current owner and operator. The permitted mine operations area (approximately 11,718 surface acres) is currently undergoing reclamation. The Absaloka Mine is a surface coal mine located on and adjacent to the Crow Reservation, owned and operated by Westmoreland Resources, Inc. The mine is located approximately 45 miles north of the SCM. In April 2024, the Absaloka Mine lost its only power plant customer; however, Westmoreland indicated that the Absaloka Mine still has coal reserves and customers (Billings Gazette 2024). In 2024, the annual coal production was 0.8 Mt. The Rosebud Mine is also owned by Westmoreland Resources, Inc. and is located approximately 50 miles north of the SCM. In 2024, the Rosebud Mine produced 5.4 Mt. The Brook Mine, owned by Ramaco Wyoming Coal, LLC, is permitted by the Wyoming Department of Environmental Quality to mine a maximum of 8 Mtpy of coal using a highwall mining technique. The Brook Mine is located in Wyoming, approximately 15 miles southwest of the SCM. In May 2023, Ramaco announced the discovery of a rare earth element deposit at the Brook Mine (Ramaco 2023). On July 11, 2025 Ramaco held a ribbon cutting and groundbreaking ceremony to commemorate the opening of the Brook Mine Carbon Ore Rare Earth project (Ramaco 2025).

The nearest active power plants are the Colstrip coal-fired power plant, located about 55 miles north-north of the SCM, Rosebud waste coal power plant, located approximately 60 miles north-northeast of the

[2] Information about aggregate impacts and the past and present actions summary are provided for background purposes in the affected environment section. Including this information goes beyond the requirements of NEPA because a bureau is required only to consider the effects of its proposed action and not effects from separate projects, activities, or proposed actions. As the Supreme Court clarified in *Seven County Infrastructure Coalition v. Eagle County,* environmental effects from a "separate project" should not be attributed to the proposed action, as division or separation among projects "breaks the chain of proximate causation between the project at hand and the environmental effects of the separate project." Instead, as the Court explained, bureaus must evaluate "other projects [only when] interrelated and close in time and place" to the proposed action. Additionally, "agencies are not required to analyze the effects of projects over which they do not exercise regulatory authority." Instead, agencies' responsibilities are determined by the principle previously established by the Court in *Department of Transportation v. Public Citizen*, 541 U.S. 752, 770 (2004): "where an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant 'cause' of the effect."

SCM, and the Hardin coal-fired power plant, located about 56 miles northwest of the SCM. The Colstrip power plant consists of 2 generating units (Units 3 and 4) capable of producing 1,480 MW of electricity. The Rosebud power plant is capable of generating 38 MW of electricity from one unit. The Hardin power plant can produce up to 115.7 MW of electricity from one unit.

Land use in the analysis area is agriculture and recreation. The project area and surrounding areas have been used and will continue to be used for agricultural purposes, particularly livestock grazing. The source of water for livestock is both surface water and groundwater. Recreation in Big Horn County, Montana includes Tongue River Reservoir and hunting and fishing opportunities.

In addition, past wildland fires have historically occurred in the vicinity of the SCM. Coal bed natural gas (CBNG) production in Big Horn County, Montana and Sheridan County, Wyoming has ceased and there is limited oil and gas development.

Reasonably Foreseeable Future Actions

Reasonably Foreseeable Future Actions (RFFAs) are decisions, funding, or formal proposals that are either existing or are highly probable within the next 13 years, which is the currently defined life of the mine, based on known opportunities or trends. There are few RFFAs in the analysis area. No new mine or amended permit applications have been filed with the Montana Department of Environmental Quality (MDEQ) or BLM. Wildland fires are expected to occur for the reasonably foreseeable future.

3.1 Air Quality

Affected Environment

The analysis area associated with direct impacts to ambient air quality from mining operations includes the existing permit boundary for the SCM with a 1-mile buffer. The analysis area for indirect and aggregate effects to ambient air quality includes the counties that are largely encompassed by the 50-kilometer (km) radii from the SCM. These counties are Big Horn County, Montana, where SCM is located, and Sheridan County, Wyoming. Because air quality related emission data is generally available at a county scale, this analysis area encompasses the entirety of these counties.

Regulatory Compliance

National Ambient Air Quality Standards and State Ambient Air Quality Standards

The Clean Air Act (CAA) of 1972, administered by the EPA, governs air emissions and establishes NAAQS to regulate acceptable levels of pollutants. Montana's air quality management adheres to the Environmental Quality Act, along with the Air Quality Rules and Regulations overseen by the Air Quality Bureau of the MDEQ, all approved by the EPA under the CAA. This regulatory framework includes MAAQS, required to be as stringent as NAAQS, and allowances for the PSD to maintain air quality. The EPA establishes NAAQS for six principal pollutants deemed harmful to public health and the environment (carbon monoxide [CO], lead [Pb], nitrogen dioxide [NO2], ozone [O3], particulate matter less than 2.5 micron [PM2.5], particulate matter less than 10 micron (PM10), and sulfur dioxide [SO2]). **Table 4** provides the NAAQS and MAAQS.

States designate areas within their borders as being in “attainment” or “non-attainment” with the Ambient Air Quality Standards (AAQS). Because the tracts are near the border of Montana and Wyoming, the attainment status of nearby areas in both states is considered. The LMA and LBA tracts are in an area that is designated aa attainment area for all pollutants. The town of Lame Deer, Montana, located about 35 miles north, is a non-attainment area for PM_{10}. The town of Sheridan, Wyoming, located about 32 miles south of the project area was a non-attainment area for PM_{10}, but is currently in maintenance status. Similarly, Billings, Montana, situated approximately 90 miles northwest of the project area, was designated as a non-attainment area for SO_2 and CO, but is currently in maintenance for both pollutants.

The prevailing wind in the vicinity of the SCM is from the north/northwest, so these non-attainment areas are not downwind of the SCM (**Figure 3** depicts the prevailing wind).

Table 4. National Ambient Air Quality Standards and Montana Ambient Air Quality Standards

Pollutant	Primary/Secondary	Averaging Time	NAAQS	MAAQS
CO	Primary	1 hour	35 ppm[a]	23 ppm[b]
	Primary	8 hours	9 ppm[a]	9 ppm[b]
Pb	Primary and secondary	Rolling 3 month average	0.15 µg/m^3 [c]	
	---	Quarterly		1.5 µg/m^3 [c]
NO_2	Primary	1 hour	100 ppb[d]	0.30 ppm[b]
	Primary and secondary	Annual	53 ppb[e]	0.05 ppm[f]
O_3	---	1 hour	---	0.10 ppm[b]
	Primary and secondary	8 hours	0.070 ppm[g]	---
$PM_{2.5}$	Primary	Annual	9.0 µg/m^3 [h]	---
	Secondary	Annual	15.0 µg/m^3 [h]	---
	Primary and secondary	24 hours	35 µg/m^3 [i]	---
PM_{10}	Primary and secondary	24 hours	150 µg/m^3 [j]	150 µg/m^3 [j]
	---	Annual	---	50 µg/m^3 [k]
SO_2	Primary	1 hour	75 ppb[l]	0.50 ppm[m]
	Secondary	3 hours	0.5 ppm	---
	---	24 hours	---	0.10 ppm[b]
	---	Annual	---	0.02 ppm[f]

a Federal violation when exceeded more than once per calendar year.
b State violation when exceeded more than once over any 12 consecutive months.
c Not to be exceeded for the averaging time period as described in the state and/or federal regulation.
d Federal violation when 3-yr average of the 98th percentile of the daily maximum 1-hr average at each monitoring site exceeds the standard.
e Federal violation when the annual arithmetic mean concentration for a calendar year exceeds the standard.
f State violation when the arithmetic average over any four consecutive quarters exceeds the standard.
g Federal violation when 3-year average of the annual 4th-highest daily max. 8-hour concentration exceeds standard.
h Federal violation when 3-year average of the annual mean at each monitoring site exceeds the standard.
i Federal violation when 3-year average of the 98th percentile 24-hour concentrations at each monitoring site exceed the standard.
j State and federal violation when more than one expected exceedance per calendar year, averaged over 3-years.
k State violation when the 3-year average of the arithmetic means over a calendar year at each monitoring site exceed the standard.
l Federal violation when 3-year average of the 99th percentile of the daily maximum 1-hr average at each monitoring site exceeds the standard
m State violation when exceeded more than eighteen times in any 12 consecutive months
Units: parts per million (ppm), parts per billion (ppb), micrograms per cubic meter (µg/m^3)

Existing SCM Air Quality

The SCM has monitored particulate matter levels around the mine throughout the life of the operation. The mine expressed particulate matter using total suspended particulate (TSP) concentrations until 1987. This measurement included all particulates generally less than 100 microns in diameter. In 1987, the form of the standard was changed from TSP to PM_{10} to better reflect human health effects. MDEQ removed the requirement for the SCM to sample for PM_{10} in September 2009, based on the SCM's history of relatively low downwind monitoring readings and MDEQ's confidence in current permit conditions. The SCM has voluntarily chosen to continue the PM_{10} sampling program. These data are used internally and not submitted to MDEQ, per MDEQ's request. $PM_{2.5}$ monitoring at the SCM is not required by MDEQ and is not conducted currently.

Air quality monitoring at the SCM consists of four samplers at three sites that monitor concentrations of PM_{10} as depicted on **Figure 3**. **Table 5** and **Table 6** provide the annual mean and high PM_{10} concentrations at standard temperature and pressure (STP) for the years 2020 through 2024, respectively.

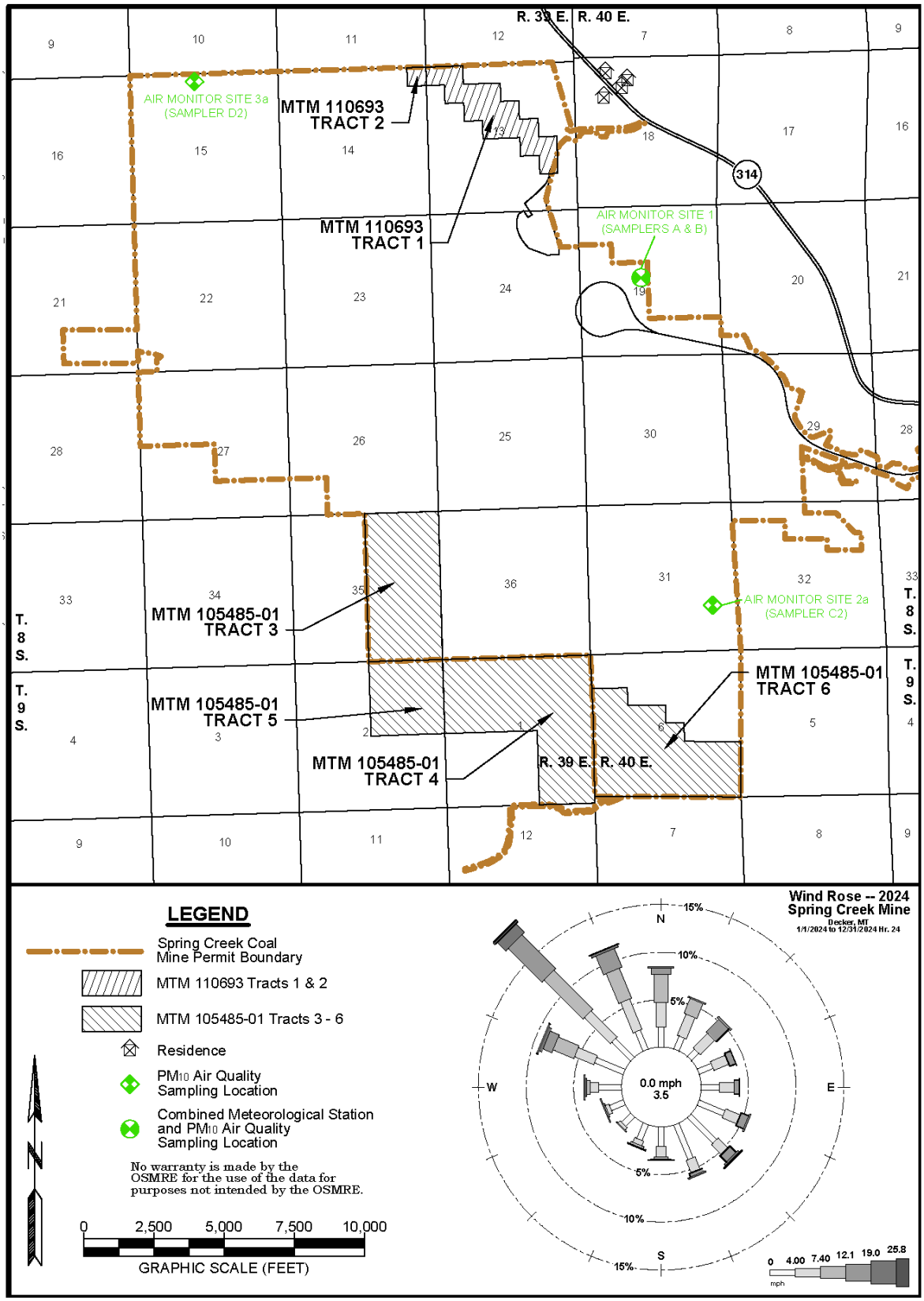


Figure 3. Wind Rose and Air Quality and Meteorological Stations at Spring Creek Mine

Table 5. Average Annual PM_{10} Concentrations (µg/m^3)

Sampler ID	2020	2021	2022	2023	2024
A	24.4	26.9	24.1	23.3	20.6
B	25.9	24.2	26.4	25.7	17.8
C2	26.6	24.3	34.4	20.6	25.9
D2	15.3	16.2	16.2	13.2	11.2

Source: IML Air Science 2021-2025

Table 6. Average High PM_{10} Concentrations (µg/m^3)

Sampler ID	2020	2021	2022	2023	2024
A	69.0	72.9	61.9	99.3	83.6
B	78.5	71.8	71.1	119.8	81.2
C2	95.6	63.2	119.5	65.6	79.6
D2	56.1	57.6	60.3	59.3	49.1

Source: IML Air Science 2021-2025

The tables show that the average annual STP PM_{10} and the annual high STP PM_{10} were within established 24-hour (150 µg/m^3) and annual (35 µg/m^3) NAAQS and/or MAAQS between 2016 and 2023. These results are consistent with previous years.

Because $PM_{2.5}$ monitoring is not required by MDEQ, data were not gathered onsite. Therefore, data from one $PM_{2.5}$ monitor (Site ID 560330002) located in Sheridan, Wyoming, was used. Regional monitoring results presented in **Table 7** demonstrate that ambient concentrations of $PM_{2.5}$, as determined by the 98th percentile 24-hour standard and annual average values, generally were within established 24-hour (35 µg/m^3) and annual (12 µg/m^3) standards. See **Figure 4** for site locations.

Table 7. AQS 560330002 $PM_{2.5}$ Concentrations (µg/m^3)

Pollutant Standard	2020	2021	2022	2023	2024
98th percentile 24-hour	9.4	9.4	20.5	24.4	26.8
Annual	6.2	4.8	7.9	6.8	5.4

Source: EPA 2025a

To further evaluate potential $PM_{2.5}$ emissions at the SCM, PM_{10} monitoring data from the SCM were used to estimate $PM_{2.5}$ ambient concentrations by applying a 0.2 factor, as determined by Pace (2005). The estimated annual mean and maximum 24-hour $PM_{2.5}$ values are presented in **Table 8** and **Table 9**, respectively. The estimated $PM_{2.5}$ concentrations were below the prescribed 24-hour NAAQS (35 µg/m^3) and the annual NAAQS (12 µg/m^3). These estimates are supported by the regional $PM_{2.5}$ data presented in **Table 8.**

Table 8. Estimated Annual Mean STP $PM_{2.5}$ Concentrations (µg/m^3)

Sampler ID	2020	2021	2022	2023	2024
A	4.9	5.4	4.8	4.7	4.1
B	5.2	4.8	5.3	5.1	3.6
C2	5.3	4.9	6.9	4.1	5.2
D2	3.1	3.2	3.2	2.6	2.2

Table 9. Estimated Annual High 24-Hour STP $PM_{2.5}$ Concentrations (µg/m^3)

Sampler ID	2020	2021	2022	2023	2024
A	13.8	14.6	12.4	19.9	16.7
B	15.7	14.4	14.2	24.0	16.2
C2	19.1	12.6	23.9	13.1	15.9
D2	11.2	11.5	12.1	11.9	9.8

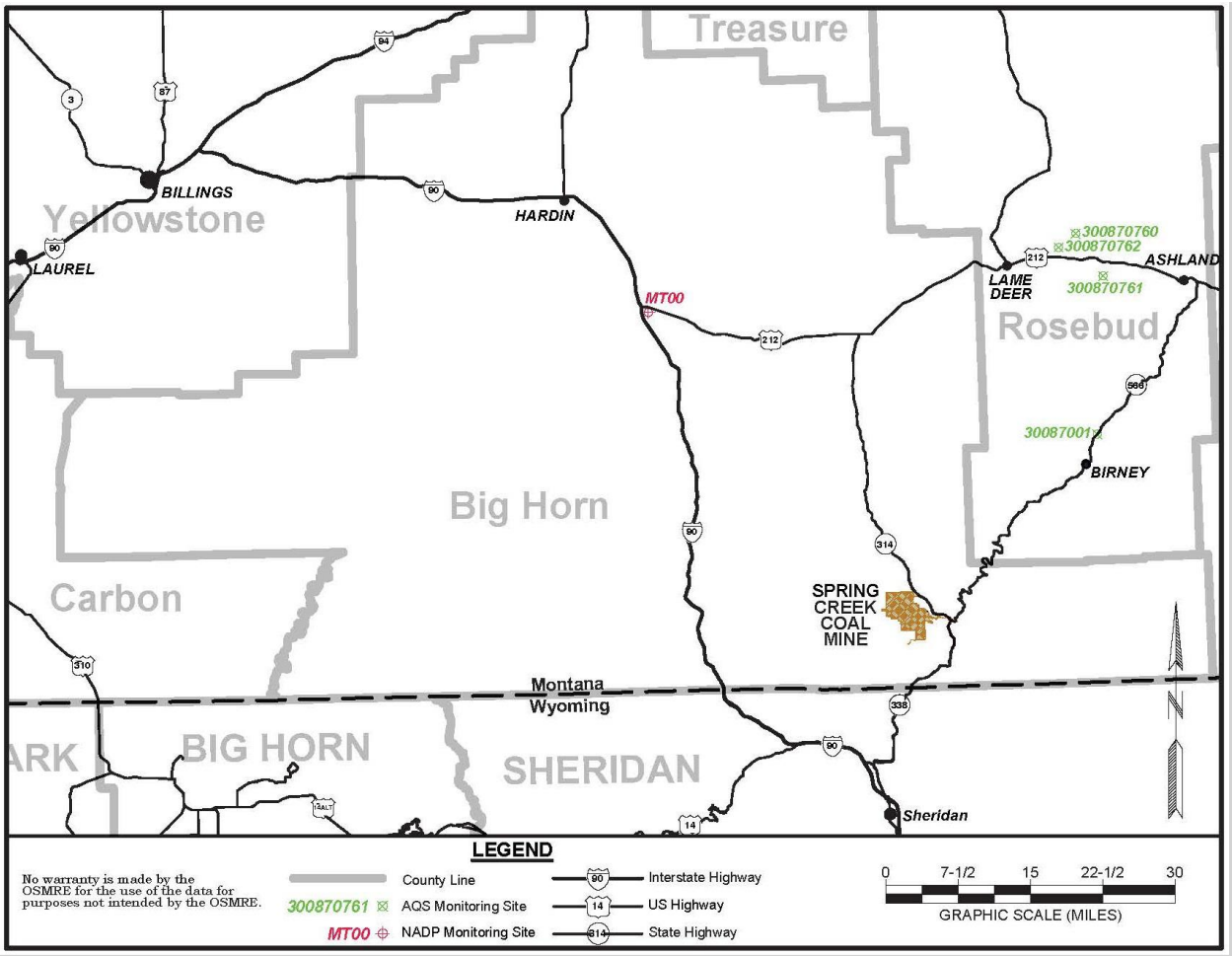


Figure 4. Regional Air Quality Monitoring Sites

NO_2 concentrations (98th percentile, 1-hour) are currently being monitored at four sites in Rosebud County including one AQS monitoring site near Birney and three AQS monitoring sites near Lame Deer. NO_2 data from the AQS monitoring sites are presented in **Table 10.** The Birney, Montana site was deactivated at the end of 2021. These monitoring sites are the closest to the SCM with the distances ranging from approximately 28 to 44 miles (**Figure 4**).

Table 10. NO_2 Concentrations at Rosebud County, Montana (98th Percentile 1-hr, ppb)

AQS Site ID	Sampler ID	2020	2021	2022	2023	2024
300870001	3 Miles North of Birney	6	11	**	**	**
300870761	Garfield Peak	5	5	6	6	6
300870762	Badger Peak	6	5	No data	No data	6
300870760	Morningstar	6	8	No data	No data	7

** Site deactivated at the end of 2021.
Source: EPA 2025a

O_3 monitoring is not required at the SCM but levels were monitored at the AQS monitoring site near Birney, until the site was deactivated in 2021. **Figure 8** presents the O_3 data between 2017 and 2021. An exceedance of the O_3 8-hour standard occurs if the 4th-highest daily maximum value is above the level of the standard (0.075 ppm). **Table 11** shows that no exceedances of the 8-hour or O_3 standard occurred between 2017 and 2021.

Table 11. O_3 Concentrations (4th Highest Daily Maximum 8-hr, ppm)

AQS Site ID	Sampler ID	2017	2018	2019	2020	2021
300870001	3 Miles North of Birney	0.059	0.059	0.057	0.059	0.066

Source: EPA 2025a

SO_2 monitoring data were available from three sites in Rosebud County. As presented in **Table 12**, SO_2 data collected at the three sites were below the 1-hour NAAQS (75 ppb or 0.075 ppm) 99th percentile concentration and the 1-hour MAAQS (0.50 ppm) average concentration. Overall, the data shows that it is likely that ambient air quality within the vicinity of the SCM is currently in compliance with the SO_2 MAAQS and NAAQS.

Table 12. Measured SO2 Concentrations in Rosebud County, Montana

AQS Site ID	Sampler ID	Statistic	2020	2021	2022	2023	2024
300870760	Morningstar	1-hr 99th	0.005	0.005	No Data	No Data	0.004
		1-hr Avg	0.001	0.001	No Data	No Data	0.001
		1-hr Max	0.007	0.008	No Data	No Data	0.005
300870761	Garfield	1-hr 99th	0.004	0.003	0.006	0.006	0.004
		1-hr Avg	0.001	0.001	0.001	0.002	0.001
		1-hr Max	0.005	0.005	0.015	0.009	0.008
300870762	Badger Peak	1-hr 99th	0.004	0.003	No Data	No Data	0.006
		1-hr Avg	0.001	0.001	No Data	No Data	0.002
		1-hr Max	0.007	0.005	No Data	No Data	0.006

Source: EPA 2025a

Annual mercury (Hg; a HAP), lead (Pb; a criteria pollutant), and carbon monoxide (CO; an indirect GHG) monitoring values are not collected specifically for the SCM. For a general discussion on mercury emissions, mercury air emissions (stack plus fugitive) for 2018 through 2023 (2024 data are not available) from three coal-fired power plants and one coal mine in Big Horn and Rosebud counties were evaluated (**Table 13**).

Table 13. Measured Annual Hg Stack (Air) Emissions from Power Stations in Big Horn and Rosebud Counties (Pounds)

AQS Site ID	2018	2019	2020	2021	2022	2023
Colstrip Energy LP Rosebud Power Plant						
Total emissions	1.14	1.56	0.61	0.94	1.29	1.72
Stack (air) emissions	1.14	1.56	0.61	0.94	1.29	1.72
Percent Emitted to air	100%	100%	100%	100%	100%	100%
Colstrip Steam Electric Station						
Total emissions	1,034.6	1,053.8	700.8	762.4	807.3	640.9
Stack (air) emissions	110	110	60	70	80	80
Percent emitted to air	10.6%	10.4%	8.6%	9.2%	9.9	12.5%
Hardin Generating Station						
Total emissions	4.1	4.7	1.21	13.2	14.2	9.19
Stack (air) emissions	0.9	2.2	0.3	0.45	1.5	2.83
Percent Emitted to air	22.0%	46.8%	2.5%	3.4%	10.2%	30.8%
Decker Coal Company						
Total emissions	0.132	0.079	0.064	0.040	0.0015	0
Stack (air) emissions	0.002	0.002	0.002	0.002	0	0
Percent Emitted to air	1.7%	2.8%	3.4%	5.4%	0%	0%
Total emissions from Four Sources						
Total emissions	1,040.0	1,060.1	702.7	776.6	822.8	651.8
Stack (air) emissions	112.0	113.8	60.9	71.4	82.8	84.6
Percent Emitted to air	10.8%	10.7%	8.7%	9.2%	10.1%	13.0%

Source: EPA 2025b

Similarly, annual lead monitoring values are not collected at the SCM. **Table 14** shows the lead emissions from the three power stations and one coal mine in Big Horn and Rosebud counties for 2018 through 2023 (2024 data are not available). A direct comparison between the monitored values at the power plants/mines and NAAQS and MAAQS is not possible because the monitored values were presented in pounds, rather than the NAAQS and MAAQS units ($\mu g/m^3$).

Table 14. Measured Annual Pb Air Emissions from Power Stations in Big Horn and Rosebud Counties (Pounds)

AQS Site ID	2018	2019	2020	2021	2022	2023
Colstrip Energy LP Rosebud Power Plant						
Total emissions	679.4	714	679.5	816.5	866.3	1057.4
Stack (air) emissions	113.3	104.3	97.2	111.6	108.2	204.4
Percent Emitted to air	16.7%	14.6%	14.3%	13.7%	12.5%	
Colstrip Steam Electric Station						
Total emissions	83,566	89,757	54,846	63,350.8	65,513.4	64,813.4
Stack (air) emissions	690	730	440	530	510.0	512
Percent emitted to air	0.8%	0.8%	0.8%	0.8%	0.8%	
Hardin Generating Station						
Total emissions	516.4	436.9	159.4	2,035.8	1,774.0	1,125.8
Stack (air) emissions	50	52.2	25	155.8	172.2	189.4
Percent Emitted to air	9.7%	11.9%	15.7%	7.7%	9.7%	
Decker Coal Company						
Total emissions	2.71	2.53	2.25	0.8827	0.0029	0.005
Stack (air) emissions	0.05	0.05	0.05	0.05	0	0.005
Percent Emitted to air	1.8%	2.0%	2.2%	5.6%	0%	100%
Total emissions from Four Sources						
Total emissions	84,764.5	90,910.4	55,687.2	66,204.0	68,153.7	66,996.2
Stack (air) emissions	853.4	886.6	562.3	797.5	790.4	905.8
Percent Emitted to air	1.0%	1.0%	1.0%	1.2%	1.2%	1.4%

Source: EPA 2025b

Prevention of Significant Deterioration

The PSD program regulates new major sources or major modifications at existing sources in areas meeting or in the process of meeting NAAQS. PSD increments, which specify allowable pollution increases, aim to maintain air quality below NAAQS levels. While NAAQS sets maximum concentration limits, PSD increments establish the maximum allowable concentration increase above baseline levels. The program curbs incremental pollutant rises from major sources, depending on the area's classification. Despite available PSD increments, air quality cannot surpass NAAQS thresholds (EPA 2024a). The SCM, along with nearby locations, falls under PSD Class II, where allowable increases are less stringent than in Class I areas. Notably, the Northern Cheyenne Indian Reservation, approximately 16 miles northeast of the project, is the closest PSD Class I area.

Air Quality Related Values

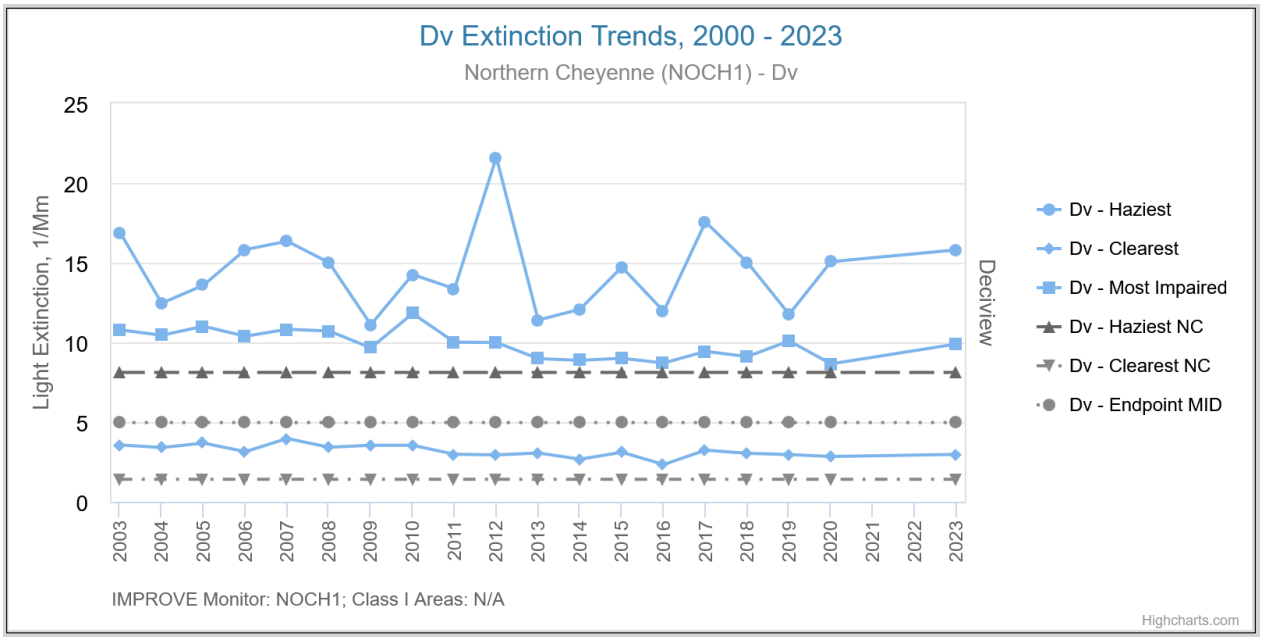
Air Quality Related Values (AQRVs) are environmental standards or benchmarks used to assess and manage air quality in specific locations, particularly in sensitive areas such as national parks, wilderness areas, and PSD Class I areas. These values are defined based on the potential impacts of air pollutants on ecological resources, human health, and visibility. Updated information regarding air quality related values is included below. AQRVs are evaluated by the land management agency responsible for a Class I area, according to the agency's level of acceptable change (LAC). These AQRVs include potential air pollutant effects on visibility and the acidification of lakes and streams. The AQRVs, and the associated LAC, are applied to PSD Class I and sensitive Class II areas and are the land management agency's policy and are not legally enforceable as a standard. MDEQ MAAQS do include a standard for visibility. Class I areas are afforded specific AQRV protection under the Clean Air Act. The Class I designation

allows very little deterioration of air quality. The AQRVs associated with this action include visibility and acidification of lakes. The nearest Class I area is located approximately 19 miles north of the proposed tracts at the Northern Cheyenne Indian Reservation.

Visibility

In accordance with ARM 17.8.818, the state of Montana does not require mines to evaluate visibility impacts on Class I areas (MDEQ/PCD 2014). Because MDEQ has determined that the SCM is not a major stationary source and because the SCM is not required by MDEQ to monitor visibility, a direct comparison to MAAQS standards is not possible. The current visibility discussions have been inferred from the currently permitted mining activities related to the existing coal leases at the SCM. Visibility can be defined as the distance one can see and the ability to perceive color, contrast, and detail. $PM_{2.5}$ are the main cause of visibility impairment. Visibility impairment is expressed in terms of deciview (dv). A change in visibility of 1.0 dv represents a "just noticeable change" by an average person under most circumstances. Increasing deciview values represent proportionately larger perceived visibility impairment (BLM 2003). **Figure 5** shows annual averages for the haziest, most impaired, and clearest visibility days at the Northern Cheyenne Indian Reservation monitoring site (the nearest PSD Class I area) for 2003 through 2020 (Interagency Monitoring of Protected Environments [IMPROVE] 2024). As indicated on **Figure 5**, the long-term trend in visibility at the Northern Cheyenne Indian Reservation appears to be relatively stable.

Figure 5. Visibility in the Northern Cheyenne Indian Reservation (Site MT00)



Acid Deposition

Acid deposition causes acidification of lakes and streams, which can have direct impacts on aquatic habitats and contribute to the damage of trees at high elevations and many sensitive forest soils. Acid rain is measured as acidity and alkalinity using a pH for which 7.0 is neutral. The lower a substance's pH, the more acidic it is. Normal rain has a pH of about 5.6 (EPA 2024e). The National Atmospheric Deposition Program (NADP) monitors precipitation chemistry at various sites around the U.S. The nearest site to the tract is Site MT00 (see **Figure 4**, located approximately 40 miles northwest of SCM. **Table 15** provides the pH for the years 2016 through 2023 (2024 data are not available).

Table 15. Measured pH at Site MT00

Parameter	2016	2017	2018	2019	2020	2021	2022	2023
pH	5.5	5.5	5.7	N/A	5.6	6.0	5.8	5.8

Source: NADP 2025

Baseline Emissions

Estimates related to mining include emissions from all sources, including all types of carbon fuels used in the mining operations, electricity used on site (i.e., lighting for facilities, roads, and operations and electrically powered equipment and conveyors), the mining processes (i.e., blasting, coal fires caused by spontaneous combustion, methane released [vented] from exposed coal seams), and commuter transport. **Table 16** provides the estimated emissions associated with mining and commuter transport based on an annual average production of 11.7 Mt (average production from 2020 through 2024).

Table 16. Estimated Average Annual Transportation Non-GHG Emissions (tons) – Proposed Action

Source	PM_{10} (Tons)	$PM_{2.5}$ (Tons)	NO_x (Tons)	CO (Tons)	VOC (Tons)	Hg (Tons)	As (Tons)	HAP (Tons)
Mining	1,310	307	1,083	866	59	--	--	6
Commuter Transport	0.039	0.039	0.41	22.3	1.0	6.5E-07	2.6E-05	--

Source: WWC 2025, calculations are provided in **Appendix A**

Environmental Impacts – Alternative A (No Action)

Under the No Action Alternative, the BLM would not approve the LBA for MTM 105485-01 or the LMA for MTM 110693 at the SCM and/or a Federal mining plan would not be approved; thus, no Federal coal within those tracts would be mined. No emissions of air pollutants, including criteria pollutants, or HAPs from the mining or combustion of the Federal coal would occur.

SCM would continue mining, with existing permits, for other Federal, state, and private coal within the permit boundary until 2034 and reclaim disturbed lands until 2038. After this time, operations at the SCM would cease. Therefore, an evaluation of emissions from ongoing mining is not included in this EA.

Environmental Impacts – Alternative B (Proposed Action)

Coal Mining

Under the Proposed Action, the BLM would approve the LBA for MTM 105485-01 and the LM for MTM 110693 at the SCM, OSMRE would recommend approval of the Federal mining plan to the ASLM, and the ASLM would approve the mining plan (with or without conditions), allowing the Federal lease tracts to be mined. No impacts to air quality would occur from the leasing action; however, impacts to air quality from surface mining are evaluated in this section.

Because the proposed LBA and LMA are a continuation (rather than an increase) of current surface mining, no air quality permit modification would be required if the Proposed Action is implemented, and total annual emissions are expected to be similar to those presented in **Table 17**. Mining of the Federal lease tracts would occur under the current air quality permit. The Proposed Action would not authorize a change in the current air quality permit or in production levels; therefore, there would be no incremental increase in annual emissions from implementation of the Proposed Action. Based on SCM's mining plan, mining would progress into the Federal lease tracts. The Proposed Action would not result in an annual emission rate increase but will extend the life of the mine. The Proposed Action would contribute to criteria pollutants and HAPs being emitted based on extraction of approximately 10 Mtpy of Federal coal for an additional 16.5 years.

The same type of air quality impacts would occur under the Proposed action as described in the following document and this specific section is incorporated by reference:

- 2025 SCM FEIS – Section 4.4, pp. 4-4 through 4-11 (OSMRE 2025)

Particulate Matter

Under the Proposed Action, emissions would be generated in the same manner as under the No Action Alternative. PM emissions would be generated from surface mining operations such as land clearing, topsoil and subsoil removal and placement, and overburden/interburden removal and placement in the backfill, coal extraction, loading and transporting to handling facilities, coal processing and storage, mine haul roads, and reclamation.

As described in Section 4.4.1 of the 2025 SCM FEIS, direct effects from particulate matter from the Proposed Action would include fugitive emissions generated from coal excavation and reclamation activities and tailpipe emissions from equipment. Fugitive particulate emissions would also result from dust being generated during dragline operation, coal haulage, bulldozers, scrapers, loaders, baghouse, and other equipment operating at SCM. Public exposure to particulate emissions from the Proposed Action is most likely to occur along publicly accessible roads and highways that pass near the area of the mining operations. Occupants of residences in the area could also be affected. The closest residence is located approximately 4,500 feet from MTM 110693 Tract 1 disturbance and the closest public transportation route is FAS 314, approximately 2,500 feet from disturbance associated with MTM 110693 Tract 1. The nearest recreational opportunities are at the Tongue River Reservoir, approximately 3.7 miles from the MTM 105485-01 Tract 4. Indirect effects from particulate matter include the potential for cardiovascular and respiratory problems for exposed individuals.

Dispersion modeling was conducted for a revision to air quality permit MAQP #1120-12 in 2014 using AMS/EPA Regulatory Model (AERMOD). For the model, PM_{10} and $PM_{2.5}$ inventories for the mining activities at SCM were prepared and two years were then selected for worst-case dispersion modeling of PM_{10} and $PM_{2.5}$ based on mining plan parameters and emission inventories (Years 2016 and 2018). The modeling was completed for a production rate of 30 Mtpy, which is nearly 3 times greater than the anticipated production for the proposed tracts. The results of 24-hour and annual dispersion modeling are included in **Table 17**.

Table 17. SCM Particulate Matter Dispersion Modeling Results

Pollutant	Averaging	Modeled Concentration (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	NAAQS/MAAQS
		2016	Mine	Year	
PM_{10}	24 hour	76.55[a]	33.0	109.55	150[c]
	Annual	20.22[b]	17.5	37.72	50[d]
$PM_{2.5}$	24 hour	11.15[b]	15.0	26.15	35[e]
	Annual	4.13[b]	5.5	9.63	12[f]
		2018	Mine	Year	
PM_{10}	24 hour	90.82[a]	33.0	123.82	150[c]
	Annual	23.98[b]	17.5	41.48	50[d]
$PM_{2.5}$	24 hour	14.53[b]	15.0	29.53	35[e]
	Annual	4.14[b]	5.5	9.64	12[f]

[a] Highest, second-high modeled value
[b] Highest modeled value
[c] Violation occurs with more than one expected exceedance per calendar year, averaged over 3-years
[d] Violation occurs when the 3-year average of the arithmetic means over a calendar year exceeds the value. EPA revoked the annual PM_{10} standard effective December 17, 2006.
[e] Violation occurs when the 3-year average of the 98th percentile values exceed the standard. Per EPA policy, use the maximum modeled concentration for comparison to the standard.
[f] Violation occurs when the 3-year average of the spatially averaged calendar year means exceed the standard

The modeling indicated that mine activities to remove 30 Mtpy of coal would comply with the 24-hour and annual PM_{10} and $PM_{2.5}$ ambient air standard for the life of the SCM.

Since 2008, there have been no recorded exceedances of the 24-hour or annual PM_{10} NAAQS or MAAQS at the SCM, and, based on estimated $PM_{2.5}$ values, there were no exceedances of the 24-hour or annual $PM_{2.5}$ NAAQS at the mine. The 2014 AERMOD modeling predicted no future exceedances of the 24-hour and annual PM_{10} NAAQS/MAAQS at a 30 Mtpy production rate. The 2014 AERMOD modeling also predicted no future exceedances of the 24-hour or annual $PM_{2.5}$ NAAQS at a 30-Mtpy production rate (Cloud Peak Energy (CPE)/Redhorse 2014).

An inventory of all point sources, controls, and emissions for the MAQP #1120-12 air quality permit showed a maximum potential to emit 21 tons per year (tpy); therefore, a PSD increment consumption analysis was not necessary (a value below the 100 tpy major source threshold limit specified in ARM 17.8, Subchapter 8 – PSD and Subchapter 12 – Operating Permit Program means that SCM would not be subject to the Title V operating permit program).

Mitigation measures required by the SCM Montana air quality permit are sufficient to reduce potential effects associated with emissions of particulate matter and are enforceable under the air quality permit. These mitigation measures include but are not limited to compliance with limitations and emission control technologies and techniques, adherence to the fugitive dust control plan, and dust suppression on roads.

Under the Proposed Action, mining in the proposed tracts would continue for 16.5 years. Activities during mining would likely increase fugitive dust emissions; however, fugitive dust emissions are projected to remain within daily and annual NAAQS and MAAQS limits. The direct and indirect effects from particulate matter emissions resulting from the Proposed Action are expected to be moderate and short-term.

Emissions of Nitrogen Oxides and Ozone

As described in Section 4.4.2 of the 2025 SCM FEIS, direct emissions of NO_x from the Proposed Action would include emissions generated from coal excavation and reclamation activities, and tailpipe emissions from equipment. Once the NO_x is emitted into the atmosphere it has the potential to react with air and ultraviolet light in sunlight to form O_3 which in turn can cause smog. Direct effects of NO_x and O_3 are similar to PM_{10} and can cause respiratory infections and asthma in nearby residents and recreationists. Indirect effects of NO_x and O_3 include smog and their contribution to global warming.

As previously described, the SCM is not required to monitor NO_x or O_3 and the nearest monitoring station, located near Birney, Montana, was deactivated at the end of 2021. However, while the monitoring station was active between 2010 and 2021, none of the NO_2 and O_3 concentrations exceeded the NAAQS or MAAQS.

NO_x modeling at the SCM was completed in conjunction with the dispersion modeling in 2014. The model predicted that the maximum total annual NO_x emission rate would be 558.9 tons. This value was included in the SCM Montana air quality permit application submitted to MDEQ Air Quality Bureau for a revision to MAQP #1120-12 (CPE/Redhorse 2014). MDEQ determined that, based on the modeling analysis and past monitoring, the permit modification request would not likely substantially degrade air quality (MDEQ/PCD 2014).

Public exposure to NO_x and O_3 emissions caused by the Proposed Action is most likely to occur along publicly accessible roads and highways that pass through the area of the mining operations. Occupants of residences in the area could also be affected. Overall, the direct and indirect effects from NO_x and O_3 emissions resulting from the Proposed Action are expected to be minor to moderate and short-term.

Past, Present, and RFFA Impacts[3]

The past, present, and RFFA impacts include effects from emissions related to coal excavation at the surrounding active mines and reclamation activities at the SCM and Decker Mine as well as tailpipe emissions from equipment and vehicles. As discussed in the Miles City Field Office Supplemental EIS (SEIS), southeast Montana (including Big Horn and Rosebud counties) has met all NAAQS standards for sites within the planning area from 2017 to 2021. Outside of past and present activities within the study area, there no reasonably foreseeable future actions in the study area. Based on this, the impacts on air quality in the study area resulting from past, present, and reasonably foreseeable future actions is minor.

Impacts from air quality could be higher in the short term due to coal mining and electrical generation activities if surface inversion occurs in the region or if wildland fires occur. These impacts would be temporary, lasting the duration of the inversion or until the fire is extinguished.

3.2 Greenhouse Gas Emissions

Affected Environment

GHGs include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and fluorinated gases (hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride) (EPA 2025d). For consistency between projects, OSMRE describes GHG emissions in terms of "CO2-equivalents" (CO2e). For GHG analysis, there is no specific analysis area and project emissions are used as a proxy.

CO2 is emitted from the combustion of fossil fuels, including coal. CH4 can be emitted during the production and transport of coal. N2O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. Fluorinated gases are synthetic, powerful GHGs that are emitted from a variety of industrial processes. Because they are non-toxic and nonhazardous at normal ambient concentrations, CO2 and other naturally occurring GHGs do not have applicable ambient standards or emission limits under the major environmental regulatory programs. Each GHG has a different lifetime in the atmosphere and a different ability to trap heat in the atmosphere.

Estimates related to mining include emissions from all sources, including all types of carbon fuels used in the mining operations, electricity used on site (i.e., lighting for facilities, roads, and operations and electrically powered equipment and conveyors), the mining processes (i.e., blasting, coal fires caused by spontaneous combustion, methane released [vented] from exposed coal seams), and commuter transport. Direct CO2e emissions include emissions directly related to the recovery of coal. GHG emission factors were obtained from the BLM Miles City Final Supplemental EIS and Proposed RMP Amendment Appendix C (BLM 2024a), which account for mine reclamation, coal extraction, overburden removal, and construction. Although the SCM has not completed CO2e emissions inventories resulting from current coal recovery, these emissions were estimated by applying CO2e emission ratios (CO2e per Mt of coal produced, per Mt cubic yards of overburden moved, and CO2e per acre of disturbance) from the SCM. Average annual direct CO2e emissions estimates for the SCM from 2020-2024 are shown in **Table 18**.

[3] Past, present, and RFFA impacts are provided for informational purposes. As noted above, including this information goes beyond the requirements of NEPA because a bureau is required only to consider the effects of its proposed action and not effects from separate projects, activities, or proposed actions.

Table 18. Estimated Annual Average 2020-2024 Direct and Indirect CO_2e Emissions

Source	100-year Time Horizon	20-year Time Horizon
Mining	162,431	253,053
Commuter Transport	6,603	6,606
Total Estimated CO_2e Production	**169,034**	**259,659**

Source: WWC 2025, calculations are provided in **Appendix A**

Environmental Impacts – Alternative A (No Action)

Under the No Action Alternative, the BLM would not approve the LBA for MTM 105485-01 or the LMA for MTM 110693 at the SCM and/or a Federal mining plan would not be approved; thus, no Federal coal within those tracts would be mined. No emissions of air pollutants, , including criteria pollutants, or HAPs from the mining or combustion of the Federal coal would occur.

GHG emissions would continue from the mining activity that has already been authorized on other portions of the SCM. This mining would continue until 2034 and disturbed lands would be reclaimed until 2038. After this time, operations and GHG emissions at the SCM would cease. Therefore, an evaluation of GHG emissions from ongoing mining is not included in this EA.

Environmental Impacts – Alternative B (Proposed Action)

BLM and OSMRE have elected to quantify direct GHG emissions and evaluate these emissions in the context of national GHG emission inventories based on 100-year and 20-year time horizons. The estimated annual CO_2e emissions for the Proposed Action were calculated at 10 Mtpy. Error! Reference s ource not found. presents the estimated annual CO_2e for the 100-year and 20-year time horizons. The direct impacts of the Proposed Action on annual CO2e emissions would be moderate but they would be extended by approximately 16.5 years..

Table 19. Estimated Annual CO_2e Emissions (MT CO2e/yr)

Source	100-year Time Horizon	20-year Time Horizon
General		
Mt of coal recovered	10.0	10.0
Direct emission sources[1]		
Mining process	416,490	648,853
Commuter transport	10,164	10,169
Total estimated CO_2e production[1]	**426,654**	**659,022**

[1] In metric tons - see **Appendix A** for calculations
[2] Calculated by WWC 2025

Trends in Global, United States, and Montana Greenhouse Gas Emissions

Emissions Levels

Preliminary estimates from the Rhodium Group for 2024 indicate that since a significant decline in emissions in 2023, the 2024 emissions were only down by 0.2% (Gaffney, King, and Larsen 2025). The reduction in emissions was driven by declines of 1.8% in the industrial sector and 3.7% in the oil and gas sector. Transportation remained the highest-emitting sector, as emissions rose by 0.8% from 2023 levels. Emissions also crept up by 0.2% in the power sector and 0.4% in the buildings sector.

GHG emissions in the U.S. are tracked by the EPA through two complementary programs. First is the Inventory of U.S. Greenhouse Gases and Sinks, which is the annual U.S. GHG emissions inventory published by EPA that represents all U.S. emissions (EPA 2022a). The second is the Greenhouse Gas Reporting Program (GHGRP), which generally applies to facilities that emit more than 25,000 MMT of CO2e each year. The facility level emissions reported under GHGRP are published through the Facility

Level Information on Greenhouse Gases Tool (FLIGHT) (EPA 2025). EPA estimates that the FLIGHT data reported by large emitters reflect 85% to 90% of the total U.S. emissions.

In 2020, total gross U.S. GHG emissions were 5,981 MMT CO2e, and net emissions were 5,222 MMT CO2e. Net GHG emissions include both anthropogenic and natural emissions of GHGs as well as removals by sinks (e.g., carbon uptake by forests). From 2005 to 2020, net GHG emissions in the U.S. declined 21%. This decline reflects the combined impacts of long-term trends in population and economic growth, energy markets, technological changes including energy efficiency, and energy fuel choices. Net GHG emissions decreased from 2019 to 2020 by 11%. The primary driver for the decrease was an 11% decrease in CO2 emissions from fossil fuel combustion, primarily due to a 13% decrease in transportation emissions and a 10% decrease in electric power sector emissions, reflecting both a decrease in demand from the COVID-19 pandemic and a continued shift from coal to less carbon intensive natural gas and renewables. CO2 is the primary GHG contributing to total U.S. emissions, accounting for 79% of the total GHG emissions in 2020. By comparison, CH4 accounted for 11%, N2O accounted for 7% of emissions and fluorinated gases accounted for nearly 3% of emissions. In 2020, GHGs were emitted across the following primary economic sectors in the U.S.: transportation (27%), electric power/electricity generation (25%), industry (24%), agriculture (11%) residential homes (7%), and commercial businesses (6%) (EPA 2022a). Under the Proposed Action, annual CO2e emissions are expected to be approximately 0.00001% of U.S. emissions.

In 2023, total Montana GHG emissions were 18.0 MMT CO2e. GHGs were emitted across the following primary economic sectors in Montana: electric power/electricity generation (75%), refineries (11%), chemicals (6%), mineral mining (5%), waste management (2%), and other sources (1%) (EPA 2025). The Proposed Action would only contribute worker commute and mining emissions, which would total approximately 2.4% of the annual Montana GHG emissions.

In 2024, the BLM published a report titled 2023 BLM Specialist Report on Annual Greenhouse Gas Emissions and Climate Trends from Coal, Oil, and Gas Exploration and Development on the Federal Mineral Estate (BLM 2024b). The report presents estimated emissions of GHGs from coal, oil, and gas development on lands and mineral estate managed by the BLM. The report also includes reasonably foreseeable future GHG emissions using previously authorized development that have not commenced production and potential new leasing.

The BLM estimated the short-term (2023) CO2e emission for the US is 1,177 Mt, federal lands is 434.8 Mt, and Montana is 22.1 Mt. These emissions include processing, transport, and combustion. Similarly, the BLM estimated the short-term emission projections from reasonably foreseeable coal production as 367.3 Mt for federal lands and 18.6 Mt for Montana. Based on this, the Proposed Action would contribute 0.1 percent of the CO2e emissions on federal lands and 2.3 percent of the CO2e emissions in Montana.

The 2023 BLM report also include emission comparisons to provide comparative analyses. Emissions associated with the BLM's authorizing of coal, oil, and gas comprise 0.12 percent of global emission and 1.1 percent of U.S. emissions (BLM 2024b). The total emissions from onshore coal, oil, and gas development and end-use comprise 2.0 percent of global emissions and 16.5 percent of U.S. emissions.

Analysis and Conclusion

The BLM lacks the data and tools to estimate specific, climate-related effects from the project alternatives. Nor has the EPA set specific limits on GHG emissions. As a result, there are no established thresholds, qualitative or quantitative, for the NEPA analysis to assess the impacts of GHG emissions of an action in terms of the action's effect on climate, incrementally or otherwise. Further, no scientific data in the record would allow the BLM, in the absence of an agency carbon budget or similar standard, to evaluate the significance of the GHG emissions from this proposed action or the other alternatives analyzed.

3.3 Cultural Resources and Native American Religious Concerns

Affected Environment

Cultural resources in the affected environment are defined as the remains or records of districts, sites, structures, buildings, networks, neighborhoods, objects, and events from the past. They may be historic, prehistoric, archeological, or architectural in nature. Cultural resources are an irreplaceable and nonrenewable aspect of our national heritage (7 CFR Part 3100). Prehistoric site types common to the region and potentially occurring within the study area include campsites, rock shelters, rock structures (i.e., eagle trapping pits, hunting blinds, vision quests or fortification structures), lithic quarries, stone (tipi) rings, stone cairns, stone alignments, ceramic remains, rock art, bison processing areas, and lithic reduction areas (DOI 2025).

In 2001, OSMRE, MDEQ, the SCM operator, and the Montana State Historic Preservation Officer (SHPO) executed a Memorandum of Agreement (MOA) pursuant to the NHPA as an enforceable condition under the SCM permit. Comprehensive investigations (BLM Class III inventory) of cultural resources within the SCM permit area are completed in accordance with this MOA. As of 2018, 11 cultural sites within the SCM permit area were designated as eligible for listing on the NRHP.

LBA MTM 105485-01

In 2008, GCM Services, Inc. conducted the Class III cultural resource inventory of the Pearson Creek Amendment Area (GCM 2007). The amendment area covered 2,240 acres and included Tract 3. The area had four previous cultural resource studies completed and a total of five sites had been previously recorded. During the survey, three previously recorded sites were identified as well as six new sites. All of the sites were recommended as not eligible for the National Register of Historic Places (NRHP).

In 2018, SCM contracted GCM Services, Inc. to conduct a re-survey of the 941-acre LBA project area, which included Tracts 4, 5, and 6. The study area was part of a 5,410-acre Class III Inventory examined in 2012 (Meyer and Ferguson 2012). The BLM requested the LBA area be resurveyed based upon the discovery of a previously undocumented sites during tribal consultation in 2017. The re-survey was conducted from May 6-12, 2018. The survey resulted in thirteen (13) new, or previously identified, cultural properties and fourteen (14) new isolated finds (GCM 2018). Isolated finds typically lack the integrity to convey their significance and are usually not eligible for inclusion on the NRHP. Two sites are recommended as eligible for the NRHP and three sites are recommended as unevaluated, pending additional work or information.

LMA MTM 110693

Tracts 1 and 2 were included in Class III cultural resource surveys completed in 1984 and 1996 by GCM Services, Inc. In 1998, all of the sites were revisited and revaluated and the Spring Creek drainage bottom was resurveyed. In addition, a one-half mile buffer on the west, north and east sides of the project area was examined for historic standing structures and rock art sites. Tracts 1 and 2 includes six sites, three of which have been mitigated, two that were recommended not eligible for NRHP, and one that is recommended eligible for the NRHP.

Tribal Consultation

In 2017, as part of the Section 106 process for four project proposals submitted by Spring Creek Coal, LLC, tribal consultation including a site tour was conducted. The consultation and tour included the proposed tracts associated with the proposed LBA and LMA. The consulting Tribes included the Crow, Crow Creek Sioux, Chippewa Cree of Rocky Boy Reservation, Eastern Shoshone, Northern Arapaho, Northern Cheyenne, Mandan, Hidatsa and Arikara Nation, Rosebud Sioux, Oglala Sioux, and Turtle Mountain Band of Chippewa Indians. As part of the field work, known and new discovered sites were

visited and features and artifacts noted by the tribes were recorded. The information was compiled into a report that was submitted to the BLM (Catena 2018).

Environmental Impacts – Alternative A (No Action)

Under the No Action Alternative, the BLM would not approve the LBA for MTM 105485-01 or the LMA for MTM 110693 at the SCM and/or a Federal mining plan would not be approved; thus, no Federal coal within those tracts would be mined. No disturbance to cultural resources from the mining the Federal coal would occur.

SCM would continue mining other Federal, state, and private coal within the permit boundary until 2034 and reclaim disturbed lands until 2038. After this time, operations at the SCM would cease. Therefore, an evaluation of impacts to cultural resources within the proposed tracts from ongoing mining is not included in this EA.

Environmental Impacts – Alternative B (Proposed Action)

The proposed tracts have been subject to Class III cultural resource inventories. Within Tracts 3-6 three sites have been mitigated and only one other site has been classified as NRHP eligible. If this site will be disturbed under the Proposed Action, it will be mitigated prior to disturbance otherwise a buffer will be established around the site. All of the sites in proposed LBA are recommended as not eligible for the NRHP. As part of the permit revision, MDEQ will work with the Montana State Historic Preservation Office to determine concurrence on the NRHP recommendations.

The direct and indirect effects on cultural resource from the Proposed Action would be negligible, if any, but long-term.

Unanticipated Discoveries

If a previously unidentified cultural resource is discovered in the project area, the SCM would take measures to protect the find locality and provide written notice to the MDEQ and OSMRE within 48 hours of the discovery. A Montana-permitted archaeologist meeting the Secretary of the Interior's Professional Qualification Standards is required to evaluate the discovery, make a recommendation as to the NRHP eligibility of the resource, and provide written notice to the MDEQ and OSMRE within 48 hours. The MDEQ and OSMRE would then consult with the Tribal Historic Preservation Office, SHPO, and the BLM (for federally managed sites) on the NRHP eligibility determination(s) and develop appropriate measures necessary to mitigate any adverse effects through the development of a treatment plan.

Should the discovery involve a burial site or a resource thought to have potential religious or cultural significance to a tribe, the tribe(s) with an interest would be notified and consulted as appropriate. When agreement is reached among all the involved parties, appropriate mitigation, if necessary, would be implemented. The tribes, OSMRE, MDEQ, SHPO, and the surface landowner must agree to any proposed treatment measures.

Past, Present, and RFFA Impacts[4]

Past, present, and RFFA agricultural development of surrounding lands has the potential to result in ground disturbances and may affect the integrity of buried archeological sites as well as known and unknown historic properties. Past and future wildland fires in and around the project area have had and will continue to have the potential to destroy historic artifacts and properties, resulting in cumulative

[4] Past, present, and RFFA impacts are provided for information purposes. As noted above, including this information goes beyond the requirements of NEPA because a bureau is required only to consider the effects of its proposed action and not effects from separate projects, activities, or proposed actions.

impacts on cultural resources. Overall, impacts to cultural resources from past, present, and RFFAs will be minor.

3.4 Socioeconomics

Affected Environment

The social and economic study area for the project involves primarily the Federal and Montana state governments (tax revenues) and Sheridan County, Wyoming, and the City of Sheridan. Sheridan and Sheridan County were included in the study area because a majority of the SCM employees commute from the Sheridan Area.

Local Economy

Montana relies on its natural resources as a primary source of tax revenue. Generally, natural resource taxes are categorized as either severance/license taxes or some form of ad valorem (property) taxes. Total natural resource tax collection for the State of Montana in 2022 was $314,384,399. Montana coal severance taxes accounted for approximately 21 percent of the total 2020 revenues (Montana Department of Revenue 2022).

Coal production showed Montana's coal production was 28.5 Mt in 2023. Coal production figures for Montana between 2019 and 2023 are shown on **Table 20**.

Table 20. Historic Annual Coal Production (tons) for Montana

	2019	2020	2021	2022	2023
Montana	34.8	26.5	28.4	28.2	28.5
Percent Change	-9.8	-23.9%	7.5%	-0.8%	1.0%

Source: Montana Coal Council 2024

Table 21 provides total cumulative royalties from the SCM. The table shows that the state and federal governments are the major beneficiaries of these payments, whereas private owners of premining land leases are minor beneficiaries of these payments. Mineral royalties are collected on the amount of production and the value of that production. The current royalty rate for Federal coal leases at surface mines is 12.5 percent, with half of this revenue returned to the state[5]. Coal severance taxes are collected by the state of Montana. Currently, Montana collects 15 percent of the price of the coal as severance tax.

Table 21. Royalty Payments from Coal Production at the SCM

	2020	2021	2022	2023	2024
Federal Collections	$8,679,110	$14,074,577	$15,155,698	$15,028,801	$24,463,645
State Collections	$7,148,611	$13,729,215	$11,569,054	$10,125,049	$11,574,046
Private Collections	$1,952,833	$2,384,873	$2,952,543	$2,394,767	$2,694,523
Total Royalty Collections	$17,780,554	$30,188,665	$29,677,295	$27,548,617	$38,732,214

Source: NTEC 2025

Population

According to U.S. census data, in 2020 Sheridan County had a population of 30,921 (U.S. Census Bureau 2025). The 2010 population of Sheridan County was 29,116. Therefore, there was an increase of 1,805 persons or 6.2 percent. The population in Big Horn County, Montana continues to be sparse. According to the U.S. Census Bureau, Big Horn County had a population of 12,865 in 2010 and 13,124 in 2020.

[5] Section 50202(a) of the One Big Beautiful Bill amended Section 7(a) of the Mineral Leasing Act (30 U.S.C. § 207(a)) by providing that the royalty rate "shall be not more than 7 percent during the period that begins on the date of enactment of the [One Big Beautiful Bill Act] and ends September 30, 2034."

Between 2010 and 2020, the population of Big Horn County grew by approximately 2.0 percent (U.S. Census Bureau 2025).

Employment

A majority of the employees at the SCM reside in Sheridan County, Wyoming. The labor force in Sheridan County in April 2025 stood at 15,723 with an unemployment rate of 2.9 percent, compared to 2.8 percent in April 2024 (Wyoming Department of Workforce Services 2025). In December 2024, 263 people in Sheridan County were employed in natural resources and mining (U.S. Bureau of Labor Statistics 2025). In December 2024, the largest employment sector in Sheridan County was goods-producing. As of July 2025, the SCM employed 256 full-time people (SCM 2025). SCM is the primary mining employer in Big Horn County. Montana receives payroll taxes, royalties, and production taxes, but most of the employees reside in Sheridan County.

Housing

In 2020, Sheridan County contained 14,884 housing units with 9,006 housing units located in the City of Sheridan and 5,878 housing units in other towns and unincorporated area. Of the 14,884 housing units, 13,349 were occupied and 1,535 were vacant (U.S. Census Bureau 2024). Nearly 69 percent of occupied housing units are owner-occupied, and 31 percent are renter-occupied (Gruen Gruen+Associates 2021). The countywide vacancy rate has declined since 2010 (11.3% in 2010 and 10.3% in 2020), but higher for areas outside of the City of Sheridan. The number of residential housing permits peaked in 2006 with most permits for detached single-family units. New permits reached a low in 2009 of less than 100 units. Residential permit activity has increased steadily since 2014 but remains far below pre-recession levels of the mid-2000s. Nearly 900 units have been permitted in the county between 2016 and 2020. The trend of increasing permit activity is expected to continue in 2021 and persist into 2022. The recent housing study for Sheridan County states that over the next 10 years the area will need about 1,000 units to support the total workforce and senior housing needs.

Environmental Impacts – Alternative A (No Action)

Under the No Action Alternative, the BLM would not approve the LBA for MTM 105485-01 or the LMA for MTM 110693 at the SCM and/or a Federal mining plan would not be approved; thus, no Federal coal within those tracts would be mined. Therefore, the Federal government, State of Montana and Big Horn County would not receive the royalties, bonus payment, and resulting tax implications associated with the bypassed Federal coal which represents approximately $24.5 million[6] worth of Federal coal royalties (**Table 21**). Socioeconomics in the analysis area would continue to be affected by ongoing mining of the permitted Federal, state, and private coal remaining. Mining at the SCM would cease in 2034 and final reclamation would continue through 2038. Approximately 265 employees from Big Horn County, Montana and Sheridan County, Wyoming would lose employment and the taxes and royalties paid to the federal government and State of Montana would cease. Because the No Action alternative would not affect coal production levels, employment levels or life of mine until 2034, it would have no overall impact on revenue, taxes, royalties, employment, demographics, or hosing un the socioeconomics analysis area.

Environmental Impacts – Alternative B (Proposed Action)

The same type of socioeconomic impacts would occur under the Proposed Action as described in the following document and these specific sections are incorporated by reference:

- 2025 SCM FEIS – Section 4.17, pp. 4-41 through 4-42 (OSMRE 2025)

[6] Estimate is based on Alternative B (proposed action) using a 12.5% Federal royalty rate. The estimate reflects the total Federal coal royalites paid to the Federal government.

Under the Proposed Action, Montana revenues (royalties, severance tax, gross proceeds tax, and resource indemnity trust tax) and federal revenues (royalties, black lung tax, and federal recreation tax) would continue similar to the values provided in **Table 21**. It should be noted that the coal from the proposed tracts would continue to only be a percentage of these values because the SCM will continue to blend coal from the proposed tracts with other Federal, state, and private coal and has indicated that it intends to continue that practice.

Similar to that described in Section 4.17 of the 2025 SCM FEIS, mining in the proposed tracts would not directly create new jobs and therefore, the availability of housing units would not be impacted. No additional employees are anticipated as a result of the tracts being mined, although the Proposed Action would extend the duration of employment for current employees and extend the substantial economic impacts related to mining the federal coal. The direct and indirect effects described above (continued employment) would be moderate and would be extended by approximately 16.5 years, to 2051.

Past, Present, and RFFA Impacts[7]

The traditional major industries of coal mining and agriculture (ranching and farming) that have been and are the driving forces of the area's economy would likely continue. Past and present mining at the SCM and the Decker Mine have resulted in the loss of potential agricultural lands and economic productivity associated with agriculture. It should be noted that this loss of potential agricultural lands is temporary, as mined areas are reclaimed and returned to post-mine land use. Continued and future mining at the SCM and Brook Mine would continue to have a beneficial impact to employment, the State of Montana revenues (royalties, severance tax, gross proceeds tax, and resource indemnity trust tax) and federal revenues (royalties, black lung tax, and federal recreation tax). The overall socioeconomic impact to the study area is moderate.

3.5 Water Resources

Affected Environment

Surface Water

Tracts 1 and 2 are located in the Spring Creek and Monument Creek drainages and tracts 3-6 are located within the Pearson Creek drainage. Pearson Creek, Spring Creek, and Monument Creek are ephemeral tributaries of the Tongue River watershed and only flow in direct response to rainfall or snowmelt runoff events (see **Figure 6**). Snowmelt runoff events can last for several days or more but rarely have large peak flows. Most of the peak annual flow events occur during the late spring and summer as a result of thunderstorms.

[7] Past, present, and RFFA impacts are provided for information purposes. As noted above, including this information goes beyond the requirements of NEPA because a bureau is required only to consider the effects of its proposed action and not effects from separate projects, activities, or proposed actions.

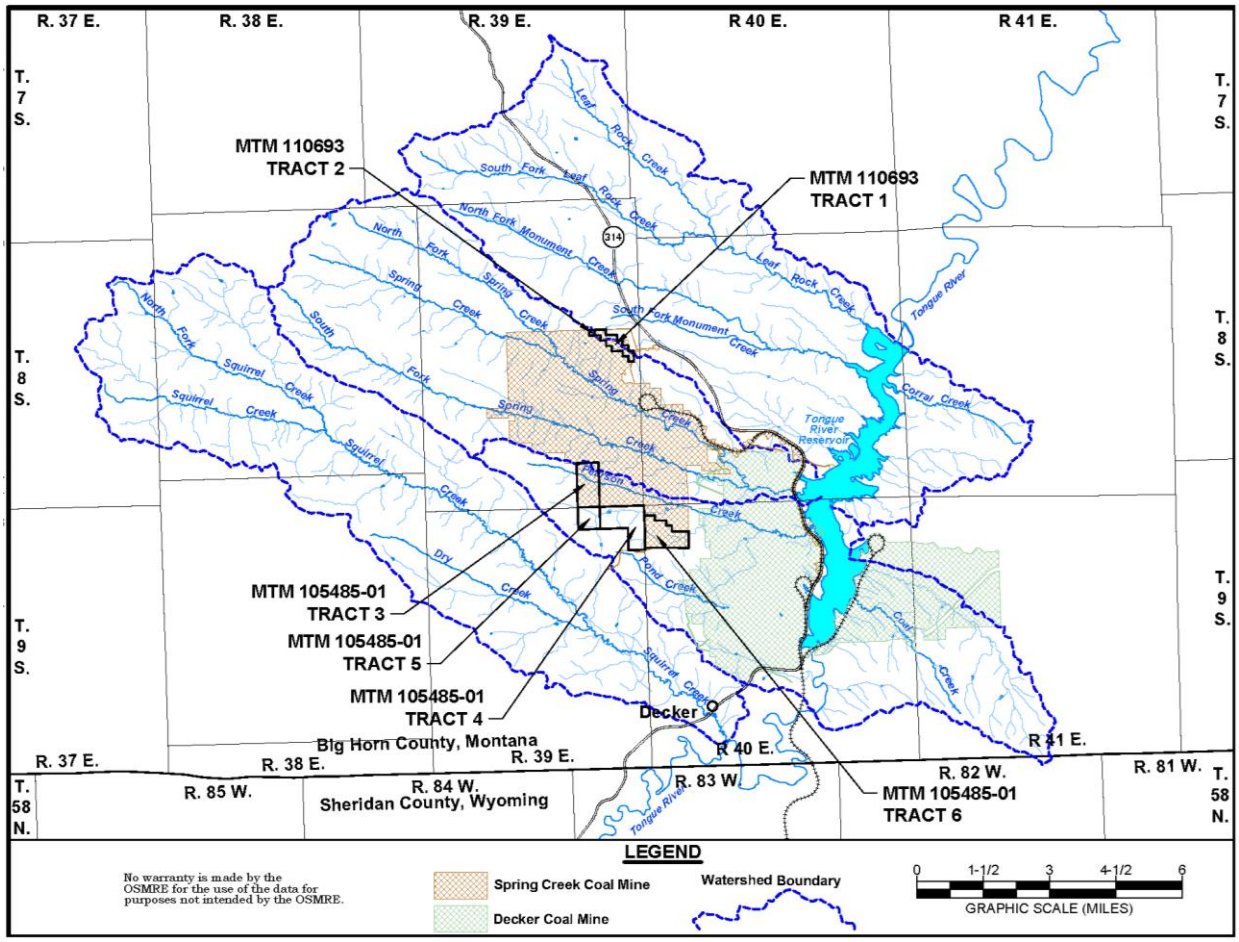


Figure 6. Watershed and Surface Drainages Associated with the Spring Creek Mine

The flows of Spring Creek and its north and south forks are currently detained in flood control reservoirs located upstream from the mining operation to keep the runoff out of the SCM pits. Pearson Creek flow is currently detained by the mine. In addition, downstream flows on Pearson Creek have been substantially altered by a constructed diversion and impoundment associated with the West Pit of the nearby Decker Mine. These flood controls have been in place for many years, effectively cutting off Spring Creek and Pearson Creek flows upstream of the Tongue River during mining.

Streamflow and surface-water quality associated with the SCM are currently being monitored at eight monitoring sites (**Figure 7**) on Spring Creek, South Fork Spring Creek, South Fork Pearson Creek, and Pearson Creek. Stream flow monitoring is conducted with combinations of manual staff and crest gauge measurements and continuous recording systems. In addition to flow monitoring, water quality monitoring is conducted on streams to characterize water chemistry and identify potential trends throughout the mine site. During monthly monitoring, and when sufficiently flowing, grab samples are collected and analyzed by a contract laboratory. Samples collected from automatic sampling devices are analyzed for total suspended solids (TSS) only.

The most recent stream monitoring results are provided in the SCM 2024 Annual Hydrology Report (WET 2024) and the following summarizes the results for Spring Creek and Pearson Creek.

<u>Spring Creek</u>

SCM maintains two monitoring stations on Spring Creek: CB-2 and CS-3A. Station CB-2 is the uppermost Spring Creek monitoring station, located above the Carbone Flood Control dam and upstream of mine-related disturbance. During the 2024 water year (October 1, 2023, through September 30, 2024) station CB-2 recorded flow on October 11, 2023. The auto sampler collected a sample on October 11, 2023 that was analyzed for TSS. A winter snowmelt runoff event was also grab sampled on January 29, 2024. All parameters from the grab sample were below water quality criteria.

Station CS-3A is an open channel crest gauge station on an undisturbed section of Spring Creek. During the 2024 water year, monthly site visits confirmed dry or frozen channel conditions and no samples were collected.

Pearson Creek

The current stream monitoring network on Pearson Creek consists of two stations, PC-1STR and PC-2. Station PC-1STR is located above the South Fork Pearson Creek Flood Control impoundment. Although no flow was recorded by the crest gauges during this report period, the data logger briefly documented a couple of very low stage head measurements on August 19, 2024. These appeared to result from ponding water around the transducer, rather than from actual flowing conditions. PC-1STR was not sampled during this report period as it was dry or frozen during each of the scheduled monthly site visits. In 2025, SCM personnel conducted site surveys of the channel and gradient and developed a new rating curve and formula.

Station PC-2 is located on Pearson Creek, upstream of future planned mining activity. Stream flow during this monitoring period was limited to April 22, 2024, when a very minor flow was recorded by the data logger. No flow was recorded by the crest gauges and no samples were recovered from the automated sampler.

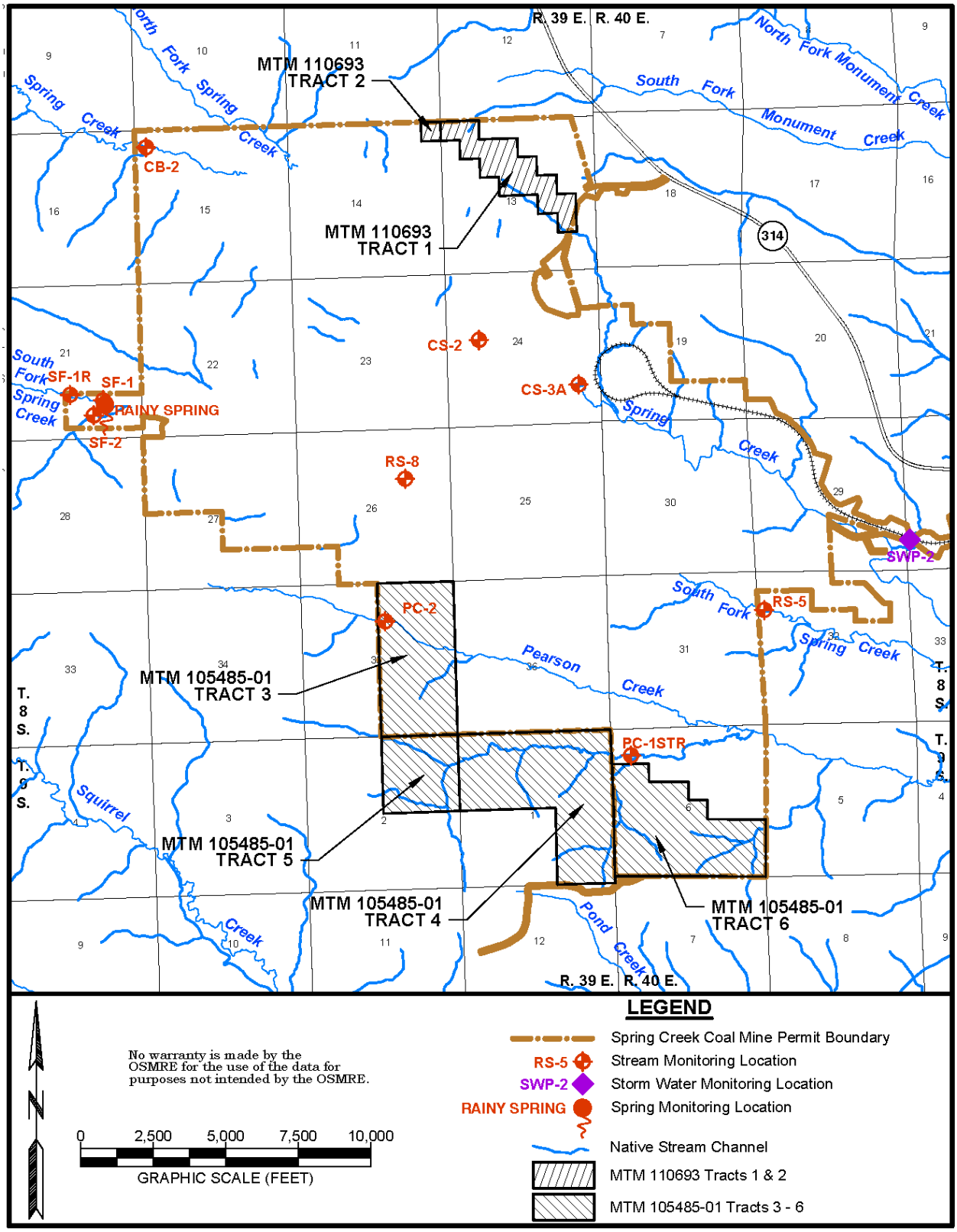


Figure 7. Active Surface Water Monitoring Network at Spring Creek Mine

Groundwater

Groundwater recharge occurs typically to the west of the SCM in outcrops in the Wolf Mountains. Groundwater typically flows to the east and discharges to the Tongue River Reservoir east of the SCM. Groundwater occurs in various aquifers within the SCM including the alluvium, overburden/clinker, A/D coal, interburden/underburden, underlying Canyon coal, and spoils.

The current groundwater monitoring at the SCM includes 50 wells, comprising six alluvium wells, 11 overburden/clinker wells, one interburden/underburden well, 23 coal wells, and nine backfill/spoil wells. Current groundwater monitor well locations are indicated on **Figure 8**. Monitor wells are identified by well number and completion aquifer.

According to groundwater quality monitoring results included in the SCM 2024 Annual Hydrology Report (WET 2024) submitted to MTDEQ, groundwater quality analyzed during the October 1, 2023, through September 30, 2024, reporting period were within historic ranges, with few water quality trends (WET 2024). The following summarizes the 2024 Annual Hydrology Report water quality.

During the report period, measured total dissolved solids (TDS) in the A/D coal varied from a minimum of 650 mg/L to a maximum of 7,800 mg/L and averaged 2,073 mg/L. The Canyon Coal aquifer had lower TDS with a mean of 1,115 mg/L and a maximum of 1,620 mg/L. Spoils, which have replaced the mined A/D coal and have become re-saturated, have variable TDS concentrations with a mean of 4,830 mg/L and a maximum of 8,320 mg/L.

The 2020 Cumulative Hydrologic Impact Assessment for the TR1 Tract states that initial recovery of groundwater in the SCM will be relatively rapid with flow towards the depleted areas (MDEQ 2020b). As groundwater levels approach equilibrium, natural flow patterns will begin to reestablish. Resaturation at the SCM will come almost entirely from local groundwater flow and most areas will not receive additional recharge from the Tongue River Reservoir. Until water levels have recovered fully, groundwater gradients will produce flow toward the spoil areas, and little or no spoil groundwater will leave the permit area. As long as the flow is exclusively inward, salinity will be higher than baseline, as dissolved constituents are unable to exit.

The quality of groundwater from the A/D coal seam is generally suitable for domestic and livestock purposes; however, due to the high sodium adsorption ratio (average 21.1), only crops with high salt tolerance can be irrigated with water directly from the A/D coal seam (Ayers and Westcot 1976).

Historic mining at the SCM has interrupted the flow of groundwater in the A/D coal due to mining activities and pit dewatering. In some portions of the SCM, spoils have already been used to backfill the excavation and a new spoils aquifer is beginning to form where the mined A/D coal aquifer was previously. Groundwater extracted from the mined A/D coal is typically collected and used for dust control or other process water.

Water quality is highly variable depending on the source aquifer. The dominant ionic constituents within the coal waters are sodium and bicarbonate. As the groundwater moves downward through the overburden and into the coalbed aquifers, the water becomes less mineralized, which is due mainly to cation exchange (softening and sulfate reduction) mechanisms.

Based on premining potentiometric maps (Van Voast and Hedges 1975), the flow direction of the pre-mine groundwater system was from recharge zones in highlands east and west of the mine toward the hydrologic discharge boundary formed by the Tongue River. Current groundwater flow is to the southeast in both the reclaimed spoil and A/D coal aquifers.

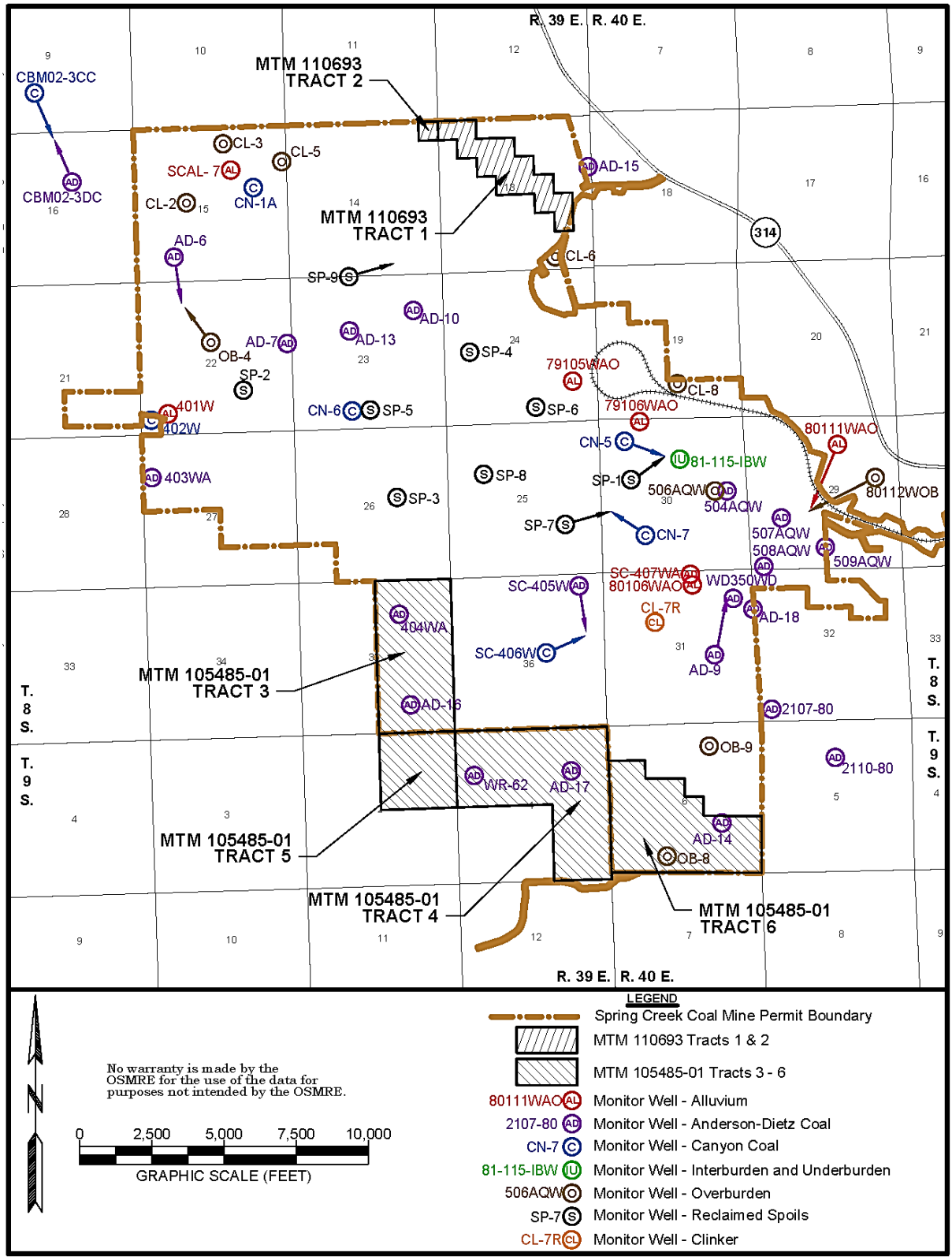


Figure 8. Active Surface Water Monitoring Network at Spring Creek Mine

There are three public water supplies (PWS) in the vicinity of the proposed tracts including SCM (PWS ID MT0003952), Tongue River Campers Point (PWS ID MT0043957), and Tongue River Pee Wee Point (PWS ID MT0043594). The SCM water system is a non-transient system and serves 200 people. The system is served by one active well (Well 2 GWIC 258992) which is completed at a depth of 495 feet. The Tongue River Campers Point is a transient system and serves 300 people. The system is served by one active well (Well 3 GWIC 228388) which is completed at a depth of 286 feet. The Tongue River Pee Wee Point is a transient system and serves 300 people. The system is served by one active well (Well 3 GWIC 165080) which is completed at a depth of 127 feet. All the water wells adhere to the sample and compliance schedules and results are reported on the Safe Drinking Water Information System (SDWIS) that can be accessed online (MDEQ 2024). Water monitoring results show that the MT0003952 system most recently had violations for coliform (in 2013) and nitrate/nitrite (in 2023). In both cases, compliance was achieved. For the MT0043957 system, the most recent violations were reported in 2016 and 2018 for nitrate/nitrite and in 2014 and 2015 for coliform. The MT0043594 system reported violations for nitrate/nitrite most recently in 2016 and 2018 and E. coli in 2017. In all cases, compliance was achieved.

Environmental Impacts – Alternative A (No Action)

Under the No Action Alternative, the BLM would not approve the LBA for MTM 105485-01 or the LMA for MTM 110693 at the SCM and/or a Federal mining plan would not be approved; thus, no Federal coal within those tracts would be mined. No direct impacts to groundwater or surface water from the mining the Federal coal would occur. Indirect impacts to groundwater and surface water would still occur from mining of adjacent tracts within the SCM.

SCM would continue mining other Federal, state, and private coal within the permit boundary until 2034 and reclaim disturbed lands until 2038. After this time, operations at the SCM would cease. Therefore, an evaluation of impacts to surface water and groundwater within the proposed tracts from ongoing mining is not included in this EA.

Environmental Impacts – Alternative B (Proposed Action)

The same type and magnitude of direct and indirect effects to surface water and groundwater would occur under the Proposed Action as described in the following document and these specific sections are incorporated by reference:

- 2025 SCM FEIS – Section 4.5, pp. 4-23 through 4-26 (OSMRE 2025)

Surface Water

As described in Section 4.5.2 of the 2025 SCM FEIS, during mining, removal of materials will disrupt stream channels and their watersheds. The mining process will involve diverting and impounding surface water to prevent excess runoff from entering the mined area, and to allow sediments to settle out of the water prior to discharge. This is consistent with the existing practices.

As previously described, tracts 1 and 2 are located in the Spring Creek and Monument Creek drainages and tracts 3-6 are located within the Pearson Creek drainages. SCM has constructed two incised flood control reservoirs on the main and south fork branches of Pearson Creek. In addition, Spring Creek flow is currently stored in impoundments at the SCM and upstream of the West Decker mine. The impoundments on Spring Creek cut off flows to the Tongue River Reservoir. The CHIA for SCM's TR1 Tract states that mining operations in the Tongue River watershed have not resulted in decreased flow in the Tongue River (MDEQ 2020b). Diversion and impoundment will end when mining is complete, and restoration will reconnect stream channels. All impounded water at SCM is used on site. Only a small portion of the Monument Creek drainage is within tracts 1 and 2.

Reclaimed soils may initially have lower infiltration rates and more runoff than the premining land surface (Reynolds and Reddy 2012). As vegetation increases infiltration rates become higher. The reclaimed land surface may have less variation in elevation than the premining land surface, which could

result in higher infiltration rates and less runoff. Infiltration rates of reclaimed soils eventually return to premining levels, and peak discharges in stream channels compare favorably pre- and postmining.

Surface erosion of reclaimed soils could increase sediment production. The SCM uses stormwater best management practices to reduce the impact of sediment on surface water. Sedimentation control measures are used until revegetation of reclaimed areas is sufficient. Runoff is diverted to sedimentation ponds and prevented from flowing untreated off the mine site (MDEQ 2020b). Surface water control and treatment plans have been designed to protect the hydrologic balance within the permit area and adjacent areas in accordance with ARM 17.24.314(2)(a)-(b) and 17.24.631 through 17.24.652. In the 2020 CHIA, MDEQ stated that it does not anticipate that surface water runoff from existing and proposed surface facilities will impact surface or groundwater systems outside the permit area.

The direct and indirect effects of the Proposed Action on surface water are expected to be moderate and short term.

Groundwater

As described in Section 4.5.1 of the 2025 SCM FEIS, the mining process will involve removing the coal aquifer and any overlying alluvial aquifers and overburden. The removed aquifer materials will be replaced with backfilled overburden material. If any of the overburden or alluvial aquifer is critical to the hydrologic balance in the area, essential hydrologic functions will only be restored by reestablishing the aquifer. This can be accomplished by selectively salvaging and replacing removed materials. In general, the permeability and porosity of the backfilled materials will be greater than those of the removed aquifers. Vertical hydraulic conductivity in the backfilled materials will also be greater than in the removed aquifers. These differences will result in changes to local recharge and groundwater flow patterns. The permeability, porosity and vertical hydraulic conductivity of the backfilled materials will decrease as the materials consolidate over time.

Static water levels will be lowered as the coal and overlying aquifers are dewatered during mining. As discussed in the 2020 MDEQ EIS, dewatering may also affect water levels in surrounding and underlying aquifers, which could impact nearby wells. Water levels in all aquifers will recover as recharge occurs once mined areas are reclaimed and will eventually stabilize near premining levels.

There are three PWSs in the vicinity of the proposed tracts. All of the PWSs are monitored on a routine basis and results to date show that operations at the SCM have not impacted these water supplies. Based on this, it can be assumed that mining of the proposed tracts would not impact these water supplies.

During reclamation, groundwater recharge through the backfilled materials will cause water quality changes. Initial removal of the material used for backfill creates fractures and exposes particle surfaces. TDS concentrations will increase as groundwater contacts newly exposed particle surfaces and dissolves minerals contained in the backfill. In past mining at the SCM, concentrations of sulfate, sodium, and bicarbonate in groundwater have been higher in backfilled materials than in the undisturbed aquifers. In the 2024 Annual Hydrology Report, the results for the spoil wells water quality indicates that TDS has increased in most wells, although one well has exhibited a downward trend. TDS in well SP-1 has increased about 2,000 mg/L since 2004 and recently fallen nearly 700 mg/L. The TDS in well SP-7 has increased over 4,000 mg/L since installation in 2010 through 2022. In 2024, TDS in SP-7 had decreased by 1,700 mg/L. The TDS is well SP-2 has decreased about 1,000 mg/L since 2010, with some sporadic fluctuations. These water quality changes are not anticipated to change the suitability of groundwater for beneficial use (MDEQ 2020a). Over time, groundwater quality will eventually equilibrate to background levels.

Overall, the direct and indirect effects of the Proposed Action on groundwater are expected to be moderate and long term.

***Past, Present, and RFFA Impacts*[8]**

Past and present actions have disturbed surface water channels. In addition, surface disturbing activities, agriculture, and wildland fire have resulted in surface erosion, which has the potential to increase TDS in surface waters downstream. RFFAs will continue to impact water quality. The past, present and RFFA impacts on surface water are minor.

The past and present actions have resulted in elevated TDS in some groundwater as a result of recharge to backfilled material. In addition, groundwater pumping from past and present actions (e.g., mining and CBNG) has lowered water levels in the area. RFFAs will continue to impact water quality and water levels. The impacts on groundwater from past, present and RFFA will be minor.

3.6 Wildlife and Threatened and Endangered Species

Affected Environment

The initial wildlife baseline inventory for the SCM was conducted in 1974, with additional baseline inventories conducted periodically since that time to accommodate permit expansion. Annual monitoring was initiated in 1982 and continues at present. Information is derived from the baseline data, subsequent studies, which have been conducted in accordance with the SCM's Wildlife Monitoring Plan (SCM 2017), and the MTDEQ Annual Reports. No substantial changes to wildlife use areas for other mammals, upland game birds (excluding the GRSG), other birds, reptiles and amphibians, and aquatic species populations have been noted since 2006. Annual reports are submitted to MTDEQ, which discuss species occurrences, potential mine-related impacts to those species, agency coordination, and specific measures taken to avoid, minimize, or compensate for mine-related impacts within that year. The current wildlife monitoring area encompasses approximately 112 square miles (71,556 acres), and includes the amended SCM permit area (about 13,572 acres) and up to a 2.0-mile surrounding perimeter, except in the southeastern corner where it overlaps areas surveyed by the adjacent Decker Coal Company and Tribal lands to the west.

The following summarizes findings from the most recently approved Wildlife Monitoring Report (2024). Monitoring was conducted in accordance with the SCM Wildlife Monitoring Plan and MDEQ requirements. **Figure 9** presents a summary of the 2024 wildlife monitoring results.

Big Game

Big game winter aerial surveys are typically targeted to occur during periods of winter weather conditions, as defined per 2011 guidance provided by the BLM Miles City, Montana Field Office. The flight for the 2024 big game winter aerial survey was conducted on January 13, 2024 due to the presence of the desired "winter" conditions at that time. The primary species targeted by the survey were mule deer (*Odocoileus hemionus*) and pronghorn (*Antilocapra americana*), though all vertebrate species observed were recorded.

Two hundred twenty-four (224) mule deer (average 2.3 animals/mi2) in 41 herds were observed in the combined wildlife monitoring area during the winter aerial survey. Mule deer herd size was generally small (1 to 6 animals), with all herds below 20 deer. Seven small herds (17 total animals) were observed within the current (amended) permit area. All but 2 mule deer herds recorded during the flight were in regions identified as "General/ Winter" mule deer habitat.

[8] Past, present, and RFFA impacts are provided for information purposes. As noted above, including this information goes beyond the requirements of NEPA because a bureau is required only to consider the effects of its proposed action and not effects from separate projects, activities, or proposed actions.

Three (3) pronghorn herds totaling 243 animals (averaging 2.5 pronghorn/mi2) were observed in the combined wildlife monitoring area during the January 2024 winter aerial survey. Herd size ranged from 31 to 180 animals. All pronghorn were recorded in sagebrush-grassland habitats.

Elk (*Cervus canadensis*) are known to reside in the general vicinity of the SCM. However, they have been recorded during only 1 of the last 30 years of aerial winter big game surveys. One herd of seven elk was observed along a pine ridge in the northern portion of the survey area during the 2013 winter survey. During the 2024, SCM personnel reported a herd of 40 to 50 elk foraging in sagebrush just north of the northwestern active pit at the mine on February 4, 2024.

White-tailed deer (*Odocoileus virginianus*) are locally abundant in the general region, but are far less common than mule deer in the immediate vicinity of the SCM combined wildlife monitoring area. This species has been recorded during only a few of the last 30 survey years. Over time, white-tailed deer have almost exclusively been associated with cottonwood-riparian or other bottomland habitats along the Tongue River.

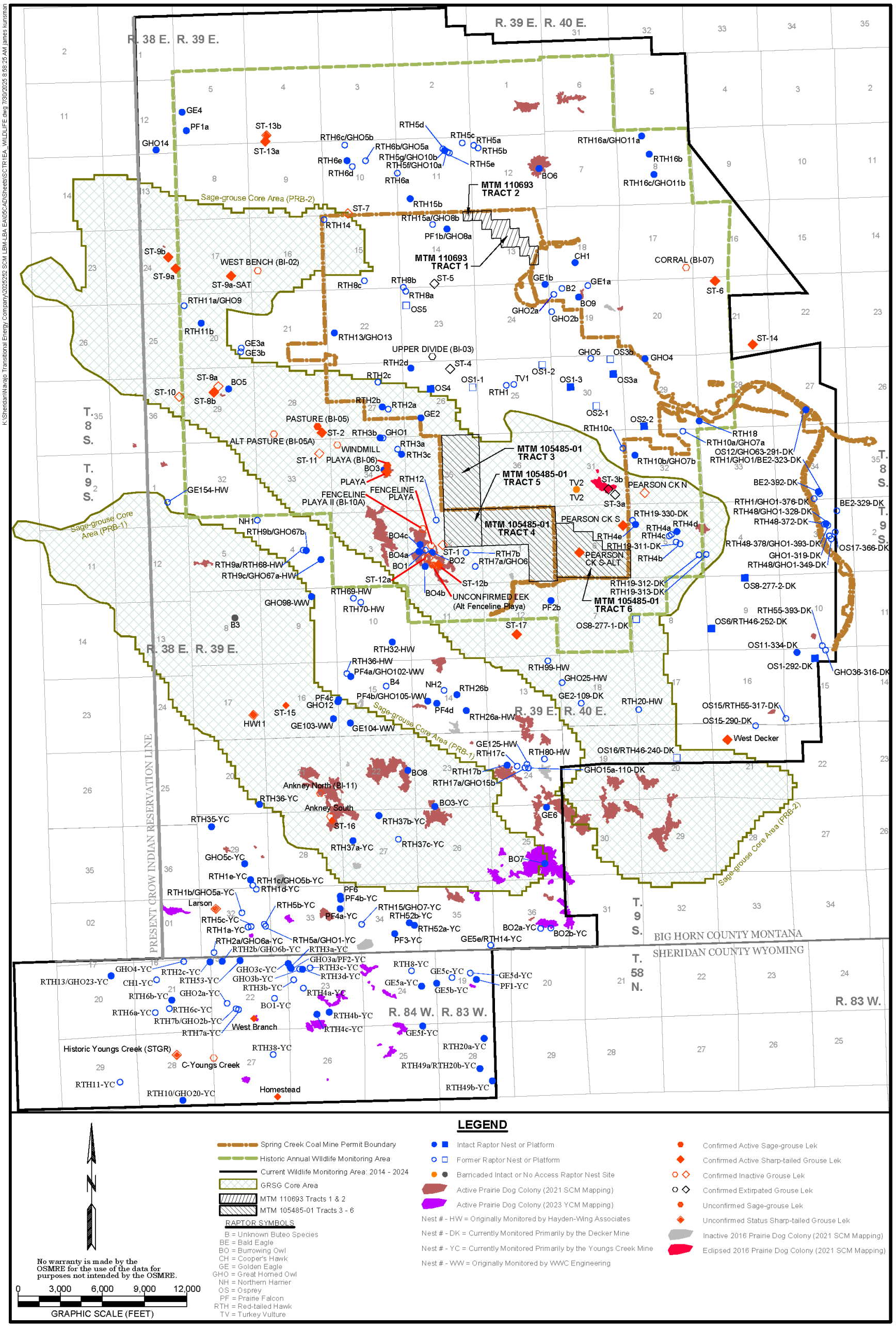


Figure 9. 2023 Spring Creek Mine Wildlife Monitoring

Upland Game Birds

All known greater sage-grouse (*Centrocercus urophasianus*) (hereafter, sage-grouse) and sharp-tailed grouse (*Tympanuchus phasianellus*) lek sites in the current wildlife monitoring area were surveyed on multiple dates from March 31 through May 14, 2024. Lek monitoring was conducted in accordance with protocols outlined by Montana Fish, Wildlife and Parks (MFWP 2016). Formal surveys for upland game bird species such as wild turkey (*Meleagris gallopavo*), gray (a.k.a. Hungarian) partridge (*Perdix perdix*), and ring-necked pheasant (*Phasianus colchicus*), among others, are not required as part of SCM's annual monitoring program. However, all incidental sightings of upland game birds were recorded, including the date, species and number of animals seen, location to quarter-quarter section, habitat type, and sex and age, when possible.

As a result of the permit amendment in 2024, 12 historical sage-grouse leks and 30 sharp-tailed grouse lek sites (a.k.a. dancing grounds) have been confirmed in the current SCM wildlife monitoring area (**Figure 9**) over time. Some of those areas represent nearby "alternate" (e.g., "a" and "b") display locations within a broader lek complex.

No sage-grouse or their sign were documented at any confirmed lek sites or elsewhere in the current SCM wildlife monitoring area in 2024. Long-term results from annual lek monitoring suggest that sage-grouse populations in the wildlife monitoring area fluctuate, though the magnitude of those fluctuations has varied over time. The population at the SCM was highest during the late 1970s and early 1980s. Especially low counts occurred during the mid-1990s, and in most years from 2009 through 2024.

Displaying male sharp-tailed grouse were documented at 12 of the 26 undisturbed lek sites present in the wildlife monitoring area during spring 2024. A combined peak count of 178 males was recorded across the 12 active leks in 2024, which is considerably higher than the previous three years. Based on the MFWP classification system for leks, 19 of the 30 confirmed lek sites (including alternate display sites) were considered to be Confirmed Active by the end of the 2024 lek season, with 7 Confirmed Inactive, and 4 Confirmed Extirpated (see **Figure 9**). As shown on Error! Reference source not found.**,** there is one u nconfirmed sharp-tailed grouse lek within tract 6.

Other upland game bird species historically documented in the combined wildlife monitoring area include the mourning dove (*Zenaida macroura*), wild turkey, gray partridge, ring-necked pheasant, and ruffed grouse (*Bonasa umbellus*), though ruffed grouse sightings have been extremely rare, with none recorded in the area since at least 1994. The mourning dove, wild turkey, gray partridge, and pheasant were recorded in the current wildlife monitoring area in 2024.

Raptors

All previously identified raptor nest sites in the wildlife monitoring area were examined at least once during the 2024 breeding season. Known nests of early-nesting raptor species such as golden eagles (*Aquila chrysaetos*) and great horned owls (*Bubo virginianus*) were checked for initial nesting activity from mid-February through mid-March. Nests of other species were first surveyed from early to mid-April.

A total of 202 known nesting sites had been identified within the current wildlife monitoring area through 2024. Ninety-one (91) of the 202 sites were intact and available (i.e., not barricaded) through that breeding season. Nineteen (19) of the 91 intact nests were in the SCM permit area and the rest were in the surrounding perimeter. All nest locations (intact and former) are illustrated on **Figure 9**. The 91 intact nests included: 31 red-tailed hawk (*Buteo jamaicensis*) nests, 11 burrowing owl (*Athene cunicularia*) nest sites, nine golden eagle (*Aquila chrysaetos*) nests, nine prairie falcon (*Falco mexicanus*) eyries , seven osprey (*Pandion haliaetus*) nesting platforms, seven great horned owl nest sites, one bald eagle nest, one Cooper's hawk (*Accipiter cooperii*) nest, nine red-tailed hawk/great horned owl nests, three prairie falcon/great horned owl nest sites, one osprey/red-tailed hawk nest, and one osprey/great horned owl nest.

Threatened and Endangered Species and Species of Concern

An official species list, generated in July of 2025 using the Service's Information for Planning and Consultation (IPaC) system, identified three species proposed for listing under the ESA within the proposed action area: the proposed endangered Suckley's cuckoo bumble bee (*Bombus suckleyi*) and the proposed threatened western regal fritillary (*Argynnis idalia occidentalis*) and monarch butterfly (*Danaus plexippus*). There is no designated or proposed critical habitat within the action area.

In accordance with the ESA implementing regulations, analysis of project effects on species proposed for listing is limited to whether the project jeopardizes the continued existence of the species or will result in destruction or adverse modification of proposed critical habitat (50 C.F.R. § 402.10).

Suckley's Cuckoo Bumble Bee

Suckley's cuckoo bumble bee is an obligate social parasite of other bumble bee species in the genus *Bombus* (USFWS 2024). The species has a broad distribution across North America, stretching from the Yukon down to Arizona and as far east as Newfoundland. Suckley's cuckoo bumble bees cannot successfully reproduce without the availability of suitable host colonies. Additionally, they require a diversity of native floral resources (pollen and nectar) for nutrition.

The loss and degradation of habitat or range, the increase in disease or predation, and the decline of host species from pathogens, pesticides, habitat fragmentation and conversion has contributed to the decline of the species. As of the publication of the *Federal Register* notice on December 17, 2024 (89 FR 102074), the USFWS proposed to list this species as an endangered species under the ESA. The USFWS determined that due to the current lack of data sufficient to perform required analyses, the designation of critical habitat for the species was not determinable at the time.

Surveys for Suckley's cuckoo bumble bee have not been completed by SCM and occurrences have not been noted. For the purposes of this analysis, it is assumed that that the species is present in or near the proposed tracts.

Monarch Butterfly

The monarch butterfly is listed as proposed threatened through the conterminous United States. Monarchs migrate large distances from Canada to parts of Mexico and California. During the breeding season, monarchs lay their eggs on milkweed (primarily Asclepias spp.) and larvae emerge after two to five days (USFWS 2025b). Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic chemicals (cardenolides) as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly.

The primary causes for decline in monarch butterfly populations include loss and degradation of habitat including locations of breeding, migratory, and overwintering habitat from grassland and shrubland conversion to agriculture. Urban development and widespread use of herbicides also contributes to loss of habitat. As of the publication of the Federal Register Notice on December 12, 2024 (89 FR 100662), this species is a proposed threatened species, and critical habitat may be designated under the authority of the ESA.

During the 2024 wildlife survey, specific surveys for monarch butterfly were not conducted but the report indicates that there were no incidental sightings of monarch butterflies (GCM 2025). Milkweed plants have rarely been encountered in the wildlife monitoring area, and no substantial stands are known to exist. For the purposes of this analysis, it is assumed that that the species is present in or near the proposed tracts.

Western Regal Fritillary

Western regal fritillary are believed to occur in Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oklahoma, South Dakota, Wisconsin and Wyoming. The fritillary lives in tall-grass prairie and other open and sunny locations such as damp meadows, marshes, wet fields and mountain pastures (USFWS 2025c). Viable populations require a large number of violet plants.

The loss and degradation of tallgrass prairie has reduced populations of many prairie-obligate species including the regal fritillary. This decline has resulted in consideration of the regal fritillary for protection under the ESA; the USFWS proposed to list the Western Regal Fritillary as a threatened species under the ESA on August 6, 2024 (89 FR 63888). As of the publication of the Federal Register notice, the USFWS found that a designation of critical habitat for both subspecies (Eastern Regal Fritillary and Western Regal Fritillary) were not determinable at the time.

Surveys for the western regal fritillary have not been completed by the SCM, and occurrences have not been noted. For the purposes of this analysis, it is assumed that that the species is present in or near the proposed tracts.

Other Species of Special Interest

State MTMNHP Species of Concern

In addition to the USWFWS listed species, the Montana Natural Heritage Program (MTNHP 2025) was reviewed to determine if there were any additional species of concern (SOC) within and surrounding the proposed tracts. MTNHP species of concern (SOC) are native taxa considered to be at-risk due to declining population trends, threats to their habitats, restricted distribution, and/or other factors. Each species is ranked based on various risk factors, with ranks ranging from 1 (highest risk, greatest concern) to 5 (demonstrably secure). The letter B (e.g., S3B) added to a species' rank indicates that the breeding population may be at risk, whereas the species is generally more common during other seasons (e.g., winter). According to the MTNHP there are a total of 17 species of concern present in the wildlife monitoring analysis area as listed in **Table 22**, this includes eight bird species, five mammals, three reptiles, and one amphibian species. The table includes the presence/absence of each species based on annual wildlife monitoring.

Table 22. Status of Species of Special Interest

Species	Habitat	Historic Occurrence in Analysis Area (1994-2020)	Recent Occurrence and Year Observed (2021-2024)	
			Annual Area	Expanded Area
Amphibians & Reptiles				
Great Plains toad *Anaxyrus cognatus*	Wetlands, floodplain pools	Infrequently	2023	2023, 2024
Greater short-horned lizard *Phrynosoma hernandesi*	Rocky outcrops, sparsely vegetated flats with sandy/gravelly soils	Rarely	Never	Never
Plains hog-nosed snake *Heterodon nasicus*	Friable soils	Never	Never	Never
Western milksnake *Lampropeltis gentilis*	Rock outcrops	Never	Never	Never
Birds				
Brewer's sparrow *Spizella breweri*	Sagebrush and shrub-steppe	Regularly	Every year from 2021 to 2024	Every year from 2021 to 2024
Burrowing owl *Athene cunicularia*	Open grasslands where abandoned mammal burrows are available	Occasionally	2021	2021, 2023, 2024
Clark's nutcracker *Nucifraga columbiana*	Conifer forests, including ponderosa pine	Rarely	Never	2021
Great blue heron *Ardea herodias*	Wetlands, and edges of rivers and lakes	Regularly	Every year from 2021 to 2024	Every year from 2021 to 2024
Greater sage grouse *Centrocercus urophasianus*	Sagebrush, riparian meadows	Infrequently	Never	2023
Loggerhead shrike *Lanius ludovicianus*	Grasslands, shrublands, pastures/fields, and other open habitats with short vegetation	Regularly	Every year from 2021 to 2024	Every year from 2021 to 2024
Pinyon jay *Gymnorhinus cyanocephalus*	Ponderosa pine and limber pine-juniper woodlands	Occasionally	2021, 2023, 2024	2023, 2024
Sage thrasher *Oreoscoptes montanus*	Sagebrush shrublands	Infrequently	2022	2021, 2024
Mammals				
Black-tailed prairie dog *Cynomys ludovicianus*	Flat, open grasslands and shrub-steppe with low, sparse vegetation.	Regularly	Every year from 2021 to 2023	Every year from 2021 to 2024
Eastern red bat *Lasiurus borealis*	Riparian forest	Infrequently	Never	Never
Northern hoary bat *Lasiurus cinereus*	Forested areas, riparian corridors	Occasionally	2024	2024
Long-eared myotis *Myotis evotis*	Forrest areas	Occasionally	Never	Never
Long-legged myotis *Myotis volans*	Riparian and dry mixed conifer forest	Unknown	not specifically monitored	not specifically monitored

Source: MTNHP 2025, Great Plains Wildlife Consulting, Inc. 2025

Environmental Impacts – Alternative A (No Action)

Under the No Action Alternative, the Federal coal resources contained in the Federal lease tracts would not be leased and therefore OSMRE would not be able to make a recommendation on the mining plan modification, and ASLM could not approve the Federal mining plan modification. Thus, no Federal coal within the proposed LMA and LBA tracts would be mined. Surface disturbance would occur on tracts with existing approvals and private lands that may overly Federal coal resources in conjunction with mining operations conducted on adjacent coal leases.

Upland Game Birds

As stated above, Greater sage-grouse were present during the wildlife monitoring conducted during 2024. However, sharp-tailed grouse were observed across 12 active leks in 2024. Two active sharp-tale leks are identified on **Figure 9** which could possibly be affected by surface disturbance on private lands associated with the stockpiling of overburden and/or the construction of roads.

Big Game

Continued mining operations and the resulting disturbance could result in direct losses of foraging habitat for big game species however the impacts are expected to be short-term. Impacts lasting from 3-5 years will include the time needed to reclaim mined-out lands or lands that have been used for stockpiling soils, and allow for short and tall prairie grasses to germinate and grow, with mature vegetation for woody species being achieved within 10 years.

Raptors

Several intact nests or platforms are associated with the permitted area of the current mine. Ongoing mine operations could affect these nesting locations by allowing for stress or disorientations because of noise disturbance, the alteration of food chains because of the potential for habitat alterations and the potential for habitat fragmentation due to ongoing mining operations. Should operations continue near these nests or platforms, mitigation measures could be utilized to prevent or minimize negative impacts that include (but are not limited to) establishing buffer zones around sensitive areas, implementing noise reduction techniques, replacing platforms or structures to encourage additional nesting, and restoration of disturbed areas within 3-5 years.

Threatened and Endangered Species and Species of Concern (SOC)

Under the No Action Alternative, the BLM would not approve the LBA for MTM 105485-01 or the LMA for MTM 110693 at the SCM and/or a Federal mining plan would not be approved; thus, no Federal coal within those tracts would be mined. No disturbance to habitat associated with the ESA-listed species from the mining the Federal coal would occur.

SCM would continue mining other Federal, state, and private coal within the permit boundary until 2034 and reclaim disturbed lands until 2038. After this time, operations at the SCM would cease. Therefore, an evaluation of impacts to threatened and endangered species within the proposed tracts from ongoing mining is not included in this EA.

Environmental Impacts – Alternative B (Proposed Action)

Under the Proposed Action, the BLM would issue SCM a coal lease for MTM 105485-01 and modification to MTM 110693, OSMRE would recommend approval of the Federal mining plan to the ASLM, and the ASLM would approve the mining plan (with or without conditions), allowing the Federal lease tracts to be mined.

The Proposed Action would result in short-term loss of approximately 51 acres of habitat within the MTM 110693 tracts and 1,245 acres of habitat within the MTM 105485-01 tracts and 965.4 acres of

habitat adjacent to Tracts 3 through 6. Activities could displace T&E and SOC to lower quality habitat areas and could result in localized lower reproduction and increased predation. Another direct impact on T&E and SOC is mortality during construction and from collisions with vehicles. Impacts would be moderate; however, the sequential nature of disturbance would reduce impacts to T&E and SOC. Seasonal guidelines for wildlife exclusion periods and applicant committed design features would reduce impacts to T&E and SOC to minor. The SCM monitors and protects SOC based on Section 312, 723, and 751 of SMP C1979012. The SOC comprehensive plan includes migratory birds, which are protected under the Migratory Bird Treaty Act (MBTA). The SCM submits a letter annually to USFWS after the initial spring bird nesting monitoring season, documenting the results of the initial spring next surveys. In addition, upon discovery of bird mortality, the SCM notifies MTDEQ, USFWS, and MFWP.

The same type of direct and indirect effects to wildlife would occur under the Proposed Action as described in the following document and these specific sections are incorporated by reference:

- 2025 SCM FEIS – Section 4.10, pp. 4-29 through 4-34 (OSMRE 2025)

Big Game

Under the Proposed Action, big game would be displaced from portions of the tracts to adjacent ranges during mining. Mule deer would be most affected as the tract contains good quality habitat. Pronghorn would not be substantially impacted, because they are scattered throughout the site, and there is suitable habitat available in adjacent areas. Big game displacement would be incremental, occurring over several years and allowing for gradual changes in distribution patterns. Big game residing in the adjacent areas could be impacted by increased competition with displaced animals. Noise, dust, and associated human presence would cause some localized avoidance of foraging areas adjacent to mining activities. However, big game species have continued to occupy areas adjacent to and within active mine operations at the SCM, suggesting that some animals may become habituated to such disturbances.

Under its approved SMCRA permit, the SCM is required to reclaim disturbed habitats within the area back to wildlife habitat. After mining and reclamation, alterations in the topography and vegetative cover, particularly the reduction in sagebrush density, is anticipated to cause a decrease in carrying capacity and diversity on the tracts. Sagebrush would gradually re-establish on the reclaimed land, but the topographic changes would be permanent.

General reclamation practices for establishing or enhancing post-mining wildlife habitat at the SCM are described in the Reclamation Plan (Section 17.24.313) of SMP C1979012. The SCM also has a separate HRRP for the GRSG, which is a species of particular interest in the region. Because there is overlap between the big game winter range and the GRSG habitat areas, the reclamation of any GRSG habitat outlined the specific HRRP would fulfill the reclamation requirements for mule deer and pronghorn and would provide quality habitat for big game impacted by the Proposed Action. The direct and indirect effects related to the Proposed Action on big game would be moderate and short term.

Upland Game Birds

The Proposed Action would result in the short and long-term loss of approximately 2,265 acres of potential habitat for GRSG, including the 1,245.1 acres within the four MTM 105485-01 tracts. **Figure 9** shows the proposed tracts and GRSG habitats and leks. According to information included in past annual wildlife monitoring reports, the project area provides limited GRSG habitat for breeding, nesting, brood-rearing, summering, and winter use (Great Plains Wildlife Consulting, Inc. 2025). No GRSG broods have ever been observed during annual targeted surveys along drainage routes and no broods have been observed from 2000 to 2024 (Great Plains Wildlife Consulting, Inc. 2025). No GRSG or their sign were encountered during at least 167individual winter surveys conducted for wintering sage-grouse or other wintering species (e.g., big game, bald eagles) over the last 30 years (Great Plains Wildlife Consulting, Inc. 2025).

In lieu of the management requirements specified in the MSGHCP, the SCM has developed and implemented a detailed HRRP for the management of GRSG at the mine and is voluntarily participating in the TBGPEA to offset potential impacts to GRSG due to mine-related activities. The SCM also voluntarily participates in the CCAA program to help minimize impacts to GRSG in the area.

While project construction would result in long-term direct impacts to GRSG habitat within the monitoring area, monitoring indicates that a population-level effect is not likely for the LBA1 tracts. Impacts to GRSG would be moderate. Due to the sequential nature of disturbance, continued coordination with BLM and MFWP, and implementation of the SCM's HRRP, the potential impacts to GRSG would remain moderate.

Raptors

As described in Section 4.10.2.1 of the 2025 SCM FEIS, potential impacts to raptors include loss of nesting and foraging habitat, collisions with structures and vehicles, nest abandonment and reproductive failure due to increased human activities, reduction in prey populations, and displacement of birds into adjacent areas. The impacts to raptors would be moderate. Approximately 51 acres within the LBM tracts and 14.5 acres within the LBA tracts have already been disturbed. The Proposed Action will increase the potential for disturbance to nesting and foraging areas by increasing the scale and duration of disturbance.

The SCM has approved plans and procedures in place to minimize impacts to nesting raptors and ensure proper reclamation techniques are implemented to enhance habitat in the postmining landscape for both raptors and their primary prey species. The SCM conducts annual surveys at multiple prairie falcon nest sites throughout the monitoring area and on neighboring lands as part of required and/or voluntary monitoring for this species.

Based on the limited number of nesting raptors within the tracts (in 2022 four pairs of red-tailed hawks were active but only one pair fledged) and the SCM's approved plans and procedures in place to reduce impacts to raptors, the direct and indirect effects related to the Proposed Action on site-specific raptors would be moderate and short term.

Threatened and Endangered Species

There are no listed species or designated critical habitat within the proposed action area. There are three species proposed for listing that have the potential to occur within the action area: Suckley's cuckoo bumble bee (proposed endangered), monarch butterfly (proposed threatened), and Western regal fritillary (proposed threatened). The Proposed Action would result in the surface disturbance of a total of 2,284.5 acres within the SCM permit boundary. The SCM permit area contains limited suitable habitat for these three proposed species.

There are 17 SOC have the potential to occur within the proposed tracts. Of the 17 species, ten species were observed within the wildlife monitoring area in 2023 and 2024.

Any T&E species or SOC within the proposed tracts would be temporarily displaced but mitigation measures in place at SCM would promote the return of these species once reclamation has been completed. In an effort to approximate premining conditions, NTEC would reestablish vegetation types during the reclamation operation that are similar to the premine types. The direct and indirect effects related to the Proposed Action on T&E species and SOC would be moderate and short-term.

Past, Present, and RFFA Impacts[9]

Big Game

Impacts to big game from past, present, and RFFAs could include habitat loss, restrictions in seasonal and daily movement caused by railroads, access roads, and mining operations, poaching, urban development, range overuse, possible lack of water sources, and increased road kills. Past, present, and future recreation within the study area has likely deterred wildlife from highly visited areas. Past, present, and future wildland fires have likely changed or eliminated habitat components in the burn areas. General reclamation practices for establishing or enhancing post-mine wildlife habitat are included in the Reclamation Plans for each mine. In addition, the SCM also has developed a separate HRRP for the GRSG, which is a species of particular interest in the region. Because there is overlap between the big game winter range and the GRSG habitat areas, the reclamation of any GRSG habitat outlined the specific HRRP would fulfill the reclamation requirements for mule deer and pronghorn and would provide quality habitat for big game. The effects to big game related to the Proposed Action considered in the context of the effects of past, present, and RFFAs will be minor.

Upland Game Birds

Impacts to GRSG from past, present, and RFFAs could include habitat loss and restrictions in seasonal and daily movement caused mining operations. The impacts to this resource would primarily be linked to the existing SCM and the adjacent Decker Mine. Past wildland fires likely changed or eliminated habitat components in the burn areas.

A wildlife conservation strategy for the SCM was developed in collaboration with the USFWS, other state and federal agencies, and many other stakeholders in the region that would benefit numerous special interest species, including GRSG. The SCM would implement a variety of conservation measures both on and off-property, with special emphasis in habitats identified as Conservation Priority Areas (e.g., GRSG core areas, occupied short-grass prairie habitats, etc.) throughout the coverage area. These voluntary measures include a wide variety of land management actions that are designed to avoid or minimize impacts, and to restore, enhance, and/or maintain habitat benefiting one or more of the targeted species, including GRSG.

Raptors

Potential impacts to raptors from past, present, and RFFAs include loss of nesting and foraging habitat, collisions with structures and vehicles, nest abandonment and reproductive failure due to increased human activities, reduction in prey populations, and displacement of birds into adjacent areas. Past, present, and future recreation within the study area has likely deterred raptors from highly visited areas. Past wildland fires likely changed or eliminated habitat components in the burn areas. Approved mine permits include regulations specifying mitigation measures for raptors, including minimization of disturbance, reclamation of habitats, and raptor-safe power line construction. The measures specified in mining permits and enforced by MTDEQ ensure compliance with the MBTA, the Bald and Golden Eagle Protection Act, and the ESA, thereby ensuring regional impacts to those protected wildlife species would be minor. Based on this, impacts from the Proposed Action on raptors in the context of past, present, and RFFAs will be minor.

Threatened and Endangered Species and Species of Concern

Past, present, and reasonably foreseeable development of surrounding lands has the potential to result in loss of additional habitat specific to T&E and SOC. The impacts to T&E species and SOC from the

[9] Past, present, and RFFA impacts are provided for information purposes. As noted above, including this information goes beyond the requirements of NEPA because a bureau is required only to consider the effects of its proposed action and not effects from separate projects, activities, or proposed actions.

Proposed Action in the context of past, present and RFFAs would be minor and result in long-term loss of habitat for SOSI.

4. Consultation and Coordination and List of Preparers

4.1 Persons, Groups, and Agencies Consulted

Table 23 and **Table 24** identify BLM and OSMRE staff and consultants used in the preparation of this EA. **Table 25** identifies other Federal and state agencies that were consulted during the preparation of this EA.

Table 23. Bureau of Land Management and Office of Surface Mining Reclamation and Enforcement Staff Participating in the Preparation of this Environmental Assessment

Name	Position	Role
Tessa Wallace	BLM Chief, Branch of Solid Minerals	Project co-lead; geology/water resources
Allison Travers	OSMRE Natural Resource Specialist	Project co-lead
John Zeise	BLM State Geologist	Mining engineering
Courtney Carlson	BLM Archaeologist	Cultural and Tribal Resources
Jeremy Iliff	OSMRE Archaeologist	Cultural and Tribal resources
Amy Stillings	BLM Economist	Socioeconomics
Scott Rickard	BLM Economist	Socioeconomics

Table 24. Environmental Consultants Staff Participating in the Preparation of this Environmental Assessment

Name	Position	Role
Beth Wilson	Project Manager	NEPA oversight and compliance
Joey Sheeley	Permit writer	Air resource author
Rodney Ventling	Drafter	ArcGIS and AutoCadd

Table 25. Federal and State Agencies Consulted in the Preparation of this Environmental Assessment

Name	Position	Role

4.2 Public Involvement, Consultations, and Coordination

Public Involvement

The BLM and OSMRE have made this EA and associated maps available to the public as on August 8, 2025 on the BLM ePlanning website (NEPA number DOI-BLM-MT-0000-2025-0009-EA). The Council on Environmental Quality's regulations implementing NEPA, previously found at 40 C.F.R. Parts 1500–1508 have been rescinded and the BLM and OSMRE are using 43 CFR Part 46 and Part 516 of the Departmental Manual, and the updated DOI NEPA handbook as guidance for this NEPA process. As such, a public scoping period is not required. The BLM and OSMRE held a public hearing on August 15 to allow the public to comment on the Fair Market Value (FMV) and Maximum Economic Recover (MER), and on factors that may affect the FMV and MER determinations of the coal resources contained in the proposed LBA lease tracts. Issues identified through the scoping process that warranted detailed analysis in this EA are described in Section 1.6.

Tribal and National Historic Preservation Act Section 106 Consultation

Consultation is ongoing as of the posting of this EA

U.S. Fish and Wildlife Service Consultation

Consultation is ongoing as of the posting of this EA

5. Literature Cited

Alder, J. R. and S. W. Hostetler, 2013. USGS National Climate Change Viewer. US Geological Survey. Available at: https://doi.org/10.5066/F7W9575T. Accessed April 8, 2025.

Armbruster, M.J. 1990. Characterization of habitat used by whooping cranes during migration. Biological Report 90(4). U.S. Department of the Interior, Fish and Wildlife Service.

Austin, J.E., and A.L. Richert. 2001. A Comprehensive Review of Observational and Site Evaluation Data of Migrant Whooping Cranes in the United States, 1943–1999. Reston, Virginia: U.S. Geological Survey.

Axetel Jr., K., and C. Cowherd Jr. 1984. Improved Emission Factors for Fugitive Dust from Western Surface Coal Mining Sources. Available at: https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=940021Z5.TXT Accessed October 2, 2020.

Brander, M. 2012. Greenhouse Gases, CO_2, CO_2e, and Carbon: What Do All These Terms Mean? Ecometrica, White Papers.

Buckler, J. 2011. Persistent organic pollutant effects on middle Mississippi River Scaphirhynchus sturgeon reproduction and early life stages. Master's thesis. University of Missouri, Columbia.

———. 2004. BLM 8100 Manual Series. Available at https://www.blm.gov/sites/blm.gov/files/Manual%20-%20Foundations%20for%20Managing%20Cultural%20Resources.pdf Accessed April 14, 2020.

———. 2008. BLM National Environmental Policy Act Handbook H-1790-1.

_____. 2015. Official Bureau of Land Management Potential Fossil Yield Classification for the Geologic Formations of Montana, North Dakota, and South Dakota. Billings, Montana: Bureau of Land Management.

_____. 2024a. Miles City Field Office Final Supplemental Environmental Impact Statement and Resource Management Plan Amendment. Available at: https://eplanning.blm.gov/eplanning-ui/project/2021155/570 . Accessed April 4, 2025.

———. 2024b. 2023 BLM Specialist Report on Annual Greenhouse Gas Emissions and Climate Trends. Available at: https://www.blm.gov/content/ghg/. Accessed April 8, 2025.

Christie, K.S., Jensen, W.F., Schmidt, J.H., Boyce, M.S. 2015. Long-term changes in pronghorn abundance index linked to climate and oil development in North Dakota. Biological Conservation 192 (2015) 445-453.

Clayton, L., S.R. Moran, and J.P. Bluemle. 1980. Geologic Map of North Dakota. Scale 1:500,000. U.S. Geological Survey.

Conant, R.T., D. Kluck, M. Anderson, A. Badger, B.M. Boustead, J. Derner, L. Farris, M. Hayes, B. Livneh, S. McNeeley, D. Peck, M. Shulski, and V. Small. 2018. Northern Great Plains. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Vol. II, edited by D.R. Reidmiller, C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart, pp. 941–986. Available at: https://nca2018.globalchange.gov/chapter/22/

Crippa, M., D. Guizzardi, M. Muntean, E. Schaaf, E. Solazzo, F. Monforti-Ferrario, J.G.J Olivier, and E. Vignati. 2020. CO2 emissions of all world countries - 2020 Report, EUR 30358 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-21515-8, doi:10.2760/143674, JRC121460.

Dana, R. 1991. Conservation Management of the Prairie Skippers Hesperia dacotae and Hesperia ottoe. Station Bulletin 594–1991 (AD-SB-5511-S0). St. Paul: Minnesota Agricultural Experiment Station, University of Minnesota.

Dilts, T.E., Steele, M.O., Engler J.D., Pelton E.M., Jepsen S.J., McKnight S.J., Taylor A.R., Fallon C.E., Black S.H., Cruz E.E., Craver D.R., and Forister M.L. 2019. Host Plants and Climate Structure Habitat Associations of the Western Monarch Butterfly. Front. Ecol. Evol. 7:188. doi: 10.3389/fevo.2019.00188

Federal Land Manager Environmental Database. 2025a. IMPROVE Regional Haze Rule II (Visible Trends) data for January 1, 2000 – December 31, 2023. Available at: https://views.cira.colostate.edu/fed/Sites/?appkey=SBA_AqrvVisibility. Accessed April 4, 2025.

———. 2025b. Dry Deposition Summary. CASTNET Total Deposition by Pollutant (Annual) (Dry Nitrogen and Dry Sulfur Composition Data) data for January 1, 2000 – December 31, 2020. Available at: https://views.cira.colostate.edu/fed/Sites/?appkey=SBA_AqrvDryDep. Accessed April 4, 2025.

———. 2025c. Wet Deposition Summary. NADP National Trends Network – Precipitation-Weighted Means (Wet Nitrate and Wet Sulfate Trends) data for January 1, 1982 – December 31, 2023. Available at: https://views.cira.colostate.edu/fed/Sites/?appkey=SBA_AqrvWetDep. Accessed April 4, 2025.

Federal Register. Endangered and Threatened Wildlife and Plants: Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule. *Federal Register* 80(63):17974–18033

Federal Register. Endangered and Threatened Wildlife and Plants: 4(d) Rule for the Northern Long-Eared Bat. *Federal Register* 81(9):1900-1922

Federal Register. Endangered and Threatened Wildlife and Plants; Endangered Species Status for Suckley's Cuckoo Bumble Bee. *Federal Register* 89(242): 102074-102091

Federal Register. Endangered and Threatened Wildlife and Plants; Threatened Species Status With Section 4(d) Rule for Monarch Butterfly and Designation of Critical Habitat. *Federal Register* 89(239):100662-100716

Federal Register. Endangered and Threatened Wildlife and Plants; Endangered Status for the Eastern Regal Fritillary and Threatened Status with Section 4(d) Rule for the Western Regal Fritillary. Federal Register 89(151): 63888-63909

Federal Register. Regional Haze Regulations. Federal Register 64 (126): 35714 July 1, 1999

Feinberg, A., Selin, N. E., Braban, C. F., Chang, K. L., Custódio, D., Jaffe, D. A., Kyllönen, K., Landis, M. S., Leeson, S. R., Luke, W., Molepo, K. M., Murovec, M., Nerentorp Mastromonaco, M. G., Aspmo Pfaffhuber, K., Rüdiger, J., Sheu, G. R., & St Louis, V. L. 2024. Unexpected anthropogenic emission decreases explain recent atmospheric mercury concentration declines. *Proceedings of the National Academy of Sciences of the United States of*

America, *121*(42), e2401950121. Available at: https://doi.org/10.1073/pnas.2401950121. Accessed April 7, 2025.

Fox, L. B., A. A. Arsenault, C. E. Brewer, L. H. Carpenter, B. Jellison, J. A. Jenks, W. F. Jensen, T. W. Keegan, D. J. Kraft, D. W. Lutz, C. L. Richardson, B. D. Trindle, A. P. Schmidt, and T. S. Stivers. 2009. Habitat Guidelines for Mule Deer: Great Plains Ecoregion. Mule Deer Working Group, Western Association of Fish and Wildlife Agencies.

———. 2021. Great River Energy CCR Rule Compliance Data and Information. Available at: https://ccr.greatriverenergy.com/ Accessed January 2021.

Hayhoe, K., D.J. Wuebbles, D.R. Easterling, D.W. Fahey, S. Doherty, J. Kossin, W. Sweet, R. Vose, and M. Wehner. 2018. Our changing climate. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Vol. II, edited by D.R. Reidmiller, C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart, pp. 72–144, doi:10.7930/NCA4.2018.CH2. Available at: https://nca2018.globalchange.gov/chapter/2/ Accessed October 1, 2020.

Johns, B.W., E.J. Woodsworth, and E.A. Driver. 1997. Habitat use by migrant whooping cranes in Saskatchewan. In Proceedings of the Seventh North American Crane Workshop, edited by R.P. Urbanek and D.W. Stahlecker, pp. 123–131.

Jones, J.N., Jr., and J.R. Choate. 1978. Distribution of two species of long-eared bats of the genus Myotis on the Northern Great Plains. Prairie Naturalist 10(2):49–52.

Kirchgessner, D.A., S.D. Piccot, and S.S. Masemore. 2000. An Improved Inventory of Methane Emissions from Coal Mining in the United States. Available at: https://www3.epa.gov/ttnchie1/ap42/ch14/related/mine.pdf Accessed October 2, 2020.

Kirchgessner, D.A., S.D. Piccot, and S.S. Masemore. 2000. An Improved Inventory of Methane Emissions from Coal Mining in the United States. *Journal of the Air and Waste Management Association* 1–48. Available at: https://www3.epa.gov/ttnchie1/ap42/ch14/related/mine.pdf Accessed October 2, 2020.

Knapp, C.N., D.R. Kluck, G. Guntenspergen, M.A. Ahlering, N.M. Aimone, A. Bamzai-Dodson, A. Basche, R.G. Byron, O. Conroy-Ben, M.N. Haggerty, T.R. Haigh, C. Johnson, B. Mayes Boustead, N.D. Mueller, J.P. Ott, G.B. Paige, K.R. Ryberg, G.W. Schuurman, and S.G. Tangen. 2023. Ch. 25: Northern Great Plains. *Fifth National Climate Assessment*. Available at: https://doi.org/10.7930/NCA5.2023.CH25 . Accessed April 7, 2025.

Larsen, J., B. King, H. Kolus, N. Dasari, G. Hiltbrand, and W. Herndon. 2022. A Turning Point for US Climate Progress: Assessing the Climate and Clean Energy Provisions in the Inflation Reduction Act. Available at: https://rhg.com/research/climate-clean-energy-inflation-reduction-act/

Lee, A., Kinney, P., Chillrud, S., Jack, D., 2015. A systematic review of innate immunomodulatory effects of household air pollution secondary to the burning of biomass fuels. Ann Glob Health 81 (3), 368e374. https://doi.org/10.1016/j.aogh.2015.08.006

Lignite Energy Council. 2020. Mines & Plants. Available at: https://lignite.com/mines-plants/ Accessed September 30, 2020.

Lowe, J.A., and D. Bernie. 2018. The impact of Earth system feedbacks on carbon budgets and climate response. Philosophical Transactions of the Royal Society A – Mathematical, Physical and

Engineering Science. 376. doi: 10.1098/rsta.2017.0263. Available at: http://rsta.royalsocietypublishing.org/content/376/2119/20170263.

Marvel, K., W. Su, R. Delgado, S. Aarons, A. Chatterjee, M.E. Garcia, Z. Hausfather, K. Hayhoe, D.A. Hence, E.B. Jewett, A. Robel, D. Singh, A. Tripati, and R.S. Vose. 2023. Ch. 2: Climate trends. *Fifth National Climate Assessment*. Available at: https://doi.org/10.7930/NCA5.2023.CH2. Accessed April 7, 2025.

McNab, W.H., and P.E. Avers. 1994. Ecological Subregions of the United States. Washington, D.C.: U.S. Department of Agriculture, U.S. Forest Service.

Merrill, M.D., B.M. Sleeter, P.A. Freeman, J. Liu, P.D. Warwick, and B.C. Reed. 2018. Federal Lands Greenhouse Emissions and Sequestration in the United States—Estimates for 2005–14. Scientific Investigations Report 2018-5131. Reston, Virginia: U.S. Geological Survey.

Midwest Ag Energy. 2020. Blue Flint Facility. Available at: https://www.midwestagenergy.com/story-midwest-agenergys-blue-flint-facility-advancing-co2-project-receives-34-million-grant-375-204078 Accessed January 2020.

Midwestern Regional Climate Center (MRCC). 2025. cli-MATE: the MRCC's Application Tools Environment. Available at: https://www.mrcc.purdue.edu/CLIMATE/. Accessed April 7, 2025.

Millar, J.D., J.S. Fuglestvedt, P. Friedlingstein, J. Rogelj, M.J. Grubb, H.D. Matthews, R.B. Skeie, P.M. Forster, D.J. Frame, and M.R. Allen. 2017. Emission budgets and pathways consistent with limiting warming to 1.5 °C. Nature Geoscience 10:741–747. doi:10.1038/ngeo3031. Available at: https://www.nature.com/articles/ngeo3031 Accessed February 12, 2023.

Minnkota Power Cooperative. 2020. Milton R. Young Station. Available at: https://news.minnkota.com/post/milton-r-young-station-celebrates-50-years-of-power . Accessed April 4, 2025.

National Atmospheric Deposition Program (NADP). 2015. NADP: Keeping You Connected, Issue 5, November. Available at: https://nadp2.slh.wisc.edu/newsletter/nl5/ . Accessed April 4, 2025.

_____. 2023. Annual MDN Maps. 2023. Available at: https://nadp.slh.wisc.edu/maps-data/mdn-gradient-maps/ . Accessed April 4, 2025.

_____. 2023. Period of July 1, 2011, through June 30, 2023. Biennial Report. Available at: https://www.psc.nd.gov/public/newsroom/biennialreport/PSC%20Biennial%20Report%202023-Final.pdf Accessed May 21, 2025.

_____. 2020. Case Search. Available at: https://www.psc.nd.gov/database/company_case_list.php Accessed September 30, 2020.

Office of Natural Resources Revenue (ONRR). 2022a. Federal Revenue by Location. Available at: https://revenuedata.doi.gov/downloads/revenue/ Accessed May 2023.

_____. 2022b. Federal Revenue by Company. Available at: https://revenuedata.doi.gov/downloads/federal-revenue-by-company/ Accessed May 2023.

Peters, K., and Otis, D. 2007. Shorebird roost-site selection at two temporal scales: Is human disturbance a factor? Journal of Applied Ecology 44:196–209.

Phillips, R.L., D.E. Biggins, and A.B. Hoag. 1986. Coal surface mining and selected wildlife – A 10-Year case study near Decker, Montana. In Proc II: Issues and Technology in the Management of Impacted Western Wildlife, edited by R.L. Comer, D.E. Biggins, and A.B. Hoag, pp. 235–245.

Thorne Ecological Institute, Boulder, Colorado. Available at: https://www.aphis.usda.gov/wildlife_damage/nwrc/publications/87pubs/phillips872.pdf Accessed July 24, 2019.

Project Tundra. 2020. Capturing CO2. Available at: https://www.projecttundrand.com/ Accessed January 2021.

Ramboll. 2023. Bureau of Land Management Cumulative Hazardous Air Pollutants Modeling – Final Report Cumulative HAPs. Available at: https://eplanning.blm.gov/public_projects/1505069/200366341/20101775/251001775/BLM%20Cumulative%20HAPs%20Modeling%20Final%20Report_508.pdf. Accessed April 4, 2025.

Ramboll Environ. 2024. *Bureau of Land Management North Dakota Resource Management Plan/Environmental Impact Statement.* Air Quality Technical Support Document. March 2024 https://eplanning.blm.gov/public_projects/1505069/200366341/20117021/251017001/AQTSD%20NDRMP%206March2024_508.pdf

_____. 2024b. Bureau of Land Management Western US Photochemical Air Quality Modeling for 2032. Available at: https://eplanning.blm.gov/public_projects/1505069/200366341/20127269/251027249/BLM%20Western%20US%20Photochemical%20Air%20Quality%20Modeling%20for%202032.pdf . Accessed April 4, 2025.

Rivera, A., S. Movalia, and E. Rutkowski. 2024. Rhodium Group: Global Greenhouse Gas Emissions: 1990-2022 and Preliminary 2023 Estimate. November 26, 2024. Available at: https://rhg.com/research/global-greenhouse-gas-emissions-1990-2022-and-preliminary-2023-estimates/ . Accessed April 8, 2025.

Rogelj, J., P.M. Forster, E. Kriegler, C.J. Smith, and R. Séférian. 2019. Estimating and tracking the remaining carbon budget for stringent climate targets. Nature 571:335–342. doi:10.1038/s41586019-1368-z. Available at: https://www.nature.com/articles/s41586-019-1368-z

Royer, R.A., R.A. McKenney, and W.E. Newton. 2008. A characterization of non-biotic environmental features of prairies hosting the Dakota Skipper (Hesperia dacotae, Hesperiidae) across its remaining U.S. range. Journal of the Lepidopterists Society 62:1–17.

Royer, R.A., M.R. Royer, and E.A. Royer. 2014. Dakota Skipper Field Survey and Habitat Assessment at Twelve North Dakota Sites During the 2014 Season. Submitted to Twin Cities Field Office, U.S. Fish and Wildlife Service, Bloomington, Minnesota. Minot, North Dakota: Minot State University.

Ruelle, R., and K.D. Keenlyne. 1994. Contaminants in Missouri River pallid sturgeon. Bulletin of Environmental Contamination and Toxicology 50.6:898–906.

Stewart, R.E., and H.A. Kantrud. 1971. Classification of Natural Ponds and Lakes in the Glaciated Prairie Region. U.S. Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife.

SWCA Environmental Consultants (SWCA). 2020. Lila Canyon Lease Modifications Environmental Assessment. Appendix D. Prepared for the Bureau of Land Management. On file at SWCA Environmental Consultants, Salt Lake City, Utah.

Thorp, R. W., D. S. Horning, and L. L. Dunning. 1983. Bumble bees and cuckoo bumble bees of California (Hymenoptera, Apidae). Volume 23. University of California Press, Berkeley, CA, USA.

United Nations. 2023. The Paris Agreement. Available at: https://www.un.org/en/climatechange/paris-agreement Accessed January 31, 2023.

United Nations Framework Convention on Climate Change (UNFCCC). 2024. The United States of America Nationally Determined Contribution. Reducing Greenhouse Gases in the United States: A 2035 Emissions Target. Available at: https://unfccc.int/sites/default/files/2024-12/United%20States%202035%20NDC.pdf .https://unfccc.int/sites/default/files/NDC/2022-06/United States NDC April 21 2021 Final.pdf Accessed April 8, 2025.

U.N. Environmental Programme (UNEP). 2019. U.N. Environment Programme Emissions Gap Report 2019. Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/30798/EGR19ESEN.pdf?sequence=13 Accessed October 2, 2020.

———. 2021. Emissions Gap Report 2021. United Nations Environment Programme. Available at: https://www.unep.org/resources/emissions-gap-report-2021 Accessed May 15, 2023

U.S. Energy Information Administration (EIA). 2023. Annual Energy Outlook 2023. Energy Consumption by Sector and Source. Available at: https://www.eia.gov/outlooks/aeo/data/browser/ .Accessed ?April 4, 2025.

———. 2025a. Coal Data Browser: Shipments of Coal to Electric Power Sector by mine/plant. Coal Creek. Available at: https://www.eia.gov/coal/data/browser/#/shipments/plant/6030/?freq=A&pin=. Accessed April 4, 2025.

U.S. Environmental Protection Agency (EPA). 1988. Control of Open Fugitive Dust Sources. EPA-450/3-88-008. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi/91010T54.PDF?Dockey=91010T54.PDF

U.S. Environmental Protection Agency (EPA). 1998a. Chapter 11: Mineral Products Industry, Section 11.9 – Western Surface Coal Mining. In Compilation of Air Pollutant Emissions Factors. Volume I: Stationary Point and Area Sources. AP-42, 5th ed. Available at: https://www3.epa.gov/ttn/chief/ap42/ch11/final/c11s09.pdf Accessed October 2, 2020.

U.S. Environmental Protection Agency (EPA). 1998b. Chapter 1: External Combustion Sources, Section 1.7 – Lignite Combustion. In Compilation of Air Pollutant Emissions Factors. Volume I: Stationary Point and Area Sources. AP-42, 5th ed. Available at: https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s07.pdf Accessed October 2, 2020.

U.S. Environmental Protection Agency (EPA). 2001. Visibility in Mandatory Federal Class I Areas A (1994-1998). EPA-452/R-01-008. Available at: https://www.epa.gov/visibility/visibility-report-congress-november-2001 Accessed September 29, 2020.

U.S. Environmental Protection Agency (EPA). 2006. Chapter 13: Miscellaneous Sources, Section 13.2.2. Unpaved Roads. In Compilation of Air Pollutant Emissions Factors. Volume I: Stationary Point and Area Sources. AP-42, 5th ed. Available at: https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s0202.pdf Accessed October 2, 2020.

U.S. Environmental Protection Agency (EPA).2008. Model-Based Analysis and Tracking of Airborne Mercury Emissions to Assist in Watershed Planning. Available at: https://www.epa.gov/sites/production/files/2015-09/documents/2008_10_28_tmdl_pdf_final300report_10072008.pdf. Accessed April 4, 2025.

U.S. Environmental Protection Agency (EPA). 2011a. Chapter 13: Miscellaneous Sources, Section 13.2.1. Paved Roads. In Compilation of Air Pollutant Emissions Factors. Volume I: Stationary Point and Area Sources. AP-42, 5th ed. Available at: https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s0201.pdf Accessed October 2, 2020.

U.S. Environmental Protection Agency (EPA). 2011b. Revised Technical Support Document: National-Scale Assessment of Mercury Risk to Populations with High Consumption of Self-caught Freshwater Fish. In Support of the Appropriate and Necessary Finding for Coal- and Oil-Fired Electric Generating Units. EPA-452/R-11-009. Available at: https://www3.epa.gov/ttn/atw/utility/revisedmercurytsd.pdf Accessed October 14, 2020.

———. 2024a. NAAQS Table. Available at: https://www.epa.gov/criteria-air-pollutants/naaqs-table . Accessed April 4, 2025.

———. 2024b. Air Quality Design Values. Available at: https://www.epa.gov/air-trends/air-quality-design-values. Accessed April 4, 2025.

———. 2024c. Mercury and Air Toxics Standards for Coal-Fired Power Plants: Review of the 2020 Residual Risk and Technology Review (RTR) Final Rule. Available at: https://www.epa.gov/system/files/documents/2024-04/presentation_mats_final-2024-4-24-2024.pdf. Accessed April 4, 2025.

———. 2024d. 2020 National Emissions Inventory (NEI) Data. Available at: https://www.epa.gov/air-emissions-inventories/2020-nei-supporting-data-and-summaries . Accessed April 4, 2025.

———. 2024e. 2020 AirToxScreen: Assessment Results . Available at: https://www.epa.gov/AirToxScreen/2020-airtoxscreen-assessment-results . Accessed April 4, 2025.

———. 2024f. New Source Review (NSR) Permitting. Prevention of Significant Deterioration Basic Information. Available at: https://www.epa.gov/nsr/prevention-significant-deterioration-basic-information. Accessed April 4, 2025.

———. 2024g. Climate Change Science: Basics of Climate Change. Available at: https://www.epa.gov/climatechange-science/basics-climate-change . Accessed April 7, 2025.

———. 2024h. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022. U.S. Environmental Protection Agency, EPA 430-R-24-004. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-andsinks-1990-2022 . Accessed April 7, 2025.

———. 2024i. Greenhouse Gas Reporting Program FLIGHT. Available at: https://ghgdata.epa.gov/ghgp/main.do . Accessed April 7, 2025.

———. 2025a. Green Book. National Area and County-Level Multi-Pollutant Information. Available at: https://www3.epa.gov/airquality/greenbook/anayo_ak.html . Accessed April 4, 2025.

———. 2025b. What is Acid Rain? Available at: https://www.epa.gov/acidrain/what-acid-rain. Accessed April 4, 2025.

———. 2025c. AirToxScreen Frequent Questions . Available at: https://www.epa.gov/AirToxScreen/airtoxscreen-frequent-questions . Accessed April 4, 2025.

———. 2025d. Latest Version of Motor Vehicle Emission Simulator (MOVES). Available at: https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves . Accessed April 4, 2025.

———. 2025e. Greenhouse Gas Emissions. Overview of Greenhouse Gases. Available at: https://www.epa.gov/ghgemissions/overview-greenhouse-gases. Accessed April 7, 2025.

———. 2025f. Greenhouse Gas Emissions. Understanding Global Warming Potentials. Available at: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials. Accessed April 7, 2025.

U.S. Fish and Wildlife Service (USFWS). 2007. International Recovery Plan for the Whooping Crane. Ottawa, Ontario: Recovery of Nationally Endangered Wildlife (RENEW); Albuquerque, New Mexico: U.S. Fish and Wildlife Service.

U.S. Fish and Wildlife Service (USFWS) 2014. Revised Recovery Plan for the Pallid Sturgeon (Scaphirhynchus albus). Available at: https://www.fws.gov/mountain-prairie/es/species/fish/pallidsturgeon/RecoveryPlan 2014.pdf.

U.S. Fish and Wildlife Service (USFWS). 2019a. Whooping Crane Tracking Project database. Nebraska [ER1] Ecological Services Office.

U.S. Fish and Wildlife Service (USFWS). 2019b. Recovery Outline for the Rufa Red Knot (Calidris canutus rufa). Available at: https://ecos.fws.gov/docs/recovery_plan/20190409%20Red%20Knot%20Recovery%20Outline%20final%20signed.pdf .

U.S. Fish and Wildlife Service (USFWS). 2020a. Endangered Species Act Section 7 Consultation Final Programmatic Biological Opinion and Conference Opinion on the U.S. Department of the Interior Office of Surface Mining Reclamation and Enforcement's Surface Mining Control and Reclamation Act Title V Regulatory Program. Available at: https://www.osmre.gov/sites/default/files/2022-01/Final-BiOp-OSMRE-SMCRA-Title-V-Regulatory-Program-101620.pdf

U.S. Fish and Wildlife Service (USFWS). 2020b. Midwest Endangered Species. Northern Long-eared Bat Myotis Septentrionalis. Available at: https://www.fws.gov/midwest/endangered/mammals/nleb/nlebFactSheet.html

U.S. Fish and Wildlife Service (USFWS). 2020d. Piping Plover (Charadrius melodus) 5-Year Review: Summary and Evaluation. Available at: https://ecos.fws.gov/docs/five_year_review/doc6378.pdf

U.S. Forest Service, National Park Service, and U.S. Fish and Wildlife Service. 2010. Federal Land Managers' Air Quality Related Values Work Group (FLAG): Phase I Report—Revised (2010). Natural Resource Report NPS/NRPC/NRR—2010/232. Available at: https://npshistory.com/publications/air-quality/flag-2010.pdf

U.S. Geological Survey (USGS). 1996. Ecoregions of North and South Dakota. Available at: https://store.usgs.gov/assets/MOD/StoreFiles/Ecoregion/21629_nd_sd_front.pdf

U.S. Geological Survey (USGS) Gap Analysis Project (GAP). 2018. Protected Areas Database of the United States (PAD-US). U.S. Geological Survey data release. Available at: https://doi.org/10.5066/P955KPLE Accessed March 2025.

Webb, M., D. Papoulias, D. Rouse, S. Alexander, M. Annis, M. Coffey, K. Johnson, A. Kenny, M. McKee, L. Mena, K. Nelson, and M. Schwarz. 2019. Pallid sturgeon basin-wide contaminants assessment. U.S. Fish and Wildlife Service, U.S. Geological Survey, and Missouri Department of Conservation. Available at: https://pallidsturgeon.org/wp-content/uploads/2019/12/FINAL-Pallid-Sturgeon-Contaminants-Assessment-8-March-2019.pdf

Western Regional Air Partnership (WRAP). 2006. WRAP Fugitive Dust Handbook. Available at: https://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf Accessed October 1, 2020

Williams, P. H, R. Thorp, L. L. Richardson, and S. R. Colla. 2014. Bumble Bees of North America: An Identification Guide: An Identification Guide. Princeton University Press. Princeton, NJ, USA. https://www.researchgate.net/publication/259460549_Bumble_Bees_of_North_America_An_Identification_Guide

Zachmeier, T. 2020. Biologist, Bureau of Land Management. Discussion of landscape characteristics in the vicinity of the project area. Telephone communication.

Zhang, Y., D.J. Jacob, H.M. Horowitz, L. Chen, H.M. Amos, D.P. Krabbenhoft, F. Slemr, V.L. St. Louis, and E.M. Sunderland. 2016. Observed decrease in atmospheric mercury explained by global decline in anthropogenic emissions. Proceedings of the National Academy of Sciences of the United States of America 113(3):526–531. Available at: https://www.pnas.org/doi/10.1073/pnas.1516312113 . Accessed April 4, 2025.