

Westmoreland Rosebud Mine Area F

Draft Supplemental Environmental Impact Statement

Project Overview and Current Operations

Project Overview

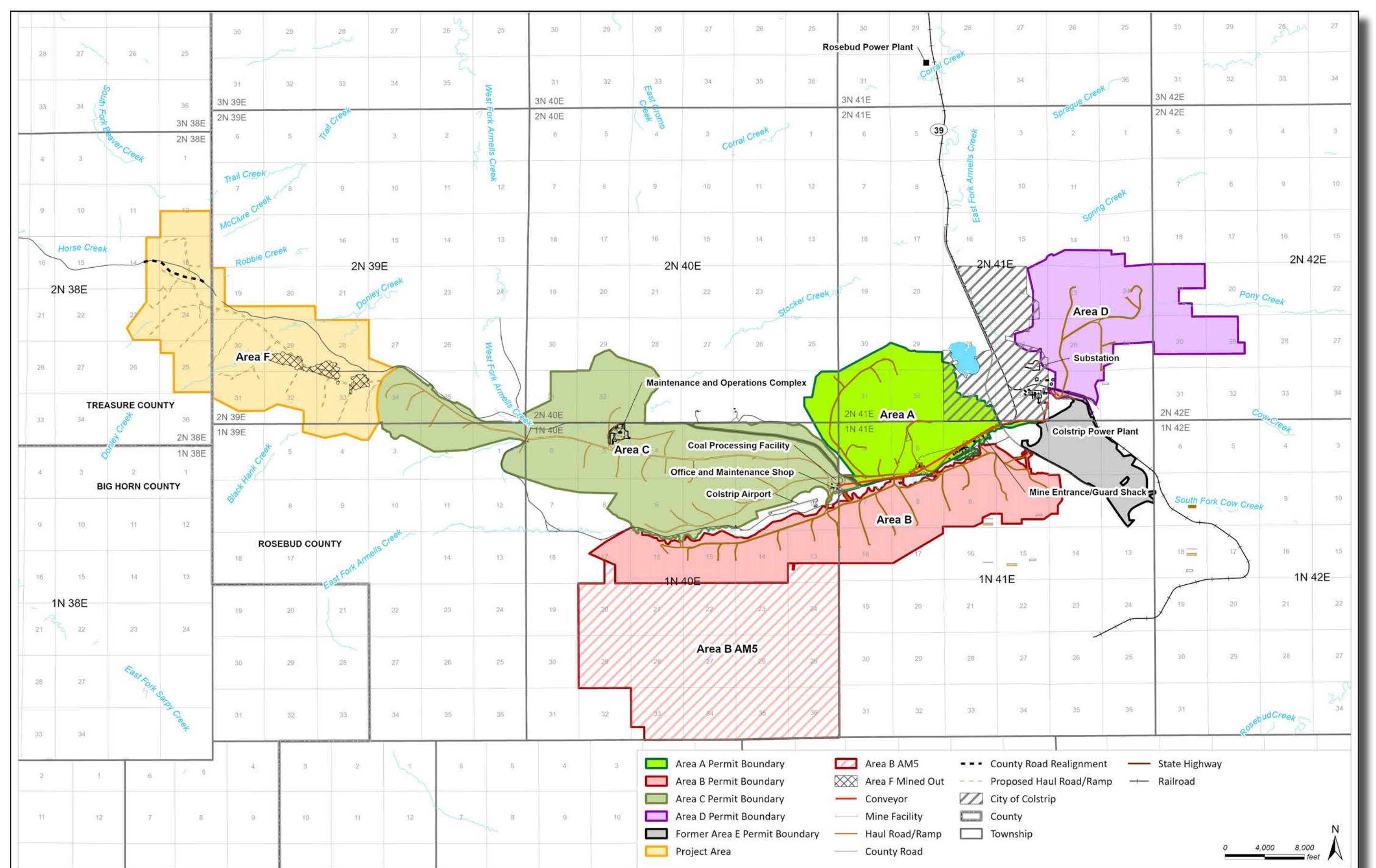
Area F (6,773 acres of private and public land in Rosebud and Treasure Counties) is one of several active permit areas of the Rosebud Mine (40,127 acres), a surface coal mine that is operated by Westmoreland Rosebud, LLC.

- Coal mining in Area F began in 2020 pursuant to:
 1. An approved Federal mining plan, which authorized mining in Federal Coal Lease MTM 082186 (947.6 acres), and
 2. State operating permit C2011003F, which also authorized mining in private coal leases 1001 and 1001-A.
- Coal from Area F is sent by conveyor to the Colstrip Steam Electric Station (Colstrip Power Plant) for combustion in Units 3 and 4.
- High-sulfur “waste coal” from Area F is sent by truck to the Rosebud Power Plant.

Current Area F Operations

As of December 2023:

- 582 acres have been disturbed; 494 acres of that disturbance is due to active mining, and the remainder is due to site development, such as roads and soil and/or spoil stockpiles.
- Approximately 8.5 million tons of coal have been mined from Area F and sold to the Colstrip Power Plant and the Rosebud Power Plant.



Why Is a Supplemental Environmental Impact Statement Needed?

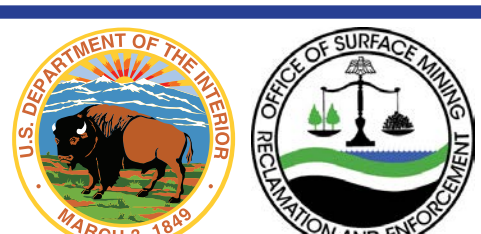
1. To address a 2022 order issued by the United States District Court for the District of Montana (*Montana Env't Info. Ctr. v. Haaland*, No. CV 19-130-BLG-SPW, 2022 U.S. Dist. LEXIS 179417). The District Court identified deficiencies in the 2018 *Western Energy Area F Final Environmental Impact Statement*, and the Supplemental Environmental Impact Statement remedies the following:
 - a) inadequate surface water cumulative impacts analysis,
 - b) inadequate greenhouse gas emissions analysis,
 - c) inadequate analysis of indirect effects of mine expansion on water withdrawals from the Yellowstone River, and
 - d) failure to analyze a reasonable range of alternatives
2. To update and supplement analyses related to potential impacts on other resources as determined necessary by the Office of Surface Mining Reclamation and Enforcement (OSMRE), pursuant to the National Environmental Policy Act.

Decision to Be Made

An alternative will be selected that (1) acknowledges the valid existing rights granted by the Bureau of Land Management to Westmoreland Rosebud, LLC to mine Federal Coal Lease MTM 082186 in Area F while (2) protecting the environment and (3) complying with applicable laws, regulations, and policies.

OSMRE will make a recommendation, which will be documented in a Record of Decision, to the U.S. Department of the Interior's Assistant Secretary for Land and Minerals Management (ASLM). The ASLM will act on OSMRE's recommendation and make a decision, which will be documented in a Mining Plan Decision Document. The ASLM will decide to:

- approve a mining plan to allow continued mining of MTM 082186 (Proposed Action),
- deny a mining plan to allow continued mining of MTM 082186 (No Action), or
- conditionally approve a mining plan based on a preferred alternative.



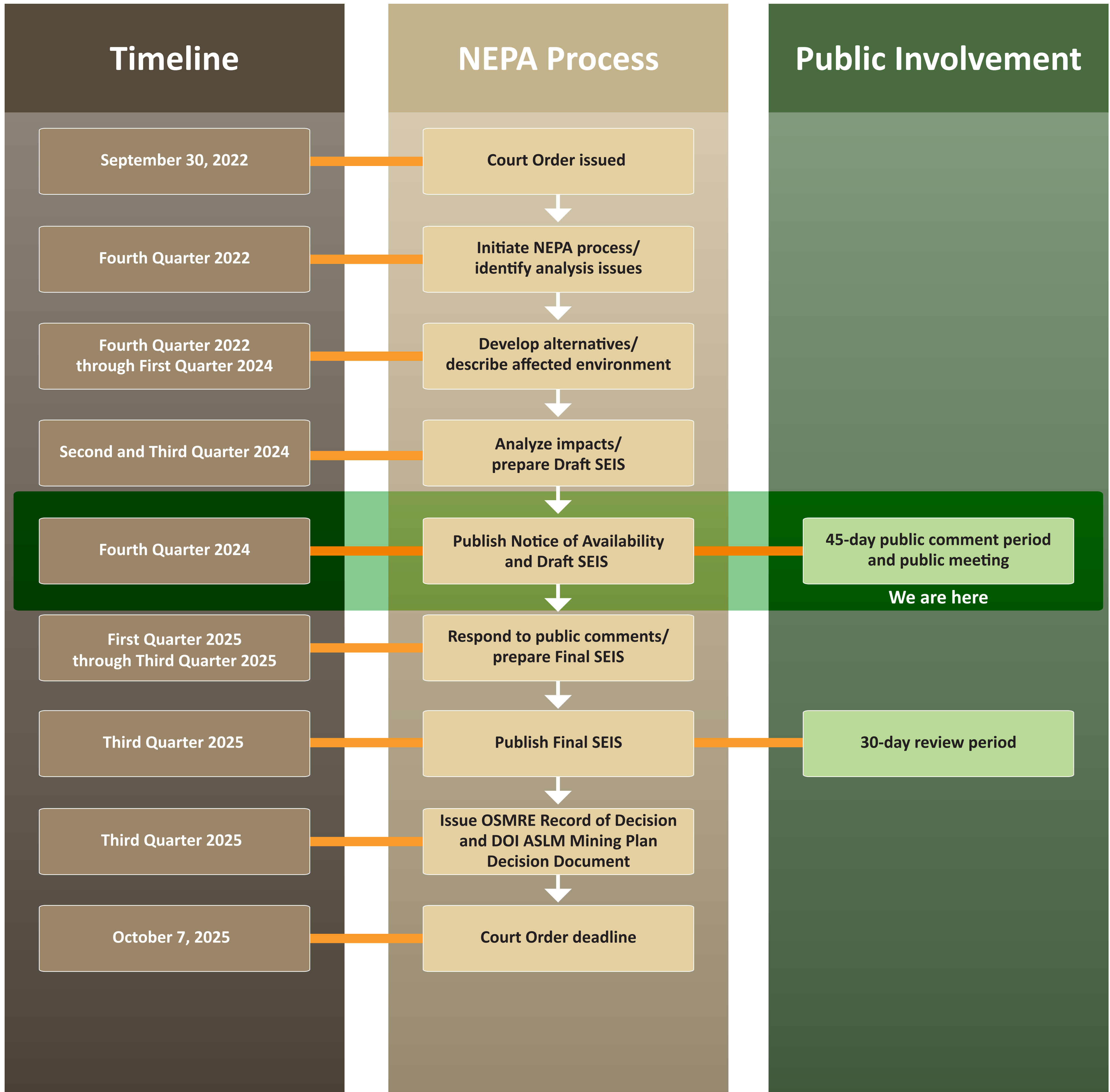
Westmoreland Rosebud Mine Area F

Draft Supplemental Environmental Impact Statement

The National Environmental Policy Act (NEPA) requires federal agencies to integrate environmental values into their decision-making processes by considering and disclosing to the public the environmental impacts of their proposed actions and reasonable alternatives to those actions.

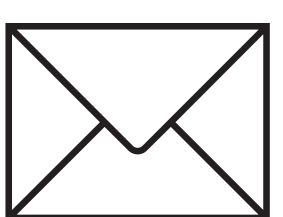
The Office of Surface Mining Reclamation and Enforcement (OSMRE) has prepared the Rosebud Mine Area F Supplemental Environmental Impact Statement (SEIS) in compliance with NEPA.

The Draft is available for public review and comment through January 21, 2025 . **Please scan QR code to access OSMRE NEPA Projects.**

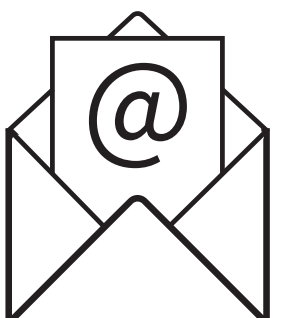


Submitting Comments

- You are invited to provide substantive comments on the Draft SEIS using the methods listed below. All comments must be received or postmarked by January 21, 2025 to be considered.
- All comments received are part of the public record and will be available for public viewing.



Mail: Hard-copy Draft SEIS comments can be mailed to:
ATTN: Rosebud Mine Area F Mining Plan Modification SEIS
C/O: Roberta Martínez Hernández, OSMRE Regions 5, 7-11
P.O. Box 25065
Denver, CO 80225-0065



Email: Draft SEIS comments can be emailed to:
rosebudmineareafseis@erosources.com
Please include the subject line:
ATTN: Rosebud Mine Area F Mining Plan Modification SEIS.



Westmoreland Rosebud Mine Area F

Draft Supplemental Environmental Impact Statement

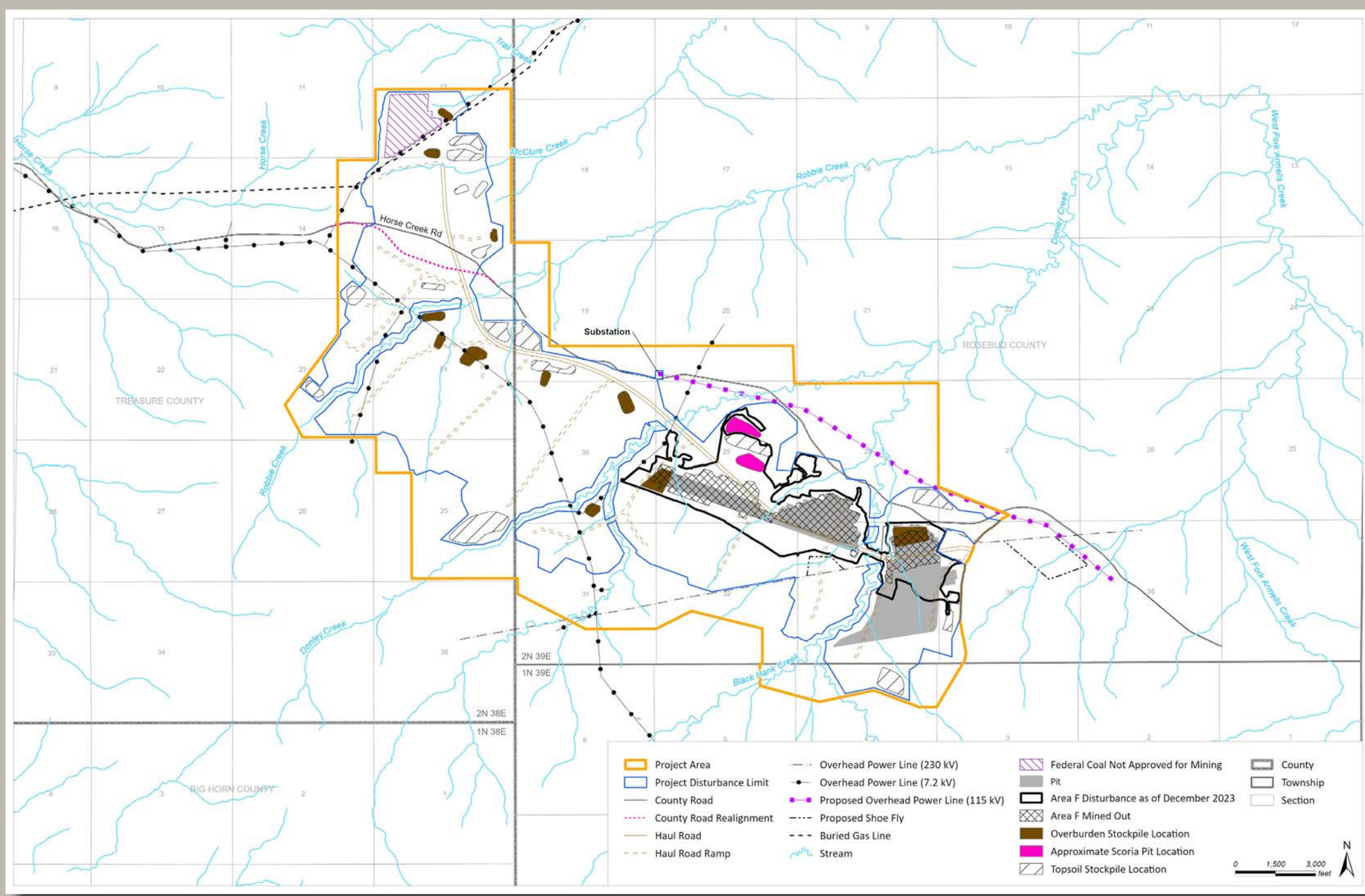
Project Alternatives

Three alternatives are analyzed in the Supplemental Environmental Impact Statement (SEIS; **blue rows** in the table below). For each alternative:

- The mining method, means of protecting the hydrologic balance, monitoring plans, mitigation plans, and reclamation plan would be consistent with those approved under the current Federal mining plan and state operating permit C2011003F.
- Mining would be prohibited in 74 acres of Federal coal in the Trail Creek drainage to prevent material damage outside of the Area F permit area.

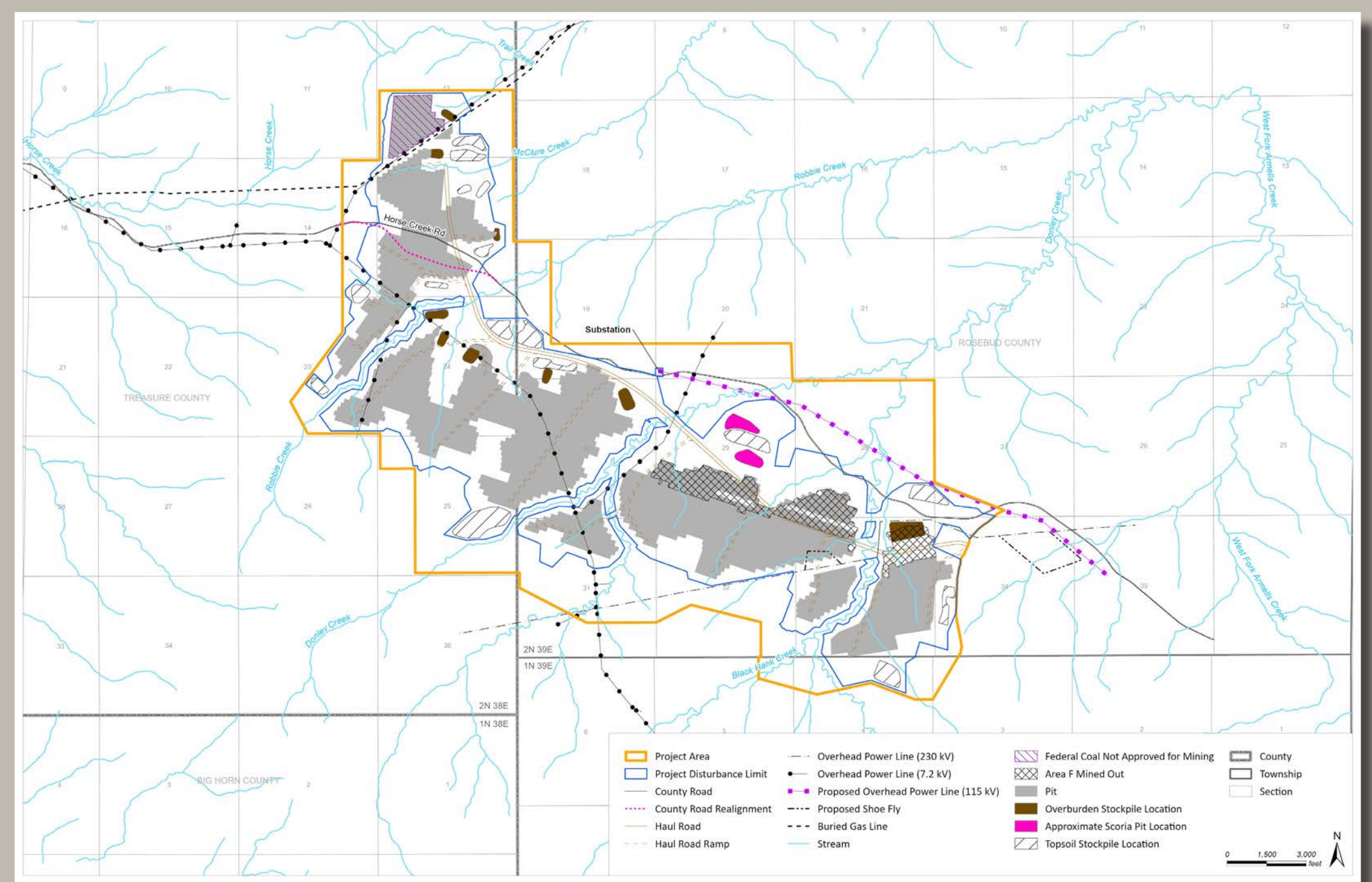
The primary differences among the alternatives are (1) total disturbance, (2) tons of coal mined, and (3) duration of mining in the project area.

Alternative	Area F Permit Area	Area F total disturbance area	Coal recovery	Last year of mining
Alternative 1 – No Action (updated in the SEIS)	6,773 acres	1,021 acres	17.1 million tons	2025
Alternative 2 – 2018 Final EIS Proposed Action	6,746 acres	4,260 acres	70.8 million tons	2039
Alternative 3 – Proposed Action Plus Environmental Protection Measures	6,746 acres	4,260 acres	70.8 million tons	2039
Alternative 4 – Proposed Action (Current Federal Mining Plan)	6,773 acres	4,288 acres	71.3 million tons	2039
Alternative 5 – Partial Mining Alternative	6,773 acres	2,495 acres	37.1 million tons	2030

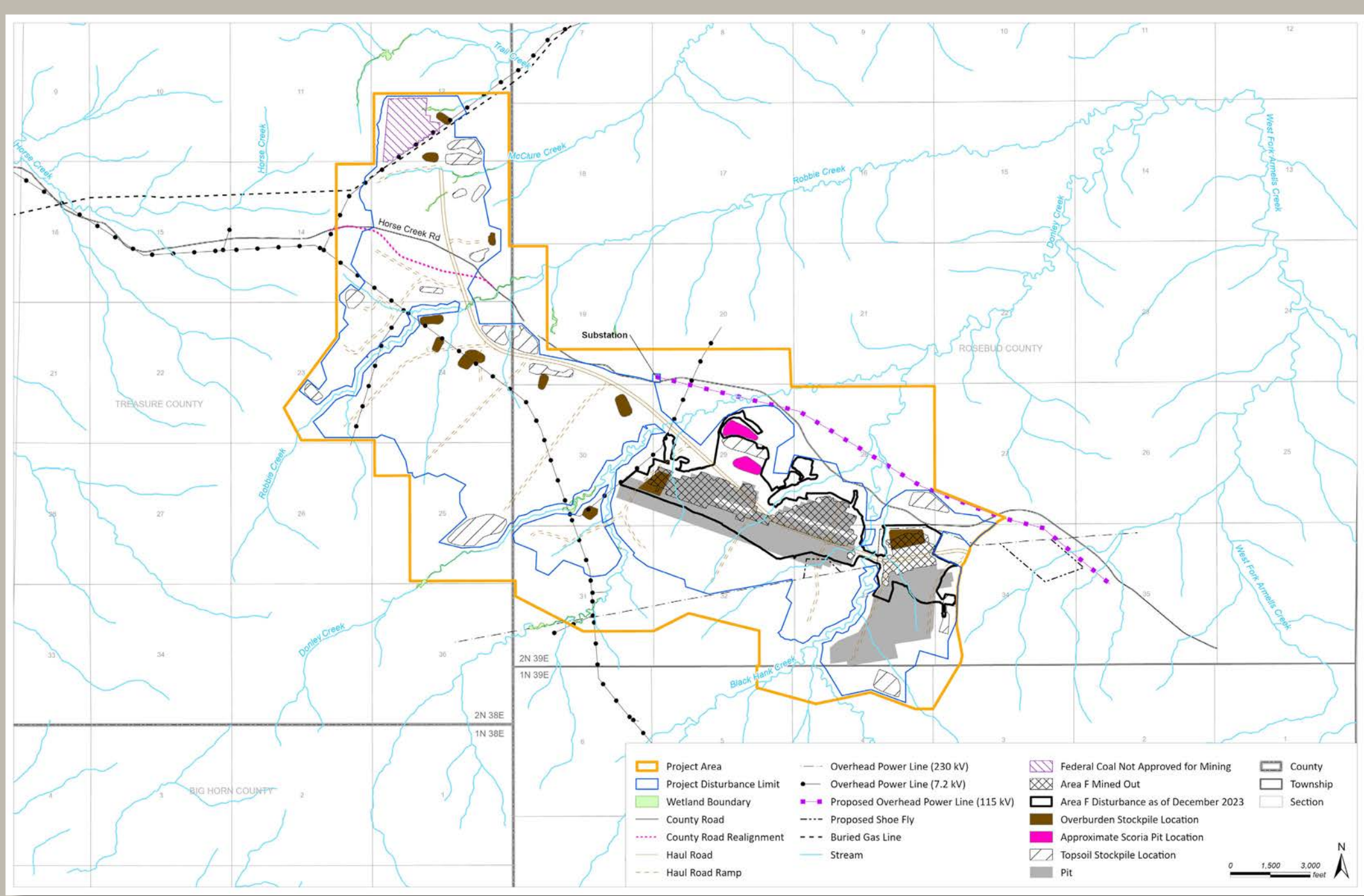


Alternative 1 – No Action

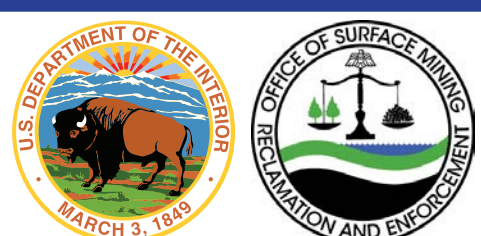
Note: Under Alternative 1 – No Action or Alternative 5 – Partial Mining Alternative, Westmoreland Rosebud would not fully develop or maximize economic recovery of coal from Federal Coal Lease MTM 082186. Selection of either of these two alternatives may require revisions to state operating permit C2011003F. Any revisions needed would be determined by the Montana Department of Environmental Quality.



Alternative 4 – Proposed Action (Current Federal Mining Plan)



Alternative 5 – Partial Mining Alternative



Westmoreland Rosebud Mine Area F

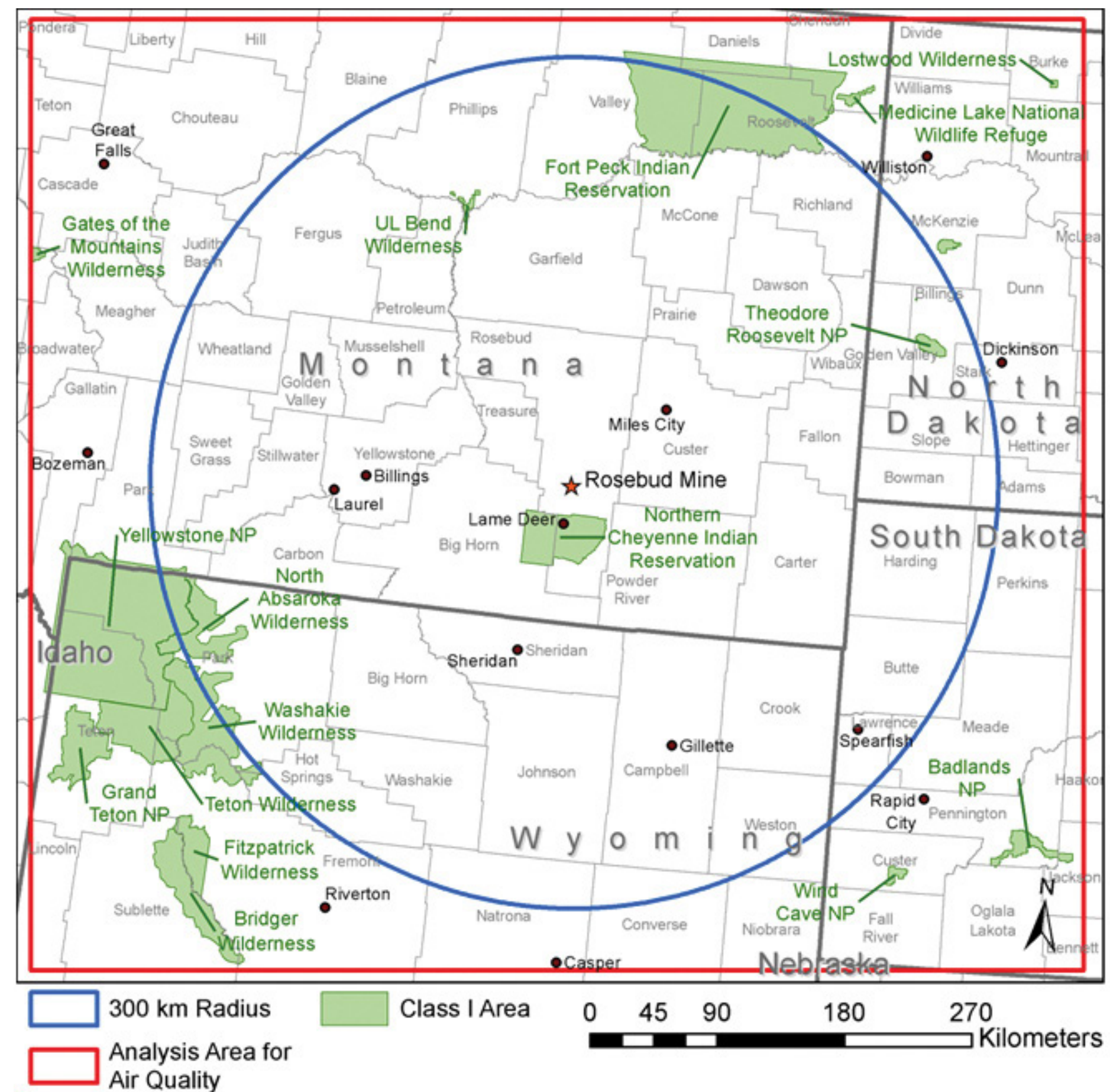
Draft Supplemental Environmental Impact Statement

Air Quality

Air quality impacts were evaluated in the Supplemental Environmental Impact Statement (SEIS) by comparing current, available data (e.g., from the Montana Department of Environmental Quality and publicly available on the Environmental Protection Agency's website) to criteria air pollutant (CAP) and hazardous air pollutant (HAP) emissions modeling and analyses completed for the 2018 Western Energy Area F Final Environmental Impact Statement (2018 Final EIS).

Analysis Area

To determine the direct and indirect analysis area for air quality, the potential long-range transport of pollutants from the Colstrip and Rosebud Power Plants stacks (typically 300 kilometers [km] for coal-fired power plants) was considered. To include Class 1 airsheds that intersect the 300 km circle, a slightly larger rectangular region that encompasses the 300 km extent was conservatively chosen as the analysis area.



Existing Emissions in the Analysis Area

In the immediate vicinity of Colstrip, the primary sources of air pollution are the Rosebud Mine, the Colstrip Power Plant, and the Rosebud Power Plant. The analysis area includes other major regional point and area sources, such as other mines and electric generation facilities.

CAP Emissions:

- **Montana monitoring sites:** Reported concentrations are well below the respective National Ambient Air Quality Standards (NAAQS) and Montana Ambient Air Quality Standards (MAAQS).
- **Analysis area:** The existing air quality is generally clean with respect to the NAAQS. A single sulfur dioxide (SO₂) monitor in Williams, North Dakota (more than 400 km from the project area), reported values that exceeded the NAAQS.
- **Rosebud Mine:** Reported emissions have been the same as or less than the emissions disclosed in the 2018 Final EIS and used in the air quality modeling that supported the analysis. One exception is 2021, which had higher emissions for nitric oxide (NO_x) (48 percent higher), sulfur dioxide (SO₂) (51 percent higher), and carbon monoxide (CO) (51 percent higher). Emissions for NO_x, SO₂, and CO returned to lower values in 2022 and 2023.
- **Power plants:** Reported emissions have been the same as or less than the emissions disclosed in the 2018 Final EIS and used in the air quality modeling that supported the analysis. One exception is the 2023 emissions for the Rosebud Power Plant: PM₁₀ emissions (27 tons) were about 44 percent higher than the average (18.7 tons) over 2010 through 2023, SO₂ emissions (1,258.4 tons) were 11 percent higher than the average (1,138.9 tons) over 2010 through 2023, and CO emissions (5.32 tons) were 213 percent higher than the average (1.7 tons) over 2010 through 2023.

HAP Emissions

- **Rosebud Mine:** Mining, processing, and handling of coal result in the emission of HAPs, with the primary sources being diesel particulate matter from diesel engines and fugitive coal dust. Coal dust contains a number of hazardous metals (e.g., antimony, arsenic, chromium, lead, mercury, and selenium), and emission of coal dust suspends these compounds in the air.
- **Power plants:** The combustion of coal in power plant boilers releases a large number of hazardous trace metals and organic and inorganic compounds contained within the coal.

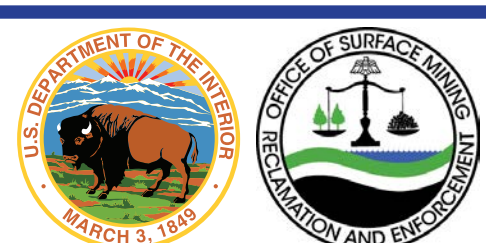
Air Quality Impacts

Under any of the three SEIS alternatives, the following air quality impacts would occur:

- **Direct impacts:** Mining operations in Area F (e.g., coal drilling, coal blasting, and coal removal) and associated activities in other permit areas of the mine (e.g., coal truck dump operations, coal crushing, and coal conveyors) would result in CAP and HAP emissions.
- **Indirect impacts:** Continued combustion of coal at the Rosebud and Colstrip Power Plants contributes CAP and HAP emissions, contributing to indirect impacts, including degraded air quality, visibility impairment (haze), and deposition of trace metals, SO₂, and NO₂ in analysis area soils and waterways.
- Air emissions would not result in exceedances of any NAAQS or MAAQS. Direct and indirect impacts on air quality would be short-term, negligible to minor, and adverse. Deposition impacts would be long-term, negligible to minor, and adverse.

The duration of direct and indirect air quality impacts would differ by alternative:

- 6 years (2020 to 2025) under Alternative 1 – No Action
- 20 years (2020 to 2039) under Alternative 4 – Proposed Action (Current Federal Mining Plan)
- 11 years (2020 to 2030) under Alternative 5 – Partial Mining Alternative



Westmoreland Rosebud Mine Area F

Draft Supplemental Environmental Impact Statement

Climate Change

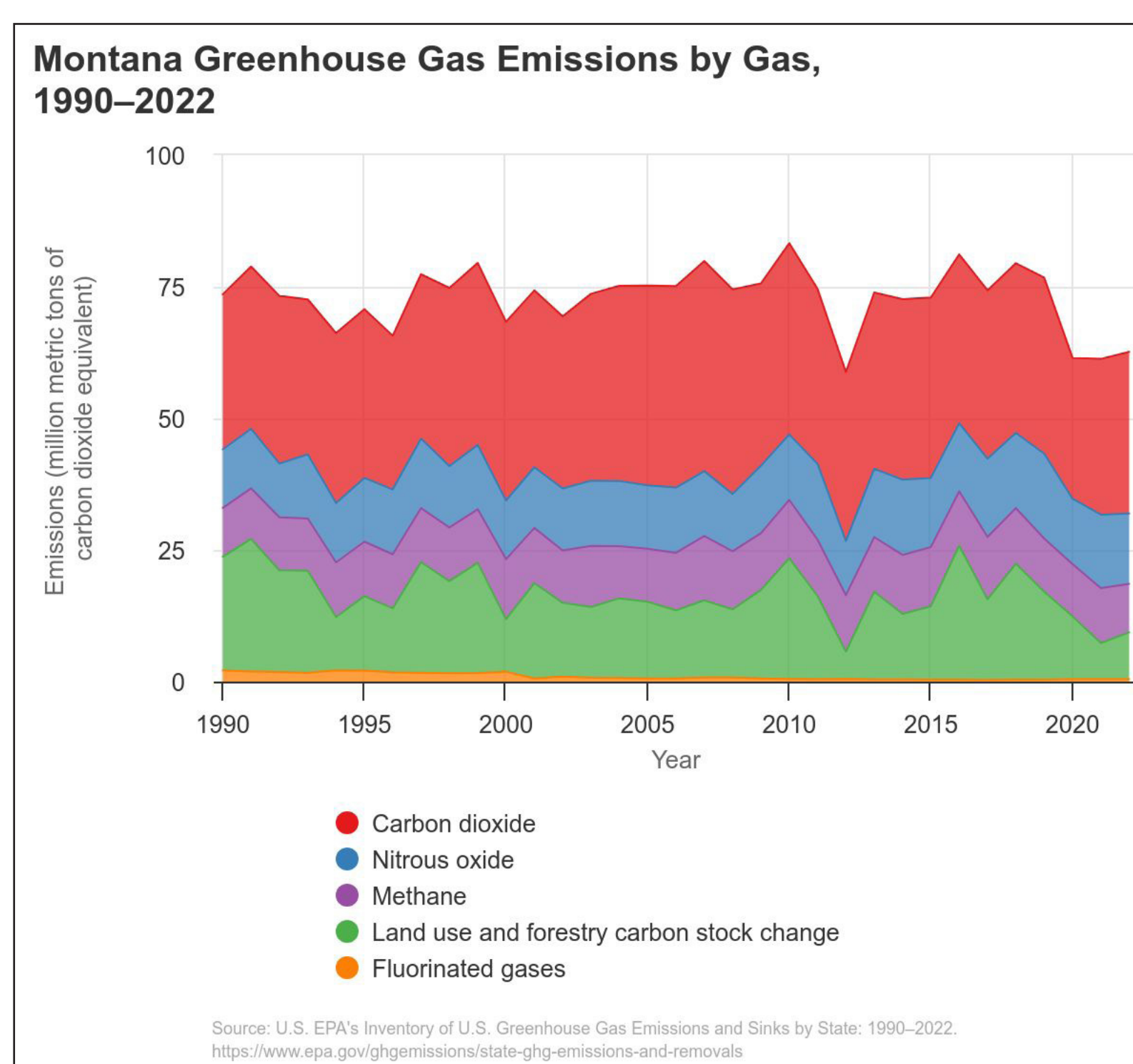
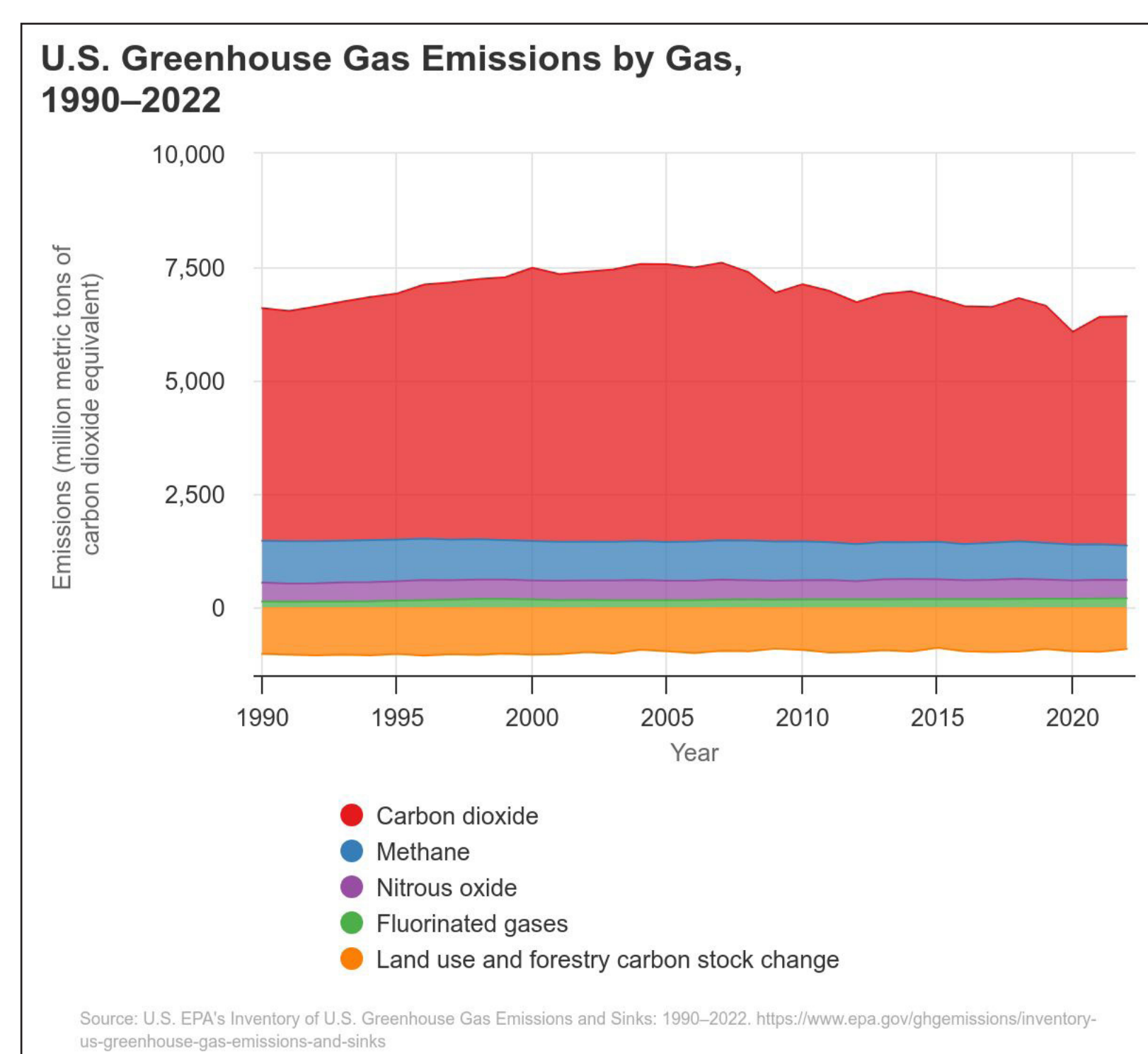
Climate impacts were evaluated in the Supplemental Environmental Impact Statement (SEIS) by:

1. contextualizing greenhouse gas (GHG) emissions across alternatives, relative to emissions from other sources and relative to emissions reduction goals (e.g., global emissions that are 40 to 50 percent lower than 2010 emissions in 2030 and U.S. emissions that are 50 to 52 percent lower than 2005 emissions in 2030) and
2. calculating the social cost of GHG emissions.

Emissions Trends (Based on 2022 Data)

The most common GHG produced from human activity (fuel combustion) is carbon dioxide (CO₂), followed by methane (CH₄) and nitrous oxide (N₂O). The international standard practice is to express GHG emissions in CO₂ equivalents, or CO₂e.

- **Global GHG emissions:** 50.6 gigatons CO₂e annually. The U.S. accounted for approximately 12 percent of global GHG emissions.
- **U.S. GHG emissions:** 6,343.21 million metric tons (MMT) CO₂e annually, representing a 3 percent decline since 1990.
- **Montana GHG emissions:** 52.251 MMT CO₂e annually, representing a 2.4 percent increase since 1990.



GHG Emissions from the Rosebud Mine and Power Plants

- **Rosebud Mine:** About 112,559 metric tons (MT) CO₂e annually due to:
 - ▷ Fugitive CH₄ emissions from exposed coal and exhaust from mobile and stationary engines used at the mine, including those that power the conveyor to the Colstrip Power Plant.
 - ▷ Mobile sources of GHG emissions including gasoline- and diesel-powered loaders, coal-haul trucks, coal and overburden drills, hydraulic excavators, support vehicles, maintenance equipment, other materials handling equipment (e.g., graders, dozers, dump trucks, and reclamation tractors), and explosive detonation.
- **Colstrip Power Plant and the Rosebud Power Plant:** About 11.2 million MT CO₂e annually due to combustion of Rosebud Mine coal.
- **Daily worker commutes (to/from mine and power plants):** About 4,753.31 MT CO₂e annually.

Emissions Impacts

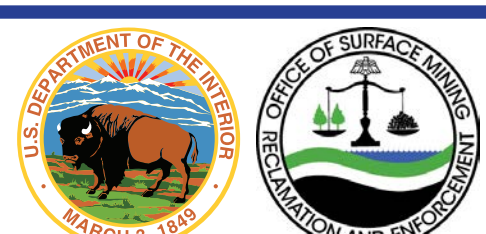
Direct GHG emissions from Area F (e.g., mining, etc.) and associated activities in other permit areas (e.g., crushing, hauling, conveying, etc.) and indirect GHG emissions (e.g., power plant operations and worker commutes) **would contribute incrementally to existing climate and emissions trends.** The annual emissions for Alternatives 1 and 5 are the same as those for the Proposed Action, but the duration of the emissions would be reduced.

Summary of Potential Annual GHG Emissions by Alternative.			
Segment	Alternative 1 – No Action	Alternative 4 – Proposed Action	Alternative 5 – Partial Mining
Total coal recovery (MT)	17.1	71.3	37.1
Annual production rate (MT)	4*	4*	4*
Years of mining in Area F	6	20	11
Annual Area F operations GHG emissions (e.g., mining, crushing, hauling, conveying, etc.) (MT CO ₂ e)	112,559	112,559	112,559
Annual coal combustion emissions (MT CO ₂ e)	11.2 million	11.2 million	11.2 million
Annual worker commute emissions (MT CO ₂ e)	4,753.31	4,753.31	4,753.31
Annual (MT CO₂e)	11.3 million	11.3 million	11.3 million
Total for all years (MT CO₂e)	67.8 million	226.1 million	124.4 million

*Represents an estimated annual rate. Production in the initial years of mining in Area F was less than 4 MT, and production in 2023 was about 4.6 MT. See Table 2.3.2 in the SEIS for annual production by alternative.

Summary of GHG Emissions Trends: Alternative 4 – Proposed Action.			
Scale of Emissions	Data Year	CO ₂ e (MMT)	Percent GHG Emissions (Direct and Indirect) Attributable to Alternative 4 (Proposed Action)
Global Emissions	2022	50,600	0.02
U.S. Emissions	2022	6,343	0.2
National Federal Coal, Oil, and Gas Development (BLM Authorized)	2022	1,033	1.1
Montana Emissions	2022	52	21.7
Montana Federal Coal, Oil, and Gas Development (BLM Authorized)	2022	34	33.2
Direct and Indirect Emissions Due to Alternative 4 (Proposed Action)	Annual	11.3	100

Total Social Costs of GHGs Across Alternatives.			
Alternative and Emissions Year	Discount Rate and Statistic		
	2.5% Average	2.0% Average	1.5% Average
Alternative 1 (2020-2025)	\$8.4 billion	\$13.5 billion	\$18.5 billion
Alternative 4 (2020-2039)	\$31.8 billion	\$51.2 billion	\$79.1 billion
Alternative 5 (2020-2030)	\$16.1 billion	\$25.9 billion	\$38.3 billion



Westmoreland Rosebud Mine Area F

Draft Supplemental Environmental Impact Statement

Ground Water

Impacts on ground water (e.g., drawdown of aquifers or changes in water quality) were evaluated in the Supplemental Environmental Impact Statement (SEIS) using the following analysis areas:

- **Direct effects:** Area F, where the aquifer (e.g., alluvium overburden, Rosebud Coal, and clinker) would be removed, plus a surrounding area defined by ground water drawdown modeling.
- **Indirect effects:** the areas around the Colstrip Power Plant and the Rosebud Power Plant, which both combust Area F coal, were evaluated for indirect ground water quality impacts.

Hydrogeology

Mining in Area F is to recover Rosebud Coal, which is one of numerous coal seams within the Tongue River Member of the Fort Union Formation.

- Besides coal seams, the Tongue River Member consists of sandstone, fine-grained siltstone, light- to dark-colored mudstone, and claystone.
- Baked sedimentary rock (clinker) has developed in areas where coal seams exposed at or near the surface have burned. The characteristics of the clinker influence local ground water recharge and movement.
- A low-permeability clay layer immediately underlies many of the coal seams.

Existing Ground Water Quantity and Use

Ground water in the area around Area F is used for both stock and rural domestic water needs as well as serving as a source of water for wetlands:

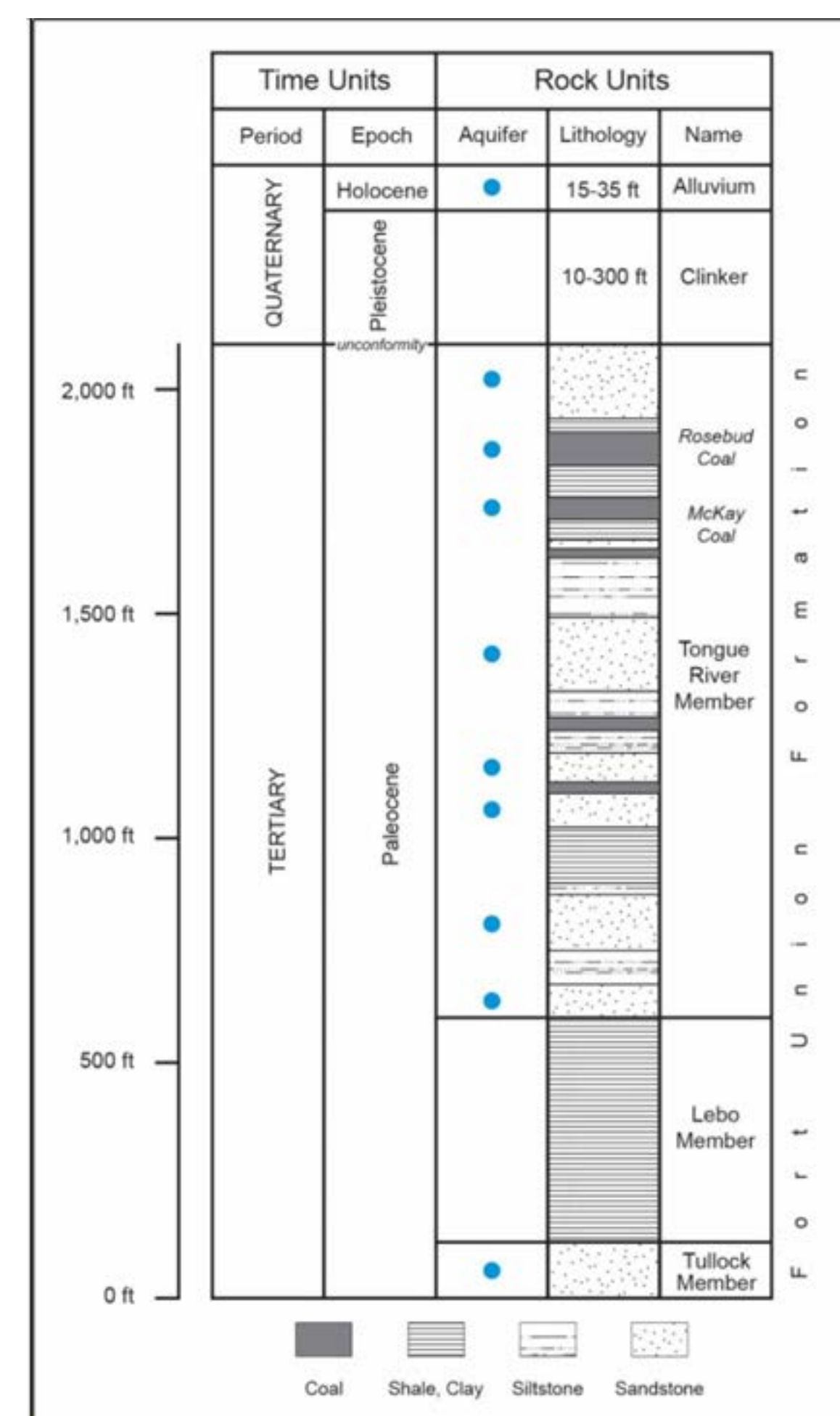
- There are 122 surface water and ground water rights that are within or downgradient of Area F (40 percent are for ground water diversions, and 30 percent are for spring water diversions).
- Wells produce water from the various sandstone units of the Tongue River Member and the thicker coals, such as the Rosebud and McKay Coals.
 - ▷ Well yields are generally low (less than 10 gallons per minute) but adequate for stock watering.
- Springs are typically located along or near drainages, and some maintain perennial or intermittent reaches of streams.
 - ▷ In and near Area F, there are 53 springs, of which 14 are monitored.
 - ▷ Springs are water sources for wetlands, and some are used for livestock watering.

Spring	Groundwater Source
1	Overburden
2	Unknown
3	Overburden
4	Overburden
5	Overburden
6	Overburden
7	Rosebud Coal
8	Rosebud Coal and possibly clinker
9	Overburden
10	Overburden and possibly Rosebud Coal
11	Rosebud/clinker and possibly overburden
12	Unknown
13	McKay Coal
14	Sub-McKay and possibly alluvial groundwater

Source: Permit Application Package, Appendix J, Attachment B-J.

Existing Ground Water Quality

- Ground water quality in the Rosebud Coal ranges from Class I to Class III (Note: in Montana, Class I and II are considered high-quality).
- Ground water in the overburden (alluvium) is considered to have the poorest quality of any of the saturated units.



Generalized Column of the Local Stratigraphy.

Y-axis represents thickness of Fort Union Formation.
Source: KC Harvey 2012

Ground Water Impacts

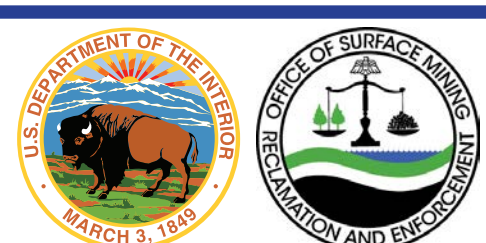
Under all three SEIS alternatives, mining in Area F would permanently remove the Rosebud Coal aquifer, resulting in:

- Long-term reduction or elimination of the bedrock ground water contribution to baseflow in the perennial and intermittent reaches of the major tributaries.
- Long-term ground water drawdown upgradient and to the south of Area F.
- Drawdown may affect existing water users of the Rosebud Coal aquifer. Note: If any private wells were to become unusable, Westmoreland Rosebud would be required to replace the well(s).
- Permanent removal of Area F springs that have Rosebud Coal or overburden ground water sources.

Once spoils are replaced in the mine pits, resaturation would occur, but groundwater modeling indicates it may take 50 years or more for ground water hydrology to return to pre-mine conditions.

Ground water impacts under Alternative 1 – No Action or Alternative 5 – Partial Mining Alternative would be less than those under Alternative 4 – Proposed Action (Current Federal Mining Plan) because:

- Fewer acres, and thus less of the aquifer, would be disturbed;
- Mining would be limited to the Donley Creek and Black Hank Creek watersheds, and the remaining three watersheds (Trail Creek, McClure Creek, and Robbie Creek) would not be impacted under these alternatives; and
- The duration of mining would be shorter, allowing for earlier reclamation and restoration of ground water hydrology.



Westmoreland Rosebud Mine Area F

Draft Supplemental Environmental Impact Statement

Surface Water

Impacts on surface water (e.g., changes in flow or changes in water quality) were evaluated in the Supplemental Environmental Impact Statement (SEIS) using the following analysis areas:

- **Direct effects:** Springs, ponds, diversions (e.g., human-made livestock ponds), and streams that are in or overlap with Area F, including downstream watersheds that receive water from Area F and may be impacted by mining and/or disturbance in Area F.
 - ▷ **Streams:**
 - The headwaters of Trail, McClure, Robbie, Donley, and Black Hank Creeks, all of which flow in an easterly or northeasterly direction to West Fork Armells Creek, then to Armells Creek, a tributary to the Yellowstone River.
 - The headwaters of Horse Creek, which flows west into Sarpy Creek, a tributary to the Yellowstone River.
 - ▷ **Springs:** 53 springs, of which 14 are monitored, are within or near Area F.
 - ▷ **Ponds:** 24+ ponds located within or near Area F.
 - ▷ **Dam diversions (human-made livestock ponds):** 9 are monitored and are adjacent to or on streams in Area F.
 - ▷ **Water rights:** 122 surface water and ground water rights within or downgradient of Area F (30 percent are for surface water diversions).
- **Indirect effects:** Watersheds that may be indirectly impacted due to changes in flow or changes in water quality related to combustion of Area F coal.
 - ▷ **Streams:** The Armells Creek watershed and parts of the Sarpy Creek and Rosebud Creek watersheds were analyzed based on trace-metal deposition modeling, which determined a 32-kilometer circular area around the power plants.
 - ▷ **Rivers:** A segment of the Yellowstone River between the Cartersville Dam and the confluence with the Tongue River was analyzed to account for indirect effects of water withdrawals by the Colstrip Power Plant.

Note: See the Hydrologic Balance poster for discussion of surface water impacts.

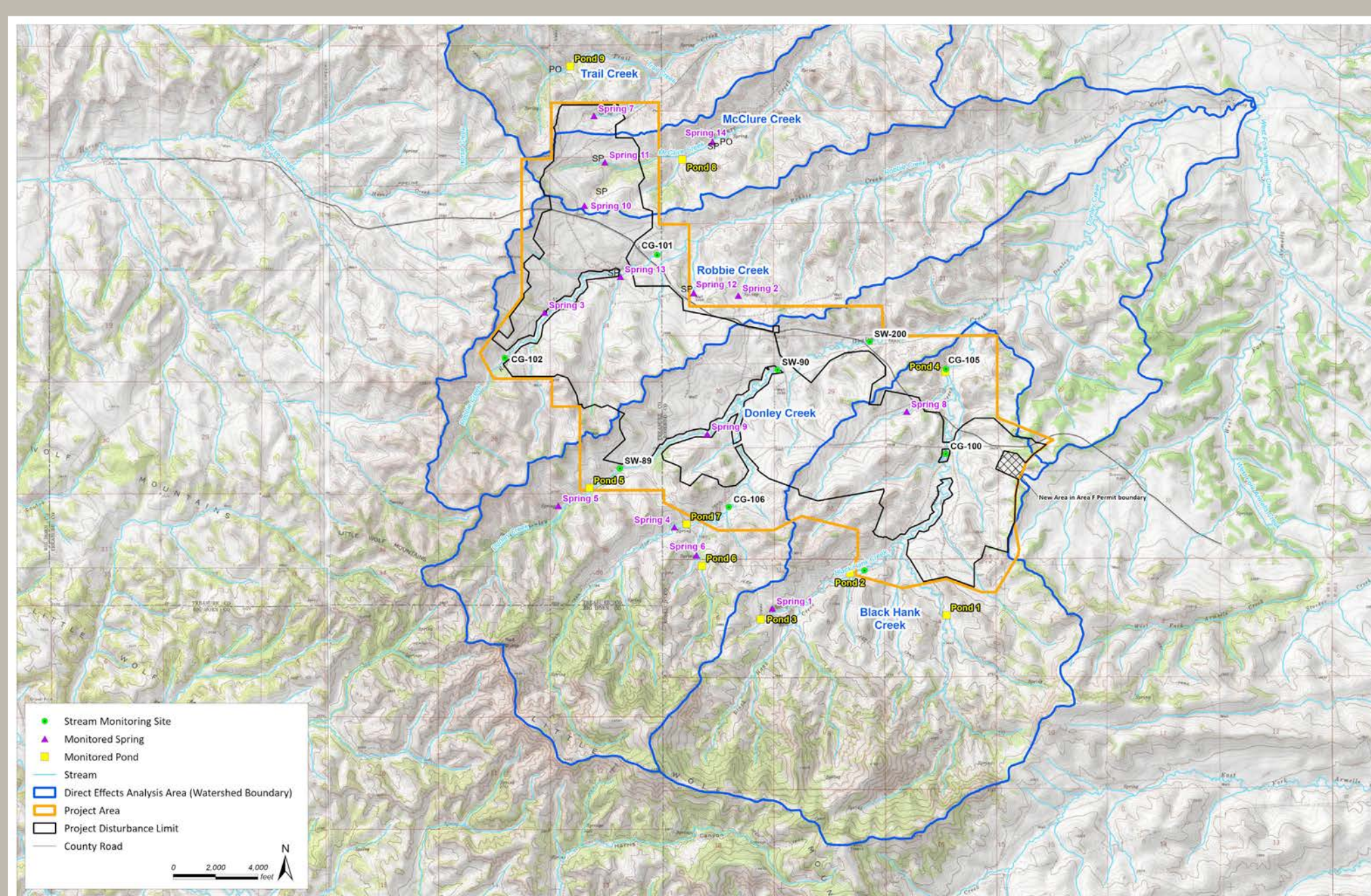
Existing Surface Water Quality

Water quality of surface water resources in the **direct effects analysis area:**

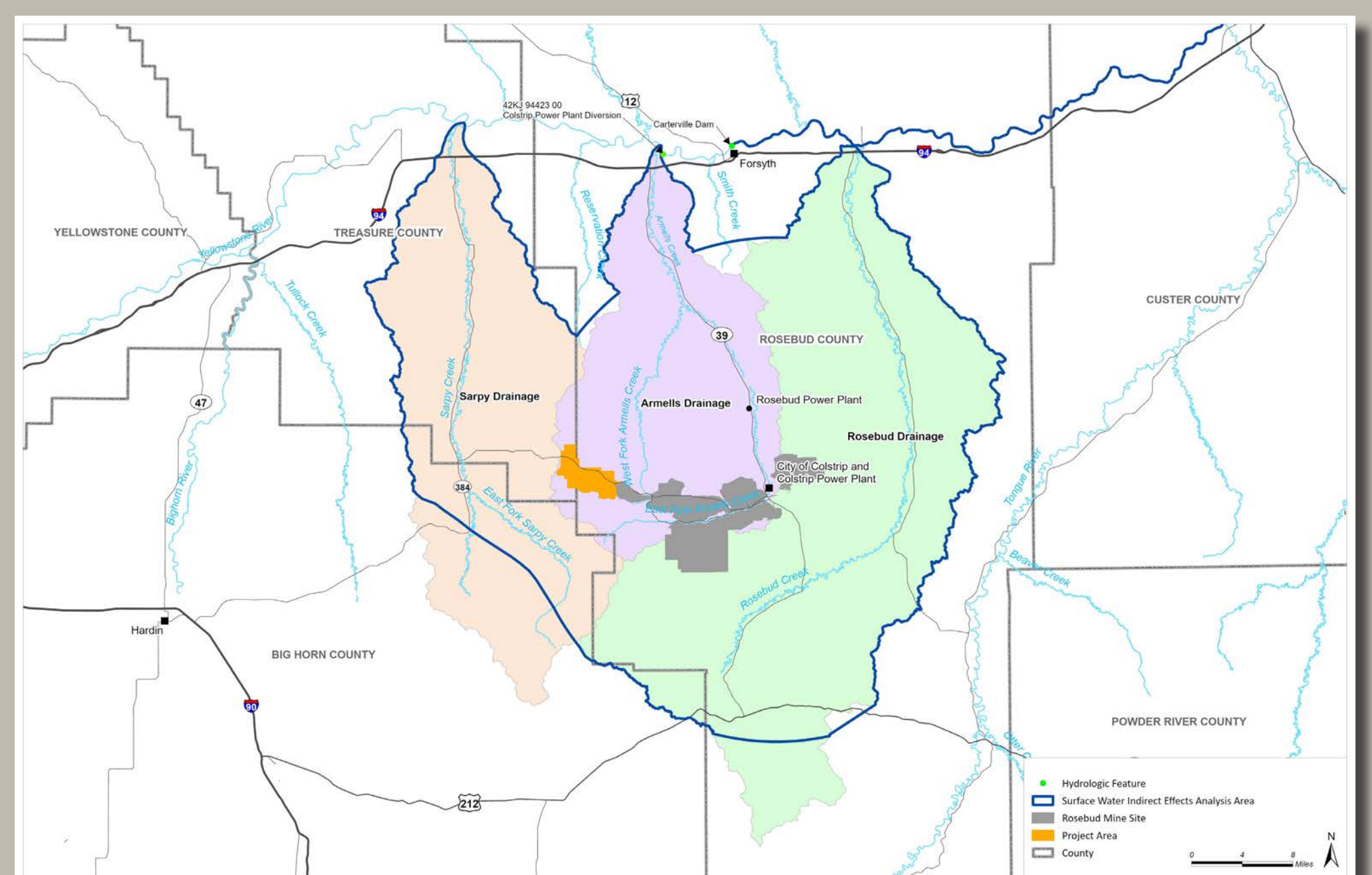
- Represents largely natural conditions that have been minimally affected by human-made disturbances within or upstream of the project area.
- Is variable in the project area primarily due to direct runoff from snowmelt or rainfall or ground water discharge to surface water during various times of the year.

Water quality of surface water resources in the **indirect effects analysis area:**

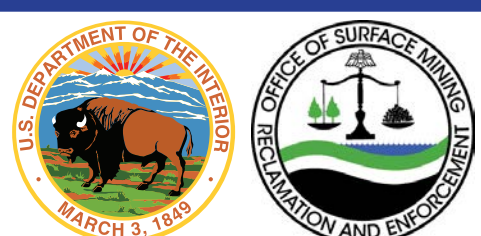
- Low measured concentrations of mercury, selenium, and copper.
 - ▷ Most results were well below standards except for selenium in the East Fork Armells Creek in Colstrip and in Spring Creek.
- Low measured concentrations of nitrate+nitrite and total nitrogen.
 - ▷ There were measured total nitrogen concentrations approaching the standard in Rosebud Creek upstream of Pony Creek and in Spring Creek near the mouth.



Direct Effects Analysis Area



Indirect Effects Analysis Area



Westmoreland Rosebud Mine Area F

Draft Supplemental Environmental Impact Statement

Hydrologic Balance

Precipitation (e.g., rain and snow) is the source of water to the Area F hydrologic system. Because of the arid climate, most precipitation is returned to the atmosphere by the following means:

- **Evapotranspiration:** evaporation from water bodies, plants, and the ground surface, as well as transpiration from plants, exceeds the average annual precipitation of 15 inches per year.
- **Sublimation:** the direct conversion of ice or snow to water vapor occurs during the winter months and transfers about half of winter precipitation back to the atmosphere.
- **Infiltration:** the movement of water into and through the soil reduces runoff by absorbing and holding water.
- **Ground water recharge, discharge, and storage** also affect the hydrologic balance.

Hydrologic Balance Impacts

Under all three SEIS alternatives, mining in Area F would affect the hydrologic balance within and downstream of Area F in the following ways:

- Disturbing the soil surface and removing vegetation (affects the interception, infiltration, evaporation, sublimation, and transpiration of water at the land surface)
- Mining/altering the topography and runoff (affects stream and alluvial flows and alters surface water storage)
- Decreasing or eliminating spring flows (affects stream and alluvial flows)
- Removing the Rosebud Coal aquifer (changes ground water storage)
- Removing the overburden and replacing it with spoil (permanently changes the vertical percolation rate and changes ground water storage and quality)
- Eliminating some stock ponds (reduces surface water storage)
- Storing water in sediment ponds and discharging water from Montana Pollutant Discharge Elimination System outfalls (affects stream and alluvial flows and recharge to ground water)

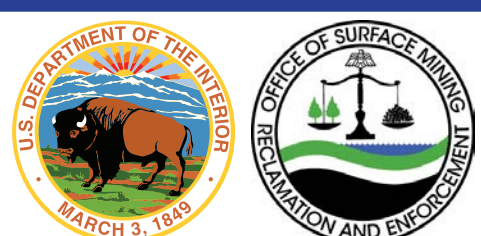
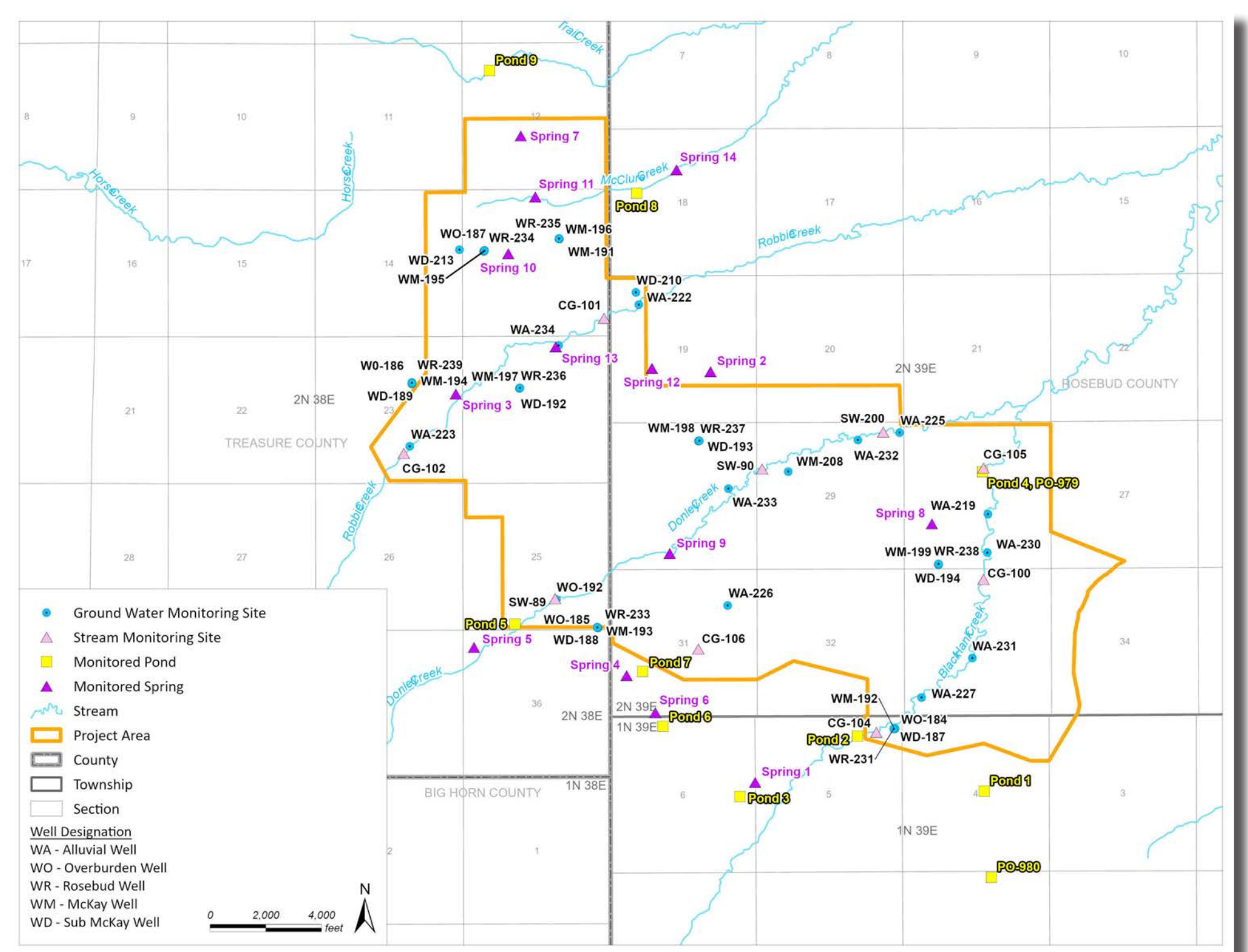
After mining, the watershed topography and hydrology would be restored to reestablish (as possible) the hydrologic balance. Some surface and groundwater resources would be permanently lost or changed.

Surface water impacts under Alternative 1 – No Action or Alternative 5 – Partial Mining Alternative would be less than those under Alternative 4 – Proposed Action (Current Federal Mining Plan) because:

- Fewer acres would be disturbed;
- Mining would be limited to the Donley Creek and Black Hank Creek watersheds, and the remaining three watersheds (Trail Creek, McClure Creek, and Robbie Creek) would not be impacted under these alternatives;
- The duration of mining would be shorter, allowing for earlier reclamation, including grading to the post-mine topography, revegetation, and restoration of surface water hydrology; and
- The duration of water withdrawal from the Yellowstone River to supply the Colstrip Power Plant (an indirect impact) and trace metal deposition onto surface water bodies due to Area F coal combustion (an indirect impact) would be shorter.

Water Monitoring

Westmoreland Rosebud has implemented an Area F Monitoring and Quality Assurance Plan; surface and ground water monitoring results are reported annually by Westmoreland Rosebud to the Montana Department of Environmental Quality.



Westmoreland Rosebud Mine Area F

Draft Supplemental Environmental Impact Statement

Special Status Species

Special status species include federally listed threatened, endangered, and candidate species, pursuant to the Endangered Species Act (ESA), and other wildlife and plant species of concern. In the Supplemental Environmental Impact Statement (SEIS), direct impacts on these species due to mining in Area F and indirect impacts associated with combustion of Area F coal in the power plants were evaluated.

- **Direct effects analysis area:** Area F plus a 15-mile buffer outside of the project area boundary.
- **Indirect effects analysis area:**
 - ▷ *Trace-metal deposition analysis:* A 32-kilometer circular area around the power plants.
 - ▷ *Pallid sturgeon analysis:* A segment (about 50 miles) of the Yellowstone River between the Colstrip Power Plant's diversion point and the confluence with the Tongue River was analyzed to account for indirect effects of water withdrawals by the Colstrip Power Plant.

ESA Section 7 Consultation

The U.S. Fish and Wildlife Service (USFWS) must determine if implementation of a project would jeopardize the continued existence of any species listed or proposed as threatened or endangered under the ESA, or adversely modify critical or proposed critical habitat. Section 7 consultation activities to date include the following:

- **December 2022:** Office of Surface Mining Reclamation and Enforcement (OSMRE) notified the USFWS Ecological Services Montana Field Office in Helena that a SEIS would be prepared.
- **May 2024:** OSMRE staff and contractors held a meeting with USFWS to discuss the Proposed Action and preparation of a Biological Assessment (BA).
- **August 2024:** OSMRE submitted a Draft BA to the USFWS for consultation. The BA determined that the project may affect, but is not likely to adversely affect the northern long-eared bat and the pallid sturgeon, and would not jeopardize the continued existence of the monarch butterfly.
- **September 2024:** OSMRE revised the Draft BA to address USFWS comments and to add the western regal fritillary, which the USFWS recently proposed for listing.
- **Fall 2024:** USFWS is reviewing the revised Draft BA.

Federally Threatened, Endangered, and Candidate Species

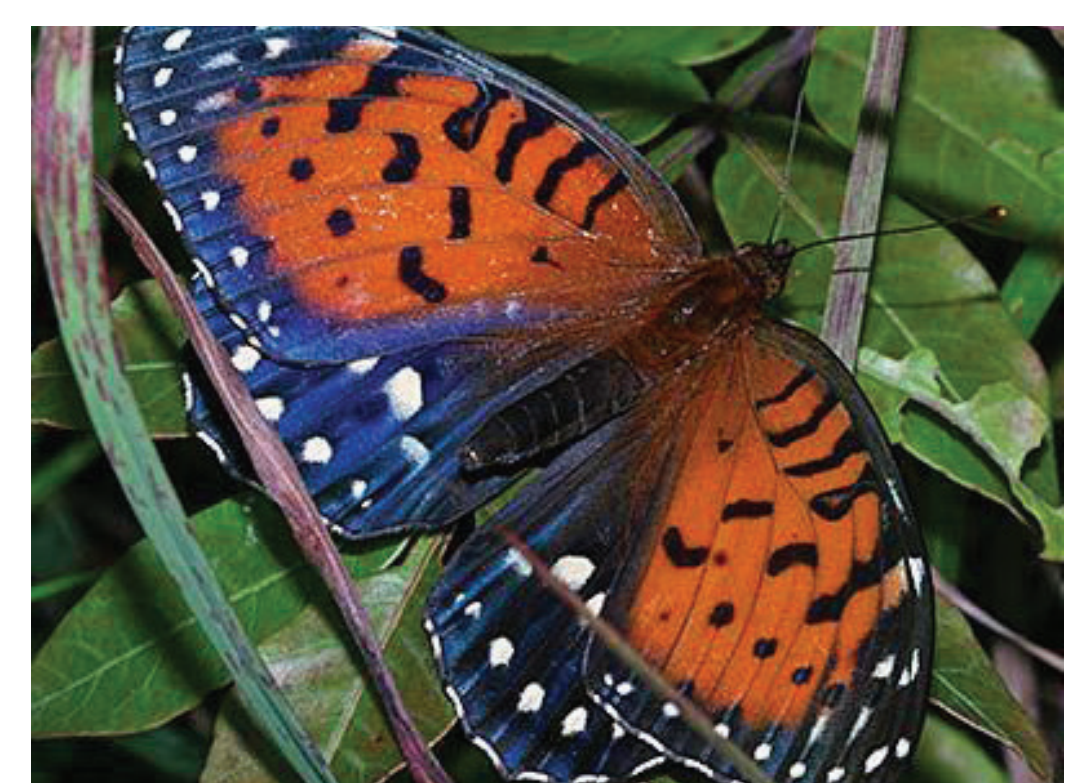
Common Name	Scientific Name	Status*	General Habitat Affinity	Potential to Occur in Analysis Area	Critical Habitat in Analysis Area
Mammals					
Northern long-eared bat	<i>Myotis septentrionalis</i>	Threatened	Rock cavities and crevices, behind bark in trees, dead hardwood trees.	Yes	No
Fish					
Pallid sturgeon	<i>Scaphirhynchus albus</i>	Endangered	Large turbid rivers, including accessible reaches of the Yellowstone River, with diverse habitat and natural hydrographs.	Yes	No
Insects					
Monarch butterfly	<i>Danaus plexippus</i>	Candidate for listing	Requires milkweed (<i>Asclepias spp.</i>) as larval host plants; meadow and riparian habitats support spring/summer breeding and late-season migration.	Yes	No
Western regal fritillary	<i>Argynnis idalia occidentalis</i>	Proposed Threatened	Tallgrass prairies, including dry upland, mesic, or wet areas. Requires violet species (<i>Viola spp.</i>) as a larval host plant	Yes	No



Northern long-eared bat. Source: USGS.



Pallid sturgeon. Source: USGS Montana Cooperative Fishery Research Unit.



Western regal fritillary. Source: Montana Field Guide, Jeffrey S. Phippen.



Monarch butterfly. Source: USGS.

Special Status Species Impacts

Under all SEIS alternatives, mining in Area F would result in the following impacts:

- Loss of habitat due to surface disturbances and vegetation removal;
- Direct mortality or injury due to vehicle or construction equipment collisions;
- Behavioral shifts such as a change in movement or displacement to other areas due to increased human activity and noise from blasting and mining operations;
- Negligible indirect impacts from trace-metal deposition from power-plant emissions; and
- The project may affect, but is not likely to adversely affect listed threatened and endangered species, and would not jeopardize the continued existence of candidate or proposed threatened species.

Special status species impacts under Alternative 1 – No Action or Alternative 5 – Partial Mining Alternative would be less than those under Alternative 4 – Proposed Action (Current Federal Mining Plan) because:

- Fewer acres, and thus less habitat, would be disturbed;
- Mining would be limited to the Donley Creek and Black Hank Creek watersheds, and the remaining three watersheds (Trail Creek, McClure Creek, and Robbie Creek) would not be impacted under these alternatives;
- The duration of mining would be shorter, allowing for earlier reclamation and restoration of habitat; and
- The duration of water withdrawal from the Yellowstone River to supply the Colstrip Power Plant (an indirect impact) and trace metal deposition onto surface water bodies due to Area F coal combustion (an indirect impact) would be shorter.

