Rosebud Mine Area B AM5
Draft Environmental Impact Statement

Remote Public Meeting

November 10, 2020 - 6 pm

DEQ
Montana Department
of Environmental Quality

Agenda

- Introductions
- Presentation
  - Project Overview
  - Agency Authority Overview
  - Alternatives
  - Affected Environment and Environmental Consequences
- Oral Public Comments
  - Those who signed up during registration will be called upon in the order they registered.
  - If you did not sign up to speak when you registered for the meeting, please send a chat box message to Emily Corsi now; provide your name and organization (if applicable).
- Conclusion
  - Options on how the public can submit written comments.

Ground Rules

- Please turn your camera off (if on)
- Please mute your microphone (unless giving oral comments)
- You must be called upon before you give oral comments
- Respect others and their opinions
- Treat meeting participants with kindness

Note: The meeting is being recorded and a transcript will be included in the Project Record

Introductions

Montana DEQ Staff

- Jen Lane, MEPA Coordinator (Meeting Presenter)
- Ed Coleman, Bureau Chief, Coal and Opencut Mining Bureau
- Matt Dorrington, Coal Section Supervisor
- Bob Smith, Coal Section Permit Coordinator (Meeting Presenter)
- Moira Davin, Public Information Officer
- Jon Kenning, Bureau Chief, Water Protection Bureau

ERO Resources Corporation (third-party Consultant)

- Nicole Bauman, Project Manager and Meeting Facilitator (Meeting Presenter)
- Emily Corsi, Deputy Project Manager (Meeting Presenter, Chat Room Monitor)

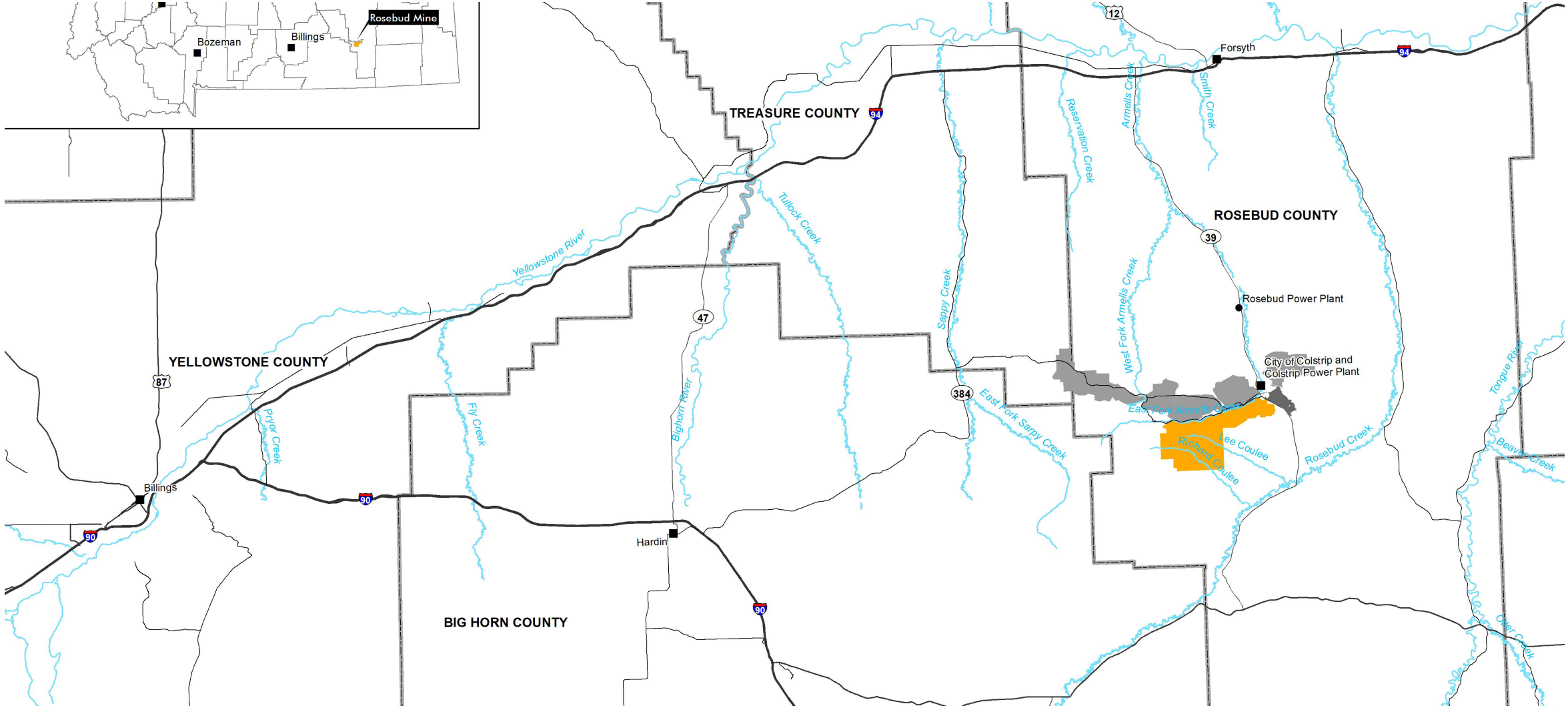
Presentation

Please mute your microphone and turn off your video camera now

DEQ
Montana Department of Environmental Quality

Project Overview

- Project Proponent
  - Westmoreland Rosebud Mining, LLC (formerly Western Energy Company), a subsidiary of Westmoreland Mining, LLC.
- Applications under Consideration by Montana Department of Environmental Quality (DEQ)
  - Fifth amendment (AM5) application to the Area B operating permit submitted to DEQ on February 17, 2017.
  - Montana Pollutant Discharge Elimination System (MPDES) permit application for new Project area discharges submitted to DEQ on May 3, 2018.



Rosebud Mine (Project area is identified in orange), located near Colstrip, Rosebud County, Montana

Agency Authority Overview

- *Montana Environmental Policy Act (MEPA)*
- *Montana Strip and Underground Mine Reclamation Act (MSUMRA)*
- *Montana Water Quality Act*
- *Other Key Permits or Approvals*

DEQ
Montana Department of Environmental Quality

Montana Environmental Policy Act (MEPA)

- MEPA requires a state agency to conduct an environmental review when making decisions that may have a significant impact on the human environment.
- DEQ's decision to approve or deny Westmoreland Rosebud's applications required preparation of an Environmental Impact Statement (EIS).
- The EIS will help DEQ make informed decisions regarding the AM5 and MPDES applications.

Purpose and Need

DEQ's purpose and need is:

- To make a decision on the Area B AM5 application under MSUMRA.
- To make a decision on the MPDES permit application under the Montana Water Quality Act.

Montana Strip and Underground Mine Reclamation Act (MSUMRA)

- A Surface Mine Operating Permit is required for the proposed project.
- Key requirements include:
  - Prevention of material damage to the hydrologic balance outside the proposed permit area.
  - Determination of the probable hydrologic consequences.
  - Restoration or avoidance of wetlands, riparian vegetation, and other fish and wildlife habitats.
  - Reclamation of land affected by mining.
  - A reclamation bond must be posted with DEQ.

Montana Water Quality Act

- A MDPES permit is required for the Project.
- The Montana Water Quality Act regulates discharges of pollutants into state surface waters through a MPDES permit and the adoption of water quality standards.
- Water quality standards specify the changes in surface water or ground water quality that are allowed from a wastewater discharge.
- A MPDES permit may also include limits for discharges of storm water and requires development of a storm water pollution prevention plan.

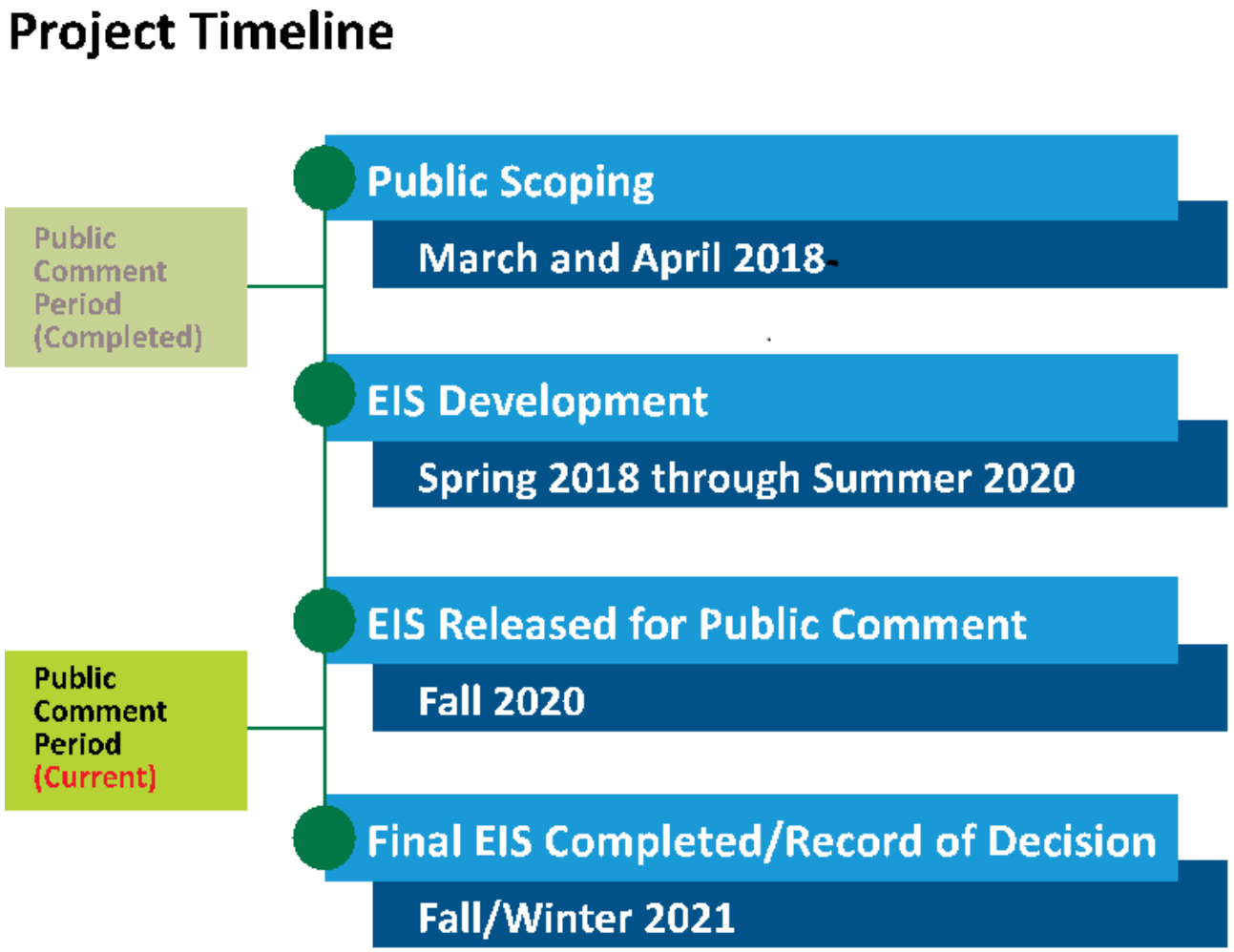
Other Permits or Approvals

- Montana Air Quality Permit
    - Westmoreland Rosebud has demonstrated to DEQ that the proposed Project would comply with its existing permit.
- Montana Sage Grouse Habitat Conservation Program
    - Westmoreland Rosebud consulted with the Sage Grouse Program to develop a mitigation plan, which was approved on December 18, 2018.

Other Permits or Approvals (cont.)

- National Historic Preservation Act
  - Westmoreland Rosebud is required to consider potential impacts on historic properties from their actions, including consultation with the Montana State Historic Preservation Officer (SHPO).
- Endangered Species Act (ESA)
  - Westmoreland Rosebud is required to explain how the proposed Project complies with the ESA through impact control measures, management techniques, and annual monitoring methods.

MEPA Timeline



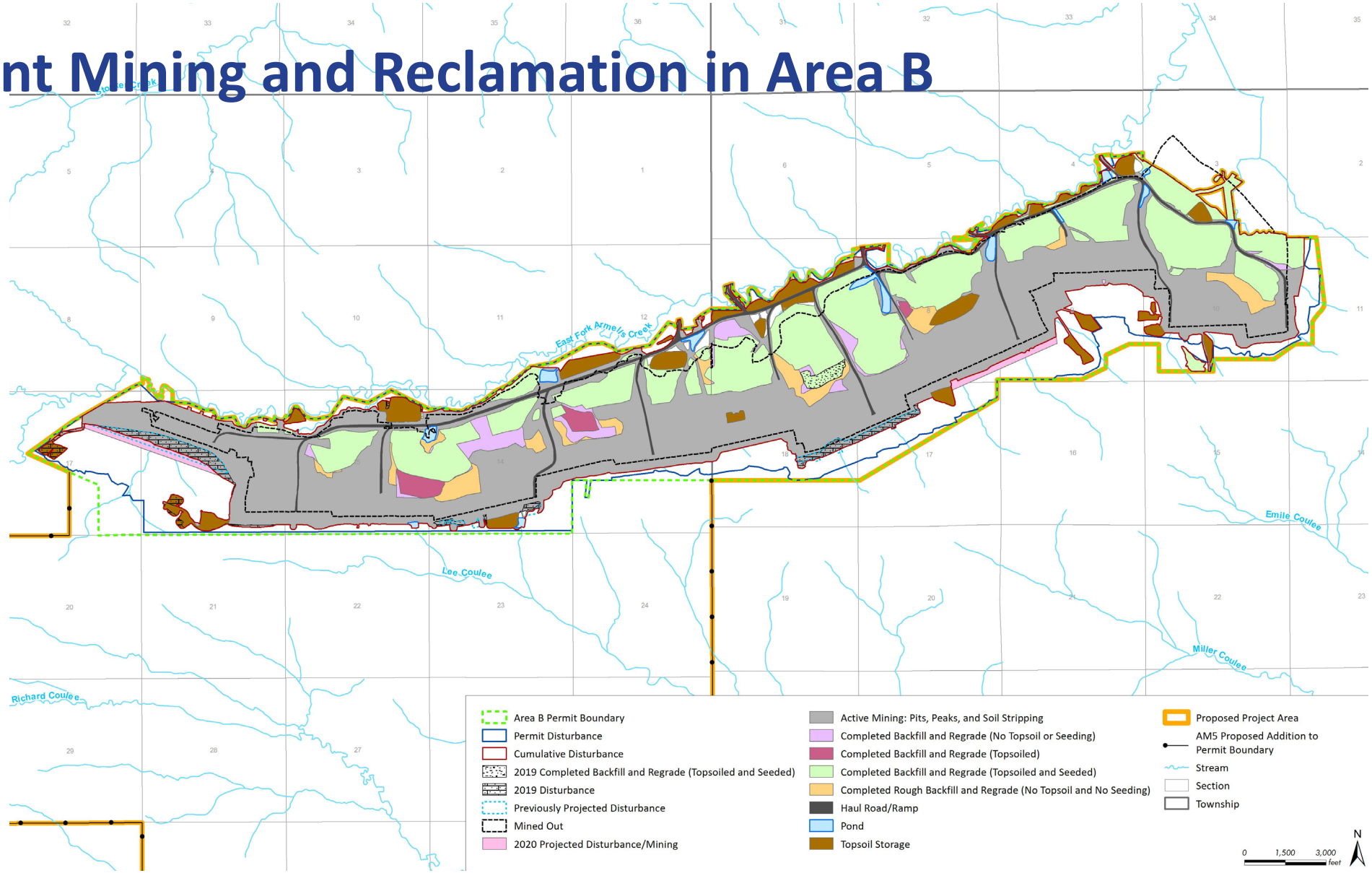
Alternatives

DEQ
Montana Department
of Environmental Quality

No Action

- AM5 amendment to the Area B operating permit would be denied.
    1) The size of the Area B permit area and disturbance area would remain the same.
    2) The Area B operations and reclamation plans would not be updated.
- The MPDES permit application would be denied.
- Westmoreland Rosebud would complete mining in Area B (projected to be 2030) and reclaim the permit area according to its currently approved operating permit.

Current Mining and Reclamation in Area B



Proposed Action

- AM5 amendment to the Area B operating permit would be approved.

1) The size of the Area B permit area would increase by 9,108 acres to a new total of 15,153 acres.

2) The size of the disturbance area would increase by 5,547 acres to a new total of 11,202 acres.

3) The Area B operations plan would be updated to include additional mining, construction and extension of the Richard and Lee Coulee haul roads, and construction of ramp roads.

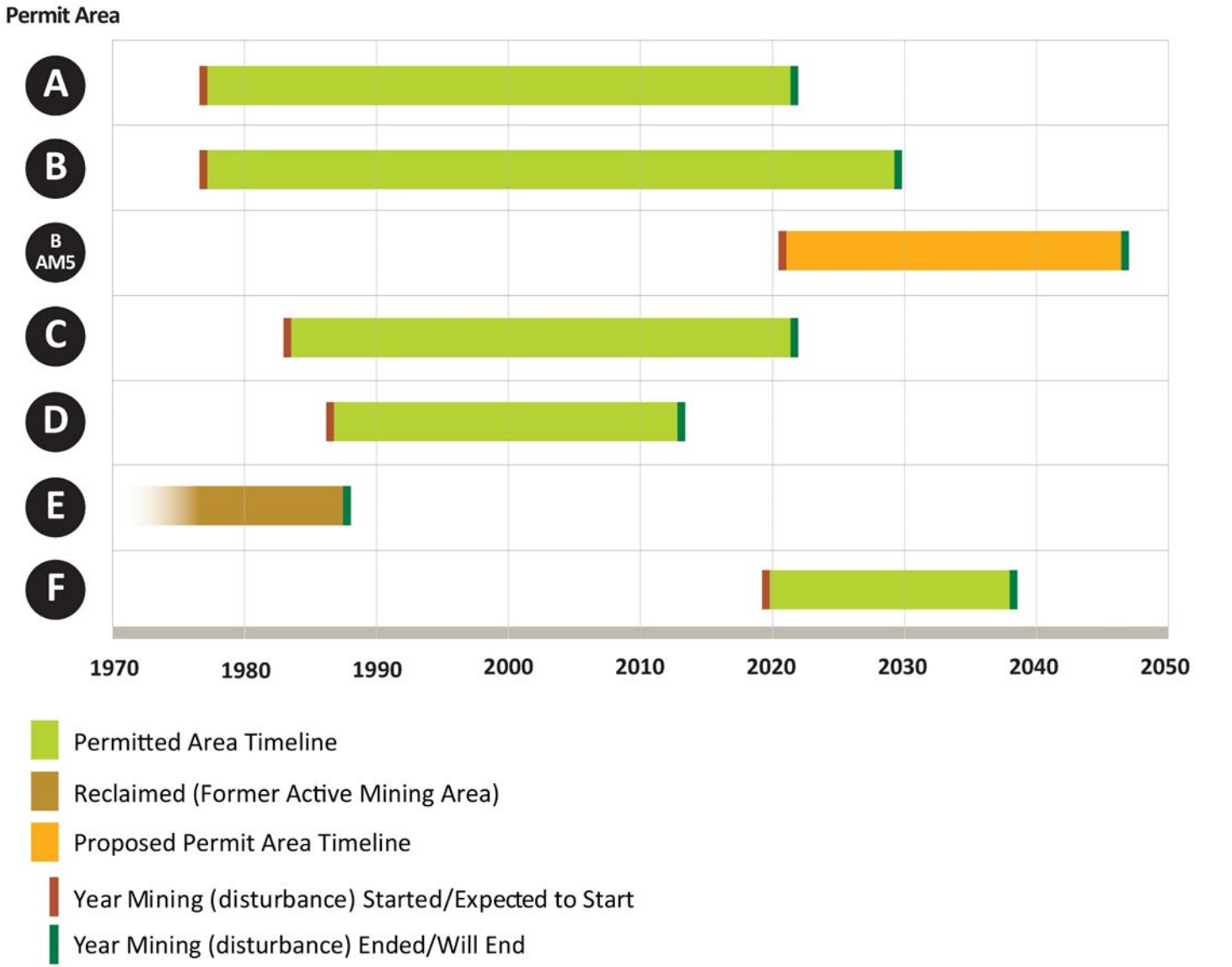
4) 104.3 million tons of coal would be recovered from the Project area.

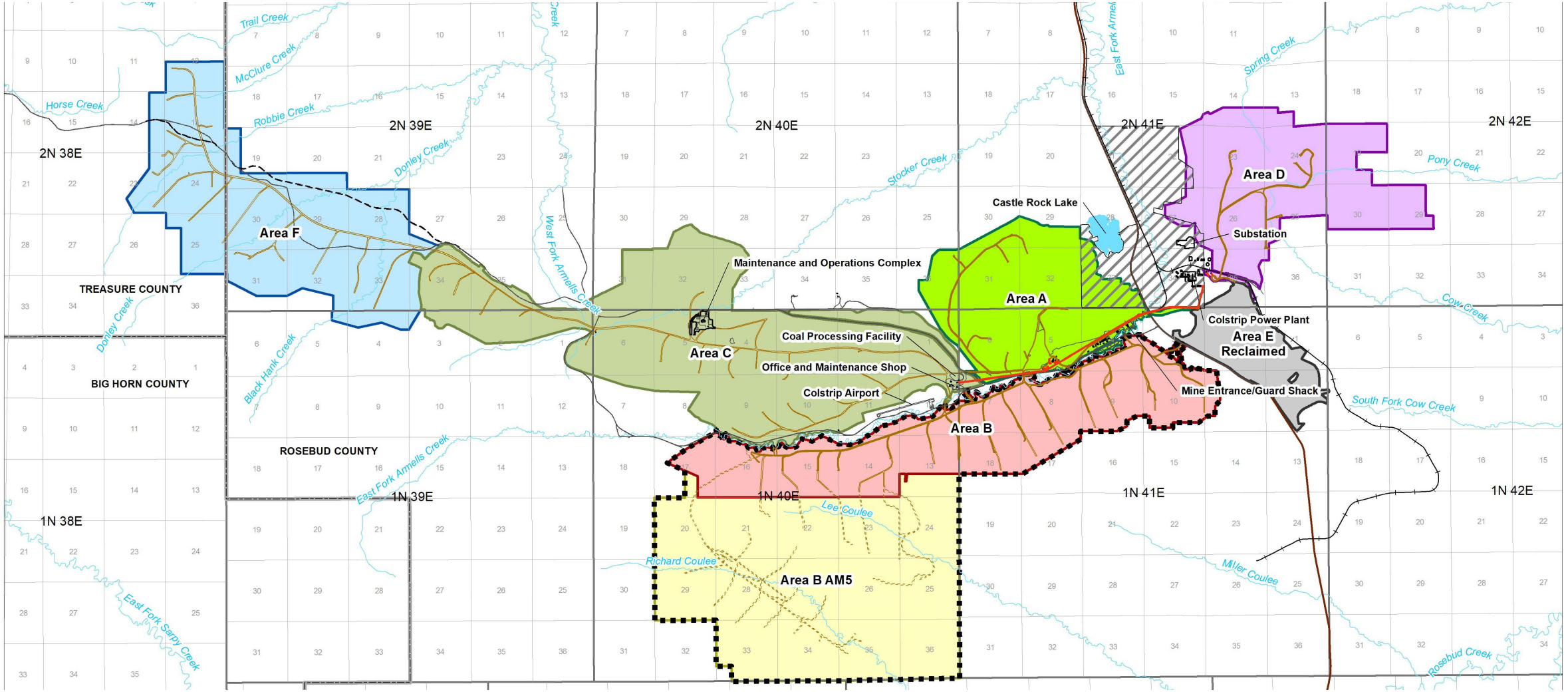
5) The Area B reclamation plan would be updated to include reclamation of the additional disturbance area and an extended reclamation timeline.

Proposed Action (cont.)

- The MPDES permit application would be approved.
- The operational life of Area B would be extended by 15 years (mining until 2045 instead of 2030).
- The operational life of the Rosebud Mine complex would be extended by 7 years (2045 instead of 2038).

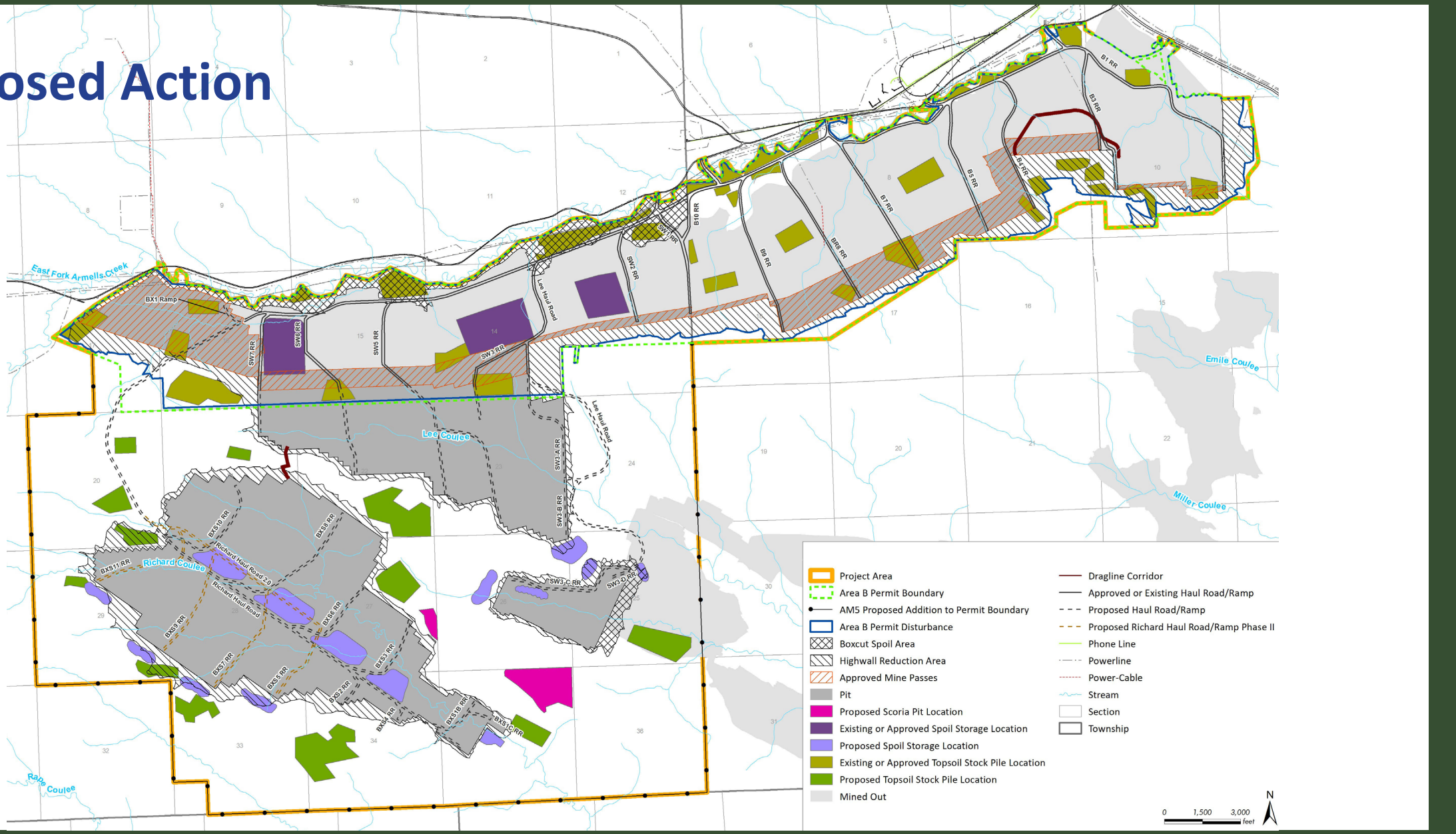
Estimated Operational Timeline for the Rosebud Mine





Rosebud Mine, Including the Proposed Project Area

Proposed Action



General Mining Method

- Soil (topsoil, subsoil, and tree soil) is removed and saved for reclamation.
- Overburden is drilled, blasted, and removed, creating broken sedimentary rock material known as “spoil.”
- A dragline is then used to strip the overburden from succeeding mine passes; as needed, other auxiliary equipment may be used in overburden removal.
- Spoil is side cast by the dragline into the mined-out pit created by the preceding pass, forming spoil ridges.

General Mining Method (cont.)

- The coal is drilled and blasted. A loading shovel, front-end loader, or backhoe loads the coal into coal haulers.
- The coal is transported on a haul road to Area C or Area A for crushing.
- Crushed coal is sent to the Colstrip Power Plant via an existing 4.2-mile conveyor.
- Lower quality coal is trucked to the Rosebud Power Plant.

Reclamation and Bond Release

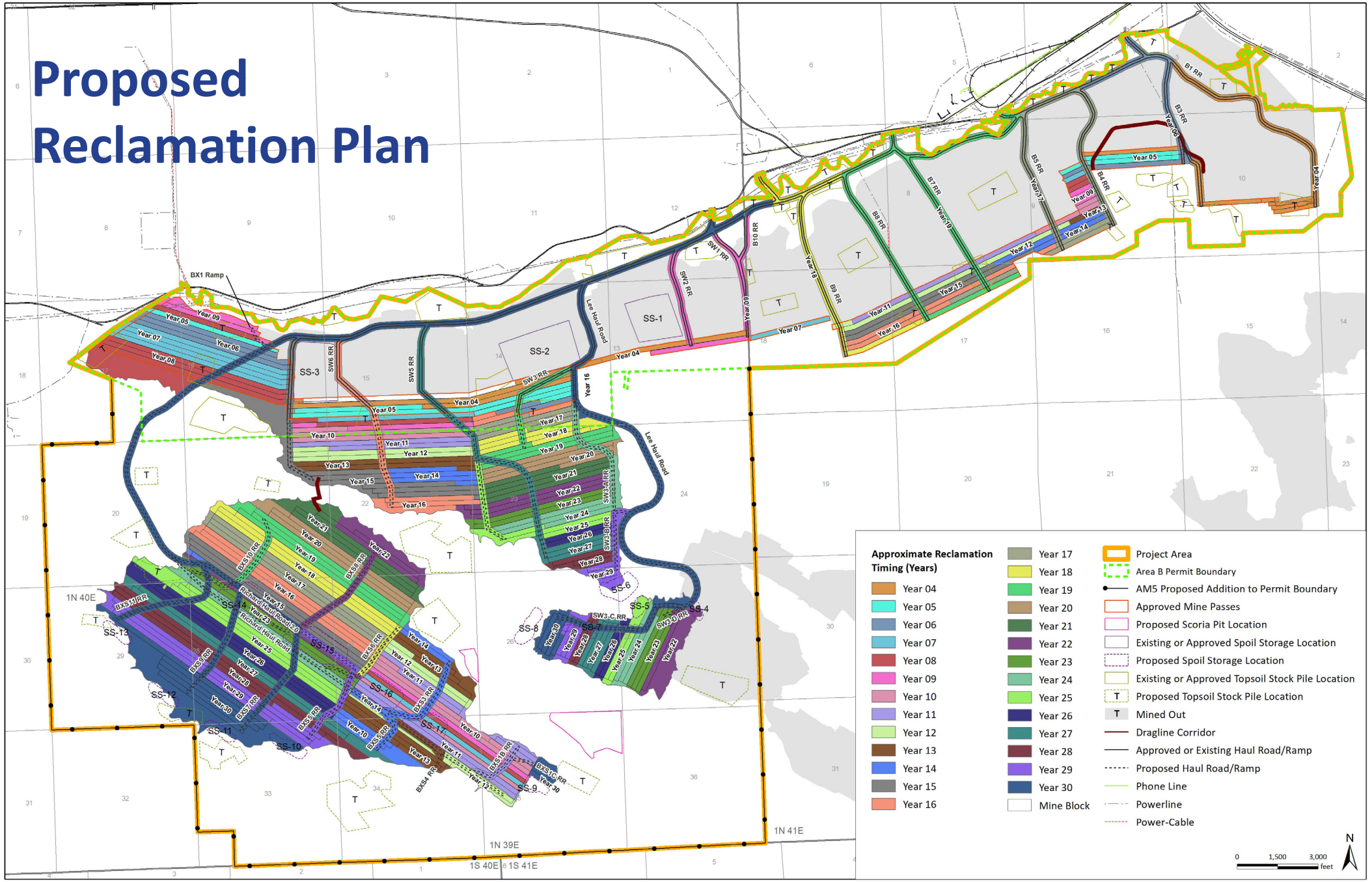
Reclamation, as it relates to bond release, occurs in four phases:

- **Phase I:** pit backfilling and grading to meet the postmine topography and drainage basin design.
- **Phase II:** surface stabilization to prevent accelerated erosion, soil application, revegetation, and sediment-control measures.

Reclamation and Bond Release (cont.)

- **Phase III:** ensures that the postmining land uses have been met and includes monitoring of vegetation, soil, surface water, and ground water.
- **Phase IV:** ensures the restoration of the hydrologic balance.

Proposed Reclamation Plan



Monitoring

- Surface and Ground Water Monitoring
- Alluvial Valley Floor Monitoring of Rosebud Creek
- Aquatic Macroinvertebrate Surveys
- Revegetation Monitoring
- Wildlife Surveys
- Soil and Spoil Monitoring

Affected Environment And Environmental Consequences

DEQ
Montana Department of Environmental Quality

Land Use Impacts

- The surface is primarily owned by private entities and the State of Montana.
- Subsurface coal proposed to be mined is held under state and private ownership.
- The 2012 Chalky Fire burned most of the AM5 Project area.
- Grazing is the predominant pre-mine land use and would be the predominant postmine land use.

Alternative 2 Land Use Impacts.

Land Use	Pre-mine Land Use in Project Area (acres)	Postmine Land Use in Project Area (acres)
Cropland	100	464
Fish and wildlife habitat	79	21
Grazing land	10,084	10,319
Pastureland	4	381
Industrial, commercial, or developed water resources*	2,453	0
Disturbed and existing reclamation areas	2,440	0
Total	**15,153**	**11,185[1]**

** Includes active mining operations. [1]Postmine acreages do not include land in the analysis area currently being mined or disturbed under the existing Area B permit.*

Vegetation Impacts

- Removal and loss of vegetation communities on up to 5,643 acres
- During the active mining period:
  - Loss of biodiversity
  - Short-term loss of productivity
  - Loss of soil structure and microorganisms due to prolonged storage of soil
- Reclamation:
  - Plant communities would be established but with reduced biodiversity and productivity
  - Species composition would not be the same

Wetlands

- In the Project area:
  - 22 wetlands – many were previously affected by land use activities, including stock pond development and the 2012 Chalky Fire.
  - 2 open water features – a shallow pool and a remnant pit pond.
- All wetlands, open waters, springs, and seeps in the analysis area are not jurisdictional waters of the U.S. under the authority of Section 404 of the Clean Water Act.

Wetland Impacts

Direct Impacts

- 12.27 acres of wetlands
- 2 open water features

Secondary Impacts

- Impacts on wetlands may occur in Richard and Lee Coulees from changes to surface water or ground water flow quantities due to mining activities.

Wetland Mitigation

- Wetland mitigation has been proposed by Westmoreland Rosebud.
- Options include the following and would be determined in consultation with DEQ:
  - Creation through reclamation
  - Enhancement of wetland habitat
  - Financial support for MT's statewide wetland strategy
  - Restoration

Wildlife Direct Impacts

- 5,711 acres of habitat would be disturbed through vegetation removal, which could result in:
  - Direct mortality
  - Injury to wildlife
  - Behavioral shifts
- Reclamation would eventually offset some adverse wildlife impacts.
  - Vegetation species composition and maturity of certain vegetation communities may take years, resulting in long-term adverse impacts or shifts in wildlife species composition.

Wildlife Secondary Impacts

- Long-term barriers to wildlife movement, displacement, and changes in behavior due to:
  - Deferred reclamation of the existing Area B permit area while mining is occurring in AM5.
  - Human activity and noise.
- Aquatic habitat could be secondarily impacted by changes in streamflow or water quality due to mining.

Impacts on MT Species of Concern (SOC)

- Moderate direct impacts on SOC due to the permanent loss or modification of habitat:
  - 1,162 acres of lost conifer habitat (pinyon jay and silver-haired bat)
  - 4,108 acres of shrub and grassland habitat (Brewer's sparrow, long-billed curlew, loggerhead shrike, and short-horned lizard)
  - 3,269 acres of lost grassland (sage thrasher, plains spadefoot toad, and short-horned lizard)
  - Lost woodland habitat (little brown myotis, pallid bat, and Townsend's big-eared bat)
  - Wetland areas (red-headed woodpecker, great blue heron, northern leopard frog, and fringed myotis)

Greater Sage-Grouse Mitigation

- Westmoreland Rosebud consulted with the Montana Sage Grouse Habitat Conservation Program to develop a mitigation plan.
- No greater sage-grouse leks (spring breeding habitat) have been observed or documented within the analysis area.
- 3,137.72 functional acres of general habitat would be lost due to direct and secondary impacts.
- Westmoreland Rosebud elected to make a financial contribution of $36,522.91 to the Greater Sage-grouse Stewardship Account.

Impacts on Endangered Species

- No impacts on whooping crane, black-footed ferret, or pallid sturgeon

Federally Endangered Species Potentially Occurring in Rosebud, Treasure, Big Horn, and Powder River Counties.

Common Name	Scientific Name	Status* Federal/State	General Habitat Affinity	Habitat in Analysis Area
Birds				
Whooping crane	*Grus americana*	E	Wet meadows and marshes	None
Mammals				
Black-footed ferret	*Mustela nigripes*	E	Active prairie dog towns or complexes >80 acres in size	None
Fish				
Pallid sturgeon	*Scaphirhynchus albus*	E	Slow-moving, large rivers	None

Fish and Wildlife Enhancement Measures

To protect and enhance fish and wildlife habitat, Westmoreland Rosebud would:

- Avoid, to the extent practicable, existing wildlife habitats of unusually high value (including wetlands).
- Minimize impacts on wildlife from mine operations.
- Reclaim wildlife habitat and replace habitats of unusually high value at a ratio of 1:1 or greater.
- Implement a wildlife conservation plan to address threatened and endangered species and MT SOC.
- Monitor wildlife use of the reclaimed area and surrounding habitat.

Surface Water Quality

- Baseline water quality is variable in the Project area for several reasons:
  - Evapotranspiration
  - Transpiration
  - Diversions for agricultural purposes
  - Stock watering
- Exceedances have been recorded for some parameters in some monitored springs, locations in Rosebud Creek, and monitored ponds.

Surface Water Impacts from the Proposed Action

- Loss of ephemeral streams in the mine disturbance boundary, including Richard and Lee Coulees and their tributaries.
- Loss of existing springs and stock ponds within the mine disturbance boundary.
- Reduction in or elimination of spring flows to wetlands and stock ponds.
- Changes to in-stream and spring-fed pond water quality.

Surface Water Impacts (cont.)

- Changes to site hydrology would continue during mining and through reclamation, until conditions are then returned similar to pre-mine conditions.
- Based on Westmoreland Rosebud's ground water model, it would take more than 50 years for the water table to be reestablished after site reclamation.
- Westmoreland Rosebud would be required to meet postmine land use performance standards and protect pre-mine and beneficial uses of the water.

Ground Water Quality

- Baseline ground water quality in the Project area shows some exceedances of Montana Water Quality Standards.
- Springs:
  - Numerous in the Project area and typically located along or near drainages.
  - 11 are numbered and actively monitored.
  - Some have exceedances for some parameters.

Ground Water Impacts from the Proposed Action

- Removal of coal within drainages would likely result in reduced baseflow in nearby downstream reaches until ground water levels have recovered.
- Soluble salts from spoil would dissolve into ground water, increasing total dissolved solids (TDS) concentrations.
- Ground water levels in the unmined portions of the Rosebud Coal would decline as the mined coal is dewatered and removed.
- 11 wells would be removed by mining, 5 of which are within the disturbance area.
- 8 of the 11 monitored springs would be impacted.

Ground Water Impacts (cont.)

- There would be a slow recovery of ground water levels in the Project area.
- Alluvial ground water TDS concentrations near the mine would likely increase.
- Ground water quality changes would not impact existing and viable beneficial uses and would support the primary pre-mine uses of domestic and livestock watering.

Water Rights Impacts from the Proposed Action

- 42 of the 62 surface water rights in the analysis area are not anticipated to be impacted.
- Short-term water quantity impacts are possible in 12 of the 62 surface water rights; all 12 constitute stock use directly from the source.
- Of the 14 spring water rights used for stock watering, 13 are not likely to be impacted and 1 may experience a temporary reduction of flow rate.
- 16 of the 48 wells would be impacted. No wells outside the disturbance area are anticipated to be impacted by drawdown or water quality impacts.

Replacement Water

- MSUMRA requires the applicant to provide alternative water supplies to replace impacted water supply.
- Westmoreland Rosebud identified ground water pumped from the unmined areas of the coal aquifers and Sub-McKay sandstone as possible replacement sources.

Cultural Resources

- Cultural resources are aspects of the human environment that include buildings, structures, objects, historic and prehistoric archaeological sites, landscapes, and districts.
- The analysis area is the 5,711-acre area within the 15,153-acre Project area where disturbance would occur.

Cultural Resources Impacts

- 31 potential historic properties would be adversely affected by ground-disturbing activities, including:
  - 27 properties (primarily prehistoric camps or lithic scatters) determined eligible for listing in the National Register of Historic Places (NRHP).
  - 3 sites that remain unevaluated for listing in the NRHP.
  - 1 historic district (the Lee Community Historic District).

Cultural Resources Mitigation

- Adverse impacts on potential historic properties would be resolved through a treatment plan, to be developed by Westmoreland Rosebud.
- Westmoreland Rosebud would complete an ethnographic study.
  - Any potential historic properties or traditional cultural properties identified during the study would be evaluated for eligibility for listing in the NRHP through consultation with the SHPO and tribes.
  - Any of these properties determined eligible would also require avoidance or mitigation.

Socioeconomic IMPLAN Analysis

Counties:

- Rosebud
- Treasure
- Big Horn

Incorporated Municipalities:

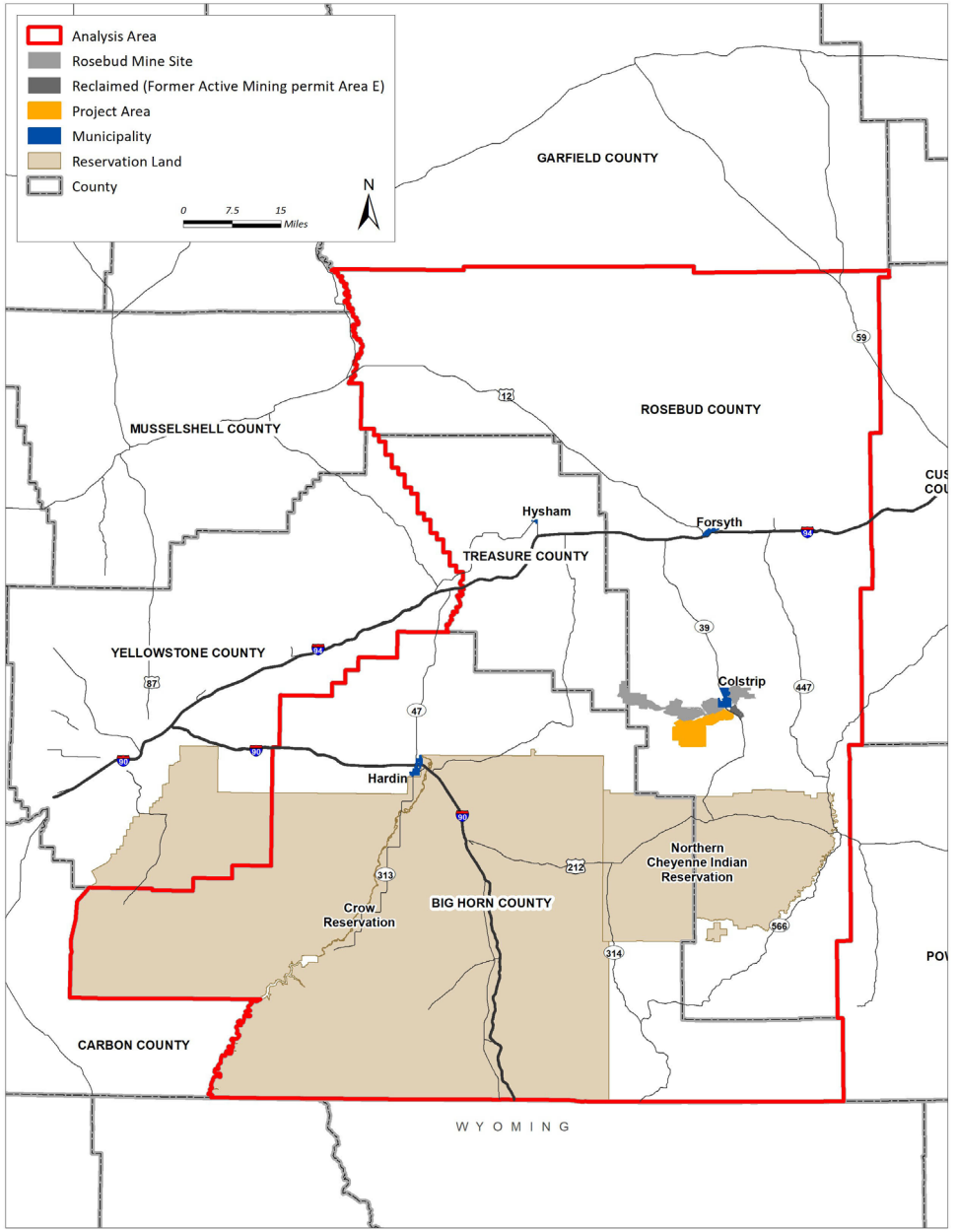
- Colstrip
- Forsyth
- Hysham
- Hardin

Reservations:

- Northern Cheyenne Indian Reservation
- Crow Reservation

Main Industries:

- Coal mining
- Power production
- Agriculture



Types of Socioeconomic Effects

- ***Direct effects*** are associated with the immediate effects tied to mine activity (e.g., the payroll and the supplies, materials, and services purchased by the Rosebud Mine).
- ***Indirect effects*** are production changes resulting from spending during operations in industries that supply products and services to mine operations.
- ***Induced effects*** are changes in economic activity resulting from households spending income earned directly or indirectly as a result of mine operations.

Socioeconomic Impacts

Under all alternatives, while operating, the Rosebud Mine would support:

- 316 **direct** jobs (62 for the Northern Cheyenne Indian Reservation)
- 70 **indirect** jobs (13 for the Northern Cheyenne Indian Reservation)
- 91 **induced** jobs (19 for the Northern Cheyenne Indian Reservation)

Socioeconomic Impacts (cont.)

Under all alternatives, while operating, the Rosebud Mine would support:

- $154 million in **annual direct** economic output ($30 million for the Northern Cheyenne Indian Reservation)
- $18 million in **annual indirect** economic output ($3.2 million for the Northern Cheyenne Indian Reservation)
- $11.7 million in **annual induced** economic output ($2.1 million for the Northern Cheyenne Indian Reservation)
- $27 million in annual state revenues
- $8 million in annual taxes and royalties

Oral Public Comments

DEQ
Montana Department of Environmental Quality

Ground Rules

- Please mute your microphone and turn off your video camera when you are not the speaker
- You must be called upon before you speak
- Honor time limits
- Respect others and their opinions
- Treat meeting participants with kindness

Oral Public Comments

- If you did not sign up to speak when you registered for the meeting, please send a private chat box message to Emily Corsi now; provide your name and organization (if applicable).
  - You will be called on when it is your turn to speak and we will unmute your microphone.
  - If you choose, you may also turn on your video camera.
  - Please limit your remarks to 5 minutes or less. We will let you know when 1 minute is remaining and then let you know when 5 minutes is up.
- Alternatively, you can submit written comments to DEQ. Information on how to submit comments is provided in the public notice materials, Eventbrite invite, and will be provided after oral comments.

Note: The meeting is being recorded and a transcript will be included in the Project Record.

Conclusion

Comment Period ends **November 23, 2020**

Submit comments by:

- Email:

  rosebud-mine-area-b-eis@eroresources.com

  Subject: "ATTN: Rosebud Mine Area B AM5 EIS"

- Mail to:

  Jen Lane, MEPA Coordinator
  Montana DEQ
  PO Box 200901
  Helena, MT 59620-0901

For additional information, contact Jen Lane:

- Email: JLane2@mt.gov
- Phone: 406-444-4956