

Environmental Assessment

for

Bridger Coal Lease Modification: WYW2727

Prepared by

**Bureau of Land Management
Rock Springs Field Office
280 Highway 191 North
Rock Springs, Wyoming**

EA #: WY-040-EA10-30



The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

BLM/WY/PL-10/033+1320

EA #: WY-040-EA10-30

1.0 INTRODUCTION

Proposed Action Title: Bridger Coal Lease Modification to WYW2727

Proposed Action Type and Location: To modify the existing federal coal lease WYW2727 to include parcels of unleased federal coal lands situated within Sections 12 and 24, Township 20 North, Range 100 West; and to obtain a right-of-way to conduct surface operations in Section 36, Township 20 North, Range 100 West.

Applicant: Bridger Coal Company
C/o Interwest Mining Company
1407 West North Temple, Suite 310
Salt Lake City, Utah 84116

Lease/Serial/Case File No.: WYW2727 (Coal Lease); WYW167727 (Right-of-Way)

1.1 Background

The Jim Bridger Coal Mine complex is operated by Bridger Coal Company and consists of a multi-faceted mining operation inclusive of surface, underground, and highwall mining methods together with ongoing reclamation operations. The mine produces coal from federal, private and state lands situated within the area known as the Union Pacific Railroad checkerboard land grant. Union Pacific lands are now owned and controlled by Anadarko Petroleum Corporation.

The Jim Bridger Coal Mine complex is a captive operation and has been in production since 1974 providing coal to the adjacent Jim Bridger Power Plant. The annual production of this mine complex is approximately 6 million tons. Bridger Coal Company is a joint venture comprised of two owners: Idaho Energy Resource Company, a wholly-owned subsidiary of Idaho Power Company; and Pacific Minerals, Inc., a wholly-owned subsidiary of PacifiCorp.

PacifiCorp and Idaho Power Company are both committed, through their respective subsidiaries, to provide secure, high quality, low-cost fuel for the generation of electricity at their jointly owned Jim Bridger Power Plant. It is a high priority of both companies to minimize power generation costs and, in turn the cost of electricity to their consumers. To achieve this priority, an acceptable fuel supply must be secured for the remaining life of the Jim Bridger Power Plant. The adjacent mine-mouth captive Jim Bridger surface coal mine has been supplying the majority of the coal requirements for the power plant over the past 35 years. The newly developed underground mine provides a majority of the overall production going forward with the surface mine and outside coal supplementing the annual fueling requirements to the power plant.

With the potential expansion for surface strip mine development in the southern Bridger coal field, it becomes necessary to secure federal, private and state coal lands to accommodate the expanded mine recovery area. The estimated recoverable reserves were predicated on several factors inclusive of inherent geologic and mining conditions, coal quality, mine economics,

marketability, environmental and safety. The inclusion of these lease modification parcels into the existing Jim Bridger surface coal mine operation is the only economical and technologically feasible means of recovering these portions of coal reserves, which otherwise will be subject to bypass. The coal reserves contained within this checkerboard lease tract will be mined, delivered and utilized for the generation of electricity. The surface mine expansion in these areas form a logical contiguous reserve, which contributes to the long range Jim Bridger Power Plant fueling requirements.

This modification would be advantageous and beneficial to the interests of the United States because it provides the following:

- Continuity between the existing private and state leases, thus providing the necessary legal right-of-entry to sequentially mine eastward from the existing surface mine onto these adjacent lands.
- Allows mining of coal not logically accessed and recovered by any other operations and enables potential recovery of a coal resource which would most likely be bypassed.
- Creates a contiguous property and allows legal right of entry between all leases within the checkerboard lands owned or controlled by the same company.
- Provides additional revenues to the United States in the form of annual rentals and production royalties.
- Provides a logical and sustained link within the existing boundaries for continued operations.

1.2 Purpose and Need for the Proposed Action

The purpose of the project is to provide access to federal lands for the extraction of the coal resources. The need for the project is established by BLM responsibility under the Mineral Leasing Act of 1920, as amended by the Federal Coal Leasing Amendments Act of 1976 and the Federal Land Policy and Management Act (FLPMA) of 1976.

Decisions to be made: The BLM will decide whether or not to modify the existing coal lease (WYW2727) to include the identified parcels in the proposed action for the purposes of extracting the coal resources. Additionally, the BLM will decide whether to grant a right-of-way to support surface mining operations for the split estate lands of Section 36.

1.3 Conformance with Land Use Plan

Regulations at 1610.5-3 require actions to be in conformance with the approved land use plan. The Green River Resource Management Plan and Record of Decision (GRRMP), effective 1997, allows for coal leasing and development. The GRRMP provides land use guidance for coal leasing within the proposed project area. RMP decisions pertaining to this proposal include:

- Solid Leasables (Coal), page 13
 - The objective for management of the federal coal resources in the planning area is to provide for both short- and long-range development of federal coal, in an orderly and timely manner, consistent with the policies

of the federal coal management program, environmental integrity, national energy needs, and related demands.

- With appropriate limitations and mitigation requirements for the protection of other resource values, all BLM-administered public lands and Federal coal lands in the Green River planning area, except for those lands identified as closed, are open to coal resource inventory and exploration to help identify coal resources and their development potential.
- Land and Realty Management, page 9
 - Manage public lands to support the goals and objectives of other resource programs;
 - Respond to public demand for land use authorizations; and
 - Acquire administrative and public access where necessary.

1.4 Lease Rights and Special Lease Stipulations

Due to existing oil and gas leases in the vicinity of the coal mine, the lease parcels in Sections 12 and 24 may be subject to additional controlled surface use (CSU) Coal/Oil and Gas Conflict Special Lease Stipulations for protecting the first in time valid existing rights of the lessee. These stipulations will be determined by the BLM Authorized Officer for lease issuance.

At present, there are valid oil and gas leases in the vicinity that include all of Section 12 (WYW-153201) and Section 24 (WYW-153204).

1.5 Relationship to Statutes, Regulations, Plans or Other Environmental Analyses

The coal lease modification application was submitted and will be processed and evaluated under the following authorities: Mineral Leasing Act of 1920 as amended; Multiple-Use Sustained Yield Act of 1960; NEPA; Federal Coal Leasing Amendments Act of 1976 (FCLAA); FLPMA; and the Surface Mining Control and Reclamation Act of 1977 (SMCRA).

The leasing of federal coal is the responsibility of the BLM under FCLAA. After a coal lease is issued, SMCRA gives the Office of Surface Mining Reclamation and Enforcement (OSM) primary responsibility to administer programs that regulate surface coal mining operations and the surface effects of underground coal mining operations. Pursuant to Section 503 of SMCRA, the Wyoming Department of Environmental Quality (WDEQ) developed, and in November 1980 the Secretary of the Interior approved, a permanent program authorizing WDEQ to regulate surface coal mining operations and surface effects of underground mining on non-federal lands within the State of Wyoming. In January 1987, pursuant to Section 523(c) of SMCRA, WDEQ entered into a cooperative agreement with the Secretary of the Interior authorizing WDEQ to regulate surface coal mining operations and surface effects of underground mining on federal lands within the state.

Pursuant to the cooperative agreement, federal coal lease holders in Wyoming must submit permit application packages to OSM and WDEQ for proposed mining and reclamation

operations on federal lands in the state. WDEQ reviews the package to ensure that the permit application complies with the permitting requirements and that the coal mining operation will meet the performance standards of the approved Wyoming state permanent program. If it does comply, WDEQ issues the applicant a permit to conduct coal mining operations.

WDEQ enforces the performance standards and permit requirements for reclamation during the mine's operation and has primary authority in environmental emergencies. OSM retains oversight responsibility for this enforcement. If the coal lease is modified to include the requested additional acreage, the lessee will be required to obtain a coal mining permit prior to mining the coal. Because this lease modification does not exceed the modified acreage limitation of 960 acres as set forth with the passage of the Energy Policy Act of 2005, a revision of the existing Mining and Reclamation Plan for the Jim Bridger Coal Mine is not required.

1.6 Scoping, Public Involvement and Issues

The BLM Rock Springs Field Office (RSFO) issued a news release on November 17, 2009, requesting public comment on the Proposed Action; a scoping notice was published on November 18, 2009, on the RSFO website. The 30-day comment period ended on December 16, 2009. During this period, the BLM received four comment letters: three from state governmental agencies and one from a Wyoming citizen. A Summary of Scoping Comments are included as Appendix A.

Issues identified during both external scoping and internal discussions with the BLM interdisciplinary (ID) team included Crucial Winter Range (CWR) for big game, raptor nesting sites, sage-grouse core area, grazing Animal Unit Months (AUMs), riparian wetlands, water depletion, cultural issues and air quality/ global warming.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative I – No Action Alternative

The No Action Alternative is to reject the application to modify the existing coal lease (WYW2727) for Sections 12 and 24; and deny the right-of-way to support surface mining operations in Section 36.

2.2 Alternative II – Proposed Action

The proposed action is to modify federal coal lease WYW2727 to include 560 acres of contiguous coal lands as described in Table 1 and to be granted a right-of-way to conduct surface operations in Section 36, Township 20 North, Range 100 West, which is under Wyoming State Coal Lease No. 0-42077. The lands in section 36 are split estate, with the State of Wyoming owning the subsurface estate and the surface estate federally owned and managed by the BLM.

Table 1. Modification Descriptions			
Federal Coal Lease WYW2727			
T. 20 N., R. 100 W., 6 TH P.M.	Acres	Subsurface Owner	Surface Owner
Section 12: SW ¼, S ½ NW ¼	240.00	BLM	BLM
Section 24: W ½	320.00	BLM	BLM
Total	560.00		
Right of Way: WYW167727			
T. 20 N., R. 100 W., 6 TH P.M.	Acres	Subsurface Owner	Surface Owner
Section 36: W ½, NW ¼, NW ¼ SW ¼	112.00	State of WY	BLM
Total	112.00		

Federal coal lease WYW2727 was originally issued on October 1, 1969, and readjusted effective October 1, 1999. This lease modification does not exceed the modified acreage limitation of 960 acres as set forth with the passage of the Energy Policy Act of 2005.

2.2.1 Coal Mining

There are four seams of coal in Sections 12 and 24, designated D5, D4, D3, and D2, from top to bottom. The seams generally dip 2 to 5 degrees to the northeast. Coal seam thickness and quality vary in Sections 12 and 24, ranging from 2 to 15 feet thick (Bridger April 2009).

Mining in Section 12 is projected to be a combination of dragline excavation of the overburden with scraper and front-end loader excavation of the interburden material between the coal seams. The individual coal seams will be removed by a front-end loader as they are uncovered and readied for delivery to the power plant. In this sequence, topsoil will first be removed and stockpiled for reclamation using scrapers. The overburden will then be drilled for pre-splitting, and then blasted to loosen the material for removal. A combination of dozers and draglines will remove the remaining overburden down to the top of the D5 seam. After the D5 seam has been uncovered, it will be drilled and blasted for removal by the front-end loader and haulage to the power plant. Once the D5 seam has been recovered, the scrapers and the front-end loader will remove the interburden material over the D4 seam so the coal can be subsequently removed and hauled to the power plant. Surface mining in Section 12 is projected to recover only the D5 and D4 seams due to the increased depths and the high stripping ratios involved. After the economically recoverable surface mined portions of the D5 and D4 seams have been removed, Bridger Coal Company proposes to recover additional coal reserves from the D5 seam using highwall mining techniques (Bridger April 2009).

Mining in Section 24 is projected to be a combination of truck-shovel pre-stripping and dragline excavation of the overburden. A front-end loader will remove each coal seam as it is uncovered and readied for delivery to the power plant. In the same manner as described above, topsoil will be removed and stockpiled for reclamation using scrapers. The overburden will then be drilled for pre-splitting, and then blasted to loosen the material for removal. The truck-shovel operation

will remove a portion of the overburden material down to a level where a combination of dozers and draglines can remove the remaining overburden to uncover the D5 seam. After the D5 seam has been uncovered, it will be drilled and blasted for removal by the front-end loader and haulage to the power plant. Once the D5 seam has been recovered, the dragline will remove the interburden material over the D4 seam so that this coal can be recovered as previously described. After the D4 seam has been uncovered and removed, the dragline will again return to take out the interburden and uncover the underlying D3 seam. Core drilling has indicated that the quality of the D3 seam is of a lower BTU and of higher sulfur content than can be used at the power plant. In areas where this seam is of exceedingly poor quality, it may potentially be bypassed and the coal will be spoiled along with the overlying D3 interburden and the underlying D1 interburden material. Whether the D3 seam is recovered or not, the dragline will continue the excavation of the interburden material until the D1 seam is uncovered. The D1 seam will subsequently be removed and hauled to the power plant as previously described. The D1 seam is the deepest coal in the sequence and will continue to be mined until the economic stripping limit is reached. There are currently no plans to recover additional coal reserves in this Section using highwall mining techniques (Bridger April 2009).

Mining in Section 36 will be a continuum of strip mining from the adjacent lands of the existing mining operation as part of the Wyoming State Coal Lease No. 0-42077. The general mining sequence includes establishing an interior surface access road within the area of impact, establishing drainage and sediment controls, topsoil removal, overburden blasting and removal, blasting and mining of the coal (Bridger July 2009).

2.2.2 Reclamation

Reclamation is an ongoing process at the Jim Bridger Coal Mine. The reclamation schedule is dependent on the Mine Plan and the mining sequence. The surface mine has multiple seams at various thickness and quality scheduled to be mined. Mine sequencing is dependent on the depth of overburden, length of pit, and coal blending requirements. Bridger Coal Company will normally leave four spoil peaks between the re-graded area and the pit which generally requires that two or three years lead time precede final grading. This helps to protect reclaimed areas from blasting, spoiling, and other mining operations (Bridger April 2009).

Following regrading of the spoil materials, topsoil will be applied. Topsoil is usually removed from a stockpile and applied on regraded spoil. When possible, topsoil will be direct hauled from new soil stripping areas and immediately applied on regraded spoil. Newly applied topsoil will normally be revegetated ahead of the next growing season. Revegetation is done with a mixture of mostly native grasses, forbs, and shrubs. Seed mixes contain high species diversity. Revegetation techniques are designed to minimize erosion (Bridger April 2009).

In general, topsoil replacement will occur in the spring through fall and final seeding will occur in the fall.

2.3 Other Action Alternatives

No other alternatives were identified for analysis. There is no logical competitive interest based upon utilization of the lands or mining of the deposits because:

- The applicant is the lessee of record holding the private, state and federal leases adjacent to the modification area.
- This lease modification would allow a continuum of an existing mining block and would not represent an economic venture based on a stand alone development of the property.
- There is no other nearby operation which could economically mine this area.
- The only logical access is from the applicant's surface mine and adjacent leases.

2.4 Alternatives Considered but not Analyzed in Detail

Not applicable. No other alternatives were identified (see Section 2.3).

3.0 AFFECTED ENVIRONMENT

Issues identified during both external scoping and internal discussions with the BLM ID team included air quality, cultural issues, grazing, riparian wetlands, water depletion, , and wildlife concerns regarding big game, raptor nesting sites, and sage-grouse.

The following are not present and/or were not considered to be issues of concern and will not be further analyzed:

- Areas of Critical Environmental Concern (ACEC)
- Environmental Justice
- Prime or Unique Farmlands
- Flood Plains
- Hazardous or Solid Wastes
- Invasive, Non Native Species
- Native American Religious Concerns
- Noxious Weeds
- Paleontology
- Recreation
- Soils
- Special Status Species
- Threatened and Endangered Species
- Vegetation
- Visual Resource Management
- Water Quality and Prime or Sole Source of Drinking Water
- Wild and Scenic Rivers
- Wilderness Values

3.1 Air Quality/ Global Warming

The climate in the area of the Jim Bridger Coal Mine complex is classified as semi-arid. It is characterized by abundant sunshine, wide seasonal and diurnal temperature variations, and slight precipitation. Precipitation averages only 7 to 8 inches annually and mostly occurs in the form of snow and spring rain. The wind generally blows from a westerly-south-westerly direction.

Air quality in the project area is generally excellent with measured background concentrations of all criteria pollutants well below the established standards (BLM 1997). Criteria pollutant concentrations are measured by the State of Wyoming, Department of Environmental Quality and are subject to the Clean Air Act and Wyoming Air Quality Standards and Regulation.

The Jim Bridger Power Plant is located adjacent to the surface mining operation. This plant is operated under an Air Quality Operating Permit (Permit No. 3-1-120-2), which requires monitoring for a variety of air quality pollutants including particulate matter. Particulate matter is the primary pollutant from the surface mining activities.

Greenhouse gasses (GHGs) have been raised as a concern due to the greenhouse effect. The greenhouse effect is a theory that certain gases in the atmosphere impede the release of radiation from the earth, trapping heat in the atmosphere like glass in a greenhouse. GHGs currently include carbon dioxide (CO₂), methane (CH₄), water vapor, ozone, and nitrous oxide (NO₂). GHGs are not currently regulated, but there is a consensus in the international community that global climate change is occurring and that GHGs may play a role. If the existing coal lease is modified according to the Proposed Action, GHGs would be released into the atmosphere.

3.2 Cultural

A Class III Cultural Resource Inventory was conducted in 2007 and 2009 for the proposed project area. These inventories resulted in the identification of seventeen cultural resources, including fifteen prehistoric sites and two historic sites within the project area.

One prehistoric site is considered eligible under Criterion C for inclusion within the National Register of Historic Places (NRHP). This site lies outside of the proposed area for ground disturbance and will not be physically impacted by the proposed undertaking. One historic site is considered eligible under Criterion A for inclusion within the NRHP. This site is an historic linear feature known as the Cherokee Trail (Trail). While the entire linear feature may be considered eligible for inclusion with the NRHP, this particular segment is considered non-contributing to the site's overall eligibility due to modern upgrades in the form of a bladed road and the State Historic Preservation Office concurrence. This site may be impacted by the proposed surface disturbance; however, since this segment of the Trail is non-contributing to the NRHP eligibility, there will be no adverse effect.

3.3 Grazing

BLM-administered rangelands are managed following the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management, which specifies minimum acceptable health,

productivity, and sustainability conditions. The Bridger Coal Mine complex is within the Rock Springs Grazing Allotment. The Rock Springs Grazing Allotment consists primarily of lands within the checkerboard land grant, with approximately half being privately owned or leased by the Rock Springs Grazing Association (RSGA). Land ownership within the allotment is illustrated in Table 2.

Allotment Name	Allotment Number	Public Acres	Other Federal Acres	State Acres	Private Acres	Total Acres
Rock Springs	13018	956,682	98,795	20,782	984,803	2,061,062

In addition to the RSGA, there are a few others who own land within this allotment and are issued BLM permits. These are called “in-holders” because their land is found within RSGA holdings. Agreements were made in the early history of grazing management recognizing that the “in-holders” would graze upon BLM-administered land and RSGA land adjacent to their private holdings. The BLM permits grazing on BLM-administered lands, but due to the land pattern grazing also occurs on RSGA land. These use areas were redefined and clarified in meetings held in March and May of 2003. This was a cooperative effort by all parties involved. Use areas were defined through historic and current grazing use patterns. If there is a change of operator the use area may be re-evaluated.

Within the project area, there are 56 Animal Unit Months (AUMs). The primary types of livestock are cattle and sheep and the grazing period typically runs from December 1 to May 15. According to BLM records, there is one range improvement known as 10 Mile Reservoir #3 located in the NW ¼ of the NW ¼ of Section 36. The improvement was constructed in 1956 and is currently dry and in need of maintenance.

3.4 Riparian Wetlands and Water Depletion

The majority of surface water in the project area occurs as ephemeral streams, which flow only as a result of precipitation. However, the drainage known as Ten Mile Draw located in Section 12 is classified as an intermittent stream and has an established riparian wetland area.

Soils in the project area are naturally erosive because they are formed in sloping sandstones and loam and have low vegetative cover. The combination of intermittent flows and erosive soils results in episodic and occasionally high natural sediment loads. The Bridger Coal Mine controls sediment yield in mined areas with the use of alternate sediment control measures approved as part of the Wyoming Department of Environmental Quality-Land Quality Division mining permit. These alternate sediment control measures allow water to flow downstream after excess sediment has settled out in sediment traps. Water quality is naturally slightly alkaline.

There are no fisheries associated with Ten Mile Draw. However, the use of water for dust abatement would constitute water depletion to the Colorado River System. It is expected that the Bridger Coal Company plans to use a total of 82.92 acre feet of water during dust abatement, which will be obtained from private wells within the drainage system.

3.5 Wildlife

3.5.1 Big Game

The project area offers year-round habitat for many big game species. Pronghorn antelope, elk, and mule deer are common. The landscape supports big sagebrush, bud sage, rabbitbrush, and saltbrush, all of which are important food for big game.

The entire Jim Bridger Coal Mine complex lies within delineated crucial winter range (CWR) for pronghorn antelope. Although data shows this area is used as winter range, especially during severe winters, there is no strong evidence that the Ten Mile Draw tributary serves as a primary movement corridor for pronghorn (WGFD 1991). It is known that antelope move through immediately north of Interstate 80 in harsh winters. Although the mine site straddles two herd boundaries, these boundaries are of little consequence to pronghorn when they move in front of winter storms (WGFD 1991).

According to the 1997 Green River RMP, big game CWR and birthing areas are open to further consideration for federal coal leasing and development with a provision for maintaining a balance between development and adequate habitats (BLM 1997). This is accomplished through controlled timing and sequencing of Federal coal leasing and development and reclamation in these areas.

3.5.2 Raptors

Raptors are protected under the Migratory Bird Treaty Act (16 USC 703–712), which prohibits taking, killing, or possessing migratory birds or their parts, including eggs, nests, and feathers.

The BLM ID team determined that the project area contains suitable ferruginous hawk nesting and foraging habitat such as basin-prairie shrub, grassland, and rock outcrops. Ferruginous hawks are considered to be a BLM sensitive species; and are managed to ensure that BLM actions do not result in the listing of the species under the Endangered Species Act.

3.5.3 Sage-grouse

The Greater Sage-Grouse depends almost exclusively on healthy sagebrush habitat, with an understory of grasses and forbs, for year-round survival. The BLM ID team members identified no sage-grouse leks within 2 miles of the federal lease modification parcels. According to current data, the northern portions of the existing coal mine, Section 12, and a small portion of the northeast corner of Section 24 are within the currently identified State of Wyoming's Core Population Areas. However, within the mining areas, it is unlikely that any healthy sagebrush habitat remains that would be suitable for sage-grouse. Therefore, the sections of the existing mine and the adjacent parcels (including Sections 12 and 24) will most likely be removed from the Core Population Areas as the Wyoming Governor's Sage-Grouse Implementation Team continues to refine the boundaries. In addition to this expected boundary change, the BLM Greater Sage Grouse Habitat Management Policy, which incorporates the core population area

strategy does not apply to nondiscretionary activities approved under 43 CFR 3400 including coal management (BLM 2009).

4.0 ENVIRONMENTAL EFFECTS

4.1 Air Quality

Alternative I – No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and no additional impacts to air quality other than those already authorized in the project area would occur.

Alternative II – Proposed Action

Periodic durations of fugitive dust may occur through the course of mining and earth work. Bridger Coal Company will operate a water truck, as needed, to control fugitive dust within its control. The company will continue to monitor and comply with existing air operating permits through the Wyoming Department of Environmental Quality.

Although no GHG inventory has been completed for the lease modification area, it is estimated that the increased emissions from this proposed action will be minimal based on the existing activities at the Bridger Coal Mine Complex. The additional coal mining of the 560 acres for the lease modification and associated right-of-way is expected to add only a negligible increase to the existing mine's annual production of 6 million tons per year.

4.2 Cultural

Alternative I – No Action Alternative

Under the No Action Alternative, no impacts to cultural resources other than those already authorized in the project area would occur.

Alternative II – Proposed Action

The identified paleontological, archaeological, and cultural resources shall be preserved or mitigated in conformance with Bridger Coal Company's existing Memorandum of Agreement that is part of the existing mining operations.

Prior to entering the project area in the modified lease, the applicant shall field stake proposed roads, power lines, drill site locations, and topsoil stripping areas. The proposed locations shall then be field assessed by the archaeological consultant to ensure any archaeological site has been preserved or mitigated.

A prehistoric site considered eligible under Criterion C for the NRHP has been identified within the project area. An avoidance area of 75 feet for surface disturbance of this site has been

established through Native American consultations. Consequently, the project will have no adverse effects on any site that is considered eligible for nomination to the NRHP.

A segment of the historic Cherokee Trail was recorded in the project area. This site is considered eligible for inclusion under Criterion A for the NRHP. The segment recorded in the project area has been upgraded to a bladed road and is considered non-contributing to the site's overall eligibility for the NRHP. This site may be impacted by the mine expansion; however, since this segment of the Trail is non-contributing there will be no adverse effects.

4.3 Grazing

Alternative I – No Action Alternative

Under the No Action Alternative, no impacts to grazing other than those already authorized in the project area would occur.

Alternative II – Proposed Action

The Rock Springs Grazing Allotment covers more than 2 million acres beyond the project area. The 560 acres included in Sections 12 and 24 for the coal lease modification represent less than 0.03 percent of the total acreage available for grazing in the allotment. Appropriate fencing around the expanded lease area will ensure livestock are not impacted by the surface mining activities. Additionally, provided appropriate reclamation is completed after mining the allotted AUMs will remain unchanged.

4.4 Riparian Wetlands and Water Depletion

Alternative I – No Action Alternative

Under the No Action Alternative, no impacts to riparian wetlands other than those already authorized in the project area would occur. Additionally, no additional water depletion would occur through the use of fugitive dust control for the project.

Alternative II – Proposed Action

Mining operations in, near, or through Ten Mile Draw could not only affect this small portion of the stream but also downstream portions by increasing sediment loading and direct removal of the riparian area.

The use of water for dust abatement constitutes water depletion to the Colorado River System. This project is expected to require usage from the Colorado River System drainage from >.1 to < 100 acre feet. Therefore, this action is considered a *may affect, likely to adversely affect* situation for threatened or endangered species within the Colorado River System and formal consultation is required with the US Fish and Wildlife Service (USFWS). As required by the Green River RMP and the USFWS agreement, formal consultation consists of a review by the

USFWS and a letter of concurrence and/or recommendations provided within 30 days regarding the proposed project. For depletions <100 acre feet a financial contribution will not be required.

A formal consultation request was sent to the USFWS on January 20, 2010. In the response letter dated February 19, 2010, the USFWS determined that since the proposed action will cause a one-year annual depletion of 82.92-acre feet to the Colorado River drainage system, the depletion fee for this project is waived (USFWS 2010).

4.5 Wildlife

4.5.1 Big Game

Alternative I – No Action Alternative

Under the No Action Alternative, no impacts to big game crucial winter range habitat other than those already authorized in the project area would occur.

Alternative II – Proposed Action

The Jim Bridger Coal Mine complex has been operating within crucial winter range for pronghorn since production began in 1974. The approved Mining and Reclamation Plan already includes plans for the return of vegetation suitable for winter range habitat and will be applicable to the lease modification area.

4.5.2 Raptors

Alternative I – No Action Alternative

Under the No Action Alternative, no impacts to raptors other than those already authorized in the project area would occur.

Alternative II – Proposed Action

Bridger Coal Company has an existing plan in place for raptor monitoring and mitigation as part of its existing operations. The company annually monitors territorial occupancy and nest productivity on over 100 raptor pairs representing red-tailed hawks, ferruginous hawks, golden eagles, prairie falcons, northern harriers, kestrels, great horned owls, and burrowing owls. Since raptor nesting activity has frequently occurred in active mining and construction areas, the company has continually executed state-of-the-art mitigation techniques to protect nest productivity while allowing mining and construction to continue with little or no interruption. This existing plan will continue for the lease modification area.

4.5.3 Sage-grouse

Alternative I – No Action Alternative

Under the No Action Alternative, no impacts to sage-grouse other than those already authorized in the project area would occur.

Alternative II – Proposed Action

The lease modification to add portions of Section 12 and 24 is unlikely to impact Greater Sage-Grouse populations. Existing data indicates the nearest lek is greater than 2 miles from the lease modification area. Although portions of the lease modification area are currently identified within Wyoming's Core Population Areas for sage-grouse, the core habitat boundaries were not field verified and are undergoing scientific analysis for refinement. Portions of the existing mine are also included within the Core Population Area boundary; however, the active surface mining prohibits a healthy sagebrush habitat for sage-grouse. The Governor's Sage-Grouse Implementation Team will most likely be adjusting the current boundary in this area to exclude the surface mine and adjacent parcels where healthy sagebrush habitat is prohibited by the mining activities.

4.6 Cumulative and Residual Effects

Alternative I – No Action Alternative

Under the No Action Alternative, there are no cumulative or residual effects greater than those already authorized in the project area.

Alternative II – Proposed Action

The Bridger Coal Mine has been operating since 1974 in the project area. The 1997 Green River Resource Area RMP Final Environmental Impact Assessment (EIS) identified the parcels in this lease modification as part of the areas likely to be disturbed by coal mining development (1997 GRRMP Final EIS Map 3, Chapters 3 and 4). Cumulative and residual effects from the 560 acres of federal coal lease modification and the right-of-way in Section 36 would not be greater than those identified and analyzed in the GRRMP Final EIS (1997 GRRMP, p 424-425).

4.7 Mitigation Measures Considered

The following mitigations measured have been identified for the proposed action:

- Air Quality
 - Bridger Coal Company will operate a water truck, as needed, to control fugitive dust within its control.
- Cultural
 - The identified paleontological, archaeological, and cultural resources shall be preserved or mitigated in conformance with Bridger Coal Company's existing Memorandum of Agreement that is part of the existing mining operations.

- A 75 foot avoidance area around the existing prehistoric site identified in the project area has been established through Native American consultations.
- Grazing
 - Appropriate fencing around the expanded lease area will ensure livestock are not impacted by the surface mining activities. Additionally, appropriate reclamation will be completed after mining and the allotted AUMs will remain unchanged.
- Riparian Wetlands
 - In order to avoid anticipated impacts to riparian wetlands, Bridger Coal Company will prevent any surface disturbance within 500 feet of the edge of the riparian area associated with Ten Mile Draw in Section 12. Also, the company will provide for the prevention of direct runoff from the mining operations into this drainage or take measures to filter sediment.
- Wildlife
 - The approved Mining and Reclamation Plan includes plans for the return of vegetation suitable for winter range habitat.
 - Bridger Coal Company has an existing plan in place for raptor monitoring and mitigation as part of its existing operations. This existing plan will continue for the lease modification area.

5.0 TRIBES, INDIVIDUALS, ORGANIZATIONS, or AGENCIES CONSULTED

BLM Wyoming consultation with potentially affected Native American tribes concerning the identification and management of specific TCPs and other sensitive sites is a mandated part of Section 106 and Section 110 of the National Historic Preservation Act (NHPA), intended to determine cultural resource sites that might not be archaeological sites or historical structures. Non-archaeological/non-structural site types, such as springs, rivers, undeveloped trails, migration routes, procurement areas, hunting grounds, and vision quest locales, may also be considered sacred to Native American tribes.

The RSFO initiated consultation with the Northern Ute, Northern Arapaho, Eastern Shoshone, and Shoshone Bannock on May 6, 2010 in the form of an official consultation letter. Responses were received from the Eastern Shoshone and Northern Ute expressing interest in visiting specific cultural sites that may be impacted by the proposed project. Additional attempts have been made to contact the Northern Arapaho in the form of emails and phone calls on June 17, 2010. On July 9, 2010, additional information about the project was provided to the Northern Arapaho at their request; however, no further response was received.

A field visit was conducted on June 11, 2010 with the Eastern Shoshone for the prehistoric site considered eligible for inclusion within the NRHP. Comments in the form of a letter were received on June 17, 2010 requesting a 75-100 foot avoidance area around the site. Consultation will be ongoing through the life of the project as needed.

A field visit was conducted on July 23, 2010 with the Northern Ute for the prehistoric site considered eligible for inclusion within the NRHP. Discussions in the field confirmed that a 75 foot avoidance area around the site was acceptable. Consultation will be ongoing through the life of the project as needed.

In addition to tribal consultations, the BLM RSFO sent the notice of scoping for the lease modification to a variety of local, state, and federal government agencies including Wyoming’s Game and Fish Department, Department of Agriculture, State Geological Survey, Department of Environmental Quality, and State Planning Office; Sweetwater County Conservation District, Sweetwater County Commission, and US Fish and Wildlife Service. Scoping comments are summarized in Appendix A.

6.0 LIST OF PREPARERS

The Environmental Assessment has been prepared by the BLM RSFO staff, in conjunction with the Office of Surface Mining.

The RSFO ID Team consisted of the following individuals:

NAME	TITLE
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John Henderson	Fishery Biologist
Dennis Doncaster	Hydrologist
Cherette Mastny	Range Specialist
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Penny Daniels	Cultural Resource Specialist
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7.0 REFERENCES

Bridger Coal Company. April 7, 2009. Application for Modification to Federal Coal Lease WYW-2727. 19 pages plus attachments.

Bridger Coal Company. July 31, 2009. BLM Right-of-Way Plan of Development To Conduct Surface Mining Activities on Split Estate Lands. 15 pages plus attachments.

DOI, BLM. March 1996. Green River Resource Area Resource Management Plan and Final Environmental Impact Statement. Volumes 1 and 2.

DOI, BLM. August 8, 1997. Record of Decision and Green River Resource Management Plan. 73 pages plus maps and appendices.

DOI, BLM. December 29, 2009. Instruction Memorandum No. WY-2010-012. “Greater Sage-Grouse Habitat Management Policy on Wyoming Bureau of Land Management (BLM) Administered Public Lands including the Federal Mineral Estate.” 14 pages plus attachments.

DOI, U.S. Fish and Wildlife Service (USFWS). February 19, 2010. Memorandum. “Formal Section 7 Consultation for Bridger Coal Company Mine Expansion, Sweetwater County, Wyoming.” 2 pages.

Wyoming Game and Fish Department (WGFD). December 13, 1991. Letter regarding response to formal review and decision concerning mining the Ten Mile Draw tributary. 2 pages.

Appendix A

Scoping Comment Summary

Bridger Coal Lease Modification WYW2727

Four comments were received during the public scoping period:

Comment Summary	Response
WDA: Impacts to Livestock Grazing including AUMs and reclamation	Sections 3.3 and 4.3 address Livestock Grazing. Additional reclamation information is found in Section 2.2.2.
WGFD: Impacts to Crucial Winter Range and aquatic resources	Sections 3.4 and 4.4 address aquatic resources. Sections 3.5.1 and 4.5.1 address big game. Cumulative Effects are addressed in Section 4.6.
WSGS: Support the proposed action to extend the life of the existing mine	Comment noted.
Resident of Sheridan, WY: concern regarding global warming and coal mining	Sections 3.1 and 4.1 address air quality.