

# **Environmental Assessment Tommy James Basin Sand and Gravel Sale**

**December 2007**



**MISSION STATEMENT**

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

**BLM/WY/PL-08/008+1330**

WY-040-EA07-174

**Environmental Assessment**  
**for the**  
**Tommy James Basin Sand and Gravel Sale**

**WY-040-EA07-174**  
**WYW167394**

**As Applied for by Rocks in Stones, LLC**

**December 2007**

**Prepared by**  
**Bureau of Land Management**  
**Rock Springs Field Office**  
**Rock Springs, Wyoming**

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## **Introduction**

### **Purpose and Need for Action**

Rocks in Stones, LLC (RIS) has submitted Mining and Reclamation Plans to the BLM RSFO for a proposed sand and gravel sale located within the administrative boundary of the BLM RSFO. This proposed sand and gravel sale would support the continuous and increasing need for gravel in southwest Wyoming. Industry and Government use gravel to stabilize the base of temporary work pads, access roads, and permanent facilities.

### **Conformance with Land Use Plan**

The document that directs management of federal lands within the Bureau of Land Management (BLM), Rock Springs Field Office (RSFO) is the Approved Green River Resource Management Plan (USDI 997).

According to the Green River Resource Management Plan (GRRMP), the management objective for saleable minerals is “to provide mineral materials in convenient locations for users while protecting other resources.”

The proposed sand and gravel sale is in conformance with management objectives and actions provided in the approved GRRMP. Conformance is subject to implementation of company-committed measures proposed by Rocks in Stones, LLC (RIS) and any subsequent mitigation measures derived through analysis of impacts.

### **National Environmental Policy Act**

The BLM, as mandated by the Council for Environmental Quality (CEQ) and National Environmental Policy Act (NEPA) directives, analyzes actions involving federal lands to determine their impact on the human environment (40 CFR 1500-1508). Prior to issuing a decision on this proposal, the BLM must comply with the requirements of NEPA. NEPA requires Federal agencies to use a systematic, interdisciplinary approach to ensure the integrated use of natural and social sciences in planning and decision making. NEPA also directs that an environmental analysis of proposed Federal actions must be completed to determine the probable effects of the federal action on the environment. The analysis is to determine whether approval of the proposed action would cause significant impacts to the human environment. An interdisciplinary team conducted the evaluation of the proposed action and alternatives. Factors considered during the environmental analysis process regarding the Tommy James Basin proposed sand and gravel sale include:

- A determination of whether the proposal and alternatives are in conformance with BLM policies, regulations, and approved resource management plan direction.
- A determination of whether the proposal and alternatives are in conformance with policies and regulations of other agencies likely associated with the project.

This EA is not a decision document. It documents the process used to analyze the potential impacts of the proposed action and alternatives and discloses the effects of the

proposed action and alternatives to that action. A Decision Record, signed by the responsible official will document the final decision regarding the selected alternative. The BLM will document whether or not significant impacts would occur with implementation of any of the alternatives. If the BLM determines that no significant impacts would occur, a Finding of No Significant Impact (FONSI) Decision Record would be issued. If significant impacts were identified, the BLM decision would issue a Notice of Intent to prepare an Environmental Impact Statement, with subsequent public input and additional analysis of the alternatives. The BLM decision will relate to BLM-administered lands.

## **Relationship to Statutes**

### **Materials Act of 1947, as amended**

Mineral materials include common varieties of sand, stone, gravel, pumice, pumicite, clay, rock, and petrified wood if the disposal of such mineral would not be detrimental to the public interest. This law authorizes the BLM to sell mineral materials at fair market value and to grant free use permits for mineral materials to Government agencies. It also allows the BLM to issue free use permits for a limited amount of material to nonprofit organizations.

### **Federal Land Policy and Management Act of 1976, as amended**

This Act provides overall policy and management of public lands. It directs the BLM to manage public lands in a manner that recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber while protecting the quality of important resource values (e.g., scientific, scenic, historical, archeological, etc.).

## **BLM Regulations**

Regulations governing the implementation of the Materials Act of 1947 are found in 43 CFR 3600. These regulations “establish procedures for the exploration, development, and disposal of mineral material resources on the public lands, and for the protection of the resources and the environment.” The regulations apply to permits for free use and contracts for the sale of mineral materials.

## **Existing National Environmental Policy Act Documents**

Existing National Environmental Policy Act (NEPA) documents that may be related to the proposed project include the following:

- Green River Resource Management Plan and Environmental Impact Statement (EIS) (USDI 1993, 1996)
- Green River Resource Management Plan and Record of Decision (USDI 1997)
- Categorical Exclusion, 45-CX6-102, Titsworth Gap Sweetwater County Free Use Permit, WYW101907
- Final Environmental Impact Statement Pit 14 Coal Lease-by-Application (USDI 2006).

## **Review of Permits, Approvals, and Authorizations**

### **Wyoming Department of Environmental Quality/Land Quality Division**

An application for a Limited Mining Operation (also referred to as an ET or a Ten-Acre Exemption) was submitted to the State of Wyoming Department of Environmental Quality (DEQ) Land Quality Division (LQD) on June 25, 2007. The application was deemed complete with final approval pending BLM approval.

### **Wyoming Department of Environmental Quality/Air Quality Division**

Air Quality Permit CT-6312-1 was approved by the WDEQ/AQD on July 16, 2007.

### **Wyoming Department of Environmental Quality/Water Quality Division**

The Authorization to Discharge Storm Water Associated with Mineral Mining Activities (except fuels) Under the National Pollutant Discharge Elimination System Permit number WYR320520 was approved by WDEQ/WQD on July 31, 2007.

### **Sweetwater County Conditional Use Permit**

Resolution 07-04-ZO-01 was approved by the Sweetwater County Board of County Commissioners on April 3, 2007, subject to the location of an approved alternate hauling route from that listed in the application. This condition was due to the presence of a weight-restricted bridge at the intersection of County Road 4-32 and Highway 430 (Bingham, 2007). On November 1, 2007, RIS was granted a Right of Way (ROW) (WYW167500) on an abandoned asphalt road on BLM-administered land to bypass the weight-restricted bridge at the western end of County Road 4-32. The ROW expires on December 31, 2016. According to Mike Bingham, Sweetwater County Planner, this satisfies the condition of the county conditional use permit, "an approved alternate hauling route from the one listed in the application must be found."

### **Rocks in Stones, LLC Wyoming State Business License**

A copy of the Certificate of Good Standing is included in the administrative record or can be found online at the Wyoming Secretary of State website, <https://wyobiz.wy.gov/>.

### **Contract for the Sale of Mineral Materials, Form 3600-9**

Regulations pertaining to the issuance of a permit of the sale of mineral materials are found in 43 CFR 3602. Prior to entering into a contract for the sale of mineral materials, the BLM must complete the environmental review in accordance with NEPA, and complete consultation under the National Historic Preservation Act (NHPA), the Endangered Species Act (ESA), and Native American consultations as necessary.

## **Public Involvement**

In accordance with NEPA and CEQ regulations 40 CFR 1501.7, an early and open process for determining the scope of issues to be addressed is required for identifying the significant issues related to a proposal. In compliance with this procedural requirement, the BLM RSFO released a scoping notice on June 22, 2007, via direct mailings to over 200 interested parties. In addition, on June 26, 2007, press releases to local and state media were issued. The opportunity for public input was from June 22, 2007, to July 23, 2007. Eight comment letters, phone calls, faxes, or emails were received. The scoping process led to the identification of the following land and resource management issues and concerns potentially associated with the proposed action:

- Potential effects to wetlands and riparian areas.
- Potential effects to surface hydrology and recharge zones.
- Potential impact to the Cherokee Trail.
- Potential effects to sensitive soils.
- Reclamation of disturbed areas.
- Potential effects to cultural and historical resources.
- Native American religious concerns.
- Increased vehicle use on access roads.
- Potential effects on livestock and grazing.
- Potential effects of noxious weeds.
- Potential effects on the Salt Wells Creek Wild Horse Herd Management Area (HMA).
- Potential effects to hunting and other recreation.
- Potential impacts to wildlife habitats within the project area and adjacent lands, including sage-grouse, raptors, prairie dogs, and other sensitive plant and animal species.
- Potential impacts to paleontological values.
- Potential impacts to special status species, threatened, endangered, candidate or proposed species.
- Potential impacts to big game and their habitat (including crucial winter range).
- Potential impacts to vegetation at the proposed sand and gravel sale.

Certain issues were determined to not be “significant issues related to the proposed action” (40 CFR 1501.7(3)) because they are not potentially affected or impacted by the proposal. Those issues brought forth during public scoping and reasons for elimination of those issues from consideration in the analysis are provided below.

#### **Cherokee Trail**

The Cherokee Trail is located approximately 7.6 miles south of the proposed undertaking. According to BLM archeologists, the proposed sand and gravel sale would not be visible to the trail due to distance, topography, vegetation, and the type of activity (Sievers, 2007).

#### **Weight Restricted Bridge on County Road 4-32**

On November 1, 2007, RIS was granted a ROW (WYW167500) on an abandoned asphalt road on BLM-administered land to bypass the weight-restricted bridge at the eastern end of County Road 4-32. The ROW expires on December 31, 2016. According to Mike Bingham, Sweetwater County Planner, this satisfies the condition of the county conditional use permit, “an approved alternate hauling route from the one listed in the application must be found.”

#### **Access on County Roads through Private Land**

RIS has been granted a Conditional Use Permit by the Sweetwater County Board of County Commissioners for the quarrying of sand and gravel in accordance with Section 6.C.17 of the Sweetwater County Zoning Resolution. County Roads 4-27 and 4-32 have historically been traveled for a multitude of public and commercial uses and are therefore presumably acceptable routes of ingress and egress for this action. BLM cannot guarantee access to RIS through private land on county roads.

## **Description of Proposed Action and Alternatives**

### **Background**

A deposit of hard rock cobbles lies along and on the surface of an east-west trending sloping ridge in Section 25, Township 15 North, Range 104 West, Sweetwater County, Wyoming. A similar deposit has been mined just to the east by Sweetwater County (Free Use Permit (FUP) WYW101907). The FUP is a proven resource of sufficient quality that has been used effectively by Sweetwater County for over 25 years. According to the proponent, the deposit in the area of the proposed sand and gravel sale area is approximately 0 to 6 feet thick. There is very little topsoil on the surface. The rock bed outcrops along the north and south faces of the ridge. The underlying bed is tan sandy loam shaley soil. The slope of the ridge ranges from 0 to 15%.

An existing two-track road runs along the ridge, perpendicular to the slope of the land. One natural gas pipeline owned by Questar Pipeline Co. (QPC) transects the area of interest, dividing the area into two lobes. Mid-America Pipeline Co. has a right-of-way (ROW) along the same corridor but has never installed a pipeline. Both QPC and Mid-America Pipeline Co. have entered into an agreement with RIS permitting passage across their rights-of-way.

### **Historical and Future Use**

Just to the east of County Road 4-27 a similar deposit has been mined by Sweetwater County since 1986 (Free Use Permit WYW101907). The disturbance at this site predates the issuance of the permit, indicating that this area has historically been used for the extraction of mineral materials for some time. Impacts from the existing permit are similar to those of the proposed sand and gravel sale.

At the time of this analysis, there are no other formal applications for the sale of mineral materials in the area of the proposed Tommy James Basin sand and gravel sale. However, due to increasing demand for sand and gravel in the RSFO area, BLM is aware that other companies are continually searching for viable deposits of saleable minerals. One inquiry has recently been received; it lies just to the north of the proposed Tommy James Basin sand and gravel sale. The area in question is approximately 2.25 miles northwest of the proposed sale to the west of County Road 4-27. Access to the additional location would be similar to the access to the proposed sale, with the possible addition of County Road 4-30.

### **Proposed Action**

Rocks in Stones, LLC has submitted Mining and Reclamation Plans to the BLM RSFO for a proposed sand and gravel sale located within the administrative boundary of the BLM RSFO. The proposed action is within District 2 of the Wyoming Department of Environmental Quality (DEQ). The duration of the sale would be 5 years with a one-time, one-year extension possible as provided in Form 3600-9, Contract for the Sale of Mineral Materials. The proposed action would authorize the sale of 150,000 tons of sand and gravel from an area of approximately 10 acres including access in the Tommy James Basin of Sweetwater County, Wyoming.

For purposes of this EA, reference to Rocks in Stones, LLC, as the project proponent, includes all contractors, subcontractors, or other parties that would be involved in the design, layout, and operation of the proposed sand and gravel sale.

## **Project Description**

Pit-run gravel would be mined and screened as needed for resale in the area. Topsoil would be stripped to a depth of 6 inches. Topsoil would be screened and the fines stockpiled and used during reclamation. Mining would occur using a four loose cubic yard (LCY) rubber tire loader to excavate the material and load it into a screening unit. The screening unit would be used to screen and classify the material. Belly dump tractor-trailer units would haul the screened pit-run rock. Conveyer belts would place the materials in various stacks according to size. The loader would be used to load belly dump tractor-trailers for hauling off-site. On-site equipment would consist of a small screening plant, loader, and transport trucks to haul the gravel away. Operating hours are expected to be from sunrise to sunset. Operations would be between July 15 and November 15.

Due to the existing pipeline, the deposit would be mined in two lobes. The existing two-track access further divides the proposed sand and gravel sale area into four quadrants. Mining would begin in the western lobe. In accordance with the agreement between RIS and QPC, mining would not occur within 75 feet of the pipeline. Production is expected to be approximately 500 LCY per day, but may vary.

Access to the site from Rock Springs would be via Highway 430 and County Roads 4-32 and 4-27. A weight-restricted bridge at the eastern end of County Road 4-32 would be bypassed via an abandoned highway across BLM-administered land between County Road 4-32 and Highway 430. The ROW has been issued separately from the permit for the proposed sand and gravel sale. The access on the existing two-track across BLM-administered land and the pipeline ROWs would be included in the permit for the proposed sand and gravel sale. The two-track has a uniformly flat slope from County Road 4-27 to the proposed sand and gravel sale area and would be upgraded to a crowned and ditched road by RIS. A culvert would be installed at the intersection of the two-track road and County Road 4-27 to maintain drainage. In accordance with the agreement between RIS and QPC, an additional 2 feet of compacted roadbase over the QPC pipeline would be installed on the two-track at the pipeline crossing point. The existing cover is approximately 3 feet. On top of the additional roadbase, RIS would install wooden construction matting or rail ties placed perpendicular across the pipeline extending 4 feet on each side for the entire width of the road.

## **Location**

The proposed sand and gravel sale would be located in the southeast quarter of Section 25, Township 15 North, Range 104 West. The proposed sale area is located approximately 24 miles south of Rock Springs, Wyoming, just west of the intersection of County Road 4-27 and County Road 4-32. The proposed sale is approximately 3 miles north of Titsworth Gap. The proposed sand and gravel sale area is located in the central southern portion of the RSFO. The 10-acre parcel is on BLM-administered land.

## Proposed Sand and Gravel Sale

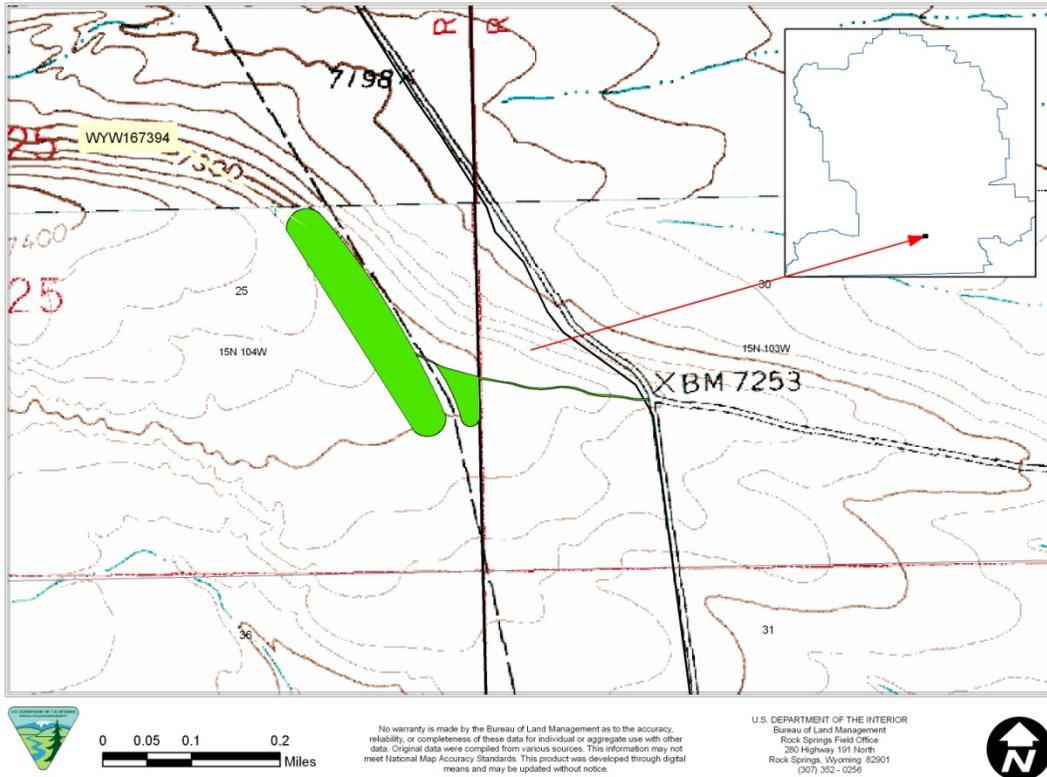


Figure 1: Proposed Sand and Gravel Sale

## Reclamation

Reclamation would be conducted in conformance with BLM, DEQ, and Land Quality Division (LQD) requirements. Once a sufficiently large area has been completely mined and the rock extracted, the stockpiled fine sediments would be spread uniformly over the area and shaped to provide positive sheet flow drainage. The soil would be spread to a minimum thickness of six inches. The soil would be immediately seeded, fertilized, and mulched using approved rangeland techniques and materials conforming to the specifications of the BLM, DEQ, and LQD. Other projects in this area, including the QPC pipeline that bisects the proposed sand and gravel sale area, have had successful reclamation efforts and there is no reason to suspect otherwise for this proposed action.

## Company Committed Measures

1. All activities would be in accordance with Appendix 5-1, Standard Practices, Best Management Practices, and Guidelines for Surface Disturbing Activities of the GRRMP.
2. A Standard Signed Notification Documenting National Historical Preservation Act Compliance Project Review under Section 106 was accepted on July 18, 2007, and was sent to the State Historic Preservation Office on July 19, 2007. Any

cultural resource (historic or prehistoric site or object) discovered during operations would be immediately reported to the Authorized Officer. Operations in the area of such discovery would be suspended until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery would be made by the BLM to determine appropriate actions to prevent the loss of significant cultural values. The operator would be responsible for the cost of evaluations and for necessary mitigation. Mitigation might include avoidance or excavation of the site. The Authorized Officer would make any decision as to the proper mitigation measures after consulting with the operator.

3. A paleontological survey was conducted on July 25, 2007. Any paleontological resource or fossil discovered during operations would be immediately reported to the Authorized Officer. Operations in the area of such discovery would be suspended until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery would be made by the BLM to determine appropriate actions to prevent the loss of significant paleontological values. The operator would be responsible for the cost of evaluations and for necessary mitigation. Mitigation might include avoidance or excavation of the site. The Authorized Officer would make any decision as to the proper mitigation measures after consulting with the operator. The operator would not disturb steep slopes where fossils could be exposed. The operator is responsible for informing all persons associated with this project that they shall not damage, alter, excavate, or remove any vertebrate fossil on site.
4. The topsoil and unmarketable material stockpiles would be maintained at heights and slopes that would partially maintain the character of the landscape. Within the pit boundary, the topsoil would be salvaged and stockpiled. The proposal is to strip six (6) inches of soil and stockpile for later use during reclamation. The pit would be used as much as possible to stack material to reduce the visual impact. The impacts would be evaluated during inspection visits and, if needed, remedies would be developed and implemented before operations are allowed to continue. Once stockpiled, the growth medium would be seeded using a broadcast seeder with the following seed mix:

<b>Species</b>	<b>Rate lbs/acre</b>
Thickspike wheatgrass	5
Sandberg bluegrass	5
Needle and thread	5
Spiny hopsage	1
Winterfat	1
Blue flax	0.25
Rocky Mountain beeplant	0.5
<b>Total</b>	<b>17.75</b>

5. Reclamation would re-contour the site to blend into the surrounding landscape and minimize the formation of a depression. The topsoil would be spread over

the re-contoured area, ripped to a depth of 8 inches, mulched, fertilized, and seeded with the seed mix specified in #4.

6. RIS would be responsible for controlling noxious weeds and invasive species at all times in accordance with the Rock Springs District Noxious Weed EA (WY-049-EA82-64) and Northwest Area Noxious Weed Control Program EIS.
7. No ancillary or off-highway vehicle traffic would be allowed on lands outside the project area except on existing roads.
8. RIS has developed a BLM approved dust control plan in association with Sweetwater County. The dust control plan addresses fugitive dust caused by haul trucks on County Roads 4-27 and 4-32, as well as at the proposed gravel sale location. The technique used might involve water or chemical treatment to reduce the dust to acceptable levels as determined by BLM in consultation with the Wyoming DEQ, WYDOT, and Sweetwater County. All water would be from a County approved source.
9. RIS has developed a BLM approved erosion control plan in consultation with the Wyoming DEQ and Sweetwater County. The area would be maintained to prevent a change in surface hydrology or aquifer recharge. All water would be contained within the pit boundaries.
10. Signage would be posted to notify the public of hazards due to increased truck traffic at and around the proposed sand and gravel sale area and at the ROW between Highway 430 and County Road 4-32.
11. The operator would be responsible for maintaining access roads in a safe manner in accordance with Sweetwater County, WYDOT, and BLM standards. The approximately 0.25 mile two-track access road from County Road 4-27 to the proposed sand and gravel sale location would be upgraded to a crown and ditch gravel road in accordance with BLM Manual Section 9113.
12. The operator would insure that increased truck traffic in connection with the proposed sand and gravel sale does not interfere with safety of the public. Vehicles should be operated in accordance with all state and local laws at all times. Speed limits should be obeyed where posted. Incidents involving the public or damage to private property, including livestock, would be handled in accordance with local, state, and federal laws.
13. No mining, processing, or access would occur from November 15 to April 30, without prior approval for an exception, to protect the crucial winter range for big game.
14. No access would occur from the north on County Road 4-27 from March 1 to May 15, without prior approval for an exception, to avoid disturbance of a sage-grouse lek.
15. No mining, processing, or access would occur from March 15 to July 15, without prior approval for an exception, to avoid interruption of the nesting and brooding season for sage-grouse.

16. RIS would be responsible for cleanup of any diesel or hydraulic fluid spills, including contaminated soils. All spill-related material shall be hauled to a Wyoming Department of Environmental Quality (DEQ) approved disposal site. No hazardous chemicals, including fuel, would be stored on site.
17. No open burning of garbage or refuse would be allowed in association with mining activities.
18. Portable restroom facilities would be provided by RIS.

## **Alternatives**

The National Environmental Policy Act (NEPA) requires that reasonable alternatives to the Proposed Action be analyzed (40 CFR 1508.9(b)).

### **No Action Alternative**

Under the No Action Alternative, BLM would deny the Tommy James Basin proposed sand and gravel sale as proposed by RIS. In accordance with 43 CFR 3601.11, BLM would not dispose of mineral materials if BLM determines that the aggregate damage to public lands and resources would exceed the public benefits expected from the proposed disposition. Proposed sand and gravel sales as described by 43 CFR 3600 are discretionary actions; therefore, the No Action Alternative would be consistent with current regulations and the GRRMP.

### **Alternatives Considered but Eliminated from Detailed Study**

In accordance with 40 CFR 1502.14(a), alternatives were identified and considered that were eliminated from detailed study. These alternatives and the rationale for eliminating them from detailed study are explained below.

#### **Alternate Location of Sand and Gravel Sale**

Alternate locations including Potter Mountain and Mellor Mountain were considered. These options are not feasible because access is limited and the locations are not convenient to the gravel market. A greater number of resource concerns would be present and access two-tracks would require several miles of road improvements at each location.

#### **Alternate Sand and Gravel Sources**

High quality gravels in the RSFO tend to form resistant caps on flat-topped mountains formed in the south and terrace deposits of the Green River and paleo-Green River in the north. All known gravel sources that are in valleys or closer to Highway 430 in the proposed sand and gravel sale area are of a lower quality shale gravel type. These

gravels do not meet BLM or WYDOT specifications for gravel which would severely limit the market and effectiveness of this gravel.

### Elimination of Northeast Quadrant Alternative

The original request by RIS included a 1-acre section to the north of the two-track road and east of the QPC pipeline. During scoping several slump blocks were identified on the northeast quadrant of the originally proposed sand and gravel sale. Concerns were raised that removal of mineral materials in the immediate vicinity of these slump blocks could further destabilize the soil and contribute to structural failure resulting in damage to the existing QPC pipeline. The northeast quadrant was eliminated from the analysis under this alternative, reducing the proposed sale area to 8 acres. Due to the economic undesirability and inefficient use of the gravel resource under this option, this alternative was eliminated from further discussion.

## Affected Environment

### Critical Elements

This proposal could potentially affect critical elements of the human environment as listed in BLM Handbook H-1790-1 (USDI 1988). The critical elements of the human environment, their status in the project area, and their potential to be affected by the proposed project are listed in Table 1.

**Table 1: Critical Resource Elements**

<b>Elements</b>	<b>Status</b>
<b>Critical Elements</b>	
Air Quality	Affected
ACEC	Not Present
Cultural and Historical	Not Affected
Farmland, Prime/ Unique	Not Present
Wilderness	Not Present
Wastes, Hazardous, Solid	Not Present
T&E Animal and Plant Species	Potentially Affected
Water Quality	Potentially Affected
Wetlands/Riparian Areas	Not Present
Native American Religious Concerns	Not Affected
Floodplains	Not Present
Environmental Justice	Not Present
Wild and Scenic Rivers	Not Present
Invasive Species	Potentially Affected
<b>Other Resource Elements</b>	
Geology	Affected
Livestock Grazing	Affected
Paleontology	Not Affected
Wild Horses	Potentially Affected

<b>Elements</b>	<b>Status</b>
Visual Resource Management	Not Affected
Fluid or Solid Minerals	Not Affected
Soils	Affected
Recreation	Affected
Vegetation	Affected
Wildlife	Potentially Affected
Sensitive Status Animals and Plants	Potentially Affected

Management issues identified by the BLM Rock Springs Field Office have guided the material presented here.

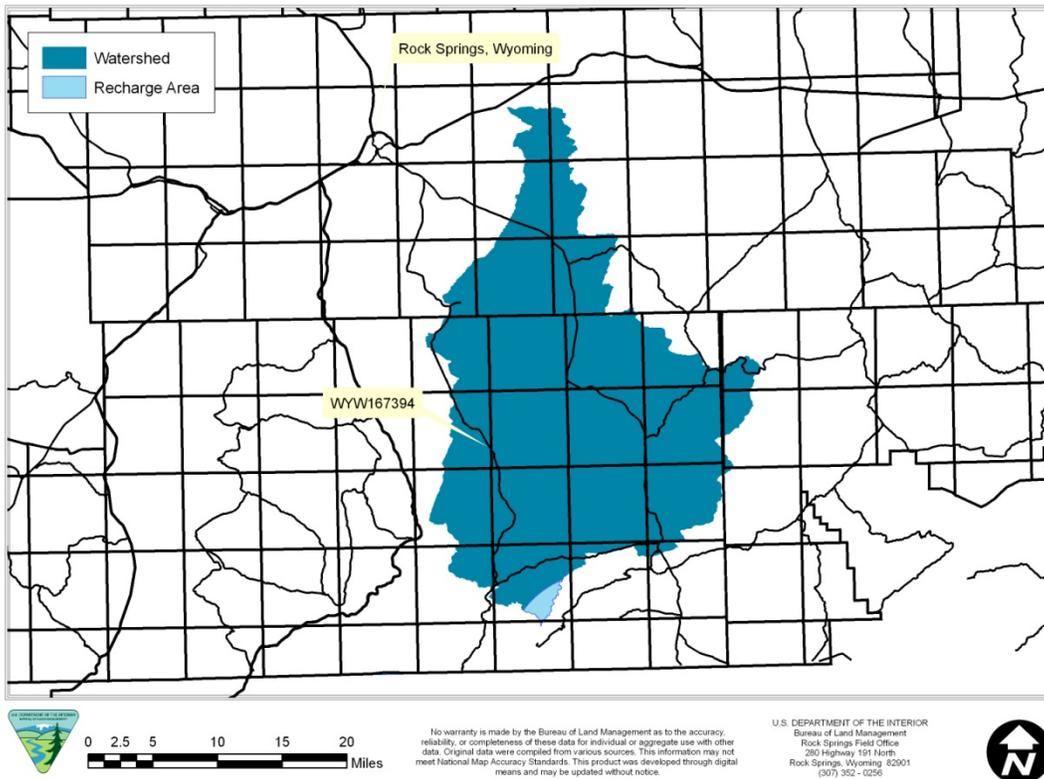
### **Air Quality**

The assessment area for air quality includes Sweetwater County, Wyoming, and regional sensitive areas, including the Bridger Wilderness Area. The most recent air quality study is included in the Final Environmental Impact Statement Pit 14 Coal Lease-by-Application (USDI 2006). The project area for the Tommy James Basin Proposed Sand and Gravel Area is located approximately 22 miles to the southwest of Pit 14. Please see the Final Environmental Impact Statement Pit 14 Coal Lease-by-Application (USDI 2006, pages 49-61) for more information.

### **Water Quality**

The assessment area for water quality is the combined Upper and Lower Salt Wells Creek watersheds.

## Upper and Lower Salt Wells Creek Watersheds



**Figure 2: Water Quality Assessment Area**

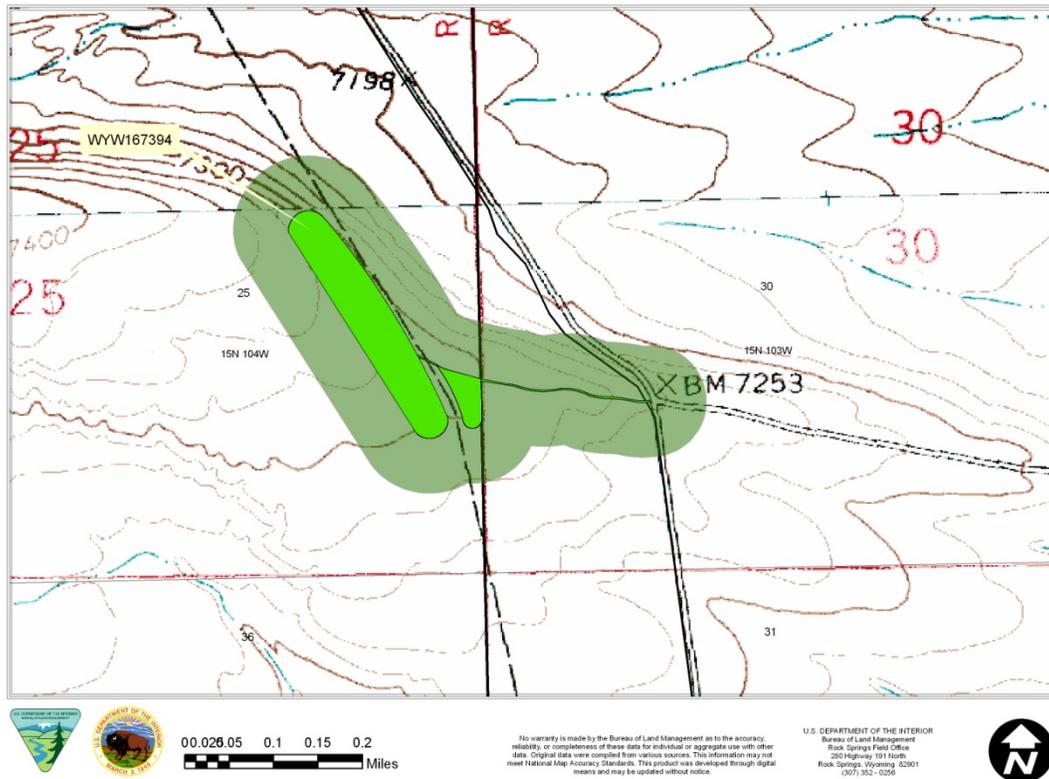
The assessment area of approximately 337,000 acres includes approximately 3,769 acres of existing surface disturbance. According to the GRRMP, there are approximately 2,638 acres of recharge area of special hydrologic concern located within the assessment area (shown in light blue). There are approximately 32 miles of perennial streams located within the watershed. Precipitation in the project area is relatively low; 6-10 inches per year on average. Salt Wells Creek flows north to its confluence with Bitter Creek. The proposed location is located between Tommy James Creek and Dan's Creek. Portions of Bitter Creek, below the confluence of Salt Wells Creek, in and below the City of Rock Springs are listed on the Wyoming State 303d list of impaired waters for chloride and bacteria levels but the impairments do not appear to be connected to the Salt Wells watershed.

No ephemeral drainages, tributaries, or streams would be disturbed. The area is not in an area of hydrologic concern. All runoff would be contained within the pit boundaries. Because this action does not impact water quality in the associated drainages, this resource value will not be given further consideration.

## Invasive Species

The assessment area for invasive species is a 100-foot buffer surrounding the 10-acre surface disturbance of the 10-acre proposed action.

### Invasive Species and Vegetation Assessment Area



**Figure 3: Invasive Species and Vegetation Assessment Area**

The assessment includes approximately 62 acres and contains approximately 5 acres of existing surface disturbance. Noxious weeds and invasive species that may be in the area include henbane, Canada thistle, cheatgrass, and halogeton. The proposed sand and gravel sale area is on a cobble and gravel capped bench in the Tommy James Basin with sparse native vegetation.

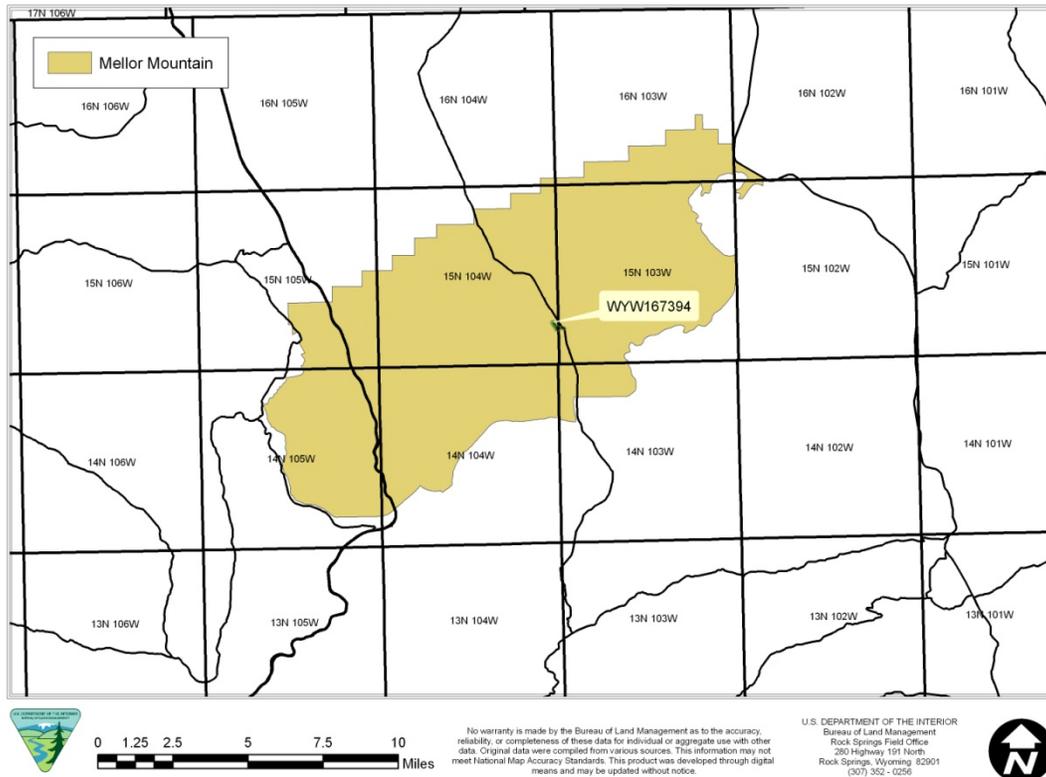
### Geology

The assessment area for geology is the 10-acre footprint of the proposed action (see Figure 1). The proposed sand and gravel sale area is just to the southwest of a mapped contact between the Blair Formation and Rock Springs Formation, both members of the Cretaceous Mesaverde group. The proposed sale area is near the southernmost tip of the eroded Rock Springs Uplift, with more resistant Rock Springs Formation, Ericson Sandstone, and Bishop Conglomerate forming the surrounding highlands.

### Livestock Grazing

The assessment area for livestock grazing includes the Mellor Mountain grazing allotment.

## Livestock Grazing Assessment Area



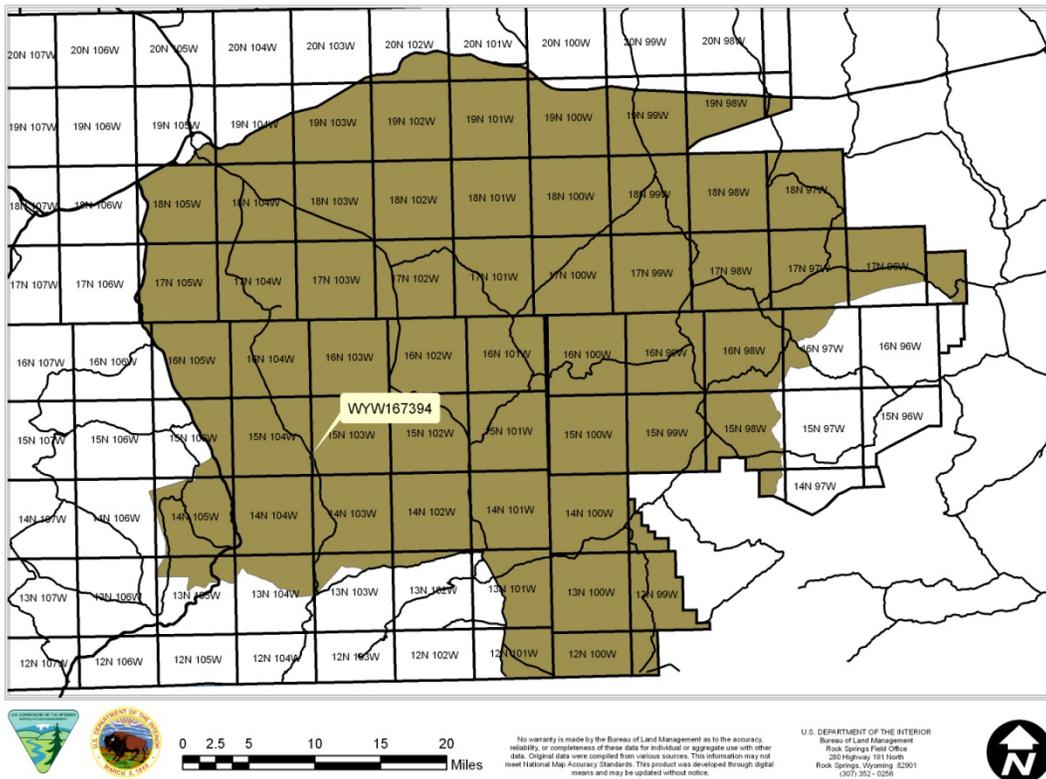
**Figure 4: Livestock Grazing Assessment Area**

The Mellor Mountain grazing allotment is approximately 69,600 acres and 9,162 Animal Unit Months (AUM). The assessment area contains approximately 1,000 acres of existing surface disturbance. The 10-acre proposed sand and gravel sale constitutes less than 1 AUM.

### Wild Horses

The assessment area for wild horses is the Salt Wells Creek Wild Horse Herd Management Area (HMA). The HMA includes approximately 1,161,000 acres. The assessment area includes approximately 63,000 acres of existing surface disturbance. Because the area impacted by the proposed action is limited, impacts to wild horses are not anticipated; therefore, this resource value will not be given further consideration.

## Wild Horse Assessment Area



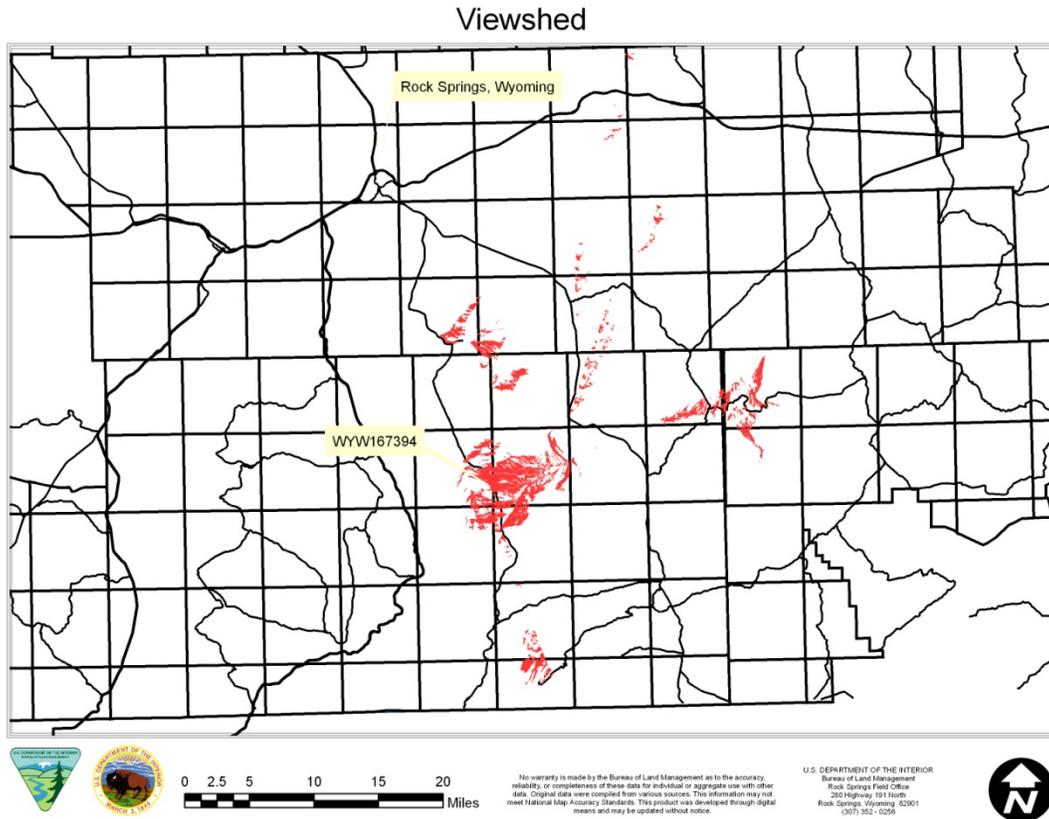
**Figure 5: Wild Horse Assessment Area**

### Soils

The assessment area for soils is the 10-acre surface disturbance associated with the proposed action (see Figure 1). The soil is mapped as Chaperton-Blazon loams, 2 to 10% slopes. (USDA, 2007) The soil is well drained with no flooding frequency. The soil is a gravelly loam. Topsoil is shallow to non-existent and of poor quality.

### Recreation

The assessment area for Recreation is the viewshed for the surrounding the 10-acre proposed sand and gravel sale location. The affected viewshed is approximately 29,500 acres. The assessment area contains approximately 440 acres of existing disturbance.



**Figure 6: Recreation Assessment Area**

Existing recreational uses in this area include for all-terrain vehicle (ATV) use and hunting.

**Hunting Seasons** (Wyoming Game and Fish Commission Hunting Seasons, 2006)

**Antelope:**

- Area 112, Pine Mountain, Type 1 and 6, September 20 to October 14
- Area 112, Pine Mountain, Special Archery, August 15 to September 20.

**Deer:**

- Area 102, Aspen Mountain, Type 1, October 15 to October 31
- Area 102, Aspen Mountain, Special Archery, September 1 to September 30

**Elk:**

- Area 30, Aspen Mountain, Type 1, October 1 to October 31
- Area 30, Aspen Mountain, Type 2, October 1 to November 30
- Area 30, Aspen Mountain, Special Archery, September 1 to September 30

**Vegetation**

The assessment area for vegetation is a 100-foot buffer surrounding the 10-acre surface disturbance of the proposed action (see Figure 3). Vegetation near the proposed sand and gravel sale consists primarily of sagebrush and sagebrush/grassland. The high-elevation, cold-desert vegetation of the assessment area comprises Wyoming big sagebrush/grass, Gardner saltbush, shadscale, greasewood, with some mountain shrub in the uplands, and scattered juniper adjoining the sagebrush habitats.

## Wildlife

The assessment area for the wildlife is the South Rock Springs Deer Herd Management Area (SRSDHMA). The assessment area includes 1,376,000 acres. The assessment area includes approximately 100,000 acres of existing site disturbance. The SRSDHMA was chosen because it encompasses all big game habitat types and vegetation types relevant to wildlife within this project.

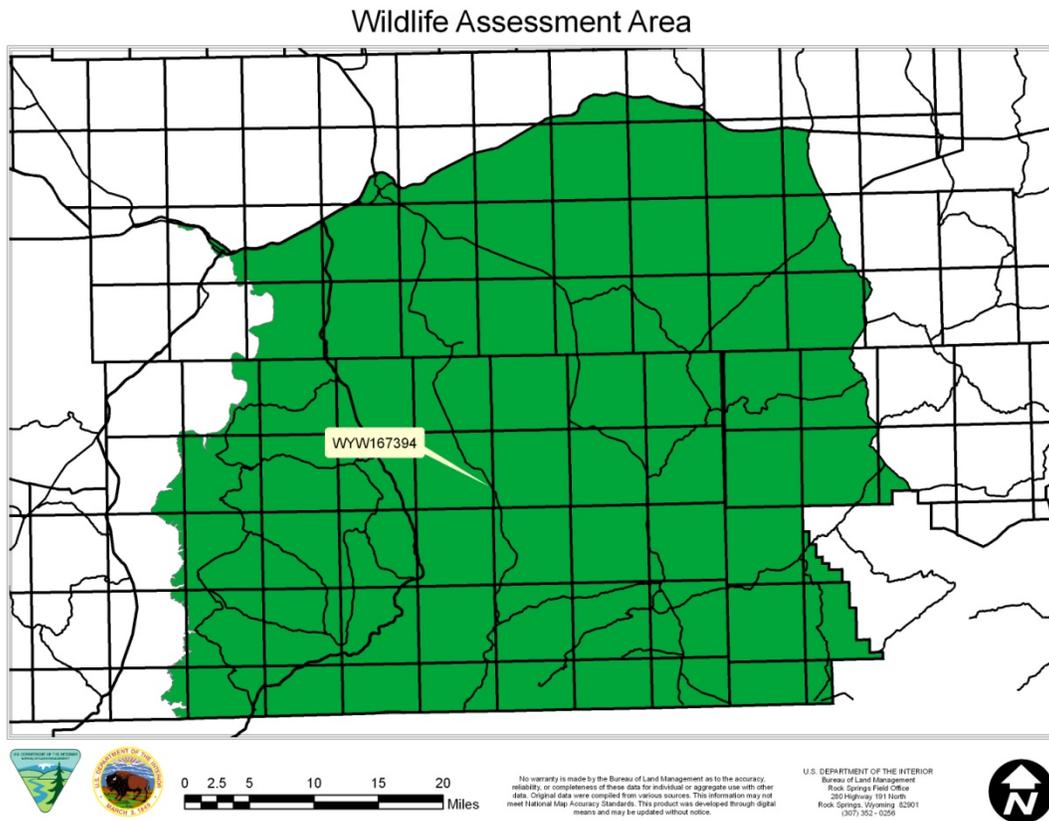


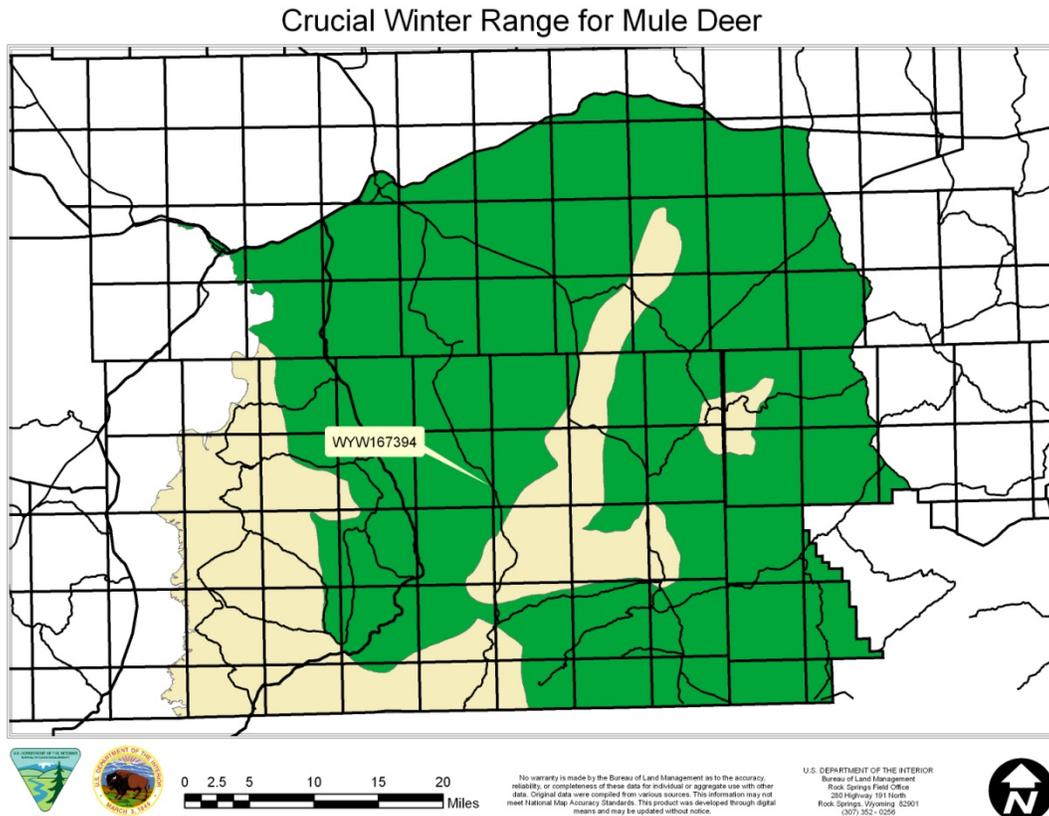
Figure 7: Wildlife Assessment Area

The area of the proposed sand and gravel sale supports many species common to the Intermountain West such as elk (*Cervus elaphus*), mule deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), greater sage-grouse (*Centrocercus urophasianus*), and many species of Neotropical birds and small mammals.

## Big Game

### Mule Deer

The assessment area for the mule deer is the South Rock Springs Deer Herd Management Area (SRSDHMA). Approximately 347,000 acres are managed as crucial winter range (shown in beige) for mule deer from November 15 to April 30 (see Figure 8).

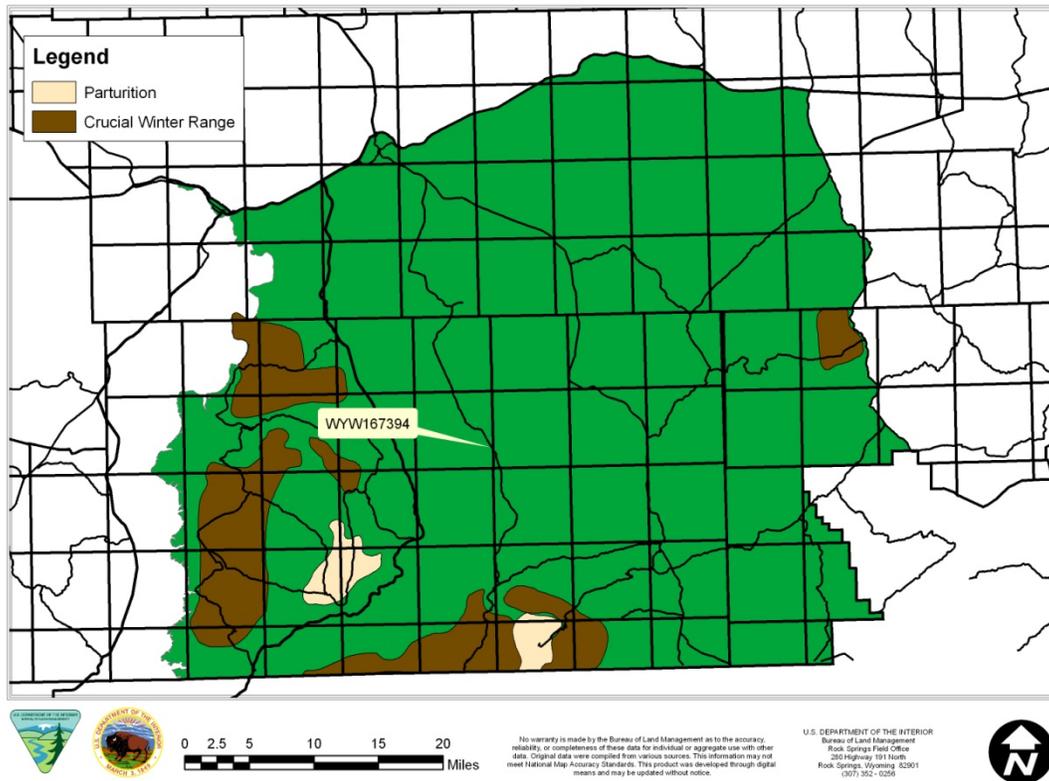


**Figure 8: Mule Deer Assessment Area**

### Elk

The assessment area for elk is the SRSDHMA. The SRSDHMA contains Wyoming state elk management herd units 424 and a portion of 425. Herd unit 424 encompasses approximately 775,000 acres. The subdivision of herd unit 425 enclosed within the assessment area contains approximately 600,000 acres. The assessment area contains approximately 139,000 acres managed as crucial winter range for elk from November 15 to April 30 (shown in brown in Figure 9). In addition, the assessment area contains approximately 20,000 acres managed as elk parturition range from May 1 to June 30 (shown in beige in Figure 9).

## Crucial Winter Range and Parturation Areas for Elk

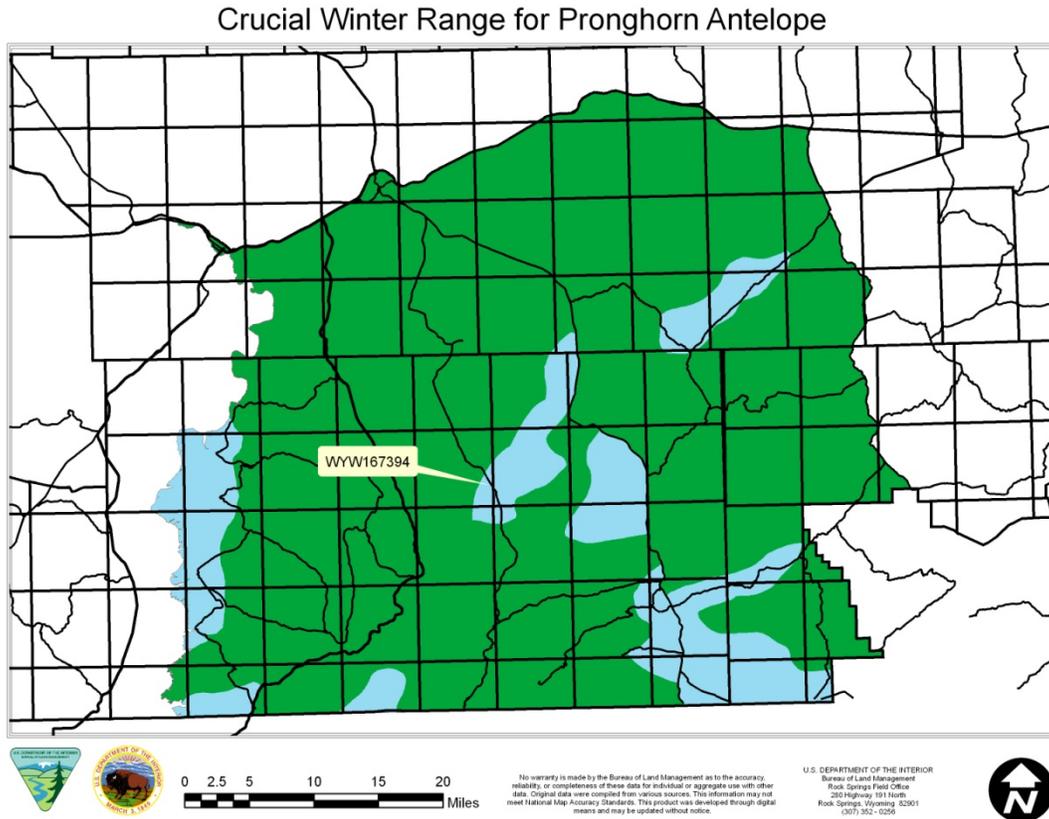


**Figure 9: Elk Assessment Area**

The project area is not within the crucial winter range for elk or parturition of interior range for elk. Elk utilize the project area year-round.

### *Pronghorn Antelope*

The assessment area for antelope encompasses the South Rock Springs Antelope Herd Management Area (SRSAHMA) and part of the Bitter Creek Antelope Herd Management Area (BCAHMA). The SRSAHMA includes approximately 775,000 acres. The portion of the BCAHMA within the assessment is approximately 600,000 acres. The assessment area encompasses 196,000 acres of crucial winter range for antelope, shown in blue (see Figure 10).



**Figure 10: Pronghorn Antelope Assessment Area**

The maximum 10-acre disturbance is less than 0.006% of the total crucial winter range available within the assessment area. The area of the proposed sand and gravel sale is managed as crucial winter range for antelope from November 15 to April 30. Antelope utilize the project area year-round.

**Federal Threatened, Endangered, and Candidate Species**

The assessment area for Threatened, Endangered, and Candidate species is the SRSDHMA (see Figure 7). The U.S. Fish and Wildlife Service (USFWS), under authority of the Endangered Species Act, maintains lists of plant and animal species that have been classified as threatened or endangered, or are potential candidates for classification. Three federally designated threatened, endangered, proposed, or candidate animal species and one plant species are considered potentially present in the project area. Federally-listed Colorado River fish do not occur in the project area, but they do occur downstream and would therefore be subject to potential effects from any water depletions in the project area. The status and potential effects to each of those species is provided in Table 2.

**Table 2: Federal Threatened, Endangered, and Candidate Species**

<b>Species</b>	<b>Status</b>	<b>Status in Project Area/Comments</b>
<b>Mammals</b>		
Black-footed ferret ( <i>Mustela nigripes</i> )	Endangered	Prairie dog towns/ None known/ No effect
<b>Colorado River Fish</b>		
Colorado pikeminnow ( <i>Ptychocheilus lucius</i> ) Boneytail ( <i>Gila elegans</i> ) Humpback Chub ( <i>Gila cypha</i> ) Razorback sucker ( <i>Xyrauchen texanus</i> )	Endangered	Not present in project area/ No water depletion or effect/ No effect
<b>Plants</b>		
Ute ladies'-tresses ( <i>Spiranthes diluvialis</i> )	Threatened	Seasonally moist soils and wet meadows/ No effect
<b>Birds</b>		
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	Candidate	No suitable nesting habitat/ No effect

(USDI, 2007)

### Black-footed Ferret

There are several white-tailed prairie dog (*Cynomys leucurus*) towns in or near the project area. However, all of these prairie dog towns/complexes were determined as being incapable of supporting black-footed ferrets (*Mustela nigripes*) by the WGFD in 2003. That assessment was accepted by the U.S. Fish and Wildlife Service in 2003. Therefore, the U.S. Fish and Wildlife Service declared there is “no potential habitat” for the black-footed ferret and a “no effects” determination for this species in the project area. Habitat capable of sustaining black-footed ferrets is present within the wildlife assessment area; however, this project would not affect those areas. This species will not be given further consideration.

### Colorado River Fish Species

There is no water depletion associated with this project; therefore, a “no effect” determination has been made for Colorado River fish.

### Ute ladies'-tresses

Potential habitat may exist in the project area; however, project activities would not take place in suitable riparian habitat for this species. Therefore, the project would have no effect on this species.

### **Wyoming BLM Sensitive Wildlife Species**

The assessment area for Sensitive Species Wildlife is the SRSDHMA (see Figure 7). The area contains 1,376,000 acres. Instruction Memorandum WY-2001-040 lists the Wyoming BLM sensitive species and management policy. The policy emphasizes planning, management, and monitoring of sensitive species and directs management of

these species to avoid or minimize adverse impacts. It is not the intent of the policy to create severe restrictions on activities such that other multiple use activities cannot occur. The policy goals of this instruction memorandum are to:

- Maintain vulnerable species and habitat components in functional BLM ecosystems.
- Ensure sensitive species are considered in land management decisions.
- Prevent the need for species listing under the Endangered Species Act 1973.
- Prioritize needed conservation work with an emphasis on habitat.

Table 3 lists the BLM Sensitive Species that are, or may be found, in the assessment area.

**Table 3: Rock Springs, Wyoming BLM Sensitive Wildlife Species**

Common Name	Scientific Name	Habitat	Affected
<b>Mammals</b>			
Shrew, Dwarf	<i>Sorex nanus</i>	Mountain foothill shrub, grasslands	No
Myotis, Long-eared	<i>Myotis evotis</i>	Conifer and deciduous forests, caves and mines	No
Myotis, Fringed	<i>Myotis thysanodes</i>	Elevations less than 7,500 feet in forests and shrublands	No
Spotted bat	<i>Euderma maculatum</i>	Desert and coniferous habitats	No
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	Coniferous forest; desert shrubland	Yes
Pygmy rabbit	<i>Brachylagus idahoensis</i>	Dense sagebrush	No
White-tailed prairie dog	<i>Cynomys leucurus</i>	Plains	No
Wyoming pocket gopher	<i>Thomomys clusius</i>	Dry ridge tops; gravelly, loose soil; greasewood	Yes
Idaho pocket gopher	<i>Thomomys idahoensis</i>	Shallow stony soils	Yes
Fox, Swift	<i>Vulpes velox</i>	Grasslands	No
<b>Avian</b>			
Ferruginous hawk	<i>Buteo regalis</i>	Basin-prairie shrub, grassland, rock outcrops	No
Falcon, Peregrine	<i>Falco peregrinus</i>	Tall Cliffs	No
Ibis, White faced	<i>Plegadis chihi</i>	Marshes, wet meadows	No
Swan, Trumpeter	<i>Cygnus buccinator</i>	Lakes, ponds, rivers	No
Goshawk, Northern	<i>Accipiter gentilis</i>	Conifer and deciduous forests	No
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Basin-prairie shrub, mountain-foothill	Yes

Common Name	Scientific Name	Habitat	Affected
		shrub	
Long-billed curlew	<i>Numenius americanus</i>	Grasslands, plains, foothills, wet meadows	No
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Open woodlands, streamside willow and alder groves	No
Burrowing owl	<i>Athene cunicularia</i>	Grasslands, basin-prairie shrub	No
Sage thrasher	<i>Oreoscoptes montanus</i>	Basin-prairie shrub, mountain-foothill shrub	Yes
Loggerhead shrike	<i>Lanius ludovicianus</i>	Basin-prairie shrub, mountain-foothill shrub	Yes
Brewer's sparrow	<i>Spizella breweri</i>	Basin-prairie shrub	Yes
Sage sparrow	<i>Amphispiza billineata</i>	Basin-prairie shrub, mountain-foothill shrub	Yes
Mountain plover	<i>Chadrius montanus</i>	Areas of low vegetation	No
<b>Amphibians</b>			
Frog, Northern leopard	<i>Lithobates pipiens</i>	Beaver ponds, permanent water in plains and foothills	No
Great Basin spadefoot toad	<i>Spea intermontana</i>	Springs; seeps; permanent and, temporary waters	Yes
Toad, Boreal	<i>Bufo boreas</i>	Pond margins, wet meadows, riparian areas	No
Spotted frog	<i>Ranus pretiosa</i>	Ponds, sloughs, small streams	No
<b>Reptiles</b>			
Rattlesnake, midget faded	<i>Crotalus oreganus concolor</i>	Mountain foothills shrub, rock outcrop	No

Source: Wyoming BLM Sensitive Species Policy and List, IB No. WY-2003-001, September 20, 2002.

### Townsend's Big-eared Bat

The Townsend's big-eared bat occupies a variety of xeric to mesic habitats, including coniferous forests, juniper woodlands, deciduous forests, basins, and desert shrublands, and is absent only from the most extreme deserts and highest elevations. However, this species requires caves or abandoned mines for roost sites during all seasons and stages of its life cycle, and its distribution is strongly correlated with the availability of these features (Gruver and Keinath, 2003). The Townsend's big-eared bat is considered rare in Wyoming because populations are restricted in distribution and there is ongoing

significant loss of habitat. Though no caves or mines are known in the area suitable habitat for this species exists around the project area, therefore the species may be present during migratory periods or when they are foraging. This species will not be given further consideration.

#### Pygmy Rabbit

The pygmy rabbit (*Brachylagus idahoensis*) is typically distributed in dense stands of big sagebrush growing in deep, loose soils. Such habitat is present in the analysis area and pygmy rabbits have the potential to occur in dense sagebrush within the analysis area. The project would avoid pygmy rabbit habitat by staying clear of sagebrush habitat greater than or equal to 4 feet in height. Therefore, this species will not be given further consideration.

#### White-tailed Prairie Dog

The range of the white-tailed prairie dog (*Cynomys leucurus*) occurs across the western states including central and southern Wyoming. White-tailed prairie dogs are generally found at altitudes ranging between 5,000 and 10,000 feet in desert and shrub grasslands. Other sensitive species, such as the burrowing owl, rely on prairie dog colonies. Like other prairie dog species, the white-tailed has been declining as its suitable habitat is disturbed or developed, and individuals are shot and poisoned. In 2002, the USFWS received a formal petition to list the white-tailed prairie dog as threatened or endangered, in accordance with provisions in Section 4 of the ESA. In November 2004, the USFWS concluded that the petition did not contain substantial scientific data to warrant the petitioned action. Prairie dogs are known to occur throughout the analysis area. The project would avoid burrows; therefore, no effect to prairie dogs is anticipated.

#### Mountain Plover

Suitable breeding habitat for mountain plover (*Charadrius montanus*), a BLM sensitive species, in western Wyoming generally overlaps with that of prairie dogs and consists of shortgrass prairie or sparsely vegetated areas within shrub steppes. Mountain plovers are not known to inhabit the project area. The project would occur during a period of year when mountain plovers are not found in the state; therefore, there would be no effect on mountain plovers.

#### Sage Thrasher

The breeding distribution of the sage thrasher includes shrub-steppe communities dominated by big sagebrush between 4,200 and 6,700 feet elevation, and was mapped as occurring in southwestern Wyoming. This bird seems to prefer plant stands that are approaching climax condition and are less disturbed than surrounding areas. Foraging habitat contains a diversity of shrubs, forbs, and grasses in a more open understory within 5 meters (16.4 feet) of the nest (Buseck, et al. 2004). Sage thrashers typically place their nests within or under mature, living shrubs with good basal cover. This species may occur within the project area. However, the proposed project schedule lies outside the period when sage thrashers are breeding or nesting in Wyoming; therefore, this species will not be given further consideration.

### Loggerhead Shrike

The loggerhead shrike has been recorded in Lincoln and Sweetwater counties in Wyoming (Keinath and Schneider 2005). This species prefers open country with scattered trees and large shrubs at lower elevations, relative to surrounding topography. For nesting, presence of dense shrubs or trees with open herbaceous areas for foraging nearby seems to be important. Loggerhead shrike have been known to inhabit fencerows between pastures, old orchards, mowed roadsides, cemeteries, and other human-influenced areas, but are not likely to nest in such areas (Keinath and Schneider 2005). The shrike is likely to nest around the project area where this habitat is available; however, the Proposed Action schedule lies outside the period when loggerhead shrikes are breeding or nesting in Wyoming. Therefore, this species will not be given further consideration.

### Brewer's Sparrow

The Brewer's sparrow (*Oreoscoptes montanus*) is a sagebrush-obligate dependent upon relatively flat shrub-steppe habitats from the Great Plains states west to Arizona and Nevada. Surveys have shown large populations of Brewer's sparrow occur in southwestern Wyoming, primarily where dense sagebrush stands have an average canopy height of less than 5 feet (Hansley and Beauvais 2004a). Nests are often placed in the largest shrubs in the densest stands of a large patch size. This habitat profile is similar to that for greater sage-grouse and is available within the project area. Brewer's sparrows have been documented in the project vicinity and most likely occur within the project area; however, the proposed project schedule lies outside the period when Brewer's sparrows are breeding or nesting in Wyoming. Therefore, this species will not be given further consideration.

### Sage Sparrow

Known breeding distribution of the sage sparrow (*Amphispiza belli*) was mapped in southwestern Wyoming, peaking in Sweetwater County (Hansley and Beauvais 2004b). This songbird only occurs in sagebrush habitats and correlations have been made between bird density and height and density of big sagebrush. To be attractive to sage sparrows, a sagebrush stand needs to be at least 30 acres. Breeding pairs typically have territories 5 acres in size (Hansley and Beauvais 2004b). A pair will often choose the tallest, live shrubs in the densest stands for their nest site, similar to Brewer's sparrows. Sage sparrows likely inhabit portions of the project area in tall dense sagebrush, however, the proposed project schedule would be completed outside the period when sage sparrows are breeding or nesting in Wyoming. Therefore, this species will not be given further consideration.

### Wyoming Pocket Gopher

The Wyoming pocket gopher (*Thomomys clusius*) is restricted to a small portion of south central Wyoming, in Sweetwater and Carbon counties, and may extend slightly into northern Colorado (Beauvais and Dark-Smiley 2005). Little is known regarding Wyoming pocket gophers, but their life history is assumed to be similar to that of the northern pocket gopher (*T. talpoides*). Wyoming pocket gophers feed primarily on forbs and grasses. They live and nest in burrow systems and are active year round. These gophers prefer habitat with well-drained, gravelly soils on ridge tops. There are no

anticipated effects to this species from this proposed sand and gravel sale; therefore, this species will not be discussed further.

#### Idaho Pocket Gopher

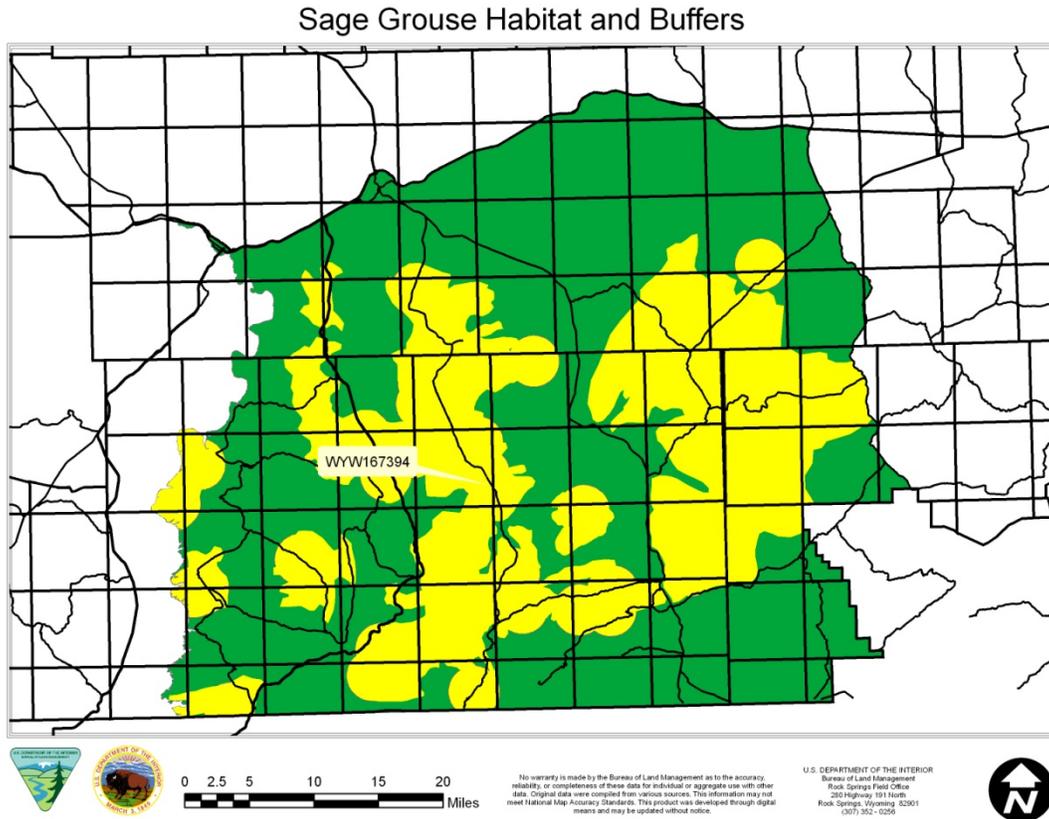
The Idaho pocket gopher (*Thomomys idahoensis*) has been accepted as a full species only recently, and is very poorly known. Idaho pocket gophers are very small, with yellowish to dark brown fur; they lack ear patches and contrasting cheeks, and dorsal regions are uniform in color (Clark and Stromberg 1987). The Idaho pocket gopher is endemic to southwestern Wyoming and southeastern Idaho, extending slightly into southwestern Montana and northern Utah (Thaeler 1972, Clark and Stromberg 1987, WYNDD 2003). The species occupies shallow, stony soils and has been documented in open sagebrush, grassland plains, and subalpine mountain meadow habitats in Wyoming. Like most members of the genus *Thomomys*, this gopher is active throughout the year, feeds primarily on forbs and grasses, and lives in subterranean burrow systems that allow them to feed underground and maintain secure nests. There are no anticipated effects to this species from this proposed sand and gravel sale; therefore, this species will not be discussed further.

#### Great Basin “spadefoot” Toad

The Great Basin “spadefoot” toad (*Spea intermontana*) distribution is patchy, with sightings recorded mostly west of the Continental Divide (Figure 4). This range would incorporate the Great Divide Basin and Green River Basin, with portions including the Wind River Basin (Baxter and Stone 1985; Knight 1994). *Spea intermontana* have been documented at 44 sites in Sweetwater County, six sites in Fremont County, and one site in Uinta, Lincoln, and Natrona counties over the past 94 years (WYNDD 2005). *Spea intermontana* are a xeric-adapted amphibian. They require a water source for breeding and larvae/tadpole development in the spring and summer months and loose, sandy soil within arid habitats during the nonbreeding season with adequate vegetative cover to provide foraging sites and climate protection to retain soil moisture. *Spea intermontana* are found at various elevations (i.e., from sea level up to 2800m), and therefore occupy a variety of habitats (Baxter and Stone 1985; Hall 1998; Stebbins 2003). Both juvenile and adult *S. intermontana* rely on loose, sandy soils that allow them to “burrow” below the surface and escape the adverse environmental conditions to avoid desiccation (Linsdale 1938; Nussbaum et al. 1983; Stebbins 2003; Ovaska et al. 2003). There are no anticipated effects to this species from this proposed sand and gravel sale; therefore, this species will not be discussed further.

#### Greater Sage-Grouse

According to BLM geographic information systems database, there are 39 greater sage-grouse (*Centrocercus urophasianus*) leks within the assessment area. Greater sage-grouse leks and habitat are shown in yellow on Figure 11. BLM records indicate that there is a greater sage-grouse lek/nesting area within two miles of the project boundary. Seasonal restrictions apply within 2 miles of leks. No mining, processing, or access would be permitted from March 15 to July 15. No access would be permitted from the north on County Road 4-27 from March 1 to May 15. Other sensitive sage obligate bird species may be present in the habitat surrounding the project but their breeding and nesting periods are protected via the sage-grouse lek/nesting seasonal stipulations.



**Figure 11: Known Greater Sage-Grouse Habitat and Buffers**

Raptors

The assessment area for raptors is the SRSDHMA boundary. According to BLM geographic information system database there are 82 raptor points within the assessment area. Half-mile radius seasonal buffers surrounding all raptors with the exception of the ferruginous hawk nests which have a one mile buffer on BLM-administered lands are shown on Figure 12. BLM records indicate that there is a raptor location approximately 2.5 miles from the project boundary.

Raptor Locations with Buffers

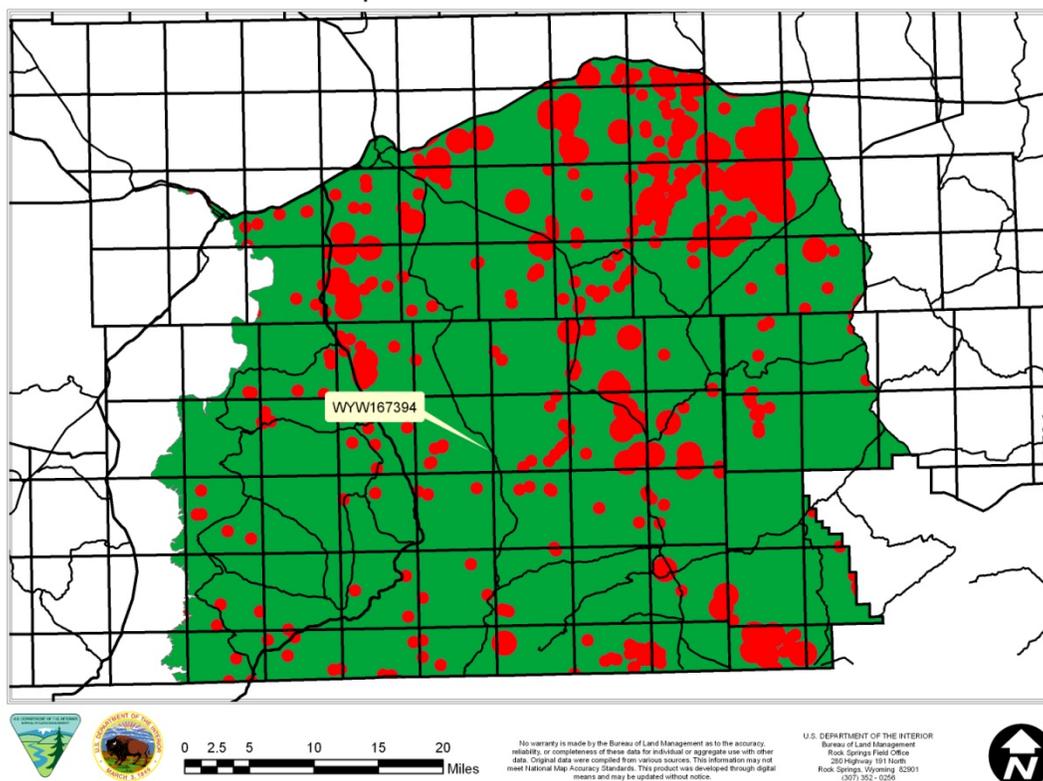


Figure 12: Known Raptor Locations

Table 3 lists the raptors that are found in this area.

Table 3: Raptor Species

Common Name	Scientific Name	Habitat
Prairie falcon	<i>Falco mexicanus</i>	Low rock outcroppings to tall vertical cliffs
American kestrel	<i>Falco sparverius</i>	Dead snags, clay stream banks, rim rock
Red-tailed hawk	<i>Buteo jamaicensis</i>	Riparian zones and timbered areas
Swainson's hawk	<i>Buteo swainsoni</i>	Dry plains, open foothills, open forest, sparse trees, river bottoms
Northern harrier	<i>Circus cyaneus</i>	Wetlands and open fields
Burrowing owl	<i>Athene cunicularia</i>	Grasslands and mountain parks near prairie dog towns and steppes, deserts, and prairies
Ferruginous hawk	<i>Buteo regalis</i>	Basin-prairie shrub, grassland, rock outcrops

<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>
Bald eagle	<i>Haliaeetus leucocephalus</i>	Riparian zones and timbered areas
Golden eagle	<i>Aquila chrysaetos</i>	Cliffs, ledges, pinnacles
Great-horned owl	<i>Bubo virginianus</i>	Cliff holes, rock crevices, trees

There are no anticipated effects to raptors from this proposed sand and gravel sale and these species will not be discussed further.

## **Environmental Consequences**

### **Air Quality**

#### **Proposed Action**

Any extraction activity produces some amount of dust. The amount depends upon a number of factors including the equipment used, the production level, and the nature of the raw material. Direct impacts include fugitive dust generation during the extraction, screening, and transport of gravel. Indirect impacts include visibility reduction due to dust generated from associated increased traffic. The rubber tired loader, hauling trucks, and support vehicles would emit nominal quantities of byproducts of fossil fuel combustion, including CO, CO<sub>2</sub> and SO<sub>2</sub>.

#### **No Action Alternative**

There would be no impacts to air quality under the No Action alternative.

#### **Cumulative Impacts**

The total airborne dust and fossil fuel bi-product pollution would be increased.

### **Invasive Species**

#### **Proposed Action**

Noxious weeds and invasive species could be introduced to or spread from the proposed sand and gravel sale area. Direct impacts could include the proliferation of noxious weeds and invasive species at and around the surface disturbance of the proposed sand and gravel sale area. Indirect impacts could include the dissemination of noxious weeds and invasive species throughout the county as hitchhikers on project vehicles or in produced sand and gravel.

#### **No Action Alternative**

There would be no impacts to invasive species under the No Action alternative.

#### **Cumulative Impacts**

The surface disturbance of the proposed sand and gravel sale area would increase the likelihood of the entering, proliferation, and dissemination of noxious weeds or invasive species.

## **Geology**

### **Proposed Action**

Direct impacts include the permanent removal of up to 150,000 tons of material from its natural location to various places in the surrounding area. Indirect impacts would include the likelihood that a portion of the currently slightly undulating surface would become a slight depression.

### **No Action Alternative**

There would be no impacts to geology under the No Action alternative.

### **Cumulative Impacts**

A portion of the non-renewable mineral material resources would be permanently removed from its natural location.

## **Livestock Grazing**

### **Proposed Action**

Direct impacts of the proposed sand and gravel sale include the temporary removal of 10-acres of land from the Mellor Mountain allotment. Indirect impacts to livestock grazing could include the inadvertent collision of haul trucks with livestock. Dust from haul trucks could affect livestock forage and water supplies.

### **No Action Alternative**

There would be no impacts to livestock grazing under the No Action alternative.

### **Cumulative Impacts**

Increased traffic could increase the risk of haul truck collision with livestock. Dust from additional traffic could affect livestock forage and water supplies.

## **Soils**

### **Proposed Action**

Direct impacts include stockpiles of topsoil and the interruption of vegetative growth within the project boundary. Vegetative growth would stabilize the soil for the short and long term. Indirect impacts include minimal wind or water erosion that could result in the permanent loss of some soil.

### **No Action Alternative**

There would be no impacts to soils under the No Action alternative.

### **Cumulative Impacts**

There would be no additional impacts to soils.

## **Recreation**

### **Proposed Action**

Direct impacts include the temporary reduction of the land area available for ATV use and hunting by 10 acres. Indirect impacts would include the temporary but long-term change in the visual quality of the area and temporary displacement of wildlife.

**No Action Alternative**

There would be no impacts to recreation under the No Action alternative.

**Cumulative Impacts**

There would be no cumulative impacts to recreation.

**Vegetation****Proposed Action**

Vegetation would be stripped and stockpiled and later contribute to the seed source during reclamation. Disturbances in similar areas have been reclaimed successfully with the proposed techniques and there would be no reason to doubt success at this location. A survey for threatened and endangered or BLM sensitive species indicates there are no listed species or their habitat in the general area. There are no BLM sensitive vegetation species in the project area.

Direct impacts include vehicle damage that would crush and kill sagebrush and other vegetation. It could take more than 30 years for the sagebrush to return to its pre-disturbance height. Grasses would be crushed but should recover within one growing season. Indirect impacts to vegetation could include the introduction of invasive species that would out-compete native vegetation.

**No Action Alternative**

There would be no impacts to vegetation under the No Action alternative.

**Cumulative Impacts**

There would be no cumulative impacts to vegetation.

**Wildlife****Proposed Action**

Direct impacts to wildlife include the temporary displacement of animals from the immediate area where project activities are occurring outside the seasonal restrictions. Such displacement would be brief and localized. Indirect impacts could include habitat fracturing, disruption of migratory movement, and a temporary slight reduction in available forage.

***Big Game*****Mule Deer**

Direct impacts to mule deer could include the temporary displacement of individuals outside of seasonal restrictions. Indirect impacts could include habitat fracturing, disruption of migratory movement, and a temporary slight reduction in available forage.

**Elk**

Direct impacts to elk could include the temporary displacement of individuals outside of seasonal restrictions. Indirect impacts could include habitat fracturing, disruption of migratory movement, and a temporary slight reduction in available forage.

### Pronghorn Antelope

Direct impacts to pronghorn antelope could include the temporary displacement of individuals outside of seasonal restrictions. Indirect impacts could include habitat fracturing, disruption of migratory movement, and a temporary slight reduction in available forage.

#### **No Action Alternative**

There would be no impacts to wildlife under the No Action alternative.

#### **Cumulative Impacts**

There would be no cumulative impacts to wildlife.

## **Wyoming BLM Sensitive Species Wildlife**

### **Proposed Action**

#### ***Greater Sage-Grouse***

Direct impacts to greater sage-grouse would result from some loss of nesting and brood rearing habitat from operations. Operations would occur outside of seasonal timing restrictions for the greater sage-grouse. With timing and avoidance limitations, no other impacts to these species are expected.

#### **No Action Alternative**

There would be no impacts to special status species under the No Action alternative.

#### **Cumulative Impacts**

There would be no cumulative impacts to special status species.

## **Summary of Cumulative Impacts**

Cumulative effects may occur due to the Proposed Action in combination with other ongoing activities, recently constructed projects, and projects that may be implemented in the near future. Cumulative effects are both additive and interactive.

No cumulative impacts are expected to result from project-related activities for the following reasons:

- Project impacts as described in this EA for the Proposed Action are temporary in nature, involving minimal site disturbance.
- No cumulative impacts to livestock or air quality due are anticipated because of the company-committed measures including speed limits and the approved RIS dust control plan.
- No cumulative impacts to big game are anticipated from the proposed project because no crucial big game range would be disturbed during seasonal restrictions and all impacts would be of short duration.
- No cumulative impacts to other mammals or birds are anticipated from the proposed project because a relatively small area would be disturbed and all of the disturbance would be short term.

Therefore, the proposed Tommy James Basin proposed sand and gravel sale as described in this EA, together with other federal actions, and local commercial and recreational activities, would not appreciably affect critical elements of the human environment.

### **Residual Impacts**

Residual impacts from the proposed action are expected to be minimal. The proposed action would result in some unavoidable disturbance to vegetation and minor soil loss through wind and water erosion but is considered temporary until vegetation re-sprouts and seeding proves successful. The removal of sand and gravel and disturbance of topsoil and vegetation constitutes a necessary and due impact.

### **Mitigation and Monitoring Requirements**

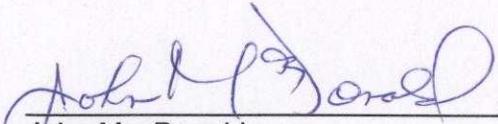
No additional mitigation has been identified after assessing the impacts. Company committed measures are presented in Chapter 2. These measures were developed by RIS during the project development and NEPA process.

## **Consultation and Coordination**

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December 13, 2007  
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## Appendix 1: Site Photographs



Figure 13: Site Overview Looking West from 4-32



Figure 14: Site Overview Looking West from Intersection of 4-32 and 4-27



Figure 19: Site Overview Looking West Towards Mellor Mountain



Figure 15: Site Overview Looking Southeast Towards Titsworth Gap



**Figure 16: Looking West Towards Mellor Mountain**



**Figure 17: Site Overview Looking West Towards Mellor Mountain**



**Figure 18: Site Overview Looking East Towards Elk Butte**



**Figure 19: Northwest Lobe Viewed from the South**



**Figure 20: Baseline Site Vegetation**



Figure 21: Baseline Site Vegetation



Figure 22: Existing Exploration Pit



Figure 23: Representative Site Gravel



Figure 29: Questar Pipeline Looking South



Figure 24: Questar Pipeline Road Looking South



**Figure 25: Site Overview Looking East Towards Elk Butte**