

# Environmental Assessment

**GRMR Oil & Gas LLC**

**Bulleit Federal 13-9 Oil Well  
In Carbon County, Wyoming**

**DOI-BLM-WY-D030-2016-0081-EA**

**BLM Lease Number: WYW-177789**

October 2016

*Prepared by:*  
U.S. Bureau of Land Management  
High Desert District  
Rawlins Field Office  
1300 North Third Street  
Rawlins, Wyoming 82301



## **Mission Statement**

To sustain the health, diversity, and productivity of the public lands  
for the use and enjoyment of present and future generations.

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## ENVIRONMENTAL ASSESSMENT

EA NUMBER: DOI-BLM-WY-D030-2016-0081-EA

### INTRODUCTION:

**BLM Office:** Rawlins Field Office

**Lease Number:** WYW-177789

**Proposed Action Title / Type:** Bulleit Federal 13-9 Oil Well, Well Pad, and Access Road.

**Applicant:** GRMR Oil & Gas LLC

**Location of Proposed Action:** Township (T.) 13 North (N.), Range (R.) 90 West (W.), 6<sup>th</sup> Principal Meridian (P.M.), Section 13, NE¼SE¼, Carbon County, Wyoming

### Purpose and Need for the Proposed Action:

#### Purpose:

This site-specific Environmental Assessment (EA) is being prepared in response to GRMR Oil and Gas LLC's (GRMR) Application for Permit to Drill (APD) an oil well, and discloses information which will allow the Authorized Officer to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). The purpose of the action is to allow the lease holder to exercise their right to drill for, extract, remove, market oil products, and complete reclamation in the above described location.

#### Need:

The need for the action is established by the Bureau of Land Management's (BLM) authority under the Minerals Leasing Act of 1920, as amended, the Mining and Minerals Policy Act of 1970, as amended, the Federal Land Policy and Management Act of 1976, as amended, the National Materials and Minerals Policy, Research and Development Act of 1980, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987, as amended.

### Decision to be made:

The BLM will decide whether or not to approve the APD and, if so, under what Conditions of Approval.

### Scoping and Issues:

Upon receipt of an APD or Notice of Staking (NOS) for a proposed well/location, the APD/NOS is posted in the public room of the Rawlins Field Office (RFO) for a period of 30 days. During that time, the APD/NOS is available for public review and comment. The information required under 43 CFR 3162.3-1(g) for this APD was posted in the Bureau of Land Management (BLM) RFO public room on February 18, 2016. The project was also entered into the National Environmental Policy Act (NEPA) Register. No public comments were received for this proposal during the posting period. The EA was posted in ePlanning on July 28, 2016 for a two-

week comment period. Six comment letters were received from environmental organizations and the Wyoming Game and Fish Department (WGFD). Substantive comments and responses are located in Appendix 2.

An on-site inspection of the proposal was conducted on May 5, 2016. A BLM interdisciplinary team (IDT) reviewed the proposal and the following resources were found to have issues of concern that are addressed in this EA: air quality; climate change and greenhouse gasses; cultural and historic resources; wildlife resources including candidate, threatened, endangered, and sensitive species; noise; and soils. Other resources either were not present or the impacts were adequately addressed through the application of Standard Operating Procedures (SOPs), Best Management Practices (BMPs) and/or site-specific design features (see Table 1 and Appendix 1).

Table 1 lists the Persons/Agencies consulted and their issues, if any.

**Table 1: Persons/Agencies Consulted:**

Name	Agency/Entity	Reason For Consultation	Outcome
David Hilliard	BLM Rawlins	NRS (Team Lead)	No Issues Identified
Kelly Owens	BLM Rawlins	Hydrology Issues	No surface water would be affected by the project.
Anthony Bridger	BLM Rawlins	Wildlife Issues	GRSG habitat disturbance in GHMA habitat. Wildlife stipulations applied for Mule Deer Crucial Winter Range (CWR) and Greater Sage-Grouse.
David Hullum	BLM Rawlins	Recreation Issues	VRM Standard Environmental Color Covert Green would be used to blend facilities in with the environment. No OHV or recreation issues identified.
Michael Oberndorf	BLM Rawlins	Archaeology Issues	Class III cultural inventory required and cleared. Standard cultural resource protection stipulation applied.
Andy Mowrey	BLM Rawlins	Reclamation and Soils Issues	Site Specific Reclamation Plan follows BLM Wyoming Reclamation Policy (IM

Name	Agency/Entity	Reason For Consultation	Outcome
			WY-2012-032 dated March 27, 2012). Submitted to BLM and Private Surface Owner.
Susan Foley	BLM Rawlins	Weeds Issues	No current weeds on site. Power wash construction equipment, including under-carriage, to minimize the potential for introducing new weeds. Dispose of waste water at a previously approved facility/location.
John Sjogren	BLM Rawlins	Rangeland Issues	No BLM grazing allotment
Megan Vasquez	BLM Rawlins	Civil Engineering Issues	New access road shall be designed and constructed to the standards set forth in BLM Manual 9113 for a resource road.
Andrew Kauppila	BLM Rawlins	Petroleum Engineer Issues	BLM Petroleum Engineer has reviewed the drilling plan and found it to be in conformance with applicable Onshore Orders, CFRs, and Rawlins RMP, as amended.
Mark Newman	BLM Rawlins	Geology/Paleontology Issues	Low potential to impact significant paleontological resources. Applied standard paleontological stipulation.
Pamela Benn	BLM Rawlins	Realty Issues	No BLM surface so there are no Rights of Way in the vicinity.
Ben Smith	BLM Rawlins	Wild Horse and Burro Issues	Not in a herd management area.
Maureen Hartshorn	BLM Rawlins	Forestry Issues	No forestry resource present.

Name	Agency/Entity	Reason For Consultation	Outcome
Susan Foley	BLM Rawlins	Planning/Environmental Coordinator	No Issues Identified
Linda Cope and Tony Mong	Wyoming Game and Fish Department	Wildlife Issues	GRSG habitat disturbance in core. Negotiated project to be moved out of designated GRSG core area and into an area with concentrated oil and gas development.
Jack Cobb	Private Land Owner	Private Land Issues	Surface Use Agreement implemented with GRMR Oil & Gas, LLC
Mike Griffiths, Kris Lee, Keith Uruski, and John Hoffman	GRMR Oil & Gas, LLC	Operator Committed Measures	Committed to follow all BLM recommended Conditions of Approval (COAs) including timing stipulations on private surface

Table 2 includes a list of resources and the location of analysis previously completed in the Rawlins RMP, as amended, for this type of project. The resources considered, but determined to be adequately analyzed in the RMP, and thus not requiring further analysis in this EA includes:

**Table 2**

Resource/Resource Use	Approved Rawlins RMP FEIS Reference
Environmental Justice	3-77; 4-189 to 4-203
Invasive species	3-113 to 3-115; 4-370 to 4-389
Minerals	3-34 to 3-44; 4-83 to 4-111; 4-501
Paleontology	3-48 to 3-49; 4-126 to 4-140; 4-502; Appendix 30
Socioeconomics	3-59 to 3-85; 4-189 to 4-203; 4-508; Appendix 35
Transportation	3-26; 3-100; 4-356 to 4-367; 4-522; Appendix 21
Vegetation	3-101 to 3-119; 4-369 to 4-389; 4-522; Appendix 19
Visual Resources	3-120 to 3-122; 4-391 to 4-406; 4-524; Appendix 25

## PROPOSED ACTION AND ALTERNATIVES

### Proposed Action:

The proposed action consists of the construction of a well pad and access road, and the drilling/completion of an exploratory oil well, Bulleit Federal 13-9. The well would be considered exploratory since it would be drilled into a different formation than the existing wells in the vicinity. The proposed well pad and access road would be located on private surface. The well would be drilled from a single well pad as a new well from private surface to federal mineral estate on Lease WYW-177789 (Issued November 9, 2010<sup>1</sup>).

Access: Begin in Baggs, Wyoming. At the junction of Penland Street and State Highway 70, drive easterly approximately 11.3 miles to the junction of Highway 70 and County Road 561; turn left and proceed northeasterly approximately 1.1 miles to the junction of County Road 561 and County Road 501; turn left and proceed northeasterly approximately 3.1 miles to the junction of County Road 501 and an unmarked existing road to the west; turn left and proceed northwesterly approximately 0.2 miles; turn left and drive westerly for 0.7 miles; turn left and travel westerly, then northwesterly for 1.2 miles; turn left onto the proposed access road and drive westerly for 215 feet to the proposed well site. No upgrades to existing access routes would occur.

Proposed New Access: Approximately 215 feet of new surface disturbance for the primary access road (0.25 acres) is expected (see Map 1). Adequate drainage structures would be constructed or installed as needed. Dust abatement techniques would be applied during construction and production of the well. The travel-way would be at least 14 feet wide, would have an average construction width of 50 feet, and would meet the BLM standards (BLM Manual 9113) for a Resource Road.

Well Site: The total disturbance area for the proposed well pad would be approximately 4.8 acres for drilling/completion operations. Dust abatement techniques would be applied during construction of the well site. Should the well become productive, cut portions of the well site would be backfilled and the unused portions of the well site and soil stockpile sites would be stabilized and reseeded with native vegetation in accordance with the operator's reclamation plan. The well pad size would be reduced to approximately 1.3 acres for the productive life of the well.

Location and type of water supply: Water for drilling the proposed well would be obtained from the City of Baggs, Wyoming, water well, SEO permit number U.W. 15173W. The water would be transported via truck by an approved commercial water hauler over the water haul route described in the APD and Surface Use Plan (SUP).

Standard Operating Procedures (SOPs), Best Management Practices (BMPs), and Mitigation: The submitted application, with SUP and standard design features, contains a complete description of the proposed action. Examples included are plans to paint facilities Covert Green,

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<sup>1</sup> Link to leasing information: [http://www.blm.gov/wy/st/en/programs/energy/Oil\\_and\\_Gas/Leasing.html](http://www.blm.gov/wy/st/en/programs/energy/Oil_and_Gas/Leasing.html)

containment berms would contain 110% of the capacity of the largest tank, erosion run on/off control would be implemented as needed, cathodic protection would be installed to protect the casing, native material would be used for construction, lined pits would be used to store cuttings from the drilling operation, cuttings would be solidified and dried prior to burial, a closed-loop system would be used for drilling and completion operations, and pits would be fenced to keep out wildlife and livestock. GRMR has agreed to implement all site-specific design features in Appendix 1, as identified by the RFO IDT, and which would be attached as Conditions of Approval (COAs) to the APD. The intent is to display design features as they would appear in the APD, for ease of review and to preserve the essence of what would be required if the Authorized Officer (AO) approves the Proposed Action. These documents are considered an integral part of the Environmental Assessment (EA) by reference. The APD file is located in the RFO, 1300 North Third Street, Rawlins, Wyoming.

Reclamation: Interim reclamation would commence within six months (weather and wildlife stipulations permitting) of drilling completion, reducing the well pad to approximately a two acre production well site. All unneeded portions of the well site would be backfilled, leveled, re-contoured, reclaimed, and re-seeded with native vegetation. This includes pits, cut and fill, and soil stockpile areas. Total (final) reclamation would take place when the well is no longer productive and is plugged and abandoned. The native seed mix is located in the Site Specific Reclamation Plan. The goal of reclamation would be to re-establish species composition, diversity, structure, and total ground cover appropriate for the desired plant community. All reclamation standards and guidelines are located in the Wyoming State Reclamation Policy (IM-WY-2012-032), as well as in the Rawlins RMP (Appendix 36), as amended.

Upon the determination that the well is not, or no longer, productive and/or is plugged and abandoned, then final reclamation of the entire well pad and location, including access road would take place in accordance with the operator's approved site-specific reclamation plan. Plans for reclamation are included in the well SUP, design features, and the site specific reclamation plan.

### **Alternatives Including the No Action Alternative**

The BLM IDT, in review of the proposed action (as modified during onsite inspections, internal scoping, and subsequent review), identified no unresolved resource conflicts that would necessitate development of additional action alternatives.

### **No Action Alternative:**

The No Action alternative considered would be to not approve the APD. Under the terms of GRMR's lease, the BLM has an obligation to allow mineral development. If the APD is not approved, the applicant is allowed to, and generally would, submit a new application that corrects any flaws in the original. The APD process is designed to overcome the "No Action" alternative situation by not accepting the APD as complete as defined by Onshore Order Number 1 and regulations at 43 CFR 3160.

### **Conformance with the Land Use Plan:**

This Proposed Action is subject to the Record of Decision (ROD) and Approved Rawlins Resource Management Plan (RMP) and Final Environmental Impact Statement (FEIS), December 24, 2008, as amended. The Resource Management Plan was recently amended by *The Bureau of Land Management Casper, Kemmerer, Newcastle, Pinedale, Rawlins, and Rock Springs Field Offices Approved Resource Management Plan Amendment for Greater Sage-Grouse* (ARMPA, September 21, 2015). The Proposed Action is in conformance with the applicable LUP, as amended. Natural gas exploration and development are specifically provided for in the ROD:

Minerals, page 2-20, Management Goal: “Manage mineral resources from available BLM-administered public lands and federal minerals while minimizing the impacts to the environment, public health and safety, and other resource values and uses.”

Management Objective 2: “Provide opportunities for exploration and development of conventional and unconventional oil and gas, coal, and other leasable minerals.”

Page 2-21, Management Actions, Oil and Gas: 1. “Surface disturbing activities will be intensively managed ... and will be subject to reclamation practices (Appendix 36)...”

The BLM uses the RMP, as amended, as a guidance document in its environmental review of leasing, exploration, and development of mineral resources. As a result of initial interdisciplinary environmental review of the proposed action, appropriate design features, BMPs, and SOPs were identified and would be applied if the APD is approved. The federal minerals leased to GRMR carry a contractual commitment to allow for development in accordance with the stipulations of the lease.

The Rawlins RMP can be accessed at:

<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=63197#>

### **Relationship to Statutes, Regulations, or Other Plans:**

This EA is prepared in accordance with National Environmental Policy Act (NEPA) procedures, and is in compliance with all applicable laws and regulations passed subsequently, including Council on Environmental Quality (CEQ) regulations (40 CFR, Parts 1500-1508); U.S. Department of Interior (DOI) Regulations for Implementation of the National Environmental Policy Act of 1969, as amended (43 CFR Part 46); DOI BLM NEPA Handbook, H-1790-1 (BLM January 2008); Guidelines for Assessing and Documenting Cumulative Impacts (BLM 1994); and the Departmental Manual (DM) part 516. This EA assesses the environmental impacts of the Proposed Action and serves to guide the decision-making process.

This EA was also prepared in accordance with the following laws, regulations, and guidance policies: Endangered Species Act of 1973, as amended (ESA); Federal Land Policy and

Management Act of 1976 (FLPMA); National Historic Preservation Act of 1966, as amended; Wyoming Standards for Healthy Rangelands; Mineral Leasing Act of 1920, as amended; Clean Air Act, as amended; and the Clean Water Act. Section 7, consultation with the U.S. Fish and Wildlife Service (USFWS), in accordance with the ESA, was not required as no species or their habitat was identified.

Onshore Oil and Gas Order Number 1 (43 CFR 3164.1) requires that an APD provide sufficient detail to permit a complete appraisal of the technical adequacy and environmental effects associated with the proposed project. The APD must conform with the provisions of the lease, including the lease stipulations, provide for safe operations, adequate protection of surface resources and uses, and other environmental components, and must also include adequate measures for reclamation of disturbed lands. If the APD is inadequate or incomplete, the applicant must modify or amend the APD and/or BLM can set forth design features that are necessary for the protection of surface resources, uses, and the environment and for the reclamation of the disturbed lands.

The project is located within the area analyzed by the Atlantic Rim Natural Gas Field Development Project Final Environmental Impact Statement (AR FEIS), which analyzes the impacts of natural gas development, within the Atlantic Rim Project Area. The ROD for the AR FEIS was signed on March 23, 2007. The Proposed Action is an exploratory oil well and therefore cannot be tiered to this EIS, however, the affected environment and anticipated environmental effects are similar and the analysis contained in the AR FEIS can therefore be incorporated by reference (Table 3). The EIS can be viewed and downloaded at the following location: <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=64748&dctmId=0b0003e880beacc> .

**Table 3. AR EIS Reference Document**

Resource/Resource Use	AR EIS Reference
Areas of Critical Environmental Concern	3-150 to 3-153; 4-158 to 4-163
Cultural Resources	3-122 to 3-132; 4-116 to 4-119; Appendix I
Environmental Justice	3-145; 4-120 to 4-146
Hazardous Materials	Appendix C
Health and Safety	3-148; 4-153- 4-155
Minerals	3-9; 4-2
Noise	3-149; 4-155 to 4-157
Paleontology	3-13; 4-2 to 4-5
Reclamation	Appendix B
Recreation	3-115 to 3-119; 4-98 to 4-105
Socioeconomics	3-132 to 3-145; 4-120 to 4-146
Soils	3-22 to 3-33; 4-16 to 4-19
Special Designations and Management Areas	3-150 to 3-153; 4-158 to 4-162
Transportation	3-146 to 3-148; 4-146 to 4-152

Resource/Resource Use	AR EIS Reference
Vegetation	3-68 to 3-79; 4-50 to 4-60
Visual Resources	3-119; 4-105 to 4-113
Wild Horses	3-149; 4-157

Note: This project does not fit any of the specified criteria allowing for Categorical Exclusion from NEPA analysis under Section 390 of the Energy Policy Act of 2005, 43 CFR 46.210 or 516 DM 11.9, and is therefore being analyzed herein.

## AFFECTED ENVIRONMENT and ENVIRONMENTAL IMPACTS

Environmental issues identified during scoping and review that warrant analysis and discussion are as follows:

**Air quality:** The basic framework for controlling air pollutants in the United States is mandated by the 1970 Clean Air Act (CAA) and its 1990 amendments, and the 1999 Regional Haze Regulations.

Following drilling and completion activities, emissions from production activities would exist throughout the life of the proposed wells. The first would be air pollutants resulting from the venting and flaring of natural gas from the proposed wells themselves. The venting and flaring of natural gas is limited to what is allowed by Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases (NTL-4A). These emissions generally become greater and more frequent as the need to purge the wells of produced fluids increases towards the end of a well's life.

The Wyoming Department of Environmental Quality (DEQ) has air quality permitting requirements for existing, new, and modified oil and gas production units under the Wyoming Air Quality Standards and Regulations, Chapter 6, Section 2 (WAQSR). However, the proposed project is unlikely to trigger permitting requirements based on the quantity of emissions from each well. Since the project is located in the Concentrated Development Area (CDA) identified by the DEQ in Chapter 6, Section 2, *Permitting Guidance for Oil and Gas Production Facilities*, the operator is encouraged to apply presumptive Best Available Control Technology (BACT) for all sources of emissions associated with the proposed project. Application of BACT can include controls for flaring, completions, dehydration units, pneumatic pumps and controllers, and flashing emissions. Application of BACT would minimize both short-term and long-term direct, indirect, and cumulative impacts in the project vicinity since previous development has occurred and other active, producing wells are present in the immediate area.

The Wyoming Department of Environmental Quality (WDEQ) released the 2015 Annual Summary for the Wamsutter air quality monitoring site (<http://www.wyvisnet.com/Data/Reports.aspx>). Within this report, WDEQ identified zero days that exceeded the ambient air quality standards; all monitored values were within or below air quality standard limits. This is the most recent and available information the BLM has regarding

air quality impacts within the RFO at this time. Further discussion on air quality can be found in the AR FEIS; RMP, p. 2-10 and Appendix 4.

**Climate Change:** Ongoing scientific research has identified the potential impacts of greenhouse gas (GHG) emissions (including carbon monoxide (CO), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), water vapor, and several trace gases) on global climate.

In most of the BLM Rawlins Field Office area, mean annual temperatures have warmed 0.4 to 0.8 F° and mean annual precipitation has increased 0.1 to 0.3 inches per decade since 1976. In the western part of the BLM RFO, mean annual temperatures (AT) have warmed 0.25 to 0.4 F° per decade and mean annual precipitation (PPT) has decreased 0.3 to 0.6 inches per decade since 1976 (NOAA, 2005). For both parameters, varying rates of change have occurred, but overall, there have been increases in both AT and PPT. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change in climatic conditions, but increasing concentrations of GHG are likely to accelerate the rate of climate change.

**Greenhouse Gas Emissions:** The Intergovernmental Panel on Climate Change (IPCC) is the leading international body for the assessment of climate change. The latest report is "Climate Change 2007," the IPCC Fourth Assessment Report (AR4) (IPCC 2007). In AR4, the IPCC concluded that warming of the climate system is unequivocal and most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations. The IPCC further concluded that, "continued greenhouse gas emissions at or above current rates would cause further warming and induce many changes in the global climate system during the 21st century that would very likely be larger than those observed during the 20th century."

The GHGs projected to be emitted by the project are CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O. The atmospheric lifetimes for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O are on the order of years (IPCC, 2007). Emissions of GHGs from any particular source become well-mixed throughout the global atmosphere. GHG emissions from all sources contribute to the global atmospheric burden of GHGs, and it is not possible to attribute a particular climate impact in any given region to GHG emissions from a particular source. It is possible to state only that GHG emissions produced by the Proposed Action and action alternatives would add to the global burden of GHGs and may therefore contribute to climate change impacts to the Affected Environment produced by world-wide emissions; these impacts may include those shown above.

The assessment of GHG emissions and climate change is in its formative phase. It is currently not feasible to know with certainty the net impacts from the Proposed Action on climate. When further information on the impacts to climate change is known, such information will be incorporated into the BLM's planning and NEPA documents as appropriate.

**Cultural and Historic Resources:** Cultural resources include prehistoric lithic scatters, open campsites and historic debris scatters common to the region. A Class III cultural resource inventory was performed for the proposed project area to locate historic properties that may be impacted by the project, in conformance with the National Historic Preservation Act (NHPA, 54 U.S.C. 306108) and implementing regulations at 36 CFR 800. No historic properties that would

be adversely impacted were identified during the inventory. Standard cultural resource design features that address buried discoveries apply and would minimize the potential for the loss or destruction of unanticipated historic properties should they be encountered during construction. More information about the cultural resources, including the historic trails, can be found in the AR FEIS Section 3.11 and 4.11 Cultural and Historical Resources, page 3-122 – 3-132 and pages 4-12 – 4-31.

**Wildlife:** The project is located within a sagebrush steppe environment that is primarily utilized by mule deer, antelope, and other small animals, including rabbits, birds, and rodents. BLM Sensitive species that have the potential to inhabit the project area include four bat species: long-eared myotis, fringed myotis, spotted bat and Townsend's big-eared bat and eight bird species: loggerhead shrike, sage thrasher, Brewer's sparrow, sage sparrow, ferruginous hawk, burrowing owl, mountain plover, and Greater Sage-Grouse (GRSG). The GRSG is also a Wyoming Game and Fish Department Species of Greatest Conservation Need; the proposed action is within a General Habitat Management Area (GHMA) as defined by the ARMPA. Two leks are located over 0.6 miles and over 2.0 miles west of the proposed well, upwind and behind a large ridge. The proposed project also lies within mule deer crucial winter range. More information on Fish, wildlife, and special status species are discussed in general in the AR FEIS Sections 3.7, 3.8, 4.7, and 4.8, pages 3-84 – 3-115 and pages 4-68 – 4-98.

The area is currently a developed existing oil and gas field. All projects within a four-mile radius (32,170 acres) of the proposed project includes forty well sites, six of which are abandoned that have been reclaimed and seeded, consisting of approximately 160 acres of disturbance. Three Carbon County Roads are within this radius and consist of approximately 320 acres. The existing two-track roads consist of approximately 26 miles. There are also thirty-four livestock reservoirs, three homesteads with outbuildings, three private out-buildings on ranches, hayfields, and part of the Dixon Airport within the radius. Ranchers have mowed sagebrush throughout the area to provide increased grazing accessibility and forage for their livestock. There are five (5) GRSG leks located within the four-mile radius. The overall trend in lek attendance has been upward over the past eight years, from 50 to 238 males.<sup>2</sup>

The loss of five acres of habitat due to surface disturbance, and disruptive activities during construction and operation, such as human presence, dust, and noise may displace or preclude wildlife use of disturbed areas. The project construction, drilling, and completion would not occur from November 15<sup>th</sup> until after June 30<sup>th</sup> in order to reduce disturbance to GRSG and other wildlife as specified in the Rawlins RMP and ARMPA. Displacement could increase both interspecific and intraspecific competition for resources, as the displaced individuals seek new areas with suitable habitat for breeding, nesting, or foraging. Wildlife sensitivity to these intrusions varies considerably with each animal species. After initial avoidance, some wildlife species may acclimate to the activity and begin to re-occupy areas previously avoided. This acclimation and re-occupation would be expected to occur following construction and drilling as the project moves into the production phase when less noise and human activity would take place.

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<sup>2</sup> 2015-2016 Monitoring Without Borders Annual Report, CD/WII, Desolation Flats & Atlantic Rim EIS Project Areas, Rawlins Field Office, Unpublished Report.

All open vent stack equipment would be designed and constructed to prevent entry by birds and bats and to discourage perching. This design feature would prevent injury to both bats and birds that may use vents for roosting and nest building.

**Noise:** The Proposed Action would add noise from construction, drilling, completion, and production to the area. Noise associated with construction, drilling, and completion of a well, can exceed 55 dBA at the well site. However, these noises are transient and short-term in nature, generally lasting less than 2 days for construction activities and 2-3 weeks for drilling and completion activities. The project would not be constructed or drilled from November 15<sup>th</sup> until after June 30<sup>th</sup> in order to reduce disturbance to GRSG and other wildlife. During the production phase, if the well is successful and a pump jack is required, a muffled or electric motor would be used to drive the pump jack. Other facilities installed should have minimal continuous noise. This field has one pumper checking wells, therefore there would be no additional maintenance traffic added. Noise is further discussed in general in the AR FEIS, Section 3.15 and 4.15, pages 3-149 and pages 4-155 – 4-157.

**Soils:** A site specific reclamation plan has been submitted by the operator for the well and the associated access road describing the soils and their properties found. Soils are deep loams and are in a Loamy 10-14" ecological site which are not considered sensitive. Impacts to soil would include increased potential for surface water runoff and erosion, soil mixing and compaction, and decreased topsoil productivity. With the application of SOPs, BMPs, and design features identified for the soils, impacts would be reduced to an acceptable level. Further discussion about soils in general can be found in the AR FEIS Section 3.3 and 4.3, pages 3-22 – 3-33 and pages 4-16 – 4-19.

**Residual Impacts of the Proposed Action:** The initial five acres of disturbance caused by the construction of the well pad and access road would be visible for many years after the project have been abandoned due to the loss of sagebrush and visual contrasts associated with construction. Residual effects of construction include habitat fragmentation and wildlife disturbance from production related traffic and noise. Residual impacts would be eliminated when production ceases and successful reclamation has been achieved. Unmitigated residual impacts include unrecoverable oil and gas reserves that would not be produced.

After review of the impacts described above, no additional mitigation measures are proposed or necessary.

## **CUMULATIVE IMPACTS**

In total, approval of the Proposed Action would add approximately five acres of additional surface disturbance to the area. After interim reclamation has occurred, the proposed action would be reclaimed to 1.3 acres of surface disturbance to remain throughout the life of the well.

The cumulative impact analysis area chosen for assessing past, present, and reasonably foreseeable actions to wildlife habitat was a four-mile radius around the proposed project. This radius (32,170 acres) is also used by the WGFD to calculate density disturbance for GRSG in

priority habitat. This project is not within priority habitat, but for consistency of review, this radius was chosen.

Within this radius, currently there are six abandoned wells, one temporarily abandoned well, one water well, one injection well, fourteen producing gas wells, and seventeen producing oil wells, consisting of approximately 160 acres of disturbance. Three Carbon County Roads are within this radius and consist of approximately 320 acres. The existing two-track roads consist of approximately 26 miles, with very little area of disturbance. There are also thirty-four livestock reservoirs, three homesteads with outbuildings, three private out-buildings on ranches, hayfields, and part of the Dixon Airport within the radius. Ranchers have mowed sagebrush throughout the area to provide increased grazing accessibility and forage for their livestock.

Eight oil wells (seven locations and 63 acres) are proposed within the four-mile radius (see Map 2). These are the only proposed projects that BLM is aware of. Three additional oil wells (two locations and 39 acres) are proposed in the general area, but not within the radius. The existing and proposed well pads and improved roads account for 0.02% (543 acres) of habitat loss, not including the ranch-associated altered habitat or two-track roads, within the four-mile radius. The proposed project, along with existing disturbances and reasonably foreseeable projects, would continue to fragment the habitat and displace wildlife species. Authorized wells would not be anticipated to directly affect species populations given the project review and stipulations placed upon each permit; however, local population function could be impacted as development increases, due to increased habitat fragmentation or habitat loss. Risks to wildlife from oil and gas development also include elevated mortality due to collisions with vehicles. There are five (5) GRSG leks located within the four-mile radius. The overall trend in lek attendance has been upward over the past eight years, from 50 to 238 males at these leks, and also an overall steady trend in the region.

The singular effects on air quality values associated with the construction, drilling and completion, and operation of the proposed well are expected to be minimal. Cumulatively, air quality impacts analyzed for the Rawlins Resource Management plan (RMP) concluded that the cumulative impacts of developments in the region of influence – which includes oil and gas development – would increase emissions for all sources of carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub>, but that these increases would not cause any exceedance of state or federal ambient air quality standards. It also concluded that although cumulative impacts to air quality values of visibility, atmospheric deposition, or ozone cannot be determined through the qualitative studies conducted for the RMP, air quality analyses from an energy development project (Desolation Flats Natural Gas Field Development Project EIS; 2004) suggest that RMP planning area activities could contribute to a significant impact on visibility in the Bridger, Fitzpatrick, Mount Zirkel, and Rawah Wilderness Areas. Similarly, the more recent Atlantic Rim Natural Gas Development Project EIS (2007; p. 5-7), found that there is a potential for cumulative visibility impacts to exceed visibility thresholds within PSD Class I Bridger Wilderness Area, and PSD Class II Popo Agie Wilderness Area and Wind River Roadless Area (40 CFR 52.21- Prevention of significant deterioration of air quality (PSD), identifies Class I and Class II areas that warrant special air quality protection measures). This is the most recent and available information the BLM has regarding cumulative air quality impacts within the RFO at this time.

The impacts of the proposed action in conjunction with existing and reasonably foreseeable oil and gas development projects would contribute to a slight change in the area that is already used for oil and gas production to an area exhibiting increased examples of human intrusion and occupancy.

Table 4 lists the proposed oil wells and their grouping for NEPA analysis and the reasons. Four total documents are proposed, including this one, due to the variety of ownership and resource issues present.

**Table 4: Proposed Oil Well NEPA Analysis Grouping and Reasons**

Well Name	Surface Ownership	Surface Use Agreement	PHMA	EA Group
Bulleit Federal 13-9	Private	Yes	No	1
Whistle Pig Federal 21-13	State of Wyoming	Yes	Yes	2
Page Federal 32-6	Private	Yes	Yes	2
Morgan Federal 9-8 1H	Private	Yes	Yes	2
C&C Cattle 24-2D & 24-1	Private	Yes	Yes	2
Federal 5-7H	BLM	N/A	Yes	3
Federal 2-12	BLM	N/A	Yes	3
Lost Republic ROW	BLM	N/A	Yes	3
Big House Federal 28-3	Private	No	No	4
Tin Cup Federal 22-121 & 22-122	Private	No	No	4
Copper City Federal 23-7	Private	No	Yes	4

**LITERATURE CITED:**

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National Oceanic and Atmospheric Administration (NOAA). 2005. Rate of Long-Term Trend Temperature Change and Precipitation Change. <http://www.cpc.ncep.noaa.gov/anltrend.gif> (pg.6).

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U.S. Department of the Interior, BLM. 2015. Approved Resource Management Plan Amendments for the Rocky Mountain Region, Including the Greater Sage-Grouse Sub-Regions of Lewistown, North Dakota, Northwest Colorado, and Wyoming/Record of Decision

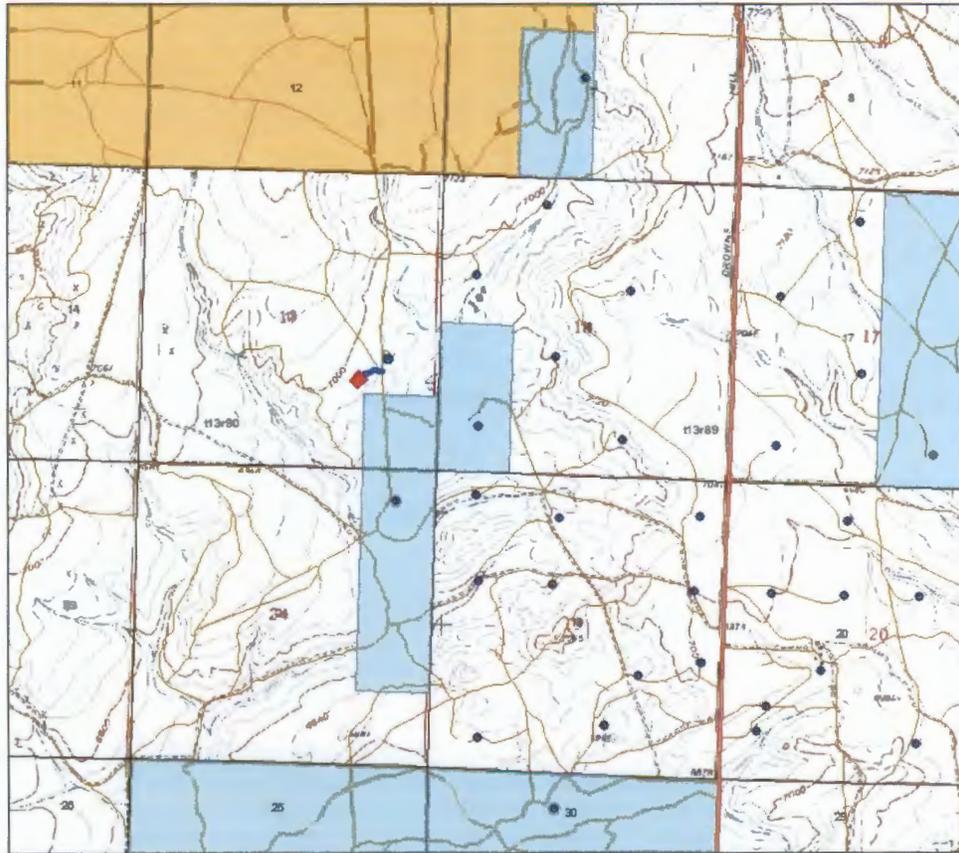
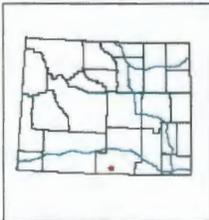
# Map 1: GRMR Bulleit Federal 13-9 proposed well location.

Bulleit Federal 13-9



## Legend

- Proposed Well Pad
- Proposed Access Road
- Existing Well Pads



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APPROVED RANGING RESOURCE MANAGEMENT PLAN

# Map 2: GRMR proposed well locations

Bulleit Federal 13-9

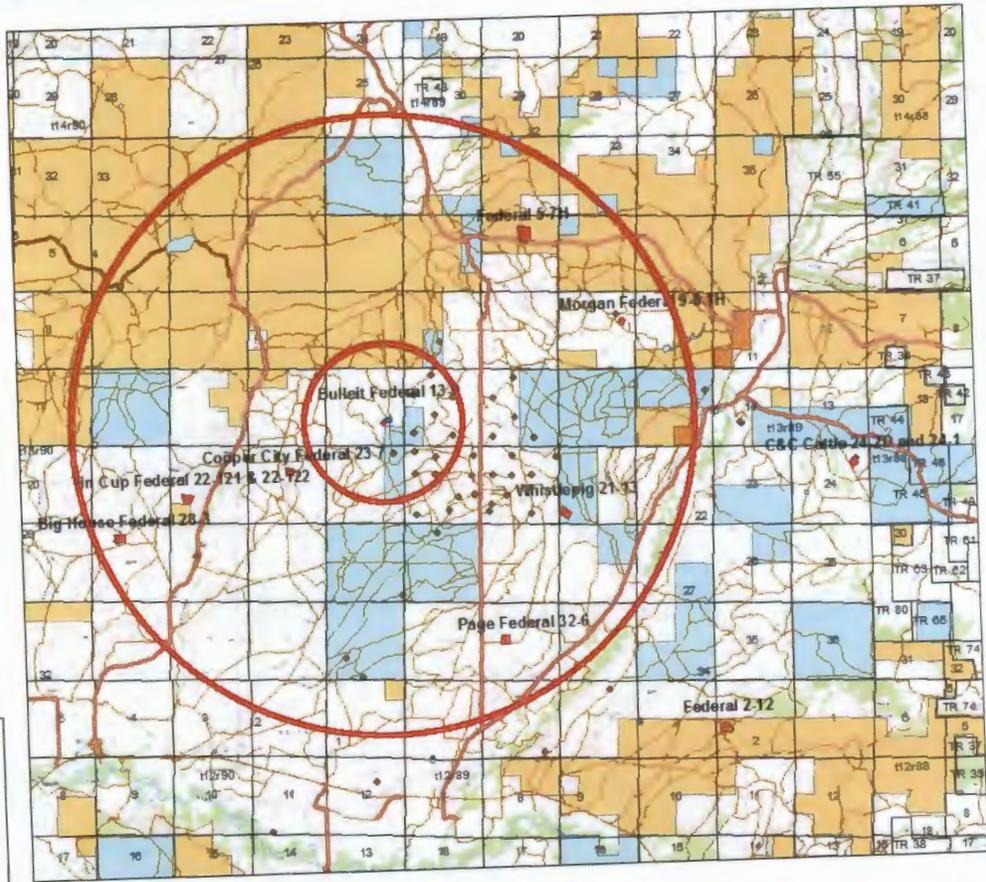
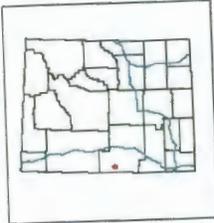


## Legend

- Proposed Well Pads
- Existing Well Pads
- Proposed Access Road
- 1 & 4 Mile Buffers



1:91,500  
WYOMING



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APPROVED RAINFALL RESOURCE MANAGEMENT PLAN

## Appendix 1 (Conditions of Approval)

### General Design Features

1. Approval of this Application for Permit to Drill (APD) does not warrant that any party holds equitable or legal title.
2. All lease exploration, development, construction, production, operations, and reclamation activity will be conducted in a manner which conforms to all applicable federal, state, and local laws and regulations.
3. All lease operations are subject to the terms of the lease and its stipulations, the regulations of 43 CFR Part 3100, Onshore Oil and Gas Orders, Notices to Lessees (NTLs), the approved APD, and any written instructions or Orders of the Bureau of Land Management (BLM) Authorized Officer (AO).
4. The approval of this APD does not grant authority to use off-lease federal lands. Facilities approved by this APD and/or Sundry Notices that are no longer included within the lease, due to a change in the lease or unit boundary will be authorized with a right-of-way. Similarly, shall unit or lease boundaries change during the life of the project, the Operator will be responsible for acquiring necessary rights-of-way for affected facilities. Failure to do so may cause the operation to be shut-in.
5. This permit will be valid for a period of two years from the date of APD approval or until lease expiration or termination, whichever is sooner. APD extensions may be requested and granted for up to two additional years, but not to exceed a total sum of four years from the initial APD approval date. Shall a permit extension be requested, it must be submitted prior to the permit expiration date via a Sundry Notice (Form 3160-5) to the AO for approval. If the permit terminates, any surface disturbance created under the application will be reclaimed in accordance with the approved reclamation plan found herein.
6. The Operator will submit a Sundry Notice (Form 3160-5) to the AO for approval prior to beginning any new surface-disturbing activities or operations that are not specifically addressed and approved by this APD.
7. The Operator may submit to the AO's Representative written requests (including documentation, supporting analysis and an acceptable plan for mitigation of anticipated impacts) for exception, waiver, or modification to this approved APD, associated design features, or other requirements. Written approval must be obtained prior to commencement of operations that cause any deviation from the approved APD and associated limitations. Emergency approval may be obtained orally, but such approval does not waive the written reporting requirement.
8. **At least 48-hours prior to** beginning any APD related construction (e.g. access road, well pad, pipeline) and/or reclamation activities (e.g. dirt-work, seeding) the operator will notify the BLM via internet notice.

9. All construction of the well pad, flare pit, reserve pit, roads, flow lines, production facilities, and all associated infrastructure on federal lands will be monitored onsite by a licensed professional engineer OR designated qualified inspector (to be named at the time of construction notification) who will serve as the Operator's Compliance Coordinator to ensure construction meets the BLM-approved plans.
10. Within **24-hours** of spudding the well, the spud date will be submitted to the BLM via internet notice. A follow up report on Form 3160-5 confirming the date and time of the actual spud will be submitted to this office within 5 working days from date of spud.
11. At **least 24-hours in advance** of all BOP tests, running and cementing all casing strings (other than conductor casing), pluggings, DST's and/or other formation tests, and drilling over lease expiration dates, notification will be submitted to the BLM via internet notice.
12. The operator will submit a production facility layout (Onshore Order 1, Section III. D.4.d. and D.4.i., or Section VIII. A.) for approval (prior to construction) which includes permitted location boundaries, production facility placement, access road inlet, and cut/fill slopes.
13. A site facility diagram (Onshore Order 3, Section III. I. and 43 CFR 3162.7-5(d)) for the purpose of a site security plan (Onshore Order 3, Section III. H. and 43 CFR 3162.7-5(c)) will be filed no later than 60 calendar days following first production.
14. Use of any tank heater/burners in production storage tanks must be approved by the AO prior to installation and/or use. Failure to obtain approval for installation/use of tank heater/burners in any production storage tanks may result in a Written Order (WO), Incidence of Non-compliance (INC), assessments and potentially a Shut-In Order.
15. No below or partially below ground fluid storage/containment tanks or vessels are to be used without prior approval of the AO. Below or partially below ground fluid storage/containment tanks or vessels will require systems for the prevention, containment, detection, and monitoring of any below ground leakage (e.g. secondary containment and leak detection/monitoring systems, etc.) A production facility layout depicting the proposed vessel construction and installation/location must be submitted for prior approval via Surdry Notice. As applicable, all subsurface vessels must comply with the Wyoming Storage Tank Act of 2007 (W.S. 35-11-14-29) and/or the Wyoming DEQ Underground Injection Control (UIC) Program.

## **Operations**

Upon request, the Operator must provide copies of applications for, and approved copies of, federal, state, and local operating permits.

1. All survey monuments found in the area of operations will be protected. Survey monuments include, but are not limited to: General Land Office and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation

stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the Operator will immediately report the incident, in writing, to the AO and the respective installing authority if known. Where General Land Office or BLM Right-of-Way monuments or references are obliterated during operations, the Operator will secure the services of a registered land surveyor or a BLM cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the "Manual of Surveying Instructions for the Survey of the Public Lands in the United States," latest edition. The Operator will record such survey in the appropriate county and send a copy to the AO. If the Bureau cadastral surveyors or other federal surveyors are used to restore the disturbed survey monument, the Operator will be responsible for the survey cost.

2. If any cultural values [sites, artifacts, human remains] are observed during operation of this lease/permit/right-of-way, they will be left intact and the AO notified. The AO will conduct an evaluation of the cultural values to establish appropriate mitigation, salvage or treatment. The Operator will be responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the Operator will immediately stop work that might further disturb such materials, and contact the AO. Within seven (7) days after the operator contacted the BLM, the AO will inform the Operator as to: whether the materials appear eligible for the National Register of Historic Places; the mitigation measures the Operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and, a time-frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the Operator will then be allowed to resume construction measures.

The Operator will be responsible for informing all persons associated with this project that they will be subject to prosecution for damaging, altering, excavating or removing any archaeological, historical, or vertebrate fossil objects or site. If archaeological, historical, or vertebrate fossil materials are discovered, the Operator will suspend all operations that further disturb such materials and immediately contact the AO. Operations will not resume until written authorization to proceed is issued by the AO.

The Operator will be responsible for the cost of any mitigation required by the AO. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the Operator will be allowed to resume operations.

3. If paleontological resources, either large or conspicuous, and/or of a significant scientific value are discovered during construction, the find will be reported to the AO immediately. Construction will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM-approved professional paleontologist

within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological values. Operations within 250 feet of such a discovery will not be resumed until written authorization to proceed is issued by the AO. The Operator will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operation.

The Operator will be responsible for informing all persons associated with this project that they will be subject to prosecution for damaging, altering, excavating or removing any archaeological, historical, or vertebrate fossil objects or site. If archaeological, historical, or vertebrate fossil materials are discovered, the Operator will suspend all operations that further disturb such materials and immediately contact the AO. Operations will not resume until written authorization to proceed is issued by the AO.

Within five (5) working days, the AO will evaluate the discovery and inform the Operator of actions that will be necessary to prevent loss of significant cultural or scientific values.

The Operator will be responsible for the cost of any mitigation required by the AO. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the Operator will be allowed to resume operations.

4. If any dead or injured threatened, endangered, proposed, or candidate animal species is located during construction or operation, the U.S. Fish and Wildlife Service's Wyoming Field Office (307-772-2374), its law enforcement office (307-261-6365), and the BLM Rawlins Field Office (307-328-4200) will be notified by the Operator within 24 hours. If any dead or injured sensitive species is located during construction or operation, the Rawlins Field Office will also be notified by the Operator within 24 hours.
5. Operators and Operator's sub-contracted personnel will not intentionally harm or harass wild horses, other wildlife, or domestic livestock.
6. ROW, mineral lease, mining claim, and permit holders will monitor and control noxious and invasive weeds, according to an approved weed management plan, on project-disturbed areas and native areas infested as a direct result of the project. The control methods will be in accordance with guidelines established by the EPA, BLM, state and local authorities. Prior to the use of pesticides, the Operator shall obtain written approval from the AO - meaning an approved Pesticide Use Proposal form - showing the type and quantity of material(s) to be used, pest(s) to be controlled, and method of application. Copies of daily Pesticide Application Records (required by the State of Wyoming) and Summary Herbicide Use Reports are due monthly to the BLM RFO-Weed Coordinator.
7. The Operator will be responsible for the prevention and suppression of fires on public lands caused by its employees, contractors, or its subcontractors. During conditions of extreme fire danger, surface use operations may be either limited or suspended in specific areas, or additional measures may be required by the AO. Shall a fire occur, it will be immediately

reported to this office by calling 307-328-4200, and notifying the Fluid Minerals staff.

8. Emissions of particulate matter from well pad, road, and other facility construction, operation, and reclamation activities will be minimized by application of water or other dust suppressants. Dust inhibitors (surfacing materials, dust suppressants, and water) will be used as necessary on locations that present a fugitive dust problem. The use of chemical dust suppressants on public surface will require prior approval from the AO.
9. If groundwater or permeable/porous subsoil or bedrock is encountered upon construction of the pad or pits, or upon drilling and completing shallow holes for surface conductor, rat/mouse holes, or water supply well, the Operator must immediately notify the AO's Representative before proceeding.
10. The Operator will comply with the Hazardous Materials Management Plan/Summary in the RMP ROD (Appendix 32) and/or the appropriate EIS ROD, including requirements to transport, store, utilize, and dispose of hazardous substances. The Operator will maintain a hazardous substances release contingency plan that will include, among other things, provision to notify the AO in the event of any release of hazardous substances associated with project operations.
11. If a portable sewage treatment facility is moved onto location, the well/lease Operator will provide the BLM AO a copy of the facility Operator's notification letter to the Wyoming Department of Environmental Quality. Facility operations will comply with BLM requirements, including unauthorized discharge notification and reclamation of disturbed surfaces.
12. Only those hazardous wastes that qualify as exempt, under the Resource Conservation and Recovery Act (RCRA), Oil and Gas Exemption, may be disposed of in the reserve pit. Generally, oil or gas wastes are exempt if they 1) have been sent down hole and then returned to the surface during oil/gas operations involving exploration, development, or production, or 2) have been generated during the removal of produced water or other contaminants from the oil/gas production stream. The term hazardous waste, as referred to above, is defined as a listed (40 CFR 261.31-33) or characteristic (40 CFR 261.20-24) hazardous waste under RCRA.
13. Any death, fire, spilled or leaked oil, produced water or treatment chemicals must be reported in accordance with NTL-3A and immediately cleaned up in accordance with BLM requirements. This includes clean-up and proper disposition of soils contaminated as a result of such spills/leaks. The Operator will segregate, treat, and/or bio-remediate contaminated soil materials as authorized via Sundry Notice (Form 3160-5) or dispose of contaminated soils at a State-permitted waste facility. Spill related treatment chemicals may require additional storage and containment measures and facilities depending on chemical classification and hazard.
14. The Operator will install an identification sign consistent with the requirements of 43 CFR 3162.6 immediately upon completion of the well pad/location construction operations.

15. The Operator will contain and remove all debris, unused equipment, and other waste materials not needed for production. Waste materials will be disposed of at a State-approved disposal facility.
16. Upon APD expiration, it is the responsibility of the Applicant/Operator to see that all stakes, flagging, posts or other materials placed on the locations and/or access roads, pipelines and associated rights-of-way are removed. The Operator must immediately cease all operations associated with preparing to drill the well and begin final reclamation activities of all APD related disturbance, pursuant to the approved APD design features and to be completed within 6 months of the APD expiration date.

### **Site Specific Design Features**

1. Surface disturbing and disruptive activities are prohibited November 15 - April 30 for the protection of big game winter habitat.
2. Avoid surface disturbing and disruptive activities, geophysical surveys, and organized recreation activities requiring a permit from March 15 to June 30 within Greater Sage-Grouse identified nesting and early-brood rearing habitat or within two (2) miles of the perimeter of an occupied lek.
3. If production facilities are needed, facilities will be placed as close to the entrance of the well pad (where access road ties into the well pad) and will be placed on grade or cut portions of the pad.
4. To minimize the potential for the introduction of new weeds, the operator shall thoroughly power-wash construction equipment, including the under-carriage, before transporting them to the project area. If portable wash units are utilized, waste water shall only be disposed of at a previously approved facility/location. Compressed air shall not be used as a method for cleaning equipment.
5. Prior to the completion of interim reclamation, and prior to seeding, the operator will again sample and test soils for suitable surface and subsurface physical, chemical properties (pH, EC, Texture). These tests are to be used by the operator for comparison of the pre-reclamation soils with pre-disturbance soils and evaluation of the suitability of the soils or seedbed for seed germination and vegetative success under the proposed reclamation plan.
6. Prior to the completion of interim and final reclamation and seeding, the Operator will submit to the BLM Authorized Officer, via Sundry Subsequent Report (Form 3160-5), the results of all vegetative and soils surveys and tests. Shall pre-disturbance and interim/final reclamation test results differ to the extent that seed mix modifications or soil amendments are required to achieve the desired ecological community, the Operator will then submit a revised reclamation plan via Sundry Notice of Intent (Form 3160-5). The Sundry Notice of intent will outline any proposed soil amendments, treatments, additives or modifications, seed mix changes, and other necessary revisions to the reclamation plan and procedures.

7. Reclamation and restoration efforts including seeding/re-vegetation, invasive plant control/treatment, and soil stabilization and erosion prevention will be monitored (for success or failure) and reported by the Operator to the BLM Authorized Officer. Monitoring and reporting will be in accordance and consistent with the Wyoming State Reclamation Policy, RFO RMP Record of Decision and Appendix 36, and these COAs. The reclamation plan including procedures for seeding/re-vegetation and weed control (via the weed management plan) will be modified and revised as necessary and required to achieve desired results and requirements.

### **Construction**

1. All facilities on location that have the potential to leak/spill oil, glycol, methanol, produced water, condensate, or other fluids which may constitute a hazard to the environment, public health or safety (including, but not limited to, drain sumps, sludge holdings, and chemical containers), will be within secondary containment, impervious to those fluids, exclusive of wildlife and livestock, with animal/bird escape capability, and able to contain a minimum of 110% of the volume of the largest storage vessel, respective to content, or 100% with at least one foot of freeboard, whichever is greater, so that any spill or leakage will not drain, infiltrate, or otherwise escape to ground water, surface water, or navigable waters before cleanup can be completed (within 72 hours).
2. Construction over and/or immediately adjacent to existing pipelines will be coordinated, and in accordance with, the relevant pipeline companies' policy.
3. Fencing will be installed around produced water, oil, and condensate tank batteries in order to help maintain the integrity of the surrounding containment structure and to prevent livestock and wildlife from entering the area in case of a leak or spill.
4. All open vent stack equipment will be designed and constructed to prevent entry by birds and bats and to discourage perching.
5. The immediate repair/replacement (to BLM standards) of any range infrastructure breached, altered, or damaged by construction, drilling, or operation activities related to this APD will be the responsibility of the Operator. All fence relocations will be in accordance with BLM approval.
6. Construction, maintenance, and reclamation operations with frozen material or during periods when the soil material is saturated is expressly prohibited. If equipment, including licensed highway vehicles, creates ruts in excess of four (4) inches deep, the soil will be deemed too wet to adequately support maintenance and/or heavy equipment.
7. Accumulated snow present on the ground at the outset of construction, maintenance, or reclamation activities will be removed before the soil is disturbed and piled downhill and/or downwind from the disturbed area. Equipment used for any non-construction snow removal operations will be equipped with 6" shoes to ensure blades do not remove topsoil or

vegetation. Written approval must be obtained before snow removal related to a federal action but outside of designated disturbance areas is undertaken. When blading/removing snow, drifts/berms will be constructed with a gap of 20-30 yards every ¼ mile, to allow unobstructed movement of wildlife, livestock and human activities.

8. Clearly remove, segregate, and delineate from all other spoils, all available topsoil from constructed locations and surface disturbances including areas of cut and fill. Stockpile and clearly identify topsoils at the site for use in reclamation on all areas of surface disturbance (well pads/locations, roads, pipelines, etc.).
9. All spoils will be placed where they can be retrieved without creating additional surface disturbance and where they do not impede and/or contribute sediment to watershed and drainage flows.
10. Drainage and runoff will be diverted away from all new construction naturally or through the use of spoil material to create berms. All drainage structures will approximate topographic contour lines, have a grade no greater than 0.5 - 1 percent, will release water onto natural undisturbed ground without causing additional accelerated erosion. The use of riprap or other armoring to prevent erosion may be necessary (BLM Manual 9113). Drainage structures will not discharge directly into/onto natural drainages/channels. Water-bars, waddles, hay bales, and/or silt fences will be used as needed to reduce surface runoff velocity and promote upland sediment deposition, thus reducing drainage/channel sedimentation and erosion.
11. Silt fences will be installed after topsoil removal and before pad leveling begins and must remain in place until interim reclamation is complete and there is adequate vegetation present to stabilize the soil. Silt fences will be constructed in locations where surface erosion is evident or potential for surface erosion exists such as areas of steep slopes or highly erosive soils. Fences will be installed at the inside edge of disturbance.
12. Silt fences will be constructed using metal posts that are at least 5 feet long with at least 2 feet in the ground (3 feet above ground) with 8 feet spacing if a wire re-enforcement backing is used or 6 feet spacing if no wire backing is used. The fabric is to be toed into the ground at the base of the fence a minimum of 8 inches deep and an 18 inch overlap is required when splicing two fences together. The fabric is to be installed on the uphill side of the metal posts and attached to the posts at least every 6 inches along the length of the post. Silt fences are to be inspected at least once a month or 48 hours after a rain storm event. If holes in the fence or undercutting of the fence are found, repair is required within 48 hours of discovery. When silt accumulates to a height equal to two-thirds the height of the fabric, the silt is to be cleaned out and deposited on the excess spoils pile.
13. Sediment fences, straw wattles, erosion mats, and/or hay bales shall be used to minimize erosion and sediment transport on disturbance area.
14. Construction control stakes will be placed as necessary to ensure construction of the well pad, topsoil stockpile, spoil pile, and outer limits of the area to be disturbed in accordance

with the specifications outlined in the APD. The Operator will assume full responsibility for protecting all stakes and offsetting any additional stakes or grades which may be necessary.

15. Cathodic protection wells will be drilled on the existing well pad, placed so as not to interfere with re-contouring of cut and fill slopes during interim reclamation, designed and constructed to prevent commingling and contamination of water aquifers. The AO will be notified of any water flows at surface and the problem will be resolved promptly.

## **Roads**

1. All access roads and drainage control structures, whether existing or newly-constructed, will be both constructed to resource road standards and regularly maintained in a safe and usable condition as outlined in BLM Manual, Section 9113. The Lessee and/or Operator will enter into a maintenance agreement with all other "authorized users" of the common access road(s) to the well site. The costs of road maintenance in dollars, equipment, materials, labor, and other related expenses will be shared proportionally among the "authorized users." Upon request, the AO will be provided copies of any maintenance agreement or agreements.
2. All Operators and Operator's representative vehicles are restricted to authorized travel routes only and will not use any other access route, e.g.; two-track roads, trails, and pipeline rights-of-way to access the drill/well pad and any ancillary facilities.
3. Prior to construction, road(s) will be surveyed and staked with construction control stakes set continuously along the centerline at maximum 100-foot intervals (less where needed to be inter-visible) and at all tangent and curve control points, fence or utility crossings, and culverts. In addition to centerline stakes, slope stakes will be placed at the top of the cut and the bottom of the fill for those portions of the road that are engineered.
4. Before proposed road construction activities begin, the topsoil must be bladed to the side of the road and stockpiled. The topsoil stockpile will be contoured so as to prevent water ponding or flow concentration. Once the borrow ditch and the cut slopes are constructed, cleared vegetative material and topsoil that is windrowed will be spread back onto the cut/fill slopes of the road, removing any windrows or berms remaining at the edge of the road.
5. The minimum travel-way width of the immediate access road will be 14 feet with turnouts at least 10 feet in width. No structure will be allowed to narrow the road top. The inside slope will be 4:1. The bottom of the ditch will be a smooth V with no vertical cut in the bottom. The outside slope will be 2:1 or flatter. After the road is crowned and ditched with a .03 - .05 ft/ft crown the topsoil and windrowed vegetative material will be pulled back down on the cut slope so there is no berm left at the top of the cut slope.
6. If soils along the access road route are dry during road construction, use, and/or maintenance, fresh water will be applied to the road surface to facilitate soil compaction and minimize soil loss as a result of wind erosion.
7. Construction and surfacing of the new access road will be complete prior to moving drilling

equipment onto the well pad and the presence of heavy vehicular traffic. Compact the top foot of sub-grade in even six (6) to eight (8) inch lifts to established standards, adding water as needed for compaction. Surface with an appropriate grade of gravel (as specified in BLM Manual 9113) to a minimum depth of four (compacted) inches.

8. All culverts will be a minimum of 18 inches in diameter. Culverts will have a minimum of 12" of fill or 1/2 the pipe diameter, whichever is greater, placed on top of the culvert, and will be of length sufficient to allow at least 12" of culvert to extend beyond the toe of any slope. The inlet and outlet will be set on grade. No rocks will be used in the bed material and no rocks greater than 2" in diameter will be immediately adjacent to the culvert. The entire length of pipe will be bedded on native material before backfilling, which will be completed using unfrozen material and rocks no larger than two inches in diameter; compact the backfill evenly in 6" lifts on both sides of the culvert. A permanent marker will be installed at both ends of the culvert to help prevent traffic from damaging the culvert. Additional culverts will be placed in the new access road as the need arises or as directed by the AO.
9. Wing-ditches will be staked and constructed at a slope of .5 to 1.0 percent down slope unless otherwise approved by the AO. All wing/drainage ditches and culverts will be kept clear and free-flowing, and will also be maintained in accordance with the original construction standards. Drainage structures will not discharge directly into/onto natural drainages/channels, and/or use riprap or other armoring to protect from erosion (BLM Manual 9113).
10. Existing pipe infrastructure in the access road area shall follow specs for fill under item 10 for culverts. A minimum of 12" of fill shall be placed over pipes that must be crossed by the road. In areas where 12" of fill cannot be achieved, existing pipe shall be encased in steel to protect the pipe, at least twice the diameter of the existing pipe.

### **Pits**

1. All oil and gas pits that could contain fracture/stimulation fluids, recycled pit fluids, or produced water, except those only containing fresh-water based constituents, are required to be lined with an impermeable (12 mil minimum with a permeability less than or equal to  $1 \times 10^7$  cm/sec) liner. The liner will be physically and chemically-compatible with all substances which it may contact and will be of sufficient strength and thickness to withstand normal installation and use, and installed so that it will not leak. The liner will be installed over a smooth sub-grade, matting, or fill materials (e.g. sifted dirt, sand, or bentonite) free of pockets, loose rocks, and other objects that could damage the liner.
2. The only fluids/waste materials which are authorized to go into reserve pits are RCRA-exempt exploration and production wastes. Any evidence of RCRA non-exempt wastes being put into the reserve pit may result in the BLM Authorized Officer requiring specific testing and closure requirements.
3. All pits are required to maintain a minimum of 2 feet of freeboard between the liquid level and the top of the liner. If operations cause fluid levels in pits to rise above the required

freeboard, immediate notification will be provided to the AO with concurrent steps taken to cease the introduction of additional fluids, until alternative containment methods can be approved.

4. Flaring of gas into the reserve or completion pits will not be allowed without prior approval from the AO.
5. All pits will be kept free of trash, debris, solid wastes, and other unauthorized waste materials including oil and liquid hydrocarbons.
6. For the protection of livestock and wildlife, all pits and open cellars will be fenced on all sides, with corner bracing, immediately upon construction. Reserve, flare, completion, and production pits will be adequately fenced during and after drilling operations until pits are reclaimed so as to effectively keep out wildlife and livestock. Operator will, within 48 hours of discovery, remove any floating hydrocarbons from pit surface or install netting over the pit. Approved netting (mesh diameter no larger than one inch) is required over any pit that contains or is identified as containing hydrocarbons or hazardous substances (per RCRA 40 CFR Part 261 or CERCLA Section 101(14) (E)).
7. Pits will be dried, backfilled, and closed within six (6) months from well completion (total depth) or well plugging. Pits must be void of all free fluids prior to backfilling. Pit trenching or squeezing is prohibited. Pits may be dewatered/dried in the following manner: natural evaporation, mechanical aeration, and/or hauled to an approved DEQ disposal site. The installation/operation of any sprinklers, misters, aerators, pumps, hoses, and related equipment will ensure that water spray or mist does not drift outside of the pit. All other dewatering/drying, removal or disposal methods not listed in the APD and or Design features will have prior written approval from the AO.
8. Pits, once dry, will be backfilled and compacted with a minimum cover of at least three (3) feet of soil, void of any topsoil, vegetation, large stones, rocks or foreign objects. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Before backfilling synthetically lined reserve pits, those liner portions remaining above the "mud line" will be cut off as close to the top of the mud surface as possible and disposed of at an approved solid waste disposal facility. The pit bottom and remaining liner will not be trenched, cut, punctured, or perforated.

### **Reclamation**

1. By March 1 of each year the operator will report and submit annual surface disturbance and reclamation data for the previous calendar year, utilizing the BLM Rawlins Field Office Disturbance (As-Built) and Reclamation Database. Monitoring and reporting will be in accordance and consistent with the Wyoming State Reclamation Policy, RFO RMP Record of Decision (ROD) and Appendix 36, and the field/project level EA/EIS, as applicable. For more information please contact the Rawlins Field Office, Minerals and Lands, Natural Resource Specialist at 307-328-4200 for further information.

2. Reclamation earthwork for interim and/or final reclamation will be completed within 6 months of well completion or well plugging (weather permitting) including unnecessary access roads and pipeline right(s)-of-way, and will consist of: 1) backfilling pits, 2) re-contouring and stabilizing the well site, access road, cut/fill slopes, drainage channels, utility and pipeline corridors, and all other disturbed areas, to approximately the original contour, shape, function, and configuration that existed before construction (any compacted backfilling activities will ensure proper spoils placement, settling, and stabilization), 3) surface ripping, prior to topsoil placement, to a depth of 18-24 inches deep on 18-24 inch centers to reduce compaction, 4) final grading and replacement of topsoil, 5) surface-roughening and other techniques such as snow fencing to increase soil moisture retention and reduce compaction (all surface soil material will be pitted or roughened such that the entire reclamation area will be uniformly covered with depressions constructed perpendicular to the natural flow of water and/or prevailing wind), and 6) seeding in accordance with reclamation portions of the APD and these Design features.
3. Temporary fencing of the reclaimed well/facilities locations for the first two to four growing seasons after either interim or final seeding will be required to exclude livestock and wildlife and to help ensure better re-vegetation success. Similarly, off-road vehicle prevention measures will be employed on reclaimed locations.
4. Any subsequent re-disturbance of interim reclamation will be reclaimed within six (6) months by the same means described herein.
5. A Notice of Intent to Abandon (Form 3160-5) must be submitted and approved prior to any well abandonment activities. A joint inspection of the disturbed areas may be required and attended by the BLM and the Operator (or Operator's Designee), the primary purpose of which is to review and agree to the existing (or a new) abandonment and/or final reclamation plan. Earthwork must commence and be completed within six (6) months from the date of plugging and abandonment and seeding no later than the next immediate growing season upon the completion of earthwork. All reclamation shall be accomplished as soon as possible after the disturbance occurs; with efforts continuing until the criteria for reclamation success has been met.
6. The Operator will submit a Final Abandonment Notice (FAN), using Form 3160-5, to the AO when the criterion for reclamation success has been met on the surface-disturbed. This FAN indicates that the Operator believes the location is considered ready for final inspection, with adequate vegetation cover and species diversity. Upon receipt of the FAN, the BLM will conduct a field inspection prior to releasing the bond liability for this location.
7. Re-vegetation will consist of species occurring in the surrounding natural vegetation and/or included in the approved seed mix as deemed desirable by the BLM or private surface owner in review and approval of the reclamation plan. Inter-seeding, secondary seeding, or staggered seeding may be required to accomplish re-vegetation objectives. The seed mixture(s) will be planted in the amounts specified in pounds of pure live seed (PLS)/acre. There will be no primary or secondary noxious weed seed in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and

within 9 months prior to purchase. Commercial seed will be either certified or registered seed. The seed mixture container will be tagged in accordance with State law(s) and available for inspection by the AO. Seed will be broadcast if drilling is not possible. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the AO.

8. Evaluation of growth and success will be conducted as per RMP ROD (Appendix 36). The site will also comply with additional management needs, including control of weed infestations. Success criteria as defined by the RMP is: criteria based on pre-disturbance surveys or surveys of adjacent undisturbed natural ground cover and species composition (which the Operator will do prior to disturbance) or eighty percent of pre-disturbance ground cover, ninety percent dominant species, no noxious weeds, and erosion features equal to or less than surrounding area. The AO reserves the right to require a reevaluation of the reclamation success of the disturbances and determine if reseeding is necessary.
9. All practicable measures will be utilized to minimize erosion and stabilize disturbed soils on or adjacent to the disturbed and reclaimed area. There will be no evidence of mass-wasting, head-cutting, large rills or gullies, down cutting or overall slope instability. Shall the use or storage of hay, straw, or mulch be necessary, the Operator is required to use certified weed-free hay, straw, and mulch on BLM lands.
10. Topsoil to be stockpiled for longer than one year will be spread in layers not to exceed 2 feet maximum thickness and appropriately identified/signed as topsoil. These soil stockpiles will be seeded with a prescribed seed mixture or sterile cover crop (approved by the AO) and covered with mulch to reduce erosion and discourage weed invasion.

### **Fluids**

1. All storage, removal and disposal of produced water must be in accordance with and comply with Onshore Oil and Gas Order Number 7. Produced water must be disposed of at a permitted off-site commercial disposal facility, unless approved otherwise by the BLM AO. The onsite storage/disposal of produced water, in open pits, tin horns, sumps, etc., is not authorized except as follows: 1) produced water from the well subsequent to drilling may be disposed of in the approved well site reserve pit (for up to 90 days), and/or 2) used for well drilling or completion, upon prior written approval from the AO via approved APD or Sundry. Produced water may be transported and used for drilling/completion operations from approved fee, state, or federal wells/leases to federal wells/leases within the developed field/unit and/or EIS area, subject to WOGCC and BLM approval.
2. Pit drilling fluids may be transferred from a reserve pit at an approved federal well location to a lined reserve pit at another approved federal well location, for the purpose of drilling the well. Transfer/reuse will only be permitted when transfer is by a lease operator from one or more pits to another pit or pits on the operator's federal lease/unit or adjacent federal lease. Unless approved by this APD, the transfer and reuse of pit drilling fluids will require prior written approval from the AO, via a Sundry Notice (Form 3160-5).

3. The AO may authorize the use of produced water or reuse of pit drilling fluids for drilling when: 1) surface casing has been set with fresh water through any and all possible fresh water zones, 2) use is for drilling/completion only, and 3) the receiving pit is lined.
4. Pit fluids may be transferred by a lease operator from one or more pits to another (lined) pit or pits on the operator's federal lease/unit or adjacent federal lease, for the purpose of fluid consolidation and mechanical/chemical drying and disposal. The 6 month pit closure requirement will apply. Unless approved by this APD, the transfer of pit fluids for consolidation/disposal will require prior written approval from the AO, via a Sundry Notice (Form 3160-5).
5. Initial operator requests for the transport and use/reuse of produced water or pit drilling fluids or the transfer/consolidation of pit fluids will include: 1) the potential locations/leases in which fluids are to be transferred to and from, and 2) the potential quantity to be moved. Requests will be submitted for prior written approval from the AO via APD or Sundry Notice. Upon completion of transport, use/reuse or consolidation, the specific information on leases, units or locations and quantities transferred will be submitted to the AO, via Sundry Subsequent Report. Transportation of fluids will be along approved haul routes and authorized right-of-ways. Temporary surface pipelines may be authorized by the AO for the transfer of fresh water only, and NOT for produced water or pit fluids.
6. Drilling water sources/supplies or any changes to drilling water sources/supplies, the fate of drilling/completion fluids, routes and means of fluid transportation/disposal, and location or method of produced water disposal requires prior written approval from the AO via approved Sundry Notice as applicable.
7. The drilling of water wells on federal lands will require prior BLM approval via APD, Sundry, or ROW as applicable, in addition to State Engineer Office (SEO) approval.

## Appendix 2: Public Review Comment and Response Table

Comment #	Letters with Comment	Review Comment	BLM Response
1	1, 2, 3, 4, 5, 6	BLM must prepare an EIS for the 12 GRMR proposed wells.	An EIS is a document required by the National Environmental Policy Act (NEPA) for certain actions “significantly affecting the quality of the human environment”. No issues were identified met the level of significance during the Environmental Analysis.
2	1, 5	BLM must analyze all 12 wells in the same EA.	The proposed wells are exploratory, which are drilled to help the operator make an informed decision on the potential to continue developing the field. BLM has determined the wells are proposed in areas with different management concerns. The Bulleit Federal 13-9 well is a private surface and federal minerals action. The land owner has a surface use agreement with the company. The other 11 wells are in Priority Habitat (PHMA) for Greater Sage-Grouse (GRGS) on private surface, PHMA on federal surface, or general Habitat (GHMA) on private surface where there has not been an agreement made with the private landowner or have a federal and state bond in place, in which case the Application for Permit to Drill (APD) is not currently complete and cannot be processed. Text was updated and Table 4 inserted in the Cumulative Impact section, p. 15.

Comment #	Letters with Comment	Review Comment	BLM Response
3	4	<p>GSG approved RMP amendments state (at 55) that: “MD MR 5: Master Development Plan will be considered and encouraged for projects involving multiple proposed disturbances within PHMAs. In addition, Onshore Oil and Gas Order No. 1 states that: “Submitting a Master Development Plan facilitates early planning, orderly development, and the cumulative effects analysis for all the APDs expected to be drilled by an operator in a developing field. Approval of a Master Development Plan serves as approval of all of the APDs submitted with the Plan.” See Onshore Oil and Gas Order No. 1, III. H., 72 Fed. Reg. 10328, 10335 (March 7, 2007).</p>	<p>This well location is not within PHMA. These wells were not submitted as part of a Master Development Plan. Onshore Oil and Gas Order Number 1, III. H., 72 Federal Register 10335 (March 7, 2007) states that “An operator <b>may elect</b> [emphasis added] to submit a Master Development Plan...” BLM encourages companies to submit master development plans when the continuation of a drilling program will take place; these proposed wells are exploratory.</p>
4	1, 2, 4	<p>BLM ignores potential impacts to Greater Sage-Grouse populations and habitat in the EA, and BLM’s Decision in Not in conformance with the 2015 RMP Amendments</p>	<p>BLM has recognized the potential impacts to GRSG populations and habitat under AFFECTED ENVIRONMENT and ENVIRONMENTAL IMPACTS, Wildlife Section, page 12. The proposed action is in GHMA and has Best Management Practices (BMPs), Conditions of Approval (COAs), and design features in the Surface Use Plan and Drilling Plan to reduce anticipated impacts during nesting and early brood rearing periods.</p>

Comment #	Letters with Comment	Review Comment	BLM Response
5	4	<p>Impacts to operations/activities on private lands. The EA indicates (at unmarked page 3) that the well pad and access road would be located on private surface, yet the discussion of environmental consequences fails to address potential impacts to the private landowner or his/her activities and operations. To ensure proper consideration of surface owner concerns, we recommend that the BLM review Appendix G – Federal Oil and Gas Operations on Split Estate Lands, attached to Wyoming Greater Sage-Grouse Approved Resource Management Plan Amendments, September 2015.</p>	<p>The private surface landowner and the Operator have a surface use agreement. GRMR has also agreed to follow all resource protection measures that BLM would apply to federally managed lands. The proper procedures have been followed according to regulations. The subject landowner was invited and participated in the onsite inspection. This EA has adequately considered the site specific impacts of the proposal.</p>

Comment #	Letters with Comment	Review Comment	BLM Response
6	2, 4, 5	<p>Mitigation: The EA states that “no additional mitigation measures are proposed or necessary” beyond those measures described in Appendix 1, SOPs, BMPs, and SUP. Public commenters do not have convenient access to the APD and related documents housed in the Rawlins BLM Field Office and therefore are not able to comment on the potential effectiveness of measures contained in those files.</p>	<p>The NOS for the APD was posted in the RFO for 30 days as required by 43 CFR 3160 and Onshore Order Number 1. The EA has adequately disclosed the potential impacts from the project and identified appropriate design features in the form of Conditions of Approval (COAs) that were missing from the APD. Examples of the operator committed measures were added to the EA Proposed Action, page 6 &amp; 7. Some information submitted by the operator has been marked confidential (site specific reclamation plan, surface use plan, drilling plan, well plat, and APD) as allowed by regulation. A BLM IDT has reviewed all information before analysis was completed and determined that no additional mitigation measures were needed. The design features attached as Appendix 1 are part of the EA and available to the public on ePlanning, as well as the RMP. Lease stipulations are available at: <a href="http://www.blm.gov/wy/st/en/programs/energy/Oil_and_Gas/Leasing.html">http://www.blm.gov/wy/st/en/programs/energy/Oil_and_Gas/Leasing.html</a> and were added to the EA at p. 5.</p>

Comment #	Letters with Comment	Review Comment	BLM Response
7	4	<p>Lease stipulations and conditions of approval. The EA indicates that the Bulleit well would be drilled on BLM lease WYW-177789, and that it must, under Onshore Oil and Gas Order No. 1, “conform with the provisions of the lease, including the lease stipulations...” We suggest that the revised environmental document include a copy of the lease and any stipulations that may be attached thereto.</p>	<p>The leasing information was added to the EA at p. 5, and is available for the public at the following address: <a href="http://www.blm.gov/wy/st/en/programs/energy/Oil_and_Gas/Leasing.html">http://www.blm.gov/wy/st/en/programs/energy/Oil_and_Gas/Leasing.html</a></p>
8	4	<p>The EA considers two alternatives: a no action alternative and a proposed action alternative. We request that you include an alternative that would adopt best management practices, reclamation standards, design features and standard operating procedures that would minimize and mitigate environmental impacts beyond the level accomplished by implementation of Appendix 1. Examples of these features include but are not limited to controls on noise and outdoor lighting, green completions, full-length casing, and elimination of reserve pits.</p>	<p>Appendix 1 and the APD have adequately included the requested information and there is no need for another alternative. Per Appendix G of the Approved Resource Management Plan Amendment (ARMPA, page 222), and the Gold Book, page 12, “The BLM will offer the surface owner the same level of surface protection that the BLM provides on Federal surface. The BLM will not apply standards or conditions that exceed those that would normally be applied to Federal surface, even when requested by the surface owner.” See also Response 5 above.</p>

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
9	2, 3, 4, 5	Information available on BLM's website and displayed in the above-referenced EA indicates that Bulleit Federal 13-9 is one of twelve wells proposed by Greater Rocky Mountain Resources (GRMR) in the Little Snake River Valley. We understand that the majority of GRMR's wells would be located in priority habitat management areas (PHMA) for greater sage-grouse which, if constructed, would exceed the density and/or disturbance limits permitted by the BLM's September, 2015, greater sage-grouse approved RMP amendments and Wyoming's core area strategy. See Wyoming Executive Order 2015-4.	The Bulleit Federal 13-9 well is not located in PHMA or Core habitat.
10	2, 3, 4, 5	It is unclear why this project apparently is relieved of any mention or analysis under the auspices of the new DOI mitigation policy and the Presidential Memorandum. Please explain. No net loss.	The Bulleit Federal 13-9 well pad and access road are in GHMA, not PHMA habitat. Timing stipulations, BMPs, and design features are proposed so the proposed action would be in conformance with the Rawlins RMP, as amended by the ARMPA. The lease has a valid existing right and no significant impacts necessitating additional mitigation have been identified.
11	2, 3, 4, 5	Efforts to Protect Greater Sage-Grouse Require a Comprehensive, Landscape-Scale effort for the Rawlins Core Area	BLM has implemented the requirements listed in the Rawlins RMP/ROD, as amended by the ARMPA, to protect GRSG.

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
12	2, 3, 4, 5	There is no mention of impacts to big game migration and crucial winter range (direct AND indirect), beyond the fact habitat will be lost. We find this unacceptable.	BLM has implemented timing stipulations to protect crucial winter range habitat (EA p. 12 & 23). WGFD has not designated any big game migration corridors in the RFO.
13	1	The Draft EA does not consider the impacts of Fracking	Per GRMR's Drilling Plan, the well is not proposed for hydraulic fracturing (HF), and therefore was not considered in the analysis. Should the Operator propose the use of HF in the future, the BLM will conduct additional review as necessary.
14	1	The BLM does not account for chemical spills and leaks	BLM regulates all chemical spills and leaks in accordance with NTL-3A, which requires the Operator to report all spills, discharges, or other undesirable events. As these events are accidental, they cannot be analyzed in a NEPA document.
15	1	The BLM does not consider the impacts of water depletion of the City of Baggs and Little Snake River	GRMR has obtained necessary permits from the Wyoming State Engineers Office and the City of Baggs for the water to complete drilling operations. Water depletion was already accounted for during the issuance of the original permit and no new depletions are proposed.

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
16	1	BLM failed to adequately analyze greenhouse gas emissions and climate change potential of the proposed action.	<p>Unsubstantiated assumptions including operational costs, future regulations, process improvements, demand, and other factors would need to be considered when analyzing and assessing the impacts that could occur as a result of oil and gas consumption or the emissions of greenhouse gases at this project level. This information is beyond the ability of the BLM to reasonably foresee and predict. Such an analysis would be highly speculative, would provide no discernable benefit to the document, and would not provide additional pertinent information to the decision maker or the public.</p> <p>The BLM, consistent with CEQ guidance, has estimated the greenhouse gas emissions associated with the proposed action (and the No Action Alternative) as a reasonable proxy for the effects of climate change. The CEQ guidance directs agencies to consider the effects of a proposed action on climate change as indicated by GHG emissions, and consider the implications of climate change for the environmental effect of the proposed action. The CD-C FEIS Section 4.5.7.1 addresses a similar comment; it states that “it is not possible to attribute emissions of GHGs from any particular source to a specific climate impact, globally or regionally, due to the longevity of GHGs in the atmosphere”.</p>

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
17	1	BLM must allow for meaningful public participation and comment	The BLM provides for a 30 day public review period when an NOS or APD (whichever comes first) is submitted to the field office. The APD/NOS is posted in the public room. BLM has also provided an additional 2 week comment period for review of this EA document.
18	1	<p>The CEQ regulations, and Tenth Circuit precedent, make clear that “connected actions” requiring a single EIS are those that “cannot or will not proceed unless other actions are taken simultaneously.”</p> <p>The EA contains no analysis as to whether the Bulleit 13-9 well would be drilled in the absence of GRMR’s full 12-well proposed project.</p>	The additional proposed exploratory wells were not deemed to be connected actions based upon the definition of exploratory wells. Future wells are not dependent upon previous well drilling outcomes.

Comment #	Letters with Comment	Review Comment	BLM Response
19	1	<p>The RMPA requires that every “proposal will be reviewed to determine whether it would be allowed as prescribed in the [RMPA].” Furthermore, “[e]valuation of projects will also include an assessment of the current state of the adaptive management hard and soft triggers.” The EA fails to include this evaluation for the Bulleit 13-9 proposal or the GRMR drilling proposal as a whole. The RMPA requires that “[t]he proposal will be reviewed to determine whether it conforms with the Density and Disturbance Limitations.”</p>	<p>The Bulleit Federal 13-9 well is not located in PHMA or Core habitat, therefore these evaluations were not required.</p>
20	4, 5	<p>The EA does not discuss ambient noise levels in the project area, nor does it disclose the environmental impacts of noise to wildlife, or people who may live or work in the vicinity of drilling sites.</p>	<p>This location is in a highly developed oil field. Per the ARMPA (MD SSS 12, page 37), “New project noise levels, either individual or cumulative, should not exceed 10 dBA (as measured by L50) above baseline noise at the perimeter of the lek from 6:00 pm to 8:00 am during the breeding [sic] season (March 1—May 15). <b>Specific noise protocols for measurement and implementation will be developed as additional research and information emerges</b> (emphasis added).”</p> <p>The BLM intends to be in compliance with the ARMPA in regards to noise.</p>

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
21	4, 5	The EA does not discuss opportunities to mitigate noise impacts by requiring more effective mufflers on construction and drilling equipment, restricting use of compression brakes on semi-trucks, or the use of natural or artificial sound barriers.	Appendix G of the ARMPA (page 222) and the Gold Book, page 12, “The BLM will offer the surface owner the same level of surface protection that the BLM provides on Federal surface. The BLM will not apply standards or conditions that exceed those that would normally be applied to Federal surface, even when requested by the surface owner.” BLM has already included that no disruptive activities would be allowed before and during the lekking and brood-rearing timeframe (due to the big game winter habitat timing restriction) (see Appendix 1, Site-Specific Design Features, #2).
22	4, 5	The EA fails to utilize the best available science on noise impacts, science that was previously provided to BLM Rawlins office in our comments on the CD-C FEIS and in an email dated May 16, 2016.	The BLM will adhere to the noise requirements as prescribed in the ARMPA.
23	4, 5	MD SSS 12: New project noise levels, either individual or cumulative, should not exceed 10 dBA (as measured by L50) above baseline noise at the perimeter of the lek from 6:00 pm to 8:00 am during the breeding season (March 1–May 15).	BLM has already included that no disruptive activities would be allowed before and during this timeframe (see Appendix 1, Site-Specific Design Features, #2)

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
24	4, 5	<p>Cumulative Impacts: The EA notes that, “GRMR has proposed eleven additional oil wells both within and around the Little Snake River Valley; however, these wells do not occur within the one mile radius of the proposed project site.” Id. Is this statement intended to suggest that activities taking place beyond a one-mile radius of the project site will not cause cumulative impacts or do not need to be considered? If so, the EA should provide the scientific justification for this approach regarding analysis of cumulative impacts.</p>	<p>BLM clarified text to reflect the analysis area used for habitat disturbance.</p>

Comment #	Letters with Comment	Review Comment	BLM Response
25	4, 5	<p>Cumulative Impacts: The EA's analysis of cumulative impacts fails to include any of GRMR's other proposed wells despite the fact that, "[of] the proposed eleven additional oil wells, seven are within [a four mile radius]." Wells located within a four-mile radius will clearly have an impact on sage-grouse and therefore must be considered in the disclosure of cumulative effects. See, generally, Conservation Objectives Team (COT) report and BLM Wyoming GSG Approved RMP Amendments, Appendix D – The Greater Sage-Grouse Habitat Management Strategy at 144 ("Published research suggests that impacts to sage-grouse leks associated primarily with infrastructure and energy development are discernible at a distance of at least 4 miles and that many leks within this radius have been extirpated as a direct result of development (Walker et al. 2007, Walker 2008)."</p>	<p>The four mile radius (32,170 acres) was used to analyze cumulative impacts from wildlife prospective and is the same buffer used by the Wyoming Game and Fish Department to calculate density disturbance for GRSG in priority habitat for proposed projects.</p>

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
26	4	Cumulative Impacts: We recommend that you provide additional detail regarding the status of the “twelve producing/permitted oil/gas wells”. The use of forward slashes between words creates unnecessary vagueness resulting in a sentence that could describe any number of different scenarios.	This information has been clarified in the EA at p. 13.
27	5	Cumulative impacts: This section is also woefully inadequate and provides no reasonable analyses or explanation of what likely are the true cumulative impacts at a broader scale. Rather, there are merely descriptions of the existing disturbance (never mentioned in the AFFECTED ENVIRONMENT and ENVIRONMENTAL IMPACTS section above) and speculation on possible outcomes like displacement and foraging in lower quality areas, or species diversity and composition could change. Exactly how and why, and more importantly how is this justified?	Cumulative impacts disclose the disturbances that have taken place within the four-mile radius by private, state, and federal undertakings. It discloses the additional disturbances that this proposal would take into account (see Map 2).

Comment #	Letters with Comment	Review Comment	BLM Response
28	5	<p>Interestingly, at the bottom of page 11 of the PDF, the EA states that “Visitors to the area would experience the slightly increased sights and sounds of industrial development.” Perhaps the BLM should actually consider whether said visitors want to “experience the slightly increased sights and sounds of industrial development.” How were recreational and outdoor recreation-based economics factored into this analysis of cumulative impacts? The BLM must consider hunting, fishing and other recreational values and economics when analyzing cumulative effects and simply cannot just state that visitors may experience something they are not used to. This same company sparked enormous controversy with sportsmen and local residents with its seismic activities in 2013 (<a href="http://www.wyofile.com/blog/energy-company-allowed-harass-wildlife-run-hunters-battle-mountain/">http://www.wyofile.com/blog/energy-company-allowed-harass-wildlife-run-hunters-battle-mountain/</a>). The BLM should not ignore this well reported fact and must consider impacts to outdoor recreation in a more meaningful way.</p>	<p>The Bulleit Federal 9-13 proposed well is located on private surface. Visitors to the area must be invited/allowed by the private surface owner. Sportsmen or recreationists that access this location without permission would be considered in trespass according to Wyoming State Law. The private land owner requests and concerns were included in the EA document. Text was revised on p. 13.</p>

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
29	4, 5	Noise Impacts. Noise from drilling and well completion activities can have a significant impact on greater sage-grouse. See, e.g., CD-C FEIS at 4-124. These impacts must be addressed in a revised environmental document.	The potential noise impact to lekking GRSG would be minimized by not allowing drilling and other disruptive activities to occur during this and the brood rearing time period (per the Site Specific Design Features in Appendix 1).
30	4, 5	Noise Impacts: there is neither mention of ambient noise levels nor any discussion on ways to mitigate impacts of noise. Also, we saw no reference to well established scientific literature on noise and, for example, impacts to sage-grouse. What are the justifications for this section?	See comment 27. Currently, the BLM does not have any baseline noise data. Specific noise protocols for measurement and implementation will be developed as additional research and information emerges.

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
31	4, 5	<p>Noise Impacts: The one paragraph discussion of noise impacts in the EA (unnumbered page 8) states that noise from construction, drilling, completion and production of a single well can exceed 55 dBA but then suggests that these impacts are minor because they are "transient and short term in nature, generally lasting less than 2 days for construction activities and 2-3 weeks for drilling and completion." The EA fails to acknowledge that other nearby drilling activities (mentioned in the EA's cumulative impacts discussion) may prolong the time period during which noise impacts occur (e.g. multiple drilling operations taking place in the same area on different schedules), and will also add to the overall industrial noise levels in the area.</p>	<p>Due to the nature of exploratory oil field development, other proposed wells may or may not be drilled, as each well would lend additional information to the overall picture of the oil reserve. Each well location would have appropriate timing stipulations for the wildlife species that may be affected. Additionally the Operator would use BMPs and design features in the Surface Use Plan and Drilling Plan, along with COAs to reduce anticipated noise during the critical time periods for wildlife.</p>

<b>Comment #</b>	<b>Letters with Comment</b>	<b>Review Comment</b>	<b>BLM Response</b>
32	4	<p>Incorporation by reference of difficult-to-access information. The EA (at unmarked 3) incorporates by reference information that can only be accessed by physically examining files in the Rawlins Field Office, including the application for permit to drill, the surface use plan, the plan of development and site-specific reclamation plan (EA at unmarked 8). This approach impedes public review and undermines the environmental disclosure requirements embodied in NEPA. The revised environmental document should include all pertinent information required by Onshore Oil and Gas No. 1, including a complete APD, a well plat, a drilling plan, a surface use plan of operations, evidence of bond coverage, a complete reclamation plan, surface access agreement, etc.</p>	<p>The APD submitted by the Operator has been marked confidential (site specific reclamation plan, surface use plan, drilling plan, well plat, and the complete APD as allowed by regulation. These documents are submitted for internal review and are carefully considered when analyzing the impacts a project may have in an area. Additional text was added to the EA as examples on p. 6.</p>

Comment #	Letters with Comment	Review Comment	BLM Response
33	4	<p>Surface and water quality impacts. The EA concludes (at unmarked 2) that impacts to water resources “are not present or affected in such a manner as requiring in-depth analysis in this EA...”</p> <p>However, a quick glance at a BLM surface management status map shows that Dutch Joe Creek and an unnamed spring appear to be within close proximity of the drilling site. The revised environmental document should include a discussion addressing how these surface waters will be protected from pollutants associated with construction, drilling, well completion and production activities.</p>	<p>GRMR has included BMPs in their SUP and BLM has included COAs to be included with the permit. These BMPs and COAs address how the surface waters would be protected from pollutants associated with construction, drilling, well completion, and production activities. Wyoming State Engineers Office, Wyoming Oil and Gas Conservation Commission, and Private Land Owner Surface Agreement also have included management practices to protect the surface and water quality for this location.</p>
34	4	<p>Page numbers need to be included in all future environmental documents prepared for GRMR’s twelve well exploration program.</p>	<p>Page numbers will be included in the final version of the EA.</p>

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**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

**GRMR Oil & Gas, LLC  
Bulleit Federal 13-9  
Lease No: WYW-177789  
DOI-BLM-WY-D030-2016-0081-EA**

Based on the analysis of potential environmental impacts contained in the attached Environmental Assessment (EA) (DOI-BLM-WY-D030-2016-0081-EA; October 2016), I have determined that the Proposed Action, which incorporates the BLM required Standard Operating Procedures, Best Management Practices, and project design features, will not result in new impacts other than those analyzed and disclosed in this EA and Rawlins Resource Management Plan (RMP), as amended. This is based upon the context and intensity of the proposed action, as defined in section 7.3 of the BLM National Environmental Policy Act Handbook (Manual H-1790-1, page 70). The project is one site-specific action cumulatively involving approximately 5 acres of land that does not in and of itself have international, national, regional, or state-wide importance.

The considerations listed in 40 CFR 1508.27(b) (1-10) were used to evaluate the intensity of the effects described in the EA:

1. Impacts that may be both beneficial and adverse. There would not be an offset of potential significant adverse effects as a result of beneficial effects by approving the Proposed Action.
2. Public health and safety would not be adversely affected. Solid wastes would be disposed of properly. Air and water quality would not be adversely affected (monitoring would continue and would identify any exceedance of standards). There would be no new adverse Social or Economic effects.
3. Neither the Rawlins RMP, as amended, nor interdisciplinary review found unique characteristics in the geographic area which would be adversely affected.
4. Interdisciplinary review found no indication to which the effects on the quality of the human environment would likely be highly controversial.
5. The effects of constructing an access road, well pad, and drilling a well as the Proposed Action describes are well known. There would not be high uncertainty of the effects, nor unique or unknown risks.
6. The degree to which the Proposed Action would establish a precedent for future actions with significant effects or would represent a decision in principle about a future consideration would be minimal.
7. The proposed action is related to other actions but collectively the level of impact would not approach a significant impact for any resource.

8. There would be no significant adverse effects to resources with scientific, cultural, or historic value.
9. There would be no significant effect to habitat for threatened or endangered species as no habitat was identified. Construction timing restrictions would minimize or prevent adverse effects to other wildlife species and their habitat.
10. Approving the Proposed Action would not violate any Federal, State, or local laws or regulations imposed for the protection of the environment.

**Authorized Official:**

  
\_\_\_\_\_  
Rawlins Field Manager

OCT 18 2016  
\_\_\_\_\_  
Date

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**DECISION RECORD**

**GRMR Oil & Gas, LLC**  
**Bulleit Federal 13-9**  
**Lease No: WYW-177789**  
**DOI-BLM-WY-D030-2016-0081-EA**

**Decision:**

I have reviewed this Environmental Assessment (EA) and the accompanying Finding of No Significant Impact (FONSI), including the analysis and resolution of any potentially significant environmental impacts. The EA was made available for public comment July 28<sup>th</sup> through August 11<sup>th</sup> and six comment letters were received. Substantive comments were addressed in Appendix 2; no new information was presented. The Affected Environment and Environmental Impacts section, Cumulative impact section (including an additional map), and Table 3 were clarified to reflect comments and concerns. I have determined that the proposed action with the mitigation measures described below will not have a significant impact on the human environment (see FONSI for this EA). It is my decision to select the proposed action, the construction of a road and well pad, and the drilling, completion, and production of an exploratory oil well, with the mitigation measures identified below.

**Plan Conformance and Consistency:**

The Proposed Action meets the decisions from, and is in conformance with, the Rawlins Resource Management Plan (RMP) and Record of Decision (ROD), approved on December 24, 2008, as amended.

The Resource Management Plan was most recently amended by *The Bureau of Land Management Casper, Kemmerer, Newcastle, Pinedale, Rawlins, and Rock Springs Field Offices Approved Resource Management Plan Amendment for Greater Sage-Grouse* (September 21, 2015).

**Rationale for Decision:**

The proposed action meets the standards and direction of the various guiding laws, regulations, and directives that apply, including the Federal Land Policy and Management Act (43 USC 35). The proposed action is in conformance with the Rawlins RMP, as amended. Adoption of the proposed action will allow the operator to develop their fluid mineral lease and meet the purpose and need identified in the EA.

**Mitigation Measures/Remarks:**

This project will be implemented with all Standard Operating Procedures (SOPs), Best Management Practices (BMPs), and site-specific design features as described and/or referenced in the EA. All required SOPs, BMPs, and design features are part of the Proposed Action and can be located in the Application for Permit to Drill (APD), Surface Use Plan

(SUP), and Conditions of Approval (COAs) for the Bulleit Federal 13-9 oil well access road, and well pad.

**Compliance and Monitoring:**

Bureau of Land Management personnel will monitor and review operations as needed to ensure compliance with the approved APD.

**APD Appeal:**

Under BLM regulation this decision is subject to administrative review in accordance with 43 CFR 3165.3(b). Any request for administrative review of the decision must include all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, P.O. Box 1828, Cheyenne, Wyoming 82003 within 20 business days of the date the decision is received, or considered to have been received.

Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

Field Manager  
USDI, Bureau of Land Management  
Rawlins Field Office  
P.O. Box 2407  
Rawlins, Wyoming 82301

**Authorized Official:**

  
\_\_\_\_\_  
Rawlins Field Manager

OCT 18 2016  
\_\_\_\_\_  
Date