U.S. Department of the Interior
Bureau of Land Management

Third Quarter 2020 Competitive Oil and Gas Lease Sale

BLM Wyoming

Environmental Assessment
DOI-BLM-WY-0000-2020-0009-EA

Bureau of Land Management
Wyoming State Office
5353 Yellowstone Dr.
Cheyenne, Wyoming 82009

BLM e-Planning link: https://go.usa.gov/xvdUF

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

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1. Introduction

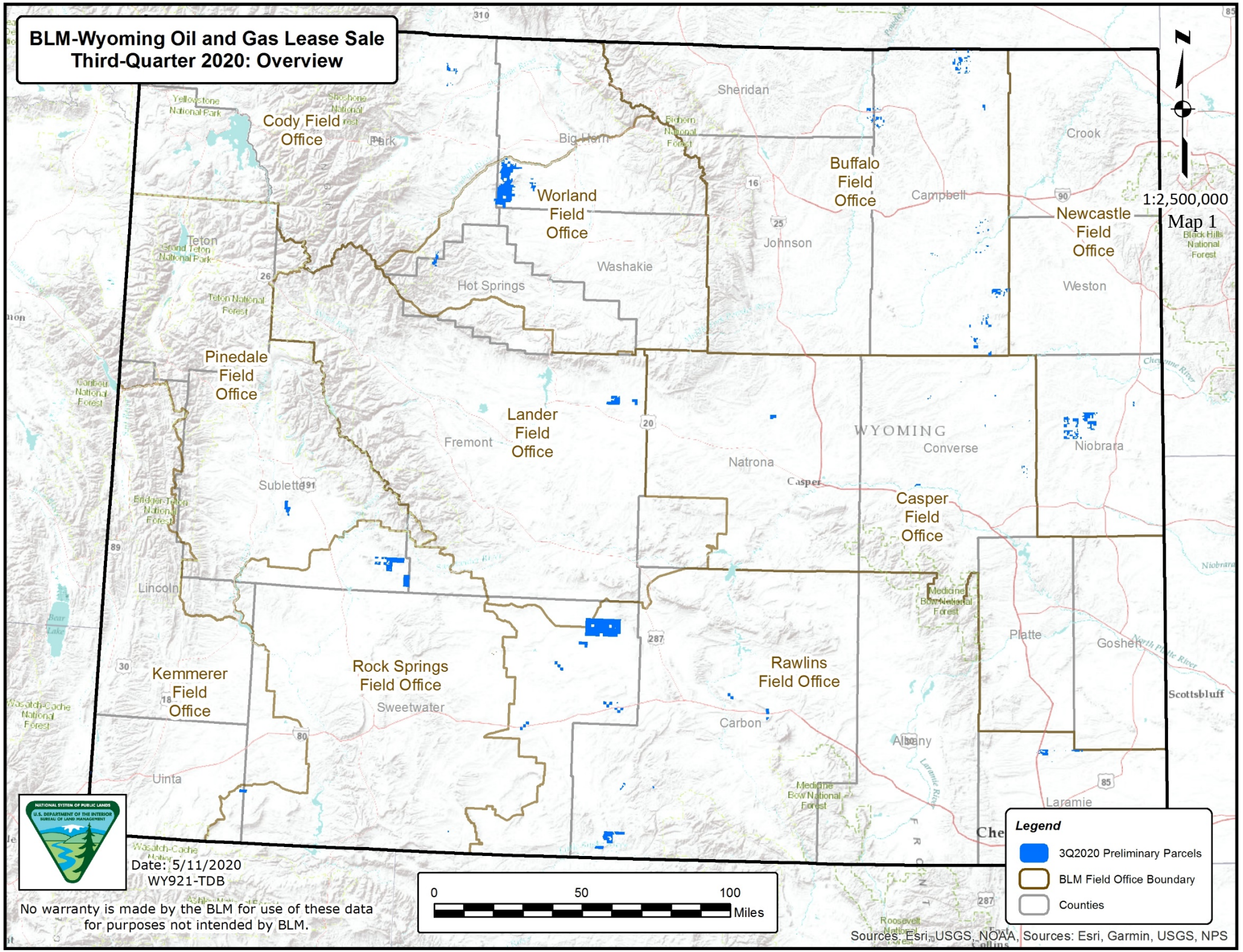
1.1 Introduction

As required under the Mineral Leasing Act of 1920, as amended (MLA), the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (FOOGLRA), and Title 43 Code of Federal Regulations (CFR) 3120.1-2(a), the BLM-Wyoming State Office (WSO) conducts a quarterly competitive lease sale for nominated oil and gas lease parcels. A Notice of Competitive Oil and Gas Lease Sale (Sale Notice), which lists parcels to be offered at the auction, is published by the WSO at least 45 days before the auction is held. Applicable lease stipulations for each parcel are identified in the Sale Notice. The decision as to which public lands and minerals are open for leasing and what leasing stipulations may be necessary is made during the BLM's land use planning process in accordance with the Federal Land Policy and Management Act of 1976 (FLPMA). Surface management/use for mineral extraction on non-BLM administered surface overlying federal minerals will be determined by the BLM in consultation with the appropriate surface management agency or the private surface owner at the time such surface use is proposed by the leaseholder or their designated operator.

After the end of the nomination period during which the WSO accepted Expressions of Interest (EOIs) for this lease sale, the WSO prepared a draft list of lease sale parcels (the "preliminary parcel list") for this portion of the sale. The WSO submitted the draft list of lease sale parcels to the applicable BLM field and district offices for initial review and processing (see Map 1). Interdisciplinary Teams (IDTs) in each field office, in coordination with their district office, have reviewed the parcels to determine 1) if they are located in areas open to leasing under the approved RMP; 2) the appropriate stipulations required under the approved RMP; 3) whether new information or changed circumstances are present since the land use plan was approved; 4) necessary coordination requirements with other Federal or State agencies; and 5) if there are special conditions of which potential bidders should be made aware. The IDT relied on personal knowledge of the areas involved and reviewed existing databases (including Geographic Information System (GIS) data and digital aerial imagery) and file information to determine the appropriate stipulations. Where the BLM personnel determined field visits were necessary, field visits were made to those parcels where the BLM had legal access.

This Environmental Assessment (EA) has been prepared by the BLM to document its review of the proposed parcels, as well as to disclose the anticipated impacts of leasing the proposed parcels, to the extent reasonably foreseeable. The BLM will address all timely public comments on the EA through responses that will be published to the BLM's e-Planning website for this sale (see cover page) on or around the time the Sale Notice is published.

BLM-Wyoming Oil and Gas Lease Sale Third-Quarter 2020: Overview



1.2 Background

The MLA gives the BLM responsibility for oil and gas leasing on about 700 million acres of BLM, national forest, and other federal lands. The BLM seeks to ensure that mineral resources are developed in an environmentally-responsible manner.

As required by 43 CFR § 3120.1-2, the BLM WSO conducts quarterly competitive oil and gas lease sales. Interested parties file Expressions of Interest (EOIs) to nominate parcels for leasing by the BLM. Additional information on the competitive lease sale process is available on-line at:

https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/leasing

The Secretary of the Interior has broad authority and discretion under the MLA, FOOGLRA, and FLPMA to administer oil and gas leasing and lease operations on public lands.

If a BLM decision-maker determines that a resource requires mitigation in the form of new allocation decision or additional lease stipulations, generally the RMP must first be updated or amended.

The offering and subsequent issuance of oil and gas leases is strictly an administrative action, which, in and of itself, does not cause or directly result in any surface disturbance. The issuance of an oil and gas lease, however, does grant to the lessee the rights to occupy, explore for, and develop oil and gas resources from the lease consistent with the lease terms and conditions and upon approval of a site-specific permit by the BLM authorized officer. These lease operations can result in surface-disturbance and other impacts.

Our regulations at 43 CFR § 3162.5-1(a) state: "The operator shall conduct operations in a manner which protects the mineral resources, other natural resources, and environmental quality. In that respect, the operator shall comply with the pertinent orders of the authorized officer and other standards and procedures as set forth in the applicable laws, regulations, lease terms and conditions, and the approved drilling plan or subsequent operations plan. Before approving any Application for Permit to Drill submitted pursuant to § 3162.3-1 of this title, or other plan requiring environmental review, the authorized officer shall prepare an environmental record of review or an environmental assessment, as appropriate. These environmental documents will be used in determining whether or not an environmental impact statement is required and in determining any appropriate terms and conditions of approval of the submitted plan."

The BLM cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if it is leased, whether or not the lease would be explored or developed.

According to the Tenth Circuit Court of Appeals, site-specific NEPA analysis at the leasing stage may not be possible absent concrete development proposals. Whether such site-specific analysis is required depends upon a fact-specific inquiry. Often, where environmental impacts remain unidentifiable until exploration narrows the range of likely well locations, filing of an Application for Permit to Drill (APD) may be the first useful point at which a site-specific environmental appraisal can be undertaken. (*Park County Resource Council, Inc. v. U.S. Department of Agriculture*, 10th Cir., April 17, 1987). In addition, the Interior Board of Land Appeals (IBLA) has decided that "BLM is not required to undertake a site-specific environmental review before issuing an oil and gas lease when it previously analyzed the environmental consequences of leasing the land..." (*Colorado Environmental Coalition, et al.*, IBLA 96-243, decided June 10, 1999). However, when site-specific impacts are reasonably foreseeable at the leasing stage, NEPA requires the analysis and disclosure of such reasonably foreseeable site specific

impacts. (*N.M ex rel. Richardson v. BLM*, 565 F.3d 683, 718-19 (10th Cir. 2009)). The BLM has not received any site-specific development proposals concerning the proposed lease parcels addressed in this EA. This site-specific environmental documentation would provide analysis for the well pad location(s). Additional mitigation and Best Management Practices (BMPs) may be applied as Conditions of Approval (COAs) at that time.

Once a parcel is sold and the lease is issued, the lessee has the right to use as much of the leased lands as is necessary to explore and drill for all of the oil and gas within the lease boundaries, subject to the stipulations attached to the lease, restrictions derived from specific nondiscretionary statutes, and other reasonable measures to minimize adverse impacts (see 43 CFR § 3101.1-2).

In accordance with BLM Handbook H-1624-1 ("Planning for Fluid Mineral Resources" January 28, 2013), the Federal Government retains certain rights when issuing an oil and gas lease. While the BLM may not unilaterally add a new stipulation to an existing lease that it has already issued, the BLM can subject development of existing leases to reasonable conditions, as necessary, through the application of COAs at the time of permitting. The new constraints must be in conformance with the applicable land use plan and not conflict with rights granted to the holder under the lease. The Interior Board of Land Appeals has made clear that, when making a decision regarding discrete surface-disturbing oil and gas development activities following site-specific environmental review, the BLM has the authority to impose reasonable measures not otherwise provided for in lease stipulations, to minimize adverse impacts on other resource values. See 30 U.S.C. § 226(g); 43 CFR § 3101.1-2. See also *Yates Petroleum Corp.*, 176 IBLA 144 (2008); *National Wildlife Federation*, 169 IBLA 146, 164 (2006).

Oil and gas leases are issued for a 10-year period and continue for so long thereafter as oil or gas is produced in paying quantities. If a lessee fails to produce oil and/or gas, does not make annual rental payments, does not comply with the terms and conditions of the lease, or relinquishes the lease, then ownership of the minerals leased revert back to the federal government and may be offered for lease again, all else equal. If a lessee fails to pay rentals timely, or fails to pay the full amount due, the lease can be reinstated following payment of the late fees and publication of a notice in the Federal Register.

Upon cessation of lease operations, if approved, the BLM's regulations and the terms of the lease agreement require the lessee to plug the well(s) and abandon any facilities on the lease. The surface must be reclaimed to the satisfaction of the BLM authorized officer, in accordance with Onshore Oil and Gas Order No. 1.

1.3 Purpose and Need

It is the policy of the BLM as derived from various laws, including the Mineral Leasing Act of 1920, as amended (MLA) and the Federal Land Policy and Management Act of 1976 (FLPMA) to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs. Continued sale and issuance of lease parcels in conformance with the approved Resource Management Plans (RMPs) would allow for continued production of oil and gas from public lands and reserves.

The need is to respond to Expressions of Interest, as established by the Federal Onshore Oil & Gas Leasing Reform Act of 1987 (FOOGLRA), MLA, and FLPMA.

1.3.1 Decisions to Be Made

Decisions to be made based on this analysis include which parcels are located in areas open or closed to leasing, which parcels would be offered for lease, which parcels would be deferred, and what stipulations will be placed on the parcels that would be offered for lease at the Third-Quarter 2020 competitive oil and gas lease sale, in conformance with the approved RMPs.

1.4 Tiering and Conformance with BLM Land Use Plans and Other Environmental Assessments

Pursuant to 40 CFR § 1508.28 and § 1502.21, this EA tiers to the Final Environmental Impacts Statements (FEISs) prepared for each Field Office RMP, and any subsequent amendments or updates, and incorporates by reference the relevant portions of the FEISs. The impacts analysis in the FEISs for the effects from oil and gas leasing and development incorporates the Reasonably Foreseeable Development (RFD) scenarios (i.e., the level of oil and gas development projected for the life of the plan based on historically and projected trends).

The EA conforms to the approved RMPs (43 CFR § 1610.5) and Records of Decision (RODs) for the applicable planning areas, as amended or updated, including:

High Plains District (HPD)

- The Proposed RMP and FEIS for the Buffalo Field Office (BFO) (May 2015) and the RMP/ROD signed on September 21, 2015, the Fortification Creek RMP Amendment EA, FONSI, and DR signed on August 5, 2011, and the Final Coal Supplemental EIS and the ROD/Approved RMP Amendment signed on November 22, 2019.
- The Proposed RMP and FEIS for the Casper Field Office (CFO) Planning Area (June 2007) and the RMP/ROD approved on December 7, 2007, as amended by the Wyoming Greater Sage-Grouse Proposed Land Use Plan Amendment and FEIS (May 2015), and the RMP/ROD approved on September 21, 2015.
- The FEIS for the Newcastle Field Office (NFO) RMP (June 1999) and the RMP/ROD approved on August 25, 2000, as amended by the Wyoming Greater Sage-Grouse Proposed Land Use Plan Amendment and FEIS (May 2015), and the RMP/ROD approved on September 21, 2015.

Wind River/Bighorn Basin District (WRBBD)

- The Proposed RMP and FEIS for the Lander Field Office (LFO) Planning Area (February 2013), and the RMP/ROD signed on June 26, 2014.
- The Bighorn Basin Proposed RMP and FEIS (May 2015); the Rocky Mountain Region ROD and Worland Field Office (WFO) RMP signed on September 22, 2015; and the Rocky Mountain Region ROD and Cody Field Office (CYFO) RMP signed on September 22, 2015.

High Desert District (HDD)

- The Proposed RMP and FEIS for the Rawlins Field Office (RFO) Planning Area (January 2008) and the RMP/ROD approved on December 24, 2008, as amended by the Wyoming Greater Sage-Grouse Proposed Land Use Plan Amendment and FEIS (May 2015), and the RMP/ROD approved on September 21, 2015.
- The Proposed RMP and FEIS for the Green River (Rock Springs Field Office, or RSFO) Planning Area (April 1996) and the RMP/ROD approved on August 8, 1997, as amended by the

Wyoming Greater Sage-Grouse Proposed Land Use Plan Amendment and FEIS (May 2015), and the RMP/ROD approved on September 21, 2015.

- The Proposed RMP and FEIS for the Pinedale Field Office (PFO) Planning Area (August 2008) and the RMP/ROD approved on November 26, 2008, as amended by the Wyoming Greater Sage-Grouse Proposed Land Use Plan Amendment and FEIS (May 2015), and the RMP/ROD approved on September 21, 2015.
- The Proposed RMP and FEIS for the Kemmerer Field Office (KFO) Planning Area (August 2008) and the RMP/ROD approved on May 24, 2010, as amended by the Wyoming Greater Sage-Grouse Proposed Land Use Plan Amendment and FEIS (May 2015), and the RMP/ROD approved on September 21, 2015.

The field office RMPs, as revised or amended, include allocation decisions which identify lands as either open or closed to fluid mineral leasing, and (if open) provide stipulations that are attached to new leases to mitigate effects of potential development operations.

This EA serves to verify conformance with the approved RMPs and disclose the affected environment, the anticipated impacts and proposed mitigation of potential and reasonably-foreseeable impacts. The EA provides evidence for determining whether to prepare an EIS or to support a "Finding of No Significant Impact" (FONSI). An EIS would be prepared for the project if the decision maker determines that this project has significant impacts not already disclosed and analyzed in other NEPA documents, such as the RMP EISs, based upon the analysis in the EA. A FONSI documents the reasons why implementation of the selected alternative would not result in "significant" environmental impacts (effects). The RMP EISs have already evaluated potentially significant impacts arising from the BLM's land use planning decisions. See 43 CFR § 46.140(c). Therefore, the BLM anticipates a "finding of no new significant impacts" (FONNSI). When a FONNSI is reached, a Decision Record (DR) may be signed approving the selected alternative, which could be the proposed action, another alternative, or a combination thereof.

1.5 Relationship to Statutes, Regulations, and Other Plans or Decisions

The proposed action and alternatives are consistent with other plans, programs, and policies of other federal agencies, the State of Wyoming, local governments, and affected Tribes, to the extent practical, including but not limited to the following:

- Federal Land Policy and Management Act of 1976, as amended [43 U.S. Code § 1701 et seq.]
- Mineral Leasing Act of 1920, as amended [30 U.S.C. § 181 et seq.]
- Federal Onshore Oil & Gas Leasing Reform Act of 1987 [30 U.S.C. § 181 et seq.]
- The National Environmental Policy Act [42 U.S.C. 4321 et seq.]
- Clean Air Act [42 U.S.C. § 1857 et seq.], as amended and recodified [42 U.S.C. § 7401 et seq.]
- Clean Water Act [33 U.S.C. § 1251 et seq.]
- Endangered Species Act [16 U.S.C. § 1531 et seq.]
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- Migratory Bird Treaty Act [16 U.S.C. § 703 et seq.]
- National Trails Systems Act [16 U.S.C. § 1241 et seq.]
- National Landscape Conservation System Act [16 U.S.C. § 7202]
- National Historic Preservation Act of 1966, as amended [54 U.S.C. § 300101 et seq.]
- Protection of Historic Properties (36 CFR § 800)
- Native American Graves Protection and Repatriation Act of 1990 [25 U.S.C. § 3001 et seq.] and 43 CFR § 10

- American Indian Religious Freedom Act of 1978 [42 U.S.C. 1996]
- Native American Trust Resource Policy standards are presented in the Department of the Interior Comprehensive Trust Management Plan dated March 28, 2003
- Wild and Scenic Rivers Act of 1968, as amended [16 U.S.C. § 1271 et seq.]
- Bald and Golden Eagle Protection Act of 1940, as amended [16 U.S.C. § 668 et seq.]
- Paleontological Resources Preservation Act of 2009 [16 U.S.C. §470aaa et seq.]

1.6 Scoping

In order to identify preliminary issues for analysis (see the BLM's NEPA Handbook H-1790-1 at page 41), the BLM conducted internal scoping. The BLM personnel listed in Attachment 5.7 provided information and input for this EA. Through the BLM's internal scoping, and in light of the numerous EAs the BLM has prepared for oil and gas lease sales in Wyoming, this EA will not analyze issues that are already satisfactorily addressed in the RMP FEISs, to which it tiers.

1.7 Public Participation

Aside from public participation during preparation of the approved RMP EISs, public participation was initiated when this project was entered into the BLM-Wyoming e-Planning database on May 4, 2020 (https://go.usa.gov/xvdUF). A news release was issued notifying the public that this EA is being posted on the BLM Wyoming website for a 30-calendar day public comment period. As required by BLM leasing policies, where parcels include split estate lands, a notification letter was sent to the surface owner(s) identified by the party submitting the EOI. All substantive comments on the EA will be reviewed and addressed before the BLM reaches its decision.

Members of the public and BLM partners seeking maps or other geographic representations of the proposed lease sale parcels with other resource data may review the maps provided within this EA and its attachments. Those seeking more detailed information and at user-preferred scales are encouraged to use the State of Wyoming's Natural Resource and Energy Explorer website (https://nrex.wyo.gov/), which provides resource mapping data and allows for upload of geographic information (such as the 2020Q3 parcel mapping data provided by the BLM on our e-Planning website). The BLM also provides additional mapping data through our BLM Navigator website (https://navigator.blm.doi.net/home).

1.8 National Forest System Lands – Thunder Basin National Grasslands

The Third-Quarter 2020 sale includes 28 parcels (10,064.13 acres) of lands that are administered by the U.S. Department of Agriculture – Forest Service (USFS). In accordance with each agency's regulations and consistent with the BLM-USFS Memorandum of Understanding (MOU),[1] the USFS has provided consent to lease these lands with applicable stipulations that have provided to the BLM.

[1] See BLM MOU W0300-2006-07, "Memorandum of Understanding Between [BLM] and [USFS] Concerning Oil and Gas Leasing and Operations." Effective April 14, 2006.

2. Description of Alternatives, Including Proposed Action

2.1 Introduction

A preliminary parcel list of 165 parcels (comprised of approximately 196,925.045 acres) was prepared by the WSO and sent to the applicable field and district offices for review.

Portions of 5 parcels (comprised of (3,012.810) acres) were identified as being located in areas closed to oil and gas leasing under the approved RMPs, non-federal oil and gas, or already leased by the BLM. These portions of parcels are deleted from this sale and will not be considered further (though notes about the BLM's review of these lands are included in the attachments). A summary of the deleted parcels is provided, below:

Table: Deleted Parcels

Office	Parcel Number	Acres Reviewed	Acres Deleted	Partial/Entire Deletion	Acres Analyzed
PFO	WY-2020-09-0653	2,486.660	(2,286.660)	Partial	200.000
PFO	WY-2020-09-0655	1,246.150	(606.150)	Partial	640.000
RFO	WY-2020-09-0698	219.260	(40.000)	Partial	179.260
WFO	WY-2020-09-6831	2,197.240	(40.000)	Partial	2,157.240
BFO	WY-2020-09-6846	440.000	(40.000)	Partial	400.000
Total Acres Deleted:			**(3,012.810)**		

For additional detail regarding these deletions, refer to Attachment 5.1 As a result, the BLM will evaluate the remaining 165 parcels or portions of parcels (comprised of 193,912.235 acres) in the alternatives, below.

2.2 No Action Alternative

Under the No Action Alternative, BLM Wyoming would not offer the 165 parcels nominated and located in areas open to leasing under the approved RMPs, which contain approximately 193,912.235 acres, at the Third-Quarter 2020 lease sale. This would mean that the Expressions of Interest would be rejected and no lease parcels would be offered at the Third-Quarter 2020 lease sale. Choosing the No Action alternative would not prevent future leasing in these areas consistent with land use planning decisions and subject to appropriate stipulations, identified in the respective land use plans.

2.3 Proposed Action Alternative

Under the Proposed Action Alternative, 165 parcels would be offered at the Third-Quarter 2020 lease sale. These parcels contain approximately 193,912.235 acres of federal minerals that are open to oil and gas leasing under the applicable RMP RODs, as amended, including the BLM-Wyoming's Approved Resource Management Plan Amendment (ARMPA) for Greater Sage-Grouse ROD (September 21, 2015). Some of the proposed lands to be offered include parcels with split estate private surface ownership (for additional information regarding the BLM's administration of split estate Federal minerals, please refer to Appendix G of the 2015 ARMPA, "Federal Oil and Gas Operations on Split Estate Lands").

Standard lease terms and conditions would apply (see BLM Form 3100-11). Lease stipulations (as required by 43 CFR § 3101.1-3) are added to each parcel as identified by the applicable approved RMPs

or by the USFS. Refer to Attachment 5.1 for a list of the parcels, legal land descriptions, parcel acreages, BLM field office jurisdiction(s), and the proposed notices and stipulations attached to each.

Table: USFS Parcels and Stipulations

Parcel Number		Notice	U.S. Forest Service Stipulation (TBNG2002-)											
BLM WY-2020-09-	**USFS**	**TBNG-R2-FS-2820-13**	**NSO-01**	**NSO-02**	**NSO-04**	**NSO-05**	**NSO-06**	**TL-01**	**TL-02**	**TL-03**	**TL-08**	**TL-09**	**CSU-03**	**CSU-07**
0669	TB753	X			X		X	X	X				X	
0667	TB766	X					X	X	X				X	
0665	TB783	X			X		X	X	X				X	
6872	TB793	X											X	
0660	TB861	X					X						X	
6867	TB864	X	X	X			X	X					X	
6861	TB865	X					X	X					X	
6865	TB866	X			X		X	X	X				X	
0666	TB912	X			X		X	X	X				X	
0663	TB932	X			X		X	X					X	
0664	TB933	X			X		X		X				X	
0661	TB935	X					X	X					X	
6868	TB983	X											X	
0662	TB1029	X	X	X	X	X	X	X	X	X		X	X	X
0690	TB1030	X	X	X			X	X	X				X	
6893	TB1031	X					X	X					X	
6889	TB1072	X					X	X	X		X		X	
6883	TB1074	X											X	
0694	TB1105	X					X	X	X				X	
6882	TB1107	X					X	X					X	
0693	TB1108	X					X	X					X	
0672	TBNG0370N0680W0001	X		X									X	
0686	TBNG0420N0700W0002	X					X	X					X	
6875	TBNG0440N0690W0001	X	X	X			X		X				X	X
6874	TBNG0440N0690W0003	X	X	X			X		X				X	
6890		X	X	X									X	
0676	TBNG0440N0690W0004	X	X	X			X		X				X	
6873	TBNG0440N0690W0006	X	X	X					X				X	X

Consistent with regulations at 43 CFR § 3120.2-1, sold oil and gas leases would be issued for a ten-year period and would continue for as long thereafter as oil and gas is produced in paying quantities. If a lessee fails to produce oil and gas, does not make annual rental payments, does not comply with the terms and conditions of the lease, or relinquishes the lease, the lease would terminate.

2.4 BLM-Modified Alternative

During review of the proposed parcels, the BLM IDT identified twenty parcels located in the Buffalo or Rawlins and Lander field offices' planning areas that intersect active solid minerals leases, claims, or proposals and mining operations (coal mining operations in the Powder River Basin or uranium mining operations in the Greater Green River Basin). During the BLM's review of the proposed parcels, BLM solid minerals personnel identified lands for deferral to avoid potential conflicts between solid minerals leasing/mining and oil & gas operations (see Maps 2 and 3). Deferral of these lands is in conformance with the approved RMPs governing administration of the subject lands, and complies with BLM policy.

The BLM-Modified alternative is identical to the Proposed Action Alternative, but includes the deferral of the following parcels or portions of parcels, as described below:

Table: BLM-Modified Alternative Deferrals for Potential Conflicts with Solid Minerals Operations

Parcel Number	Field Office	Partial or Entire Deferral	Deferred Acres/Legal Description
-0570	RFO	Partial (124.060 acres)	T.0250N, R.0920W, 06th PM, WY Sec. 031 LOTS 6-8;
-0575	RFO, LFO	Partial (1,360.000 acres)	T.0250N, R.0920W, 06th PM, WY Sec. 009 SESE, 010 ALL; 011 ALL; 012 NWNW;
-0578	RFO	Entire (2,556.080 acres)	T.0250N, R.0920W, 06th PM, WY Sec. 019 LOTS 1-4; 019 E2,E2W2; 020 ALL; 021 ALL; 022 ALL;
-0648	RFO	Partial (1,280.000 acres)	T.0240N, R.0930W, 06th PM, WY Sec. 15 ALL; Sec. 14 ALL;
-0661	BFO	Entire (183.800 acres)	T.0420N, R.0700W, 06th PM, WY Sec. 031 LOTS 13-15,19,20;
-0662	BFO	Partial (1,042.230 acres)	T.0410N, R.0700W, 06th PM, WY Sec. 005 LOTS 9,15; 007 LOTS 5-20; 008 LOTS 3,4,9-12; 008 S2NW;
-0665	BFO	Entire (653.310 acres)	T.0430N, R.0700W, 06th PM, WY Sec. 026 LOTS 5-7; 035 LOTS 2-7,10-16;
-0667	BFO	Entire (308.700 acres)	T.0430N, R.0700W, 06th PM, WY Sec. 033 LOTS 1,2,7-10,15,16;
-0669	BFO	Partial (123.470 acres)	T.0430N, R.0700W, 06th PM, WY Sec. 022 LOTS 2; 027 LOTS 5,6;
-0686	BFO	Entire (221.950 acres)	T.0420N, R.0700W, 06th PM, WY Sec. 030 LOTS 15-20;
-0690	BFO	Partial (165.670 acres)	T.0420N, R.0700W, 06th PM, WY Sec. 029 LOTS 11-14;
-0693	BFO	Entire (122.190 acres)	T.0420N, R.0710W, 06th PM, WY Sec. 025 LOTS 3,4,6;
-0694	BFO	Entire (78.230 acres)	T.0420N, R.0700W, 06th PM, WY Sec. 031 LOTS 18; 033 LOTS 4;
-6787	RFO	Partial (1,280.000 acres)	T.0250N, R.0920W, 06th PM, WY. Sec. 014 ALL; 015 ALL;
-6801	RFO	Partial (793.630 acres)	T.0250N, R.0920W, 06th PM, WY Sec. 030 LOTS 5-9, 16, 17 029 NWNW; NENW; NWNE; 029 NENE; SENE 028 N2

Parcel Number	Field Office	Partial or Entire Deferral	Deferred Acres/Legal Description
-6802	RFO	Partial (360.000 acres)	T.0250N, R.0920W, 06th PM, WY Sec. 023 NW, NWSW, NESW, NWSE; 023 SWNE, NWNE
-6803	RFO, LFO	Partial (640.000 acres)	T.0250N, R.0920W, 06th PM, WY Sec. 017 ALL
-6865	BFO	Partial (82.170 acres)	T.0430N, R.0700W, 06th PM, WY Sec. 022 LOTS 11,12;
-6882	BFO	Entire (313.470 acres)	T.0420N, R.0710W, 06th PM, WY Sec. 002 LOTS 5,6,11-14,19,20;
-6893	BFO	Partial (293.080 acres)	T.0420N, R.0700W, 06th PM, WY Sec. 031 LOTS 5-12;
Total Acres Deferred		**11,982.040 acres**	

Seven entire parcels (-0661, -0665, -0667, -0686, -0693, -0694, and -6882) and portions of five others (-0662, -0669, -0690, -6865, and -6893) that would be deferred under the BLM-Modified Alternative are located on National Forest System lands administered by the USFS.

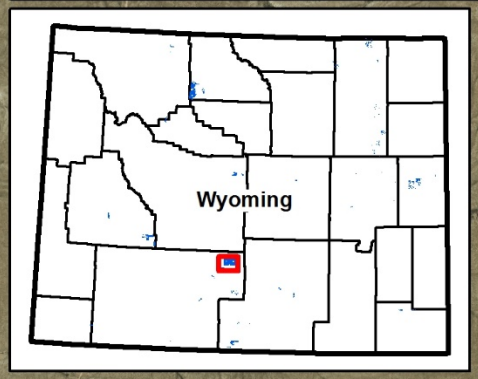
During the parcel reviews conducted by the WRBBD BLM field offices, numerous parcels were identified as intersecting Master Leasing Plan (MLP) areas identified in the field offices' respective approved RMPs. As originally proposed, some of the parcels' configurations do not meet the acreage requirements of the approved RMPs. The WRBBD has proposed to reconfigure several parcels in order to conform to the RMPs MLP decisions (see Attachment 5.1 for additional information):

- Absaroka Front MLP: under the BLM-Modified alternative, portions of parcel -0536 (T.0450N, R.1010W, 06th PM, WY; Sec. 003 LOTS 7-9; SENW; comprised of 152.700 acres) would be moved to parcel -0544
- Fifteenmile MLP: under the BLM-Modified alternative, parcels -6836 (160.000 acres) and -6892 (200.000 acres) would be consolidated with parcel -0649

See Maps 4 and 5.

As a result of these changes, under this alternative, a total of 155 parcels would be offered at the Third-Quarter 2020 lease sale comprised of approximately 181,930.195 acres, with the applicable lease stipulations required under the approved RMPs (see Attachment 5.1).

BLM-Wyoming Oil and Gas Lease Sale Third-Quarter 2020: Deferrals & Deletions



N

1:100,000

Map 2

564
562
559
6792
575
6793
6803
6787
563
6794
578
567
6802
6801
568
6797
570
569
6799
6800
648

2017 NAIP Aerial Imagery

Legend

3Q2020 Proposed Parcels

3Q2020 Deferrals/Deletions

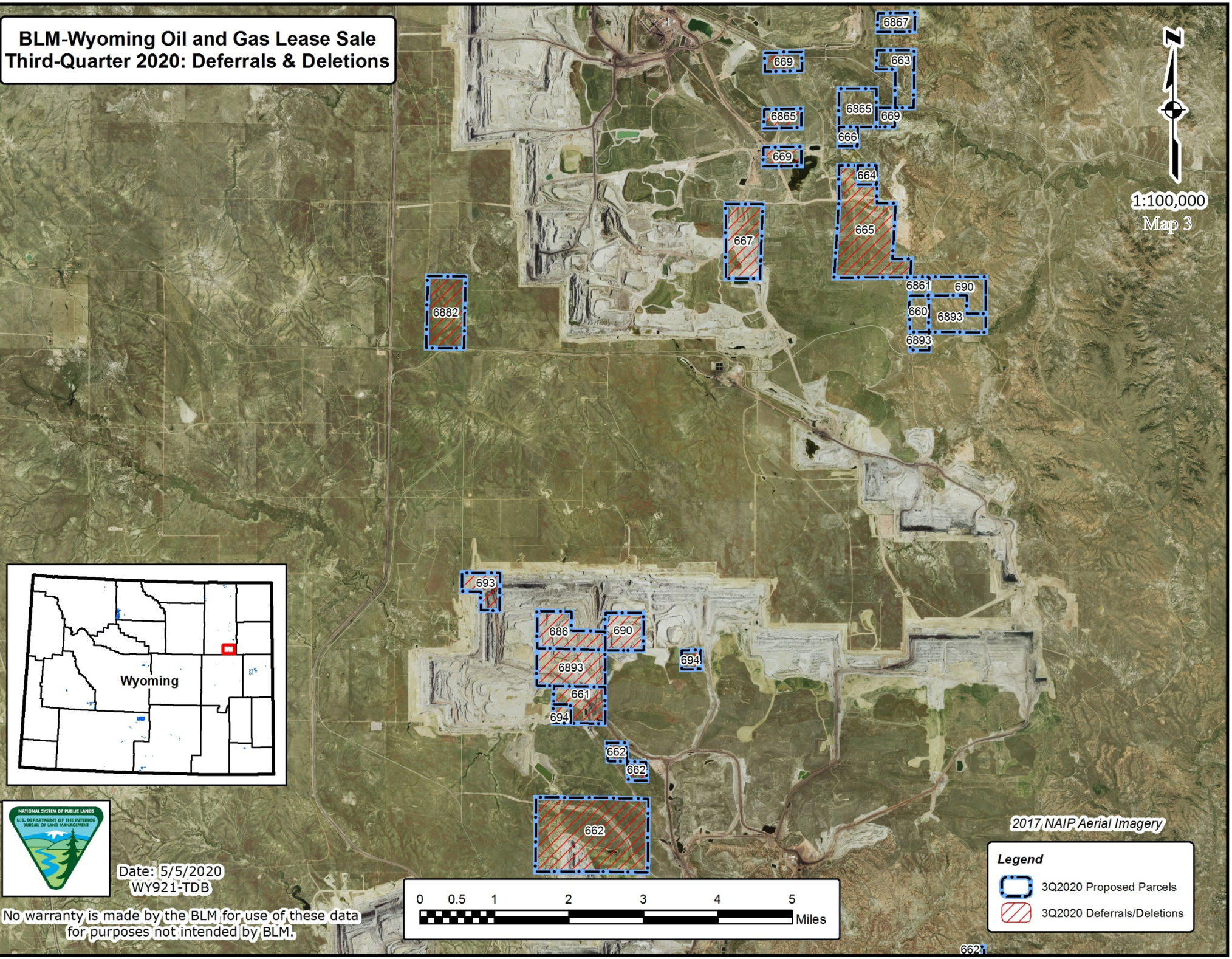
0 0.5 1 2 3 4 5 Miles

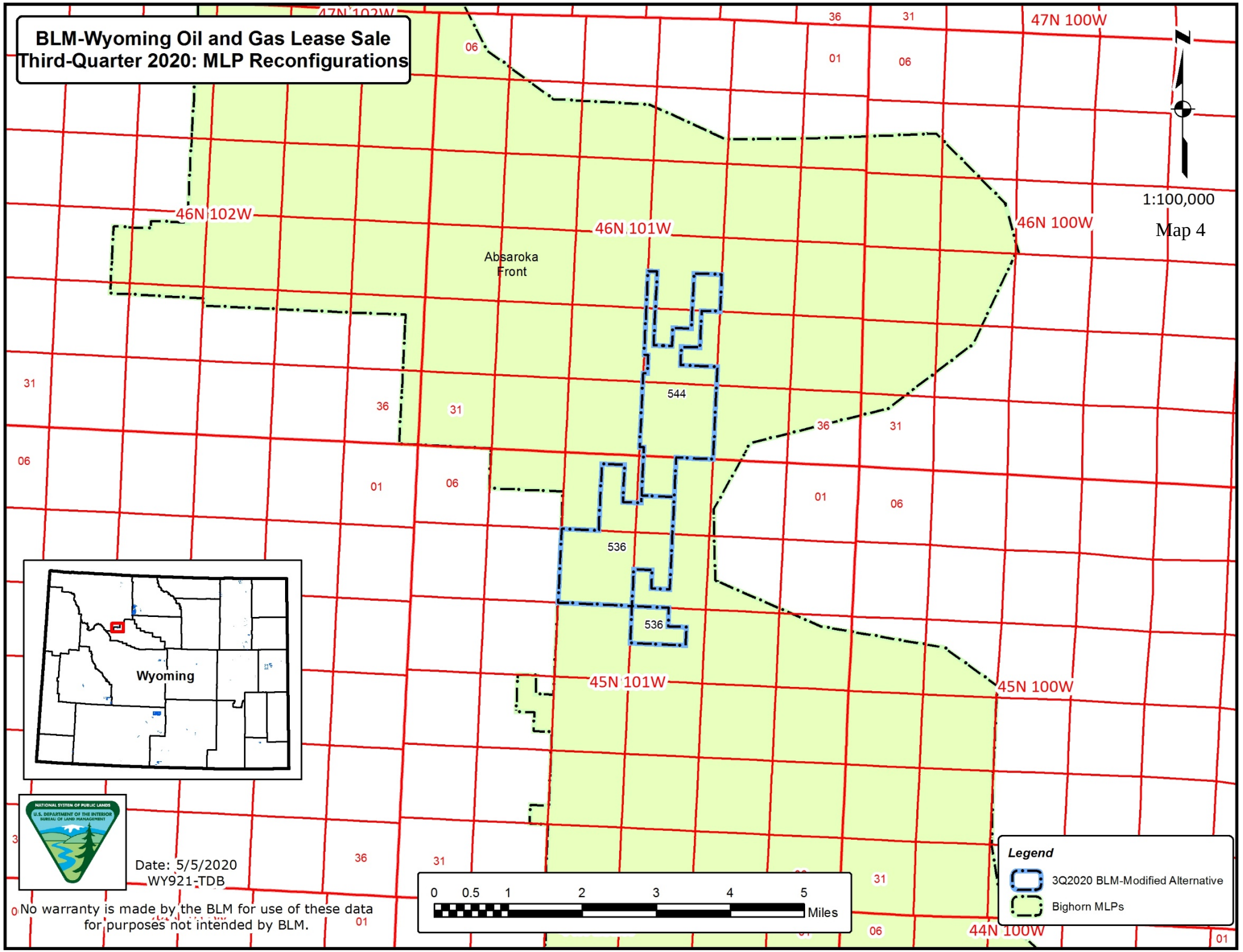
NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

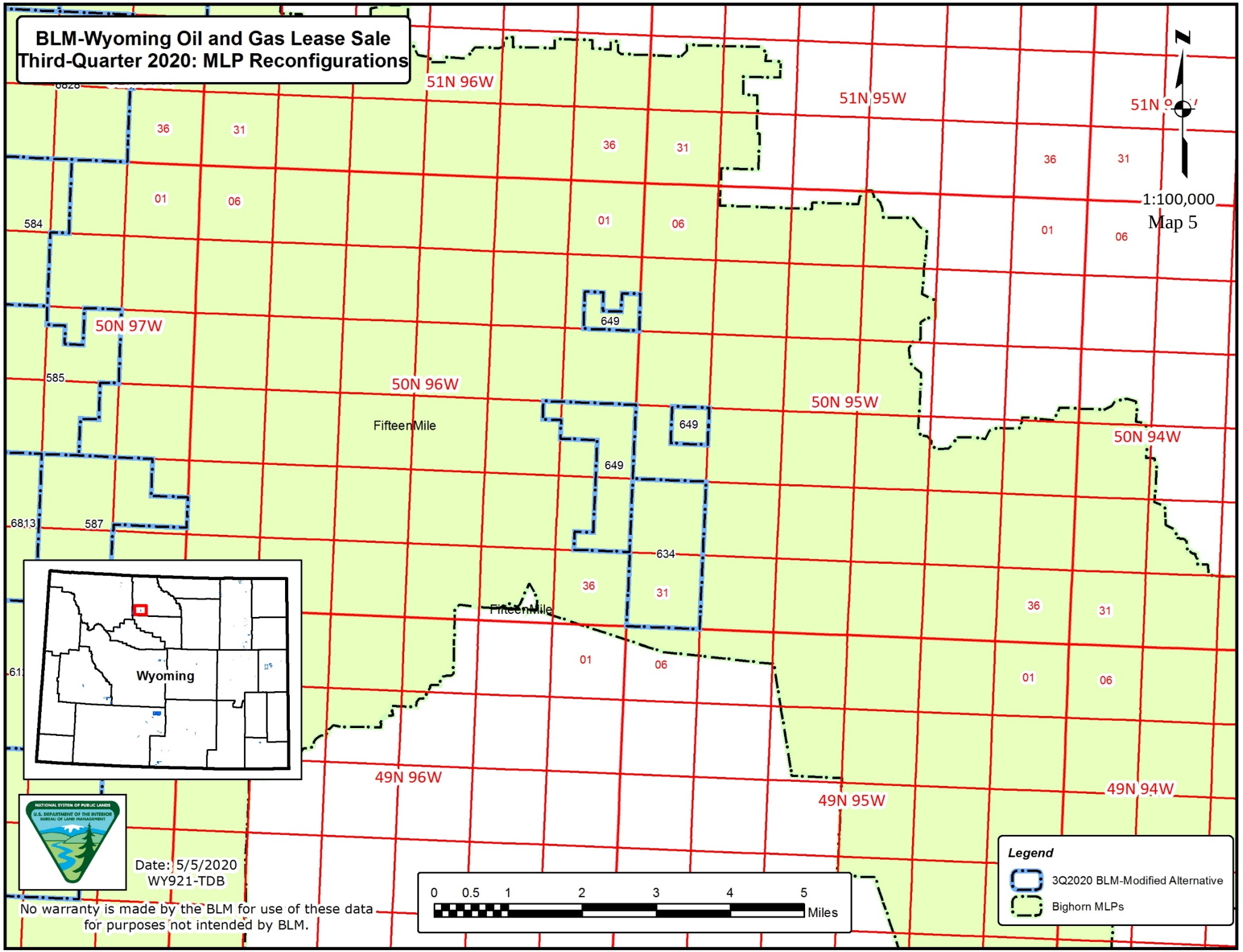
Date: 5/6/2020
WY921-TDB

No warranty is made by the BLM for use of these data for purposes not intended by BLM.

BLM-Wyoming Oil and Gas Lease Sale Third-Quarter 2020: Deferrals & Deletions




BLM-Wyoming Oil and Gas Lease Sale
Third-Quarter 2020: MLP Reconfigurations
47N 102W
47N 100W
46N 102W
46N 101W
46N 100W
45N 101W
45N 100W
44N 100W
Absaroka
Front
544
536
536
1:100,000
Map 4
Wyoming
Date: 5/5/2020
WY921-TDB
No warranty is made by the BLM for use of these data
for purposes not intended by BLM.
0 0.5 1 2 3 4 5
Miles
Legend
3Q2020 BLM-Modified Alternative
Bighorn MLPs


BLM-Wyoming Oil and Gas Lease Sale
Third-Quarter 2020: MLP Reconfigurations
51N 96W
51N 95W
51N 94W
50N 97W
50N 96W
50N 95W
50N 94W
49N 96W
49N 95W
49N 94W
FifteenMile
FifteenMile
649
649
649
634
584
585
587
Wyoming
1:100,000
Map 5
Date: 5/5/2020
WY921-TDB
No warranty is made by the BLM for use of these data for purposes not intended by BLM.
0 0.5 1 2 3 4 5
Miles
Legend
3Q2020 BLM-Modified Alternative
Bighorn MLPs

2.5 Alternatives Considered and Eliminated from Further Analysis

Offering Subject to Standard Lease Terms and Conditions

Offering all nominated parcels with only the standard lease terms and conditions on the BLM's lease form was considered as a means to reduce constraints to oil and gas development on public lands. Such an alternative is not in conformance with the approved RMPs where the applicable RMP prescribes stipulations in accordance with FLMPA's Section 102(a)(8) mandate to manage the public lands to protect resource values. Therefore, this alternative was not analyzed in detail.

Offering Subject to No Surface Occupancy (NSO) Stipulations

NSO stipulations have been added to the parcels as required to ensure conformance with the approved RMPs. An alternative was considered that would offer all parcels located in areas open to leasing with a generic NSO stipulation. This alternative was not carried forward to detailed analysis because it is not in conformance with the approved RMPs and would only prohibit surface occupancy for oil and gas development; other non-oil and gas occupancy may not be similarly constrained. This alternative would unnecessarily limit oil and gas occupancy in areas where the approved RMPs have determined that less restrictive stipulations would adequately mitigate the anticipated impacts under our mandate of multiple-use and sustained yield.

Deferring All Parcels Located in Greater Sage-Grouse Habitats

An additional alternative was considered but not analyzed in detail which would defer offering all parcels located within Greater Sage-Grouse Priority Habitat Management Areas (PHMAs) and/or General Habitat Management Areas (GHMAs). This alternative was not analyzed in detail because it would not be in conformance with the approved RMPs. Further, this alternative would effectively, if temporarily, close areas to oil and gas leasing and development where the field office RMPs have determined that these lands are open to leasing with applicable stipulations to conserve Greater sage-grouse and their habitats.

3. Affected Environment

3.1 Introduction

This section describes the present conditions of various environmental resources that could be affected under the action alternatives, if lands are leased, and if oil and gas exploration and development operations are eventually authorized by the BLM. Descriptions of the affected environment in this section focus on the relevant major resources or issues.

For a complete and detailed description of the affected environment, please refer to the applicable RMP FEISs.

3.2 RMP Special Designations

3.2.1 Wilderness and Wilderness Study Areas

Wilderness Study Areas (WSAs) are managed according to a non-impairment standard. Under this standard, these lands are managed in a manner so as not to impair the suitability of such areas for preservation as wilderness. At present, the BLM manages these lands in accordance with the approved RMPs and the Interim Management Policy for Lands Under Wilderness Review until Congress either designates each WSA as "wilderness" or releases it from consideration and the land reverts to multiple-use management. None of the parcels carried forward for analysis in this sale are located within a WSA, though several parcels are located near or adjacent to WSAs.

In the WRBBD, several parcels were nominated adjacent to the Sheep Mountain WSA and the Bobcat Draw Badlands WSA. All adjacent or vicinity parcels were thoroughly checked against the Master Title Plats and no adjustments were necessary on any of the parcels.

3.2.2 Lands with Wilderness Characteristics (LWCs)

Wilderness characteristics are resource values that include naturalness, outstanding opportunities for solitude, or outstanding opportunities for primitive and unconfined recreation. Areas evaluated for wilderness characteristics generally occur in undeveloped locations of sufficient size (typically greater than 5,000 contiguous acres) to be practical to manage for these characteristics.

The BLM Land Use Planning Handbook (H-1601-1) states that the BLM must consider the management of lands with wilderness characteristics during the land use planning process. The criteria used to identify these lands are essentially the same criteria used for determining wilderness characteristics for WSAs. However, the authority set forth in Section 603(a) of FLPMA to complete the three-part wilderness review process (inventory, study, and report to Congress) expired on October 21, 1993; therefore, FLPMA does not apply to new WSA proposals and consideration of new WSA proposals on BLM-administered public lands is no longer valid. The BLM is still required under Section 201 of FLPMA to "...maintain on a continuing basis an inventory of all public lands and their resource and other values...." This includes reviewing lands to determine if they possess wilderness characteristics (see Attachment 5.5).

If inventories of public lands determine that wilderness characteristics are present on lands leased or proposed for leasing, the lands would be managed in accordance with the applicable RMP decisions.

Parcels were nominated in the LFO and in the WFO in areas nominated and analyzed during the RMP process for Citizen's Proposed Wilderness (CPW). Through the Land Use Planning process these areas were determined to not meet the criteria to be designated as an LWC.

Parcels were nominated in the WFO within Lands with Wilderness Characteristics (see the WFO's approved RMP management decision 6197: "No lands with wilderness characteristics are managed to maintain their wilderness characteristics, including naturalness, outstanding opportunities for solitude, and primitive and unconfined recreation. Manage lands with wilderness characteristics consistent with other resource objectives.").

3.2.3 Areas of Critical Environmental Concern (ACECs)

Parcels offered for sale are subject to the stipulations shown in Attachment 5.1, which includes protecting the relevant and important ACEC values, where present.

One parcel in the CYFO (-0656) is subject to the stipulations applied to the parcel, which includes protection of Special Designations (Geologic; Paleontological): Paleocene, Eocene Thermal Maximum ACEC.

One parcel in the RFO (-0697) intersects the Sand Hills/JO Ranch ACEC.

3.2.4 Special Management Areas (SMAs)

Six parcels (-0539, -0695, -0712, -0714, -6783, and -6784) in the RSFO intersect the Wind River Front Special Recreation Management Area (SRMA) – West, an area the RSFO approved RMP and ROD designated (at page 16) "to place management emphasis on enhancing recreation opportunities and to focus management on areas with high recreation values or areas where there are conflicts between recreation and other uses."

Two parcels in the RFO intersect the Continental Divide National Scenic Trail SRMA (-0559 and -6793).

One parcel in the RSFO (-0708) is located in the South Pass Historic Landscape.

Twenty-one of the parcels located in the NFO contain natural features of scientific, educational, scenic, or historical value for which a protective stipulation was applied to the parcels, as they are within the Lance Creek Fossil Area (see Attachment 5.1).

3.2.5 Lands & Realty

In the WRBBD, 12 split estate parcels were nominated in the 3Q20 lease sale. Two of the parcels, plus one BLM parcel, were nominated with homesites within, or within ¼ mile of the parcel boundary. CYFO parcel -0652 is non-contiguous, in an agricultural area, with multiple homesites and domestic water wells. This same parcel has experienced drilling activity in the past and is in part within the Coulee Gas Oil and Field area.

In the HPD, one split estate parcel in the CFO (-0546) contains a homesite, as do two in the NFO (-0592 And -6840).

3.3 Air Resources

In addition to the air quality information in the RMPs referenced in Section 1.4, new information about greenhouse gases (GHGs) and their effects on national and global climate conditions has emerged since the base RMPs were prepared. Ongoing scientific research has identified the potential impacts of GHG emissions such as carbon dioxide (CO_2) methane (CH_4); nitrous oxide (N_2O); water vapor; and several trace gasses on global climate. Through complex interactions on a global scale, GHG emissions cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia (along with corresponding variations in climatic conditions), industrialization and burning of fossil carbon sources have caused GHG concentrations to increase measurably, and are believed to contribute to overall climatic changes, typically referred to as global warming. This EA incorporates an analysis of the contributions of the proposed action to GHG emissions and a general discussion of potential impacts to climate.

Air quality, climate, and visibility are the components of air resources which include applications, activities, and management of the air resource. The BLM must consider and analyze the potential effects of authorized activities on air resources as part of the planning and decision making process. The approved RMPs all address air quality issues, impacts, and potential mitigation. It is important to reiterate the offering and issuing leases is an administrative action, and the offering and the issuing of leases, in and of themselves, does not create air quality impacts.

3.3.1 Air Quality

Regional air quality is influenced by the interaction of meteorology, climate, the magnitude and spatial distribution of local and regional air pollutant sources (including natural sources), and chemical properties of emitted air pollutants. The following sections summarize the existing climate and air quality within the area potentially affected by the parcels under consideration for leasing.

A variety of pollutants can affect air quality; these pollutants and their effects on health, visibility, and ecology are described in the following sections, along with data on existing air quality conditions found within the subject field offices.

The EPA has delegated regulation of air quality to the State of Wyoming and is administered by the Wyoming Department of Environmental Quality (WDEQ). Wyoming Ambient Air Quality Standards (WAAQS) and National Ambient Air Quality Standards (NAAQS) identify maximum limits for concentrations of criteria air pollutants at all locations to which the public has access. The WAAQS and NAAQS are legally enforceable standards. Concentrations above the WAAQS and NAAQS represent a risk to human health that, by law, require public safeguards be implemented. State standards must be at least as protective of human health as Federal standards, and may be more restrictive than Federal standards, as allowed by the Clean Air Act. Currently, the WDEQ Air Quality Division (AQD) does not have regulations regarding greenhouse gas emissions, although these emissions are regulated indirectly by various other regulations.

Pollutant concentration can be defined as the mass of pollutant present in a volume of air and is reported in units of micrograms per cubic meter (μg/m3), parts per million (ppm), or parts per billion (ppb). The State of Wyoming has used monitoring to determine that the HDD's planning areas are currently in compliance with Wyoming and Federal ambient air quality standards for all criteria pollutants with the exception of the Upper Green River Basin (UGRB) which includes portions of the KFO and RSFO, and all of the PFO. The UGRB is a designated nonattainment area for the 2008 ozone standard.

For the most part, the counties that lie within the jurisdictional boundaries of the HPD (Natrona, Converse, Platte, Goshen, Niobrara, Weston, Crook, Campbell, Sheridan and Johnson) are classified as in attainment for all state and national ambient air quality standards as defined in the Clean Air Act. The one exception is the City of Sheridan, which was designated as nonattainment for PM10 in 1991 (56 FR 11101). On April 4, 2018, EPA removed the City of Sheridan as a nonattainment zone and approved their limited maintenance plan while re-designating them as in attainment of the NAAQS for PM10 (83 FR 06848).

The counties that lie within the jurisdictional boundaries of the WRBBD (Park, Big Horn, Washakie, Hot Springs, Fremont, Natrona, Carbon, Sweetwater) are classified as in attainment for all state and national ambient air quality standards.

Relevant air quality monitoring stations are show in the table, below:

Table: Air Quality Monitoring Stations

County	Site Name	Type of Monitor Type	Parameter	Operating Schedule	Location	
					Longitude	Latitude
Campbell	Thunder Basin	SPM	O3, NOx and Met	Hourly	-105.3000	44.6720
	South Campbell County	SPM	O3, NOx, PM10 and Met	1/3 (PM10) and hourly (NOx and O3)	-105.5000	44.1470
	Belle Ayr Mine	SPM	NOx and PM2.5	1/3 (PM2.5) and hourly (Ox)	-105.3000	44.0990
	Wright	SPM	PM10	1/6	-105.5000	43.7580
	Gillette	SLAMS	PM10	1/6	-105.5000	44.2880
	Black Thunder Mine	SPM	PM2.5	1/3	-105.2000	43.6770
	Buckskin Mine	SPM	PM2.5	1/3	-105.6000	44.4720
	Fortification Creek	WARMS	PM2.5,Nitrate,Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide, Meteorology	1/3 (PM2.5) and 1/7 (others)	-105.9198	44.33953
	South Coal	WARMS	PM2.5 and Meteorology		-105.8378	44.9401
	Thunder Basin	IMPROVE	PM2.5, Nitrate, Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide & Meteorology	1/3	-105.2874	44.6634
Converse	Antelope Mine	SPM	PM2.5	1/3 (PM2.5) and hourly (NOx)	-105.4000	43.4270
Johnson	Buffalo	WARMS	PM2.5, Nitrate, Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide and Meteorology	1/3 (PM2.5) and 1/7 (others)	-106.0189	44.1442
	Cloud Peak (stopped monitoring during 2014)	IMPROVE	PM2.5, Nitrate, Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide and Meteorology	1/3	-106.9565	44.3335
Natrona	Casper	SLAMS	PM10 and PM 2.5	1/3	-106.3256	42.8516
Sheridan	Sheridan-Highland Park	SLAMS	PM10 and PM2.5	1/3 (PM10); 1/3 and 1/6 (PM2.5)	-107.0000	44.8060
	Sheridan-Police Station	SLAMS	PM10 and PM2.5	1/1 (PM10) and 1/3 & 1/6 (PM2.5)	-107.0000	44.8330

County	Site Name	Type of Monitor Type	Parameter	Operating Schedule	Location	
					Longitude	Latitude
	Sheridan	WARMS	PM2.5, Ozone, Nitrate, Ammonium, Nitric Acid, Sulfate and Sulfur Dioxide, Meteorology	1/3 (PM2.5) and 1/7 (others)	-106.8472	44.9336
Weston	Newcastle	WARMS	PM2.5, Nitrate, Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide and Meteorology, ozone	1/3 (PM2.5) and 1/7 (others)	-104.1919	43.8731
	Newcastle	NADP	Wet deposition of ammonium, sulfate, metals	Weekly	-104.1917	43.873
Park	Cody	SLAMS	PM10	Jan. 3	-109.073/ 44.532	
	North Absaroka (managed by USFS)	IMPROVE	PM2.5, NO3-, Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide & Meteorology	Jan. 3; Hourly Meteorology	-109.382/ 44.745	
	Yellowstone National Park – Tower Falls	NADP/NTN	Wet Deposition Ions, Precipitation, pH	Weekly (Ions); Daily (Precip)	-110.42/ 44.917	
Fremont	Lander	SLAMS	PM2.5	Jan. 3	-108.733/ 42.833	
	Sinks Canyon	NADP/NTN	Wet Deposition Ions, Precipitation, pH	Weekly (Ions); Daily (Precip)	-108.85/ 42.734	
	South Pass City	NADP/NTN	Wet Deposition Ions, Precipitation, pH	Weekly (Ions); Daily (Precip)	-108.832/ 42.494	
Big Horn	Basin	WARMS CASTNet	Ozone, NO3-, Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide & Meteorology	Jan. 7 (Speciated); Hourly (O3, Met)	-108.041/ 44.28	
Campbell	Thunder Basin	SPM	Ozone, Nitrogen Oxides & Met	Hourly	-105.3/ 44.672	
	Thunder Basin	IMPROVE	PM2.5, NO3-, Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide & Meteorology	Jan. 3 (Speciated); Hourly Met.	-105.287/ 44.663	
Johnson	Buffalo	WARMS	PM2.5, NO3-, Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide & Meteorology	Jan. 3 (PM2.5); 1/7 (others); Hourly Met	-106.019/44.144	
	Cloud Peak (Monitoring stopped during 2014)	IMPROVE	PM2.5, NO3-, Ammonium, Nitric Acid, Sulfate, Sulfur Dioxide & Meteorology	Jan. 3 (Speciated); Hourly Met	-106.956/44.333	
Sublette	Boulder	SPM	O_3, PM_{10}, NO_2	Hourly	-109.753/42.719	
Sublette	Daniel South	SPM	O_3, PM_{10}, NO_2	Hourly	-110.055/42.791	
Sublette	Juel Spring	SPM	O_3, NO_2	Hourly	-109.563/42.373	
Sublette	Pinedale	SPM	O_3, $PM_{2.5}$, NO_2	Hourly	-109.885/42.853	
Sweetwater	Moxa Arch	SPM	O_3, PM_{10}, NO_2	Hourly	-109.788/41.751	
Sweetwater	Wamsutter	SPM	O_3, PM_{10}, NO_2	Hourly	-108.024/41.678	
Fremont	South Pass	SPM	O_3, PM_{10}, NO_2	Hourly	-108.720/42.528	
Uinta	Murphy Ridge	SPM	O_3, PM_{10}, NO_2	Hourly	-111.042/41.369	
Teton	Jackson	SLAMS	PM10, PM2.5	1/3	-110.79799/43.45776	

County	Site Name	Type of Monitor Type	Parameter	Operating Schedule	Location	
					Longitude	Latitude
Sweetwater	Rock Springs	SLAMS	PM10, PM2.5	1/3	-109.22013/41.59259	
Laramie	Cheyenne	NCore	O_3 NO NO_2 SO_2 PM_{10} $PM_{2.5}$	Hourly for all expect 1/3 for PM2.5	-104.77842/41.18235	

3.3.2 Criteria Air Pollutants

Criteria air pollutants are those for which national concentration standards have been established. If the air quality in a geographic area meets the NAAQS, it is designated an attainment area; areas that do not meet the NAAQS are designated nonattainment areas and must develop comprehensive state plans to reduce pollutant concentrations to a safe level. Attainment/nonattainment status is determined separately for each criteria pollutant. Five of the six criteria pollutants for which the EPA has established NAAQs are:

- Carbon monoxide (CO): CO is an odorless, colorless gas formed during combustion of any carbon-based fuel, such as during the operation of engines, fireplaces, and furnaces. Because carbon monoxide data are generally collected only in urban areas where automobile traffic levels are high, recent data are often unavailable for rural areas.
- Nitrogen dioxide (NO_2): NO_2 is a highly reactive compound formed at high temperatures during fossil fuel combustion. During combustion, nitrogen monoxide (NO) is released into the air which reacts with oxygen in the atmosphere to form NO_2. NO plus NO_2 forms a mixture of nitrogen gases, collectively called oxides of nitrogen (NOx). NOx emissions can convert to ammonium nitrate particles and nitric acid, which can cause visibility impairment and atmospheric deposition. NOx can contribute to "brown cloud" conditions and ozone formation, and can convert to ammonium (NH_4), nitrate particles (NO_3), and nitric acid (HNO_3). Internal combustion engines are a major source of NOx emissions.
- Ozone: Ozone is a gaseous pollutant that is not emitted directly into the atmosphere but is formed in the atmosphere from complex photochemical reactions involving NOx and reactive volatile organic compounds (VOCs). Common sources of VOCs include automotive and heavy equipment emissions, paints and varnishes, oil and gas operations, and wildfires. Ozone is a strong oxidizing chemical that can burn the lungs and eyes and damage plants. Ozone is a severe respiratory irritant at concentrations in excess of the federal standards.
- Particulate matter (PM): PM is small particles suspended in the air that settle to the ground slowly and may be re-suspended if disturbed. Ambient air particulate matter standards are based on the size of the particle. The two types of particulate matter are:
    - PM_{10} (particles with diameters less than 10 micrometers): small enough to be inhaled and capable of causing adverse health effects.
    - $PM_{2.5}$ (particles with diameters less than 2.5 micrometers): small enough to be drawn deeply into the lungs and cause serious health problems. These particles are a primary cause of visibility impairment.
- Sulfur dioxide (SO_2) and sulfates (SO_4): SO_2 and SO_4 form during combustion from trace levels of sulfur in coal or diesel fuel. SO_2 also participates in chemical reactions and can form sulfates and sulfuric acid in the atmosphere.

The Wyoming DEQ has also established WAAQS, which are state-specific air quality standards for criteria pollutants. The standards and relevant averaging periods are summarized below:

Table: NAAQS/WAAQS

Pollutant	Averaging Time	National Ambient Air Quality Standards (NAAQS)			Wyoming Ambient Air Quality Standards (WAAQS)		
		Primary			Primary		
		(ppm)	(ppb)	(ug/m^3)	(ppm)	(ppb)	(ug/m^3)
Carbon Monoxide	1 hour	**35** [a]	35,000	40,000	**35**	35,000	40 (mg/m^3)
	8 hour	**9** [a]	9,000	10,000	**9**	9,000	10 (mg/m^3)
Lead	Rolling 3-month	---	---	**0.15**	---	---	**0.15**
Nitrogen Dioxide	1 hour	0.1	**100** [b]	189	0.1	**100**	189
	Annual (Arithmetic Mean)	0.053	**53**	100	0.053	**53**	100
PM_{10}	24 hour	---	---	**150** [c]	---	---	**150**
	Annual (Arithmetic Mean)	None			---	---	**50**
$PM_{2.5}$	24 hour	---	---	**35** [d]	---	---	**35**
	Annual (Arithmetic Mean)	---	---	**12.0** [e]	---	---	**12.0**
Ozone	8 hour	**0.070** [f]	70	147	**0.075**	75	147
Sulfur Dioxide	1 hour	0.075	**75** [g]	197	0.075	**75**	197
Hydrogen Sulfide	1/2 hour average	---	---	---	0.05	50	**70** [h]
	1/2 hour average	---	---	---	0.03	30	**40** [i]

Note: **bolded values** indicate the standard as written in the corresponding regulation. Other values are conversions.
[a] Not to be exceeded more than once per year.
[b] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).
[c] Not to be exceeded more than once per year on average over 3 years.
[d] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 $\mu g/m^3$ (effective December 17, 2006).
[e] To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 12.0 $\mu g/m^3$. (effective December 14, 2012)
[f] To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.070 ppm.
[g] To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb (effective June 22, 2010).
[h] not to be exceeded more than two times per year.
[i] not to be exceeded more than two times in any five consecutive days.

3.3.3 Ozone

Ozone is formed in the lower atmosphere by a series of reactions involving sunlight and precursor emissions of nitrous oxide (NO_X) and Volatile Organic Compounds (VOCs). Ozone and its precursors can be transported both into and out of the analysis region.

The Upper Green River Basin has been designated as a marginal nonattainment area for ozone. The designated nonattainment area includes Sublette County and portions of Lincoln and Sweetwater counties. This designation was based on ozone data for 2008 through 2010. Compliance with the 8-hour ozone NAAQS is based on the ozone "design value," which is defined as the 3-year average of the annual

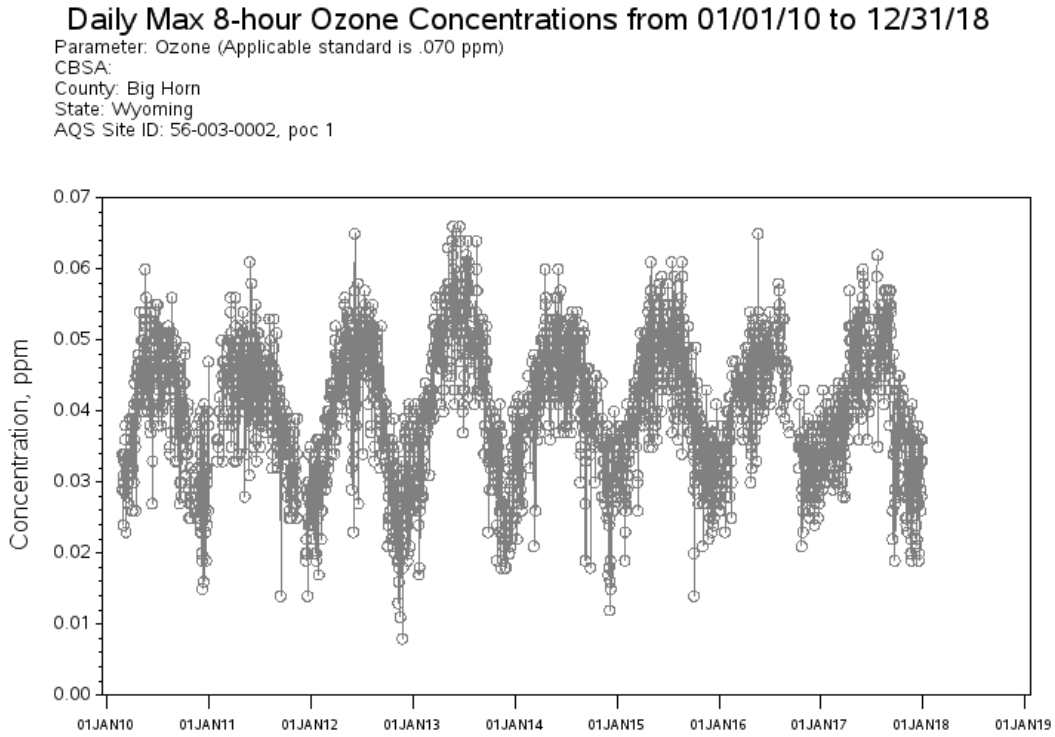
fourth-highest observed 8-hour average ozone concentration. An ozone design value is first calculated for each monitoring site within a given area. The area-wide ozone design value is then defined as the maximum over all sites within the area. If the design value exceeds the 8-hour ozone NAAQS of 70 parts per billion (ppb), the area is designated nonattainment.

Ozone is currently measured at several sites within southwestern Wyoming. All sites have sufficient data to calculate one or more 3-year design values. Ozone design values for each of these sites, for three recent 3-year design value periods (2013–2015, 2014-2016, and 2015-2017), are listed in the table, below. The general data trend in design values for all sites is a decrease from the 2012-2014 to the 2014-2016 design period, with an increase at all sites during the 2015-2017 design period. The figure after the table, below, displays 2010-2017 hourly ozone data from various Wyoming ozone monitors. This data shows no increasing or decreasing trend over the period.

Table: Ozone Design Values for Ozone Monitoring Sites in Wyoming Compared to NAAQS

Site Name	ID	County	Ozone Design Value (ppb)			NAAQS (ppb)
			2013-2015	*2014-2016*	*2015-2017*	
Big Piney	56-035-0700	Sublette	61	61	63	70
Boulder	56-035-0099	Sublette	58	58	62	70
Cheyenne NCore	56-021-0001	Laramie	65	63	63	70
Daniel South	56-035-0100	Sublette	62	62	62	70
Juel Spring	56-035-0700	Sublette	62	60	62	70
Moxa	56-037-0300	Sweetwater	67	66	67	70
Murphy Ridge	56-041-0101	Uinta	63	61	62	70
Pinedale	56-035-0101	Sublette	59	58	61	70
Thunder Basin	56-005-0123	Campbell	59	58	60	70
Wamsutter	56-037-0020	Sweetwater	61	55	53	70

Source: REF 1018
NAAQS National Ambient Air Quality Standards
ppb parts per billion



Source: U.S. EPA AirData <https://www.epa.gov/air-data>
Generated: May 15, 2018

Ozone Nonattainment Designation

On April 30, 2012, the EPA formally recognized Wyoming's UGRB as an ozone nonattainment area with a marginal classification. As a result of the nonattainment designation, the BLM must comply with General Conformity regulations in 40 CFR § 93 Subpart B and Chapter 8, Section 3 of the Wyoming Air Quality Standards and Regulations (WAQSR). Per these regulations, the BLM must demonstrate that new actions occurring within the nonattainment area will conform with the Wyoming State Implementation Plan (SIP) by demonstrating that they will not: (1) cause or contribute to a new violation of the ozone standard; (2) interfere with provisions in the SIP for maintenance of any standard; (3) increase the frequency or severity of any existing violation; or(4) delay timely attainment of any standard or any required interim emissions reductions or other milestone. The BLM must first conduct an applicability analysis to determine if this Federal action will require a conformity determination. A conformity determination must be completed for a Federal action if the total of direct and indirect emissions from the proposed project exceeds the *de minimis* levels specified in 40 CFR § 93.153(b) and WAQSR Chapter 8, Section 3. For a marginal nonattainment area, the *de minimis* threshold is 100 tons/year of NO_x or VOCs (the precursor pollutants that form ozone in the atmosphere). Federal actions estimated to have an annual net emissions increase less than the *de minimis* levels are not required to demonstrate conformity under the General Conformity regulations.

In accordance with the Federal and State Conformity regulations, the General Conformity requirement does not apply to actions where the emissions are not reasonably foreseeable such as lease sales made on a broad scale followed by exploration and development plans. There are no direct effects from the proposed oil and gas lease sale because it is primarily an administrative action that only conveys the mineral rights to the potential lessee. Subsequent development proposals by lease holders will require to

submittal of plans for any exploration or development that may occur and a site specific EA or EIS would be prepared to identify mitigation measures necessary to avoid undue degradation to the environment prior to approval any development activities. General Conformity is addressed at the proposal stage when emission generating activities are reasonably foreseeable and can be quantified.

Ten of the preliminary parcels (comprised of 21,526 acres) for the Third-Quarter 2020 lease sale intersect the Upper Green River Basin Ozone Non-Attainment Area (O_3NAA).

On August 27, 2015, the EPA published a Federal Register Notice finding that the Upper Green is attaining the ozone standard as of July 20, 2015 attainment date (see http://www.gpo.gov/fdsys/pkg/FR-2015-08-27/pdf/2015-21196.pdf). Formal re-designation of the area to attainment has not yet occurred. High readings of ozone at the Boulder monitoring station occurred during the winter 2018-2019 season. Operators in the area have developed contingency plans that are implemented when the Wyoming Department of Environmental Quality (WDEQ) issues ozone warnings.

3.3.4 Nitrogen Dioxide

Nitrogen dioxide (NO_2) is currently measured at several monitoring sites across Wyoming. Relevant NAAQS for NO_2 include (1) the 1-hour NO_2 NAAQS, which requires the 3-year average of the 98th percentile daily maximum 1-hour NO_2 concentration to be less than 100 ppb; and (2) the annual NO_2 NAAQS, which requires the annual average NO_2 concentration to be less than 53 ppb. One-hour NO_2 design values for each of these sites, for 2013–2015, and 2014–2016, and 2015-2017 are listed in the table, below. Data from all sites show design values well below the NAAQS.

Table: 1-Hour Design Values for NO_2 Monitoring Sites in Wyoming Compared with the NAAQS

Site Name	ID	County	3-Year Average 98th Percentile 1-Hour NO_2 (ppb)			NAAQS (ppb)
			2013-2015	*2014-2016*	*2015-2017*	
Big Piney	56-035-0700	Sublette	--	8	8	100
Boulder	56-035-0099	Sublette	14	12	14	100
Cheyenne NCore	56-021-0001	Laramie	36	35	32	100
Daniel South	56-035-0100	Sublette	--	3	3	100
Juel Spring	56-035-0700	Sublette	11	10	9	100
Moxa	56-037-0300	Sweetwater	20	20	20	100
Murphy Ridge	56-041-0101	Uinta	12	12	13	100
Pinedale	56-035-0101	Sublette	19	20	24	100
Thunder Basin	56-005-0123	Campbell	9	8	8	100
Wamsutter	56-037-0020	Sweetwater	35	32	32	100

Source: *REF 1018*
NAAQS *National Ambient Air Quality Standards*
NO_2 *nitrogen dioxide*
ppb *parts per billion*

3.3.5 Sulfur Dioxide

Sulfur dioxide (SO_2) is currently measured at the Moxa site (Sweetwater County) and the Cheyenne NCore site (Laramie County). This site was established in 2010. The corresponding SO_2 design values are 17, 17 and 18 ppb for 2013–2015, 2014-2016, and 2015-2017, respectively, as listed in the table, below. The SO_2 design values are well below the NAAQS.

Table: Three-Year Average 99th Percentile Daily Maximum 1-Hour SO_2 Values for Monitoring Sites in Wyoming Compared to NAAQS

Site Name	ID	County	3-Year Average 99th Percentile 1-Hour SO_2 (ppb)			NAAQS (ppb)
			2013–2015	*2014-2016*	*2015-2017*	
Moxa	56-037-0300	Sweetwater	18	21	21	75
Cheyenne NCore	56-021-0100	Laramie	10	9	9	75

Source: *REF 1018*
NAAQS *National Ambient Air Quality Standards*
ppb *parts per billion*
SO_2 *sulfur dioxide*

3.3.6 Carbon Monoxide

Carbon monoxide (CO) is not routinely monitored within the region. CO was measured at the Murphy Ridge site (in Uinta County) during 2008. Based on these measurements, the daily maximum 1-hour CO value was 870 ppb (0.87 parts per million [ppm]) and the daily maximum 8-hour average CO value was 690 ppb (0.69 ppm). These values are well below the NAAQS limits of 35,000 and 9,000 ppb (35 and 9 ppm), respectively. Therefore, CO does not appear to be a pollutant of concern for the region. Note, however, that CO monitoring is limited to one site.

The 2011 National Emission Inventory indicates that CO emissions in the region are primarily from area (mostly oil and gas–related) and on-road mobile sources. CO concentrations are expected to be greatest near human-made CO sources such as oil and gas development areas, population centers, and roadways, but CO is not a primary air quality concern for the region.

3.3.7 Lead

Lead is not routinely monitored and is not a primary air quality concern for the region.

3.3.8 Particulate Matter

Particulate matter, PM_{10} and $PM_{2.5}$, are pollutants of concern within the region. At the regional scale, it is expected that fugitive dust sources are the dominant contributors to PM_{10} and $PM_{2.5}$ concentrations. Fugitive dust is likely to occur naturally across the region, especially during high-wind events. Post-burn vegetative conditions associated with wildfires are also sources of fugitive dust. At the local level, concentrations are expected to be highest near towns, unpaved roads that experience high volumes of traffic, areas with depleted vegetative cover, and areas downwind of human-made sources of precursor emissions such as SO_2 and NO_2 that may react to form secondary $PM_{2.5}$.

Recent PM_{10} data are available for six monitoring sites within the region. Under the PM_{10} NAAQS, the maximum 24-hour average PM_{10} concentration cannot exceed 150 micrograms per cubic meter ($\mu g/m^3$) more than once per year on average over 3 years. WDEQ also requires the annual PM_{10} concentration to be less than 50 $\mu g/m^3$. Maximum 24-hour PM_{10} concentrations for monitoring sites within the area are listed in the table, below:

Table: Maximum 24-Hour PM_{10} Concentrations for Monitoring Sites in Wyoming Compared to NAAQS

Site Name	ID	County	Maximum 24-Hour Average PM_{10} ($\mu g/m^3$)				NAAQS ($\mu g/m^3$)
			2014	*2015*	*2016*	*2017*	
Boulder	56-035-0099	Sublette	31	40	40	55	150
Cheyenne NCore	56-021-0100	Laramie	34	78	34	117	150
Daniel South	56-035-0100	Sublette	26	36	27	51	150
Gillette	56-005-1002	Campbell	25	39	40	48	150
Lander	56-013-1003	Fremont	62	53	30	41	150
Moxa	56-037-0300	Sweetwater	67	53	41	94	150
Murphy Ridge	56-041-0101	Uinta	39	60	42	51	150
Rock Springs	56-037-0007	Sweetwater	39	54	41	91	150
Wamsutter	56-037-0020	Sweetwater	41	47	32	61	150

Source: REF 1018
NAAQS National Ambient Air Quality Standards
PM_{10} particulate matter less than 10 microns in diameter
$\mu g/m^3$ micrograms per cubic meter

PM_{10} concentrations are often heavily influenced by wildfire activity in the region as well as transport from areas outside of Wyoming. Therefore, while there are no violations of the PM_{10} NAAQS, PM_{10} is an air quality concern for the region.

Recent $PM_{2.5}$ data are available for two monitoring sites within the region. The NAAQS for $PM_{2.5}$ include (1) the 24-hour $PM_{2.5}$ NAAQS, which requires the 3-year average of the 98th percentile 24-hour average $PM_{2.5}$ concentration to be less than 35 $\mu g/m^3$; and (2) the annual $PM_{2.5}$ NAAQS, which requires the 3-year average of the annual average $PM_{2.5}$ concentration to be less than 12 $\mu g/m^3$. The 24-hour $PM_{2.5}$ design values are listed in the table, below, as are the annual $PM_{2.5}$ design values in the subsequent table.

Table: 24-Hour $PM_{2.5}$ Design Values for Monitoring Sites in WY Compared to NAAQS

Site Name	ID	County	3-Year Average 98th Percentile 24-Hour $PM_{2.5}$ ($\mu g/m^3$) (2015-2017)	NAAQS ($\mu g/m^3$)
Cheyenne NCore	56-021-0100	Laramie	14	35
Lander	56-013-1003	Fremont	23	35
Pinedale	56-035-0101	Sublette	16	35
Rock Springs	56-037-0007	Sweetwater	19	35

Source: REF 1018
NAAQS National Ambient Air Quality Standards
$PM_{2.5}$ particulate matter less than 2.5 microns in diameter
$\mu g/m^3$ micrograms per cubic meter

Table: Annual $PM_{2.5}$ Design Values for Monitoring Sites in Wyoming Compared to NAAQS

Site Name	ID	County	3-Year Average 98th Percentile 24-Hour $PM_{2.5}$ ($\mu g/m^3$) (2015-2017)	NAAQS ($\mu g/m^3$)
Cheyenne NCore	56-021-0100	Laramie	4.1	12
Lander	56-013-1003	Fremont	6.8	12
Pinedale	56-035-0101	Sublette	5.1	12
Rock Springs	56-037-0007	Sweetwater	5.1	12

Source: REF 1018
NAAQS National Ambient Air Quality Standards
$PM_{2.5}$ particulate matter less than 2.5 microns in diameter
$\mu g/m^3$ micrograms per cubic meter

The 24-hour $PM_{2.5}$ design values are below the NAAQS for both sites. The annual $PM_{2.5}$ design values are also below the NAAQS for both sites.

3.3.9 Climate Change and Greenhouse Gas Emissions

Climate change refers to any significant change in the measures of climate lasting for an extended period of time. In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over several decades or longer. "Global warming" refers to the recent and ongoing rise in global average temperature near Earth's surface. It is caused mostly by increasing concentrations of greenhouse gases in the atmosphere. Global warming is causing climate patterns to change. However, global warming itself represents only one aspect of climate change. Climate is both a driving force and limiting factor for ecological, biological, and hydrological processes, and has great potential to influence resource management.

It is accepted within the scientific community that global temperatures have risen at an increased rate and the likely cause is gases that trap heat in the atmosphere, referred to as greenhouse gases (GHGs). The Intergovernmental Panel on Climate Change (IPCC, 2007) 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 GHG concentrations." Extensive research and development efforts are underway in the field of Carbon Capture and Sequestration (CCS) technology, which could help direct management strategies in the future. The IPCC has identified a target worldwide "carbon budget" to estimate the amount of CO_2 the world can emit while still having a likely chance of limiting global temperature rise to 2°C above pre-industrial levels. The international community estimates this budget to be 1 trillion tonnes of carbon and also acknowledges that varying amounts of this budget have already been consumed (IPCC, 2014).

In 2009, based primarily on the scientific assessments of the U.S. Global Change Research Program, the National Research Council, and the IPCC, the EPA issued a finding that the changes in our climate caused by elevated concentrations of greenhouse gases in the atmosphere are reasonably anticipated to endanger the public health and public welfare of current and future generations. *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases, 74 Fed. Reg. 66,496, 66,526 (Dec. 15, 2009) ("EPA Endangerment Finding"). In declining to control greenhouse gases from motor vehicles under the Clean Air Act (68 FR 52922, 52930), EPA cited the conclusion of the Natural Research Council's 2001 report, Climate Change Science: An Analysis of Some Key Questions, to provide context as to how predicting climate change involves a "complex web of economic and physical factors," including:

> *Our ability to predict future global anthropogenic emissions of GHGs and aerosols; the fate of these emissions once they enter the atmosphere (e.g., what percentage are absorbed by vegetation or are taken up by the oceans); the impact of those emissions that remain in the atmosphere on the radiative properties of the atmosphere; changes in critically important climate feedbacks (e.g., changes in cloud cover and ocean circulation); changes in temperature characteristics (e.g., average temperatures, shifts in daytime and evening temperatures); changes in other climatic parameters (e.g., shifts in precipitation, storms); and ultimately the impact of such changes on human health and welfare (e.g., increases or decreases in agricultural productivity, human health impacts)… Substantial scientific uncertainties limit our ability to assess each of these factors and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic GHGs.*

Early models of climate change had difficulty addressing the inherent uncertainty discussed in the 2001 NRC report, making their predictions of climate change effects from increasing concentrations of GHGs in the atmosphere, imperfect with varying levels of confidence. Newer models and assessments have become better in their ability to minimize some of this uncertainty but remain imprecise in being able to predict how, where and when those effects may manifest at multiple scales. The most recent analysis however, completed by the U.S. Global Change Research Program, is described in the 2017 Fourth National Climate Assessment. This report builds upon the 2007 IPCC finding that human influence likely has been the dominant cause of the observed warming since the mid-20th century, with the expanded conclusion: "Over the last century, there are no alternative explanations supported by the evidence that are either credible or that can contribute more than marginally to the observed patterns. There is no convincing evidence that natural variability can account for the amount of and the pattern of global warming observed over the industrial era.[] Solar flux variations over the last six decades have been too small to explain the observed changes in climate. [] There are no apparent natural cycles in the observational record that can explain the recent changes in climate (e.g., PAGES 2k Consortium 2013;[] Marcott et al. 2013; [] Otto-Bliesner et al. 2016[]). In addition, natural cycles within Earth's climate system can only redistribute heat; they cannot be responsible for the observed increase in the overall heat content of the climate system."[] (Footnotes omitted.)

According to the National Oceanic and Atmospheric Administration Climate Prediction Center,[2] "global mean surface temperatures increased nearly 1.8°F from 1890 to 2006." They further report that "the 2017 average global temperature across land and ocean surface areas was 0.84°C (1.51°F) above the twentieth-century average of 13.9°C (57.0°F), making it the third-warmest year on record behind 2016 (warmest) and 2015 (second warmest). Models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Northern latitudes (above 24°N) have exhibited temperature increases of nearly 2.1° F since 1900, with nearly a 1.8°F increase since 1970 alone."

The American Meteorological Society also produces annual State of the Climate Reports. Chapter 7 of the 2017 report, discloses:

> [t]*he annual average temperature in 2017 for the contiguous United States (CONUS) was 12.5°C or 1.0°C above the 1981–2010 average—its third warmest year since records began in 1895, 0.2°C cooler than 2016 and 0.4°C cooler than 2012 (Fig. 7.3). The annual CONUS temperature over the 123-year period of record is increasing at an average rate of 0.1°C decade, with the trend increasing since 1970 to 0.3°C decade.*
>
> *The nationally averaged precipitation total during 2017 was 104% of average, the 20th wettest year in the historical record. The annual CONUS precipitation total is increasing at an average rate of 4.3 mm decade. Outside the CONUS, Alaska had its seventh warmest year (+1.2°C departure) since statewide records began in 1925, and near-median precipitation (104% of average).*
>
> *Locations across the West, Great Plains, Great Lakes, Deep South, Midwest, and Northeast had a wetter-than-average year in 2017, while areas of the Northern Rockies and Plains were drier than average (Fig. 7.4b). Six states had annual precipitation totals above their 90th percentile, including Michigan, which was record wet, while only North Dakota was below its 10th percentile. Areas of the West, particularly California, experienced significant drought relief in early 2017, with a multiyear drought nearly eradicated due to the heavy winter precipitation. However, the wet winter allowed vegetation to flourish, creating an abundance of fuels for wildfires during the subsequent dry season. In the Northern Plains, a dry spring and summer set*

[2] https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature (accessed 4/5/2019)

the stage for a rapidly expanding and intensifying drought. The year began and ended with about one-quarter of the contiguous U.S. in drought.

The CONUS winter precipitation was 120% of average, its wettest since 1997/98 and ninth wettest on record. Above-average winter precipitation occurred across the West and parts of the Northern Plains and Midwest. Nevada and Wyoming each had their wettest winter. Spring 2017 was tenth wettest for the CONUS, with 119% of average precipitation. Above-average precipitation occurred across the Northwest, Central Plains, Midwest, Northeast,

For the CONUS, ten months in 2017 were warmer than their respective 1981–2010 average. Every state, except Washington, had a warmer-than-average annual temperature (Fig. 7.4a). Arizona, Georgia, New Mexico, North Carolina, and South Carolina were each record warm.

Specific to Wyoming, temperatures in western Wyoming are expected to increase by 0.25 to 0.40 degrees Fahrenheit per decade, while temperatures in surrounding locations in Utah, Wyoming, and Colorado are expected to increase by 0.40 to 1.2 degrees Fahrenheit per decade (see figure, below). Precipitation across western Wyoming is expected to decrease by 0.1 to 0.6 inches per decade with the largest decrease expected in southwestern Wyoming. The eastern portions of the state are expected to get warmer and wetter.

Deviation In Temperature and Precipitation From The Average Annual In The United States
(State of the Climate Report, Chapter 7, page S195 (2017))

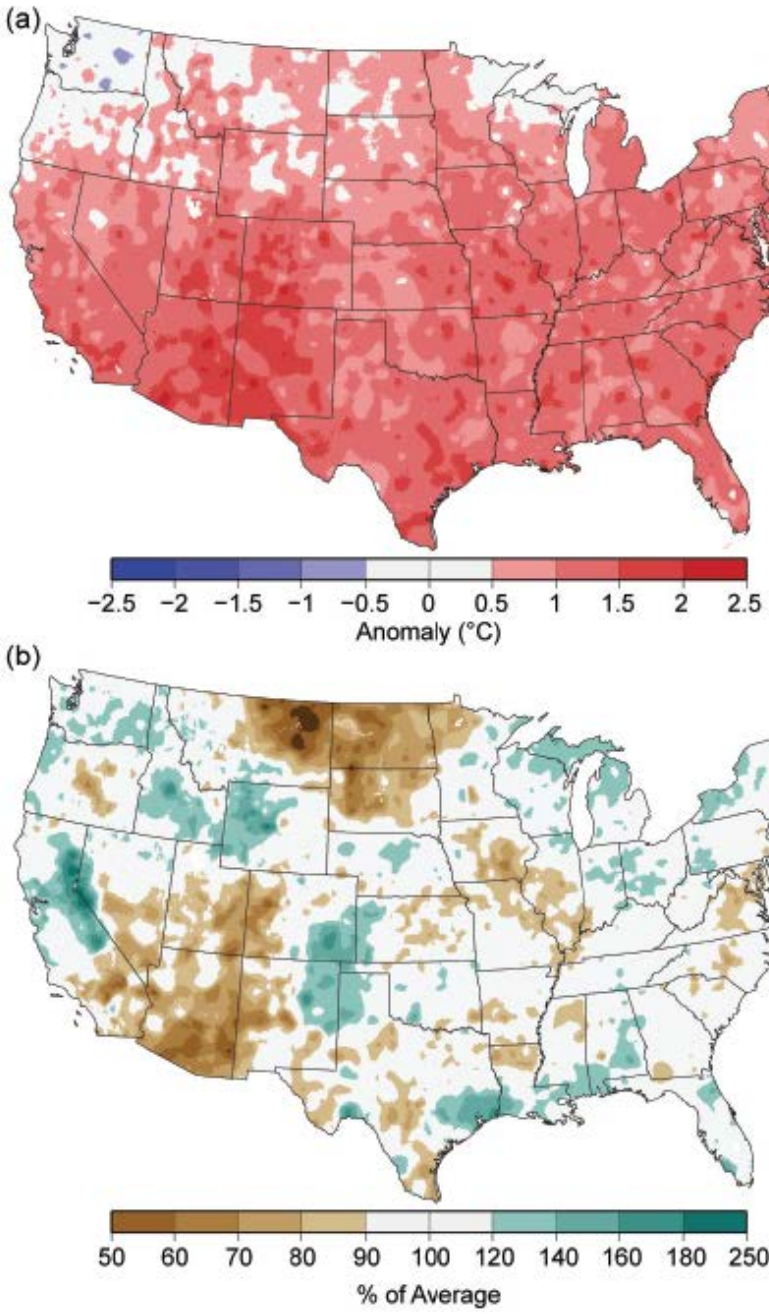
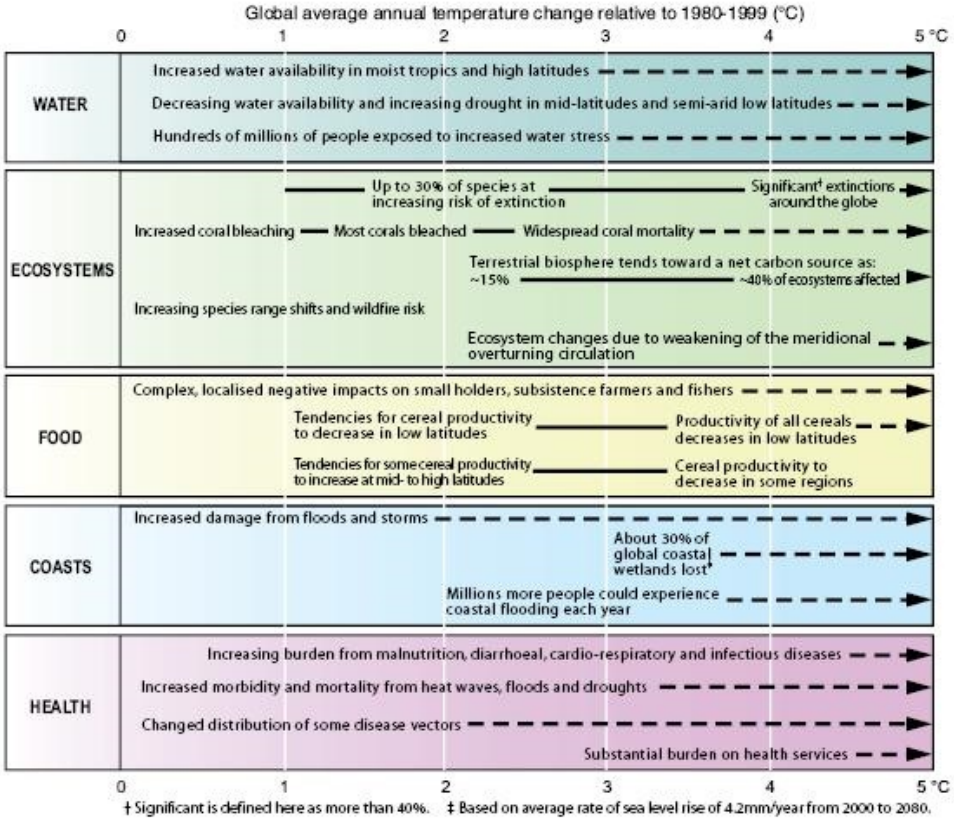


Fig. 7.4. Annual (a) average temperature anomalies (°C) and (b) total precipitation (% of average) in the contiguous United States for 2017. Base period: 1981–2010. (Source: NOAA/NCEI.)

(https://www.ametsoc.net/sotc2017/Ch07_RegionalClimates.pdf)

The next figure, taken from the IPCC's Fourth Assessment Report, indicates varying responses of the natural world to increasing temperatures as a result of increasing global temperatures.

Examples of Impacts Associated with Global Average Temperature Change



According to the Fourth National Climate Assessment, "Annual average temperature over the contiguous United States is projected to rise (very high confidence). Increases of about 2.5°F (1.4°C) are projected for the period 2021–2050 relative to 1976–2005 in all representative concentration pathway (RCP) scenarios, implying recent record-setting years may be "common" in the next few decades (high confidence). Much larger rises are projected by late century (2071–2100): 2.8°–7.3°F (1.6°–4.1°C) in a lower scenario (RCP4.5) and 5.8°–11.9°F (3.2°–6.6°C) in the higher scenario (RCP8.5) (high confidence)." It also predicts that: "Extreme temperatures in the contiguous United States are projected to increase even more than average temperatures. The temperatures of extremely cold days and extremely warm days are both expected to increase. Cold waves are projected to become less intense while heat waves will become more intense. The number of days below freezing is projected to decline while the number above 90°F will rise. (Very high confidence)."

In order to assess the potential for climate change, and the resultant effects of climate change, the standard approach is to measure and predict emissions of GHGs. GHGs are composed of molecules that absorb and re-radiate infrared electromagnetic radiation. When present in the atmosphere the gas contributes to the greenhouse effect. Some GHGs such as CO_2 occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHGs (e.g., fluorinated gases) are created and emitted solely through human activities. The primary GHGs that enter the atmosphere as a result of anthropogenic activities include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_20), and

fluorinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Fluorinated gases are powerful GHGs that are emitted from a variety of industrial processes including production of refrigeration/cooling systems, foams and aerosols. Fluorinated gases are not primary to the activities authorized by the BLM and will not be discussed further in this document.

GHGs are often presented using the unit of metric tons of CO_2 equivalent (mt CO_2e) or Million Metric Tons (MMT CO_2e), a metric to express the impact of each different greenhouse gas in terms of the amount of CO_2 making it possible to express greenhouse gases as a single number. For example, 1 ton of methane would be equal to 28 tons of CO_2 equivalent, because it has a global warming potential (GWP) 28 times that of CO_2. As defined by EPA, the GWP provides "ratio of the time-integrated radiative forcing from the instantaneous release of one kilogram of a trace substance relative to that of one kilogram of CO_2." The GWP of greenhouse gas is used to compare global impacts of different gases and used specifically to measure how much energy the emissions of one ton of gas will absorb over a given period of time (e.g. 100 years), relative to the emissions of one ton of CO_2. The GWP accounts for the intensity of each GHG's heat trapping effect and its longevity in the atmosphere. The GWP provides a method to quantify the cumulative effects of multiple GHGs released into the atmosphere by calculating carbon dioxide equivalent for the GHGs.

- Carbon dioxide (CO_2), by definition, has a GWP of 1 regardless of the time period used because it is the gas being used as the reference. CO_2 remains in the climate system for a very long time; CO_2 emissions cause increases in the atmospheric concentrations of CO_2 that will last thousands of years (EPA, 2016).
- Methane (CH_4) is estimated to have a GWP of 28-36 times that of CO_2 over 100 years. CH_4 emitted today lasts about a decade on average, which is much less time than CO_2. But CH_4 also absorbs much more energy than CO_2. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. The methane GWP also accounts for some indirect effects, such as the fact that methane is a precursor to ozone, and ozone is in itself a greenhouse gas (EPA, 2016).
- Nitrous Oxide (N_2O) has a GWP of 265-298 times that of CO_2 for a 100-year timescale. N_2O emitted today remains in the atmosphere for more than 100 years, on average (EPA, 2016).

Reasonably Foreseeable Development (RFD) Scenario

In order to analyze impacts of various alternatives in RMP EISs, the BLM develops Reasonably Foreseeable Development (RFD) projections that coincide with the lands in the planning area. The EISs for the RMPs approved or amended in 2015 included updated RFDs. The RFD is the result of a technical analysis that projects the total number of wells that could be developed in a field office, based upon known geologic and economic conditions, current development technology, and industry-provided data about future planned development. The RFDs for the Wyoming planning areas are shown in the table, below. The RFDs may include oil wells, gas wells, and Coalbed Natural Gas wells (CBNG) and are projections over the life of the plan, which is generally 20 years. This information indicates that on average, statewide, approximately 998 Federal wells are predicted to be developed annually.

Table: Reasonably Foreseeable Well Development BLM Wyoming

Planning Area	RFD Federal Mineral Estate (Number of Wells)	RFD All Mineral Ownership Lands (Number of Wells)	Total Federal Mineral Acreage Open to Leasing under RMP(s)
Lander FO[3]	1,695	4,254	2,640,000

[3] 2013 Lander RMP FEIS; Appendix T, pages 1649-1650.

Planning Area	RFD Federal Mineral Estate (Number of Wells)	RFD All Mineral Ownership Lands (Number of Wells)	Total Federal Mineral Acreage Open to Leasing under RMP(s)
Buffalo FO[4]	4,767	11,018	3,300,000
Bighorn Basin District[5] (Cody and Worland FOs)	1,141	6,054	2,500,000
GRSG ARMPA[6]	12,355	14,818	22,100,000

While the above projections may include specific projections of CBNG development, the CBNG plays in Wyoming are not currently active and most CBNG wells are being plugged across the state; therefore, the RFD and any associated projection of emissions attributed to CBNG may be an overestimate.

Development of oil and gas is ongoing and continues to be a major source of activity, and associated emissions, in Wyoming. Development density (wells per square mile) and number of wells installed annually depend on a number of variables including market trends, technology available (vertical, directional, or horizontal drilling), the geology of the hydrocarbon-bearing zone, and the application of Controlled Surface Use (CSU) and No Surface Occupancy (NSO) stipulations. As a result, the number of wells in these field offices that could potentially be put into production under a full-field development scenario for the leases is highly uncertain.

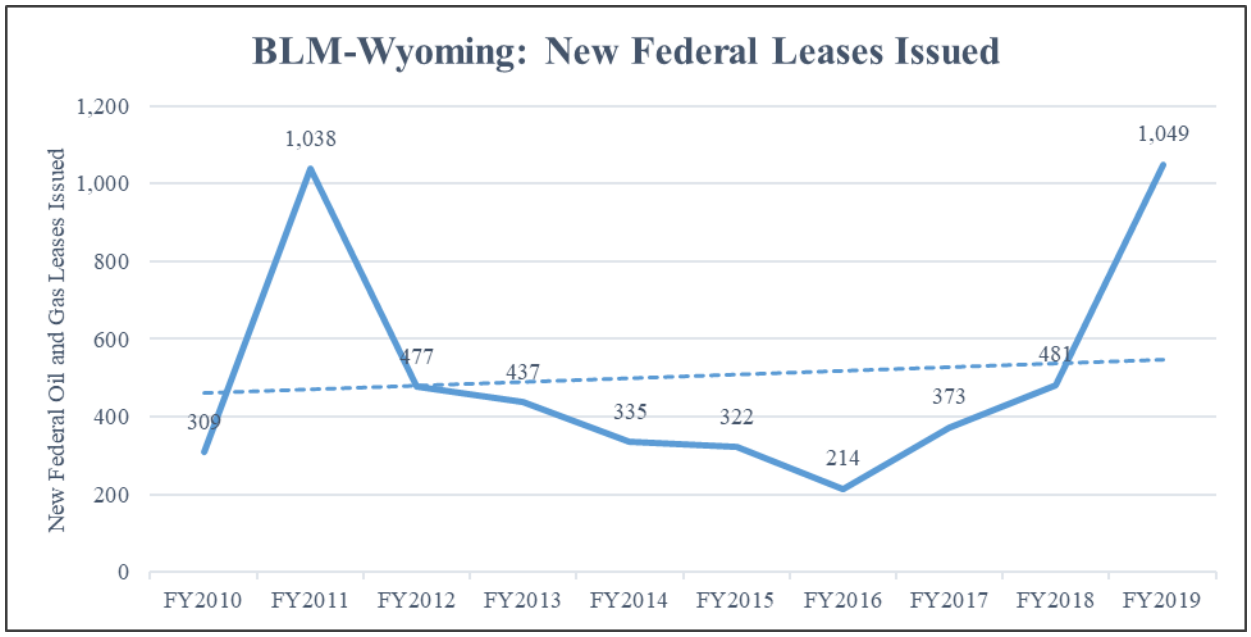
Current Leasing and Drilling Activity

At the end of FY2019, BLM Wyoming had 13,296 federal oil and gas leases in effect, covering approximately 8.9 million acres. Of this total, 4.1 million acres were in production, or 46% of the total. Over the last ten years, based on BLM Public Land Statistics[7], on average 40% of Federal leases are in producing[8] status.

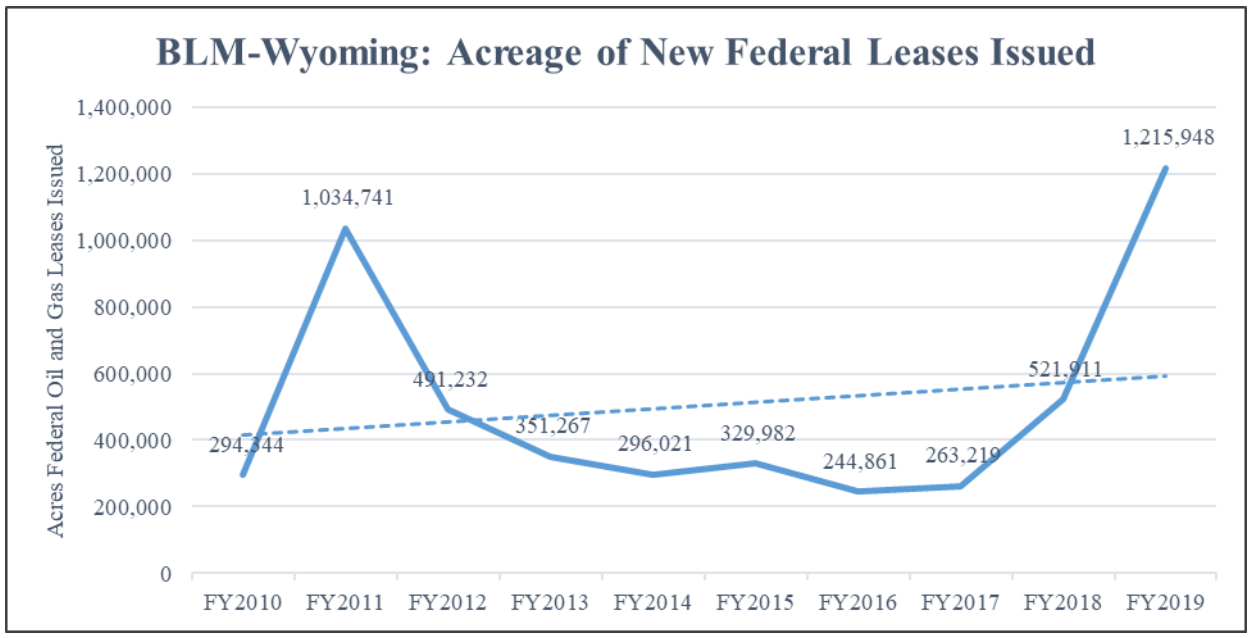
From FY2010-FY2019, BLM-Wyoming issued an average of 504 leases per year. The average annual acreage leased was 504,353 acres. Since FY2010, BLM-Wyoming has leased 5.0 million acres and issued 5,035 new leases.

[4] 2015 Buffalo RMP FEIS; Appendix G.
[5] 2015 Bighorn Basin FEIS at 4-107.
[6] 2015 Greater Sage-Grouse Approved RMP Amendment (GRSG ARMPA) FEIS at 4-8.
[7] https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/oil-and-gas-statistics
[8] Production could be actual or allocated; allocated production means the lease is sharing in production from another lease, such as through a unit or communitization agreement. Actual production means that a well is producing directly from the Federal lease.

BLM-Wyoming New Federal Leases Issued FY2010-FY2019



BLM-Wyoming Total Acreage of New Federal Leases FY2010-FY2019



Similarly, from 2010 through 2019, an average of 650 wells were completed annually statewide. The total number of wells per year, per field office, can vary as economic conditions fluctuate and as new fields and drilling technologies are explored.

Table: BLM Wyoming Federal Well Activity (FY2010-FY2019)[9]

BLM Wyoming Well Activity: 10/1/2009 - 9/30/2019					
Planning Document	**Field Office**	**Total Approved Applications for Permit to Drill†**	**Total # Wells Started‡**	**Total # Wells Completed for Production‡**	**Average Well Completions/year**
GRSG ARMPA (2015)	RSFO	231	199	194	19.4
	KFO	61	33	31	3.1
	PFO	3,035	2,885	2,946	294.6
	RFO	612	451	449	44.9
	CFO	2,035	978	703	70.3
	NFO	243	201	172	17.2
Buffalo RMP	BFO	1,558	1,576	1,836	183.6
Lander RMP	LFO	160	125	99	9.9
Bighorn Basin RMP	WFO & CYFO	117	99	71	7.1
10-yr. Averages	**Statewide**	805.2	654.7	650.1	

† BLM's Automated Fluid Minerals Support System, or AFMSS (APDs Approved in Period, Report APD.14; excluding wells on state/fee leases)
‡ AFMSS (Well Activities Report, Report SNT.50; excluding wells on state/fee leases)

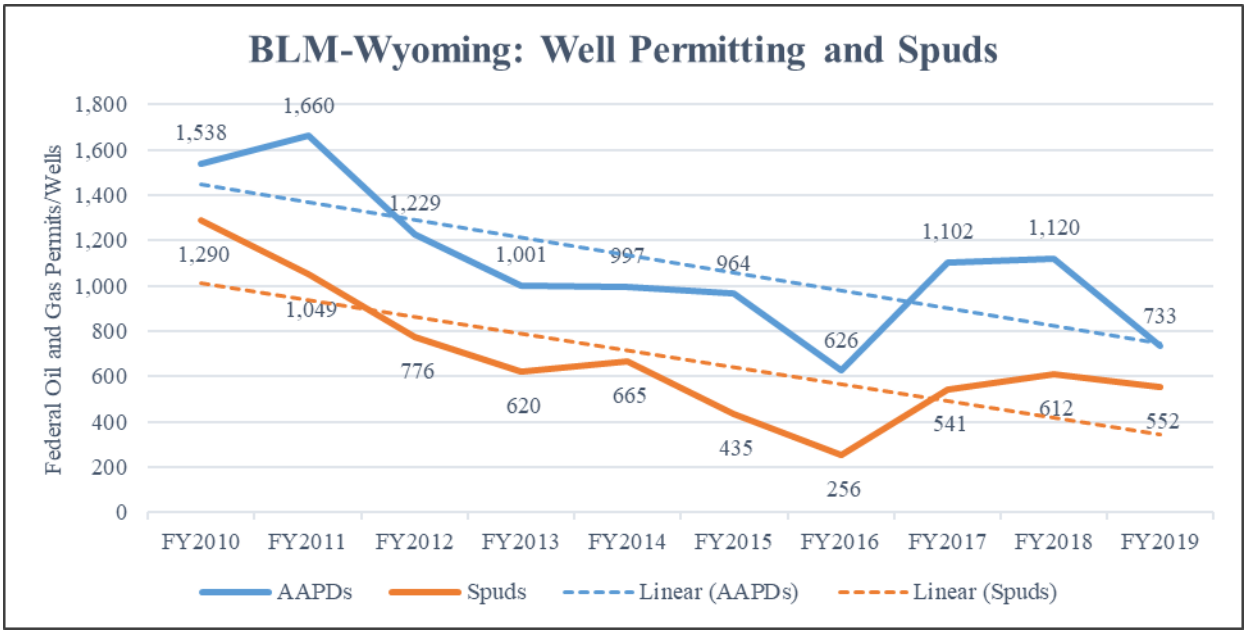
Based on the average wells per year projected under the planning area RFDs, well completion rates are below the current RFD projections (which equals 998 wells per year).

The number of usable completions in the BFO has decreased over time as the CBNG play has declined, while new horizontal drilling rates have increased in the CFO, in the southern portion of the BFO, and in certain areas of the RFO and PFO. The majority of new horizontal wells produce from multiple mineral estates (private, state, and Federal) due to the long reach of the wellbores with current well drilling and completion techniques, and the correspondingly large reservoir drainage area.

Similarly, as shown in the figure below, new wells spud and the total number of Applications for Permit to Drill that were approved on Federal lands in Wyoming, has decreased over time and in FY2019 was 43% of the activity levels in FY2010. Over this same timeframe, about 62% of the approved Federal Applications for Permit to Drill were actually spud.

[9] https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/oil-and-gas-statistics

BLM-Wyoming Federal Approved Applications For Permit to Drill (AAPDs) and Federal Well Starts (Spuds)[10]



Based on the above information, the RFD provides a valid estimate of future well development including for Federal lands in Wyoming.

Statewide GHG Emission Levels

Outside of coal development, oil and gas development is the single largest contributor to total air pollutant emissions in Wyoming compared to other management activities. The Center for Climate Strategies (CCS) prepared the Wyoming Greenhouse Gas Inventory and Reference Case Projection 1990-2020 (Spring, 2007), for the Wyoming Department of Environmental Quality through an effort of the Western Regional Air Partnership. The CCS inventory report presents a draft GHG emissions inventory and forecast from 1990 to 2020 for all Federal and Non-Federal emission-generating activities in Wyoming. This report provides an initial comprehensive understanding of Wyoming's current and possible future CO_2e emissions. The information presented provides a starting point for estimating statewide emissions, as the initial estimates may be revised as improvements to data sources and assumptions are identified.

The CCS inventory report explains that all GHG-emission generating and consumptive activities in Wyoming accounted for approximately 56 MMT of gross CO_2e emissions in 2005, an amount equal to 0.8% of total U.S. gross GHG emissions. These emission estimates focus on activities in Wyoming and are consumption-based[11]; they exclude consumptive emissions associated with electricity that is consumed by users not in Wyoming. The report concludes that Wyoming's gross GHG emissions increased 25% from 1990 to 2005, while national emissions rose by only 16% from 1990 to 2004; annual sequestration (removal) of GHG emissions due to forestry and other land-uses in Wyoming is estimated at

[10] https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/oil-and-gas-statistics
[11] "The emissions inventory generally includes estimates of electricity generation and in-state consumption, transportation related consumption, manufacturing consumption, and specific to the oil and gas industry include production, processing, transmission, and distribution of fossil fuels and through the consumption of energy by the residential, commercial and industrial sectors of Wyoming economy."

36 MMT CO_2e in 2005. The increase in per capita emissions in Wyoming is mostly due to increased activity in the fossil fuel industry, while national per capita emissions have changed relatively little.

The analysis in the report indicates that Wyoming's per capita emission rate is more than four times greater than the national average of 25 MMT CO_2e/yr. This large difference between national and state per capita emissions occurs in most of the sectors, including: electricity, industrial, fossil fuel production, transportation, industrial process and agriculture. The reasons for the higher per capita intensity in Wyoming are varied, but include the state's strong fossil fuel production industry and other industries with high fossil fuel consumption intensity, large agriculture industry, large distances, and low population base. While the information in the CCS report is from 2005, no updates are available and the report remains the best available synthesis of potential and future GHG emissions in Wyoming.

The Wyoming CCS inventory report also explains that emissions from the fossil fuel sector grew 101% from 1990 to 2005, largely attributable to the tight sand gas play in Western Wyoming, and the CBNG boom that occurred in the Powder River Basin. The report projected that these emissions would increase by a further 10% between 2005 and 2020 (if economic incentives remain). The natural gas industry is the major contributor to both GHG emissions and emissions growth, with CH_4 emissions from coal mining are second in terms of overall contribution. A significant portion of the emissions attributed to the natural gas industry are due to vented gas from processing plants, many of which are used for injection in enhanced oil recovery operations.

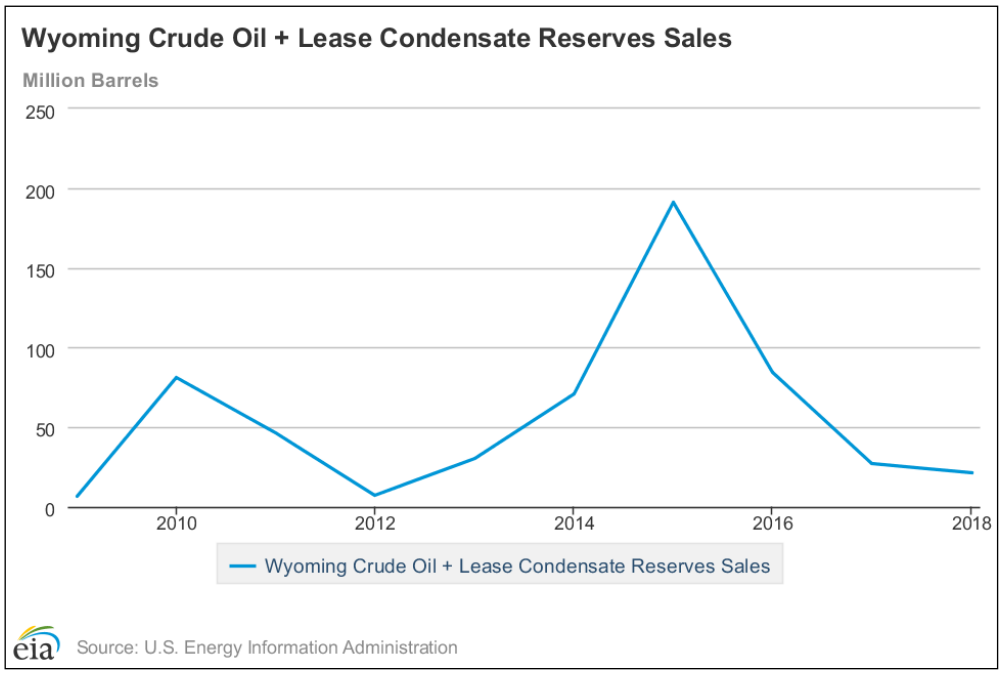
The U.S. Energy Information Administration (EIA) is one of the primary agencies in charge of producing energy outlook forecasts for the U.S. Government. Within its forecasts, the EIA includes Wyoming within the Rocky Mountain Region, which also includes Colorado, Utah, Idaho, Nevada, Arizona and portions of New Mexico. Wyoming also borders Montana, which is part of the Northern Great Plains Region; the Northern Great Plains Region also includes North and South Dakota. In discussing regional oil and gas trends, Wyoming's contribution to the oil and gas industry, and associated GHG emissions, they should be evaluated in the context of these two assessment areas. As discussed in the EIA's Assumptions to the Annual Energy Outlook: 2019: Oil and Gas Supply Module, total technically recoverable oil volumes in these two regions is 51.3 billion barrels (BBLS); the Rocky Mountain region is expected to contribute 24.9 BBLS and the Northern Great Plains region is expected to contribute 26.4 BBLS. Similarly for dry natural gas, these two regions are thought to contain a total of approximately 357.4 trillion cubic feet (tcf) of technically recoverable natural gas; of this total, the Rocky Mountain Region is estimated to contain 314.8 tcf and 42.6 tcf in the Northern Great Plains Region.

Specific to the State of Wyoming, the EIA estimates that current recoverable reserves, as of December 31, 2017, are 22,352 billion cubic feet of wet gas, and 1,119 million barrels of crude oil plus lease condensate.

The following figure shows total Wyoming Crude Oil plus Lease Condensate Reserves Sales from 2009 to 2018[12]:

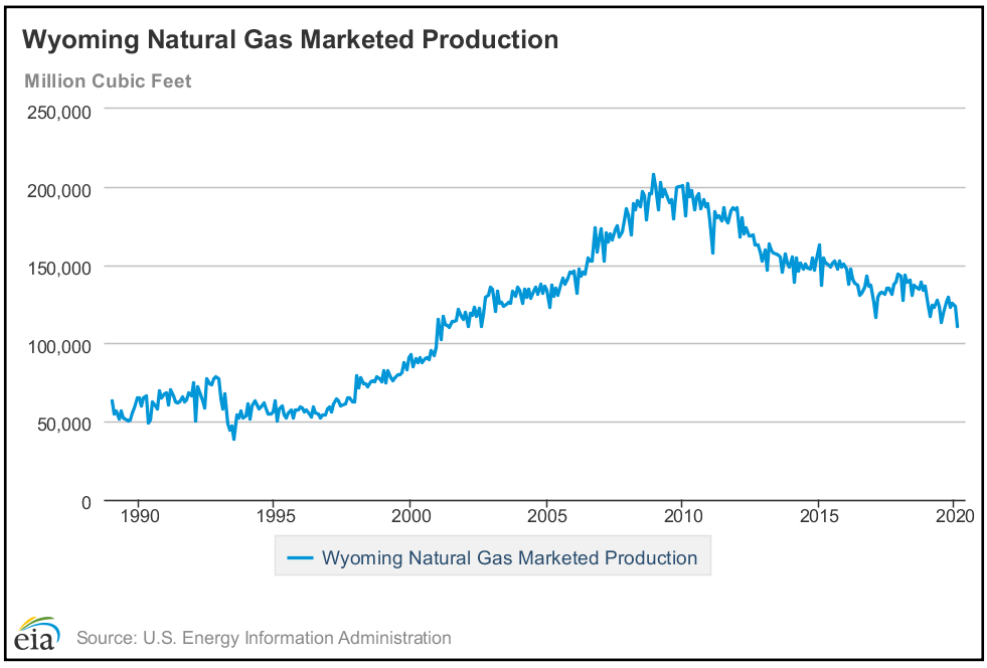
[12] https://www.eia.gov/dnav/ng/hist/res_epccond_r05_swy_mmbbla.htm (accessed 05/06/2020)

Total Wyoming Crude Oil plus Lease Condensate Reserves Sales From 2009 to 2018



Similarly, the following figure shows total marketed natural gas from 1989 to present[13]:

Total Wyoming Natural Gas Marketed Production 1989 to Present



[13] https://www.eia.gov/dnav/ng/hist/n9050wy2m.htm (accessed 05/06/2020)

GHG Emissions Statewide[14] and Nationwide on Federal Lands

In 2018, the U.S. Geological Survey (USGS) produced a Scientific Investigations Report (SIR) at the request of BLM: Federal Lands Greenhouse Gas Emissions and Sequestration in the United States—Estimates for 2005–14.[15] The USGS SIR presents gross GHG emission estimates for all Federal mineral estates in the U.S., and each of the states which contain Federal minerals, including those within the Rocky Mountain and Northern Great Plains regions. The USGS SIR reports the following:

> *The emissions estimates span a 10-year period (2005–2014) and are reported for 28 States and two offshore areas. Nationwide emissions from all fossil fuels produced on Federal lands in 2014 were 1,279.0 MMT (1,279,000,000 mt) of CO_2e for carbon dioxide (CO_2), 47.6 MMT CO_2e for methane (CH4), and 5.5 MMT CO_2e for nitrous oxide (N_2O). Compared to 2005, the 2014 totals represent decreases in emissions for all three greenhouse gases (decreases of 6.1 percent for CO_2, 10.5 percent for CH_4, and 20.3 percent for N_2O). Emissions from fossil fuels produced on Federal lands represent, on average, 23.7 percent of national emissions for CO_2, 7.3 percent for CH_4, and 1.5 percent for N_2O over the 10 years included in this estimate.*

The report also found that of the total nationwide CO_2 emissions estimate for Federal minerals (1,279.0 MMT), Federal lands in Wyoming contributed approximately 727.7 MMT (57%) in 2014. Compared to these nationwide Federal totals, in 2014 Wyoming's Federal direct emissions from petroleum and natural gas systems were 9.0890 MMT CO_2e,[16] and indirect emissions from stationary combustion activities totaled 75.1808 MMT.

From 2005 through 2014, 2008 had the highest CO_2e emissions in Wyoming from Federal fossil fuel development, when the total was 889.5 MMT. Overall, nationwide emissions from Federal lands decreased from 2005 levels in 2014: "The 2014 totals represent decreases in emissions for all three greenhouse gases compared to 2005 values, with reductions of 6.1 percent for CO_2, 10.5 percent for CH_4, and 20.3 percent for N_2O."

The SIR also reports the following:

> *In general, as of 2014, Wyoming, offshore Gulf, New Mexico, Louisiana, and Colorado had the highest CO_2 emissions from fuels produced on Federal lands…. The CO_2 emissions attributed to Federal lands in Wyoming are 57 percent of the total from Federal lands in all States and offshore areas combined. Emissions estimates for the release of CH_4 are also highest for Federal lands in Wyoming (28 percent), followed by New Mexico, offshore Gulf, Colorado, and Utah….*
>
> *Unsurprisingly, the trends and relative magnitudes of the emissions estimated are roughly parallel to the Federal lands production volumes (U.S. Energy Information Administration, 2015a). States that produced the most fuel from Federal lands are associated with the highest*

[14] As it relates to information presented in the USGS SIR, and the WOGCC calculations, the emissions are based on raw production information (rather than being produced from a well-emission factor through an air quality analysis which would have included specific BTU and therm information), they are generally presented in total CO_2 even though the EPA Equivalency Calculator will report them as CO_2e. All Proposed Action calculated indirect emission estimates presented in this EA were calculated using the EPA equaivalency calculator and are presented as CO_2e. Regional emission comparisons in Section 4.0 are also presented in CO_2e, even though they are reported as CO_2 in the USGS SIR, for consistencies sake.

[15] https://pubs.er.usgs.gov/publication/sir20185131 (accessed 8/08/2019)

[16] Petroleum and natural gas systems emissions are defined as (SIR at 22) "Emissions of greenhouse gases from ongoing extraction activities and product transportation in the petroleum and natural gas industries," and stationary combustion emissions are "greenhouse gases produced during the combustion of fossil fuels in all nontransportation sectors, including electricity generation, industrial feedstocks, and residential and commercial heating."

emissions for CO_2, CH_4, and N_2O. These relationships vary slightly relative to absolute production because different fuels require different extraction methods and fuel uses emit varying amounts of greenhouse gases.

While the USGS SIR reports that total emissions from all fossil fuel development on Federal lands in 2014 for Wyoming totaled approximately 727.7 MMT CO_2, it also notes that approximately 26.2 MMT of CO_2 is sequestered by natural resources, such that the net total CO_2 emissions from fossil fuel production in Wyoming is 701.5 MMT.

Using 2014 production information from the Wyoming Oil and Gas Commission[17] (WOGCC), BLM calculated that total estimated indirect CO_2e emissions from all (Federal, state, and private) oil and gas production in the state was approximately 141.0 MMT CO_2e where total oil production was 75,851,980 BBLs and natural gas production was 1,967,482,146 thousand cubic feet (Mcf).[18] This is approximately 11% of the total 1,279.0 MMT described in the USGS SIR, which includes not only oil and gas production but GHG emissions from other fossil fuels such as coal production. In 2018, also based on WOGCC production information for oil and gas production from all lands, total indirect CO_2e was 136.5 MMT (total oil production 86,639,046 BBLs, total natural gas production 1,800,638,867 Mcf).

National GHG Emissions

EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018[19] discusses total U.S. CO_2 emissions:

In 2018, total gross U.S. greenhouse gas emissions were 6,676.6 million metric tons of carbon dioxide equivalent (MMT CO2 Eq).[11] Total U.S. emissions have increased by 3.7 percent from 1990 to 2018, down from a high of 15.2 percent above 1990 levels in 2007. Emissions increased from 2017 to 2018 by 2.9 percent (188.4 MMT CO_2 Eq.). Net emissions (including sinks) were 5,903 MMT CO_2 Eq. Overall, net emissions increased 3.1 percent from 2017 to 2018 and decreased 10.2 percent from 2005 levels as shown in Table ES-2. The decline reflects many long-term trends, including population, economic growth, energy market trends, technological changes including energy efficiency, and energy fuel choices. Between 2017 and 2018, the increase in total greenhouse gas emissions was largely driven by an increase in CO_2 emissions from fossil fuel combustion. The increase in CO_2 emissions from fossil fuel combustion was a result of multiple factors, including increased energy use from greater heating and cooling needs due to a colder winter and hotter summer in 2018 compared to 2017.

The information presented by the EPA Inventory coincides well with information contained in a report prepared by the International Energy Agency, Global Energy and CO_2 Status (March, 2019),[20] which found:

[I]*n 2015, natural gas emissions surpassed coal emissions, and the Annual Energy Outlook 2019 (AEO2019) Reference case projects that natural gas CO_2 emissions will continue increasing as natural gas use increases. The U.S. electric power sector—now the largest consuming sector for natural gas—has added generating capacity from natural gas in recent years and has used those power plants more often. Natural gas surpassed coal to become the most prevalent fuel used to generate electricity in the United States in 2016.*

[17] http://pipeline.wyo.gov/StatsForState.cfm?oops=ID96179

[18] Volumes converted to CO_2e using EPA greenhouse gas calculator.

[19] https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2018 (accessed 05/07/2020)

[20] https://www.eia.gov/todayinenergy/detail.php?id=38773 (accessed 04/01/2019)

Other sectors have also increased their consumption of natural gas. By the mid-2020s, EIA projects that the industrial sector will again become the largest consumer of natural gas, using natural gas as a feedstock in chemical industries, as lease and plant fuel, for industrial heat and power applications, and for liquefied natural gas production. The residential and commercial sectors are also expected to continue using more natural gas. For instance, EIA projects that natural gas furnaces and boilers will be used in 55% of U.S. homes in 2050, an increase from their 49% share in 2018.

Coal CO_2 emissions in the United States are almost all from the electric power sector. Only about 10% of coal CO_2 emissions came from the industrial sector in 2018, and this percentage is expected to remain the same through 2050. Although the AEO2019 Reference case projects that nearly one-third of the existing coal-fired electricity generating capacity retires within the next decade, the surviving fleet is used more often, meaning coal's projected decline in electricity generation is less than the capacity retirements would suggest.

3.4 Geology and Mineral Resources

As described in Section 2, several of the parcels overlap with existing mining leases, claims, or operations. To the extent necessary to conform to RMP decisions designed to avoid potential multiple mineral development conflicts, parcels or portions of parcels have been deferred from the sale.

3.4.1 Master Leasing Plans (MLPs)

During RMP revisions for the WRBBD, Master Leasing Plan (MLP) analysis was conducted as a tool to facilitate resource protection while allowing for oil and gas development.

The WRBBD's RMP analysis resulted in MLP decisions for each field office, including the CYFO and WFO. The MLPs place additional stipulations on oil and gas-related surface disturbances in the analysis areas for the protection of big game, recreation, geologic features, and Limited Reclamation Potential (LRP) soils. Parcels offered for sale are subject to those stipulations for the protection of big game, vegetation, recreation, geologic features, LRP soils, cultural and visual resources, and standard Lease Notice 1.

3.4.2 Designated Development Areas (DDAs) or Oil and Gas Management Areas

The LFO's approved RMP designated three Designated Development Areas (DDA) incorporated in lands with moderate to high oil and gas potential. Potential for future mineral development in the DDA is limited to areas which do not conflict with important cultural resources, viewshed, or greater sage-grouse habitat. These areas may have stipulations applied that are specific to the DDA. A total of five parcels in the LFO intersect DDAs:

Table: DDA Parcels

Office	Parcel Number	Acres Inside DDA
LFO	WY-2020-09-0577	1,792.880
LFO	WY-2020-09-0552	1,653.990
LFO	WY-2020-09-0583	2,222.920
LFO	WY-2020-09-0560	1,269.600
LFO	WY-2020-09-6891	960.000
	Total Acres	7,899.390

3.5 Soils

Soils within Wyoming are generally considered to be highly erodible from both wind and water action regardless of slope with the exception of depositional soils. Soils in Wyoming are especially dependent on vegetative cover to prevent erosion; ground cover and root systems anchor the soil, recycle nutrients, and add scarce organic matter.

Please refer to the RMP FEISs for a more detailed description of the soil resources in the planning areas.

3.6 Solid and Hazardous Wastes

Should a parcel be leased and developed, generation and temporary storage of waste materials (solid and liquid) would likely occur. Waste materials would be managed in accordance with Onshore Oil and Gas Order Nos. 1 & 7, the Resource Conservation and Recovery Act (RCRA), applicable WDEQ regulations, and Wyoming Oil and Gas Conservation Commission (WOGCC) rules. Fluid handling would be evaluated at the development stage and fluids associated with any subsequent drilling, completions and/or production would either be treated, evaporated, or transferred to a WDEQ-authorized commercial treatment, storage, or disposal facility; solids would be treated on site or transferred to a WDEQ-authorized facility.

3.7 Water Resources

Surface water hydrology within the area is typically influenced by geology, soil characteristics, precipitation and vegetation. Anthropogenic factors that currently affect surface water resources include livestock grazing management, private, commercial and industrial development, recreational use, drought, and vegetation control treatments.

Groundwater hydrology within the area is influenced by geology and recharge rates. Groundwater quality and quantity can be influenced by precipitation, water supply wells and various disposal activities. Groundwater quality across the applicable field offices varies with depth from potable waters with low total dissolved solids (TDS) to highly saline, non-potable sources. Most of the groundwater in Wyoming is used for industrial, domestic and livestock/irrigation purposes. The information contained in Attachment 5.6, Hydraulic Fracturing White Paper (see section entitled *Operational Issues/Water Availability and Consumption Estimates*) is incorporated by reference.

CYFO parcel -0652 is within areas of known alluvial aquifers and surface water used for domestic water supplies and/or encompass areas with existing domestic water wells; a stipulation based on management decision 1042 has been applied to the parcel.

The WFO identified a municipal water well within ¼ mile of parcel -0606; a stipulation based on management decision 1042 has been applied to the parcel.

The CYFO's and WFO's approved RMPs include Record Number 1042, for the protection of public water supply areas:

> *Avoid activities that could negatively affect water resources within a ¼-mile area around public water supply wells, and an area including ¼ mile on both sides of a river or stream for 10 miles upstream of the public water supply intake, within the watershed. For lakes and reservoirs, this would include a ¼-mile area around the waterbody. For unavoidable activities in these areas, site-specific mitigation will be included to minimize risk of adverse impacts.*

The WFO and LFO identified 30 parcels for application of stipulations for riparian, wetlands, and/or playas (see Attachment 5.1, and RMP decisions WFO-4035 and LFO-4031). The WFO parcels are within Master Leasing Plan areas. The LFO parcels are within a Designated Development Area. The WFO also identified existing water wells within the parcel boundaries; no additional specific stipulation is applied for non-consumption water wells.

Parcels offered for lease sale are subject to the stipulations as applied to the parcels, for the protection of perennial surface waters, riparian-wetland areas, and playas, and Standard Lease Notice 1.

3.8 Vegetation

Please refer to the approved RMP FEISs for a more detailed description of the vegetation resources in the planning areas, including for sensitive or Threatened and/or Endangered plant species.

Infestations of noxious weeds can have a negative impact on biodiversity and natural ecosystems. Noxious weeds affect native plant species by out-competing native vegetation for light, water and soil nutrients. Locally, regionally, and nationally noxious weeds infestations cause decreased quality of agricultural products due to high levels of competition from noxious weeds; decreased quantity of agricultural products due to noxious weed infestations; and increased costs to control and/or prevent the noxious weeds.

3.9 Livestock Grazing/Wild Horses

The proposed parcels are, in many cases, used for livestock grazing as they are located in primarily rural areas with large blocks of federal public domain lands. The proposed parcels could contain range improvement structures such as reservoirs, water wells, and fences.

Several of the parcels are also located within BLM wild horse Herd Management Areas (HMAs), including 12 parcels located in the Fifteenmile HMA (see Attachment 5.1, which includes stipulations in accordance with the WFO's approved RMP to protect the Fifteenmile HMA wildhorse foaling season). See: https://www.blm.gov/programs/wild-horse-and-burro/herd-management/herd-management-areas/wyoming and the applicable RMPs.

3.10 Wildlife, Fish, and Special Status Species (Plants and Animals)

3.10.1 Special Status Species

Parcels proposed for lease may contain habitat for sensitive species.

Section 7 of the Endangered Species Act (ESA) of 1973, as amended, requires that the BLM ensure that any action authorized, funded, or carried out by the BLM is not likely to jeopardize the continued existence of any federally designated Threatened or Endangered (T&E) species.
The BLM Special Status Species Policy outlined in BLM Manual 6840 and BLM-Wyoming IM WY-2010-027 ("Update of the Bureau of Land Management, Wyoming, Sensitive Species List – 2010"), is to conserve listed species and the ecosystems on which they depend, while ensuring that actions authorized or carried out by the BLM are consistent with the conservation needs of special status species and minimize the likelihood and need for federal listing under the ESA.

By BLM policy, the BLM will conference with the FWS on species proposed for federal listing where the BLM determines its actions may affect listed or candidate species. Section 7 consultation with the FWS is normally completed at the time the RMPs are revised or amended, and when determined necessary for site-specific authorizations.

The BLM is responsible for managing BLM-designated sensitive plant species on public lands (see http://www.blm.gov/wy/st/en/programs/pcp/species/sensitive.html).

3.10.2 Greater Sage-Grouse

Conservation of the Greater sage-grouse (*Centrocercus urophasianus*) and their habitats has been a critical land-management issue for the BLM, the public, and the BLM's partner agencies across the West.

Sage-grouse currently occupy approximately about one-half of their historic distribution. On October 2, 2015, the U.S. Fish and Wildlife Service (FWS) published its finding that listing of sage-grouse under the Endangered Species Act of 1973 was not warranted. The FWS's finding was based, in part, on the conservation strategies developed in Wyoming and other states which led the FWS to conclude that "the primary threats to greater sage-grouse have been ameliorated by conservation efforts implemented by Federal, State, and private landowners." (80 FR 59858). As the FWS also acknowledged (*id.* at page 59882):

> *The key component of the Wyoming Plan is the application of State regulatory measures associated with the Wyoming Plan on all lands in Wyoming… The Federal Plans in the State incorporate the Wyoming strategy,*[21] *thereby ensuring implementation of the strategy on Federal land surfaces and subsurface regardless of the need for a State permit (see further discussion below). The completion of the Federal plans also facilitates greater coordination between the State and Federal agencies in implementing and monitoring the Wyoming Plan. This addition to the Wyoming Plan further increases the value of this effort in conserving sage-grouse by covering all lands in the State with a single regulatory framework to reduce affects to sage-grouse in the most important habitats in the State. Therefore, the strategy conserves sage-grouse through an effective regulatory mechanism for conservation.*

For BLM-administered public lands in Wyoming, the BLM adopted the State's sage-grouse conservation strategy by revising and amending its RMPs. The State of Wyoming's Core Area Protection strategy for sage-grouse "is based on the identification of important habitat areas for Greater sage-grouse and a set of actions that when taken are intended to ensure the long-term survival of Greater sage-grouse populations in Wyoming." (State of Wyoming Governor's Executive Order 2015-4, at Attachment A, page 5). The important habitat areas referred to in Executive Order (EO) 2015-4 are the Core Population Areas (CPAs) designed by the State of Wyoming's Sage-Grouse Implementation Team (SGIT). These CPAs encompass approximately 83% of the sage-grouse population within the State (see 80 FR 59882) as identified by peak male lek attendance, and were mapped by the SGIT to:[22]

> *...assimilate*[] *the highest sage-grouse density areas identified* [in published conservation studies] *as they were identified as the most productive habitats for sage-grouse in Wyoming. In addition,*

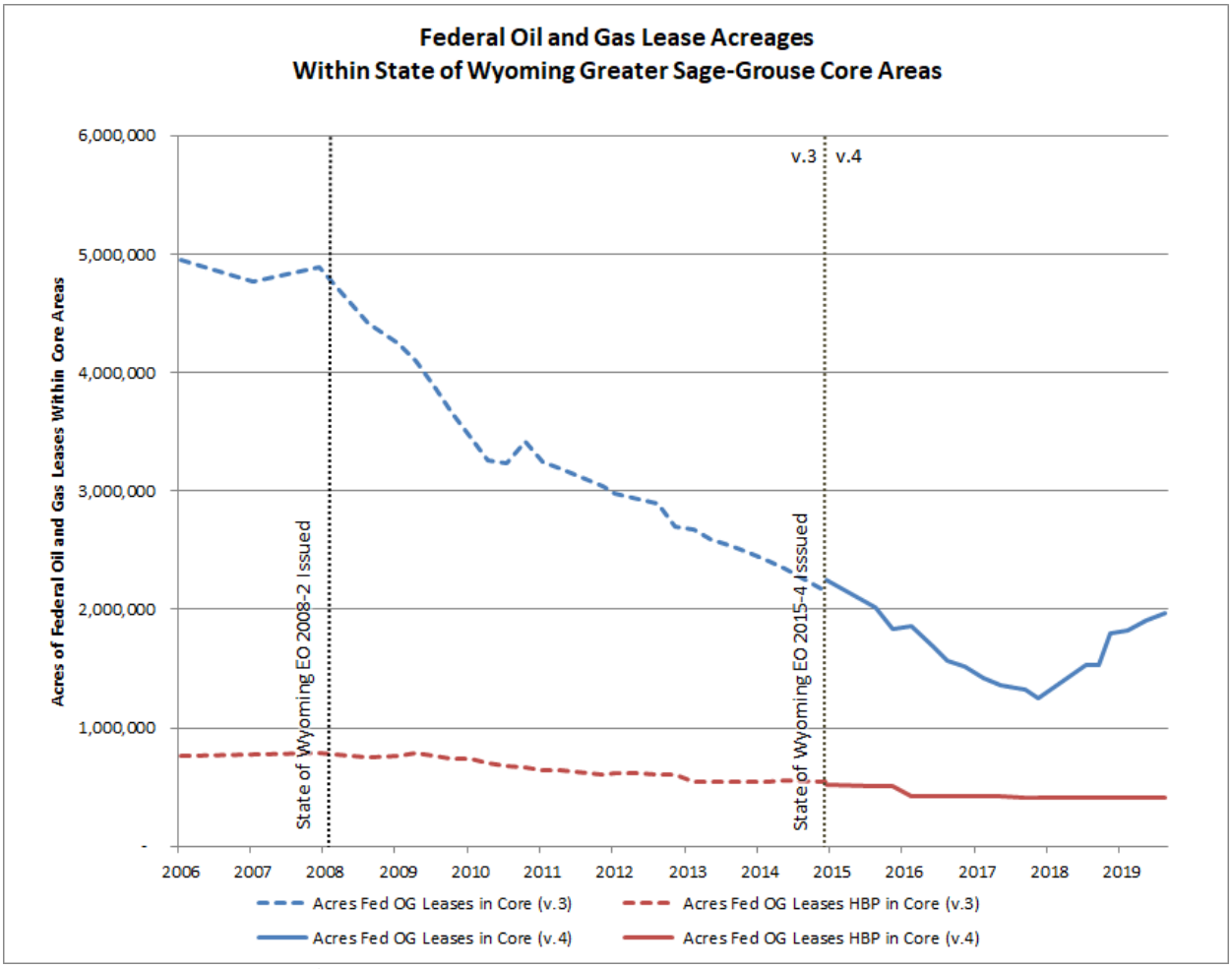
[21] On August 1, 2008, the Wyoming Governor issued Executive Order 2008-2, establishing a "core population area strategy" for sage-grouse in Wyoming. This Executive Order has since been re-issued (June 2, 2011 as EO 2011-5 and, most recently, on July 29, 2015 as EO 2015-4). The BLM and State of Wyoming use identical core population area boundaries; see https://eplanning.blm.gov/epl-front-office/projects/lup/36597/130805/159604/RMP_Maint_2017-001_Sage-Grouse_Core_V4.pdf

[22] Gamo, R.S., and Beck, J.L., 2017, Effectiveness of Wyoming's sage-grouse core areas: Influences on energy development and male lek attendance: Environmental Management, v. 59, no. 2, p. 189-203.

the mapping of Core Areas considered current and potential energy development and encapsulated areas historically low in production [citation omitted]…

Recent scientific publications[23] indicate that though strategies such as this "may be successful at limiting sage-grouse range-wide population declines, if implemented, [] the conservation measures are not expected to reverse the declines, particularly where active oil and gas operations are present."

Since the BLM, State of Wyoming, and other partners began development and implementation of the current sage-grouse conservation strategy in 2008, there has been a 60% reduction in the area of Federal oil and gas leases in Core Population Areas. Similarly, there has been a 48% reduction in the area of Federal oil and gas leases that are Held by Production (HBP) within Core Population Areas:



Data source: BLM GIS Data as of January 2020

Maps displaying the location of existing Federal oil and gas leases and the proposed oil and gas lease sale parcels in relation to Greater sage-grouse designated habitat management areas are provided in Attachment 5.4.

[23] Hanser, et al., 2018, Greater sage-grouse science (2015–17)—Synthesis and potential management implications: U.S. Geological Survey Open-File Report 2018–1017, 46 p., https://doi.org/10.3133/ofr20181017 at pages 2, 14.

The WGFD's 2017 Sage-Grouse Job Completion Report (JCR)[24] describes recent Greater sage-grouse population trends (at pages 6-7):

> *From 2013-2016, average lek size increased 112%. In 2017, average lek size declined 11%, then declined another 18% in 2018 to nearly equal the 10-year (2008-2017) average of 25.9 males/active lek. Thus, there has been a long-term decline and short-term cyclic increases and decreases in the statewide sage-grouse population. The short-term trends in statewide populations are believed to be largely weather related….*
>
> *For the 10-year period (2009-2018), average male lek attendance ranged from 16.8 males/lek in 2013, the lowest average males per lek since 1997, to a high of 35.6 males/lek in 2016….*
>
> *The proportion of active, occupied leks remained stable at 82% in 2016, 80% in 2017, and 79% in 2018.*

3.10.3 Mule Deer Vital Habitats

Mule Deer Herd Units

The distribution and abundance of big game in the lease sale area are primarily a function of habitat quality and quantity, the availability of water, climate/weather, and the ability for big game to move, or migrate between seasonal habitats.

The WGFD manages big game populations in herd units. The WGFD revises its population objectives for each big game species based on new habitat information, population trends, recreation demand, and public input. The WGFD manages big game populations on behalf of the State of Wyoming, and the BLM coordinates with the WGFD where big game habitats are located on BLM-administered Map6public lands.

3.10.3.1 Mule Deer Vital Habitats

The health of big game populations may be generally inferred from population objectives set by the WGFD. Based on WGFD's monitoring (provided in their 2018 Job Completion Reports, or JCRs; the most recent JCRs available at the time of EA preparation), the populations of mule deer located in the five herd units where proposed 2020Q3 lease sale parcels intersect vital habitats (Crucial Winter Range, Crucial Winter/Yearlong Range, and/or designated migration corridors) have been below objective for several years:

WGFD Herd Unit	WGFD Population Objective (2018)	WGFD Population Estimate (2018)	Percent ± Objective
Baggs	9,000	7,013	-22%
Sublette	32,000	19,838	-38%
Southwest Bighorns	16,000	11,205	-30%
Basin	3,600	3,130	-13%
Platte Valley	16,000	10,866	-32%

[24] https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2017-18_SG_JCR_Complete.pdf (accessed 05/06/2020)

In most cases, these mule deer herd units have not been meeting population objectives for several years. For more information, please refer to the applicable RMP FEISs and the WGFD's JCRs.[25]

3.10.3.2 Mule Deer Migration Corridors

During initial coordination with the Wyoming Game and Fish Department (WGFD), the WGFD recommended that the BLM add a Special Lease Notice to parcels located in designated[26] mule deer migration corridors (see Attachment 5.1), to ensure prospective lessees or their operators are aware of the WGFD's current policies for management of oil and gas development within wildlife habitats, including big game migration corridors:

> *Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.*

This approach is consistent with the direction from the State of Wyoming Governor's Executive Order (EO) No. 2020-01.[27] The EO notes (at page 8) "Federal leases, permits, rights of way, or other authorizations issued after designation of any corridor by the Governor should be issued to conform with the provisions of this Executive Order. State executive branch agencies [such as the WGFD] will coordinate and cooperate with federal agencies and comment on federal agency actions in a manner that is consistent with this Executive Order." The BLM has received the recommendations of the WGFD, and will adopt them by offering the leases with the special lease notice.

As discussed in the WGFD's Ungulate Migration Corridor Strategy (February 4, 2016) at page 3:

> *Sawyer and Kauffman (2011) found that approximately 95% of the migratory period is spent foraging at stopover areas. Habitat quality is higher in stopover habitat than in the area between stopover sites. In this study, deer used the same stopover areas between years during all migratory periods. Avoidance of disturbance on and around stopover areas was important to migrating ungulates while disturbance in the areas between stopover areas was tolerated.*
>
> *Lendrum et al. (2012) and Sawyer et al. (2013) found that given an increase in disturbance, ungulates may modify the timing of migration, constrict the size of the area used for migration and move through areas of increased development faster. Changing the timing of migration or moving from one seasonal range to another faster (e.g. winter range to summer range) results in the loss of synchronization between plant green-up and ungulate movements thereby reducing energy intake (Sawyer and Kauffman 2011). Both Lendrum et al. (2012) and Sawyer et al. (2013) found correlations between disturbance levels and measurable changes in animal response as indicated by their movement rate and locations. Sawyer et al. (2013) found ungulates moved*

[25] Available at: https://wgfd.wyo.gov/Hunting/Job-Completion-Reports (accessed 05/06/2020)
[26] See WGFD's "Ungulate Migration Corridor Strategy" (February 4, 2016, Revised January 28, 2019), available at: https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/Habitat%20Information/Ungulate-Migration-Corridor-Strategy_Final_012819.pdf
[27] Signed on February 13, 2020. Available at: https://governor.wyo.gov/state-government/executive-orders

through disturbed areas faster, detoured around disturbance, and reduced their use of stopover areas, thus constricting their migration both temporally and spatially. Importantly, both studies recommended keeping the standard for allowable disturbance within migration corridors below the level of detected impact.

This same document (at page 4) also noted:

It is also important to understand that migratory behavior can be lost (Bolget et al. 2008, Harris et al. 2009) and loss of the ability to migrate has led to sudden and dramatic declines in animal populations (Bolger et al. 2008). Migration is a learned behavior that may be difficult to reestablish once lost or diminished (Sawyer et al. 2013).

Acting under this strategy, the WGFD has developed procedures for designating these migration corridors and stopover areas. As the result of these procedures, the first mule deer migration corridor designated was the Red Desert to Hoback (RD2H). The RD2H corridor is the longest mule deer migration route ever recorded in the lower 48 states. The WGFD has since also designated mule deer migration corridors for the Platte Valley and Baggs herd units.

New research data have also been produced as a result of the WGFD's efforts. This research has provided a finer level of understanding of where migrating mule deer spend the most time during migration (stopovers), and where barriers or bottlenecks that constrict movement along the corridor are located. Other research has suggested that that the vegetation within the corridors may be extensively used as forage by the herd as they migrate between winter and summer habitats , twice a year.

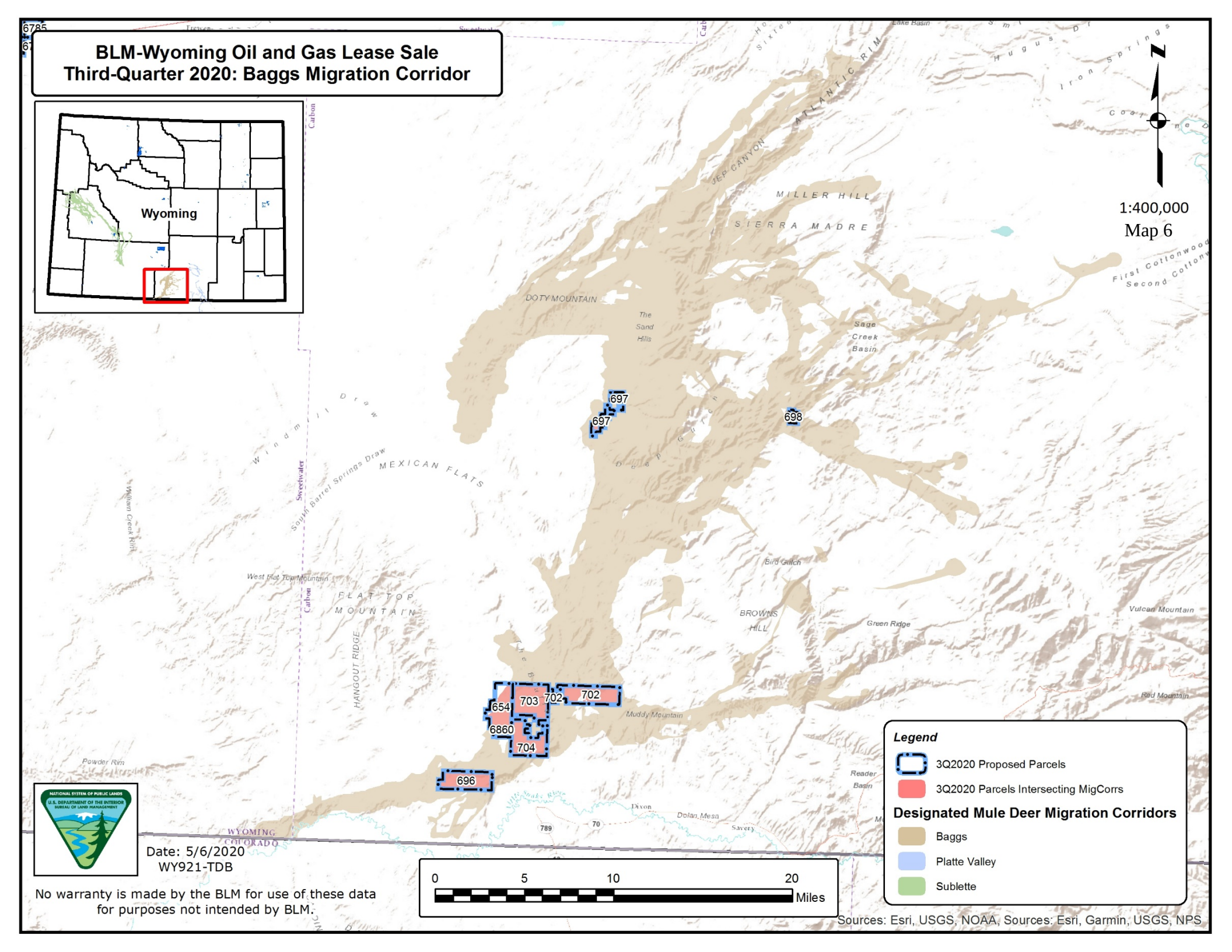
Other new research suggests that migratory behavior must be learned. The loss of corridor function is known to cause a migratory population to forget their migratory behavior under the most extreme of circumstances, including knowledge of where the main route is in the landscape.

The WGFD is collecting mule deer movement data in other priority areas, and is currently working with stakeholders and agency personnel to identify related research and proactive conservation actions to protect habitats in the mule deer herd units as well as for other big game species, including pronghorn antelope and elk.

Seventeen parcels in the 3Q2020 lease sale are proposed within a State of Wyoming-designated migration corridor (see Maps 6-8).

BLM-Wyoming Oil and Gas Lease Sale
Third-Quarter 2020: Baggs Migration Corridor

1:400,000
Map 6



Legend

- 3Q2020 Proposed Parcels
- 3Q2020 Parcels Intersecting MigCorrs

Designated Mule Deer Migration Corridors

- Baggs
- Platte Valley
- Sublette

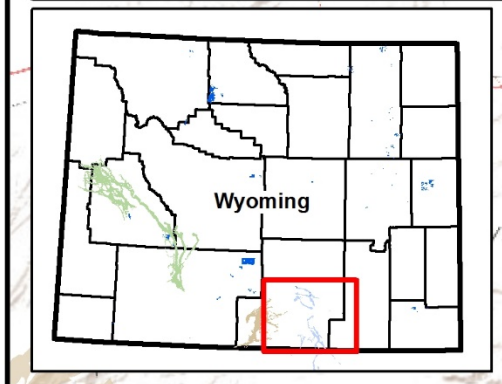
0 5 10 20 Miles

Date: 5/6/2020
WY921-TDB

No warranty is made by the BLM for use of these data for purposes not intended by BLM.

Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

BLM-Wyoming Oil and Gas Lease Sale
Third-Quarter 2020: Platte Valley Migration Corridor



1:500,000
Map 7

Spade Flats
Home Falts
Simpson Ridge
Sheephead Mountain
Elk Mountain
Sand Basin
Lake Creek Flats
Upper Foote Creek Flats
Foote Creek Rim
Miller Hill
SIERRA MADRE
MEDICINE BOW
Carbon
Albany
Centennial Valley
Sheep Mountain
Beaver Creek Hills
PARK RANGE
LARAMI

Date: 5/6/2020
WY921-TDB

No warranty is made by the BLM for use of these data for purposes not intended by BLM.

0 5 10 20 Miles

Legend

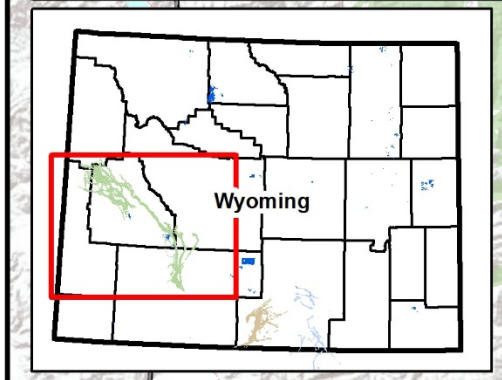
- 3Q2020 Proposed Parcels
- 3Q2020 Parcels Intersecting MigCorrs

Designated Mule Deer Migration Corridors

- Baggs
- Platte Valley
- Sublette

Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

BLM-Wyoming Oil and Gas Lease Sale
Third-Quarter 2020: Sublette Migration Corridor



1:1,000,000
Map 8

653
655
6784
6784
712
539
695
711
708

Legend

- 3Q2020 Proposed Parcels
- 3Q2020 Parcels Intersecting MigCorrs

Designated Mule Deer Migration Corridors

- Baggs
- Platte Valley
- Sublette

0 5 10 20 30 40 50 Miles

Date: 5/6/2020
WY921-TDB

No warranty is made by the BLM for use of these data for purposes not intended by BLM.

Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

3.11 Cultural and Heritage Resources, Including Paleontology, Traditional Cultural Properties, and Historic Trails

All parcels addressed in this EA have the potential to contain surface and buried archaeological materials, or may be located in an area which could affect the setting of historic sites and Traditional Cultural Properties (TCPs). Once the decision is made by the lessee to develop a lease, an area-specific cultural records review would be completed to determine if there is a need for a cultural inventory of the areas of proposed surface disturbance. Generally, a cultural inventory will be required before new surface disturbance and all historic and archaeological sites that are eligible for listing in the National Register of Historic Places would be either avoided by the undertaking, have adverse effects to sites minimized or mitigated, or have the information in the sites extracted through archaeological data recovery.

Parcels proposed for this sale are located near National Historic Trails (NHTs) or other historic trails; the BLM's RMPs provide for additional discussion about trails, including for those listed on the National Register of Historic Places (NRHP).

WFO parcels -6888, -0597, -0606, -6820, -6824, and -6828 were evaluated and found to contain non-contributing sections of the Bridger Trail; therefore, no stipulation was applied.

A number of the proposed parcels, including all of the Forest Service-administered parcels, has been identified as having potential for paleontological resources.

Other parcels addressed in the EA also have a potential to contain vertebrate and non-vertebrate fossils. Where appropriate, applicable lease stipulations have been added to address potential paleontological resources. Post-lease development proposals would be evaluated on a case-by-case basis to determine if paleontological surveys would be required prior to surface disturbance.

3.12 Recreation

Recreational use of public lands and the surrounding areas is typically for hunting, fishing, camping, sightseeing, off-highway vehicle use, and other recreational activities. Tourism is one of Wyoming's largest industries, and much of the state's tourism is attributable to the outdoor recreation supported by the state's open and scenic spaces. Wildlife in Wyoming is associated with a significant amount of the recreational opportunities enjoyed across the state. According to the 2011 National Survey of Fishing, Hunting, and Wildlife-associated Recreation, more than 443,000 people participated in fishing and hunting, and an additional 518,000 people participated in some other form of wildlife watching in Wyoming in 2011 (USFWS 2011).

Some of the public lands proposed for lease are within or near Special Recreation Management Areas (SRMAs) or Dispersed Recreation Use Areas (DRUAs); refer to the applicable RMP FEISs for additional information on these lands, their resources and uses, and BLM management of activities within these areas.

BLM-administered public lands in Wyoming provide habitat for wildlife and support a wide range of wildlife and non-wildlife related recreational experiences. According to the 2015 Department of Interior report, recreational use of BLM administered lands by state residents and out of state visitors was estimated to support nearly $173 million in economic activity across the state, and directly and indirectly (including induced) support 1,675 jobs and $52.3 million in labor income for Wyoming residents. Though lands nominated for leasing in this upcoming sale support only a small fraction of the recreational opportunities supported by BLM administered lands across the state, recreation-related visits in these

areas contribute to the quality of life of Wyoming residents, stimulate economic activity, and support employment opportunities.

3.13 Visual Resource Management (VRM)

The BLM Visual Resource Management (VRM) Class objectives are as follows:

- Class I: to preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.
- Class II: to retain the existing landscape character and the level of change to the characteristic landscape should be low. Management activities should not attract the attention of the casual observer. Changes would be required to repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. Modifications to a proposal would be required if the proposed change cannot be adequately mitigated to retain the character of the landscape.
- Class III: to partially retain existing landscape character. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate a casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
- Class IV: to provide for management activities which require major modification of the existing landscape character. Every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements.

Where applicable, VRM lease stipulations are applied to the proposed parcels in conformance with the approved RMPs.

3.14 Socioeconomics, Environmental Justice, and Public Health and Safety

3.14.1 Socioeconomics

Please refer to the applicable RMP FEISs for additional discussion on socioeconomics within the project area.

The counties within which the proposed parcels are located collectively make up the analysis area in which potential socioeconomic impacts of the proposed lease sale are considered. Over the last decade and half, Wyoming has experienced moderate population growth, increasing by approximately 19% between 2000 and 2015.

The local customs, culture, and history of communities within Wyoming are entwined with the lands and mineral estates administered by the BLM. People derive a wide range of values from their access, use, development, and enjoyment of natural landscapes administered by each field offices. These values contribute to the unique sense of place indicative to rural Wyoming, as well as to the social and economic well-being of households and communities across these five counties. Since BLM management actions could affect future access, use, development, and enjoyment of the natural landscapes they administer, field office land use and leasing decisions can directly affect the social, cultural, and economic well-being of surrounding towns, cities, rural areas.

The diversity and populations of fish and wildlife throughout the planning area provide considerable recreational opportunity and economic contribution to Wyoming’s economy. More information regarding the socioeconomics and the contributions from recreation to local economies can found in the following

documents: Green River RMP FEIS pages 330-331, 336-337, 439, 441; KFO RMP FEIS pages 3-166 and 3-178; PFO RMP FEIS pages 3-80 - 3-81; RFO RMP FEIS pages 3-74 – 3-77; LFO RMP FEIS pages 246-247 and 576-577; BFO RMP FEIS pages 614-615 and 631-632; Bighorn Basin RMP FEIS pages 3-251 – 3-252 and 3-281 – 3-283; NFO RMP FEIS page 103; CFO RMP FEIS pages 3-128, 3-135 – 3-136; ARMPA FEIS pages 4-177 – 4-187.

Wyoming has a long history in mineral development, and typically accounts for between 2% and 3% of U.S. crude oil production (U.S. EIA, 2016). In 2016, the mining sector supported 6% of employment and 12% of labor earnings statewide (BEA 2017s, BEA2017b).

Federal oil and gas leases generate a one-time lease bonus bid, as well as annual rents during the life the lease, or until hydrocarbon production begins on the leased parcel. Nominated parcels approved for leasing are offered by the BLM quarterly at auctions starting at a minimum bid of $2.00 per acre. If parcels do not receive the minimum competitive bid, they may be leased later as noncompetitive leases that do not generate bonus bids. In general, lease sales in Wyoming are highly competitive and parcels with high potential for oil and gas production regularly command bonus bids in excess of the minimum bid.

Rent payments are equal to $1.50 an acre for the first five years and $2.00 an acre for the second five years of the lease. Typically, these leases expire after 10 years unless held by production. During this lease period, annual rental payments are paid on leased parcels until one or more wells are drilled that result in production, then the lessee begins paying annual royalties calculated as a percentage of the value of production from the parcel.

Fifty percent of federal mineral leasing revenues are to go to the Treasury Department, while approximately forty-nine percent are distributed back to the state in which the revenues were generated. In Wyoming, federal mineral receipts distributed back to the state follow a legislatively established, two-tier formula. The first tier covers total annual receipts up to $200 million and the second tier applies to receipts over $200 million per year. Based on the state's legislatively established two-tier formula, Wyoming allocates these revenues to public school districts, the highway and county road fund, cities and towns, the University of Wyoming, capital construction projects, and the state's budget reserve account.

Although the economic activity associated with mineral development, and the public revenues generated from federal mineral leasing and development, play an important role in supporting the economic well-being of communities; resource development can have an adverse effect on other socioeconomic values people derive from these natural landscapes.

3.14.2 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, states "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations…" (Executive Order 12989). Executive Order 12898 also fully applies to Indian tribes and therefore, it is important to determine whether any Indian tribes are present in the area. The purpose of EO 12898 is to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes that may experience common conditions of environmental exposure or effects associated with a plan or project.

Minority populations as defined by Council on Environmental Quality (CEQ) guidance under the National Environmental Policy Act (CEQ 1997) include individuals in the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. A minority population for environmental justice consideration is identified where "(a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater…" (CEQ 1997). Additionally, "[a] minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds" (CEQ 1997). Calculations are made to identify the "total minority" population which refers to that part of the total population which is not classified as Non-Hispanic White Only by the U.S. Census Bureau. By using this definition of minority population, the percentage is inclusive of Hispanics and multiple race categories and any other minority single race categories. This definition is most inclusive of populations that may be considered as a minority population under EO 12898.

Low-income populations are determined by the U.S. Census Bureau based upon poverty thresholds developed every year. For this project we will use the same criteria for identifying low-income populations for environmental justice considerations as is used for identifying minority populations (50 percent or "meaningfully greater"). We identify low-income population percentages and minority population percentages that are "meaningfully greater" as at least five (5) percentage points higher than for the State of Wyoming. Based on these criteria, the environmental justice populations were identified in the following locations: Albany County (low-income EJ populations), Carbon County (minority low-income populations), Fremont County (minority and low-income EJ populations), Sweetwater County (minority EJ populations), and Teton County (minority EJ populations).

3.14.3 Public Health and Safety

Oil and gas development, as well as other industrial uses, such as coal and trona mining, has been occurring in Wyoming for many decades. Due to the scattered nature and the small area encompassed by the proposed parcels coupled with low population density, industrial safety programs, standards, and state and federal regulations, offering these parcels is not expected to substantially increase health or safety risks to humans, wildlife, or livestock. Parcels that contain lands with private surface overlying federal minerals (i.e., split-estate) have or have the potential to contain private residences and associated facilities such as domestic water supply wells. Several of these parcels may be used for individual, dispersed, recreational activities.

4. Impacts Analysis

The sale of parcels and issuance of oil and gas leases is strictly an administrative action. Nominated lease parcels are reviewed under the approved RMP, and stipulations are attached to mitigate any known environmental or resource conflicts that may occur on a proposed lease parcel. On-the-ground impacts would not occur until a lessee or their designated operator applies for and receives approval to undertake surface-disturbing lease actions.

The BLM cannot reasonably determine at the leasing stage whether or not a nominated parcel will actually be leased, or if leased, whether or not the lease would be explored or developed or at what intensity development may occur.

As an illustration of the uncertainty as to whether a lease parcel, if issued, will be developed, GIS data (as of June 2019) indicate that most (59%) of Federal oil and gas leases in Wyoming do not have any active well Surface Hole Locations (SHLs) located within their boundaries. Using the June 2019 GIS data, the active well spacing on individual leases ranges from 5,494.7 acres per well to 0.3 acres per well (μ = 300.4, σ = 435.3). See Map 9. Thus, there exists substantial uncertainty as to whether and to what degree leases will be explored or developed at the leasing stage, and whether disturbance to the lands on these leases will occur from drilling operations.

The uncertainty that exists at the time the BLM offers a lease for sale includes crucial factors that will affect potential impacts, such as: well density; geological conditions; development type (vertical, directional, horizontal); hydrocarbon characteristics; equipment to be used during construction, drilling, production, and abandonment operations; and potential regulatory changes over the life of the 10-year primary lease term.

If lands are offered, leased, and a proposal for site-specific lease operations is received by the BLM, additional NEPA compliance documentation and technical analysis would be prepared by the BLM. Aside from the applicable protection measures required under the lease stipulations (see Attachment 5.1), additional mitigation may be applied as COAs at that time to mitigate identified impacts.

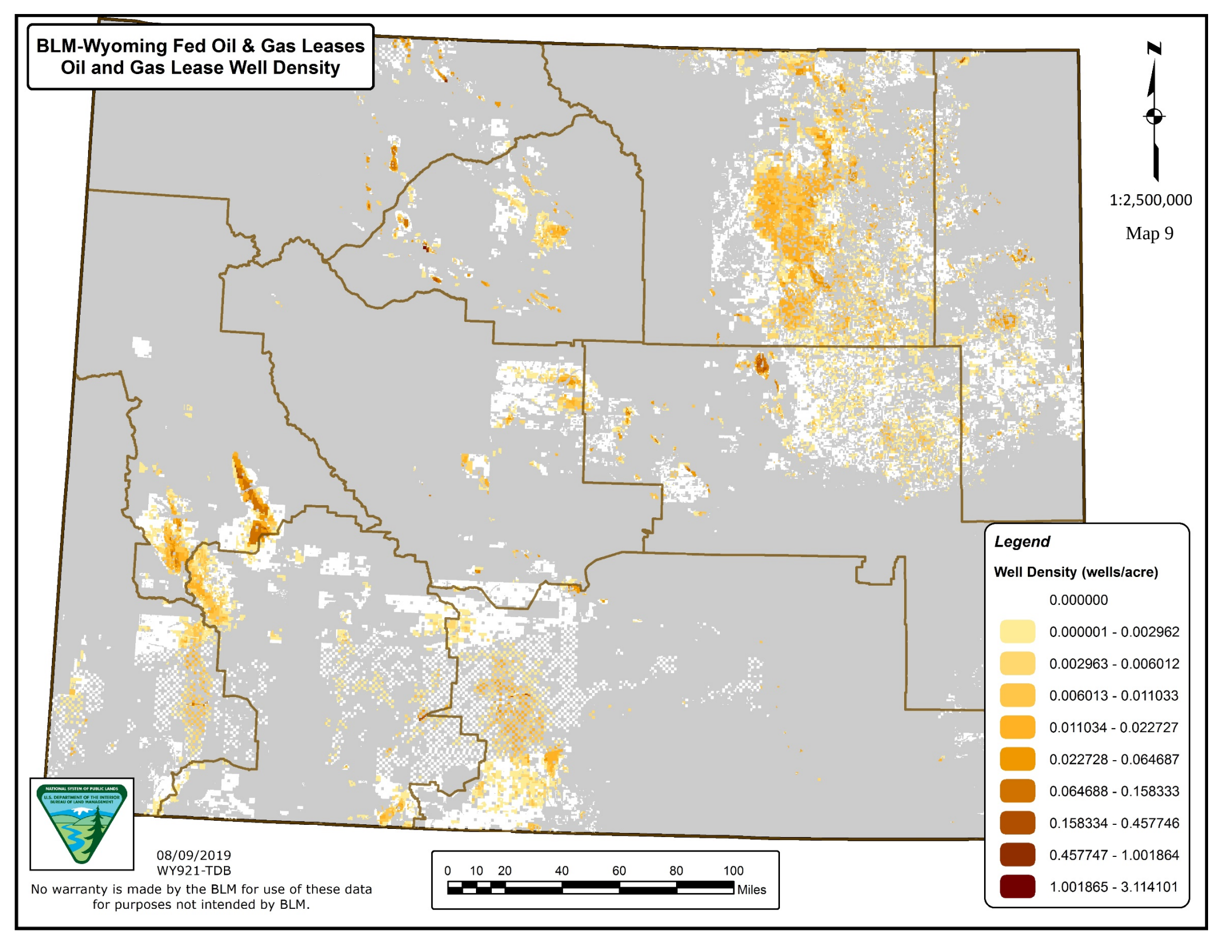
As described in Section 1.4, above, this EA tiers to the applicable NEPA compliance documentation, including the RMP FEISs. In the impacts analysis for the alternatives, below, this EA will only address those resources and impacts where the BLM has determined there are new circumstances or information, or where we believe it will be helpful to inform the public about actions that may occur on public lands. This approach comports with the BLM's NEPA Handbook H-1790-1 (at page 28):

> *The tiered EA for the individual action need not re-analyze the effects on resources fully analyzed in the broader EIS, but may instead focus on the effects of the individual action not analyzed in the broader EIS.*

The EAs tiered to the existing field office/resource area RMPs and their respective Environmental Impact Statements (EISs), in accordance with 40 CFR § 1502.20:

> *Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review... the subsequent ...environmental assessment need only summarize the issues discussed in the broader statement and incorporate discussions from the broader statement by reference and shall concentrate on the issues specific to the subsequent action.*

BLM-Wyoming Fed Oil & Gas Leases
Oil and Gas Lease Well Density



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For additional descriptions of the potential direct, indirect, and the cumulative impacts for the alternatives considered below, please refer to the RMP FEISs referenced in Section 1.4.

4.1 No Action Alternative

Under the No Action Alternative, the proposed lease sale parcels would not be offered at this time. Due to demand for oil and gas, it would be expected that some of these parcels would be re-nominated, offered, and possibly leased in the future, in conformance with approved RMPs.

Under this alternative, none of the proposed parcels would be offered for lease at the oil and gas sale and there would be no subsequent impacts to the existing environment caused by potential oil and gas lease operations. The No Action Alternative would result in the continuation of already-approved land uses, but would not result in impacts relating to exploration and development of these oil and gas lease parcels, because they would not be leased. Other exploration and development activities in the surrounding areas that are currently leased would continue. One specific adverse impact resulting from the No Action Alternative that is foreseen would be to socioeconomics.

4.1.1 Socioeconomics

Under the No Action Alternative, none of the proposed parcels would be offered for lease, resulting in reduced bonus bid revenues and rentals. Since not leasing these minerals would prevent private entities from exploring and developing these minerals, subsequent oil and gas production and generation of royalty revenues would not occur.

The State of Wyoming, as well as many counties and communities within, rely on oil and gas development as an important part of their economic base. The employment and purchasing opportunities associated with developing and producing wells on these leases would also be foregone, as would the opportunity to provide oil and gas resources from these lease parcels to help meet the nation's energy needs. Refer to the applicable RMP FEISs, including Section 4.11 of the 2015 Wyoming Greater Sage-Grouse Proposed Land Use Plan Amendment and FEIS (beginning on page 4-134) for additional discussion of potential socioeconomic impacts.

4.2 Proposed Action Alternative

The Proposed Action Alternative would offer 165 parcels (comprised of 193,912.235 acres) at the BLM-Wyoming's Third-Quarter 2020 competitive oil and gas lease sale. Attachment 5.1 describes the stipulations that would be applied to each parcel to mitigate anticipated impacts in conformance with the applicable field office RMPs.

The approved RMPs, as amended, have evaluated the need to protect resources on public lands in accordance with the BLM's multiple-use and sustained yield mandate. Three categories of stipulations are used by BLM-Wyoming (Uniform Format for Oil and Gas Lease Stipulations, March 1989):

- No Surface Occupancy (NSO) stipulation: use or occupancy of the land surface for fluid mineral exploration or development is prohibited to protect identified resource values.
- Controlled Surface Use (CSU) stipulation: use and occupancy are allowed (unless restricted by another stipulation) but identified resource values require special operational constraints that may modify the lease rights.
- Timing Limitation Stipulations (TLS): prohibits surface use during specified time periods to protect identified resource values. This stipulation does not apply to the operation and

maintenance of production facilities unless the findings of site-specific analysis demonstrates the continued need for such mitigation and that less stringent, project specific mitigation measures would be insufficient.

4.2.1 RMP Special Designations

The proposed parcels are located within areas open to leasing under the approved RMPs. Applicable lease stipulations for RMP Special Designations have been added to each parcel to ensure conformance with the approved RMPs. For parcels located in ACECs open to leasing under the approved RMPs, at the time of a site-specific application for lease operations ACEC values will be identified and conditions of approval to mitigate adverse impacts to ACECs may be imposed at that time.

Future oil and gas operations occurring on the proposed parcels could temporarily degrade wilderness characteristics values, where present, and could result in the lands no longer having the conditions that meet the wilderness characteristics criteria. Lease stipulations intended to benefit other resources, such as Greater-sage grouse cumulative surface disturbance and disturbance density limitations, may protect natural settings and values within LWCs. Specific impacts, and appropriate mitigation, would be identified at the time a site-specific proposal for lease operations is submitted to the BLM.

4.2.2 Air Resources

4.2.2.1 Air Quality

Refer to Sections 4.2 (page 4-5) and 4.22.3 of the Wyoming Greater Sage-Grouse Proposed Land Use Plan Amendment and FEIS (Approved Resource Management Plan Amendment, or ARMPA) (beginning on page 4-134) for a discussion of potential impacts to Air Quality, and related values for the HDD, the CFO and the NFO. Refer to Section 4.2.4 (beginning on page 4-7) of the ARMPA FEIS for a discussion of potential impacts to air quality resulting from oil and gas development, including potential greenhouse gas emissions. The air emissions projections within the ARMPA for oil and gas development were calculated using the latest emissions estimates data from the BFO and LFO EISs (BLM 2010).

See Section 4.1.1 of the BFO RMP FEIS (beginning on page 650), Section 4.1.1 of the Bighorn Basin RMP FEIS (beginning on page 4-6), Section 4.1.1 of the LFO FEIS (beginning on pg. 593) for specific air quality impact analysis in these planning areas.

Additional information regarding air quality related values including Visibility, Hazardous Air Pollutants (HAPs) and Deposition is located in Attachment 5.3.

The administrative act of offering any of these parcels and the subsequent issuing of leases would have no direct impacts to air quality. Any potential effects to air quality would occur if the leases are developed. Any proposed development project would be subject to additional analysis of possible air effects before approval, when necessary.

Potential impacts of development could include increased airborne particulates associated with the construction of new well pads, pipelines, or roads, exhaust emissions from drilling and completion equipment/activities, compressors, vehicles, and dehydration and separation facilities, as well as releases of GHG and volatile organic compounds during many of these activities. The following sources of emissions are anticipated during oil and gas development should the leases be sold and development proposed and found to be economic:

- combustion engines (e.g., fossil fuel-fired internal combustion engines used to supply electrical or hydraulic power for hydraulic fracturing to drive the pumps and rigs used to drill the well, drill out the hydraulic stage plugs and run the production tubing in the well; generators to power drill rigs, pumps and other equipment; compressors used to increase the pressure of the oil or gas for transport and use; tailpipe emissions from vehicles transporting equipment to the site),
- venting (e.g., fuel storage tanks, vents, and pressure control equipment),
- mobile emissions (e.g., vehicles bringing equipment, personnel or supplies to the location), and
- fugitive sources (e.g., pneumatic valves, tank leaks, dust).

Pollutants associated with the combustion of fossil fuels anticipated to be released during drilling/completion operations include: CO, NO_x SO_x, PM, CO_2, CH_4 and N_2O. Venting may release VOCs/HAPs, H_2S, and CH_4. The amount of increased emissions cannot be quantified at this time since it is unknown how many wells or what type (oil, gas or both) may be proposed for development, the types of equipment needed if a well were to be put into production (e.g., compressor, separator, dehydrator), or what technologies may be employed by a given company. The degree of impact will also vary according to the characteristics of the geologic formations from which production occurs.

During the completion phase, the principal pollutants emitted are VOCs, HAPs, particulate matter and NO_2. VOCs and NO_x contribute to the formation of ozone. During well completion, injected fracturing fluids, formation fluids and reservoir gas are flowed back to the surface. The flowback of formation fluids and reservoir gas will include additional VOCs and methane, along with hazardous air pollutants such as benzene, ethylbenzene, and n-hexane. Pollution also may be emitted from other processes and equipment during production and transportation of oil and gas from the well to a processing facility. Refer to Attachment 5.6, (Hydraulic Fracturing White Paper) for more information, which is incorporated by reference.

4.2.2.2 Climate Change and Greenhouse Gas Emissions

As we have explained above (see Section 4), it is uncertain whether and to what extent and intensity oil and gas leases, if issued, will be explored and developed through actual drilling operations. Quantitative assessment of impacts is limited by uncertainties regarding the nature and specific location of proposed future activities. In general, however, oil and gas leasing may lead to the installation and production of new wells, which may consequently result in direct GHG emissions associated with installing and producing new wells, and indirect emissions associated with any downstream use of any lease product. The primary sources of GHG emissions from these processes
include the following:

- Fossil fuel combustion for construction and operation of oil and gas facilities – vehicles driving to and from production sites, engines that drive drill rigs, etc. These produce CO_2 in quantities that vary depending on the age, types, and conditions of the equipment as well as the targeted formation, locations of wells with respect to processing facilities and pipelines, and other site-specific factors;
- Fugitive CH_4 – CH_4 that escapes from wells (both gas and oil), oil storage, and various types of processing equipment. This is a major source of global CH_4 emissions. These emissions have been estimated for various aspects of the energy sector, and starting in 2011, producers are required under 40 CFR § 98, to estimate and report their CH_4 emissions to the EPA; and
- Combustion of produced oil and gas – it is expected that future operations would produce marketable quantities of oil and/or gas. Combustion of the oil and/or gas would release CO_2 into the atmosphere. Fossil fuel combustion is the largest source of global CO_2.

4.2.2.2.1 Direct Emissions

A number of existing authorized activities within the BLM-Wyoming field offices generate GHG emissions. Oil and gas development activities can generate GHGs during the drilling, completion and production operations. Carbon dioxide emissions result from the use of combustion engines for off highway vehicles and other recreational activities. Wildland fires also are a source of CO_2 and other GHG emissions, and livestock grazing is a potential source of methane. Other activities with the potential to contribute to climate change include soil erosion from disturbed areas and fugitive dust from roads, which have the potential to darken snow-covered surfaces and cause faster snowmelt.

In order to determine the volume of emissions that authorized activities on public lands could emit, BLM-Wyoming's air quality impact analysis in the RMP EISs began with the preparation of emissions inventories for all existing sources in the planning area in accordance with existing guidance. These emissions inventories were compared to existing air quality data, Federal emission factors and other available information in order to determine the base year emissions, from all sources, at the time of analysis. For the oil and gas program, these emission inventories provide specific well emission factors. The emissions inventories, and the resultant emission factors, were then used to prepare an emissions estimate for the projected RFD (which included drilling, completing and placing the wells in production). BLM then calculated total oil-and gas-related annual emissions for the field office, for each year of the RMPs expected life, based on those expected emissions, and the expected well development RFD scenario (rate, density and type of wells, and where the greatest potential is in each field office). Peak emissions based on the maximum year of construction and the maximum year of production were then used to compare the alternatives under consideration in the EIS. Emissions were calculated using conservative assumptions about the likelihood of potential activities occurring under each alternative.

In the emission inventories, BLM quantified the direct emissions of the greenhouse gases CO_2, CH_4, and N_2O from new and existing sources in terms of CO_2e. Estimates of emissions from oil and gas activities in the subject RMP EISs', including CO_2e, assumed that all of the potential development identified in the RFD would occur.[28] The RMP EISs' used a 100-year GWP timeline to ensure that consistent comparisons could be made across Federal agency estimates and data.

Specific to oil and gas development, the RMP EISs quantified emissions from the following specific emissions-generating activities, by well type. All of these activities are included in BLM's estimates of direct CO_2e emissions and are generally referred to as "operational" emissions in the RMP EIS'.

<u>Leasable Fluid Minerals – Conventional Natural Gas Development</u>

- Well pad and compressor station pad construction
- Road construction and maintenance
- Well drilling, completion, and testing
- Well completion flares
- Well workovers
- Construction vehicle exhaust and fugitive dust
- Maintenance vehicle exhaust and fugitive dust
- Commuting vehicle exhaust and fugitive dust
- Natural gas fired compressors
- Dehydrator, separator, and water tank heaters
- Dehydrator vents

[28] This was a necessary assumption of the RMP EIS analysis in order to compare the maximum expected emission levels between alternatives, and the allowable levels of oil and gas development that would be allowed.

- Tank venting, flashing, and load-out
- Wellhead equipment leaks
- Pneumatic pumps and devices
- Well pad and road reclamation
- Wind erosion

Leasable Fluid Minerals – Coalbed Natural Gas Development

- Well pad, compressor station pad, and water disposal well pad construction
- Road construction and maintenance
- Well drilling, completion, and testing
- Well workovers
- Construction vehicle exhaust and fugitive dust
- Maintenance vehicle exhaust and fugitive dust
- Commuting vehicle exhaust and fugitive dust
- Natural gas fired compressors
- Dehydrator and tank heaters
- Dehydrator vents
- Wellhead equipment leaks
- Pneumatic pumps and devices
- Well pad and road reclamation
- Wind erosion
- Produced water evaporation ponds

Leasable Fluid Minerals – Oil Development

- Well pad and compressor station pad construction
- Road construction and maintenance
- Well drilling, completion, and testing
- Well completion flares
- Well workovers
- Construction vehicle exhaust and fugitive dust
- Maintenance vehicle exhaust and fugitive dust
- Commuting vehicle exhaust and fugitive dust
- Natural gas fired compressors
- Dehydrator, separator, and water tank heaters
- Dehydrator vents
- Tank venting, flashing, and load-out
- Wellhead equipment leaks
- Pneumatic pumps and devices
- Well pad and road reclamation
- Wind erosion

In general, the estimated direct emissions in the RMP EISs were determined using the following assumptions:

- Activities would proceed in accordance with the projections in the RFDs, which are based upon known geologic conditions, current development technology, and industry-provided data about future planned development.

- Appropriate Required Design Features and Best Management Practices will be applied as appropriate and consistent with regulatory authority.
- Operations would comply with Federal and state rules and regulations promulgated under the Clean Air Act.
- BLM may require project proponents to conduct pre-construction and/or project air monitoring to assist in environmental analysis.
- BLM will work cooperatively with Wyoming Department of Environmental Quality (WDEQ) to determine the best mechanism to submit, track, and approve project specific pre-construction monitoring or other monitoring data required by project approval decisions.
- BLM will work cooperatively with WDEQ to share data collected from the existing BLM-operated Wyoming Air Resource Monitoring System (WARMS) network and to support Wyoming DEQ's air monitoring network through siting, operation, and funding of additional monitoring sites.
- BLM will continue to fund and operate existing National Atmospheric Deposition Program (NADP) monitoring site in accordance with existing agreements.

While the above assumptions do not generally affect the total emissions that may result from the Proposed Action, they demonstrate that adequate regulatory mechanisms are in place to allow BLM to monitor development, and minimize future site-specific or cumulative impacts in Wyoming. The RFDs include assumptions about the pace and timing of mineral development activities, which depend on a variety of factors outside the control of the BLM, including national and international energy demand and prices, production factors within the planning area, and individual strategic choices made by operators.

The administrative acts of offering parcels and issuing leases have no direct impacts to air quality. Any potential effects to air quality would occur only if the leases are developed. The annual planning area direct CO_2e emission levels presented below represent baseline emission levels from existing development plus new emissions from the projected RFDs, which include both non-Federal and Federal (all-lands) well projections.

Table: BLM-Wyoming Total Annual Federal and Non- Federal Direct Oil and Gas CO_2e

Planning Area	Total Federal Mineral Acreage Available to Lease	Direct Oil & Gas CO_2e from all-lands (existing plus RFD (mt/year)
LFO	2,643,000	1,525,000
BFO	3,314,000	685,000
BHB	3,848,000	233,000
GRSG ARMPA	22,035,000	3,291,000
Total	**31,840,000**	**5,734,000**

In this EA, due to the statewide distribution of the leases analyzed under the Proposed Action, and the varying types, levels and potential for development across all lands in Wyoming, BLM-Wyoming has calculated estimates of GHG emissions associated with the Proposed Action based on existing planning area RFD well total estimates, the projected RMP direct emissions estimates (CO_2e), and expected annual production. The BLM has prorated the expected emissions from the RFDs by the acreage of the leases that would be offered under the Proposed Action. This step-down, planning-area-based analysis utilizes existing data, including the RFD reports prepared for the RMP EISs by BLM Wyoming's Reservoir Management Group (RMG). These RFDs represent the best available data about the potential future oil and gas activity on BLM administered mineral estates in Wyoming.

Specifically, BLM-Wyoming is utilizing the total annual CO_2e estimates for each planning area (based on existing development and RFDs), divided by total Federal mineral estate open to leasing in the planning area. This calculation yields an estimated per-acre CO_2e emission factor that can be used with proposed lease sale acreages to calculate total lease sale direct CO_2e emissions (metric tons/year). This approach prorates total annual direct emissions across the proposed lease acreage by the total Federal mineral estate open to oil and gas leasing under the planning area RMP ROD. This approach therefore accounts for any type of well that may be drilled, as well as the increasing horizontal drilling activity that is occurring in the state, since these types of wells typically drill into and produce from multiple mineral estates.

The following table provides the per-acre direct CO_2e emission factors applied to the Proposed Action lease acreages (by planning area), and the resultant total projected direct CO_2e annual emissions from the Proposed Action.

Table: Projected Direct CO_2e Annual Emissions for the Proposed Action

Planning Area	Total Fed Oil & Gas - Open to Leasing	Direct Oil & Gas CO_2e Emissions from All-Lands RFD (mt/year)	mt CO_2e/ acre/year	Parcels*	Parcel Acreage	Projected Direct CO2e (mt/yr)
LFO	2,643,000	1,525,000	0.58	7	11,296.024	6,518
BFO	3,314,000	685,000	0.21	42	23,609.770	4,880
BHB	3,848,000	233,000	0.06	29	47,174.345	2,856
GRSG ARMPA	22,035,000	3,291,000	0.15	87	111,832.096	16,702
Total	**31,840,000**	**5,734,000**	**0.18**	**165**	**193,912.235**	**30,957**

*Four parcels overlap between the LFO and the RFO (located within the GRSG AMRPA planning area); the parcels' respective acreages have been apportioned to their respective planning areas, but the parcel count was apportioned to the planning area containing the majority acreage of each of the four overlapping parcels.

- The projected direct emissions from development of the Proposed Action (30,957 mt/year) represent approximately 0.5% of the total BLM-Wyoming planning documents' projected annual direct CO_2e emissions (5,734,000 mt/year). According to EPA's GHG Equivalency Calculator,[29] the direct CO_2e emissions from the Proposed Action would equal the emissions from 3,572 homes' energy use for one year, or 0.008 coal-fired power plants for one year, or 76,816,377 miles driven by an average passenger vehicle.

- The Proposed Action's projected direct emissions represents 0.34% of the 2014 USGS estimate of 9,089,000 mt (9.089 MMT) of CO_2e in 2014 for Wyoming.

- According to EPA,[30] Wyoming's direct GHG emissions from the petroleum and natural gas system sector in 2018, was 6.5 MMT (6,500,000 mt) of CO_2e. Since this number represents only those sources that are required to report under EPA regulations promulgated at 40 CFR § 98, Mandatory Greenhouse Gas Reporting, this estimate only represents a subset of the fluid mineral fossil fuel industry and may not provide an accurate gauge of the contribution to annual direct CO_2e from the Proposed Action. However it remains the best gauge nationally, and the Proposed Action would represent approximately 0.48% of the reported total.

The currently available information about GHGs and climate change does not permit an assessment of the relationship between specific project-scale GHG emissions and specific effects on climate change because climate change operates on a global scale. Assessing the impacts of GHG emissions on global climate

[29] https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator (accessed 05/07/2020)
[30] https://ghgdata.epa.gov/ghgp/main.do (accessed 05/07/2020)

change likewise requires modeling on a global scale, which would not be sensitive to the comparatively small contribution of emissions from the proposed action. Potential effects on climate change are influenced by GHG emission sources from around the globe, and current methodologies cannot distinguish global climate change impacts associated with GHG emissions originating from a discrete, and relatively small, area such as the project area. Global climate considerations are discussed in Section 5. Additional information regarding potential impacts of climate change are discussed in Section 4.9 of the Lander RMP FEIS, Section 3.9 of the Bighorn Basin RMP FEIS, Section 3.2.7 and page 4-57 of the GSG ARMPA FEIS.

4.2.2.2.2 Indirect Emissions

The BLM's RMG and field & district office staff provided information on production of oil and gas to support analysis in the RMP EISs. For each planning unit (or field office within a planning unit), BLM developed total annual oil and gas production estimates for each EIS alternative. The information used to develop these estimates included the number of wells drilled annually in each field office or planning unit by alternative (from the RFD), the percent of oil wells versus gas wells, the percent of wells completed, production decline curves for oil and gas wells, and estimates of cross-production from both oil and gas wells.

As discussed in Appendix N, Social and Economic Impact Analysis Methodology, from the 2015 ARMPA FEIS, the procedure to determine total Federal production was as follows: For each year, the estimated number of wells completed was broken down into oil or gas wells based on the breakdown assumptions for the field office and planning unit provided by BLM staff. For each well type, the average first year production rate (volume) from the annual decline curves for each field office and planning unit (as provided by RMG) was applied to determine the total production from first-year wells. For subsequent years, the appropriate average production rates from the decline curves were applied to the number of second year wells, third year wells, and so on. Total production was summed across all the well age cohorts for each year within the analysis period. Cross-production volume was calculated based on the numbers of wells of each type and the cross-production rates from the RMG, and added to the total production volume.

The number below reflects the estimated total production for each of the planning area's RMP RODs based on the selected alternatives RFD. The EPA GHG Equivalences Calculator was then used to calculate the total CO_2e, assuming 100% combustion of the produced oil and gas.

Table: BLM-Wyoming Total Annual Indirect CO_2e

Planning Unit	Gas (MCF)	Oil (BBLS)	Gas (mt CO_2e)	Oil (mt CO_2e)	Total Annual Indirect CO_2e
GRSG ARMPA	993,733,861	12,012,924	54,742,811	5,165,557	59,908,368
Bighorn Basin	8,500,000	4,000,000	468,248	1,720,000	2,188,248
Lander	238,200,000	2,400,000	13,121,962	1,032,000	14,153,962
Buffalo	47,000,000	3,800,000	2,589,136	1,634,000	4,223,136

Emission Factor Source: EPA GHG Equivalencies Calculator

https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

CO_2 emissions generated from oil consumption: 0.43 metric tons CO_2/barrel oil

* MCF=one thousand cubic feet

* BBLS=barrels

In a manner similar to the calculations made for direct CO_2e, the following table shows the estimated per-acre indirect CO_2e emission rate for the various planning areas, and the leases considered for this sale. BLM used this methodology to calculate indirect emissions to account for the same variability in resource distribution and production methods described in the discussion of the direct emissions calculation methods.

Table: Projected Indirect CO_2e Annual Emissions for the Proposed Action*

Planning Area	Total Fed Oil & Gas - Open to Leasing	Indirect Oil & Gas CO_2e Emissions from All-Lands RFD (mt/year)	mt CO_2e/ acre/year	Parcels	Parcel Acreage	Projected Indirect CO2e (mt/yr)
LFO	2,643,000	14,153,962	5.36	7	11,296.0	60,493
BFO	3,314,000	4,223,136	1.27	42	23,609.8	30,087
BHB	3,848,000	2,188,248	0.57	29	47,174.3	26,827
GRSG ARMPA	22,035,000	59,908,368	2.72	87	111,832.1	304,047
Total	**31,840,000**	**80,473,714**	**2.53**	**165**	**193,912.2**	**421,454**

*Year 2020

The per-acre indirect CO_2e emission rate for the Proposed Action ranges from 0.57 mt/acre for lands in the Bighorn Basin to approximately 5.36 mt/acre in the LFO. Under the Proposed Action alternative, the BLM would expect the total annual indirect emissions to be approximately 421,454 mt/year if all wells under the current RFDs for the proposed leases were drilled and put to production, and if all subsequent production was combusted at some point in the future. According to EPA's GHG Equivalency Calculator, the indirect CO2e emissions projected under the Proposed Action alternative would equal the emissions from 48,633 homes' energy use for one year, or 0.108 coal-fired power plants for one year, or 1,045,791,563 miles driven by an average passenger vehicle..

- The Proposed Action acreage represents approximately 0.52% of the annual total expected indirect CO_2e emissions from Federal production (80,473,714 mt/year) in Wyoming, based on BLM planning estimates.

- According to WOGCC production data for 2018, the calculated total statewide indirect emissions are 134,600,000 mt of CO_2e; the annual indirect emissions from the Proposed Action, represent approximately 0.31% annual contribution to the total statewide indirect emissions from oil and gas.

Likewise, the the EPA GHG Inventory Report (at Table ES-2) discloses that total oil and gas related combustion emissions in the U.S. in 2018 was 5,031,800,000 mt CO_2e. Projected annual indirect CO_2e emissions under the Proposed Action alternative would represent approximately 0.01%. BLM-Wyoming planning documents commonly assume a well life of 40 years for analysis purposes. Based on the USGS 2014 estimate of 75.18 MMT of indirect CO2e emissions from federal fossil fuel production for Wyoming, the projected indirect emissions from the Proposed Action represent approximately 0.56%.

4.2.2.2.3 Total Direct and Indirect (Gross) CO2e emissions

Based on the USGS 2014 total gross CO2e emissions for Wyoming's Federal fossil fuel operations (all sectors, 727,700 MMT CO_2e), the projected total gross (direct plus indirect) emissions under the Proposed Action alternative represent approximately 0.06% of the total. Similarly, the projected total gross emissions under the Proposed Action alternative represent approximately 0.15% of the 2014 USGS estimate for nationwide Federal oil and gas related emissions (297.91 MMT).

4.2.2.2.4 CO2e Emissions Estimates Uncertainties

Direct and Indirect Emissions Estimates Uncertainties

The direct and indirect emission estimates in Sections 4.2.2.2.1, 4.2.2.2.2, and 4.2.2.2.3 provide an estimate of the potential for GHGs released into the atmosphere from initial wellsite construction, well drilling and completion, production, and end/downstream uses of produced fossil fuels.

Although this EA presents quantified estimates of potential direct and indirect GHG emissions associated with the potential for oil and gas development on the leases, GHG emission estimates involve significant uncertainty due to unknown factors including actual eventual production from the leased lands, how produced hydrocarbons are used, regulation of GHG-producing activities by other state or federal agencies, and whether any Best Available Control Technologies are utilized at the upstream or downstream activity location(s). To illustrate the uncertainty regarding specific well estimates, economically viable vertical gas wells on 40 acre downhole spacing within the PFO can be drilled into a conventional reservoir at approximately 7,000 feet deep, but just 30 miles away, a tight sand reservoir is produced by directional wells, on 10-acre downhole spacing with wells that can be in excess of 14,000 feet deep. Similarly, a coalbed natural gas well in the RFO can be as deep as 4,000 feet; but less than 1,000 feet deep in the BFO. Deeper wells in this example require engines with a greater horsepower, and take longer to drill but may produce for shorter or longer periods of time. The energy content of the product can also vary substantially, which will ultimately influence estimates of GHGs produced or combusted, as can the total volume of liquids produced with the gas stream which also requires handling. As another example, horizontal wells in the RFO may be in the range of 6,000 feet deep, but a similar horizontal oil well in the CFO may be 12,000 feet deep due to different geological conditions.[31] Within the RSFO, approximately 15% of the existing wells are less than 5,000 feet deep, 43% are between 5,000 – 10,000 feet deep, 40% are between 10,000 – 15,000 feet deep, and 1% are greater than 15,000 feet deep. These wells depths are associated with both gas and oil wells; approximately 34% were drilled directionally, 3% were drilled horizontally, and 39% were drilled vertically.

The vast majority of the horizontal play in Wyoming is still exploratory; as operators increase their reservoir and drilling knowledge, the time to drill, complete and put horizontal wells in production may decrease over time. Ultimately, while estimates in this EA are based on the best available data, including information from oil and gas operators regarding future drilling plans and targets, these estimates are subject to many conditions that are beyond the BLM's control. Unforeseen changes in factors such as geological conditions, drilling technology, economics, demand, and federal, state, and local laws and policies could result in different outcomes than those projected in the RFDs from the RMP EISs and in this EA. The result of potential changes to state and federal laws or policies cannot be predicted; resultantly, the RFD may not be accurate if these policies change the constraints on future oil and gas development.

The RFD scenario reports prepared for the relevant RMPs disclose variable rates of success over time for wells drilled in these planning areas. Based on both historical information, the rate of production success for wells ranges from a low of 13% to over 90%, depending upon the location within the individual field offices, the geological formations targeted, commodity prices, and technological advances. As discussed in the RFD reports, success rates may decline due to future exploration of unconventional resources: "From the early 1990's to present, activity has focused almost entirely on very low risk development drilling in and around known field areas, which helped to improve the overall success rate. More future exploratory drilling will be required to discover new resources in the Planning Area and to determine whether its potential coalbed natural gas resource is economic to produce. Since the risk of failure is

[31] In this example, both horizontal well fields could be targeting the Niobrara formation but at different depths due to geology.

higher for these types of activities, the success rates could decline slightly in the future." See RFO RFD (2004) pages 4 – 5; KFO RFD (2006) pages 4-7 to 4-19; PFO RFD (2006); Bighorn Basin RFD (2014) pages 24 – 27; LFO RFD (2006) pages 12-15; BFO RFD (2012) pages 16-17; and CFO RFD (2005) pages 7-9. RFD well numbers for the RFO, KFO, PFO, CFO and NFO were updated under the 2015 GSG ARMPA.[32]

Oil and Gas Product End Use Uncertainty

The estimates of indirect CO_2e emissions presented above are qualified by uncertainty in potential future production from the proposed oil and gas leases, and in predicting the end uses of the hydrocarbons extracted from a particular leasehold. Future production is uncertain with regard to the actual levels of development over time, levels of development over the life of the lease, new technology, geological conditions, and the ultimate level of production from any given well (whether reservoir-related, or for economic reasons). As noted in the explanations, above, the BLM is using a per-acre average emission estimate; this approach may overestimate or underestimate emissions in areas where resource conditions depart from "average." While this may not hold true based on site-specific geology, it is a reasonable assumption that leased lands may be produced at some point in the future and accounts for the large spacing units associated with Wyoming's exploratory horizontal wells. After extraction from federal leases, end/downstream uses of oil and gas may include refining for transportation fuels, fuel oils for heating and electricity generation, production of asphalt and road oil, and/or used in the chemical industry for the manufacture of medicines and everyday household items such as plastics. The BLM does not control the specific end-use of the oil and gas produced from federal leases. As a result, the BLM can only provide an estimate of potential GHG emissions by conservatively assuming that all produced oil and gas would eventually be combusted.

According to information from the EIA,[33] in 2017 about 13% of total petroleum products consumed in the United States were for non-combustion use. Non-combustion use accounted for about 3% of the total amount for natural gas, while non-combustion use of coal was less than 1%. Information regarding non-combustion use of oil products was not provided.

4.2.2.2.5 Climate Change Impacts

The following bullet points summarize potential changes identified by the EPA that are expected to occur at the regional scale, where the proposed action and its alternatives are to take place. The EPA identifies this area as part of the Mountain West and Great Plains region:[34]

- The region is expected to experience warmer temperatures with less snowfall.
- Temperatures are expected to increase more in winter than in summer, more at night than in the day, and more in the mountains than at lower elevations.
- Earlier snowmelt means that peak stream flow would be earlier, weeks before the peak needs of ranchers, farmers, recreationalist, and others. In late summer, rivers, lakes, and reservoirs would be drier.
- More frequent, more severe, and possibly longer-lasting droughts are expected to occur.

[32] With a few exceptions, all of the aforementioned RFDs can be found on BLM's e-Planning pages for the subject RMPs. A separate RFD technical report was not prepared for the 2015 GRSG ARMPA, but the information from the base RMPs was updated to address any new constraints resulting from the analysis in the EIS associated with the 2015 GRSG ARMPA ROD. The NFO RFD is discussed within the RMP FEIS and can be provided upon request. An updated BFO RFD report is provided as Appendix G in the approved RMP and the original technical report can be provided upon request.
[33] https://www.eia.gov/todayinenergy/detail.php?id=35672
[34] http://www.epa.gov/Region8/climatechange/pdf/ClimateChange101FINAL.pdf

- Crop and livestock production patters could shift northward; less soil moisture due to increased evaporation may increase irrigation needs. Drier conditions would reduce the range and health of ponderosa and lodgepole pine forests, and increase the susceptibility to fire. Grasslands and rangelands could expand into previously forested areas.
- Ecosystems would be stressed and wildlife such as the mountain line, black bear, long-nose sucker, marten, and bald eagle could be further stressed.

Other impacts could include:

- Increased particulate matter in the air as drier, less vegetated soils experience wind erosion.
- Shifts in vegetative communities which could threaten plant and wildlife species.
- Changes in the timing and quantity of snowmelt which could affect both aquatic species and agricultural needs. Projected and documented broad-scale changes within ecosystems of the U.S. are summarized in the Climate Change SIR (2010). Some key aspects include:

    - Large-scale shifts have already occurred in the ranges of species and the timing of the seasons and animal migrations. These shifts are likely to continue (Climate Change SIR 2010). Climate changes include warming temperatures throughout the year and the arrival of spring an average of 10 days to 2 weeks earlier through much of the U.S. compared to 20 years ago. Multiple bird species now migrate north earlier in the year.
    - Fires, insect epidemics, disease pathogens, and invasive weed species have increased and these trends are likely to continue. Changes in timing of precipitation and earlier runoff increase fire risks.
    - Insect epidemics and the amount of damage that they may inflict have also been on the rise. The combination of higher temperatures and dry conditions have increases insect populations such as pine beetles, which have killed trees on millions of acres in western U.S. and Canada. Warmer winters allow beetles to survive the cold season, which would normally limit populations; while concurrently, drought weakens trees, making them more susceptible to mortality due to insect attack.

- Effects to the infrastructure associated with the extraction, distribution, and energy produced in the Northern Great Plains; declining water availability used for oil and gas production (U.S. GCRP 2018 at page 138).

The USGS, in cooperation with the BLM, produced a report entitled the Wyoming Basin Rapid Ecological Assessment,[35] which provides projections of future climatic changes, while cautioning that reasonably foreseeable changes in climate will vary due to natural inter-annual and decadal variability, uncertainty about future greenhouse gas emissions, and the range of uncertainties in the existing global climate models. The authors also recognize that there are differences among climate models in how they represent climate processes and therefore produce different climate projections for a given time period and location even when the same future emissions scenario drives the simulation. Global temperatures, however, are expected to increase (Intergovernmental Panel on Climate Change, 2013) such that warmer temperatures in the future can be expected, although the magnitude and consequences of warming is uncertain, but note that summers are projected to warm more than winters (an increase of 4.5 ºF versus 3.5 ºF) (fig. 5.1 in Lukas and others, 2014) while no statistically significant changes in precipitation are noted, winters may be wetter and summers likely drier. Despite the lack of statistically significant projected changes in precipitation, the temperature increase alone could increase evaporation and plant

[35] https://pubs.er.usgs.gov/publication/ofr20151155

water demand; thus, even without a decrease in precipitation, water availability for ecosystems could decrease if precipitation remains about average (Carr, 2016).

4.2.2.3 Mitigation of Impacts to Air Resources

The BLM regulates portions of natural gas and petroleum systems identified in the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks report. In carrying out its responsibilities, BLM has developed BMPs designed to reduce emissions from field production and operations. Analysis and approval of future development on the lease parcels may include application of BMPs within BLM's authority, as Conditions of Approval (COAs), to reduce or mitigate GHG emissions. Additional measures developed at the project development stage also may be incorporated as applicant-committed measures by the project proponent, or added to necessary State of Wyoming air quality permits.

Mitigation measures to reduce the impacts of climate change and GHG emissions may include, but are not limited to:

- Flare hydrocarbon and gases at high temperatures in order to reduce emissions of incomplete combustion through the use of multi-chamber combustors;
- Water dirt roads during periods of high use in order to reduce fugitive dust emissions;
- Require that vapor recovery systems be maintained and functional in areas where petroleum liquids are stored;
- Installation of liquids gathering facilities or central production facilities to reduce the total number of sources and minimize truck traffic;
- Use of natural gas fired or electric drill rig engines;
- The use of selective catalytic reducers and low-sulfur fuel for diesel-fired drill rig engines; and,
- Adherence to BLM's Notice to Lessees (NTL)-4a concerning the venting and flaring of gas on Federal leases for natural gas emissions that cannot be economically recovered,
- Flaring of hydrocarbon gases at high temperatures in order to reduce emissions of incomplete combustion;
- Protecting frac sand from wind erosion;
- Implementation of directional and horizontal drilling technologies whereby one well provides access to petroleum resources that would normally require the drilling of several vertical wellbores;
- Performing interim reclamation to reclaim areas of the pad not required for production facilities and to reduce the amount of dust from the pads.

Additionally, the BLM encourages oil and gas natural gas companies to adopt proven cost-effective technologies and practices that improve operation efficiency and reduce natural gas emissions, to reduce the ultimate impact from the emissions.

In October 2012, the EPA promulgated air quality regulations for completion of hydraulically fractured gas wells. These rules require air pollution mitigation measures that reduce the emissions of VOCs during gas well completions. Mitigation includes a process known as "green completion" in which the recovered products are sent through a series of aboveground, closed, separators which negates the need for flowing back into surface pits as the product is immediately sent to gas lines and the fluids are transferred to onsite tanks. Green completions have been required by the Wyoming Department of Environmental Quality for many years in the Upper Green River Basin and the requirement was expanded throughout the State of Wyoming in 2015.

EPA Inventory data show that by adopting the BMPs proposed by the EPA Natural Gas Energy Star program, the industry has reduced emissions from oil and gas exploration and development: "During calendar year 2018, partners submitted an annual report detailing their efforts in 2017 to reduce methane emissions from their operations. These voluntary activities consisted of 45 technologies and practices and resulted in emissions reductions of 96.8 Bcf for the year. These methane emissions reductions have cross-cutting benefits on domestic energy supply, industrial efficiency, revenue generation, improved air quality, and greenhouse gas emissions reductions. The emission reductions are equivalent to additional revenue of approximately $291 million in natural gas sales (assumes an average natural gas price of $3.00 per thousand cubic feet)."

Specifically, EPA reports that 89% of the methane reductions came from the oil and gas production sector, by utilizing a variety of technologies including: reducing blow down frequency, installing vapor recovery units, and converting gas-driven pumps to electric, mechanical, or solar driven pumps. The BLM will continue to work with industry to promote the use of the relevant BMPs for operations proposed on Federal mineral leases where such mitigation is consistent with agency authorities and policies, and is supported by BLM's NEPA analysis.

In addition to efforts to better respond and adapt to climate change, other Federal initiatives are also being implemented to mitigate climate change. The Carbon Storage Project was implemented to develop carbon sequestration methodologies for geological (i.e., underground) and biological (e.g., forests and rangelands) carbon storage. The project is a collaboration of Federal and nonfederal stakeholders to enhance carbon storage in geologic formations and in plants and soils in an environmentally responsible manner. The Carbon Footprint Project[36] is an effort to develop a unified GHG emission reduction program for the DOI, including setting a baseline and reduction goal for the Department's GHG emissions and energy use.

4.2.3 Geology and Mineral Resources

At the time of a site-specific proposal for development of the lease, Standard Lease Stipulation No. 3 protects the prior rights:

> *Operations will not be approved which, in the opinion of the authorized officer, would unreasonably interfere with the orderly development and/or production from a valid existing mineral lease issued prior to this one for the same lands.*

The oil and gas lessee would conduct its operations, so far as reasonably practicable, to avoid damage to any known deposit of any mineral for which any mining claim is located. The lessee would be required to not endanger or unreasonably or materially interfere with any mining claimant's operations, including any existing surface or underground improvements, workings, or facilities that may have been made for the purpose of mining operations. The provisions of the Multiple Mineral Development Act (30 U.S.C. § 521 et seq.) will apply to the leased lands.

The BLM identified several parcels located in the HPD and HDD that contain lands that could pose potential conflicts with potential or existing coal or uranium leases, claims, or mining operations. If these lands were offered, leased, and development was subsequently proposed, the BLM may be required to decide whether to approve oil and gas operations that could impede or substantially complicate the economic recovery of other minerals under existing leases or claims. If oil and gas operations on these lands were authorized, there could be potential worker safety concerns presented by having mining and oil and gas operations occurring simultaneously in the same area. In some cases, the two mineral

[36] https://www.carbonfootprint.com/carbonoffsetprojects.html (accessed 04/05/2019)

development activities could not reasonably occur at the same time (such as when coal is being surface-mined at a location where proposed oil and gas facilities would be located, or in-situ uranium recovery is being conducted in or near formations that would be drilled through/to).

4.2.3.1 Master Leasing Plan (MLP) Areas

In conformance with the approved RMPs, lands within MLP areas include all necessary stipulations (see Attachment 5.1).

4.2.4 Soils

The act of offering, selling, and issuing federal oil and gas leases does not produce impacts to soils. Subsequent development of the lease could physically disturb soils within the disturbed project areas. Direct impacts from the construction of well pads, access roads, and reserve pits include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of top soil productivity and susceptibility to wind and water erosion. Indirect impacts such as runoff, erosion, and off-site sedimentation could result from construction and operation of well sites, access roads, gas pipelines and facilities.

Contamination of soil from drilling/completion and production wastes mixed into soil or spilled on the soil surfaces could cause a long-term reduction in site productivity if not adequately identified and addressed. Many of these direct impacts would be mitigated through proper design, construction and maintenance, and implementation of BMPs.

As required in the applicable RMPs, surface disturbance may be restricted or prohibited on steep slopes and within floodplains. Lease Notice No. 1 addresses surface disturbance on slopes greater than 25 percent and is applied to all parcels.

Prior to authorization of surface disturbance on a lease, the BLM will require the lessee or their designated operator to submit a Surface Use Plan of Operations to the BLM. The requirements in the BLM-Wyoming Reclamation Policy would be implemented for all surface-disturbing activities. Stabilization and reclamation of disturbed areas (both interim and final) will be required, in accordance with Onshore Oil and Gas Order No. 1.

Where applicable, operations on federal leases are required to have spill prevention, control, and countermeasure plans in place. Where spills do occur, the BLM will follow its policies (see WY IM 2009-021) and reporting requirements (see NTL-3A) to ensure the site is cleaned up to the applicable standards.

4.2.5 Solid and Hazardous Wastes

Leasing of the parcels will not directly result in the generation, transport, or disposal of solid and hazardous wastes. If leased, and if operations are proposed on these leases, the lessee will be required to comply with applicable environmental regulations that address exploration and production wastes.

Impacts could be in the form of drilling or completion fluid spills, oil and produced water spills, solid wastes or chemical releases, fuel spills, and trash scatter on and off the well pads.

Management of wastes associated with the operations on these lease sale parcels would be regulated under the Resource Conservation and Recovery Act (RCRA), Subtitle C regulations. Additionally, waste management requirements are included in the Surface Use Plan of Pperations and the drilling plan

required for in all APDs. See also BLM-Wyoming Instruction Memorandum WY-2012-007, "Management of Oil and Gas Exploration and Production Pits." Lessees or their operators proposing oil storage would be required to have approved Spill Prevention Control and Countermeasure Plans, if the applicable requirements of 40 CFR § 112 are met, and must comply with all requirements for reporting of undesirable events under NTL-3A. Lease bonds would not be released until all facilities have been removed, wells are plugged, and satisfactory reclamation has occurred.

4.2.6 Water Resources

The act of offering, selling, and issuing federal oil and gas leases does not produce impacts to water resources. Subsequent development of a lease may lead to surface disturbance from the construction of well pads, access roads, pipelines, and powerlines, which can result in degradation of surface water quality and groundwater quality from point source pollution, nonpoint source pollution, increased surface water runoff and increased erosion. Alteration of natural drainage paths and channel morphology can also occur as a result of surface disturbance associated with the installation of oil and gas wells. Removal of vegetation can also cause water erosion, leading to a loss of channel stability as well as an increase in sedimentation within drainages.

Spills of materials used to drill/complete the wells and or produced formation fluids could result in contamination of the soil, and may potentially impact surface and groundwater resources in the long term if not detected and addressed.

A number of techniques may be used in exploration and development operations to increase or enhance the flow of oil and gas. They include hydraulic fracturing and acid introduction to dissolve the formation matrix and create larger void space(s).

Without a discrete development proposal, the use of hydraulic fracturing in the oil and gas development process cannot be predicted. However, this EA incorporates by reference, in its entirety, the Hydraulic Fracturing White Paper included in Attachment 5.6. This document provides a general discussion of the hydraulic fracturing process and issues associated with its use.

Long-term direct and indirect impacts to the watershed and hydrology could continue for the life of surface disturbance and operations, but would decrease once reclamation of well pads, access roads, pipelines, and other appurtenant facilities has taken place. Interim reclamation of the portion of the well pad not needed for production operation, as well as re-vegetating road ditches, would reduce this long-term impact.

Water depletions potentially affecting T&E aquatic species would require consultation with USFWS, and applicable point-source discharges would require permits under the National Pollution Discharge Elimination System (NPDES) and approval by the BLM prior to disposal of water produced from federal oil and gas leases; potential impacts would be mitigated at that time.

Underground waste disposal is regulated under the Underground Injection Control (UIC) program, which was authorized under the Safe Drinking Water Act. If a drilling/completion proposal is found to not be protective of usable water zones, as required by 43 CFR § 3162.5-2(d) and Onshore Oil and Gas Order No. 2, the proposal could be denied by the BLM. Requirements for groundwater monitoring have been instituted throughout Wyoming by the WOGCC. This monitoring will add a level of certainty regarding the impacts of oil and gas drilling/completion activities on groundwater in Wyoming.

The use of practices such as but not limited to closed-loop mud systems or lined reserve pits would reduce or eliminate seepage of waste fluids into the soil and eventually reaching groundwater. The casing and cementing requirements imposed on proposed wells would reduce or eliminate the potential for groundwater contamination from drilling/completion/production fluids and other surface sources. Additionally, the use of closed-loop or semi-closed loop drilling systems may be required by the BLM (see BLM-Wyoming Instruction Memorandum WY-2012-007, "Management of Oil and Gas Exploration and Production Pits").

Stormwater Pollution Prevention Plans (SWPPs) are required by the State of Wyoming before any surface disturbance associated with construction actions greater than 1 acre in size. Prior to authorization of surface disturbance on a lease, the BLM will require a Surface Use Plan of Operations be submitted to the BLM, and the BLM authorized officer may require additional erosion control measures to reduce the volume of surface runoff and subsequent sediment transport. Upon abandonment of the wells and/or when access roads are no longer in service, the BLM will require surface reclamation of the disturbed areas as described in Standard Lease Term No. 6 and in accordance with the approved APD or Sundry Notice.

Parcels offered for lease sale are subject to the stipulations shown in Attachment 5.1, including those for the protection of water resources. Additional protections are implemented through standard Lease Notice 1.

4.2.7 Vegetation

The act of offering, selling, and issuing federal oil and gas leases does not produce impacts to vegetation. Impacts to vegetation may occur if a lease is issued and the lease is developed. The potential site-specific impacts would be considered by the BLM, including at an onsite inspection, before surface-disturbing activities associated with federal lease operations are authorized.

Should lease operations occur on any of the proposed parcels, the related surface disturbance would result in short- and long-term losses of vegetation. Short-term vegetation loss would include all initial surface disturbance associated with the project until those portions of the well pad and associated roads are no longer needed for production operations, and any associated pipeline disturbances. Long-term vegetation loss would include those portions of the well pad and roads needed for production operations for the life of the well and travel path and shoulders of the access roads. Both short- and long-terms losses of vegetation would result in a commensurate reduction in forage available for wildlife and livestock. Vegetation loss could also potentially cause a reduction in nesting habitat for ground- or shrub-nesting avian species, and a loss of hiding cover for certain avian and mammal species.

The BLM will require compliance with the Surface Use Plan of Operations and its reclamation plan, which will be evaluated in accordance with the BLM-Wyoming's Reclamation Policy. Lease Stipulation No. 2 is applied for protection of sensitive plants and sensitive species wildlife habitats and could include measures to minimize impacts to vegetation and special status species habitats from future development activities.

The construction of an access road and well pad may unintentionally contribute to the establishment and spread of noxious or invasive weeds. Weed seed or material could be carried to and from the project areas by construction equipment, the drilling rig and transport vehicles, or vehicles and equipment associated with well production activities.

Where weed populations are present, the BLM may require a pest management plan under Onshore Oil and Gas Order No. 1. The BLM may require that certain measures be taken to mitigate potential impacts from spread of weeds. Washing and decontaminating the equipment entering and exiting the construction areas could be used to avoid spread of weeds. Additionally, seed mixes used for reclamation are required to be certified weed-free.

Site-specific surveys for special status plants may be required at the time operations are proposed, to determine the presence/absence of special status plant species or their habitats, and to determine if mitigation measures are necessary. Habitat containing threatened, endangered, proposed, and candidate plant species, as well as those plants listed on the Wyoming-BLM sensitive species list, could limit the location of proposed operations. The sensitive species habitat would be avoided where possible and, in situations where these areas would not be avoided, additional mitigation may be required.

4.2.8 Wildlife, Fish, and Special Status Species (Plants and Animals)

If the proposed parcels are leased, and if subsequent exploration and development operations are proposed, the operations could result in surface-disturbing and disruptive activities. The operations could result in population impacts and habitat fragmentation and loss.

If operations are proposed, the BLM may require additional mitigation measures in order to manage plant and wildlife habitats on public lands in support of the applicable State or Federal management objectives.

Site-specific surveys for special status plants and wildlife may be required at the time operations are proposed to determine the presence/absence of important plant and wildlife resources, including special status species such as nesting birds, sensitive plants, sensitive mammals, amphibians and reptiles.

Well pad, road, and pipeline development in undisturbed areas, could result in habitat fragmentation and direct mortality of wildlife and plant species. Short-term habitat loss would include initial surface disturbance associated with the project. This short-term disturbance typically would be ongoing until those portions of a well pad not needed for production operations, road disturbance outside the shoulders, and the pipeline disturbance are reclaimed. Long-term habitat loss would include those portions of the pad needed for production operations for the life of the well and the running surface of the access roads. Impacts from surface-disturbing activities may also include behavioral changes from increased human activity associated noise and fragmentation.

Impacts to streams, fisheries, riparian habitat, and aquatic species would be mitigated through application of the requirements in Lease Notice No. 1 or special lease stipulations.

As required by the applicable RMPs, wildlife impacts are mitigated through NSO, TLS, and/or CSU stipulations. See Attachment 5.1. In the event the proposed leases are issued and lease operations are proposed, BMPs such as directional and/or horizontal drilling, habitat avoidance, and consolidation of infrastructure may be implemented to mitigate site-specific impacts to wildlife and their habitats. Additionally, the BLM would coordinate with the WGFD and consider their recommendations (such as those in “Recommendations for Development of Oil and Gas Resources within Crucial and Important Habitat” (2010)).

4.2.8.1 Special Status Species

As required by the applicable RMPs, wildlife impacts are mitigated through NSO, TLS, and/or CSU stipulations. See Attachment 5.1. Standard Lease Stipulation No. 2 is applied to all leases and provides protection for current and future threatened, endangered, and special status species:

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

Water depletions for well pad and road construction, well drilling, well completion operations, pipeline hydrostatic testing, and dust abatement could potentially reduce stream flows in the Colorado and Platte River systems, potentially affecting threatened or endangered fish, wildlife and plant species that depend on habitats associated with those river systems. All depletions in these river systems are subject the Fish and Wildlife Service (FWS) mitigation requirements (including potential depletion fund payments); specific project proposals may be required to undergo consultation with the FWS before any project approval.

4.2.8.2 Greater Sage-Grouse

Approximately 40% of the lands in the proposed leases are located within Priority Habitat Management Areas (PHMAs). Almost all of the remainder are located in General Habitat Management Areas (GHMAs), with only eight parcels (4,466.680 acres) located in non-Greater sage-grouse habitats. See Attachment 5.4.

All parcels offered in this sale include Standard Lease Notice 3:

The lease may in part, or in total, contain important Greater sagegrouse habitats as identified by the BLM, either currently or prospectively. The operator may be required to implement specific measures to reduce impacts of oil and gas operations on the Greater sage-grouse populations and habitat quality. Such measures shall be developed during the Application for Permit to Drill (APD) on-site and environmental review process and will be consistent with the lease rights granted.

Parcels offered in PHMAs and GHMAs will be offered subject to the appropriate Greater sage-grouse stipulations (see Attachment 5.1), in conformance with the BLM's recent RMP revisions and amendments to provide for conservation of Greater sage-grouse and their habitats.

On August 1, 2019, the U.S. Forest Service announced "proposed changes to how the agency manages greater sage grouse in Colorado, Idaho, Nevada, Wyoming, and Utah after hearing concerns from states and land users."[37] The proposed parcels located on USFS-administered lands comply with the approved land use plan(s). See also 84 FR 37233-37234.

[37] https://www.fs.fed.us/news/releases/usda-releases-proposed-amendments-greater-sage-grouse-land-management-plans

4.2.8.3 Mule Deer Vital Habitats

Information regarding potential impacts expected from oil and gas exploration and development to big game and their habitats, including CW/YRs and migration habitats/corridors, can be found in the RMP EISs to which this EA tiers, including:

- Buffalo RMP DEIS (pages 714-715, 981-982, 1013, 1019-1020 and 1024-1025); FEIS (pages 846-847, 866, 1121, 1155, 1162 and 1167)
- Casper RMP DEIS (pages 3-20 – 3-29, 3-53 – 3-64, 4-33 – 4-37, 4-42 – 4-43, 4-98 – 4-106 and 4-127 – 4-133; FEIS (4-98 – 4-99, 4-108, 4-114, 4-119, 4-124, 4-129)
- Bighorn Basin RMP DEIS (pages 841-843, 853-857, 965-970 and 997); FEIS (4-90 – 4-92, 4-105 – 4-106, 4-229 – 4-233, 4-256 – 4-259)
- Kemmerer RMP DEIS (pages 4-28 – 4-30, 4-33 – 4-34, 4-83 – 4-90, 4-102 – 4-104, 4-106); FEIS (pages 2-29, 2-52 – 2-53, 2-60, 3-59, 3-136, 4-89, 4-91 – 4-96, 4-110 – 4-111, 4-126)
- Lander RMP DEIS (pages 774, 777, 910-915, 920-922); FEIS (pages 711, 714-715)
- ARMPA- FEIS pages 4-423 – 427
- Pinedale RMP FEIS pages 2-104, 2-114, 2-141, 2-142, 2-149, 2-156, 4-214 – 4-228 4-244 – 4-247, 4-255, 257
- Rawlins RMP FEIS pages 2-106, 2-107, 3-91, 3-147, 3-148, 4-226
- Green River RMP FEIS: 24, 29, 32, 34, 194
- Newcastle RMP FEIS: 149, 151-152

Development of parcels located in big game habitats can result in negative impacts. Whether occurring in a corridor or in other seasonal habitats, oil and gas-related disturbance can result in wildlife shifting their foraging behavior from utilizing high quality habitat to areas of lower quality, less desirable habitat. Abandonment of important habitat can lower reproduction and survival rates of the species and result in a decline in wildlife populations. (2015 GRSG ARMPA FEIS, page 4-426). Over utilization can occur as a result, further limiting the forage production and herd population. The effects can be more pronounced when additional restrictions on access occur, such as fencing or other manufactured barriers or restrictions, where other land uses are competing for the same range resources, or when conditions such as drought or fire affect forage productivity (see, e.g., Rawlins RMP FEIS at pages 4-455, 4-456).

While multiple, overlapping timing stipulations can provide benefits to wildlife resources by preventing sustained disruptive activity, as the Pinedale RMP FEIS (2006) age page 4-60 notes: "When areas with greater sage-grouse nesting restrictions overlap areas with big game crucial winter range restrictions, the oil and gas operator would potentially be restricted to a 3-and-a-half-month construction, drilling, and well completion season. This short drilling and development window in areas such as the Pinedale Anticline has led to accelerated operations, which results in congested traffic on primary access roads and a potential overload on local service and emergency resources. It also causes a yearly bust-and-boom cycle for the local communities as crews move in during the open development window then leave when the seasonal restrictions are invoked."

The Proposed Action alternative includes 17 parcels (21,505 acres) that intersect State of Wyoming-designated mule deer migration corridors:

Table: Parcel Acres within Migration Corridors

Migration Corridor	3Q2020 Parcel Acres Within Corridor (GIS-Calculated)
Baggs	11,231
Sublette	8,890
Platte Valley	1,384

Under the Proposed Action alternative, the 2020Q3 lease sale includes 23 parcels (comprised of 43,639.870 acres) that intersect mule deer crucial winter/yearlong ranges (CW/YR), though a smaller area (approximately 25,738 acres) within these parcels actually are located within the CW/YR ranges:

Table: Parcel Acres within Mule Deer Crucial Winter/Yearlong Ranges

WGFD Herd Unit	3Q2020 Parcel Acres Within CW/YR (GIS-Calculated)
Baggs	10,711
Basin	10,455
Platte Valley	1,562
Southwest Bighorn	401
Sublette	2,609

Surface-disturbing and disruptive activities are typically prohibited during the timeframe of November 15-April 30 in CW/YR and where intersecting with sage-grouse nesting and early brood-rearing habitats protected under the approved RMPs would typically be delayed until after June 30. These time periods would generally cover both spring and fall migration seasons. For those parcels where activity would not be restricted during migration, on a site-specific basis, the need for such can be assessed and applied as appropriate, in coordination with the WGFD.

The need to address production related activities can only be assessed after a well is drilled and oil and gas production rates determined. With site-specific analysis, production related activities could also be seasonally prohibited. Section 4 of the standard lease form (BLM Form 3100-11) stipulates that the Lessor reserves the right to specify the rates of development and production in the public interest.

Mitigation is also developed during the APD process, during which project review reveals the potential need for site-specific mitigation in coordination with our partners and the split estate surface owner (if any). Habitat and population conditions relevant at the time of an APD submittal will be considered at that time.

BLM will work with project proponents, landowners, and the WGFD to site projects in locations containing the least sensitive habitats to minimize impacts; such actions could reduce the loss of higher quality habitat for wildlife that use or inhabit these areas, and will assist in allowing for contiguous, uninterrupted habitat.

Based upon the BLM's previous analyses, including oil and gas field-development EISs, and our understanding of current and reasonably foreseeable future development in the herd units where proposed lease sale parcels intersect critical mule deer habitats, no new significant impacts are expected and existing conditions are expected to continue.

If the proposed parcels located in the designated mule deer migration corridor are leased, and if operations are authorized by the BLM, oil and gas activities may adversely affect use of the migration corridors by mule deer. Consistent with DOI Secretary's Order No. 3362, "Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors" (February 9, 2018), the BLM may require, in coordination with the WGFD, additional measures at the time operations are authorized to mitigate impacts to mule deer migration corridors. These measures may include those described in the WGFD's "Recommendations for Development of Oil and Gas Resources within Crucial and Important Habitat" (2010).

4.2.9 Cultural and Heritage Resources, Including Paleontology, Traditional Cultural Properties, and Historic Trails

If the proposed leases are issued and the BLM receives a proposal for lease exploration and development operations, a cultural records review would be completed to determine if there is a need for a detailed cultural inventory of those areas that could be affected by the subsequent surface disturbing activities. Generally, a cultural inventory will be required and all identified historic and archaeological sites that are eligible for listing in the National Register of Historic Places or potentially eligible to be listed would be either avoided by the undertaking, have adverse effects to sites minimized or mitigated, or have the information in the sites extracted through archaeological data recovery before surface disturbance. Offering lease parcels for sale would not, in and of itself, impact historic or prehistoric resources. Development within the viewshed of contributing segments of National Historic Trails (NHT) could impact the trail setting; however, the extent of potential impacts cannot be determined absent a site-specific proposal for operations.

A site and resource inventory and mitigation process similar to that described for cultural resources also applies to paleontological resources.

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties. Compliance with Section 106 of the NHPA is a non-discretionary action that all federal agencies must perform. The RMPs considered known important cultural sites in identifying stipulations.

The implementing regulations at 36 CFR § 800 allow for a phased approach to compliance with the NHPA. Since it is impossible to determine the type and extent of surface disturbance associated with oil and gas development at the leasing stage, BLM completes its compliance responsibilities when a proponent submits an APD or other application for surface-disturbing activities on the federal lease. Due to this approach, BLM may not be aware of all cultural resources that are located in the proposed lease parcels, though the BLM would complete its phased compliance with NHPA at the time site-specific lease operations are proposed.

Cultural resource specialists review each parcel, including BLM and State Historic Preservation Officer (SHPO) record and file searches for known sites in or near each parcel. When the BLM receives an APD or other proposal for lease operations, a site-specific cultural records review is completed to determine if there is a need for cultural inventory for areas affected by surface-disturbing activities; if so, cultural resource inventory is required prior to new surface disturbance. All sites that are determined to be historic properties (sites that are listed on or are eligible for listing on the National Register of Historic Places) are avoided or mitigated. If avoidance or mitigation is not possible, proposals may be modified or denied.

Parcels offered for sale are subject to the stipulations shown in Attachment 5.1, including, where applicable, stipulations to protect Sacred, Spiritual, and/or TCPs.

Parcels offered for sale are subject to Special Lease Notice No. 2, which addresses National Historic Trails. All parcels are also offered subject to Standard Lease Stipulation No. 1, protecting historic properties and/or resources:

> *This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, Executive Order 13007, or other statutes and*

executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations (e.g., State Historic Preservation Officer (SHPO) and tribal consultation) under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.

The applicable lease stipulations shown in Attachment 5.1 will apply to the proposed parcels, and may include restrictions on surface use or occupancy within certain potential fossil yield classification areas for the protection of fossil resources.

4.2.10 Recreation

The act of offering, selling, and issuing federal oil and gas leases does not produce impacts to the recreational use of public land. Subsequent exploration or development of a lease may generate impacts to recreation activities. For split estate lands or public land parcels that are small or land-locked by private or state land, recreation opportunities would be limited or non-existent due to access restrictions. Recreational use on larger blocks of public land and on smaller blocks of public land where there is public access could be impacted by oil and gas operations. The quality of the recreational experience could be diminished by noise and changes in scenic quality arising from oil and gas operations. Recreational activities on split estate lands would be at the discretion and under the control of the private landowner.

Oil and gas operations could cause game animals to move away from the activity. If lease development operations coincide with hunting season, it is expected that hunters could experience reduced success rates. It is also likely that some hunters would experience a diminished quality in their hunting adventure. In addition to facilitating mineral extraction, new oil and gas roads could provide better access to the lease areas for recreational opportunities but can also result in increased poaching activities or wildlife harassment. However, the presence of oil and gas facilities would likely diminish the recreational experience and a decline in recreational use of an area due to oil and gas development would potentially affect local, state, and regional revenues generated through recreation.

Parcels offered for lease sale are subject to the stipulations and lease notices shown in Attachment 5.1, including those for the protection of recreational settings. Additional mitigation, such as seasonal restrictions, directional drilling, and liquids gathering systems, could be identified at the development stage to further reduce impacts associated with oil and gas development.

4.2.11 Visual Resource Management (VRM)

It is not possible to accurately predict the visual impacts of oil and gas development operations at the leasing stage. Development intensity, terrain, and proximity to key observation points will greatly influence the VRM impacts.

Parcels offered for sale are subject to the stipulations shown in Attachment 5.1, such as protection of VRM Class I and II areas, where applicable. Should leases be issued and operations proposed, the BLM will review the site-specific proposal to ensure conformance with the applicable RMP VRM designations and management decisions. At that time, the BLM may require mitigation to address VRM impacts, such as coloration of above-ground facilities and use of low-profile tanks, where necessary.

4.2.12 Socioeconomics, Environmental Justice, and Public Health and Safety

4.2.12.1 Socioeconomics

In addition to the one-time bonus bids, leasing these parcels for federal mineral exploration would generate rental revenues. If oil and gas production were to begin on any of these leased parcels over the next 10 years, annual rent payments on the parcel held by production would stop, and lessees would instead pay royalties the market value production on that lease. Annual royalty payments on leased parcels would be equal to 12.5% of the value of annual production.

As discussed in above, approximately 51% of revenues generated from the leasing, rents, and production of minerals leased at the subject lease sale would go directly to the U.S. Treasury. The remaining 49% would be distributed to Wyoming and allocated based on its legislatively established two-tier formula to public school districts, the highway and county road fund, cities and towns, the University of Wyoming, capital construction projects, and the state's budget reserve account.

While the act of leasing federal minerals under this alternative would not result any direct surface disturbances, subsequent development of a lease may affect how local residents and land users access, use, develop, and enjoy lands in the vicinity of these leases. As a result, future development may impact the socioeconomic values people derive from these natural landscapes.

Oil and gas exploration, drilling, or production could create additional inconvenience to local businesses and residents due to increased traffic and traffic delays, noise and visual impacts. This would likely be most noticeable in rural areas where oil and gas development has been minimal. The amount of inconvenience would depend on how other land uses are affected, traffic patterns within the area, noise levels, length of time, and season these activities occurred, etc. Creation of new access roads into an area could allow increased public access and potential exposure of private property to vandalism. For split estate leases where the surface is privately owned and the subsurface is federally-owned, surface access agreements, standard lease stipulations, and BMPs could address many of the concerns of private surface owners.

Refer to the applicable RMP FEISs, including Section 4.11 of the ARMPA FEIS (beginning on page 4-134) for additional discussion of potential socioeconomic impacts.

4.2.12.2 Environmental Justice

Some of the counties where leases would be offered may have minority and/or low-income populations that meet the criteria to be considered environmental justice populations. The act of leasing federal minerals would not disproportionately adversely affect environmental justice populations. Potential future impacts associated with oil and gas development could potentially disproportionately adversely affect environmental justice populations depending upon the location and level of activity, which is unknown at this time. The BLM considers input from persons or groups regardless of age, income status, race, or other social or economic characteristics.

4.2.12.3 Public Health and Safety

The act of offering, selling, and issuing federal oil and gas leases does not produce impacts to public health and safety. Subsequent development of a lease may cause impacts. Vehicle and equipment operations associated with the subsequent construction, drilling, and production operations could affect members of the public using the same roads and general areas and/or the employees of the oil and gas drilling, completion or services companies. Releases of gas from the well bore, production facilities and

spills could adversely affect members of the public in the vicinity as well as members of the workforce. The level of affect would depend on the circumstances and the technological and safety controls in place.

Split estate lands have the potential for the presence or future development of private residences and associated facilities such as domestic water supply wells. Residences along routes to, or in the vicinity of, active drilling and completion operations would likely experience increased traffic and noise, as well as night lighting. Traffic and drilling operations in close proximity to residences would increase the potential for collisions with the residents, pets, and livestock, as well as an increased potential for fire, hydrocarbon release, and explosions from well blow-out during drilling operations. None of the parcels are located within incorporated areas.

The BLM will require the operator to comply with Onshore Oil and Gas Order No. 2, 43 CFR § 3162.5-1, and all requirements for reporting undesirable events under NTL-3A.

BLM Wyoming has issued policy (IM WY-2015-054, "Fluid Minerals Operations - Mitigation and Setbacks from Occupied Structures") to address setbacks from occupied structures when proposed at the time of lease operations. In addition, other Federal and State of Wyoming public health and safety requirements apply to oil and gas operations.

4.2.13 Cumulative Effects

The cumulative effects are described in the RMP FEISs to which this EA tiers (see Section 1.4); additional information, where necessary, addressing cumulative impacts to resources is provided below.

The BLM holds quarterly oil and gas lease sales, in compliance with the law and our regulations. As a result, numerous oil and gas lease sale parcels are being considered on the public lands around the West at any given time (among other land use plan implementation decisions). The RMP FEISs to which this EA tiers address potential cumulative effects, including as a result of other reasonably foreseeable future actions outside of their respective planning areas. For additional information regarding potential cumulative effects, please refer to the applicable RMP FEISs.

4.2.13.1 Air Quality, Including Climate Change and Greenhouse Gas Emissions

To the extent that economics, availability, and regulatory requirements encourage natural gas replacement of other existing fossil fuel use, global GHG emissions could be reduced by increased production of natural gas. For example, the EIA predicts that fuel switching will prompt an 83 percent increase in electric power sector natural gas consumption from 2009 to 2030 (EIA 2009).

While natural gas is likely to displace some fossil fuels, renewable energy is expected to replace some natural gas usage in a variety of applications, such as home heating and electric power generation. The EIA predicts that total natural gas consumption in the United States will fall by 14 percent from 2009 to 2030 (EIA 2009). If natural gas consumption decreases, natural gas production of Federal minerals in Wyoming may be less than the levels of development included in the BLM's RFD scenarios.

U.S. GHG emissions may not necessarily increase by the magnitude of potential GHG emissions from oil and gas production of Federal minerals in Wyoming. Oil and gas development may decline in other portions of the United States, thereby decreasing total U.S. GHG emissions from oil and gas production, even when new development in these areas is added. If GHG emissions reduction regulations applicable to oil and gas activities are implemented by U.S. EPA in the future, oil and gas development may preferentially increase in fields that produce these fuels with lower than average GHG emissions.

4.2.13.1.1 Statewide (Wyoming) Cumulative Direct GHG Emissions

The BLM has calculated cumulative direct and indirect emission estimates for all existing and reasonably foreseeable (all Wyoming Federal oil and gas lease sales currently undergoing review are considered reasonably foreseeable). These estimates have been calculated using a statewide average per-acre emission factor:

Table: Calculation of Statewide Average Per-Acre Direct Emissions Factor for Federal Lands

Planning Area	Fed Oil & Gas Open to Leasing (acres)	Projected Direct Oil & Gas CO_2e (mt/year) All Lands[38]	Direct CO_2e (mt/acre/year)
LFO	2,643,000	1,525,000	0.58
BFO	3,314,000	685,000	0.21
BHB	3,848,000	233,000	0.06
GRSG ARMPA	22,035,000	3,291,000	0.15
Total:	**31,840,000**	**5,734,000**	**0.18**

Using the statewide average direct emissions factor for Federal lands of 0.18 mt/acre/year, the following table estimates the total cumulative direct CO_2e emissions from Federal lands in Wyoming. These emission estimates generalize emissions across the state (using the statewide average for direct emissions), but this approach accounts for the variable drilling rates and well types across the state, because using the statewide average assumes that all Federal acreage has the same average potential to produce. In reality, resource conditions vary across the state, and changing future conditions may result in shifts in production expectations for different lands (such as the changes in expectations for CBNG, and the shift from gas development to oil development on other lands).

Table: Total Cumulative Direct CO_2e Emissions from Federal Oil & Gas Operations in Wyoming*

Recent or Reasonably Foreseeable Lease Sale	Acres Already Leased or Proposed for Leasing (Cumulative Total)	Total Projected Direct CO_2e Emissions (mt CO2e/year)
(As of the end of FY2019)	8,918,095	1,606,041
2019Q3	263,666.65	47,483
2019Q4	123,257.56	22,197
2019 Reinstatements†	53,447.40	9,625
2019 Previously Sold‡	90,414.50	16,283
2020Q1	71,688.65	12,910
2020Q2	169,750.75	30,570
2020Q3	193,912.24	34,921
Total	**9,884,232.75**	**1,780,031**

* Using the statewide average for direct emissions of 0.18 mt/acre/year
† https://go.usa.gov/xvGJ4
‡ https://go.usa.gov/xvGJT

The total projected direct CO_2e cumulative emissions from existing and reasonably foreseeable Federal oil and gas operations in Wyoming (1,780,031 mt/year) is approximately 31% of the total cumulative BLM-Wyoming planning projections (5,734,000 mt/yr). Updated BLM public land statistics indicate that only about 46% of BLM existing leases are in producing status; therefore, the BLM expects that only about 46% of the projected emissions from authorized Federal leases in Wyoming are actually expected

[38] The Total projected direct oil and gas CO_2e emission estimates, includes all RFD related emissions which would include Federal mineral estate actions in the Pinedale Anticline, Atlantic Rim, Continental Divide, and Jonah, for example. It also includes the emissions from the non-Federal RFD shown in Table 9.

to occur, or 819,887 mt CO_2e/year.

Each GHG has a global warming potential (GWP) that accounts for the intensity of each GHG's heat trapping effect and its longevity in the atmosphere. GWP values allow for a comparison of the impacts of emissions and reductions of different gases. According to the IPCC, GWPs typically have an uncertainty of ±35 percent. GWPs have been developed for several GHGs over different time horizons including 20-year, 100-year, and 500-year. The choice of emission metric and time horizon depends on type of application and policy context; hence, no single metric is optimal for all policy goals. The 100-year GWP (GWP100) was adopted by the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol and is now used widely as the default metric. In addition, the EPA uses the 100 year time horizon in its Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2018 (January 2020), GHG Reporting Rule requirements under 40 CFR § 98 Subpart A, and uses the GWPs and time horizon consistent with the IPCC Fifth Assessment Report, Climate Change Synthesis Report, 2014 in its science communications.[39]

A number of activities contribute to the phenomenon of climate change, including emissions of GHGs (especially CO_2 and CH_4) from fossil fuel development, large wildfires, activities using combustion engines, changes to the natural carbon cycle, and changes to radiative forces and reflectivity (albedo). It is important to note that GHGs will have a sustained climatic impact over different temporal scales due to their differences in global warming potential (described above) and lifespans in the atmosphere. For example, CO_2 may last 50 to 200 years in the atmosphere while methane has an average atmospheric life time of 12 years.

4.2.13.1.2 Regional Cumulative Direct GHG Emissions

In order to determine the existing annual direct CO_2 emissions from the Rocky Mountain and Northern Great Plains Regions for comparison purposes, we first divided each state's 2014 emission estimates from the USGS SIR (for Federal lands) by their respective 2014 total Federal producing acreage; this calculation resulted in a 2014 per-acre direct CO_2e emission factor by state. The resulting 2014 per-acre emission estimate was then used to calculate total existing CO_2e emissions for the years 2015-2018 using BLM information on annual producing acreage for each state. The 2015-2018 total calculated emissions for each state were then added to the 2014 USGS estimate to get total existing emissions through 2018. Since we want to compare emission levels expected on an annual basis, the five year total was then divided by 5 years to get an estimated annual average. These annual averages are referred to as the 5-year average annual total. Please refer to the full USGS SIR for specific information that the USGS incorporated into its analysis. This analysis is shown in the following table:

[39] https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html

Table: Regional Total Federal Direct CO_2e (Excluding Wyoming)

		Total 2014 O&G Extraction (Direct) CO_2e (mt)				Calculated Total Federal Direct CO2e (mt)		
EIA Region	**State**	**MMT**	**mt**	**2014 Total Federal Producing Acreage**	**2014 Total Federal O&G Direct CO_2e (mt/acre)**	**2015-2018**	**2014-2018**	**5-Yr. Average Annual**
Rocky Mountain	Arizona	0.0000	0	-	-	-	-	-
	Colorado	2.6763	2,676,300	1,478,105	1.81	10,907,113	13,583,413	2,716,683
	Idaho	0.0000	0	-	-	143,104	143,104	28,621
	Nevada	0.0093	9,322	22,077	0.42	43,102	52,424	10,485
	New Mexico	11.7700	11,770,000	3,727,864	3.16	47,605,602	59,375,602	11,875,120
	Utah	2.4930	2,493,000	1,119,366	2.23	10,049,364	12,542,364	2,508,473
Northern Great Plains	Montana	0.8332	833,200	766,544	1.09	3,127,478	3,960,678	792,136
	North Dakota	0.2002	200,200	570,645	0.35	836,540	1,036,740	207,348
	South Dakota	0.0178	17,810	44,589	0.40	75,050	92,860	18,572
Total		**17.9998**	**17,999,832**	**7,729,190**	**2.33**	**72,787,352**	**90,787,184**	**18,157,437**

The 5-year average annual direct CO_2e emissions in the Rocky Mountain Region from Federal oil and gas operations is 17,139,381 mt/yr, and 1,018,056 mt/yr in the Northern Great Plains Region. Across both regions, the 5-year average annual direct CO_2e emissions from Federal oil and gas operations is 18,157,437 mt/yr.

- The projected annual direct CO_2e emissions under the Proposed Action alternative is 0.19% of the total 5-year average annual direct CO_2e emissions from Federal oil and gas operations in the Rocky Mountain and Northern Great Plains Regions, not including Wyoming.

Average leasing activity in these states from 2010-2019 is provided in the following table:[40]

Table: Regional Federal Oil and Gas Leasing Activity

State	Average Fed OG Leases Per Year
Arizona	1
Colorado	102
Idaho	1
Montana	120
Nevada	140
New Mexico	84
North Dakota	56
South Dakota	33
Utah	92
Wyoming	504

As mentioned above, the BLM is required to have quarterly lease sales in states where eligible lands are available for lease. Based on average lease sale numbers, annual average contributions to total emissions are expected to remain constant, or decrease if projections made by the EIA regarding future activity

[40] https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/oil-and-gas-statistics

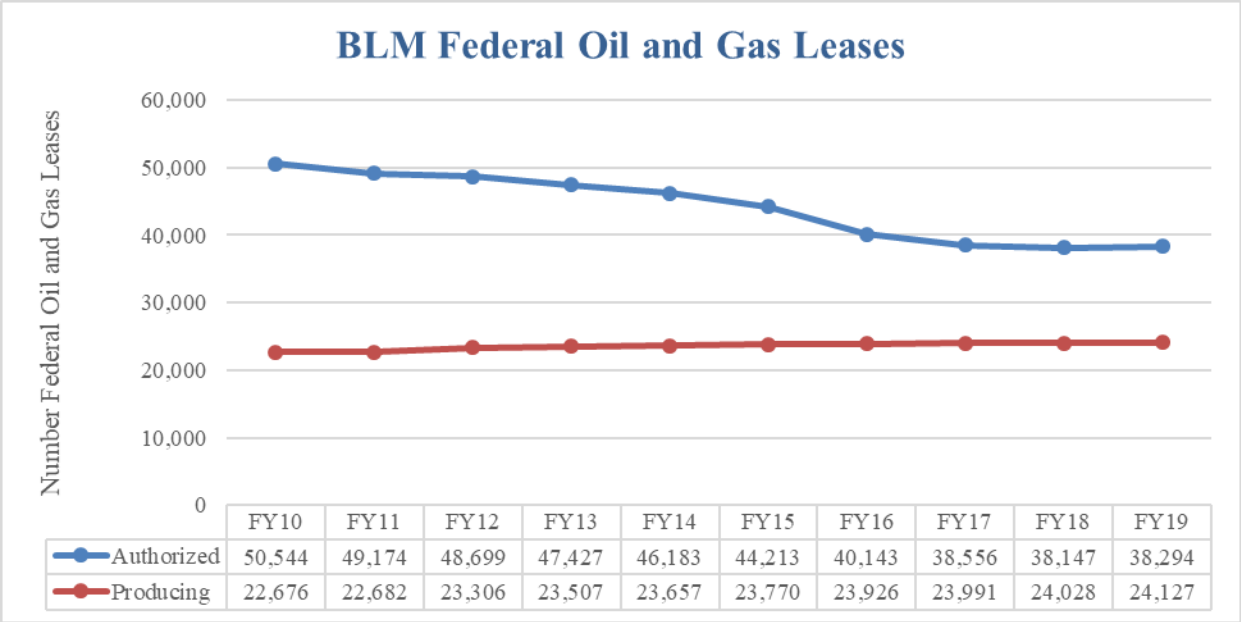
remains true (e.g., the expectation that natural gas usage will continue to grow but may be offset as additional renewable resources come online and coal use declines). Since BLM's consideration of lands for leasing is largely externally driven, it is impossible to project future leasing activity with a greater certainty than these general trends.

The existing and projected cumulative Wyoming Federal oil and gas contribution from direct CO_2e emissions (1,780,031 mt/yr) would represent 9.8% of the combined Rocky Mountain and Northern Great Plains annual average total (18,157,437 mt/yr).

4.2.13.1.3 National Cumulative Direct GHG Emissions

Nationally, the BLM had 38,294 leases (26,397,326 acres) in effect at the end of 2019, and of these, 24,127 leases (12,915,006 acres) were in producing status according to BLM summary statistics.[41] Trends in BLM national leasing activity over the last ten years is shown in the following figure:

Total BLM Federal Existing and Producing Oil and Gas Leases



	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Authorized	50,544	49,174	48,699	47,427	46,183	44,213	40,143	38,556	38,147	38,294
Producing	22,676	22,682	23,306	23,507	23,657	23,770	23,926	23,991	24,028	24,127

According to EPA, total 2018 U.S. GHG emissions (direct) from reporting onshore oil gas production systems was 109 MMT (95,000,000 mt) CO_2e[42]. The total projected direct CO_2e cumulative emissions from existing and reasonably foreseeable Federal oil and gas operations in Wyoming (1,780,031 mt/yr), is approximately 1.63% of the national 2018 total.

4.2.13.1.4 Statewide (Wyoming) Cumulative Indirect GHG Emissions

BLM's analysis to determine the cumulative indirect emissions based on an average annual per-acre emission factor for Federal lands in Wyoming is similar to the method used for cumulative direct emissions. This data analysis is shown in the following table:

[41] https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/oil-and-gas-statistics
[42] https://ghgdata.epa.gov/ghgp/main.do#

Table: Calculation of Statewide Average Per-Acre Indirect Emissions Factor for Federal Lands

Planning Area	Fed Oil & Gas Open to Leasing (acres)	Projected Indirect Oil & Gas CO_2e (mt/year) All Lands[43]	Indirect CO_2e (mt/acre/year)
LFO	2,643,000	14,153,962	5.36
BFO	3,314,000	4,223,136	1.27
BHB	3,848,000	2,188,248	0.57
GRSG ARMPA	22,035,000	59,908,368	2.72
Total:	**31,840,000**	**80,473,714**	**2.53**

Table: Total Cumulative Indirect CO_2e Emissions from Federal Oil & Gas Operations in Wyoming*

Recent or Reasonably Foreseeable Lease Sale	Acres Already Leased or Proposed for Leasing (Cumulative Total)	Total Projected Indirect CO_2e Emissions (mt CO2e/year)
(As of the end of FY2019)	8,918,095	22,539,957
2019Q3	263,666.65	666,402
2019Q4	123,257.56	311,526
2019 Reinstatements†	53,447.40	135,085
2019 Previously Sold‡	90,414.50	228,517
2020Q1	71,688.65	181,189
2020Q2	169,750.75	429,035
2020Q3	193,912.24	490,102
Total	**9,884,232.75**	**24,981,813**

* Using the statewide average for indirect emissions of 2.53 mt/acre/year
† https://go.usa.gov/xvGJ4
‡ https://go.usa.gov/xvGJT

As shown in the table above, the combined existing and reasonably foreseeable cumulative indirect CO_2e emissions from Federal oil and gas leases in Wyoming represent 31% of the total potential indirect CO_2e emissions under BLM's planning documents. Approximately 46% of the existing leases at the end of fiscal year 2019 were in producing status; assuming the same proportion of existing and reasonably foreseeable lease acreage were to be producing, a total of 11,506,691 mt/yr of cumulative indirect emissions would actually be expected from the combined production of existing and reasonably foreseeable leases.

The Proposed Action alternative (490,102 mt/yr) represents approximately 0.61% of the total indirect CO_2e projected under BLM-Wyoming's planning documents.

4.2.13.1.5 Regional Cumulative Indirect GHG Emissions

BLM estimated regional indirect CO_2e emissions using the same methodology as for regional direct emission estimates. However, the USGS data includes more combustion sources than just lease-generated production information (for example, information for refineries, which aggregate fluids from multiple sources) and we refer the reader to the full report for specific information that the USGS incorporated into its analysis. This data analysis, and the resulting average annual emissions estimates, are shown in the following table:

[43] Projected production year 2020: includes existing production plus full RFD production estimate and includes development projects recently completed or currently under consideration in Wyoming (e.g. Converse County, Moneta Divide, and NPL).

Table: Regional Total Federal Indirect CO_2e (Excluding Wyoming)

		Total 2014 O&G Extraction (Indirect) CO_2e (mt)				Calculated Total Federal Indirect CO2e (mt)		
EIA Region	**State**	**MMT**	**mt**	**2014 Total Federal Producing Acreage**	**2014 Total Federal O&G Indirect CO_2e (mt/acre)**	**2015-2018**	**2014-2018**	**5-Yr. Average Annual**
Rocky Mountain	Arizona	0.0000	-	-	-	-	-	-
	Colorado	15.3065	15,306,530	1,478,105	10.36	62,380,917	7,687,447	15,537,489
	Idaho	0.0000	-	-	-	143,104	143,104	28,621
	Nevada	0.0182	18,227	22,077	0.83	84,276	102,503	20,501
	New Mexico	40.2475	40,247,500	3,727,864	10.80	162,787,295	203,034,795	40,606,959
	Utah	14.7666	14,766,610	1,119,366	13.19	59,524,686	74,291,296	14,858,259
Northern Great Plains	Montana	0.9114	911,380	766,544	1.19	3,420,932	4,332,312	866,462
	North Dakota	2.1247	2,124,740	570,645	3.72	8,878,274	11,003,014	2,200,603
	South Dakota	0.0156	15,638	44,589	0.35	65,898	81,536	16,307
Total		**73.3906**	**73,390,625**	**7,729,190**	**9.50**	**297,285,383**	**70,676,009**	**74,135,202**

The total 5-year annual average indirect CO_2e emissions from Federal oil and gas operations in the Rocky Mountain Region is 71,051,829 mt/yr, and 3,083,373 mt/yr in the Northern Great Plains Region. Across both regions, the 5-year average annual indirect CO_2e emissions from Federal oil and gas operations are 74,135,202 mt/yr.

- The projected annual indirect CO_2e emissions under the Proposed Action alternative is 0.66% of the total 5-year average annual direct CO_2e emissions from Federal oil and gas operations in the Rocky Mountain and Northern Great Plains Regions, not including Wyoming.

The existing and projected cumulative Wyoming Federal oil and gas contribution from indirect CO_2e emissions (24,981,813 mt/yr) would represent 33.7% of the combined Rocky Mountain and Northern Great Plains annual average total (74,135,202 mt/yr).

4.2.13.1.6 National Cumulative Indirect GHG Emissions

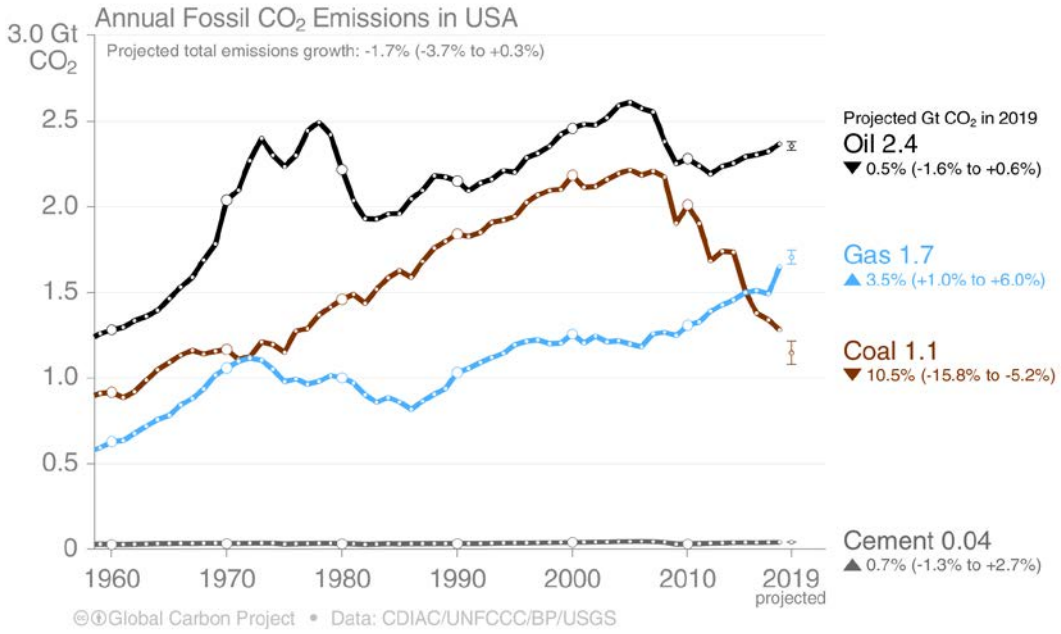
According to EPA's Inventory Report 1990-2018, total 2018 U.S. indirect GHG emissions from reporting combustion-related sources, was 5,031,800,000 mt CO_2e. Wyoming's projected cumulative indirect emissions estimate of 24,981,813 mt/yr represents 0.50% of EPA's total national oil and gas related combustion estimate.

4.2.13.1.7 Statewide (Wyoming) and National Cumulative Direct and Indirect (Gross) GHG Emissions

The cumulative gross total of BLM-Wyoming's emissions (direct CO_2e plus indirect CO_2e) from Federal oil and gas operations is approximately 26,761,844 mt/yr, or 26.8 MMT/yr. According to EPA's Inventory Report (1990-2018), the total gross GHG emissions in the U.S. in 2018 were 6,676.6 MMT CO_2e; Wyoming's contribution, based on the BLM-Wyoming's cumulative gross total emissions estimate, is approximately 0.40%.

Compared to the Global Carbon Project's projected U.S. 2019 total of 4.1 Gt[44] for both oil and gas, the total Wyoming Federal cumulative emission estimate represents approximately 0.65% of the gross national oil and gas CO_2e emissions. The Global Carbon Project projects that Annual Fossil CO_2 Emissions in the U.S. will decline 1.7 percent (-3.7 percent to +0.3 percent) in 2019; the decrease is primarily predicted to occur in the coal and cement sectors, while oil is expected to remain flat and gas will see a slight increase.

Global Carbon Project- Total Annual Fossil Fuel CO_2 Emissions In the United States



4.2.13.1.8 Regional, National, and Global Considerations for Climate Change due to GHG Emissions

This EA, along with the analyses in RMP EISs for the Lander RMP, Buffalo RMP, Bighorn Basin RMP, and 2015 Greater Sage-Grouse ARMPA, qualitatively describe impacts from climate that could be associated with potential development of the federal mineral estate from the actions analyzed. Included within the subject RMP EISs[45] are regional economic analyses.

"Social cost of carbon" estimates are one approach that an agency can take to examine climate consequences from greenhouse gas emissions resulting from a proposed action. However, this EA provides no quantitative monetary estimates of any benefits or costs. NEPA does not require an economic cost-benefit analysis (40 C.F.R. § 1502.23), although NEPA does require consideration of "effects" that include "economic" and "social" effects (40 C.F.R. 1508.8(b)). Quantifying only the costs of oil and gas development by using the social cost of carbon metrics but not the benefits (as measured by the economic value of the proposed oil and gas development and production generally equaling the price of oil and gas minus the cost of producing, processing, and transporting the minerals) would yield information that is both inaccurate and not useful for the decision-maker, especially given that there are

[44] 4.1 Gt equal 4,100,000,000 mt (1,000,000,000 metric tons = 1 metric gigaton)
[45] Please refer to the applicable RMP FEISs for additional discussion of socioeconomic conditions within the project area. Specific information can be found at: RSFO RMP FEIS pages 330-331, 336-337, 439, 441; KFO RMP FEIS pages 3-166 and 3-178; PFO RMP FEIS pages 3-80 - 3-81; RFO RMP FEIS pages 3-74 - 3-77; LFO RMP FEIS pages 246-247 and 576-577; BFO RMP FEIS pages 614-615 and 631-632; BHB RMP FEIS pages 3-251 - 3-252 and 3-281 - 3-283; NFO RMP FEIS page 103; CFO RMP FEIS pages 3-128, 3-135 - 3-136; and the 2015 GRSG ARMPA pages 4-177 - 4-187.

no current criteria or thresholds that determine a level of significance for social cost of carbon monetary values.

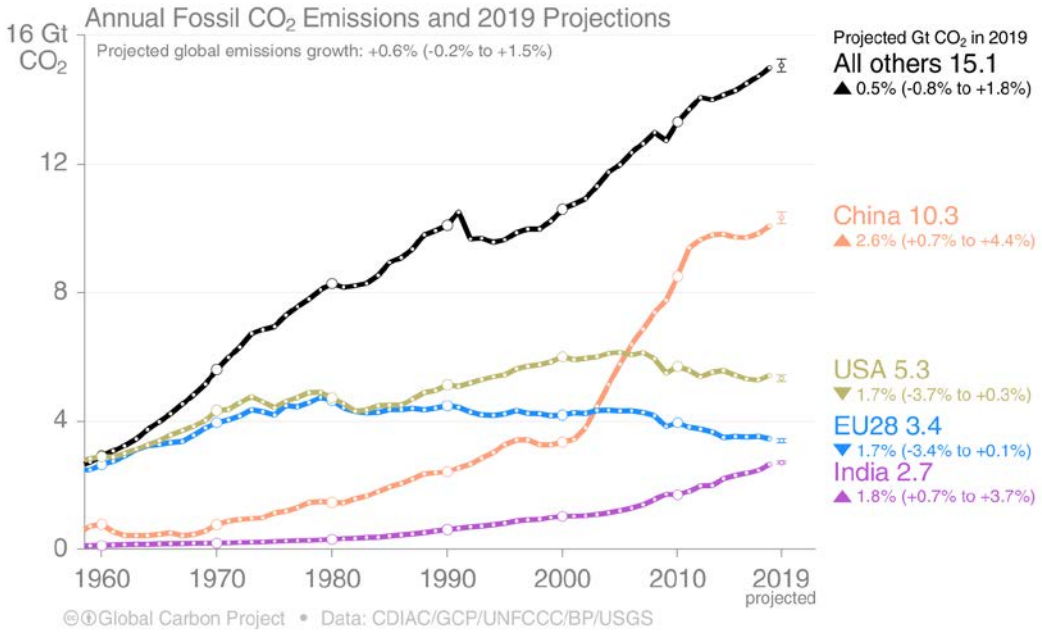
Instead, BLM's approach to GHG and climate change impacts analysis in this EA includes calculations to show estimated direct and indirect GHG emissions from potential future development of the proposed parcels, and from oil and gas activities in Wyoming and the region. BLM also includes a qualitative discussion of potential climate impacts at global and regional scales. BLM's approach recognizes that there are adverse environmental impacts related to climate change associated with the development and use of fossil fuels, provides potential GHG emission estimates, and discusses potential climate change impacts qualitatively. This effectively informs the decision-maker and the public of the potential for GHG emissions and the potential implications of climate change. This approach presents the data and information in a manner that follows many of the guidelines for effective climate change communication developed by the National Academy of Sciences (National Research Council 2010) by making the information more readily understood and relatable to the decision-maker and the general public.

The Fourth National Climate Assessment (Chapter 22) anticipates that for the Northern Great Plains Region, including Wyoming, conditions will become consistently warmer over the next two to three decades and will coincide with less snowpack and high variability in annual water availability with an overall small projected decrease in average streamflow. These climatic changes are projected to include an increase in the number of heavy precipitation events excluding the mountain ranges located in southern Wyoming.

Assuming that all conditions hold constant and emissions continue to increase unabated, the contributions to regional emissions from oil and gas operations administered by BLM-Wyoming could contribute to these modeled projections of impact.

The EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018 report states: "Globally, approximately 32,840 MMT of CO2 were added to the atmosphere through the combustion of fossil fuels in 2017, of which the United States accounted for approximately 15 percent."

Global Carbon Project- Total Fossil Fuel CO_2 Emission and 2018 Projections



According to EIA, anticipated growth in domestic energy demand "is likely to contribute to budget pressure even as growth in the renewable energy sector is forecast to continue at the fastest rate on a percentage basis (3.1%). It is unclear how or if public policy advancements, technological advancements, free energy market shifts, governmental energy investments and tax strategies (credits), and global collaboration on these issues will take shape to provide for the changes necessary to transform the make-up of our modern infrastructure to one with a lower carbon state. The tight timeline of the carbon budget makes interim overshoot likely, as well as the need to deploy carbon dioxide removal measures at scale in the future to correct for any overshoot if the global consensus still centers on maintaining warming to 1.5°C above pre-industrial levels." BLM-Wyoming is limited, particularly at the time it is preparing a fossil fuels leasing action in accordance with current U.S. law[46] and regulations, in choosing to constrain supplies of fossil fuels from public lands, since the public's choices in selecting energy sources has continued to support demand for those resources.

In trying to model climate changes under varying scenarios involving emission levels, the Fourth National Climate Assessment concludes: "Ultimately, however, the magnitude of human-induced climate change depends less on the year-to-year emissions than it does on the net amount of carbon, or cumulative carbon, emitted into the atmosphere. The lower the atmospheric concentrations of CO_2, the greater the chance that eventual global temperature change will not reach the high end temperature projections, or possibly remain below 3.6°F (2°C) relative to preindustrial levels." It goes on to state that: "The timing and magnitude of projected future climate change is uncertain due to the ambiguity introduced by human choices (as discussed in Section 4.2), natural variability, and scientific uncertainty,[] which includes uncertainty in both scientific modeling and climate sensitivity." (Footnotes omitted). "Under various modelled scenarios where concentrations [of CO_2] would exceed 400 ppm sustained over long periods of time (tens of thousands of years), some of the projected changes could include increases in temperature in the range of 9°-14°F (5°-8°C) and conditions analogous to the Eocene, a time in which there were no permanent land-based ice sheets."

The assessment also found, however, that "[n]et cumulative CO_2 emissions in the industrial era will largely determine long-term, global mean temperature change. A robust feature of model climate change simulations is a nearly linear relationship between cumulative CO_2 emissions and global mean temperature increases, irrespective of the details and exact timing of the emissions pathway…. Limiting and stabilizing warming to any level implies that there is a physical upper limit to the cumulative amount of CO_2 that can be added to the atmosphere.[] Eventually stabilizing the global temperature requires CO_2 emissions to approach zero.[] Thus, for a 3.6°F (2°C) or any desired global mean warming goal, an estimated range of cumulative CO_2 emissions from the current period onward can be calculated. The key sources of uncertainty for any compatible, forward looking CO_2 budget associated with a given future warming objective include the climate sensitivity, the response of the carbon cycle including feedbacks (for example, the release of GHGs from permafrost thaw), the amount of past CO_2 emissions, and the influence of past and future non-CO_2 species."

There are currently no established significance thresholds for GHG emissions that BLM can reference in NEPA analyses, but all GHG emissions contribute incrementally to potential changes in global climate, through direct and indirect feedback loops, either directly or indirectly, and in the short-term or long-term. Cumulative effects (such as climate change) are only considered in the determination of NEPA significance when such effects can be prevented or modified by the agency's decision-making (see BLM NEPA Handbook H-1790-1 at page 72). While GHG emissions resulting from individual decisions can certainly be modified or potentially prevented by analyzing and selecting reasonable alternatives that appropriately respond to the action's purpose and need, BLM has limited decision authority to

[46] See, e.g., the Energy Policy Act, 42 U.S.C. § 13201 et seq. (2005).

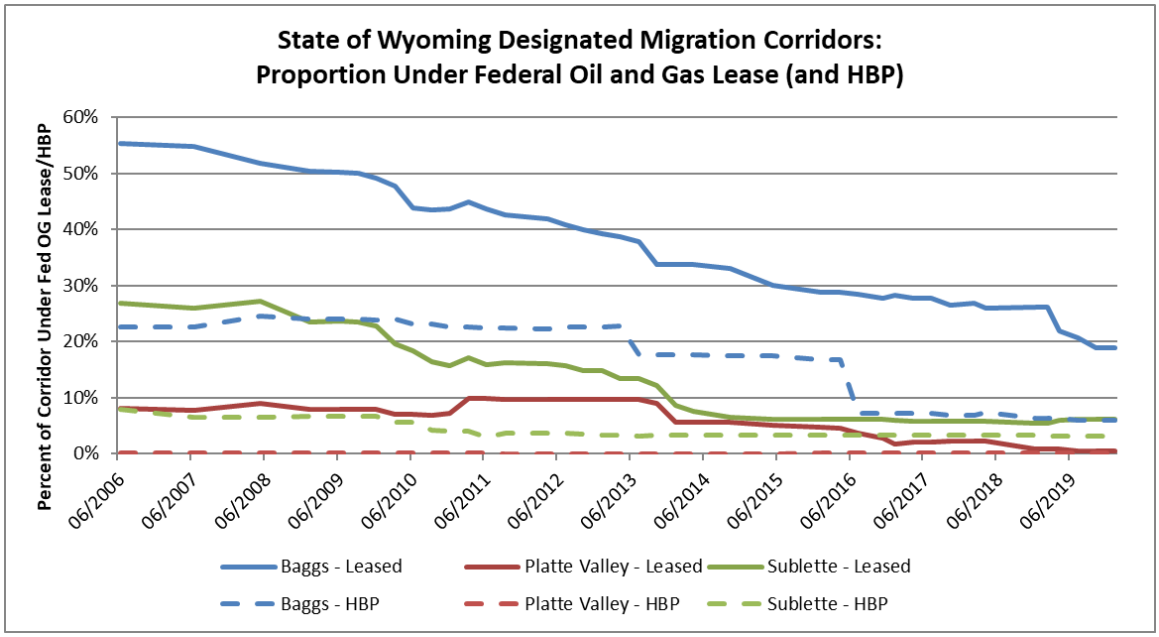
meaningfully or measurably prevent the cumulative climate change impacts that result from global emissions.

Further, the degree to which GHG emissions under the Proposed Action alternative combined with existing and reasonably foreseeable future actions may contribute to changes in the absolute concentration of CO_2 in the global atmosphere is unknown – as is the significance of that contribution – because no tools presently exist to measure that relationship. Despite the uncertainty about the ultimate production of minerals from leased lands under the Proposed Action alternative, the precise quantities of direct and indirect CO_2e emissions that may result from development of those lands, and the emissions that may result from other regional and national activities, the data presented above show a small, incremental potential contribution to global emissions, and a corresponding potential to affect the rate of climate change.

4.2.13.2 Mule Deer Vital Habitats

There are over 6.3 million acres of mule deer crucial winter/yearlong ranges in the State of Wyoming. As of January 2020, 10% of mule deer winter/yearlong range is under Federal oil and gas lease (661,868 acres), though only 5% (289,663 acres) is leased and held by production. An even smaller area is actually disturbed or occupied by oil and gas facilities.

For the three State of Wyoming-designated mule deer migration corridors (for the Baggs, Platte Valley, and Sublette herd units), the seventeen proposed parcels intersecting these corridors, if leased, will increase the potential that actual operations may be proposed in or near the corridors. However, the acreage of Federal oil and gas lease sale parcels within the corridors remains at or near the lows of the past 14 years:



The acreages of Federal oil and gas leases in the migration corridor areas recently designated by the State of Wyoming has decreased substantially since their peaks (-66% in the Baggs corridor, -95% in the Platte Valley corridor, and -77% in the Sublette corridor). Similarly, the acreages held by actual production (where operations are located on the lease) or allocated production (where operations occur within a unit

or CA to which the lease is committed) have also decreased substantially since their peaks, and remain a relatively small proportion of the corridor areas:

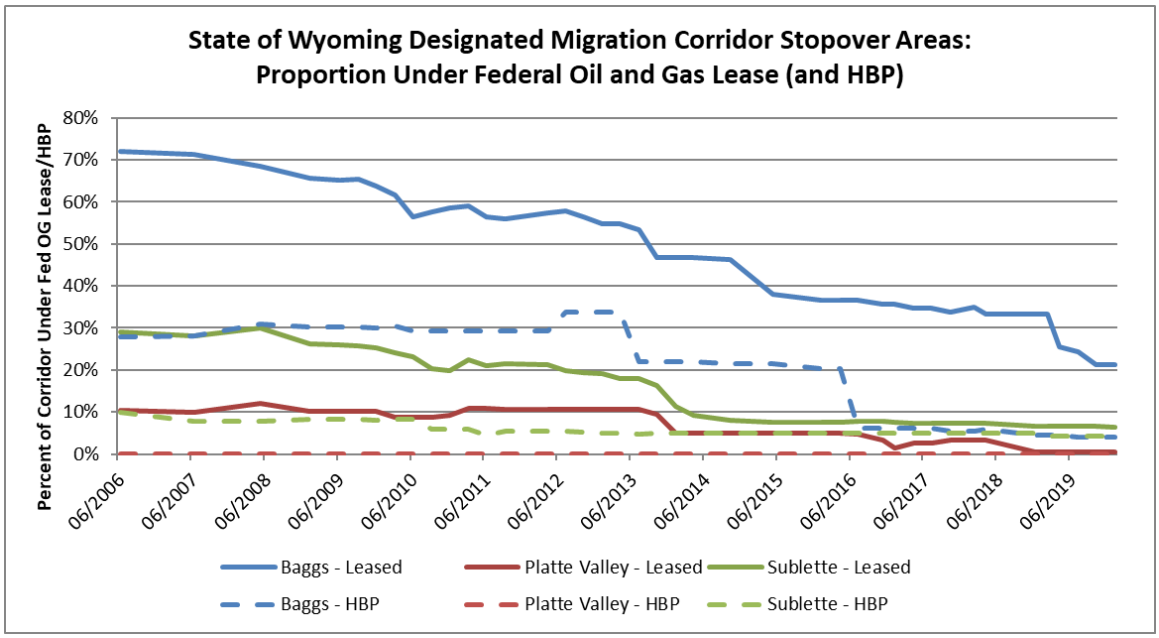
Table: Migration Corridor Areas Leased for Federal Oil and Gas

	Acres		
Corridor Herd Unit	**Corridor**	**Leased***	**Held by Production***
Baggs	252,050	47,652	15,251
Platte Valley	162,560	854	85
Sublette	834,143	51,892	25,495

*Source: BLM GIS data, as of January 2020

The areal extent of actual operations (as measured by existing surface disturbance) would be even lower, though the disruptive effects from the oil and gas operations are known to extend beyond the area of actual operations (refer to the approved RMP FEISs and WGFD's referenced publications for additional information).

The proposed leases in this sale also include stopover areas within the corridors (the areas used by the majority of time by the deer to forage and rest during spring and fall migrations). Fourteen of the 17 parcels intersect WGFD-identified stopover areas. The acreage of Federal oil and gas lease sale parcels within the stopover areas also remains at or near the lows of the past 14 years.



Like the area leased within the corridors, the acreages of Federal oil and gas leases in the migration corridor stopover areas has decreased substantially since their peaks (-71% in the Baggs stopover areas, -96% in the Platte Valley stopover areas, and -78% in the Sublette stopover areas). Similarly, the acreages held by actual production or allocated production have also decreased substantially since their peaks, and remain a relatively small proportion of the stopover areas:

Table: Stopover Areas Leased for Federal Oil and Gas

	Acres		
Corridor Herd Unit	**Stopover Areas**	**Leased**	**Held by Production**
Baggs	69,209	14,693	2,864
Platte Valley	54,649	248	0
Sublette	206,541	13,395	8,884

The additional acreage of proposed leases in the corridors under the Proposed Action Alternative (Baggs 11,231 acres; Platte Valley 1,384 acres; and Sublette 8,890 acres), or the additional acreage of proposed leases in the stopover areas (Baggs 6,561 acres; Platte Valley 606 acres; and Sublette 1,946 acres) would increase the cumulative potential (if these proposed lands are leased, and if actual operations are eventually proposed) for additional impacts through habitat disturbance and disruption of mule deer behavior in these vital habitats.

Oil and gas exploration and development operations cause surface disturbance through construction of well pads, roads, pipelines, and other facilities. Reclamation and other mitigation would reduce impacts to wildlife habitats and populations; however, construction and maintenance of roads and well pads and the presence of humans would result in long-term or permanent impacts. Impacts to mule deer and their vital habitats would likely be greater where mineral development is more intense and in areas where other existing and reasonably foreseeable land uses are present (such as residential development, livestock operations, recreational use, etc.).

If development expands, the ability of big game and other wildlife species to disperse into alternate habitats could become limited. This may isolate individuals within populations to areas where habitats remain intact. The degree of impact would depend on the timing of development activities and whether the amount of new activity outpaces the reclamation and revegetation of disturbed areas.

Persistent disturbance in vital habitats may shift the areas of use and weaken the tendency of the animals to return to the disturbed areas. If animals return to disturbed habitats, populations could be lower and use of the habitat could be unpredictable. Oil and gas development activities would likely cause displacement of animals, selection of alternative habitats, and would likely inhibit big game movement between winter ranges and parturition habitats. The displacement of mule deer from high-use to low-use areas has the potential to influence survival and reproduction (Sawyer et al. 2006). Should migration be disrupted and key habitats be highly degraded over a short period of time, it is likely that negative effects (both in the short-term and potentially in the long-term) from displacement of big game from these habitats would occur.

Particularly where lease sale parcels are not located within approved oil and gas field development EIS project areas, as more reservoir data is gathered through exploratory drilling the likelihood of sustained production activities may increase. BLM is currently unaware of any new concentrated field development proposals beyond what is currently undergoing review. See ARMPA FEIS pages 4-509 – 4-579, Buffalo RMP FEIS pages 871, 1167 and 1660-1665, Bighorn RMP FEIS pages 4-642 – 4-674, and Lander RMP FEIS pages 1276-1332 for additional information on which field development activities were considered in the recent RMPs' cumulative impacts analyses.

4.3 BLM-Modified Alternative

The impacts of this alternative are identical to the Proposed Action Alternative, but since the entire or partial parcels identified for deferral in this alternative would not be offered at the sale, there would likely

be similar or slightly fewer impacts to all resources including a slight difference in socioeconomic impacts.

For those parcels or portions of parcels deferred under this alternative, the impacts would be identical to the No Action Alternative.

4.3.1 Socioeconomics

For socioeconomics under the BLM-Modified Alternative, there could be a slight reduction in bonus bid revenues and rentals due to deferral of 11,982.040 acres (6.2% of the area that would be offered the Proposed Action alternative). Since not leasing these minerals would prevent private entities from exploring and developing these minerals, subsequent oil and gas production and generation of royalty revenues would not occur from these lands. The slight adverse effects to socioeconomic resources from not leasing these lands may be offset by the potential avoidance of adverse impacts to the existing and proposed coal and uranium mining operations.

5. Attachments

5.1 Lease Sale Parcel List with Proposed Stipulations and Noted Deletions/Deferrals

WY-2020-09-0547 400.000 Acres
T.0380N, R.0620W, 06th PM, WY
Sec. 013 SE;
024 NENE,SWNE,SE;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.

WY-2020-09-6807 1407.060 Acres
T.0370N, R.0640W, 06th PM, WY
Sec. 001 LOTS 3,4;
001 S2NW;
002 LOTS 3,4;
002 S2NW,N2SW,SWSE;
003 LOTS 1-4;
003 S2N2,S2;
010 E2;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0579 641.810 Acres
T.0370N, R.0640W, 06th PM, WY
Sec. 004 LOTS 1-4;
004 S2N2,S2;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-6814 756.160 Acres
T.0370N, R.0640W, 06th PM, WY
Sec. 005 LOTS 1-4;
005 S2N2,S2;
006 LOTS 1,2;
006 SENE;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-6815 800.000 Acres
T.0370N, R.0640W, 06th PM, WY
Sec. 007 NENE,S2NE,SENW;
008 ALL;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-6816 640.000 Acres
T.0370N, R.0640W, 06th PM, WY
Sec. 009 ALL;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire

lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0588 840.000 Acres
T.0370N, R.0640W, 06th PM, WY
Sec. 017 ALL;
018 NE,NESE;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0592 1280.000 Acres
T.0370N, R.0640W, 06th PM, WY
Sec. 021 ALL;
022 ALL;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0595 960.000 Acres
T.0370N, R.0640W, 06th PM, WY
Sec. 023 ALL;
026 N2;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-6804 1200.000 Acres
T.0370N, R.0640W, 06th PM, WY
Sec. 027 W2;
033 NE,NWNW,S2NW;
034 NW,S2;
035 SWNW,S2SW;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-6778 1078.230 Acres
T.0180N, R.0650W, 06th PM, WY
Sec. 001 LOTS 2,3;
001 SWNE,SENW,NESW,NWSE;
002 LOTS 2-4;
002 SWNE,S2NW,N2SW,NWSE;
003 LOTS 1-4;
003 S2N2,N2S2;
Laramie County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.

WY-2020-09-6777 319.690 Acres
T.0180N, R.0650W, 06th PM, WY
Sec. 004 LOTS 1-4;
004 S2N2;
Laramie County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2

Lease Stipulation No. 3
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.

WY-2020-09-0633 160.360 Acres
T.0360N, R.0650W, 06th PM, WY
Sec. 002 LOTS 2;
002 SWNE,N2SE;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0625 800.000 Acres
T.0360N, R.0650W, 06th PM, WY
Sec. 003 SE;
010 E2NE;
011 N2,SW,W2SE;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0622 1431.950 Acres
T.0360N, R.0650W, 06th PM, WY
Sec. 004 LOTS 1-4;
004 S2N2;
005 LOTS 1-4;
005 S2N2,S2;
006 LOTS 1-7;
006 S2NE,SENW,E2SW;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0616 640.000 Acres
T.0360N, R.0650W, 06th PM, WY
Sec. 008 N2NE,NW,N2SW;
009 S2;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_NFO_TLS_PHMAC
WY_NFO_CSU_PHMAC
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-6840 1040.000 Acres
T.0360N, R.0650W, 06th PM, WY
Sec. 013 S2NE,SE;
014 N2NE,SWNE,SW,NWSE;
015 N2NE,W2,S2SE;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-6841 962.240 Acres
T.0360N, R.0650W, 06th PM, WY
Sec. 017 S2;
018 LOTS 1-4;
018 E2W2,E2;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-6817 1036.910 Acres
T.0370N, R.0650W, 06th PM, WY
Sec. 007 LOTS 3,4;
007 E2SW,SE;
008 S2NW,SW;
018 LOTS 1-4;
018 NE,E2NW,SESW;
019 NENW;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0605 640.000 Acres
T.0370N, R.0650W, 06th PM, WY
Sec. 014 ALL;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0604 640.000 Acres
T.0370N, R.0650W, 06th PM, WY
Sec. 015 ALL;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0603 800.000 Acres
T.0370N, R.0650W, 06th PM, WY
Sec. 017 E2NE,W2;
020 N2NW,SENW,NESW,S2SW,SE;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0602 880.000 Acres
T.0370N, R.0650W, 06th PM, WY
Sec. 023 E2,W2NW;
026 W2E2,E2NW,SW;
035 W2SE;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2

Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-0611 640.720 Acres
T.0370N, R.0650W, 06th PM, WY
Sec. 030 LOTS 1-4;
030 E2,E2W2;
Niobrara County
Newcastle FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Newcastle Field Office GIS database; (3) protecting nesting raptors.
NSO (1) No surface occupancy within .25 miles of raptor nests; (2) as mapped on the Newcastle Field Office GIS database.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) entire lease; (3) protecting Lance Creek Fossil Area paleontological values.

WY-2020-09-6780 40.000 Acres
T.0180N, R.0660W, 06th PM, WY
Sec. 001 SENE;
Laramie County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.

WY-2020-09-6779 40.000 Acres
T.0180N, R.0660W, 06th PM, WY
Sec. 004 SWNW;
Laramie County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.

WY-2020-09-6856 80.000 Acres
T.0180N, R.0660W, 06th PM, WY
Sec. 029 N2NW;
Laramie County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.

WY-2020-09-0647 1068.760 Acres
T.0180N, R.0670W, 06th PM, WY
Sec. 001 LOTS 1-4;
001 S2N2,SW,N2SE,SWSE;
002 LOTS 1-4;
002 S2N2;
003 LOTS 1-3;
003 S2NW;
Laramie County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
CSU (1) Surface occupancy or use may be restricted or prohibited within the setting contributing to the National Register of Historic Places eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Lincoln Highway/UPRR Grade historic property.

WY-2020-09-6857 400.000 Acres
T.0180N, R.0670W, 06th PM, WY
Sec. 003 SESW,S2SE;
004 N2SE;
009 SENE,NWNW;
010 N2NE,NENW;
Laramie County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.

WY-2020-09-6858 1440.000 Acres
T.0180N, R.0670W, 06th PM, WY
Sec. 010 S2NE,NENW,SWNW;
011 ALL;
012 ALL;
Laramie County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.

WY-2020-09-6868 40.000 Acres
T.0370N, R.0670W, 06th PM, WY
Sec. 018 SESW;
Converse County
Casper FO
Formerly Lease No.
THUNDER BASIN NG TB 983
WYW180045X SPLIT HILL (DEEP)
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-CSU-03 (ALL)

WY-2020-09-6883 40.000 Acres
T.0370N, R.0670W, 06th PM, WY
Sec. 018 NWSE;
Converse County
Casper FO
Formerly Lease No.
THUNDER BASIN NG TB 1074
WYW180045X SPLIT HILL (DEEP)
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-CSU-03 (ALL)

WY-2020-09-6859 679.000 Acres
T.0340N, R.0680W, 06th PM, WY
Sec. 002 LOTS 1,2,4;
002 S2NE,SWNW,W2SW;
012 N2NE,SENE,NESE;
013 NWSE;
014 N2NE,SWNE;
024 SESE;
Converse County
Casper FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Casper Field Office GIS database; (3) protecting nesting Raptors.

WY-2020-09-0672 40.000 Acres
T.0370N, R.0680W, 06th PM, WY
Sec. 030 SESE;
Converse County
Casper FO
Formerly Lease No.
THUNDER BASIN NG TBNG-0370N-0680W-0001
WYW180045X SPLIT HILL (DEEP)
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-02 (Sec. 30: portions of SESE)
TBNG2002-CSU-03 (ALL)

WY-2020-09-6872 160.650 Acres
T.0380N, R.0690W, 06th PM, WY
Sec. 005 3,4;
005 S2NW;
Converse County
Casper FO
Formerly Lease No.
THUNDER BASIN NG TB 793
WYW180947X CONLEY DRAW (DEEP)
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-CSU-03 (ALL)

WY-2020-09-6874 1066.620 Acres
T.0440N, R.0690W, 06th PM, WY
Sec. 001 LOTS 5,7-9,12,13,16,17,20;
003 LOTS 16-18;
004 LOTS 5-12;
006 LOTS 8-10,12,14,15;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TBNG-0440N-0690W-0003
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13

TBNG2002-NSO-01 (Sec. 1: portions of Lots 5,7,12, Sec. 3: portions of Lot 16, Sec. 4: portions of Lots 7-10, Sec. 6: portions of Lots 12,15)
TBNG2002-NSO-02 (Sec. 1: portions of Lots 5,7-9,12,13,16,17, Sec. 3: portions of Lots 16,18, Sec. 4: portions of Lots 6-10,12, Sec. 6: portions of Lots 8-10,12,14,15)
TBNG2002-NSO-06 (Sec. 4: Lots 7,10, portions of Lots 6,8,9,11)
TBNG2002-TL-02 (Sec. 4: Lots 6-11, portions of Lots 5,12)
TBNG2002-CSU-03 (Sec. 1: Lots 5,7-9,12,13,16,17,20, Sec. 3: Lots 16-18, Sec. 4: Lots 5-12, Sec. 6: Lots 8-10,12,14,15)

WY-2020-09-6890 200.520 Acres
T.0440N, R.0690W, 06th PM, WY
Sec. 002 LOTS 5,6,11-13;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TBNG 0440N-0690W-0003
WYW 185632X BACON CREEK
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-01 (Sec. 2: portions of Lots 5,11,12)
TBNG2002-NSO-02 (Sec 2: portions of Lots 5,6,11-13)
TBNG2002-CSU-03 (ALL)

WY-2020-09-6875 1587.200 Acres
T.0440N, R.0690W, 06th PM, WY
Sec. 005 LOTS 5-20;
006 LOTS 13,16-23;
007 LOTS 16;
008 LOTS 6,9-13;
009 LOTS 9,10,14-16;
011 LOTS 9,10;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TBNG-0440N-0690W-0001
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-01 (Sec. 5: portions of Lots 5-8,12,14, Sec. 6: portions of Lots 18-21, Sec. 8: portions of Lots 9,12, Sec. 9: portions of Lots 9,10, Sec. 11: portions of Lot 10)
TBNG2002-NSO-02 (Sec. 5: portions of Lots 5-9,12-15,19,20, Sec. 6: portions of Lots 13,16-21,23, Sec. 7: portions of Lot 16, Sec. 8: portions of Lots 6,9-13, Sec. 9: portions of Lots 9,10,14-16, Sec. 11: portions of Lots 9,10
TBNG2002-NSO-06 (Sec. 8: portions of Lot 10-12, Sec. 9: portions of Lots 15,16)
TBNG2002-TL-02 (Sec. 5: portions of Lots 5,12,13, Sec. 6: portions of Lots 19-21, Sec. 7: portions of Lot 16, Sec. 8: Lots 10-13, portions of Lots 6,9, Sec. 9: Lots 15,16, portions of Lots 9,10,14)
TBNG2002-CSU-03 (ALL)
TBNG2002-CSU-07 (Sec. 6: portions of Lots 19-21)

WY-2020-09-0676 1248.520 Acres
T.0440N, R.0690W, 06th PM, WY
Sec. 007 LOTS 5-10;
008 LOTS 1-4,7,8;
009 LOTS 1-8,11,12;
011 LOTS 1-3;
011 SWNW;
012 LOTS 4;
014 LOTS 4,5;
015 LOTS 1,8;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TBNG-0440N-0690W-0004
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-01 (Sec. 8: portions of Lots 7,8, Sec. 9: portions of Lots 1,2,5-8, Sec. 11: portions of Lots 1,3,SWNW, Sec. 15: portions of Lots 1,8)
TBNG2002-NSO-02 (Sec. 7: portions of Lots 8,9, Sec. 8: portions of Lots 1-4,7,8, Sec. 9: portions of Lots 1-8,11,12, Sec. 11: portions of Lots 1-3, SWNW, Sec. 12: portions of Lot 4, Sec. 14: portions of Lots 4,5, Sec. 15: portions of Lots 1,8)
TBNG2002-NSO-06 (Sec. 7: portions of Lots 8,9)
TBNG2002-TL-02 (Sec. 7: Lots 8,9, portions of Lots 7,10, Sec. 8: portions of Lot 7, Sec. 9: portions of Lot 12)
TBNG2002-CSU-03 (ALL)

WY-2020-09-6873 161.580 Acres
T.0440N, R.0690W, 06th PM, WY
Sec. 017 LOTS 9,10,15,16;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB0440N-0690W-0006
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-01 (Sec. 17: portions of Lots 10,15,16)
TBNG2002-NSO-02 (Sec. 17: portions of Lots 9,10,15,16)
TBNG2002-TL-02 (Sec. 17: portions of Lot 10)
TBNG2002-CSU-03 (Sec. 17: Lots 9,10,15,16)
TBNG2002-CSU-07 (Sec. 17: portions of Lots 15,16)

WY-2020-09-6842 160.000 Acres
T.0370N, R.0700W, 06th PM, WY
Sec. 027 E2E2;
Converse County
Casper FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3

WY-2020-09-0662 1791.610 Acres
T.0410N, R.0700W, 06th PM, WY
Sec. 005 LOTS 9,15;
007 LOTS 5-20;
008 LOTS 3,4,9-12;
008 S2NW;
024 LOTS 1,7-16;
025 LOTS 1-8;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 1029
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-01 (Sec 7: portions of Lot 10, Sec. 24: portions of Lots 1,8-10,15,16, Sec. 25: portions of Lots 1-8)
TBNG2002-NSO-02 (Sec. 7: portions of Lots 5-8,10,11,13-20, Sec. 8: portions of Lots 3,4,9,10, Sec. 24: portions of Lots 1,7-11,13-16, Sec. 25: portions of Lots 1-8)
TBNG2002-NSO-04 (Sec 24: Lots 11-15, portions of Lots 9,10,16, Sec. 25: Lots 1-8)
TBNG2002-NSO-05 (Sec 24: Lots 7-16, portions of Lot 1, Sec. 25: Lots 1-8)
TBNG2002-NSO-06 (Sec. 7: portions of Lots 9-11,14-18, Sec. 24: portions of Lots 1,8,15,16, Sec. 25: portions of Lots 1,2,5-8)
TBNG2002-TL-01 (Sec. 5: portions of Lot 9, Sec. 7: Lots 7,9-11,14-18, portions of Lots 6,8,12,13,19, Sec 24: Lots 15,16, portions of 9-11,13,14, Sec. 25: Lots 1-3,5-8, portions of Lot 4)
TBNG2002-TL-02 (Sec. 5: portions of Lot 15, Sec. 8: Lots 3,9,12, portions of SENW, Sec 24: Lots 1,8, portions of Lots 7,9,10,13,16, Sec. 25: portions of Lots 4,5)
TBNG2002-TL-03 (Sec. 24: Lots 1,8, portions of Lots 7,9,10)
TBNG2002-TL-09 (Sec. 24: Lots 1,7-16, Sec. 25: Lots 1-8)
TBNG2002-CSU-03 (ALL)
TBNG2002-CSU-07 (Sec. 25: portions of Lots 5,7,8)
WY_BFO_CSU_CLBA

DEFER PARTIAL PARCEL (1042.230 ACRES) BECAUSE IT IS OVER EXISTING FEDERAL COAL LEASES (WYW87364, WYW119554, WYW176095, AND WYW179011) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR NORTH ANTELOPE ROCHELLE MINE. PARTIAL PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASES.
DEFER THE FOLLOWING:
T.0410N, R.0700W, 06th PM, WY
Sec. 005 LOTS 9,15;
007 LOTS 5-20;
008 LOTS 3,4,9-12;
008 S2NW;

WY-2020-09-0660 80.890 Acres
T.0420N, R.0700W, 06th PM, WY
Sec. 001 LOTS 9,16;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 861
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (ALL)
TBNG2002-CSU-03 (ALL)

WY-2020-09-6893 534.590 Acres
T.0420N, R.0700W, 06th PM, WY
Sec. 001 LOTS 10,11,13-15,17;
031 LOTS 5-12;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 1031
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (Sec. 1: Lots 10,15,portions of Lots 11,13,14,17)
TBNG2002-TL-01 (Sec. 1: Lots 10,11,13-15,17, Sec. 31: portions of Lots 7-9)
TBNG2002-CSU-03 (ALL)
WY_BFO_CSU_CLBA

DEFER PARTIAL PARCEL (293.080 ACRES) BECAUSE IT IS OVER AN EXISTING FEDERAL COAL LEASE (WYW179011) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR NORTH ANTELOPE ROCHELLE MINE. PARTIAL PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASE.
DEFER THE FOLLOWING:
T.0420N, R.0700W, 06th PM, WY
Sec. 031 LOTS 5-12;

WY-2020-09-0690 327.490 Acres
T.0420N, R.0700W, 06th PM, WY
Sec. 001 LOTS 5-7,12;
029 LOTS 11-14;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 1030
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-01 (Sec. 1: portions of Lots 5,12)
TBNG2002-NSO-02 (Sec. 1: portions of Lots 5-7,12)
TBNG2002-NSO-06 (Sec. 1: portions of Lot 7, Sec. 29: portions of Lot 11)
TBNG2002-TL-01 (Sec. 1: Lot 7, portions of Lots 5,6,12, Sec. 29: Lot 11, portions of Lots 12,14)
TBNG2002-TL-02 (Sec. 29: portions of Lots 11,12,14)

TBNG2002-CSU-03 (ALL)
WY_BFO_CSU_CLBA

DEFER PARTIAL PARCEL (165.670 ACRES) BECAUSE IT IS OVER AN EXISTING FEDERAL COAL LEASE (WYW150210) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR NORTH ANTELOPE ROCHELLE MINE. PARTIAL PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASE.
DEFER THE FOLLOWING:
T.0420N, R.0700W, 06th PM, WY
Sec. 029 LOTS 11-14;

WY-2020-09-6861 40.600 Acres
T.0420N, R.0700W, 06th PM, WY
Sec. 001 LOTS 8;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 865
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (Sec. 1: portions of Lot 8)
TBNFG-TL-01 (ALL)
TBNG2002-CSU-03 (ALL)

WY-2020-09-0686 221.950 Acres
T.0420N, R.0700W, 06th PM, WY
Sec. 030 LOTS 15-20;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TBNG-0420N-0700W-0002
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (Sec. 30: portions of Lots 16,17)
TBNG2002-TL-01 (Sec. 30: Lots 16,17,portions of Lots 15,16)
TBNG2002-CSU-03 (ALL)
WY_BFO_CSU_CLBA

PARCEL IS RECOMMENDED FOR DEFERRAL (221.950 ACRES) BECAUSE IT IS OVER AN EXISTING FEDERAL COAL LEASE (WYW150210) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR NORTH ANTELOPE ROCHELLE MINE. PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASE.

WY-2020-09-0661 183.800 Acres
T.0420N, R.0700W, 06th PM, WY
Sec. 031 LOTS 13-15,19,20;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 935
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (Sec. 31: portions of Lot 20
TBNG2002-TL-01 (Sec. 31: Lot 20, portions of Lots 13-15)
TBNG2002-CSU-03 (ALL)
WY_BFO_CSU_CLBA

PARCEL IS RECOMMENDED FOR DEFERRAL (183.800 ACRES) BECAUSE IT IS OVER AN EXISTING FEDERAL COAL LEASE (WYW179011) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR NORTH ANTELOPE ROCHELLE MINE. PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASE.

WY-2020-09-0694 78.230 Acres
T.0420N, R.0700W, 06th PM, WY
Sec. 031 LOTS 18;
033 LOTS 4;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 1105
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (Sec. 31: portions of Lot 18, Sec. 33: portions of Lot 4)
TBNG2002-TL-01 (Sec. 33: Lot 4)
TBNG2002-TB-02 (Sec. 33: portions of Lot 4)
TBNG2002-CSU-03 (Sec. 31: Lot 18, Sec. 33: Lot 4)
WY_BFO_CSU_CLBA

PARCEL IS RECOMMENDED FOR DEFERRAL (78.230 ACRES) BECAUSE IT IS OVER AN EXISTING FEDERAL COAL LEASE (WYW179011) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR NORTH ANTELOPE ROCHELLE MINE. PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASE.

WY-2020-09-6867 80.740 Acres
T.0430N, R.0700W, 06th PM, WY
Sec. 014 LOTS 5,6;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 864
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3

Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-01 (Sec. 14: portions of Lot 6)
TBNG2002-NSO-02 (Sec. 14: portions of Lots 5,6)
TBNG2002-NSO-06 (Sec. 14: portions of Lots 5,6)
TBNG2002-TL-01 (ALL)
TBNG2002-CSU-03 (ALL)

WY-2020-09-0669 205.560 Acres
T.0430N, R.0700W, 06th PM, WY
Sec. 022 LOTS 1,2;
023 LOTS 10;
027 LOTS 5,6;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 753
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-04 (Sec. 23: Lot 10)
TBNG2002-NSO-06 (Sec. 22: portions of Lots 1,2, Sec. 23: portions of Lot 10, Sec. 27: portions of Lot 5)
TBNG2002-TL-01 (Sec. 22: Lots 1,2, Sec. 23: Lot 10, Sec. 27: Lot 5, portions of Lot 6)
TBNG2002-TL-02 (Sec. 23: portions of Lot 10, Sec. 27: portions of Lots 5,6)
TBNG2002-CSU-03 (ALL)
WY_BFO_CSU_CLBA

DEFER PARTIAL PARCEL (123.470 ACRES) BECAUSE IT IS OVER AN EXISTING FEDERAL COAL LEASE (WYW2313) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR BLACK THUNDER MINE. PARTIAL PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASE.
DEFER THE FOLLOWING:
T.0430N, R.0700W, 06th PM, WY
Sec. 022 LOTS 2;
027 LOTS 5,6;

WY-2020-09-6865 247.830 Acres
T.0430N, R.0700W, 06th PM, WY
Sec. 022 LOTS 11,12;
023 LOTS 6-9;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 866
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-04 (Sec. 23: Lots 6,8,9, portions of Lot 7)
TBNG2002-NSO-06 (Sec. 23: portions of Lots 7-9)
TBNG2002-TL-01 (Sec. 22: portions of Lot 11, Sec. 23: Lots 6-9)
TBNG2002-TL-02 (Sec. 23: portions of Lots 8,9)
TBNG2002-CSU-03 (Sec. 22: Lots 11,12, Sec. 23: Lots 6-9)
WY_BFO_CSU_CLBA

DEFER PARTIAL PARCEL (82.170 ACRES) BECAUSE IT IS OVER AN EXISTING FEDERAL COAL LEASE (WYW2313) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR BLACK THUNDER MINE. PARTIAL PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASE.
DEFER THE FOLLOWING:
T.0430N, R.0700W, 06th PM, WY
Sec. 022 LOTS 11,12;

WY-2020-09-0663 166.420 Acres
T.0430N, R.0700W, 06th PM, WY
Sec. 023 LOTS 1,2,4,5;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 932
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-04 (Sec. 23: Lot 5, portions of Lot 4)
TBNG2002-NSO-06 (Sec. 23: Lot 1, portions of Lots 2,4,5)
TBNG2002-TL-01 (ALL)
TBNG2002-CSU-03 (ALL)

WY-2020-09-0665 653.310 Acres
T.0430N, R.0700W, 06th PM, WY
Sec. 026 LOTS 5-7;
035 LOTS 2-7,10-16;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 783
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-04 (Sec. 26: Lots 5-7, Sec. 35: Lots 2,3, portions of Lots 4-7)
TBNG2002-NSO-06 (Sec. 26: portions of Lots 5,6)
TBNG2002-TL-01 (Sec 35: portions of Lots 15,16)
TBNG2002-TL-02 (Sec 26: Lots 5,6, portions of Lot 7, Sec. 35: portions of Lots 4,5)
TBNG2002-CSU-03 (ALL)
WY_BFO_CSU_CLBA

PARCEL IS RECOMMENDED FOR DEFERRAL (653.310 ACRES) BECAUSE IT IS OVER AN EXISTING FEDERAL COAL LEASE (WYW2313) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR BLACK THUNDER MINE.

PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASE.

WY-2020-09-0664 41.660 Acres
T.0430N, R.0700W, 06th PM, WY
Sec. 026 LOTS 4;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 933
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-04 (ALL)
TBNG2002-NSO-06 (Sec. 26: portions of Lot 4)
TBNG2002-TL-02 (ALL)
TBNG2002-CSU-03 (ALL)

WY-2020-09-0666 40.000 Acres
T.0430N, R.0700W, 06th PM, WY
Sec. 026 NWNW;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 912
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-04 (ALL)
TBNG2002-NSO-06 (Sec 26: portions of NWNW)
TBNG2002-TL-01 (ALL)
TBNG2002-TL-02 (ALL)
TBNG2002-CSU-03 (ALL)

WY-2020-09-0667 308.700 Acres
T.0430N, R.0700W, 06th PM, WY
Sec. 033 LOTS 1,2,7-10,15,16;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 766
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (Sec. 33: portions of Lots 2,7,9,15,16)
TBNG2002-TL-01 (Sec. 33: portions of Lots 1,2,16)
TBNG2002-TL-02 (Sec. 33: Lots 7,9,10,15, portions of Lots 1,2,8,16)
TBNG2002-CSU-03 (ALL)
WY_BFO_CSU_CLBA

PARCEL IS RECOMMENDED FOR DEFERRAL (308.700 ACRES) BECAUSE IT IS OVER AN EXISTING FEDERAL COAL LEASE (WYW2313) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR BLACK THUNDER MINE. PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASE.

WY-2020-09-0550 280.920 Acres
T.0470N, R.0700W, 06th PM, WY
Sec. 023 LOTS 8-11,13-15;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_Slopes50
WY_BFO_CSU_FQM
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLB
WY_SW_TLS_GHMAL
WY_BFO_CSU_SSWLH

WY-2020-09-6839 366.170 Acres
T.0470N, R.0700W, 06th PM, WY
Sec. 031 LOTS 11,12,17,18;
033 LOTS 11-14;
034 LOTS 2;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_SSRN
WY_BFO_TLS_SSRN
WY_BFO_CSU_FQM
WY_BFO_CSU_RN
WY_BFO_CSU_SE
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_H20500F
WY_SW_TLS_GHMAL
WY_BFO_CSU_SSWLH

WY-2020-09-0621 1051.870 Acres
T.0480N, R.0700W, 06th PM, WY
Sec. 003 LOTS 13,19,20;
008 LOTS 1;
009 LOTS 8,10-13,15;
011 LOTS 7;
017 LOTS 16;
019 LOTS 10,11;
026 LOTS 1,2,7,8,10;

027 LOTS 11;
032 LOTS 2-7;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
WY_BFO_TLS_NSSRN
WY_BFO_CSU_FQM
WY_BFO_CSU_R500F
WY_BFO_CSU_RN
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLB
WY_BFO_CSU_SSWLH
WY_BFO_TLS_SSRN

WY-2020-09-0632 971.430 Acres
T.0550N, R.0700W, 06th PM, WY
Sec. 027 LOTS 1-16;
034 LOTS 1,2,7-10,15,16;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_CSU_PHMA
WY_BFO_NSO_Slopes50
WY_BFO_NSO_SSRN
WY_BFO_TLS_SSRN
WY_BFO_TLS_STG
WY_BFO_CSU_FQM
WY_BFO_CSU_GSGRH
WY_BFO_CSU_RN
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLB
WY_BFO_TLS_PHMAL
WY_BFO_CSU_SSWLH

WY-2020-09-6889 80.000 Acres
T.0390N, R.0710W, 06th PM, WY
Sec. 008 N2SE;
Converse County
Casper FO
Formerly Lease No.
THUNDER BASIN NG TB-1072
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (Sec. 8: portions of NESE, Sec. 9: portions of N2SW,S2SW)
TBNG2002-TL-01 (Sec. 8: portions of NESE,SESE, Sec. 9: N2SW, portions of SWSW,SESW)
TBNG2002-TL-02 (Sec. 8: portions of NESE,NWSE,SESE, Sec. 9: N2SW,SESW, portions of SWSW)
TBNG2002-TL08 (Sec. 9: portions of NESW,NWSE,SWSW)
TBNG2002-CSU-03 (Sec. 8: SE, Sec. 9: SW)

WY-2020-09-6882 313.470 Acres
T.0420N, R.0710W, 06th PM, WY
Sec. 002 LOTS 5,6,11-14,19,20;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 1107
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (Sec 2: Lot 5, portions of Lots 6,11-13,20)
TBNG2002-TL-01 (Sec 2: Lots 5,6,12,13,20, portions of Lots 11,14,19)
TBNG2002-CSU-03 (ALL)
WY_BFO_CSU_CLBA

PARCEL IS RECOMMENDED FOR DEFERRAL (313.470 ACRES) BECAUSE IT IS IN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMITS FOR NORTH ANTELOPE ROCHELLE AND BLACK THUNDER MINES. PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN ACTIVE COAL MINING PERMITS.

WY-2020-09-0693 122.190 Acres
T.0420N, R.0710W, 06th PM, WY
Sec. 025 LOTS 3,4,6;
Campbell County
Buffalo FO
Formerly Lease No.
THUNDER BASIN NG TB 1108
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TBNG-R2-FS-2820-13
TBNG2002-NSO-06 (Sec 25: Lot 3, portions of Lots 4,6)
TBNG2002-TL-01 (Sec 25: Lots 3,4,6)
TBNG2002-CSU-03 (Sec. 25: Lot 3,4,6)
WY_BFO_CSU_CLBA

PARCEL IS RECOMMENDED FOR DEFERRAL (122.190 ACRES) BECAUSE IT IS OVER EXISTING FEDERAL COAL LEASES (WYW173408 AND WYW150210) AND IS IN AN ACTIVE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY MINING PERMIT FOR NORTH ANTELOPE ROCHELLE MINE. PARCEL IS RECOMMENDED FOR DEFERRAL UNTIL IT IS NO LONGER WITHIN AN ACTIVE COAL MINING PERMIT AND ACTIVE COAL LEASES.

WY-2020-09-0626 1507.820 Acres
T.0570N, R.0710W, 06th PM, WY
Sec. 002 LOTS 5-8;
002 S2N2;
003 S2;
008 E2,SENW,NESW;
009 W2;
010 N2SE,SESE;
012 LOTS 6;
013 LOTS 2;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_Slopes50
WY_BFO_CSU_FQM
WY_BFO_CSU_H20500F
WY_BFO_CSU_PD
WY_BFO_CSU_R500F
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLB
WY_BFO_CSU_SSWLH

WY-2020-09-6846 440.000 Acres
T.0570N, R.0710W, 06th PM, WY
Sec. 005 S2;
008 N2NW;
010 SWSW;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_Slopes50
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLB
WY_BFO_CSU_PD
WY_BFO_CSU_SSWLH

DELETE 40.000 ACRES (ALREADY LEASED IN WYW180154):
T.0570N, R.0710W, 06th PM, WY
Sec. 010 SWSW;

WY-2020-09-0628 941.400 Acres
T.0570N, R.0710W, 06th PM, WY
Sec. 017 N2,SE;
018 NESE,S2SE;
019 LOTS 7,8;
019 E2NE,SESW;
020 NWNE;
022 S2SE;
023 LOTS 2;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_CSU_FQM
WY_BFO_CSU_H20500F
WY_BFO_CSU_PD
WY_BFO_CSU_R500F
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLH

WY-2020-09-0629 1800.080 Acres
T.0570N, R.0710W, 06th PM, WY
Sec. 027 NE;
029 NE,SW;
030 LOTS 5-8;
030 E2,E2W2;
032 SW,W2SE;
034 NE,S2SW,W2SE;
035 LOTS 4,8;
035 NENE;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_TLS_STG
WY_BFO_CSU_FQM
WY_BFO_CSU_H20500F
WY_BFO_CSU_PD
WY_BFO_CSU_R500F
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_STG
WY_SW_TLS_GHMAL
WY_BFO_CSU_SSWLH

WY-2020-09-0631 120.040 Acres
T.0570N, R.0710W, 06th PM, WY
Sec. 031 SESE;
034 SENW;
035 46D;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_TLS_STG
WY_BFO_CSU_FQM
WY_BFO_CSU_H20500F

WY_BFO_CSU_R500F
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_SW_TLS_GHMAL
WY_BFO_CSU_SSWLH

WY-2020-09-6844 456.570 Acres
T.0580N, R.0710W, 06th PM, WY
Sec. 025 LOTS 2,3,5,6;
026 W2;
030 E2SW;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_TLS_STG
WY_BFO_CSU_FQM
WY_BFO_CSU_H20500F
WY_BFO_CSU_R500F
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_PD
WY_BFO_CSU_SSWLH

WY-2020-09-0549 41.000 Acres
T.0470N, R.0720W, 06th PM, WY
Sec. 002 LOTS 8;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_CSU_FQM
WY_BFO_CSU_H20500F
WY_BFO_CSU_R500F
WY_BFO_CSU_SSWLA
WY_BFO_CSU_RN
WY_BFO_NSO_SSRN
WY_BFO_TLS_NSSRN
WY_BFO_TLS_SSRN
WY_BFO_CSU_SSWLH

WY-2020-09-0624 668.860 Acres
T.0570N, R.0720W, 06th PM, WY
Sec. 012 E2E2;
013 NE,S2;
024 LOTS 1-3;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_BEN
WY_BFO_NSO_Slopes50
WY_BFO_NSO_SSRN
WY_BFO_TLS_BEN
WY_BFO_TLS_SSRN
WY_BFO_CSU_FQM
WY_BFO_CSU_H20500F
WY_BFO_CSU_PD
WY_BFO_CSU_R500F
WY_BFO_CSU_RN
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLB
WY_BFO_CSU_SSWLH

WY-2020-09-6845 320.000 Acres
T.0570N, R.0720W, 06th PM, WY
Sec. 012 W2E2;
013 NW;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_Slopes50
WY_BFO_NSO_SSRN
WY_BFO_TLS_BEN
WY_BFO_TLS_SSRN
WY_BFO_CSU_RN
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLB
WY_BFO_CSU_PD
WY_BFO_CSU_SSWLH

WY-2020-09-6843 163.160 Acres
T.0580N, R.0720W, 06th PM, WY
Sec. 024 LOTS 9-12;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_CSU_R500F
WY_BFO_CSU_SSWLA
WY_BFO_CSU_PD
WY_BFO_CSU_SSWLH

WY-2020-09-0620 238.960 Acres
T.0380N, R.0730W, 06th PM, WY
Sec. 003 LOTS 2;

003 SWNE,SESW;
009 N2NE,N2S2NE;
Converse County
Casper FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Casper Field Office GIS database; (3) protecting nesting Raptors.

WY-2020-09-6786 330.200 Acres
T.0460N, R.0730W, 06th PM, WY
Sec. 001 LOTS 16,20;
002 LOTS 7,8,16;
003 LOTS 5,6;
032 LOTS 9;
Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_SSRN
WY_BFO_TLS_NSSRN
WY_BFO_TLS_SSRN
WY_BFO_CSU_FQM
WY_BFO_CSU_R500F
WY_BFO_CSU_RN
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLH

Special Lease Notice: (1) There is a single unplugged wellbore and/or other facilities located on this parcel. For more information, please contact a Petroleum Engineer at the Buffalo Field Office at (307) 684-1100.

WY-2020-09-0546 552.800 Acres
T.0330N, R.0740W, 06th PM, WY
Sec. 001 LOTS 1-4;
001 S2N2 (EXCL 24.76 AC IN
001 RR ROW WYC042128);
002 LOTS 1,2;
002 N2SW;
002 S2NE,SENW (EXCL 24.49 AC
002 IN RR ROW WYC042128);
Converse County
Casper FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
CSU (1) Surface occupancy or use within 0.25 miles or visual horizon of the historic trail, whichever is closer, may be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Casper Field Office GIS database; (3) protecting cultural and scenic values of the Oregon Trail.
CSU (1) Surface occupancy or use within 3 miles or visual horizon of the historic trail, whichever is closer, may be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Casper Field Office GIS database; (3) protecting cultural and scenic values of the Oregon Trail.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Casper Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use within 1/4 mile of the Bald Eagle Concentration Feeding Areas will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Casper Field Office GIS database; (3) protecting Bald Eagle Feeding Areas.
NSO (1) as mapped on the Casper Field Office GIS database (2) protecting Bald Eagle nests.

WY-2020-09-0643 1541.080 Acres
T.0540N, R.0760W, 06th PM, WY
Sec. 009 LOTS 5,6,11-14;
014 LOTS 1,2,4,5,7-10,15,16;
015 LOTS 1-15;
015 SWSW;
017 LOTS 4,9,16;
018 LOTS 8-10,15;
Sheridan and Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_Slopes50
WY_BFO_NSO_SSRN
WY_BFO_TLS_NSSRN
WY_BFO_TLS_SSRN
WY_BFO_CSU_FQM
WY_BFO_CSU_PD
WY_BFO_CSU_RN
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLB
WY_BFO_CSU_H20500F
WY_BFO_TLS_STG
WY_BFO_CSU_SSWLH

Special Lease Notice: (1) There are multiple unplugged wellbores and/or other facilities located on this parcel. For more information, please contact a Petroleum Engineer at the Buffalo Field Office at (307) 684-1100.

WY-2020-09-6852 869.380 Acres
T.0540N, R.0760W, 06th PM, WY
Sec. 020 LOTS 1-3,7-9,15;
021 LOTS 1;
022 LOTS 4,5;
027 LOTS 7,10,14,15;
028 LOTS 7,9,10;
034 LOTS 1-3,6,7;
Sheridan and Campbell County
Buffalo FO

Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_SSRN
WY_BFO_TLS_NSSRN
WY_BFO_TLS_SSRN
WY_BFO_CSU_FQM
WY_BFO_CSU_H20500F
WY_BFO_CSU_PD
WY_BFO_CSU_R500F
WY_BFO_CSU_RN
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLH

Special Lease Notice: (1) There are multiple unplugged wellbores and/or other facilities located on this parcel. For more information, please contact a Petroleum Engineer at the Buffalo Field Office at (307) 684-1100.

WY-2020-09-0535 716.300 Acres
T.0540N, R.0760W, 06th PM, WY
Sec. 021 LOTS 4;
024 LOTS 1,2,7-10,15,16;
025 LOTS 13-15;
027 LOTS 16;
035 LOTS 5-7,12,13;
Sheridan and Campbell County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_NSO_SSRN
WY_BFO_TLS_SSRN
WY_BFO_CSU_H20500F
WY_BFO_CSU_PD
WY_BFO_CSU_R500F
WY_BFO_CSU_RN
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLB
WY_BFO_TLS_STG
WY_BFO_CSU_SSWLH

Special Lease Notice: (1) There are multiple unplugged wellbores and/or other facilities located on this parcel. For more information, please contact a Petroleum Engineer at the Buffalo Field Office at (307) 684-1100.

WY-2020-09-0565 1360.050 Acres
T.0550N, R.0760W, 06th PM, WY
Sec. 028 LOTS 9;
031 LOTS 5-16,19;
031 SENW;
032 LOTS 3-6,11-14;
033 LOTS 3,4,6,16;
034 LOTS 1,2,8,12;
035 LOTS 9-12;
Campbell and Sheridan County
Buffalo FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_BFO_TLS_STG
WY_BFO_CSU_FQM
WY_BFO_CSU_H20500F
WY_BFO_CSU_PD
WY_BFO_CSU_R500F
WY_BFO_CSU_SE
WY_BFO_CSU_Slopes25to50
WY_BFO_CSU_SLR
WY_BFO_CSU_SSWLA
WY_BFO_CSU_SSWLB
WY_BFO_CSU_SSWLH

Special Lease Notice: (1) There are multiple unplugged wellbores and/or other facilities located on this parcel. For more information, please contact a Petroleum Engineer at the Buffalo Field Office at (307) 684-1100.

WY-2020-09-6885 1034.350 Acres
T.0200N, R.0820W, 06th PM, WY
Sec. 006 LOTS 1-6;
006 E2SW,SE;
018 LOTS 1-4;
018 NE,E2W2;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as

mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.
CSU (1) Surface occupancy or use may be restricted or prohibited within the setting contributing to the National Register of Historic Places eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Overland Trail.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-6886 640.000 Acres
T.0210N, R.0820W, 06th PM, WY
Sec. 032 ALL;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0540 1600.000 Acres
T.0370N, R.0820W, 06th PM, WY
Sec. 010 ALL;
011 ALL;
015 N2;
Natrona County
Casper FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA

WY-2020-09-0640 1244.150 Acres
T.0210N, R.0840W, 06th PM, WY
Sec. 006 LOTS 1-14;
006 E2SW,SE;
008 LOTS 1-8;
008 W2E2,W2;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use may be restricted or prohibited within the setting contributing to the National Register of Historic Places eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Lincoln Highway/UPRR Grade historic property.

WY-2020-09-0698 219.260 Acres
T.0160N, R.0890W, 06th PM, WY
Sec. 015 LOTS 2;
015 SWNE,SE;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an

acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

Delete in part 40.000 acres
T.0160N, R.0890W, 06th PM, WY
Sec. 15 SWSE
Parcel located in Cow Butte / Wild Cow Management Area – This area is closed to New Oil and Gas Leasing (Cow Butte/Wild Cow Wildlife Habitat Management Area, Management Actions #7, pg 2-34 of Rawlins Revised Resource Management Plan).

WY-2020-09-0577 1792.880 Acres
T.0380N, R.0900W, 06th PM, WY
Sec. 023 ALL;
024 LOTS 1-4;
024 W2E2,W2;
025 LOTS 1-4;
025 W2E2,W2;
Fremont County
Lander FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
WY_LFO_NSO_PSWDDA4031
WY_LFO_NSO_SG25P1014
WY_LFO_TLS_BGCW4061
WY_LFO_TLS_MPN4094
WY_LFO_TLS_RN4071
WY_LFO_CSU_LRPS1013
WY_LFO_CSU_PYFC5058
WY_LFO_CSU_RHTEH5018
WY_LFO_CSU_S15TO24P1014

WY-2020-09-0702 2274.570 Acres
T.0130N, R.0910W, 06th PM, WY
Sec. 001 LOTS 5-8;
001 W2E2,W2;
002 ALL;
003 ALL;
004 SENE,N2NE,SWNW,SW,NESE;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0703 2400.000 Acres
T.0130N, R.0910W, 06th PM, WY
Sec. 005 ALL;
006 ALL;
007 N2,N2S2,SWSW;
008 N2,N2SW,SESW,SE;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0704 2080.000 Acres
T.0130N, R.0910W, 06th PM, WY
Sec. 017 N2NE,SENE,NESE,S2SE;
018 SENE,W2E2,W2,SESE;
019 ALL;
020 ALL;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use may be restricted or prohibited within the setting contributing to the National Register of Historic Places eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Rawlins to Baggs Road.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0697 800.000 Acres
T.0160N, R.0910W, 06th PM, WY
Sec. 012 SW,W2SE;
013 W2NE,NWSW;
014 SENE,S2SE,NESE;
023 W2NE,S2NW,N2SW,SWSW;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.
NSO (1) as mapped on the Rawlins Field Office GIS database; (2) protecting historic values of the defined 18-acre area surrounding the JO Ranch buildings.
CSU (1) Surface occupancy or use may be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values within the setting of the JO Ranch.
NSO (1) as mapped on the Rawlins Field Office GIS database; (2) protecting historic values within 1/4 mile of contributing segments of the Rawlins to Baggs Road.
CSU (1) Surface occupancy or use may be restricted or prohibited within the setting contributing to the National Register of Historic Places eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Rawlins to Baggs Road.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-6847 1565.660 Acres
T.0200N, R.0910W, 06th PM, WY
Sec. 002 LOTS 1-4;
002 S2;
004 LOTS 1-4;
004 S2;
010 N2,NWSW;
010 NESW,S2SW,SE (EXCL 44.24
010 AC IN RR ROW WYW0200644 &
010 RR STA ROW WYC041485);

Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.
CSU (1) Surface occupancy or use may be restricted or prohibited within 1/4 mile or the visual horizon, whichever is closer, of historic properties where the setting contributes to National Register of Historic Places (NRHP) eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Lincoln Highway/UPRR Grade historic property.
CSU (1) Surface occupancy or use may be restricted or prohibited within the setting contributing to the National Register of Historic Places eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Lincoln Highway/UPRR Grade historic property.

WY-2020-09-0534 2079.840 Acres
T.0210N, R.0910W, 06th PM, WY
Sec. 026 NE;
028 ALL;
030 LOTS 1-4;
030 E2,E2W2;
032 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.
CSU (1) Surface occupancy or use may be restricted or prohibited within the setting contributing to the National Register of Historic Places eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Lincoln Highway/UPRR Grade historic property.

WY-2020-09-0559 1925.520 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 001 LOTS 1-4;
001 S2N2,S2;
002 LOTS 1-4;
002 S2N2,S2;
003 LOTS 1-4;
003 S2N2,S2;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-0562 2559.540 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 004 LOTS 1-4;
004 S2N2,S2;
005 LOTS 1-4;
005 S2N2,S2;
006 LOTS 1-7;
006 S2NE,SENW,E2SW,SE;
008 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an

acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-0563 1922.000 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 007 LOTS 1-4;
007 E2,E2W2;
017 ALL;
018 LOTS 1-4;
018 E2,E2W2;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-6793 2552.140 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 009 LOTS 1-16;
010 ALL;
011 ALL;
012 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-6794 2560.000 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 013 ALL;
014 ALL;
015 ALL;
024 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-0567 2551.320 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 019 LOTS 1-4;
019 E2,E2W2;
020 ALL;
021 ALL;
022 LOTS 1-16;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-0568 2524.400 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 023 LOTS 1-15;
025 ALL;
026 ALL;
027 LOTS 1-16;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.

CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-6797 1924.400 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 028 ALL;
029 ALL;
030 LOTS 1-4;
030 E2,E2W2;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-6799 1922.880 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 031 LOTS 1-4;
031 E2,E2W2;
032 ALL;
033 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for uranium processing. BLM will consider recommendations received by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

WY-2020-09-6800 1262.390 Acres
T.0250N, R.0910W, 06th PM, WY
Sec. 034 LOTS 1-16;
035 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-0552 1653.990 Acres
T.0380N, R.0910W, 06th PM, WY
Sec. 013 SWNE,S2;
013 40,41,42;
014 LOTS 1-4;
014 S2N2,N2SW,SESW,SE;
015 LOTS 1-4;
015 S2N2,S2;
Fremont County
Lander FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_LFO_NSO_PSWDDA4031
WY_LFO_NSO_SG25P1014
WY_LFO_TLS_BGCW4061
WY_LFO_TLS_MPN4094
WY_LFO_TLS_RN4071
WY_LFO_CSU_LRPS1013
WY_LFO_CSU_PYFC5058

WY_LFO_CSU_RHTEH5018
WY_LFO_CSU_S15TO24P1014

WY-2020-09-0583 2222.920 Acres
T.0380N, R.0910W, 06th PM, WY
Sec. 022 S2;
025 LOTS 1-4;
025 W2E2;W2;
026 ALL;
027 ALL;
Fremont County
Lander FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_LFO_NSO_PSWDDA4031
WY_LFO_NSO_SG25P1014
WY_LFO_TLS_MPN4094
WY_LFO_TLS_RN4071
WY_LFO_CSU_LRPS1013
WY_LFO_CSU_PYFC5058
WY_LFO_CSU_S15TO24P1014

WY-2020-09-0560 1269.600 Acres
T.0380N, R.0910W, 06th PM, WY
Sec. 023 ALL;
024 LOTS 1-4;
024 W2E2,W2;
Fremont County
Lander FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_LFO_NSO_PSWDDA4031
WY_LFO_NSO_SG25P1014
WY_LFO_TLS_MPN4094
WY_LFO_TLS_RN4071
WY_LFO_CSU_LRPS1013
WY_LFO_CSU_PYFC5058
WY_LFO_CSU_S15TO24P1014

WY-2020-09-6891 960.000 Acres
T.0380N, R.0910W, 06th PM, WY
Sec. 028 ALL;
029 E2;
Fremont County
Lander FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_LFO_NSO_PSWDDA4031
WY_LFO_NSO_SG25P1014
WY_LFO_TLS_RN4071
WY_LFO_TLS_MPN4094
WY_LFO_CSU_LRPS1013
WY_LFO_CSU_PYFC5058
WY_LFO_CSU_S15TO24P1014

WY-2020-09-0654 1920.000 Acres
T.0130N, R.0920W, 06th PM, WY
Sec. 001 ALL;
011 E2NE,SE;
012 ALL;
013 N2;
014 E2NE;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_GHMAL
WY_SW_TLS_GHMAL
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS data base; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the “Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy” (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-6860 320.000 Acres
T.0130N, R.0920W, 06th PM, WY
Sec. 013 S2;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3

Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0696 1854.930 Acres
T.0130N, R.0920W, 06th PM, WY
Sec. 033 LOTS 1-4;
033 NE,E2NW,N2S2;
034 LOTS 1-4;
034 N2,N2S2;
035 LOTS 1-4;
035 N2,N2S2;
Carbon County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting identified big game migration and transitional ranges.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0564 2539.960 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 001 LOTS 1-4;
001 S2N2,S2;
002 LOTS 1-4;
002 S2N2,S2;
003 LOTS 1-4;
003 S2N2,S2;
004 LOTS 1-4;
004 S2N2,S2;
Sweetwater County
Lander FO
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
WY_LFO_TLS_PHMAWCA
WY_LFO_TLS_MPN4094
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-6792 2532.510 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 005 LOTS 1-4;
005 S2N2,S2;
006 LOTS 1-7;
006 S2NE,SENW,E2SW,SE;
007 LOTS 1-4;
007 E2,E2W2;
008 ALL;
Sweetwater County
Rawlins FO
Lander FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
WY_LFO_TLS_PHMAWCA
WY_LFO_TLS_MPN4094
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for

uranium processing. BLM will consider recommendations received by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

WY-2020-09-0575 2560.000 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 009 ALL;
010 ALL;
011 ALL;
012 ALL;
Sweetwater County
Rawlins FO
Lander FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
WY_LFO_TLS_PHMAWCA
WY_LFO_TLS_MPN4094
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for uranium processing. BLM will consider recommendations received by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

Defer in part 1360.000 acres
T.0250N, R.0920W, 06th PM, WY
Sec. 009 SESE,
010 All;
011 ALL;
012 NWNW:
Parcel is within the Lost Creek ISR Uranium Mine Boundary.

WY-2020-09-6787 1920.000 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 013 ALL;
014 ALL;
015 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for uranium processing. BLM will consider recommendations received by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

Defer in part 1,280.000 acres
T.0250N, R.0920W, 06th PM, WY.
Sec. 14 All;
Sec. 15 All
Parcel is within the Lost Creek ISR Uranium Mine Boundary.

WY-2020-09-6803 1276.640 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 017 ALL;
018 LOTS 1-4;
018 E2,E2W2;
Sweetwater County
Rawlins FO
Lander FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
WY_LFO_TLS_PHMAWCA
WY_LFO_TLS_MPN4094
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for uranium processing. BLM will consider recommendations received

by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

Defer in part 640.000 acres
T.0250N, R.0920W, 06th PM, WY
Sec. 017 ALL
Parcel is within the Lost Creek ISR Uranium Mine Boundary.

WY-2020-09-0578 2556.080 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 019 LOTS 1-4;
019 E2,E2W2;
020 ALL;
021 ALL;
022 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for uranium processing. BLM will consider recommendations received by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

Defer All 2556.080 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 019 LOTS 1-4;
019 E2,E2W2;
020 ALL;
021 ALL;
022 ALL;
Entire Parcel is within the Lost Creek ISR Uranium Mine Boundary.

WY-2020-09-6802 2560.000 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 023 ALL;
024 ALL;
025 ALL;
026 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats Fof identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for uranium processing. BLM will consider recommendations received by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

Defer in part 360.000 acres
T.0250N, R.0920W, 06th PM, WY
Sec. 23 NW, NWSW, NESW, NWSE, SWNE, NWNE;
Parcel is within the Lost Creek ISR Uranium Mine Boundary.

WY-2020-09-6801 2542.850 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 027 ALL;
028 ALL;
029 ALL;
030 LOTS 5-20;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for uranium processing. BLM will consider recommendations received by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

Defer in part 793.630 acres
T.0250N, R.0920W, 06th PM, WY
Sec. 30 Lots 5,6,7,8,9,16,17
Sec. 29 NWNW; NENW, NWNE, NENE, SENE;
Sec. 28 N2
Parcel is within the Lost Creek ISR Uranium Mine Boundary.

WY-2020-09-0570 1286.650 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 031 LOTS 5-20;
032 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for uranium processing. BLM will consider recommendations received by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

Delete in part 124.06 acres
T.0250N, R.0920W, 06th PM, WY
Sec. 031 LOT 6-8
Parcels is within the Lost Creek ISR Uranium Mine Boundary.

WY-2020-09-0569 1920.000 Acres
T.0250N, R.0920W, 06th PM, WY
Sec. 033 ALL;
034 ALL;
035 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-0648 2560.000 Acres
T.0240N, R.0930W, 06th PM, WY
Sec. 013 ALL;
014 ALL;
014 THAT PT OF MS 706 &
014 MS 711 LYING WITHIN THE
014 SECTION;
015 ALL;
015 THAT PT OF MS 706 &
015 MS 711 LYING WITHIN THE
015 SECTION;
024 ALL;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

Special Lease Notice: Portions of this parcel are currently located within the boundaries of an authorized BLM and Wyoming Department of Environmental Quality permit for uranium mining and/or a Nuclear Regulatory Commission (NRC) license for uranium processing. BLM will consider recommendations received

by the uranium operator, Wyoming Department of Environmental Quality, and Nuclear Regulatory Commission if and when development of this lease is proposed should comments be received.

Defer in part 1,280.000 Acres
T.0240N, R.0930W, 06th PM, WY
Sec. 15 ALL;
Sec. 14 ALL;
Parcel is within Rio Tinto (Kennecott) Sweetwater Mill and Uranium Mine

WY-2020-09-0619 1938.500 Acres
T.0230N, R.0940W, 06th PM, WY
Sec. 020 LOTS 1-16;
028 LOTS 1-15;
028 SWSW;
034 LOTS 1-15;
034 NWNW;
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_GHMAL
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.

WY-2020-09-6836 160.000 Acres
T.0500N, R.0950W, 06th PM, WY
Sec. 019 NE;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3

RECONFIGURE ALL:
PARCEL DOES NOT MEET MINIMUM 640 ACRE REQUIREMENT FOR FIFTEEN MILE MLP.
ELIMINATE THIS PARCEL AND MOVE ACREAGE INTO PARCEL WY-2020-09-0649

WY-2020-09-6836 160.000 Acres
T.0500N, R.0950W, 06th PM, WY
Sec. 019 NE;

WY-2020-09-0634 1268.380 Acres
T.0500N, R.0950W, 06th PM, WY
Sec. 030 LOTS 5-8;
030 E2,E2W2;
031 LOTS 5-8;
031 E2,E2W2;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed within 1/4 mile of active raptor nests and 1/2 mile of active golden eagle, bald eagle, northern goshawk, merlin, and prairie and peregrine falcon nests and 1 mile of active ferruginous hawk nests during specific species nesting period or until young birds have fledged. This stipulation does not apply to operation and maintenance of production facilities. Timing Limitation Stipulation during the following time periods: American Kestrel Apr 1 to Aug 15, Bald Eagle Jan 1 to Aug 15, Boreal Owl Feb 1 to Jul 31, Burrowing Owl Apr 1 to Sept 15, Common Barn Owl Feb 1 – Sept 15, Cooper's Hawk Mar 15 to Aug 31, Eastern Screech-owl Mar 1 to Aug 15, Ferruginous Hawk Mar 15 to Jul 31, Golden Eagle Jan 15 to Jul 31, Great Gray Owl Mar 15 to Aug 31, Great Horned Owl Dec 1 to Sept 31, Long-eared Owl Feb 1 to Aug 15, Merlin Apr 1 to Aug 15, Northern Goshawk Apr 1 to Aug 15, Northern Harrier Apr 1 to Aug 15, Northern Pygmy-Owl Apr 1 to Aug 1, Northern Saw-whet Owl Mar 1 to Aug 31, Osprey Apr 1 to Aug 31, Peregrine Falcon Mar 1 to Aug 15, Prairie Falcon Mar 1 to Aug 15, Red-tailed Hawk Feb 1 to Aug 15, Sharp-shinned Hawk Mar 15 to Aug 31, Short-eared Owl Mar 15 to Aug 1, Swainson's Hawk Apr 1 to Aug 31, Western Screech-owl Mar 1 to Aug 15, All other raptors Feb 1 to Jul 31, (2) as mapped on the Worland Field Office GIS database or as determined by field evaluation; (3) protecting active raptor nests.

CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.

WY-2020-09-6785 1868.330 Acres
T.0190N, R.0960W, 06th PM, WY
Sec. 004 LOTS 1-4;
004 S2N2,S2;
008 S2N2,N2S2,SESW,S2SE;
008 N2N2,SWSW (EXCL 25.73 AC
008 IN RR ROW WYW0294439);
018 LOTS 1,4;
018 SENE,E2SW,SE;
018 LOTS 2,3,N2NE,SWNE,E2NW,
018 (EXCL 25.06 AC IN RR ROW
018 WYE05871 & RR STA GROUNDS
018 WYW0294426);
Sweetwater County
Rawlins FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting big game crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) April 10 to July 10 (2) as mapped on the Rawlins Field Office GIS database; (3) protecting nesting Mountain plover.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting the habitats of identified amphibian/reptile species.
CSU (1) Surface occupancy or use may be restricted or prohibited within 1/4 mile or the visual horizon, whichever is closer, of historic properties where the setting contributes to National Register of Historic Places (NRHP) eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Lincoln Highway/UPRR Grade historic property.
CSU (1) Surface occupancy or use may be restricted or prohibited within the setting contributing to the National Register of Historic Places eligibility unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rawlins Field Office GIS database; (3) protecting historic and visual values of the Lincoln Highway/UPRR Grade historic property.

WY-2020-09-6892 200.000 Acres
T.0500N, R.0960W, 06th PM, WY
Sec. 012 E2SW,NESE,S2SE;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3

RECONFIGURE ALL:
PARCEL DOES NOT MEET MINIMUM 640 ACRE REQUIREMENT FOR FIFTEEN MILE MLP.
ELIMINATE THIS PARCEL AND MOVE ACREAGE INTO PARCEL WY-2020-09-0649

WY-2020-09-6892 200.000 Acres
T.0500N, R.0960W, 06th PM, WY
Sec. 012 E2SW,NESE,S2SE;

WY-2020-09-0649 877.270 Acres
T.0500N, R.0960W, 06th PM, WY
Sec. 023 NENE;
024 N2,SE;
025 LOTS 1-3;
025 NE,N2SE;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.

CSU (1) Surface occupancy or use will be restricted within Class I and/or Class II VRM areas. Prior to surface disturbance within Visual Resource Management Class I and/or II areas, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: A visual contrast rating must demonstrate that VRM Class I and/or II objectives will be met. Where required by the BLM authorized officer, a visual simulation must be prepared and must demonstrate that VRM Class I and/or II objectives will be met through practices such as siting of permanent facilities. Where present and feasible, existing surface disturbances shall be utilized; new surface disturbances shall be minimized to the extent practicable. All permanent above-ground facilities (such as production tanks or other production facilities) not having specific coloration requirements for safety must be painted or designed using a BLM-approved color. (2) as mapped in the Worland Field Office GIS database; (3) protecting Class II Visual Resource Management Areas.

COMBINE PARCELS WY-2020-09-6836 IN WHOLE, AND WY-2020-09-6892 IN WHOLE, INTO WY-2020-09-0649

WY-2020-09-6836 160.000 Acres
T.0500N, R.0950W, 06th PM, WY
Sec. 019 NE;

WY-2020-09-6892 200.000 Acres
T.0500N, R.0960W, 06th PM, WY
Sec. 012 E2SW,NESE,S2SE;

NEW AND REVISED PARCEL DESCRIPTION:

WY-2020-09-0649 1237.270 Acres
T.0500N, R.0950W, 06th PM, WY
Sec. 019 NE;
T.0500N, R.0960W, 06th PM, WY
Sec. 012 E2SW,NESE,S2SE;
Sec. 023 NENE;
024 N2,SE;
025 LOTS 1-3;
025 NE,N2SE;

WY-2020-09-6888 2354.820 Acres
T.0510N, R.0960W, 06th PM, WY
Sec. 029 N2;
030 LOTS 5-7;
030 NE,E2NW,NESW,N2SE;
T.0510N, R.0970W, 06th PM, WY
Sec. 023 LOTS 4-6;
023 S2NE,NW,S2;
024 LOTS 1;
024 S2NE,NWNW,W2SW,SESW,SE;
025 LOTS 1-4;
025 N2,N2S2;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-0607 1920.560 Acres
T.0490N, R.0970W, 06th PM, WY
Sec. 002 LOTS 5-8;
002 S2N2,S2;
011 ALL;
012 ALL;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed

engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.

WY-2020-09-0612 2506.730 Acres
T.0490N, R.0970W, 06th PM, WY
Sec. 003 LOTS 5-8;
003 S2N2,S2;
004 LOTS 5-8;
004 S2N2,S2;
009 LOTS 1-4;
009 N2,N2S2;
010 LOTS 1;
010 N2,N2S2,SESW,S2SE;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-6834 2555.940 Acres
T.0490N, R.0970W, 06th PM, WY
Sec. 005 LOTS 5-8;
005 S2N2,S2;
006 LOTS 8-14;
006 S2NE,SENW,E2SW,SE;
007 LOTS 5-8;
007 E2,E2W2;
008 ALL;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_NSO_PHMAL
WY_SW_TLS_GHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs;

2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-0610 2529.620 Acres
T.0490N, R.0970W, 06th PM, WY
Sec. 014 ALL;
015 LOTS 1,4,5,8;
015 E2,E2W2;
016 LOTS 20-23;
022 ALL;
023 N2,SW,W2SE;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.

WY-2020-09-0608 2558.160 Acres
T.0490N, R.0970W, 06th PM, WY
Sec. 017 ALL;
018 LOTS 5-8;
018 E2,E2W2;
019 LOTS 5-8;
019 E2,E2W2;
020 ALL;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_TLS_GHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland

Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed within 1/4 mile of active raptor nests and 1/2 mile of active golden eagle, bald eagle, northern goshawk, merlin, and prairie and peregrine falcon nests and 1 mile of active ferruginous hawk nests during specific species nesting period or until young birds have fledged. This stipulation does not apply to operation and maintenance of production facilities.
Timing Limitation Stipulation during the following time periods: American Kestrel Apr 1 to Aug 15, Bald Eagle Jan 1 to Aug 15, Boreal Owl Feb 1 to Jul 31, Burrowing Owl Apr 1 to Sept 15, Common Barn Owl Feb 1 – Sept 15, Cooper's Hawk Mar 15 to Aug 31, Eastern Screech-owl Mar 1 to Aug 15, Ferruginous Hawk Mar 15 to Jul 31, Golden Eagle Jan 15 to Jul 31, Great Gray Owl Mar 15 to Aug 31, Great Horned Owl Dec 1 to Sept 31, Long-eared Owl Feb 1 to Aug 15, Merlin Apr 1 to Aug 15, Northern Goshawk Apr 1 to Aug 15, Northern Harrier Apr 1 to Aug 15, Northern Pygmy-Owl Apr 1 to Aug 1, Northern Saw-whet Owl Mar 1 to Aug 31, Osprey Apr 1 to Aug 31, Peregrine Falcon Mar 1 to Aug 15, Prairie Falcon Mar 1 to Aug 15, Red-tailed Hawk Feb 1 to Aug 15, Sharp-shinned Hawk Mar 15 to Aug 31, Short-eared Owl Mar 15 to Aug 1, Swainson's Hawk Apr 1 to Aug 31, Western Screech-owl Mar 1 to Aug 15, All other raptors Feb 1 to Jul 31, (2) as mapped on the Worland Field Office GIS database or as determined by field evaluation; (3) protecting active raptor nests.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.

WY-2020-09-6831 2197.240 Acres
T.0490N, R.0970W, 06th PM, WY
Sec. 021 ALL;
030 LOTS 5-8;
030 E2,E2W2;
T.0490N, R.0980W, 06th PM, WY
Sec. 024 E2,NW,N2SW,SWSW;
025 LOTS 1,2;
025 NE,N2SE;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_TLS_GHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed within 1/4 mile of active raptor nests and 1/2 mile of active golden eagle, bald eagle, northern goshawk, merlin, and prairie and peregrine falcon nests and 1 mile of active ferruginous hawk nests during specific species nesting period or until young birds have fledged. This stipulation does not apply to operation and maintenance of production facilities.
Timing Limitation Stipulation during the following time periods: American Kestrel Apr 1 to Aug 15, Bald Eagle Jan 1 to Aug 15, Boreal Owl Feb 1 to Jul 31, Burrowing Owl Apr 1 to Sept 15, Common Barn Owl Feb 1 – Sept 15, Cooper's Hawk Mar 15 to Aug 31, Eastern Screech-owl Mar 1 to Aug 15, Ferruginous Hawk Mar 15 to Jul 31, Golden Eagle Jan 15 to Jul 31, Great Gray Owl Mar 15 to Aug 31, Great Horned Owl Dec 1 to Sept 31, Long-eared Owl Feb 1 to Aug 15, Merlin Apr 1 to Aug 15, Northern Goshawk Apr 1 to Aug 15, Northern Harrier Apr 1 to Aug 15, Northern Pygmy-Owl Apr 1 to Aug 1, Northern Saw-whet Owl Mar 1 to Aug 31, Osprey Apr 1 to Aug 31, Peregrine Falcon Mar 1 to Aug 15, Prairie Falcon Mar 1 to Aug 15, Red-tailed Hawk Feb 1 to Aug 15, Sharp-shinned Hawk Mar 15 to Aug 31, Short-eared Owl Mar 15 to Aug 1, Swainson's Hawk Apr 1 to Aug 31, Western Screech-owl Mar 1 to Aug 15, All other raptors Feb 1 to Jul 31, (2) as mapped on the Worland Field Office GIS database or as determined by field evaluation; (3) protecting active raptor nests.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use within 1/4 mile of raptor nest sites will be restricted. Prior to surface disturbance within 1/4 mile of raptor nests a mitigation plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator may not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan or approved it with conditions. The plan must demonstrate to the BLM authorized officer's satisfaction that nesting raptors of conservation concern would not be agitated or bothered to a degree that causes or is likely to cause: physical injury; a decrease in productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior, or preclude nest reoccupation;(2) as mapped on the Worland Field Office GIS database, or

determined by BLM field evaluation; (3) protecting raptor nest sites.

DELETE PART: MINERAL OWNERSHIP IS NOT FEDERAL

WY-2020-09-6831 40.000 Acres
T.0490N, R.0980W, 06th PM, WY
Sec. 024 SWSE;

WY-2020-09-6835 1920.000 Acres
T.0490N, R.0970W, 06th PM, WY
Sec. 028 ALL;
029 ALL;
033 ALL;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed within 1/4 mile of active raptor nests and 1/2 mile of active golden eagle, bald eagle, northern goshawk, merlin, and prairie and peregrine falcon nests and 1 mile of active ferruginous hawk nests during specific species nesting period or until young birds have fledged. This stipulation does not apply to operation and maintenance of production facilities.
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TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use within 1/4 mile of raptor nest sites will be restricted. Prior to surface disturbance within 1/4 mile of raptor nests a mitigation plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator may not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan or approved it with conditions. The plan must demonstrate to the BLM authorized officer's satisfaction that nesting raptors of conservation concern would not be agitated or bothered to a degree that causes or is likely to cause: physical injury; a decrease in productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior, or preclude nest reoccupation;(2) as mapped on the Worland Field Office GIS database, or determined by BLM field evaluation; (3) protecting raptor nest sites.

WY-2020-09-0584 2080.470 Acres
T.0500N, R.0970W, 06th PM, WY
Sec. 002 LOTS 8;
002 SWNW,W2SW;
003 LOTS 5-8;
003 S2N2,S2;
004 LOTS 5-8;
004 S2N2,S2;
010 LOTS 1;
010 N2,N2S2,SESW,S2SE;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_TLS_GHMAL
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan

must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-0597 2082.000 Acres
T.0500N, R.0970W, 06th PM, WY
Sec. 005 LOTS 5-8;
005 S2N2,S2;
006 LOTS 8,9;
T.0510N, R.0970W, 06th PM, WY
Sec. 031 E2SE;
032 ALL;
033 ALL;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_TLS_GHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-6809 2242.500 Acres
T.0500N, R.0970W, 06th PM, WY
Sec. 008 ALL;
009 LOTS 1-4;
009 N2,N2S2;
016 LOTS 20-23;
017 NE,N2NW,SENW,N2SE,SESE;
020 NENE;
021 E2,N2NW,NESW,S2SW;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_NSO_PHMAL
WY_SW_TLS_GHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.

TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-0585 2191.890 Acres
T.0500N, R.0970W, 06th PM, WY
Sec. 014 E2,SWNW,SW;
015 LOTS 1,4,5,8;
015 E2,E2W2;
022 ALL;
023 W2NE,W2;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-0587 1761.750 Acres
T.0500N, R.0970W, 06th PM, WY
Sec. 025 LOTS 1-4;
025 NW,N2S2;
026 ALL;
035 ALL;
036 LOTS 20-23;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or

use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.

WY-2020-09-6813 2560.000 Acres
T.0500N, R.0970W, 06th PM, WY
Sec. 027 ALL;
028 ALL;
033 ALL;
034 ALL;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-0594 2074.160 Acres
T.0500N, R.0970W, 06th PM, WY
Sec. 029 ALL;
030 SE;
031 LOTS 5-8;
031 E2,E2W2;
032 ALL;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_TLS_GHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed Feb. 1 to July 31; (2) within Fifteenmile HMA as mapped on the Worland Field Office GIS database; (3) protecting Fifteenmile HMA foaling season.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized

officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-0606 1691.900 Acres
T.0510N, R.0970W, 06th PM, WY
Sec. 008 LOTS 40,41;
009 LOTS 10,13,14,17-21;
009 SENE,NESE;
009 47D;
013 LOTS 27;
015 S2NE,NESW,S2SW,SE;
017 LOTS 2,8,11,13,14;
017 SWSW,E2SW,W2SE;
020 LOTS 2;
020 SENE,W2NE,E2NW,NWNW,S2;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
TLS (1) No surface use is allowed within 1/4 mile of active raptor nests and 1/2 mile of active golden eagle, bald eagle, northern goshawk, merlin, and prairie and peregrine falcon nests and 1 mile of active ferruginous hawk nests during specific species nesting period or until young birds have fledged. This stipulation does not apply to operation and maintenance of production facilities. Timing Limitation Stipulation during the following time periods: American Kestrel Apr 1 to Aug 15, Bald Eagle Jan 1 to Aug 15, Boreal Owl Feb 1 to Jul 31, Burrowing Owl Apr 1 to Sept 15, Common Barn Owl Feb 1 – Sept 15, Cooper's Hawk Mar 15 to Aug 31, Eastern Screech-owl Mar 1 to Aug 15, Ferruginous Hawk Mar 15 to Jul 31, Golden Eagle Jan 15 to Jul 31, Great Gray Owl Mar 15 to Aug 31, Great Horned Owl Dec 1 to Sept 31, Long-eared Owl Feb 1 to Aug 15, Merlin Apr 1 to Aug 15, Northern Goshawk Apr 1 to Aug 15, Northern Harrier Apr 1 to Aug 15, Northern Pygmy-Owl Apr 1 to Aug 1, Northern Saw-whet Owl Mar 1 to Aug 31, Osprey Apr 1 to Aug 31, Peregrine Falcon Mar 1 to Aug 15, Prairie Falcon Mar 1 to Aug 15, Red-tailed Hawk Feb 1 to Aug 15, Sharp-shinned Hawk Mar 15 to Aug 31, Short-eared Owl Mar 15 to Aug 1, Swainson's Hawk Apr 1 to Aug 31, Western Screech-owl Mar 1 to Aug 15, All other raptors Feb 1 to Jul 31, (2) as mapped on the Worland Field Office GIS database or as determined by field evaluation; (3) protecting active raptor nests.
CSU (1) Surface occupancy or use is restricted within 1/4 mile of water resources, public water supply wells and up to 10 miles upstream of public water supply intake areas. Prior to surface disturbance within 1/4 mile of water resources, public water supply wells and up to 10 miles upstream of public water supply intake areas, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: Reserve pits are eliminated through the use of closed-loop drilling techniques, unless a pit is needed for critical safety reasons. Any necessary pits should be designed to prevent possible contamination of soil and groundwater. Evaporation ponds are not sited within this area. All oil and gas related infrastructure is set back a minimum of 500 feet from a public water supply well or intake area. Drill pad sites should be designed to disperse storm water runoff onto upland sites using proper erosion and sediment control techniques. Design drilling programs for water resource and public water supply protection. (2) as mapped by the WDEQ or Worland Field Office GIS database; (3) to protect water resources and public water supplies.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use within 1/4 mile of perennial surface water, and riparian/wetland areas will be restricted where determined to support special status fish species. Prior to surface disturbance within 1/4 mile of perennial surface water, and riparian/wetland areas where determined to support special status fish species, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: Prevent contamination of soil and groundwater. Upland sites are protected from storm water runoff using proper erosion and sediment control techniques. Stabilization of channel crossings. (2) as mapped on the Worland Field Office GIS database; (3) to protect perennial surface water, and riparian/wetland areas.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-6820 80.000 Acres
T.0510N, R.0970W, 06th PM, WY
Sec. 015 SENW;
017 NENW;

Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA

WY-2020-09-6824 1704.260 Acres
T.0510N, R.0970W, 06th PM, WY
Sec. 021 LOTS 5-8;
021 S2N2,S2;
028 ALL;
029 E2,SENW,E2SW;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-6828 2560.000 Acres
T.0510N, R.0970W, 06th PM, WY
Sec. 026 ALL;
027 ALL;
034 ALL;
035 ALL;
Big Horn County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
Lease Notice. Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area (2) unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts, which may include, but not be limited to include an Erosion, Revegetation and Restoration Plan. Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
Lease Notice. Limit off-road vehicular use for NOS level casual use actions within the Fifteenmile MLP Analysis Area. Allow OHV and mechanized (mountain bike) travel up to 300 feet from established roads in areas with limited travel designations to allow for staking activities, provided that: 1) no resource damage occurs; 2) no new routes are created; and 3) such access is not otherwise prohibited by the BLM authorized officer.
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Fifteen Mile MLP analysis area Surface occupancy or use will be restricted to no more than 1 surface disturbance per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 32 acres; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational setting, LRP soils, and geologic features within the Fifteen Mile MLP Analysis Area.
CSU (1) Surface occupancy or use will be restricted or prohibited within the Tatman Mountain RMZ unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA.

WY-2020-09-0551 150.080 Acres
T.0130N, R.1000W, 06th PM, WY
Sec. 018 LOTS 5,6;
018 E2NW;
Sweetwater County
Rock Springs FO
Formerly Lease No.

Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA

WY-2020-09-0652 310.005 Acres
T.0550N, R.1000W, 06th PM, WY
Sec. 007 TR3 OF LOT 78;
007 TR2 OF LOT 84;
007 E2 OF TR 1 OF LOT 84;
007 E2 OF LOT 13;
008 LOTS 14;
009 LOTS 5,12,17;
018 TR3 OF LOT 78;
Park County
Cody FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
CSU (1) Surface occupancy or use is restricted within 1/4 mile of water resources, public water supply wells and up to 10 miles upstream of public water supply intake areas. Prior to surface disturbance within 1/4 mile of water resources, public water supply wells and up to 10 miles upstream of public water supply intake areas, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: Reserve pits are eliminated through the use of closed-loop drilling techniques, unless a pit is needed for critical safety reasons. Any necessary pits should be designed to prevent possible contamination of soil and groundwater. Evaporation ponds are not sited within this area. All oil and gas related infrastructure is set back a minimum of 500 feet from a public water supply well or intake area. Drill pad sites should be designed to disperse storm water runoff onto upland sites using proper erosion and sediment control techniques. Design drilling programs for water resource and public water supply protection. (2) as mapped by the WDEQ or Cody Field Office GIS database; (3) to protect water resources and public water supplies.
CSU (1) Surface occupancy or use will be restricted within Class I and/or Class II VRM areas. Prior to surface disturbance within Visual Resource Management Class I and/or II areas, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: A visual contrast rating must demonstrate that VRM Class I and/or II objectives will be met. Where required by the BLM authorized officer, a visual simulation must be prepared and must demonstrate that VRM Class I and/or II objectives will be met through practices such as siting of permanent facilities. Where present and feasible, existing surface disturbances shall be utilized; new surface disturbances shall be minimized to the extent practicable. All permanent above-ground facilities (such as production tanks or other production facilities) not having specific coloration requirements for safety must be painted or designed using a BLM-approved color. (2) as mapped in the Cody Field Office GIS database; (3) protecting Class II Visual Resource
Management Areas.
CSU (1) Surface occupancy or use will be restricted or prohibited up to 2 miles where setting is an important aspect of the integrity for the trail. unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate proposed infrastructure is either not visible or will result in a weak contrast rating.

WY-2020-09-0658 574.490 Acres
T.0560N, R.1000W, 06th PM, WY
Sec. 006 69B,69C,70M,70N,70Q,70R;
007 68A,68B,68C,68D,69B,69C,
007 69F,69G,69H,69I,69J,69K,
007 69N,69O,69P,69Q;
018 68A,68B,68C,68D;
T.0560N, R.1010W, 06th PM, WY
Sec. 001 70O;
Park County
Cody FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
CSU (1) Surface occupancy or use will be restricted or prohibited up to 2 miles where setting is an important aspect of the integrity for the trail. unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate proposed infrastructure is either not visible or will result in a weak contrast rating.

WY-2020-09-0656 440.000 Acres
T.0560N, R.1000W, 06th PM, WY
Sec. 015 W2W2,SESW,SWSE;
022 N2NW,SWNW,W2SW;
Park County
Cody FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
NSO (1) Within the PETM ACEC (2) protection of geologic and paleontological resources.
TLS (1) No surface use is allowed within 1/4 mile of active raptor nests and 1/2 mile of active golden eagle, bald eagle, northern goshawk, merlin, and prairie and peregrine falcon nests and 1 mile of active ferruginous hawk nests during specific species nesting period or until young birds have fledged. This stipulation does not apply to operation and maintenance of production facilities.

Timing Limitation Stipulation during the following time periods: American Kestrel Apr 1 to Aug 15, Bald Eagle Jan 1 to Aug 15, Boreal Owl Feb 1 to Jul 31, Burrowing Owl Apr 1 to Sept 15, Common Barn Owl Feb 1 – Sept 15, Cooper's Hawk Mar 15 to Aug 31, Eastern Screech-owl Mar 1 to Aug 15, Ferruginous Hawk Mar 15 to Jul 31, Golden Eagle Jan 15 to Jul 31, Great Gray Owl Mar 15 to Aug 31, Great Horned Owl Dec 1 to Sept 31, Long-eared Owl Feb 1 to Aug 15, Merlin Apr 1 to Aug 15, Northern Goshawk Apr 1 to Aug 15, Northern Harrier Apr 1 to Aug 15, Northern Pygmy-Owl Apr 1 to Aug 1, Northern Saw-whet Owl Mar 1 to Aug 31, Osprey Apr 1 to Aug 31, Peregrine Falcon Mar 1 to Aug 15, Prairie Falcon Mar 1 to Aug 15, Red-tailed Hawk Feb 1 to Aug 15, Sharp-shinned Hawk Mar 15 to Aug 31, Short-eared Owl Mar 15 to Aug 1, Swainson's Hawk Apr 1 to Aug 31, Western Screech-owl Mar 1 to Aug 15, All other raptors Feb 1 to Jul 31, (2) as mapped by the WGFD, on the Cody Field Office GIS database or as determined by field evaluation; (3) protecting active raptor nests.
CSU (1) Surface occupancy or use within 1/4 mile of raptor nest sites will be restricted. Prior to surface disturbance within 1/4 mile of raptor nests a mitigation plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator may not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan or approved it with conditions. The plan must demonstrate to the BLM authorized officer's satisfaction that nesting raptors of conservation concern would not be agitated or bothered to a degree that causes or is likely to cause: physical injury; a decrease in productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior, or preclude nest reoccupation;(2) as mapped on the Cody Field Office GIS database, or determined by BLM field evaluation; (3) protecting raptor nest sites.

WY-2020-09-0657 1092.180 Acres
T.0560N, R.1000W, 06th PM, WY
Sec. 016 LOTS 1-4;
016 W2E2,SESW;
017 LOTS 1-5;
018 LOTS 5-9;
018 SENE,E2SE;
018 68G,68H,68I,68J,68K,68L,
018 68O,68P,68Q;
Park County
Cody FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
TLS (1) No surface use is allowed within 1/4 mile of active raptor nests and 1/2 mile of active golden eagle, bald eagle, northern goshawk, merlin, and prairie and peregrine falcon nests and 1 mile of active ferruginous hawk nests during specific species nesting period or until young birds have fledged. This stipulation does not apply to operation and maintenance of production facilities.
Timing Limitation Stipulation during the following time periods: American Kestrel Apr 1 to Aug 15, Bald Eagle Jan 1 to Aug 15, Boreal Owl Feb 1 to Jul 31, Burrowing Owl Apr 1 to Sept 15, Common Barn Owl Feb 1 – Sept 15, Cooper's Hawk Mar 15 to Aug 31, Eastern Screech-owl Mar 1 to Aug 15, Ferruginous Hawk Mar 15 to Jul 31, Golden Eagle Jan 15 to Jul 31, Great Gray Owl Mar 15 to Aug 31, Great Horned Owl Dec 1 to Sept 31, Long-eared Owl Feb 1 to Aug 15, Merlin Apr 1 to Aug 15, Northern Goshawk Apr 1 to Aug 15, Northern Harrier Apr 1 to Aug 15, Northern Pygmy-Owl Apr 1 to Aug 1, Northern Saw-whet Owl Mar 1 to Aug 31, Osprey Apr 1 to Aug 31, Peregrine Falcon Mar 1 to Aug 15, Prairie Falcon Mar 1 to Aug 15, Red-tailed Hawk Feb 1 to Aug 15, Sharp-shinned Hawk Mar 15 to Aug 31, Short-eared Owl Mar 15 to Aug 1, Swainson's Hawk Apr 1 to Aug 31, Western Screech-owl Mar 1 to Aug 15, All other raptors Feb 1 to Jul 31, (2) as mapped by the WGFD, on the Cody Field Office GIS database or as determined by field evaluation; (3) protecting active raptor nests.
CSU (1) Surface occupancy or use within 1/4 mile of raptor nest sites will be restricted. Prior to surface disturbance within 1/4 mile of raptor nests a mitigation plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator may not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan or approved it with conditions. The plan must demonstrate to the BLM authorized officer's satisfaction that nesting raptors of conservation concern would not be agitated or bothered to a degree that causes or is likely to cause: physical injury; a decrease in productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior, or preclude nest reoccupation;(2) as mapped on the Cody Field Office GIS database, or determined by BLM field evaluation; (3) protecting raptor nest sites.

CSU (1) Surface occupancy or use will be restricted or prohibited up to 2 miles where setting is an important aspect of the integrity for the trail. unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate proposed infrastructure is either not visible or will result in a weak contrast rating.

WY-2020-09-0536 1575.870 Acres
T.0450N, R.1010W, 06th PM, WY
Sec. 003 LOTS 7-10;
003 SENW,SWSW,E2SW;
004 LOTS 5,8,9;
004 W2SE,SESE;
009 ALL;
010 NW,NESW;
015 NW,SWNE;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041
NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
NSO (1) Within overlapping wildlife migration corridors and big game crucial winter range in the Absaroka Front Management Area (2) as mapped by the Worland Field Office.
TLS (1) Avoid surface-disturbing and disruptive activities within Absaroka Mountain Foothills SRMA September 1 to November 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational settings.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland

Field Office GIS database (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited within Zones 1 and 3 inside elk crucial winter range of the Absaroka Front MLP analysis area Surface occupancy or use will be restricted to no more than 1 location per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 64 acres; (2) as mapped on the Worland Field Office GIS database (3) protecting elk crucial winter range within Zone 3 of the Absaroka Front MLP analysis area.
CSU (1) Surface occupancy or use will be restricted or prohibited within Zone 3 of the Absaroka Front MLP analysis area within forest type vegetation also identified as big game crucial winter range (2) Prior to surface disturbance within Zone 3 forest type vegetation, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: Design oil and gas development to avoid or reduce unnecessary disturbances to forest type vegetation.
CSU (1) Surface occupancy or use is restricted within the Absaroka Front Management Area. Prior to surface disturbance within big game crucial habitat, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: Design oil and gas development to avoid or reduce unnecessary disturbances, wildlife conflicts, and habitat impacts. Plan the pattern and rate of development to avoid the most important habitats and generally reduce the extent and severity of impacts. Cluster drill pads, roads and facilities in specific, "low-impact" areas, if geologically feasible. Consider "liquid gathering systems" (LGS) to eliminate surface storage tanks and reduce truck trips for removal of liquids. To the extent practicable, place infrastructure within or near previously disturbed locations. Minimize infrastructure development and operational activity during life of field by using consolidation (e.g., "unitized") development techniques. (2) as mapped on the Worland Field Office GIS database (3) to protect big game crucial habitat.
CSU (1) Surface occupancy or use within 1/4 mile of perennial surface water, and riparian/wetland areas will be restricted where determined to support special status fish species. Prior to surface disturbance within 1/4 mile of perennial surface water, and riparian/wetland areas where determined to support special status fish species, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: Prevent contamination of soil and groundwater. Upland sites are protected from storm water runoff using proper erosion and sediment control techniques. Stabilization of channel crossings. (2) as mapped on the Worland Field Office GIS database; (3) to protect perennial surface water, and riparian/wetland areas.
CSU (1) Surface occupancy or use will be restricted within Class I and/or Class II VRM areas. Prior to surface disturbance within Visual Resource Management Class I and/or II areas, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: A visual contrast rating must demonstrate that VRM Class I and/or II objectives will be met. Where required by the BLM authorized officer, a visual simulation must be prepared and must demonstrate that VRM Class I and/or II objectives will be met through practices such as siting of permanent facilities. Where present and feasible, existing surface disturbances shall be utilized; new surface disturbances shall be minimized to the extent practicable. All permanent above-ground facilities (such as production tanks or other production facilities) not having specific coloration requirements for safety must be painted or designed using a BLM-approved color. (2) as mapped in the Worland Field Office GIS database; (3) protecting Class II Visual Resource Management Areas.
CSU (1) Surface occupancy or use will be restricted within the Absaroka Mountain Foothills SRMA and Absaroka ERMA unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA. (2) as mapped on the Worland Field Office GIS database; (3) protecting Scenic and Recreational Resources and ensuring the recreational opportunities and setting of the SRMA.

MOVE ACREAGE OUT OF PARCEL WY-2020-09-0536 AND INTO PARCEL WY-2020-09-0544; TO MEET MINIMUM PARCEL ACREAGE SIZE IN THE ABSAROKA FRONT MLP.

WY-2020-09-0536 152.700 Acres
T.0450N, R.1010W, 06th PM, WY
Sec. 003 LOTS 7-9;
003 SENW;

REVISED PARCEL DESCRIPTION:

WY-2020-09-0536 1423.170 Acres
T.0450N, R.1010W, 06th PM, WY
Sec. 003 LOTS 10;
003 SWSW,E2SW;
004 LOTS 5,8,9;
004 W2SE,SESE;
009 ALL;
010 NW,NESW;
015 NW,SWNE;

WY-2020-09-0544 1145.800 Acres
T.0460N, R.1010W, 06th PM, WY
Sec. 022 LOTS 4-7;
022 E2SE;
027 LOTS 1-6;
027 SWNE,E2SW,S2SE;
034 LOTS 1;
034 N2,N2SW,SESW,SE;
Park County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
Lease Notice 1041

NSO (1) within 500 feet of perennial surface water, riparian/wetland areas, and playas; (2) as mapped on the Worland Field Office GIS database.
NSO (1) Within overlapping wildlife migration corridors and big game crucial winter range in the Absaroka Front Management Area (2) as mapped by the Worland Field Office.
TLS (1) Avoid surface-disturbing and disruptive activities within Absaroka Mountain Foothills SRMA September 1 to November 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting recreational settings.
TLS (1) No surface use is allowed during the following time periods (TLS) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database (3) protecting big game on crucial winter range.
TLS (1) No surface use is allowed within 1/4 mile of active raptor nests and 1/2 mile of active golden eagle, bald eagle, northern goshawk, merlin, and prairie and peregrine falcon nests and 1 mile of active ferruginous hawk nests during specific species nesting period or until young birds have fledged. This stipulation does not apply to operation and maintenance of production facilities. Timing Limitation Stipulation during the following time periods: American Kestrel Apr 1 to Aug 15, Bald Eagle Jan 1 to Aug 15, Boreal Owl Feb 1 to Jul 31, Burrowing Owl Apr 1 to Sept 15, Common Barn Owl Feb 1 – Sept 15, Cooper's Hawk Mar 15 to Aug 31, Eastern Screech-owl Mar 1 to Aug 15, Ferruginous Hawk Mar 15 to Jul 31, Golden Eagle Jan 15 to Jul 31, Great Gray Owl Mar 15 to Aug 31, Great Horned Owl Dec 1 to Sept 31, Long-eared Owl Feb 1 to Aug 15, Merlin Apr 1 to Aug 15, Northern Goshawk Apr 1 to Aug 15, Northern Harrier Apr 1 to Aug 15, Northern Pygmy-Owl Apr 1 to Aug 1, Northern Saw-whet Owl Mar 1 to Aug 31, Osprey Apr 1 to Aug 31, Peregrine Falcon Mar 1 to Aug 15, Prairie Falcon Mar 1 to Aug 15, Red-tailed Hawk Feb 1 to Aug 15, Sharp-shinned Hawk Mar 15 to Aug 31, Short-eared Owl Mar 15 to Aug 1, Swainson's Hawk Apr 1 to Aug 31, Western Screech-owl Mar 1 to Aug 15, All other raptors Feb 1 to Jul 31, (2) as mapped on the Worland Field Office GIS database or as determined by field evaluation; (3) protecting active raptor nests.
CSU (1) Surface occupancy or use will be restricted or prohibited within Zones 1 and 3 inside elk crucial winter range of the Absaroka Front MLP analysis area Surface occupancy or use will be restricted to no more than 1 location per lease, to include 1 well pad and ancillary facilities. Total surface disturbance per lease will not exceed 64 acres; (2) as mapped on the Worland Field Office GIS database (3) protecting elk crucial winter range within Zone 3 of the Absaroka Front MLP analysis area.
CSU (1) Surface occupancy or use will be restricted or prohibited within Zone 3 of the Absaroka Front MLP analysis area within forest type vegetation also identified as big game crucial winter range (2) Prior to surface disturbance within Zone 3 forest type vegetation, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: Design oil and gas development to avoid or reduce unnecessary disturbances to forest type vegetation.
CSU (1) Surface occupancy or use is restricted within the Absaroka Front Management Area. Prior to surface disturbance within big game crucial habitat, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: Design oil and gas development to avoid or reduce unnecessary disturbances, wildlife conflicts, and habitat impacts. Plan the pattern and rate of development to avoid the most important habitats and generally reduce the extent and severity of impacts. Cluster drill pads, roads and facilities in specific, "low-impact" areas, if geologically feasible. Consider "liquid gathering systems" (LGS) to eliminate surface storage tanks and reduce truck trips for removal of liquids. To the extent practicable, place infrastructure within or near previously disturbed locations. Minimize infrastructure development and operational activity during life of field by using consolidation (e.g., "unitized") development techniques. (2) as mapped on the Worland Field Office GIS database (3) to protect big game crucial habitat.
CSU (1) Surface occupancy or use within 1/4 mile of perennial surface water, and riparian/wetland areas will be restricted where determined to support special status fish species. Prior to surface disturbance within 1/4 mile of perennial surface water, and riparian/wetland areas where determined to support special status fish species, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: Prevent contamination of soil and groundwater. Upland sites are protected from storm water runoff using proper erosion and sediment control techniques. Stabilization of channel crossings. (2) as mapped on the Worland Field Office GIS database; (3) to protect perennial surface water, and riparian/wetland areas.
CSU (1) Surface occupancy or use will be restricted within Class I and/or Class II VRM areas. Prior to surface disturbance within Visual Resource Management Class I and/or II areas, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards: A visual contrast rating must demonstrate that VRM Class I and/or II objectives will be met. Where required by the BLM authorized officer, a visual simulation must be prepared and must demonstrate that VRM Class I and/or II objectives will be met through practices such as siting of permanent facilities. Where present and feasible, existing surface disturbances shall be utilized; new surface disturbances shall be minimized to the extent practicable. All permanent above-ground facilities (such as production tanks or other production facilities) not having specific coloration requirements for safety must be painted or designed using a BLM-approved color. (2) as mapped in the Worland Field Office GIS database; (3) protecting Class II Visual Resource Management Areas.
CSU (1) Surface occupancy or use will be restricted within the Absaroka Mountain Foothills SRMA and Absaroka ERMA unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; The Plan must demonstrate to the authorized officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA. (2) as mapped on the Worland Field Office GIS database; (3) protecting Scenic and Recreational Resources and ensuring the recreational opportunities and setting of the SRMA.

MOVE ACREAGE OUT OF PARCEL WY-2020-09-0536 AND INTO PARCEL WY-2020-09-0544; TO MEET MINIMUM PARCEL ACREAGE SIZE IN THE ABSAROKA FRONT MLP.

WY-2020-09-0536 152.700 Acres
T.0450N, R.1010W, 06th PM, WY
Sec. 003 LOTS 7-9;
003 SENW;

REVISED PARCEL DESCRIPTION:

WY-2020-09-0544 1298.500 Acres
T.0450N, R.1010W, 06th PM, WY
Sec. 003 LOTS 7-9;
003 SENW;
T.0460N, R.1010W, 06th PM, WY
Sec. 022 LOTS 4-7;
022 E2SE;
027 LOTS 1-6;
027 SWNE,E2SW,S2SE;
034 LOTS 1;
034 N2,N2SW,SESW,SE;

WY-2020-09-0711 2554.760 Acres
T.0270N, R.1030W, 06th PM, WY
Sec. 001 LOTS 1-4;
001 S2N2,S2;
002 LOTS 1-4;
002 S2N2,S2;
011 ALL;
012 ALL;
Sublette County
Rock Springs FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0708 2560.000 Acres
T.0270N, R.1030W, 06th PM, WY
Sec. 013 ALL;
014 ALL;
023 ALL;
024 ALL;
Sublette County
Rock Springs FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting Class I and/or Class II Visual Resource Management Areas.
CSU (1) Surface occupancy or use within 1/4 mile or visual horizon of the trail, whichever is closer, may be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting cultural and scenic values of the Oregon Trail, California Trail, Mormon Pioneer Trail, and the Pony Express.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0712 2193.780 Acres
T.0280N, R.1030W, 06th PM, WY
Sec. 003 LOTS 1-4;
003 S2;
004 LOTS 1-4;
004 S2;
009 ALL;
010 ALL;
Sublette County
Rock Springs FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited to enhance recreation opportunities and protect areas with high recreation values; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting resource values in the Wind River Special Recreation Management Area West.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting big game crucial winter range.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0714 2157.850 Acres
T.0280N, R.1030W, 06th PM, WY
Sec. 005 LOTS 1-4;
005 S2;
006 LOTS 1-6;
006 SE,E2SW;
007 LOTS 1-4;
007 E2,E2W2;
008 ALL;
Sublette County
Rock Springs FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited to enhance recreation opportunities and protect areas with high recreation values; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting resource values in the Wind River Special Recreation Management Area West.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting big game crucial winter range.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-6784 2408.690 Acres
T.0280N, R.1040W, 06th PM, WY
Sec. 001 LOTS 1-4;
001 S2;
002 LOTS 1-4;
002 S2;
003 LOTS 1-3;
003 NESW,N2SE,SESE;
003 LOT 4,SESW,SWSE (EXCL
003 29.47 AC IN RSVR
003 ROW WYE02636);
004 LOTS 1-3;
004 E2SW,SE;
005 LOTS 4;
005 NWSW;
006 LOTS 1-6;
006 E2SW,SE;
011 N2,SW;
Sublette County
Rock Springs FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited to enhance recreation opportunities and protect areas with high recreation values; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting resource values in the Wind River Special Recreation Management Area West.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting big game crucial winter range.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0539 2200.000 Acres
T.0280N, R.1040W, 06th PM, WY
Sec. 012 ALL;
013 ALL;
014 S2NE,NWNW,S2S2;
015 ALL;
Sublette County
Rock Springs FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited to enhance recreation opportunities and protect areas with high recreation values; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting resource values in the Wind River Special Recreation Management Area West.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting big game crucial winter range.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-6783 1142.080 Acres
T.0280N, R.1040W, 06th PM, WY
Sec. 017 NE,E2NW,S2;
018 LOTS 1-4;
018 N2NE,SWNE,E2W2,SE;
Sublette County
Rock Springs FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited to enhance recreation opportunities and protect areas with high recreation values; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting resource values in the Wind River Special Recreation Management Area West.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting big game crucial winter range.

WY-2020-09-0695 2520.000 Acres
T.0280N, R.1040W, 06th PM, WY
Sec. 023 ALL;
024 ALL;
025 E2,N2NW,SWNW,SW;
026 ALL;
Sublette County
Rock Springs FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_NSO_PHMAL
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
CSU (1) Surface occupancy or use will be restricted or prohibited to enhance recreation opportunities and protect areas with high recreation values; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting resource values in the Wind River Special Recreation Management Area West.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting big game crucial winter range.
NSO (1) as mapped on the Rock Springs Field Office GIS database; (2) protecting raptor nesting habitat.
TLS (1) Feb 1 to July 31; (2) as mapped on the Rock Springs Field Office GIS database; (3) protecting nesting Raptors.

Special Lease Notice: This parcel is located within a big game migration corridor designated by the State of Wyoming. The lessee or their designated operator will be required to work with the BLM and Wyoming Game and Fish Department to take reasonable measures (see 43 CFR 3101.1-2) to avoid and minimize impacts to maintain big game migration corridor functionality, such as those contained within the "Wyoming Game and Fish Commission Ungulate Migration Corridor Strategy" (February 2016). The BLM will encourage the use of Master Development Plans for operations proposed on this lease parcel in accordance with Onshore Oil and Gas Order No. 1.

WY-2020-09-0653 2486.660 Acres
T.0310N, R.1090W, 06th PM, WY
Sec. 007 LOTS 1-12;
007 E2;
018 LOTS 1-12;
018 E2;
019 LOTS 1-12;
019 E2;
020 N2,W2SE,NESE;
Sublette County
Pinedale FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
NSO (1) as mapped on the Pinedale Field Office GIS database; (2) buffering No Lease areas.
CSU (1) Surface occupancy and use outside the quarter mile NSO for the Lander Road, but within the viewshed of the trail, will be restricted or prohibited pending evaluation of effects to the historic setting of the trail through the Section 106 process and potential Memorandum of Agreement to mitigate adverse effects; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting the Lander Trail.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Pinedale RMP Visual Resource Management Overlay (preferred alternative); (3) protecting Class I and II Visual Resource Management Areas.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting big game on crucial winter range.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy (permanent facilities) within 1000 feet of active raptor nests, within 1400 feet of Ferruginous hawk nests, and 2600 feet of bald eagle nests; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting raptor nesting areas.
TLS (1) April 1 through August 15 within one half-mile of burrowing owl habitat; (2) as mapped on the Pinedale Field Office GIS database or as determined by a pre-disturbance raptor survey; (3) protecting burrowing owl nesting habitat.
TLS (1) Feb 1 to Aug 15 within 1 mile of bald eagle nests; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting bald eagle nesting habitat.
TLS (1) Nov 1 to April 1 within 1 mile of bald eagle winter roosts; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting roosting bald eagles.
TLS (1) No surface disturbing activities within a radius of one-half mile April 15 to August 15; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting yellow billed cuckoo nesting habitat.
TLS (1) Apr 10-Jul 10; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting nesting mountain plover.

Delete in part 2,286.660 acres

T.0310N, R.1090W, 06th PM, WY
Sec. 007 ALL;
018 ALL;
019 ALL;
020 NWNW, NENW, NWNE, SWNW, SENW, SWNE;

Unavailable for leasing Pinedale RMP 2008 page 2-22.

WY-2020-09-0655 1246.150 Acres
T.0310N, R.1090W, 06th PM, WY
Sec. 020 SW;
029 W2NE;
029 W2 (EXCL 14.74 AC IN RSVR
029 ROW WYW020645);
030 E2;
032 SWNE,NWNW,NWSE;
032 S2NW,SW (EXCL 12.01 AC IN
032 RSVR ROW WYW020645) AND
032 SWSE (EXCL 7.10 AC IN
032 RSVR ROW WYE002438);
Sublette County
Pinedale FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA
NSO (1) as mapped on the Pinedale Field Office GIS database; (2) buffering No Lease areas.
CSU (1) Surface occupancy and use outside the quarter mile NSO for the Lander Road, but within the viewshed of the trail, will be restricted or prohibited pending evaluation of effects to the historic setting of the trail through the Section 106 process and potential Memorandum of Agreement to mitigate adverse effects; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting the Lander Trail.
NSO (1) As mapped on the Pinedale Field Office GIS database; (2) Protecting contributing segments of the Lander Trail and the adjacent 1/4 mile area.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Pinedale RMP Visual Resource Management Overlay (preferred alternative); (3) protecting Class I and II Visual Resource Management Areas.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting big game on crucial winter range.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy (permanent facilities) within 1000 feet of active raptor nests, within 1400 feet of Ferruginous hawk nests, and 2600 feet of bald eagle nests; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting raptor nesting areas.
TLS (1) April 1 through August 15 within one half-mile of burrowing owl habitat; (2) as mapped on the Pinedale Field Office GIS database or as determined by a pre-disturbance raptor survey; (3) protecting burrowing owl nesting habitat.
TLS (1) Feb 1 to Aug 15 within 1 mile of bald eagle nests; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting bald eagle nesting habitat.
TLS (1) Nov 1 to April 1 within 1 mile of bald eagle winter roosts; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting roosting bald eagles.
TLS (1) No surface disturbing activities within a radius of one-half mile April 15 to August 15; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting yellow billed cuckoo nesting habitat.
TLS (1) Apr 10-Jul 10; (2) as mapped on the Pinedale Field Office GIS database; (3) protecting nesting mountain plover.

Delete in part 606.150 acres

T.0310N, R.1090W, 06th PM, WY
Sec. 020 NWSW, NESW, SWSW;
029 NWNW, SWSW;
030 NWNE, NENE, SWNE, SENE, SENE, NWSE, NESE, SWSE, SESE;
032 SWNW, NWSW, SWSW;

Unavailable for leasing Pinedale RMP 2008 page 2-22.

WY-2020-09-0554 1600.000 Acres
T.0150N, R.1120W, 06th PM, WY
Sec. 027 W2;
028 ALL;
029 ALL;
Sweetwater And Uinta Counties
Rock Springs FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
WY_SW_TLS_PHMAL
WY_SW_TLS_PHMAWCA
WY_SW_CSU_PHMA

WY-2020-09-0553 90.320 Acres
T.0150N, R.1210W, 06th PM, WY
Sec. 010 LOTS 1-4;
Uinta County
Kemmerer FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Lease Stipulation No. 1
Lease Stipulation No. 2
Lease Stipulation No. 3
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts.; (2) as mapped on the Kemmerer Field Office GIS database.; (3) protecting soils that are highly erodible, fragile, nonproductive and/or chemical and biological crusts.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts.; (2) as mapped on the Kemmerer Field Office GIS database.; (3) protecting slopes 20 percent or greater.

5.1.1 BLM Lease Stipulation Code Index

STIPULATION CODE	STIPULATION LANGUAGE
WY_BFO_CSU_BEGE	CSU (1) Prior to surface disturbance within 1.0 mile of consistently used bald and golden eagle winter roosts and riparian corridors a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that wintering eagles will not be disturbed (as defined by the Bald and Golden Eagle Protection Act). Bald or golden eagles will not be agitated or bothered to a degree that causes or is likely to cause physical injury, or a decrease in productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; (2) as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (3) protecting bald and golden eagle winter roosting habitat.
WY_BFO_CSU_BGCW	CSU (1) Prior to surface disturbance within Wyoming Game and Fish Department designated big game crucial winter range, a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that the function and suitability of crucial big game winter ranges will not be impaired; (2) as mapped by the Wyoming Game and Fish Department; (3) ensuring the function and suitability of crucial big game winter range.
WY_BFO_CSU_C100F	CSU (1) Prior to surface disturbance or disruptive activities near an entrance to a significant cave a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the BLM Authorized Officer's satisfaction that the action will not destroy, disturb, deface, mar, alter, remove, or harm any significant cave or alter the free movement of any animal or plant life into or out of any significant cave; (2) as mapped by the BLM; (3) protecting significant cave resources (any material or substance occurring naturally in caves, such as animal life, plant life, paleontological deposits, sediments, minerals, speleogens, and speleothems).
WY_BFO_CSU_CLBA	CSU (1) Surface use or occupancy shall not be allowed by oil and gas lessee(s), operating rights holder(s), and/or oil and gas operator(s) on this Federal oil and gas lease to conduct any oil and gas operation, including drilling for, removing, or disposing of oil and/or gas contained in Federal coal lease(s) unless a plan for mitigation of anticipated impacts is developed between the oil and gas and the coal lessees, and the Plan is approved by the BLM Authorized Officer; (2) on areas identified as highly likely to be considered in a Coal Lease By Application as mapped by the US Office of Surface Mining, Wyoming Department of Environmental Quality, US Geological Survey, and/or BLM; (3) protecting the first in time valid existing rights of the coal lessee, the BLM Authorized Officer reserves the right to alter or modify any oil and gas operations on the lands described in this lease ensuring the orderly development of the coal resource by surface and/or underground mining methods, coal mine worker safety, and/or coal production rates or recovery of the coal resource. The oil and gas lessee(s), operating rights holder(s), and/or oil and gas operator(s) of this Federal oil and gas lease shall not hold the United States as lessor, coal lessee(s), sub-lessee(s), and/or coal operator(s) liable for any damage or loss of the oil and gas resource, including the venting of coalbed natural gas, caused by coal exploration or mining operations conducted on Federal coal lease.
WY_BFO_CSU_EC	CSU (1) Prior to surface disturbance within Wyoming Game and Fish Department designated elk calving areas a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that the function and suitability of elk calving areas will not be impaired; (2) as mapped by the Wyoming Game and Fish Department; (3) ensuring the function and suitability of elk calving areas.

STIPULATION CODE	STIPULATION LANGUAGE
WY_BFO_CSU_ECWC	CSU (1) Fluid mineral production and byproducts shall be piped out of, and permanent above ground facilities will be located outside of, Wyoming Game and Fish Department designated elk crucial winter range and calving areas unless a mitigation plan (Plan) is submitted by the applicant and approved by the BLM as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that the function and suitability of elk crucial winter range and elk calving areas will not be impaired; (2) as mapped by the Wyoming Game and Fish Department; (3) ensuring the function and suitability of elk crucial winter range and elk calving areas.
WY_BFO_CSU_FCR	CSU (1) Surface-disturbing and disruptive activities shall only be approved with adequate mitigation to ensure compliance with the Fortification Creek Resources Management Plan Amendment (BLM 2011) performance standards. Prior to surface disturbance within the Fortification Creek Planning Area a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate); (2) within the Fortification Creek Planning Area (Map 3-36); (3) protecting the viability of the Fortification elk herd and facilitating ecosystem reconstruction in the stabilization of disturbed areas.
WY_BFO_CSU_FQM	CSU (1) Prior to surface disturbance within 0.25 mile of naturally occurring water bodies containing native or desirable non-native fish species a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that there will not be a local decline in fish abundance or range as a result of the lease operations. Examples of a few of the items to consider are as follows. Spill prevention measures must be used to ensure hydrocarbons and other potentially toxic substances used for lease activities are prevented from entering the watercourse. Sediment control measures must be used to ensure increased sediment contributions are avoided; (2) as mapped by the Wyoming Game and Fish Department and/or BLM; (3) protecting native and desirable non-native fish populations and habitat.
WY_BFO_CSU_GSGRH	CSU (1) All applicable surface disturbances (existing or future, and not limited to fluid mineral disturbances) must be restored, as described in the Buffalo Field Office Resource Management Plan, to the approval of the BLM Authorized Officer; (2) Greater Sage-Grouse Core Population Areas and Connectivity Corridors (Priority Habitat) as mapped on the Buffalo Field Office GIS database; (3) to restore functional Greater Sage-Grouse habitat to support core Greater Sage-Grouse populations.
WY_BFO_CSU_H	CSU (1) Prior to surface disturbance within 3 miles of the Pumpkin Buttes, Cantonment Reno, Dull Knife Battle, and Crazy Woman Battle historic properties, contributing and unevaluated segments of the Bozeman Trail, all rock art sites, all rock shelter sites, and all Native American burials, a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator may not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan or approved it with conditions after consultation with the State Historic Preservation Office, applicable Indian tribes, and other interested parties. The Plan must demonstrate to the Authorized Officer's satisfaction that there will be no adverse effects to National Register of Historic Places eligible or listed historic properties (i.e., the infrastructure will either not be visible or will result in a weak contrast rating); (2) as mapped on the Buffalo Field Office GIS database; (3) ensuring the setting of historic properties.
WY_BFO_CSU_H20500F	CSU (1) Prior to surface disturbance within 500 feet of springs, reservoirs not associated with coal bed natural gas projects, water wells, and perennial streams a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the BLM Authorized Officer's satisfaction how the operator will meet the following performance standards. Storm water and surface runoff will be controlled to minimize erosion (rilling, gullying, piping, mass wasting) and offsite siltation during construction, use/operations, and reclamation. Offsite areas will be protected from accelerated soil erosion. The original landform and site productivity will be partially restored during interim reclamation and fully restored as a result of final reclamation; (2) as mapped by the US Geological Survey's National Hydrologic Inventory and/or as determined by a BLM evaluation of the area; (3) ensuring protection of surface waters and associated riparian habitats by meeting the standards outlined in, Chapter 6 of the BLM's Oil and Gas Gold Book, as revised, and the 2015 Buffalo Field Office Resource Management Plan Record of Decision.

STIPULATION CODE	STIPULATION LANGUAGE
WY_BFO_CSU_PD	CSU (1) Prior to surface disturbance within active prairie dog colonies on BLM-administered surface a special status species occupancy survey must be conducted and a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that activities with active prairie dog colonies on BLM surface would not adversely impact suitable habitat for special status species dependent upon prairie dog colonies; (2) as mapped or determined on the Buffalo Field Office GIS database or from field evaluation, in coordination with the US Fish and Wildlife Service and Wyoming Game and Fish Department; (3) conserving special status species wildlife and the prairie dog colonies on which they depend.
WY_BFO_CSU_PHMAC	CSU (1) Surface occupancy or use will be restricted. The cumulative value of all applicable surface disturbances, existing or future, must not exceed 5 percent of the Disturbance Density Calculation Tool (DDCT) area, as described in the DDCT manual; (2) as mapped on the Buffalo Field Office GIS database; (3) to protect Greater Sage-Grouse designated Priority Habitat Management Areas (Connectivity only) from habitat fragmentation and loss. This lease does not guarantee the lessee the right to occupy the surface of the lease for the purpose of producing oil and natural gas within Greater Sage-Grouse designated PHMAs (Connectivity only). The surface occupancy restriction criteria identified in this stipulation may preclude surface occupancy and may be beyond the ability of the lessee to meet due to existing surface disturbance on Federal, State, or private lands within designated PHMAs (Connectivity only) or surface disturbance created by other land users. The BLM may require the lessee or operator to enter into a unit agreement or drilling easement to facilitate the equitable development of this and surrounding leases.
WY_BFO_CSU_R500F	CSU (1) Prior to surface disturbance within 500 feet of riparian systems, wetlands, and aquatic habitats a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the BLM Authorized Officer's satisfaction how the operator will meet the following performance standards. Storm water and surface runoff will be controlled to minimize erosion (rilling, gullying, piping, mass wasting) and offsite siltation during construction, use/operations, and reclamation. Offsite areas will be protected from accelerated soil erosion. The original landform and site productivity will be partially restored during interim reclamation and fully restored as a result of final reclamation; (2) as mapped by the US Geological Survey's National Hydrologic Inventory and/or as determined by a BLM evaluation of the area; (3) ensuring protection of surface waters and associated riparian habitats by meeting the standards outlined in, Chapter 6 of the BLM's Oil and Gas Gold Book, as revised, and the 2015 Buffalo Field Office Resource Management Plan Record of Decision.
WY_BFO_CSU_RN	CSU (1) Prior to surface disturbance within US Fish and Wildlife Service recommended spatial buffers of raptor nests a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that nesting raptors will not be disturbed. Nesting raptors will not be agitated or bothered to a degree that causes or is likely to cause physical injury, a decrease in productivity by substantially interfering with normal breeding, feeding, or sheltering behavior, or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior; (2) as mapped on the Buffalo Field Office GIS database or determined by the BLM from field evaluation in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (3) ensuring raptor productivity.
WY_BFO_CSU_SE	CSU (1) Prior to surface disturbance on soils with a severe erosion hazard rating a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the BLM Authorized Officer's satisfaction how the operator will meet the following performance standards. The disturbed area will be stabilized with no evidence of accelerated erosion features. The disturbed area shall be managed to ensure soil characteristics approximate an appropriate reference site with regard to erosional features to maintain soil productivity and sustainability. Sufficient viable topsoil is maintained for ensuring successful final reclamation. At locations where interim reclamation will be completed, this will be accomplished by respreading all salvaged topsoil over the areas of interim reclamation. The original landform and site productivity will be partially restored during interim reclamation and fully restored as a result of final reclamation; (2) as mapped by the Natural Resources Conservation Service Soil Survey Geographic Database (SSURGO) Order 3 soil survey and/or as determined by a BLM evaluation of the area; (3) ensuring successful reclamation and erosion control on soils with a severe erosion hazard rating in order to meet the standards outlined in Chapter 6 the BLM's Oil and Gas Gold Book, as revised, and the 2015 Buffalo Field Office Resource Management Plan Record of Decision.

STIPULATION CODE	STIPULATION LANGUAGE
WY_BFO_CSU_Slopes25to50	CSU (1) Prior to surface disturbance on slopes greater than 25% and less than 50% a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the BLM Authorized Officer's satisfaction how the operator will meet the following performance standards. Slope stability is maintained preventing slope failure or mass wasting. The disturbed area will be stabilized with no evidence of accelerated erosion features. The disturbed area shall be managed to ensure soil characteristics approximate an appropriate reference site with regard to erosional features to maintain soil productivity and sustainability. Sufficient viable topsoil is maintained for ensuring successful final reclamation. At locations where interim reclamation will be completed, this will be accomplished by respreading all salvaged topsoil over the areas of interim reclamation. The original landform and site productivity will be partially restored during interim reclamation and fully restored as a result of final reclamation; (2) as mapped by the US Geological Survey (USGS) 1:24,000 scale topographic maps, USGS Digital Elevation Models, and/or as determined by a BLM evaluation of the area; (3) ensuring successful reclamation and erosion control on slopes greater than 25% and less than 50% in order to meet the standards outlined in Chapter 6 of the BLM's Oil and Gas Gold Book, as revised, and the 2015 Buffalo Field Office Resource Management Plan Record of Decision.
WY_BFO_CSU_SLR	CSU (1) Prior to surface disturbance on limited reclamation potential areas a site-specific construction, stabilization, and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The Plan must include designs approved and stamped by a licensed engineer. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the BLM Authorized Officer's satisfaction how the operator will meet the following performance standards. The disturbed area will be stabilized with no evidence of accelerated erosion features. The disturbed area shall be managed to ensure soil characteristics approximate an appropriate reference site with regard to erosional features to maintain soil productivity and sustainability. Slope stability is maintained preventing slope failure and erosion. Sufficient viable topsoil is maintained for ensuring successful final reclamation. At locations where interim reclamation will be completed, this will be accomplished by respreading all salvaged topsoil over the areas of interim reclamation. The original landform and site productivity will be partially restored during interim reclamation and fully restored as a result of final reclamation; (2) as mapped by the Natural Resources Conservation Service Soil Survey Geographic Database (SSURGO) Order 3 soil survey and as determined by a BLM evaluation of the area; (3) ensuring successful reclamation and erosion control on limited reclamation potential areas in order to meet the standards outlined in, Chapter 6 of the BLM's Oil and Gas Gold Book, as revised, and the 2015 Buffalo Field Office Resource Management Plan Record of Decision.
WY_BFO_CSU_SSP	CSU (1) Prior to surface disturbance within Ute ladies'-tresses orchid habitat flowering season survey(s) must be conducted and a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that Ute ladies'-tresses orchids will not be harmed and that the habitat on which they depend will be conserved; (2) as mapped or determined by the US Fish and Wildlife Service, Wyoming Natural Diversity Database, the Buffalo Field Office GIS database, or from field evaluation; (3) conserving Ute ladies'-tresses orchids and the habitat on which they depend.
WY_BFO_CSU_SSPF	CSU (1) Prior to surface disturbance within special status plant species habitats, flowering season surveys must be conducted and a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that special status plant species will not be harmed and that the habitat on which they depend will be conserved; (2) as mapped or determined by the US Fish and Wildlife Service, Wyoming Natural Diversity Database, the Buffalo Field Office GIS database, or from field evaluation; (3) conserving special status plant species and the habitat on which they depend.

STIPULATION CODE	STIPULATION LANGUAGE
WY_BFO_CSU_SSWLA	CSU (1) Prior to surface disturbance within 1,640 feet (500 meters) of perennial water, vernal pools, playas, and wetlands appropriate surveys must be conducted and a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator may not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan or approved it with conditions. The Plan must demonstrate to the Authorized Officer's satisfaction that special status amphibian species will not be disturbed to a degree that causes or is likely to cause physical injury, a decrease in productivity by substantially interfering with normal breeding, sheltering, or hibernation behavior, or site abandonment by substantially interfering with normal breeding, sheltering, or hibernation behavior; (2) as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (3) ensuring production of special status amphibian species breeding, sheltering, and hibernation habitat.
WY_BFO_CSU_SSWLB	CSU (1) Prior to surface disturbance within 1,640 feet (500 meters) of cave entrances, mature forest, and rock outcrops appropriate surveys must be conducted and a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator may not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan or approved it with conditions. The Plan must demonstrate to the Authorized Officer's satisfaction that special status bat species will not be disturbed to a degree that causes or is likely to cause physical injury, a decrease in productivity by substantially interfering with normal breeding, nursery, roosting, or hibernation behavior, or site abandonment by substantially interfering with normal breeding, nursery, roosting, or hibernation behavior; (2) as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (3) ensuring protection of special status bat species breeding, nursery, roosting, and hibernation habitat.
WY_BFO_CSU_SSWLH	CSU (1) Prior to surface disturbance within special status species wildlife habitat an occupancy survey must be conducted and a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that special status wildlife species will not be harmed (any act which actually kills or injures wildlife including habitat modification or degradation that substantially impairs essential behavioral patterns) and that the habitat on which they depend will be conserved; (2) as mapped or determined by the US Fish and Wildlife Service, Wyoming Game and Fish Department, Wyoming Natural Diversity Database, or BLM from field evaluation; (3) conserving special status species wildlife and the habitat on which they depend (BLM 2008 -6840 manual).
WY_BFO_CSU_SSWLR	CSU (1) Prior to surface disturbance within 1,640 feet (500 meters) of south facing rock outcrops, perennial water, vernal pools, playas, and wetlands appropriate surveys must be conducted and a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator may not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan or approved it with conditions. The Plan must demonstrate to the Authorized Officer's satisfaction that special status reptile species will not be disturbed to a degree that causes or is likely to cause physical injury, a decrease in productivity by substantially interfering with normal breeding, basking, sheltering, or hibernation behavior, or site abandonment by substantially interfering with normal breeding, basking, sheltering, or hibernation behavior; (2) as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (3) ensuring production of special status reptile species breeding, basking, sheltering, and hibernation habitat.
WY_BFO_CSU_STG	CSU (1) Prior to surface disturbance within 0.25 mile of the perimeter of occupied sharp-tailed grouse leks a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that the function and suitability of sharp-tailed grouse breeding habitat will not be impaired (result in physical injury, a decrease in productivity by substantially interfering with normal breeding, feeding, or sheltering behavior, or lek abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior); (2) as mapped by the Wyoming Game and Fish Department; (3) ensuring the function and suitability of sharp-tailed grouse breeding habitat.
WY_BFO_CSU_TCP	CSU (1) Prior to surface disturbance within 3 miles of traditional cultural properties a mitigation plan (Plan) must be submitted by the applicant. The Plan must be approved or approved with conditions by the BLM Authorized Officer prior to surface-disturbing activities after consultation with the State Historic Preservation Office, applicable Indian tribes, and other interested parties. The Plan must demonstrate there will be no adverse effects to National Register of Historic Places eligible or listed historic properties (i.e., proposed infrastructure is either not visible or will result in a weak contrast rating); (2) as mapped on the Buffalo Field Office GIS database; (3) ensuring the setting of traditional cultural properties.

STIPULATION CODE	STIPULATION LANGUAGE
WY_BFO_CSU_VRMII	CSU (1) Prior to surface disturbance within Visual Resource Management (VRM) Class 2 areas, a site-specific plan must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the plan (with conditions, as appropriate). The plan must demonstrate to the BLM Authorized Officer's satisfaction how the operator will meet the following performance standards. A visual contrast rating must demonstrate that VRM Class 2 objectives will be met. Where required by the BLM Authorized Officer, a visual simulation must be prepared and must demonstrate that VRM Class 2 objectives will be met through practices such as siting of permanent facilities. Where present and feasible, existing surface disturbances shall be utilized. New surface disturbances shall be minimized to the extent practicable. All permanent above-ground facilities (such as production tanks or other production facilities) not having specific coloration requirements for safety must be painted or designed using a BLM-approved color; (2) as mapped on the Buffalo Field Office GIS database; (3) protecting VRM Class 2 areas.
WY_BFO_CSU_WHSRMA	CSU (1) Prior to surface disturbance within Special Recreation Management Areas (SRMAs) available for leasing (Weston Hills) a mitigation plan (Plan) must be submitted to the BLM by the applicant as a component of the Application for Permit to Drill (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM Authorized Officer has approved the Plan (with conditions, as appropriate). The Plan must demonstrate to the Authorized Officer's satisfaction that the proposed action is consistent with the prescribed management for the SRMA; (2) as mapped or determined by BLM; (3) ensuring the recreational opportunities and setting of the SRMA.
WY_BFO_NSO_BEGE	NSO (1) Within 0.5 miles from the edge of consistently used bald or golden eagle winter roosts and Clear Creek, Crazy Woman Creek, Piney Creek, Powder River, and Tongue River, consistently used riparian corridors, as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (2) protecting wintering bald and golden eagles.
WY_BFO_NSO_BEN	NSO (1) Within 0.5 mile of bald eagle nests as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (2) ensuring productivity of bald eagles.
WY_BFO_NSO_BGHMA	NSO (1) Within Wyoming Game and Fish Department Big Game Habitat Management Areas (Ed O. Taylor, Kerns, Bud Love, and Amsden Creek) as mapped by the Wyoming Game and Fish Department; (2) ensuring the function and suitability of Wyoming Game and Fish Department Big Game Habitat Management Areas.
WY_BFO_NSO_H	NSO (1) Within the Pumpkin Buttes, Cantonment Reno, Dull Knife Battle, and Crazy Woman Battle historic properties, contributing and unevaluated segments of the Bozeman Trail, all rock art sites, all rock shelter sites, all Native American burials; as mapped on the Buffalo Field Office GIS database; (2) protecting historic properties.
WY_BFO_NSO_HIP	NSO (1) No surface occupancy or use is allowed on lands containing paleontological resources of high quality or importance as mapped on the Buffalo Field Office GIS database; (2) protecting paleontological resources of high quality or importance.
WY_BFO_NSO_PBACEC	NSO (1) Within the Pumpkin Buttes Area of Critical Environmental Concern as mapped or determined by BLM; (2) protecting the relevant and important values.
WY_BFO_NSO_Slopes50	NSO (1) On slopes greater than 50% as mapped by the US Geological Survey 1:24,000 scale topographic maps, US Geological Survey Digital Elevation Models, and/or as determined by a BLM evaluation of the area; (2) preventing mass slope failure and accelerated erosion.
WY_BFO_NSO_SSF	NSO (1) Within 0.25 mile of any waters containing special status fish species as mapped on the Buffalo Field Office GIS database or from field evaluation, in consultation with the Wyoming Game and Fish Department; (2) protecting special status fish populations and habitat.
WY_BFO_NSO_SSP	NSO (1) Within special status species plant populations as mapped on the Buffalo Field Office GIS database, or determined by BLM from field evaluation, in coordination with the Wyoming Natural Diversity Database and/or US Fish and Wildlife Service; (2) protecting special status species plant populations.
WY_BFO_NSO_SSRN	NSO (1) Within a species specific spatial buffer of special status species raptor nests using US Fish and Wildlife Service Wyoming Ecological Service's recommendations (Appendix Q (p. 633) or www.fws.gov/wyominges/Pages/Species/Species_SpeciesConcern/Raptors.html) as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (2) protecting nest sites of special status raptors.
WY_BFO_NSO_TCP	NSO (1) On lands containing traditional cultural properties as mapped on the Buffalo Field Office GIS database; (2) protecting traditional cultural properties.
WY_BFO_TLS_BEN	TLS (1) Surface-disturbing and disruptive activities are prohibited or restricted from Feb 1 to Aug 15 within 1.0 mile of active bald eagle nests; (2) as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (3) ensuring productivity of bald eagles.

STIPULATION CODE	STIPULATION LANGUAGE
WY_BFO_TLS_BGCWEC	TLS (1) Surface-disturbing and disruptive activities are prohibited or restricted from Nov 15 to Apr 30 within big-game crucial winter range, or from May 1 to Jun 15 within elk calving areas (Wyoming Game and Fish Department 2009); (2) as mapped by the Wyoming Game and Fish Department and evaluated by the BLM; (3) ensuring the function and suitability of crucial big game winter ranges.
WY_BFO_TLS_EC	TLS (1) Surface-disturbing and disruptive activities are prohibited or restricted from May 1 to Jun 15 within elk calving areas (Wyoming Game and Fish Department 2009); (2) as mapped by the Wyoming Game and Fish Department and evaluated by the BLM; (3) ensuring the function and suitability of elk calving areas.
WY_BFO_TLS_EWR	TLS (1) Surface-disturbing and disruptive activities are prohibited or restricted from Nov 1 to Apr 1 within 1.0 mile from the edge of consistently used eagle winter roosts and the following consistently used riparian corridors: Clear Creek, Crazy Woman Creek, Piney Creek, Powder River, and Tongue River; (2) as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (3) protecting roosting eagles.
WY_BFO_TLS_NSSRN	TLS (1) Surface-disturbing and disruptive activities are prohibited or restricted within the US Fish and Wildlife Service Wyoming Ecological Service's recommended spatial buffers and dates of active non-special status species raptor nests. (Appendix Q (p. 633) or www.fws.gov/wyominges/Pages/Species/Species_SpeciesConcern/Raptors.html); (2) as mapped on the Buffalo Field Office GIS database or determined by BLM from field evaluation in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (3) ensuring raptor nest productivity.
WY_BFO_TLS_PHMAC	TLS (1) Mar 15 to Jun 30; (2) as mapped on the Buffalo Field Office GIS database; (3) no surface use to seasonally protect Greater Sage-Grouse breeding, nesting and early brood-rearing habitats (independent of habitat suitability) inside Priority Habitat Management Areas (Connectivity only), within 4 miles of an occupied lek.
WY_BFO_TLS_PHMAL	TLS (1) Mar 15 to Jun 30; (2) as mapped on the Buffalo Field Office GIS database; (3) no surface use to seasonally protect Greater Sage-Grouse breeding, nesting and early brood-rearing habitats (independent of habitat suitability) inside designated Priority Habitat Management Areas (Core only). Where credible data support different timeframes for this restriction, dates may be expanded by 14 days prior or subsequent to the above dates.
WY_BFO_TLS_PHMAWCA	TLS (1) Dec 1 to Mar 14; (2) as mapped on the Buffalo Field Office GIS database; (3) to seasonally protect Greater Sage-Grouse winter concentration areas in designated Priority Habitat Management Areas (Core and Connectivity), and outside designated PHMAs (Core and Connectivity) when supporting wintering Greater Sage-Grouse that attend leks within designated PHMAs (Core only).
WY_BFO_TLS_SSRN	TLS (1) Surface-disturbing and disruptive activities are prohibited or restricted within US Fish and Wildlife Service recommended spatial buffers and dates (Appendix Q (p. 633) or www.fws.gov/wyominges/Pages/Species/Species_SpeciesConcern/ Raptors.html) of active raptor nests of special status species; (2) as mapped on the Buffalo Field Office GIS database or determined by field evaluation, in coordination with the Wyoming Game and Fish Department and/or US Fish and Wildlife Service; (3) ensuring productivity of nesting special status raptors.
WY_BFO_TLS_STG	TLS (1) Surface-disturbing and disruptive activities are prohibited or restricted from Apr 1 to Jul 15 (Wyoming Game and Fish Department 2009) within 2 miles of the perimeter of occupied sharp-tailed grouse leks; (2) as mapped by the Wyoming Game and Fish Department and evaluated by the BLM; (3) ensuring the function and suitability of sharp-tailed grouse nesting habitat.
WY_LFO_CSU_BRMLP2024	CSU (1) Surface occupancy or use will be restricted; (2) as mapped on the Lander Field Office GIS database; (3) protecting unique plant communities, cultural sites, viewshed, geologic resources, wild horse migration routes, and riparian-wetland resources of the Beaver Rim Master Leasing Plan analysis area.
WY_LFO_CSU_LRPS1013	CSU (1) Surface occupancy or use will be restricted; (2) as mapped on the Lander Field Office GIS database; (3) protecting limited reclamation potential soils.
WY_LFO_CSU_PYFC5058	CSU (1) Surface use or occupancy is restricted; (2) as mapped on the Lander Field Office GIS database; (3) protecting fossil resources within designated "very high" or "high" potential fossil yield classification areas.
WY_LFO_CSU_RHTEH5018	CSU (1) Surface use or occupancy will be restricted within a 2-mile buffer of Regional Historic Trails and Early Highways; (2) as mapped on the Lander Field Office GIS database; (3) protecting the Regional Historic Trails and Early Highways and their settings.
WY_LFO_CSU_S15TO24P1014	CSU (1) Surface occupancy or use will be restricted; (2) as mapped on the Lander Field Office GIS database; (3) protecting areas containing slopes between 15 and 24 percent.
WY_LFO_CSU_SR6124	CSU (1) Surface use or occupancy is restricted within the Sweetwater Rocks viewshed; (2) as mapped on the Lander Field Office GIS database; (3) protecting the Sweetwater Rocks periphery.
WY_LFO_CSU_VRM5066	CSU (1) Surface occupancy or use is restricted; (2) as mapped on the Lander Field Office GIS database; (3) protecting VRM Class I and II areas.
WY_LFO_CSU1048	CSU (1) Surface occupancy and use will be restricted; (2) as mapped on the Lander field Office GIS database; (3) protecting 100-year floodplains and riparian-wetland areas.
WY_LFO_CSU2024	CSU (1) Surface occupancy and use will be restricted; (2) as mapped on the Lander Field Office GIS database; (3) protecting 100-year floodplains within the Beaver Rim Master Leasing Plan analysis area.

STIPULATION CODE	STIPULATION LANGUAGE
WY_LFO_CSU5025	CSU (1) Surface use or occupancy will be restricted; (2) as mapped on the Lander Field Office GIS database; (3) protecting the Cedar Ridge Traditional Cultural Property periphery.
WY_LFO_NSO_ACEC7059	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting the relevant and important Area of Critical Environmental Concern values.
WY_LFO_NSO_BRH4095	NSO (1) Within 0.25-mile of identified bat maternity roosts and hibernation sites as mapped on the Lander Field Office GIS database; (2) protecting bat maternity roosts and hibernation sites.
WY_LFO_NSO_BRMLP2024	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting unique plant communities, cultural sites, viewshed, and geologic resources in the Beaver Rim Master Leasing Plan area.
WY_LFO_NSO_CG5034	NSO (1) as mapped on the Lander Field Office GIS database; (2) protecting the Castle Gardens cultural site and periphery.
WY_LFO_NSO_HTAC4045	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting wildlife, cultural resources, viewshed, and/or recreational use(s) in the Hudson to Atlantic City area.
WY_LFO_NSO_NTMC7002	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting Congressionally Designated Trails and their settings.
WY_LFO_NSO_OPR4088	NSO (1) Within 200 feet of occupied pygmy rabbit habitat, as mapped in the Lander Field Office GIS database; (2) protecting pygmy rabbit habitat.
WY_LFO_NSO_PSW4031	NSO (1) Within 500 feet of perennial surface waters, riparian-wetland areas, and/or playas, as mapped on the Lander Field Office GIS database; (2) protecting perennial surface waters, riparian-wetland areas, and/or playas outside of Designated Development Areas.
WY_LFO_NSO_PSWDDA4031	NSO (1) Within 500 feet of perennial surface waters, riparian-wetland areas, and/or playas, as mapped on the Lander Field Office GIS database; (2) protecting perennial surface waters, riparian-wetland areas, and/or playas within Designated Development Areas.
WY_LFO_NSO_REC6086	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting developed recreation sites.
WY_LFO_NSO_SG25P1014	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting areas containing slopes greater than 25 percent.
WY_LFO_NSO_YERMO4084	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting desert yellowhead population management areas.
WY_LFO_NSO1045	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting identified sole source aquifers.
WY_LFO_NSO2024	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting 100-year floodplains within the Beaver Rim Master Leasing Plan analysis area.
WY_LFO_NSO2031	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting resources within 0.25-mile of National Register of Historic Places-eligible Native America cultural resource sites.
WY_LFO_NSO4070	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting wildlife parturition areas and viewshed south of Green Mountain.
WY_LFO_NSO5024	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting the Cedar Ridge Traditional Cultural Property.
WY_LFO_NSO5050	NSO (1) As mapped on the Lander Field Office GIS database; (2) protecting Sacred, Spiritual, and Traditional Cultural Properties.
WY_LFO_TLS_BGCW4061	TLS (1) Nov 15 to Apr 30; (2) as mapped on the Lander Field Office database; (3) protecting big game crucial winter range.
WY_LFO_TLS_BGCWP4061	TLS (1) May 1 to Jun 30; (2) as mapped on the Lander Field Office database; (3) protecting big game parturition areas.
WY_LFO_TLS_EWR4062	TLS (1) Nov 15 to Apr 30; (2) as mapped on the Lander Field Office GIS database; (3) protecting elk winter range.
WY_LFO_TLS_FFS4053	TLS (1) Sep 15 to Nov 30; (2) as mapped on the Lander Field Office GIS database; (3) protecting fall spawning habitat within the identified bankfull channel width of fish-bearing streams.
WY_LFO_TLS_FSS4053	TLS (1) Mar 15 to Jul 31; (2) as mapped on the Lander Field Office GIS database; (3) protecting spring spawning habitat within the identified bankfull channel width of fish-bearing streams.
WY_LFO_TLS_MPN4094	TLS (1) Apr 10 to Jul 10; (2) within 0.25-mile of identified mountain plover habitat, as mapped on the Lander Field Office GIS database, (3) protecting mountain plover nesting habitat.
WY_LFO_TLS_PHMAWCA	TLS (1) Dec 1 to Mar 14; (2) as mapped on the Lander Field Office GIS database; (3) seasonally protecting Greater Sage-Grouse winter concentration areas.
WY_LFO_TLS_RN4071	TLS (1) Within 1 mile of bald eagle and ferruginous hawk nests and 0.75-mile of all other active raptor nests during the following time periods, Apr 1 to Aug 31 for northern goshawk, Apr 1 to Sep 15 for burrowing owl, Feb 1 to Aug 15 for bald and/or golden eagles, and Feb 1 to Jul 31 for all other raptors; (2) as mapped on the Lander Field Office GIS database; (3) protecting active raptor nests.

STIPULATION CODE	STIPULATION LANGUAGE
WY_NFO_CSU_PHMAC	CSU (1) Surface occupancy or use will be restricted. The cumulative value of all applicable surface disturbances, existing or future, must not exceed 5 percent of the Disturbance Density Calculation Tool (DDCT) area, as described in the DDCT manual; (2) as mapped on the Newcastle Field Office GIS database; (3) to protect Greater Sage-Grouse designated Priority Habitat Management Areas (Connectivity only) from habitat fragmentation and loss. This lease does not guarantee the lessee the right to occupy the surface of the lease for the purpose of producing oil and natural gas within Greater Sage-Grouse designated PHMAs (Connectivity only). The surface occupancy restriction criteria identified in this stipulation may preclude surface occupancy and may be beyond the ability of the lessee to meet due to existing surface disturbance on Federal, State, or private lands within designated PHMAs (Connectivity only) or surface disturbance created by other land users. The BLM may require the lessee or operator to enter into a unit agreement or drilling easement to facilitate the equitable development of this and surrounding leases.
WY_NFO_TLS_PHMAC	TLS (1) Mar 15 to Jun 30; (2) as mapped on the Newcastle Field Office GIS database; (3) no surface use to seasonally protect Greater Sage-Grouse breeding, nesting and early brood-rearing habitats (independent of habitat suitability) inside Priority Habitat Management Areas (Connectivity only), within 4 miles of an occupied lek.
WY_SW_CSU_PHMA	CSU (1) Surface occupancy or use will be restricted to no more than an average of one disturbance location per 640 acres using the Disturbance Density Calculation Tool (DDCT), and the cumulative value of all applicable surface disturbances, existing or future, must not exceed 5 percent of the DDCT area, as described in the DDCT manual; (2) as mapped on the applicable Field Office GIS database; (3) to protect Greater Sage-Grouse designated Priority Habitat Management Areas (Core only) from habitat fragmentation and loss. This lease does not guarantee the lessee the right to occupy the surface of the lease for the purpose of producing oil and natural gas within Greater Sage-Grouse designated PHMAs (Core only). The surface occupancy restriction criteria identified in this stipulation may preclude surface occupancy and may be beyond the ability of the lessee to meet due to existing surface disturbance on Federal, State, or private lands within designated PHMAs (Core only) or surface disturbance created by other land users. The BLM may require the lessee or operator to enter into a unit agreement or drilling easement to facilitate the equitable development of this and surrounding leases.
WY_SW_NSO_GHMAL	NSO (1) As mapped on the applicable Field Office GIS database; (2) to protect occupied Greater Sage-Grouse leks and associated seasonal habitat, life-history, or behavioral needs of Greater Sage-Grouse in proximity to leks from habitat fragmentation and loss, and protect Greater Sage-Grouse populations from disturbance within a 0.25-mile radius of the perimeter of occupied Greater Sage-Grouse leks outside designated Priority Habitat Management Areas (Core and Connectivity).
WY_SW_NSO_PHMAL	NSO (1) As mapped on the applicable Field Office GIS database; (2) to protect occupied Greater Sage-Grouse leks and associated seasonal habitat, life-history, or behavioral needs of Greater Sage-Grouse in proximity to leks from habitat fragmentation and loss, and protect Greater Sage-Grouse populations from disturbance within a 0.6-mile radius of the perimeter of occupied Greater Sage-Grouse leks inside designated Priority Habitat Management Areas (Core and Connectivity).
WY_SW_TLS_GHMAL	TLS (1) Mar 15 to Jun 30; (2) as mapped on the applicable Field Office GIS database; (3) no surface use to seasonally protect Greater Sage-Grouse breeding, nesting and early brood-rearing habitats outside designated Priority Habitat Management Areas (Core and Connectivity), within 2 miles of an occupied lek.
WY_SW_TLS_PHMAL	TLS (1) Mar 15 to Jun 30; (2) as mapped on the applicable Field Office GIS database; (3) no surface use to seasonally protect Greater Sage-Grouse breeding, nesting and early brood-rearing habitats (independent of habitat suitability) inside designated Priority Habitat Management Areas (Core only).
WY_SW_TLS_PHMAWCA	TLS (1) Dec 1 to Mar 14; (2) as mapped on the applicable Field Office GIS database; (3) no surface use to seasonally protect Greater Sage-Grouse winter concentration areas in designated Priority Habitat Management Areas (Core only), and outside designated PHMAs (Core only) when supporting wintering Greater Sage-Grouse that attend leks within designated PHMAs (Core only).

5.1.2 U.S. Forest Service Lease Notices and Stipulation Code Index

Lease Notice TBNG-R2-FS-2820-13

NOTICE FOR LANDS OF THE NATIONAL FOREST SYSTEM
UNDER JURISDICTION OF
DEPARTMENT OF AGRICULTURE

The permittee/lessee must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of Interior in the permit. The Secretary of Agriculture's rules and regulations must be complied with for (1) all use and occupancy of the NFS prior to approval of an exploration plan by the Secretary of the Interior, (2) uses of all existing improvements, such as forest development roads, within and outside the area permitted by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by an exploration plan approved by the Secretary of the Interior.

All matters related to this stipulation are to be addressed to:

Forest Supervisor, Thunder Basin National Grassland
2468 Jackson St.
Laramie, WY 82070
(307) 745-2300

who is the authorized representative of the Secretary of Agriculture.

NOTICE

CULTURAL AND PALEONTOLOGICAL RESOURCES - The FS is responsible for assuring that the leased lands are examined to determine if cultural resources are present and to specify mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator, unless notified to the contrary by the FS, shall:

1. Contact the FS to determine if a site specific cultural resource inventory is required. If a survey is required, then:

2. Engage the services of a cultural resource specialist acceptable to the FS to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the area of proposed disturbance to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the FS for review and approval at the time a surface disturbing plan of operation is submitted.

3. Implementation mitigation measures required by the FS and BLM to preserve or avoid destruction of cultural resource values. Mitigation may include relocation of proposed facilities, testing, salvage, and recordation or other protective measures. All costs of the inventory and mitigation will be borne by the lessee or operator, and all data and materials salvaged will remain under the jurisdiction of the U.S. Government as appropriate.

The lessee or operator shall immediately bring to the attention of the FS and BLM any cultural or paleontological resources or any other objects of scientific interest discovered as a result of surface operations under this lease, and shall leave such discoveries intact until directed to proceed by FS and BLM.

ENDANGERED OR THREATENED SPECIES - The FS is responsible for assuring that the leased land is examined prior to undertaking any surface-disturbing activities to determine effects upon any plant or animal species listed or proposed for listing as endangered or threatened, or their habitats. The findings of this examination may result in some restrictions to the operator's plans or even disallow use and occupancy that would be in violation of the Endangered Species Act of 1973 by detrimentally affecting endangered or threatened species or their habitats.

The lessee/operator may, unless notified by the FS that the examination is not necessary, conduct the examination on the leased lands at his discretion and cost. This examination must be done by or under the supervision of a qualified resource specialist approved by the FS. An acceptable report must be provided to the FS identifying the anticipated effects of a proposed action on endangered or threatened species or their habitats.

TBNG2002-NSO-01

NO SURFACE OCCUPANCY STIPULATION
Slopes > 40%

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Protecting soil resources from loss of productivity, preventing erosion on steep slopes, soil mass movement, and resultant sedimentation.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable or can be adequately mitigated.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area do not include slopes greater than 40 percent.

Waiver: This stipulation may be waived if the authorized officer determines conditions have changed and the entire leasehold no longer contains any slopes greater than 40 percent.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-NSO-02

NO SURFACE OCCUPANCY STIPULATION
Slopes between 25 - 40%

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

On slopes between 25 - 40 percent with either highly erodible soils or soils susceptible to mass failure.

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Protecting soil resources from loss of productivity, preventing erosion on steep slopes, soil mass movement, and resultant sedimentation.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable or can be adequately mitigated.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area do not include slopes between 25 to 40 percent with highly erodible soils or soils susceptible to mass failure.

Waiver: This stipulation may be waived if the authorized officer determines conditions have changed and the entire leasehold no longer contains any highly erodible soils or soils susceptible to mass failure on slopes between 25 to 40 percent in the leasehold.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-NSO-04

NO SURFACE OCCUPANCY STIPULATION
Bald Eagle Nests

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

Within 1.0 mile (line of sight) of bald eagle nests.

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Preventing reduced reproductive success and adverse habitat loss.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable or can be adequately mitigated.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area include nests or nest site(s) known to have been unoccupied during each of the previous 7 years. The boundary of the stipulated area may also be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the eagles.

Waiver: This stipulation may be waived if the authorized officer determines conditions have changed and all nests within the leasehold or within the stipulated distance from the leasehold are known to have been unoccupied during each of the previous 7 years.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-NSO-05

NO SURFACE OCCUPANCY STIPULATION
Bald Eagle Winter Roosts

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

Within 1.0 mile (line of sight) of bald eagle roosting areas.

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Preventing adverse impacts on wintering and migrating bald eagles.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable or can be adequately mitigated.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area do not include winter roosting areas. The boundary of the stipulated area may also be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the eagles.

Waiver: This stipulation may be waived if the authorized officer determines conditions have changed and winter roosting areas are no longer used within the leasehold or within the stipulated distance from the leasehold.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-NSO-06

NO SURFACE OCCUPANCY STIPULATION
Golden Eagle, Merlin, Ferruginous Hawk, Swainson's Hawk, and Burrowing Owl Nests

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

Within 0.25 mile (line-of-sight) of golden eagle, merlin, ferruginous hawk, Swainson's hawk, or burrowing owl nests.

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Preventing reduced reproductive success and adverse habitat loss.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable or can be adequately mitigated.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area include nests or nest site(s) known to have been unoccupied during each of the previous 7 years. The boundary of the stipulated area may also be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting these raptors.

Waiver: This stipulation may be waived if the authorized officer determines conditions have changed and all nests within the leasehold or within the stipulated distance from the leasehold are known to have been unoccupied during each of the previous 7 years.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-TL-01

TIMING LIMITATION STIPULATION
Ferruginous Hawk and Swainson's Hawk Nests

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

March 1 - July 31 within 0.50 miles (line of sight) of ferruginous and Swainson's hawk nests.

On the lands described below:

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Preventing reduced reproductive success.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable, can be adequately mitigated, or if all nests within the leasehold or within the stipulated distance from the leasehold are known to have been unoccupied during each of the previous 7 years.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area include nests or nest site(s) known to have been unoccupied during each of the previous 7 years.

Waiver: This stipulation may be waived if the authorized officer determines conditions have changed and all nests within the leasehold or within the stipulated distance from the leasehold are known to have been unoccupied during each of the previous 7 years.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-TL-02

TIMING LIMITATION STIPULATION
Golden Eagle Nests

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

February 1 - July 31 within 0.50 miles (line of sight) of golden eagle nests.

On the lands described below:

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Preventing reduced reproductive success.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable, can be adequately mitigated, or if all nests within the leasehold or within the stipulated distance from the leasehold are known to have been unoccupied during each of the previous 7 years.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area include nests or nest site(s) known to have been unoccupied during each of the previous 7 years.

Waiver: This stipulation may be waived if the authorized officer determines conditions have changed and all nests within the leasehold or within the stipulated distance from the leasehold are known to have been unoccupied during each of the previous 7 years.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-TL-03

TIMING LIMITATION STIPULATION
Merlin Nests

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

April 1 - August 15 within 0.50 miles (line of sight) of merlin nests.

On the lands described below:

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Preventing reduced reproductive success.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable, can be adequately mitigated, or if all nests within the leasehold or within the stipulated distance from the leasehold are known to have been unoccupied during each of the previous 7 years.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area include nests or nest site(s) known to have been unoccupied during each of the previous 7 years.

Waiver: This stipulation may be waived if the authorized officer determines conditions have changed and all nests within the leasehold or within the stipulated distance from the leasehold are known to have been unoccupied during each of the previous 7 years.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-TL-08

TIMING LIMITATION STIPULATION
Swift Fox Dens

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

March 1 - August 31 within 0.25 mile (line of sight) of swift fox dens.

On the lands described below:

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Preventing den abandonment and reduced reproductive success.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable or can be adequately mitigated.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area do not include swift fox dens.

Waiver: This stipulation may be waived if the authorized officer determines conditions have changed and there are no dens within the leasehold or within the stipulated distance from the leasehold.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-TL-09

TIMING LIMITATION STIPULATION
Deer, Elk, and Pronghorn Habitat

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

December 15 - March 15 on identified winter range for deer, elk, or pronghorn.

On the lands described below:

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Avoiding adversely impacting big game winter range.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable or can be adequately mitigated.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area do not include winter range.

Waiver: No conditions for a waiver are anticipated, and approval of a waiver would be unlikely.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-CSU-03

CONTROLLED SURFACE USE STIPULATION
Fossils

Surface occupancy or use is subject to the following special operating constraints.

Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator, unless notified to the contrary by the Forest Service, shall:

- Contact the Forest Service to determine if a site-specific vertebrate paleontological inventory is required. The Forest Service will conduct inventories and surveys as part of the field review for the proposed activity on the lease. The operator may voluntarily engage the services of a qualified paleontologist to conduct the inventory.
- Implement mitigation measures required by the Forest Service and Bureau of Land Management to preserve or avoid destruction of vertebrate paleontologic resources. Mitigation may include relocation of proposed facilities or other protective measures.
- The lessee or operator shall immediately bring to the attention of the Forest Service any vertebrate paleontologic resources discovered as a result of surface operation under this lease, and shall leave such discoveries intact until directed to proceed by the Forest Service.

On the lands described below:

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Protecting fossils and immediate environment of the site, including inherent scientific, natural historic, interpretive, educational, and recreational values for the area potentially impacted.

Exceptions: The authorizing officer may grant an exception to this stipulation if the operator submits a plan that demonstrates impacts from the proposed action are acceptable or can be adequately mitigated.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area do not include significant fossils as described in Appendix J and FSM 2883.

Waiver: No conditions for a waiver are anticipated, and approval of a waiver would be unlikely.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

TBNG2002-CSU-07

CONTROLLED SURFACE USE STIPULATION
Scenery – Moderate Scenic Integrity Objective Areas

Surface occupancy or use is subject to the following special operating constraints.

Surface occupancy and use is subject to operational constraints to maintain a landscape character that is no more than slightly altered. Noticeable deviations must remain visually subordinate to the landscape character being viewed.

On the lands described below:

[APPLICABLE LANDS DESCRIBED IN ATTACHMENT 5.1]

For the purpose of:

Maintaining the scenic integrity objective (SIO) for areas identified as moderate.

Exceptions: No conditions for an exception are anticipated, and approval of an exception is unlikely.

Modifications: The boundaries of the stipulated area may be modified if the authorizing officer determines that portions of the area do not include moderate SIO areas.

Waiver: No conditions for a waiver are anticipated, and approval of a waiver is unlikely.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

5.1.3 Standard Lease Terms, Notices, and Stipulations

BLM Lease Form 3100-11

Form 3100-11
(October 2008)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Serial Number

OFFER TO LEASE AND LEASE FOR OIL AND GAS

The undersigned (page 2) offers to lease all or any of the lands in Item 2 that are available for lease pursuant to the Mineral Lands Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 et seq.), the Mineral Leasing Act for Acquired Lands of 1947, as amended (30 U.S.C. 351-359), or _____(other).

READ INSTRUCTIONS BEFORE COMPLETING

1. Name
Street
City, State, Zip Code

2. This application/offer/lease is for: *(Check Only One)* ☐ PUBLIC DOMAIN LANDS ☐ ACQUIRED LANDS (percent U.S. interest _____)

Surface managing agency if other than Bureau of Land Management (BLM): _____ Unit/Project _____

Legal description of land requested: *Parcel No.: _____ *Sale Date (mm/dd/yyyy): _____

***See Item 2 in Instructions below prior to completing Parcel Number and Sale Date.**

T.	R.	Meridian	State	County

Total acres applied for _____

Amount remitted: Filing fee $ _____ Rental fee $ _____ Total $ _____

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T.	R.	Meridian	State	County

Total acres in lease _____

Rental retained $ _____

This lease is issued granting the exclusive right to drill for, mine, extract, remove and dispose of all the oil and gas (except helium) in the lands described in Item 3 together with the right to build and maintain necessary improvements thereupon for the term indicated below, subject to renewal or extension in accordance with the appropriate leasing authority. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance, and to regulations and formal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of this lease.

NOTE: This lease is issued to the high bidder pursuant to his/her duly executed bid form submitted under 43 CFR 3120 and is subject to the provisions of that bid and those specified on this form.

Type and primary term:

☐ Noncompetitive lease (ten years)

☐ Competitive lease (ten years)

☐ Other _____

THE UNITED STATES OF AMERICA

by _____
(BLM)

_____
(Title) (Date)

EFFECTIVE DATE OF LEASE _____

(Continued on page 2)

4. (a) Undersigned certifies that (1) offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or Territory thereof, (2) all parties holding an interest in the offer are in compliance with 43 CFR 3100 and the leasing authorities; (3) offeror's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options, (4) offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located; (5) offeror is in compliance with qualifications concerning Federal coal lease holdings provided in sec. 2(a)2(A) of the Mineral Leasing Act; (6) offeror is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (7) offeror is not in violation of sec. 41 of the Act. (b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms conditions, and stipulations of which offeror has been given notice, and any amendment or separate lease that may include any land described in this offer open to leasing at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or in part unless the withdrawal is received by the proper BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments.

Duly executed this _____ day of _____ , 20 ____ _____
(Signature of Lessee or Attorney-in-fact)

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make it a crime for any person knowingly and willfully to make to any department or Agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

LEASE TERMS

Sec. 1. Rentals--Rentals must be paid to proper office of lessor in advance of each lease year. Annual rental rates per acre or fraction thereof are:

(a) Noncompetitive lease, $1.50 for the first 5 years; thereafter $2.00;

(b) Competitive lease, $1.50; for the first 5 years; thereafter $2.00;

(c) Other, see attachment, or

as specified in regulations at the time this lease is issued.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties must be paid on the production allocated to this lease. However, annual rentals must continue to be due at the rate specified in (a), (b), or (c) rentals for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) must automatically terminate this lease by operation of law. Rentals may be waived, reduced, or suspended by the Secretary upon a sufficient showing by lessee.

See. 2. Royalties--Royalties must be paid to proper office of lessor. Royalties must be computed in accordance with regulations on production removed or sold. Royalty rates are:

(a) Noncompetitive lease, 12 1/2%;

(b) Competitive lease, 12 1/2 %;

(c) Other, see attachment; or

as specified in regulations at the time this lease is issued.

Lessor reserves the right to specify whether royalty is to be paid in value or in kind, and the right to establish reasonable minimum values on products after giving lessee notice and an opportunity to be heard. When paid in value, royalties must be due and payable on the last day of the month following the month in which production occurred. When paid in kind, production must be delivered, unless otherwise agreed to by lessor, in merchantable condition on the premises where produced without cost to lessor. Lessee must not be required to hold such production in storage beyond the last day of the month following the month in which production occurred, nor must lessee be held liable for loss or destruction of royalty oil or other products in storage from causes beyond the reasonable control of lessee.

Minimum royalty in lieu of rental of not less than the rental which otherwise would be required for that lease year must be payable at the end of each lease year beginning on or after a discovery in paying quantities. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced, for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

An interest charge will be assessed on late royalty payments or underpayments in accordance with the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) (30 U.S.C. 1701). Lessee must be liable for royalty payments on oil and gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator, or due to the failure to comply with any rule, regulation, order, or citation issued under FOGRMA or the leasing authority.

(Continued on page 3)

Sec. 3. Bonds - A bond must be filed and maintained for lease operations as required under regulations.

Sec. 4. Diligence, rate of development, unitization, and drainage - Lessee must exercise reasonable diligence in developing and producing, and must prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of area, field, or pool embracing these leased lands. Lessee must drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

Sec. 5. Documents, evidence, and inspection - Lessee must file with proper office of lessor, not later than 30 days after effective date thereof, any contract or evidence of other arrangement for sale or disposal of production. At such times and in such form as lessor may prescribe, lessee must furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plats and schematic diagrams showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs. In the form prescribed by lessor, lessee must keep a daily drilling record, a log, information on well surveys and tests, and a record of subsurface investigations and furnish copies to lessor when required. Lessee must keep open at all reasonable times for inspection by any representative of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee must maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that supports costs claimed as manufacturing, preparation, and/or transportation costs. All such records must be maintained in lessee's accounting offices for future audit by lessor. Lessee must maintain required records for 6 years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section will be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. Conduct of operations - Lessee must conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee must take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses must be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.

Prior to disturbing the surface of the leased lands, lessee must contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee must immediately contact lessor. Lessee must cease any operations that would result in the destruction of such species or objects.

Sec. 7. Mining operations - To the extent that impacts from mining operations would be substantially different or greater than those associated with normal drilling operations, lessor reserves the right to deny approval of such operations.

Sec. 8. Extraction of helium - Lessor reserves the option of extracting or having extracted helium from gas production in a manner specified and by means provided by lessor at no expense or loss to lessee or owner of the gas. Lessee must include in any contract of sale of gas the provisions of this section.

Sec. 9. Damages to property - Lessee must pay lessor for damage to lessor's improvements, and must save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Sec. 10. Protection of diverse interests and equal opportunity - Lessee must pay, when due, all taxes legally assessed and levied under laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; and take measures necessary to protect the health and safety of the public.

Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly. If lessee operates a pipeline, or owns controlling interest in a pipeline or a company operating a pipeline, which may be operated accessible to oil derived from these leased lands, lessee must comply with section 28 of the Mineral Leasing Act of 1920.

Lessee must comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractors must maintain segregated facilities.

Sec. 11. Transfer of lease interests and relinquishment of lease - As required by regulations, lessee must file with lessor any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which will be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

Sec. 12. Delivery of premises - At such time as all or portions of this lease are returned to lessor, lessee must place affected wells in condition for suspension or abandonment, reclaim the land as specified by lessor and, within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells.

Sec. 13. Proceedings in case of default - If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease will be subject to cancellation unless or until the leasehold contains a well capable of production of oil or gas in paying quantities, or the lease is committed to an approved cooperative or unit plan or communitization agreement which contains a well capable of production of unitized substances in paying quantities. This provision will not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver will not prevent later cancellation for the same default occurring at any other time. Lessee will be subject to applicable provisions and penalties of FOGRMA (30 U.S.C. 1701).

Sec. 14. Heirs and successors-in-interest - Each obligation of this lease will extend to and be binding upon, and every benefit hereof will inure to the heirs, executors, administrators, successors, beneficiaries, or assignees of the respective parties hereto.

(Continued on page 4)

A. General:

1. Page 1 of this form is to be completed only by parties filing for a noncompetitive lease. The BLM will complete page 1 of the form for all other types of leases.

2. Entries must be typed or printed plainly in ink. Offeror must sign Item 4 in ink.

3. An original and two copies of this offer must be prepared and filed in the proper BLM State Office. See regulations at 43 CFR 1821.2-1 for office locations.

4. If more space is needed, additional sheets must be attached to each copy of the form submitted.

B. Special:

Item 1 - Enter offeror's name and billing address.

Item 2 - Identify the mineral status and, if acquired lands, percentage of Federal ownership of applied for minerals. Indicate the agency controlling the surface of the land and the name of the unit or project which the land is a part. The same offer may not include both Public Domain and Acquired lands. Offeror also may provide other information that will assist in establishing title for minerals. The description of land must conform to 43 CFR 3110. A single parcel number and Sale Date will be the only acceptable description during the period from the first day following the end of a competitive process until the end of that same month, using the parcel number on the List of Lands Available for Competitive Nominations or the Notice of Competitive Lease Sale, whichever is appropriate.

Payments: The amount remitted must include the filing fee and the first year's rental at the rate of $1.50 per acre or fraction thereof. The full rental based on the total acreage applied for must accompany an offer even if the mineral interest of the United States is less than 100 percent. The filing fee will be retained as a service charge even if the offer is completely rejected or withdrawn. To protect priority, it is important that the rental submitted be sufficient to cover all the land requested. If the land requested includes lots or irregular quarter-quarter sections, the exact area of which is not known to the offeror, rental should be submitted on the basis of each such lot or quarter-quarter section containing 40 acres. If the offer is withdrawn or rejected in whole or in part before a lease issues, the rental remitted for the parts withdrawn or rejected will be returned.

Item 3 - This space will be completed by the United States.

NOTICES

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provide that you be furnished with the following information in connection with information required by this oil and gas lease offer.

AUTHORITY: 30 U.S.C. 181 et seq.; 30 U.S.C 351-359.

PRINCIPAL PURPOSE: The information is to be used to process oil and gas offers and leases.

ROUTINE USES: (1) The adjudication of the lessee's rights to the land or resources. (2) Documentation for public information in support of notations made on land status records for the management, disposal, and use of public lands and resources. (3) Transfer to appropriate Federal agencies when consent or concurrence is required prior to granting a right in public lands or resources. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: If all the information is not provided, the offer may be rejected. See regulations at 43 CFR 3100.

BLM-Wyoming Standard Lease Notices (Nos. 1-3) and Lease Stipulations (Nos. 1-3)

LEASE NOTICE NO. 1

Under Regulation 43 CFR 3101.1-2 and terms of the lease (BLM Form 3100-11), the authorized officer may require reasonable measures to minimize adverse impacts to other resource values, land uses, and users not addressed in lease stipulations at the time operations are proposed. Such reasonable measures may include, but are not limited to, modification of siting or design of facilities, timing of operations, and specification of interim and final reclamation measures, which may require relocating proposed operations up to 200 meters, but not off the leasehold, and prohibiting surface disturbance activities for up to 60 days.

The lands within this lease may include areas not specifically addressed by lease stipulations that may contain special values, may be needed for special purposes, or may require special attention to prevent damage to surface and/or other resources. Possible special areas are identified below. Any surface use or occupancy within such special areas will be strictly controlled or, if absolutely necessary, prohibited. Appropriate modifications to imposed restrictions will be made for the maintenance and operation of producing wells.

1. Slopes in excess of 25 percent.
2. Within 500 feet of surface water and/or riparian areas.
3. Construction with frozen material or during periods when the soil material is saturated or when watershed damage is likely to occur.
4. Within 500 feet of Interstate highways and 200 feet of other existing rights-of-way (i.e., U.S. and State highways, roads, railroads, pipelines, powerlines).
5. Within 1/4 mile of occupied dwellings.
6. Material sites.

GUIDANCE:
The intent of this notice is to inform interested parties (potential lessees, permittees, operators) that when one or more of the above conditions exist, surface disturbing activities will be prohibited unless or until the permittee or the designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development and become a condition for approval when authorizing the action.

Specific threshold criteria (e.g., 500 feet from water) have been established based upon the best information available. However, geographical areas and time periods of concern must be delineated at the field level (i.e., "surface water and/or riparian areas" may include both intermittent and ephemeral water sources or may be limited to perennial surface water).

The referenced oil and gas leases on these lands are hereby made subject to the stipulation that the exploration or drilling activities will not interfere materially with the use of the area as a materials site/free use permit. At the time operations on the above lands are commenced, notification will be made to the appropriate agency. The name of the appropriate agency may be obtained from the proper BLM Field Office.

THIS NOTICE APPLIES TO ALL PARCELS

LEASE NOTICE NO. 2

BACKGROUND:

The Bureau of Land Management (BLM), by including National Historic Trails within its National Landscape Conservation System, has recognized these trails as national treasures. Our responsibility is to review our strategy for management, protection, and preservation of these trails. The National Historic Trails in Wyoming, which include the Oregon, California, Mormon Pioneer, and Pony Express Trails, as well as the Nez Perce Trail, were designated by Congress through the National Trails System Act (P.L. 90-543; 16 U.S.C. 1241-1251) as amended through P.L. 106-509 dated November 13, 2000. Protection of the National Historic Trails is normally considered under the National Historic Preservation Act (P.L. 89-665; 16 U.S.C. 470 et seq.) as amended through 1992 and the National Trails System Act. Additionally, Executive Order 13195, "Trails for America in the 21st Century," signed January 18, 2001, states in Section 1: "Federal agencies will...protect, connect, promote, and assist trails of all types throughout the United States. This will be accomplished by: (b) Protecting the trail corridors associated with national scenic trails and the high priority potential sites and segments of national historic trails to the degrees necessary to ensure that the values for which each trail was established remain intact." Therefore, the BLM will be considering all impacts and intrusions to the National Historic Trails, their associated historic landscapes, and all associated features, such as trail traces, grave sites, historic encampments, inscriptions, natural features frequently commented on by emigrants in journals, letters and diaries, or any other feature contributing to the historic significance of the trails. Additional National Historic Trails will likely be designated amending the National Trails System Act. When these amendments occur, this notice will apply to those newly designated National Historic Trails as well.

STRATEGY:

The BLM will proceed in this objective by conducting a viewshed analysis on either side of the designated centerline of the National Historic Trails in Wyoming, except, at this time, for the Nez Perce Trail, for the purpose of identifying and evaluating potential impacts to the trails, their associated historic landscapes, and their associated historic features. Subject to the viewshed analysis and archeological inventory, reasonable mitigation measures may be applied. These may include, but are not limited to, modification of siting or design of facilities to camouflage or otherwise hide the proposed operations within the viewshed. Additionally, specification of interim and final reclamation measures may require relocating the proposed operations within the leasehold. Surface-disturbing activities will be analyzed in accordance with the National Environmental Policy Act of 1969 (P.L. 91190; 42 U.S.C. 4321-4347) as amended through P.L. 94-52, July 3, 1975 and P.L. 94-83, August 9, 1975, and the National Historic Preservation Act, supra, to determine if any design, siting, timing, or reclamation requirements are necessary. This strategy is necessary until the BLM determines that, based on the results of the completed viewshed analysis and archaeological inventory, the existing land use plans (Resource Management Plans) have to be amended.

The use of this lease notice is a predecisional action, necessary until final decisions regarding surface-disturbing restrictions are made. Final decisions regarding surface-disturbing restrictions will take place with full public disclosure and public involvement over the next several years if BLM determines that it is necessary to amend existing land use plans.

GUIDANCE:

The intent of this notice is to inform interested parties (potential lessees, permittees, operators) that when any oil and gas lease contains remnants of National Historic Trails, or is located within the viewshed of a National Historic Trails' designated centerline, surface-disturbing activities will require the lessee, permittee, operator or, their designated representative, and the surface management agency (SMA) to arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development and become a condition for approval when authorizing the action.
THIS NOTICE APPLIES TO ALL PARCELS

LEASE NOTICE NO. 3

Greater Sage-Grouse Habitat: The lease may in part, or in total, contain important Greater Sage-Grouse habitats as identified by the BLM, either currently or prospectively. The operator may be required to implement specific measures to reduce impacts of oil and gas operations on the Greater Sage-Grouse populations and habitat quality. Such measures shall be developed during the Application for Permit to Drill (APD) on-site and environmental review process and will be consistent with the lease rights granted.

THIS NOTICE APPLIES TO ALL PARCELS

LEASE STIPULATION NO. 1: CULTURAL RESOURCES

This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, Executive Order 13007, or other statutes and executive orders. The BLM will not approve any ground-disturbing activities that may affect any such properties or resources until it completes its obligations (e.g., State Historic Preservation Officer (SHPO) and tribal consultation) under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.

THIS STIPULATION APPLIES TO ALL PARCELS

LEASE STIPULATION NO. 2: ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

THIS STIPULATION APPLIES TO ALL PARCELS

LEASE STIPULATION NO. 3 MULTIPLE MINERAL DEVELOPMENT

Operations will not be approved which, in the opinion of the authorized officer, would unreasonably interfere with the orderly development and/or production from a valid existing mineral lease issued prior to this one for the same lands.

THIS STIPULATION APPLIES TO ALL PARCELS

5.2 Parcel Resource Values/Stipulation Summary Tables

5.2.1 High Plains District

Combined (all HPD field offices)

Parcel No.	Coal	Cultural Sites/NHT	Paleo PFYC Class 4/5	Recreation	VRM Class I or II	Socio-Economic	Soils	Lands & Realty	Special Management Areas	Fish CSU	Big Game Crucial Range CSU, TLS	Elk Calving CSU, TLS	Sharp-Tailed Grouse CSU, TLS	Raptor Nesting NSO, CSU, TLS & Special Species Raptor	Bald Eagle Winter Roosts / Nesting NSO, CSU, TLS	Special Status Plant Species CSU, NSO	Greater Sage-Grouse NSO, and/or CSU, TLS (in PHMAs)	Greater Sage-Grouse NSO, and/or CSU, TLS (outside PHMAs)	Prairie Dog Colonies CSU	Special Status Species Amphibians, Reptiles, Bats CSU	Vegetation/ Riparian	Waters	Existing Wells
6874			*					*						*									
6890			*					*															
6875			*		*			*						*									
0676			*					*						*									
6873			*		*			*						*									
0662	X		*		*			*			*			*	*								
0660			*					*						*									
6893	X		*					*						*									
0690	X		*					*						*									
6861			*					*						*									
0686	X		*					*						*									
0661	X		*					*						*									
0694	X		*					*						*									
6867			*					*						*									
0669	X		*					*						*	*								
6865	X		*					*						*	*								
0663			*					*						*	*								
0665	X		*					*						*	*								
0664			*					*						*	*								
0666			*					*						*	*								

Parcel No.	Coal	Cultural Sites/NHT	Paleo PFYC Class 4/5	Recreation	VRM Class I or II	Socio-Economic	Soils	Lands & Realty	Special Management Areas	Fish CSU	Big Game Crucial Range CSU, TLS	Elk Calving CSU, TLS	Sharp-Tailed Grouse CSU, TLS	Raptor Nesting NSO, CSU, TLS & Special Species Raptor	Bald Eagle Winter Roosts / Nesting NSO, CSU, TLS	Special Status Plant Species CSU, NSO	Greater Sage-Grouse NSO, and/or CSU, TLS (in PHMAs)	Greater Sage-Grouse NSO, and/or CSU, TLS (outside PHMAs)	Prairie Dog Colonies CSU	Special Status Species Amphibians, Reptiles, Bats CSU	Vegetation/ Riparian	Waters	Existing Wells
0667	X		*					*						*									
0550							X			X								X		X			
6839							X			X				X				X		X		X	
0621							X			X				X				X		X	X		
0632							X			X			X	X			X			X			
6882	X		*					*						*									
0693	X		*					*						*									
0626							X			X									X	X	X	X	
6846							X												X	X			
0628										X									X	X	X	X	
0629							X			X			X					X	X	X	X	X	
0631							X			X			X					X		X	X	X	
6844							X			X			X						X	X	X	X	
0549										X				X						X	X	X	
0624							X			X				X	X				X	X	X	X	
6845							X							X	X				X	X			
6843																			X	X	X		
6786										X				X						X	X		X
0643							X			X			X	X					X	X		X	X
6852							X			X				X					X	X	X	X	X
0535							X						X	X					X	X	X	X	X
0565							X			X			X						X	X	X	X	X
6868																							

Parcel No.	Coal	Cultural Sites/NHT	Paleo PFYC Class 4/5	Recreation	VRM Class I or II	Socio-Economic	Soils	Lands & Realty	Special Management Areas	Fish CSU	Big Game Crucial Range CSU, TLS	Elk Calving CSU, TLS	Sharp-Tailed Grouse CSU, TLS	Raptor Nesting NSO, CSU, TLS & Special Species Raptor	Bald Eagle Winter Roosts / Nesting NSO, CSU, TLS	Special Status Plant Species CSU, NSO	Greater Sage-Grouse NSO, and/or CSU, TLS (in PHMAs)	Greater Sage-Grouse NSO, and/or CSU, TLS (outside PHMAs)	Prairie Dog Colonies CSU	Special Status Species Amphibians, Reptiles, Bats CSU	Vegetation/ Riparian	Waters	Existing Wells
6883																							
6859														X				X					
0672																							
6872																							
6842																							
6889																							
0620														X									
0546		X												X	X								
0540																	X	X					
0547														X									
6807			X																				
0579			X																				
6814			X																				
6815			X											X									
6816			X																				
0588			X																				
0592			X											X									
0595			X											X									
6804			X											X									
0633			X											X									
0625			X											X									
0622			X											X									
0616			X											X									

Parcel No.	Coal	Cultural Sites/NHT	Paleo PFYC Class 4/5	Recreation	VRM Class I or II	Socio-Economic	Soils	Lands & Realty	Special Management Areas	Fish CSU	Big Game Crucial Range CSU, TLS	Elk Calving CSU, TLS	Sharp-Tailed Grouse CSU, TLS	Raptor Nesting NSO, CSU, TLS & Special Species Raptor	Bald Eagle Winter Roosts / Nesting NSO, CSU, TLS	Special Status Plant Species CSU, NSO	Greater Sage-Grouse NSO, and/or CSU, TLS (in PHMAs)	Greater Sage-Grouse NSO, and/or CSU, TLS (outside PHMAs)	Prairie Dog Colonies CSU	Special Status Species Amphibians, Reptiles, Bats CSU	Vegetation/ Riparian	Waters	Existing Wells
6840			X											X									
6841			X											X									
6817			X											X									
0605			X											X									
0604			X											X									
0603			X																				
0602			X											X									
0611			X											X									

*Within the National Forest System, with surface operations managed by the U.S. Forest Service.

5.2.2 Wind River/Bighorn Basin District

Lander Field Office

Parcel No.	Split Estate	WY_LFO_CSU_LRPS1013	WY_LFO_CSU_S15TO24P1014	WY_LFO_NSO_SG25P1014	WY_LFO_NSO_PSWDDA4031	WY_LFO_TLS_BGCW4061	WY_LFO_TLS_RN4071	WY_LFO_TLS_MPN4094	WY_SW_NSO_PHMAL	WY_SW_TLS_PHMAL	WY_SW_TLS_GHMAL	WY_LFO_TLS_PHMAWCA	WY_SW_CSU_PHMA	WY_LFO_CSU_RHTEH5018	WY_LFO_CSU_PYFC5058
0577		X	X	X	X	X	X	X			X			X	X
0552	X	X	X	X	X	X	X	X						X	X
0583		X	X	X	X		X	X							X
0560		X	X	X	X		X	X							X
6891		X	X	X	X		X	X							X
0564								X	X	X		X	X		
0575								X		X		X	X		
6792								X	X	X		X	X		
6803								X		X		X	X		

Cody Field Office

Parcel No.	Split Estate	1041 LN	1042 CSU	4119 TLS	4119 CSU	5046 CSU	7073 NSO	7097 CSU
0652	X	X	X			X		X
0658		X						X
0656		X		X	X		X	
0657		X		X	X			X

Worland Field Office

Parcel	Split Estate	LWC?	1041 LN	1042 CSU	2034 CSU	2035 CSU	2036 TLS	2038 CSU	2039 LN	2040 LN	4035 NSO	4074 TLS	4075 NSO	4075 CSU	WY_SW_NSO_PHMAL	WY_SW_TLS_PHMAL	WY_SW_TLS_GHMAL	WY_SW_CSU_PHMA	4118 TLS	4118 CSU	4128 CSU	4148 TLS	5048 CSU	6069 CSU	6098 CSU
6836																									
0634		X	X					X	X	X	X	X							X						
6892																									
0649		X	X					X	X	X	X												X		
6888	X	X	X					X	X	X	X														X
0607		X	X					X	X	X		X										X			
0612	X	X	X					X	X	X	X	X										X			X
6834		X	X					X	X	X	X	X			X	X	X	X				X			X
0610		X	X					X	X	X	X	X										X			
0608		X	X					X	X	X	X	X				X	X	X	X			X			
6831	X	X	X					X	X	X	X	X				X	X	X	X	X		X			
6835		X	X					X	X	X	X	X							X	X		X			
0584		X	X					X	X	X	X						X								X
0597		X	X					X	X	X	X					X	X	X							X
6809		X	X					X	X	X		X			X	X	X	X				X			X
0585	X	X	X					X	X	X	X	X										X			X
0587	X	X	X					X	X	X	X	X										X			
6813	X	X	X					X	X	X	X	X				X		X				X			X
0594	X	X	X					X	X	X	X	X				X	X	X				X			X
0606		X	X	X				X	X	X	X					X		X	X		X				X
6820	X		X													X		X							
6824		X	X					X	X	X	X					X		X							X
6828	X	X	X					X	X	X	X														X
0536			X		X	X	X				X	X	X	X							X		X	X	
0544	X		X		X	X	X				X	X	X	X					X		X		X	X	

5.2.3 High Desert District

Parcel No.	Big Game Crucial Winter Range TLS	GSG DDCT PHMA CSU	GSG/ Sharp-tailed Nesting TLS	B. Owl/ Raptor Nesting TLS	Mountain Plover TLS	Bald Eagle Roost/ Nest TLS or NSO	Greater Sage-Grouse winter concentration area or winter habitat TLS	Big Game BirthingTLS/CSU	GSG/ Sharp- Tailed Lek NSO/CSU	Raptor CSU/NSO	Amphib Species CSU	Cult. Res. CSU or NSO	Historic Trails CSU &/or NSO	Adobe Town DRUA CSU	VRM II CSU	Coal/ Trona CSU	SRMA/ SMA/ WHMA CSU or NSO
0534	X	X	X	X			X			X	X	X					
0539	X	X	X				X		X								X
0551																	
0553																	
0554		X	X				X										
0559		X	X				X				X						
0562		X	X				X				X						
0563		X	X				X				X						
0564		X	X	X			X		X		X						
0567		X	X	X			X		X		X						
0568		X	X	X			X		X	X	X						
0569		X	X	X			X		X	X	X						
0570		X	X	X			X		X	X	X						
0575		X	X	X			X		X	X	X						
0578		X	X	X			X		X	X	X						
0619			X	X	X					X	X						
0640		X	X				X		X			X					
0647																	
0648		X	X	X			X		X	X	X						
0653	X	X	X	X	X	X	X			X			X		X		X
0654	X		X	X						X	X						
0655	X	X	X	X	X	X	X			X			X		X		X
0695	X	X	X	X			X		X	X							X
0696	X			X													
0697	X	X	X	X			X		X	X	X	X					
0698		X	X	X			X		X		X						
0702	X			X						X	X						
0703	X		X	X						X	X						
0704	X		X	X								X					

Parcel No.	Big Game Crucial Winter Range TLS	GSG DDCT PHMA CSU	GSG/ Sharp-tailed Nesting TLS	B. Owl/ Raptor Nesting TLS	Mountain Plover TLS	Bald Eagle Roost/ Nest TLS or NSO	Greater Sage-Grouse winter concentration area or winter habitat TLS	Big Game BirthingTLS/CSU	GSG/ Sharp- Tailed Lek NSO/CSU	Raptor CSU/NSO	Amphib Species CSU	Cult. Res. CSU or NSO	Historic Trails CSU &/or NSO	Adobe Town DRUA CSU	VRM II CSU	Coal/ Trona CSU	SRMA/ SMA/ WHMA CSU or NSO
0708		X	X				X		X				X		X		
0711		X	X				X										
0712	X	X	X				X										X
0714	X	X	X				X										X
6777					X												
6778					X												
6779					X												
6780					X												
6783	X	X	X				X										X
6784	X	X	X				X		X								X
6785	X			X	X					X	X	X					
6787		X	X	X			X		X		X						
6792		X	X				X		X		X						
6793		X	X				X		X		X						
6794		X	X				X		X		X						
6797				X			X		X	X	X						
6799		X	X	X			X		X	X	X						
6800		X	X	X			X		X	X	X						
6801		X	X	X			X		X	X	X						
6802		X	X	X			X		X		X						
6803		X	X	X			X		X		X						
6847		X	X	X	X		X		X	X	X	X					
6856					X												
6857																	
6858					X												
6860	X		X	X													
6885	X	X	X	X			X		X	X	X	X					
6886	X	X	X	X			X		X		X						

5.3 Air Resources Attachment: Air Quality Related Values: Visibility, Hazardous Air Pollutants and Deposition

5.3.1 Visibility –Wyoming

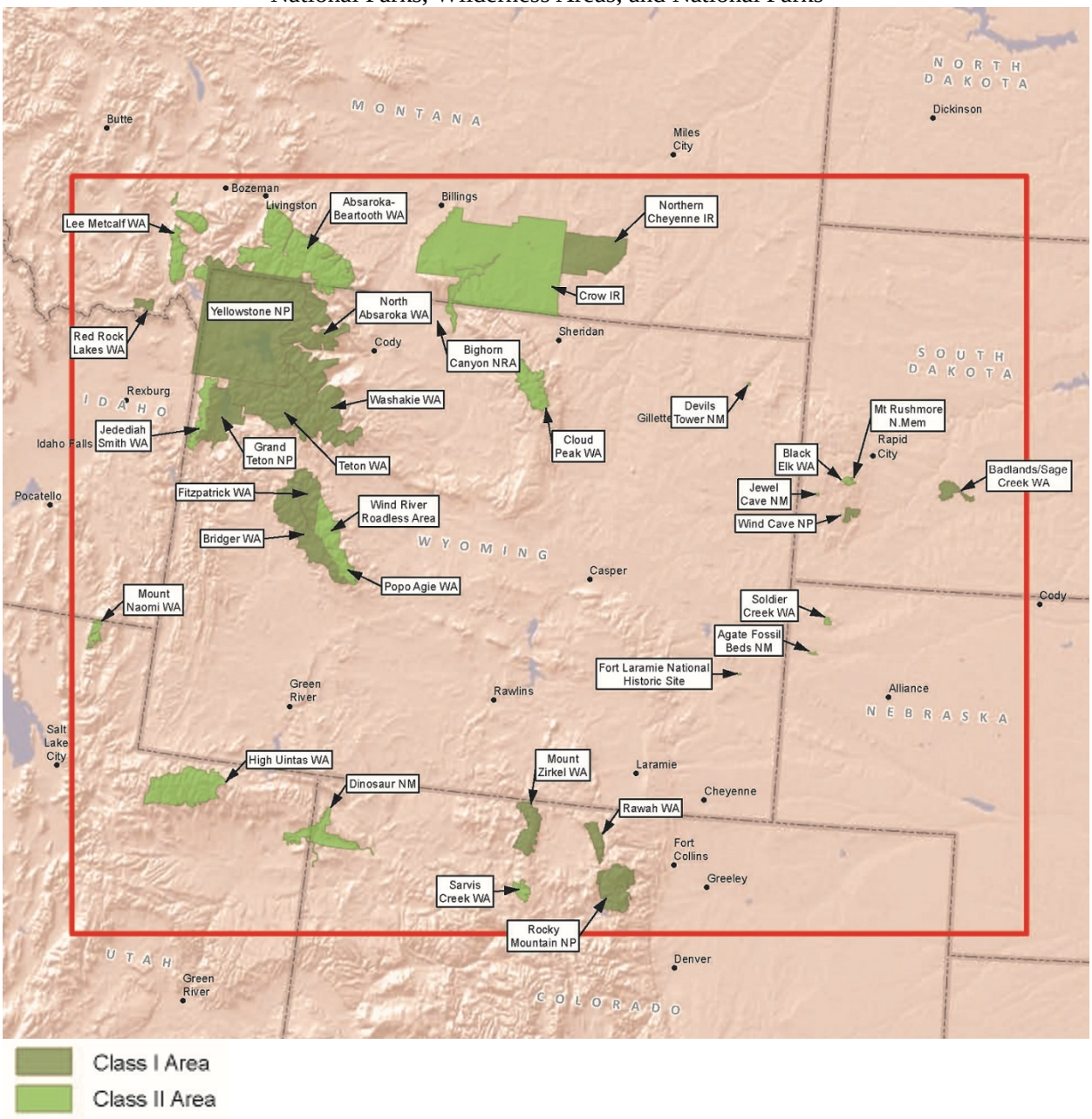
Regional haze is visibility impairment caused by the cumulative air pollutant emissions from numerous sources over a wide geographic area. Visibility impairment is caused by particles and gases in the atmosphere that scatter, distort, or absorb light. The primary cause of regional haze in many parts of the country is light scattering resulting from fine particles (i.e., PM2.5) in the atmosphere. Additionally, coarse particles between 2.5 and 10 microns in diameter can contribute to light extinction. Coarse particles and PM2.5 can be naturally occurring or the result of human activity. The natural levels of these species result in some level of visibility impairment, in the absence of any human influences and will vary with season, daily meteorology, and geography (Malm 1999).

There are several National Parks, National Forests, recreation areas, and wilderness areas within and surrounding the state of Wyoming. National Parks, National Monuments, and some state designated Wilderness Areas are designated as Class I (see figure, below). The Clean Air Act "declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas… from manmade air pollution." 42 U.S.C. 7491(a)(1). Under BLM Manual Section 8560.36, BLM-administered lands, including wilderness areas not designated as Class I, are managed as Class II, which provides that moderate deterioration of air quality associated with industrial and population growth may occur.

The Interagency Monitoring of Protected Visual Environments (IMPROVE) program was initiated in 1985. This program implemented an extensive long term monitoring program to establish the current visibility conditions, track changes in visibility and determine causal mechanism for the visibility impairment in the National Parks and Wilderness Areas. Observations over time have shown that visibility is not as good as it could be compared to natural background conditions (i.e., visibility is impaired relative to natural background conditions). In 1999, the EPA issued a Regional Haze Rule to protect visibility in over 150 national parks and wilderness areas. The Regional Haze Rule requires states to establish Reasonable Progress Goals for improving visibility, with the overall goal of attaining natural background visibility conditions by 2064.

The Clean Air Act includes "as a National Goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I federal areas in which impairment results from manmade air pollution." The CAA gives federal managers the affirmative responsibility, but no regulatory authority, to protect air quality-related values, including visibility, from degradation. A wide variety of pollutants can impact visibility, including PM, NO_2, NO_3, and SO_4. Fine particles suspended in the atmosphere decrease visibility by blocking, reflecting, or absorbing light. Regional haze occurs when pollutants from widespread emission sources become mixed in the atmosphere and travel long distances.

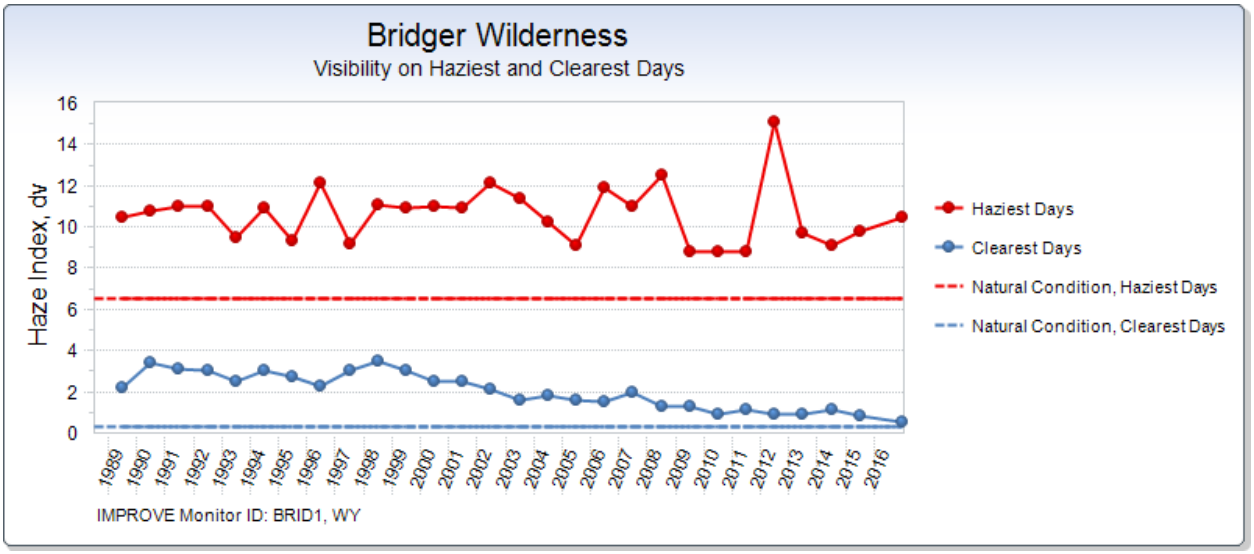
National Parks, Wilderness Areas, and National Parks



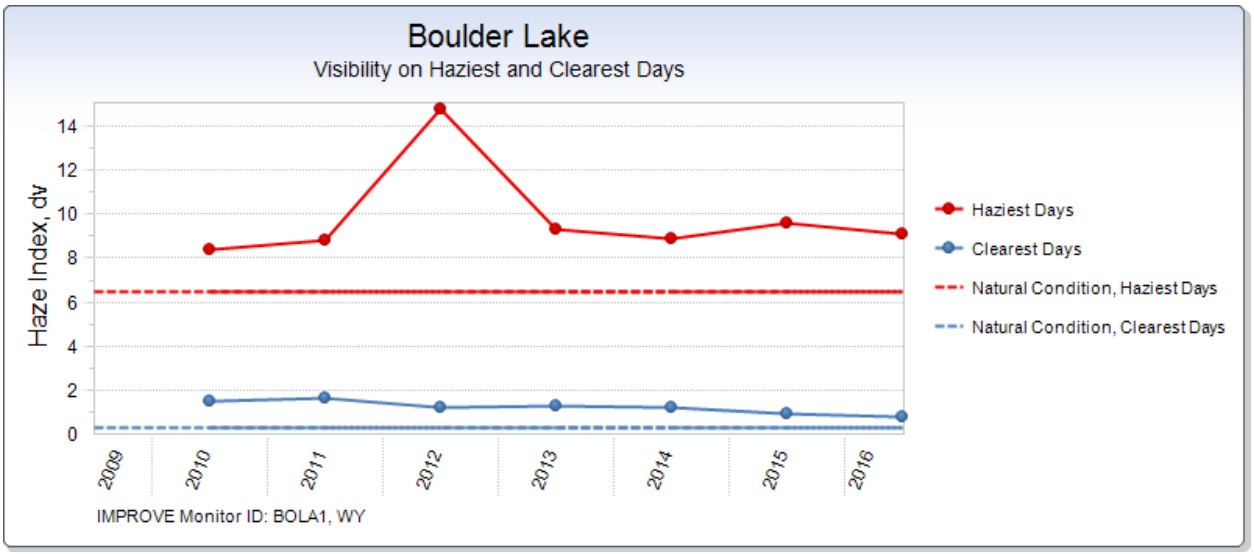
Visibility is expressed as deciviews (dv), which is a measure for describing perceived changes in visibility. Deciview values are calculated from either measured or estimated light extinction values in units of inverse megameters (Mm-1). A dv value of zero indicates a pristine atmosphere.

The figures below display annual average visibility in deciviews for the 20 percent best days, 20 percent worst days, and all days for each year during the late 20th and early 21st Century for the following IMPROVE sites: Bridger Wilderness, Boulder Lake, North Absaroka, Thunder Basin, Wind Cave, and Cloud Peak. Note: the 2017 IMPROVE data was not available, and the monitoring at Cloud Peak stopped in 2014. Generally, the IMPROVE data show a slow increase in visibility on the "Clearest Days" and a near-neutral trend in visibility for the "Haziest Days."

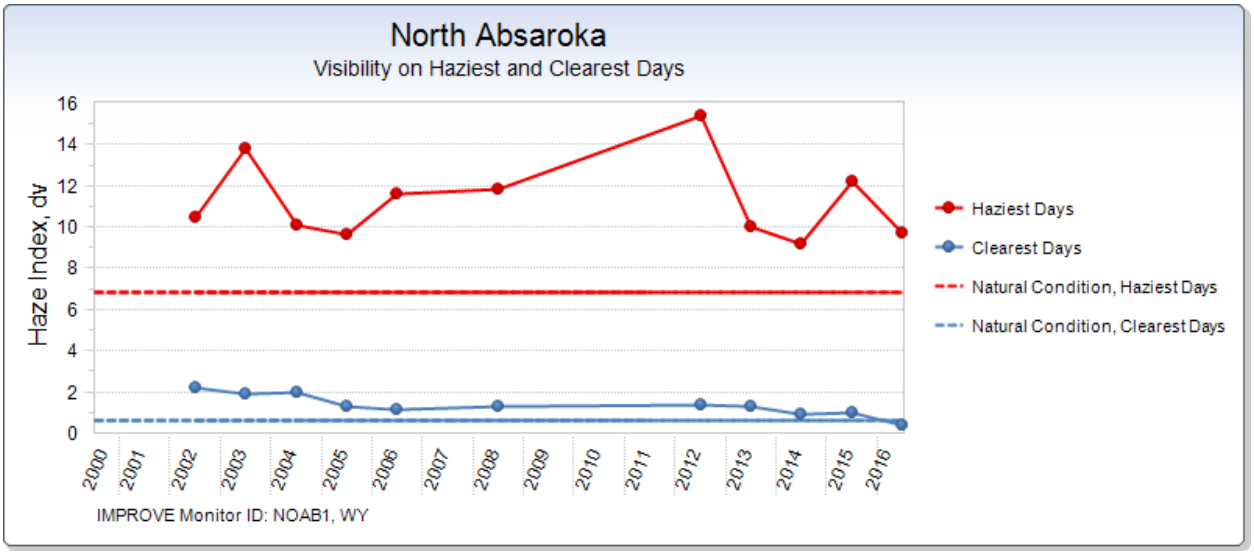
Annual Average Visibility (deciviews) for the Bridger Wilderness IMPROVE Site (1989-2016).



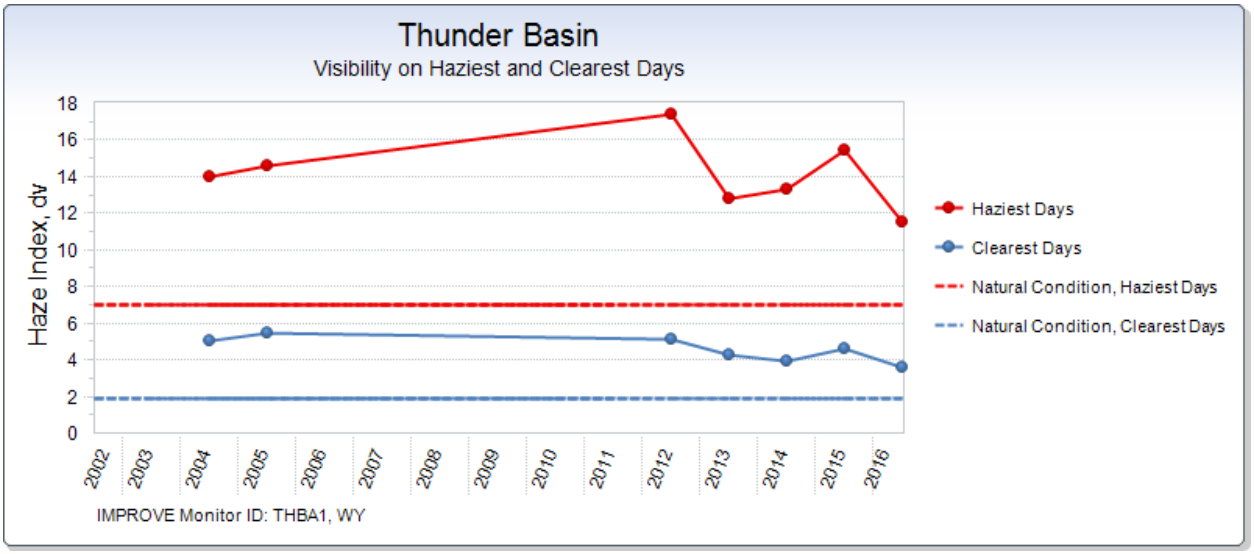
Annual Average Visibility (deciviews) for the Boulder Lake IMPROVE Site (2010-2016).



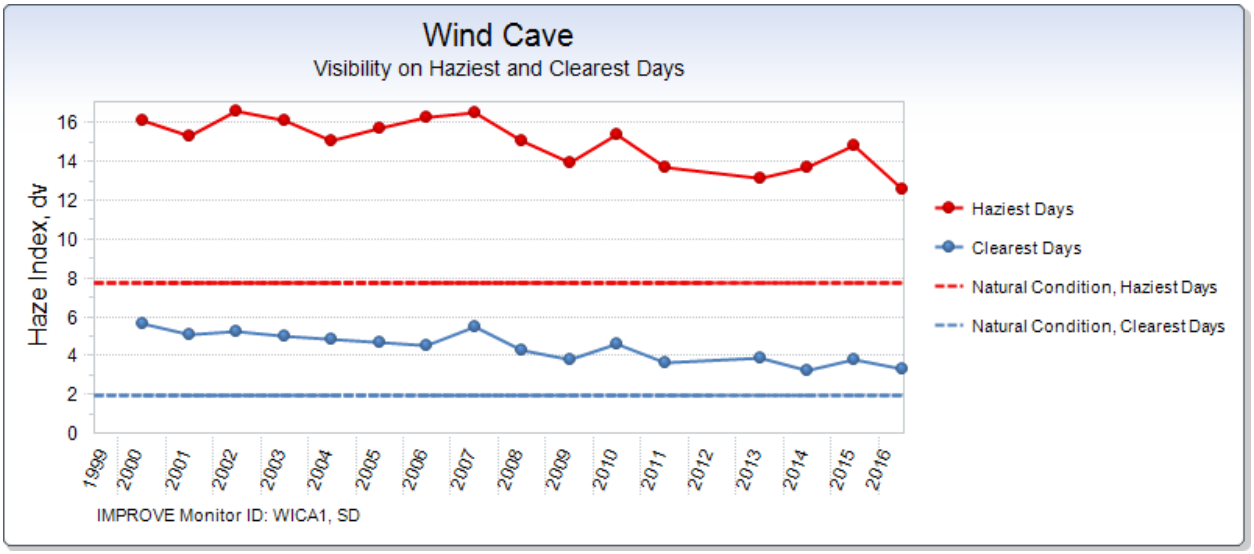
Annual Average Visibility (deciviews) for the North Absaroka IMPROVE Site (2002-2016).



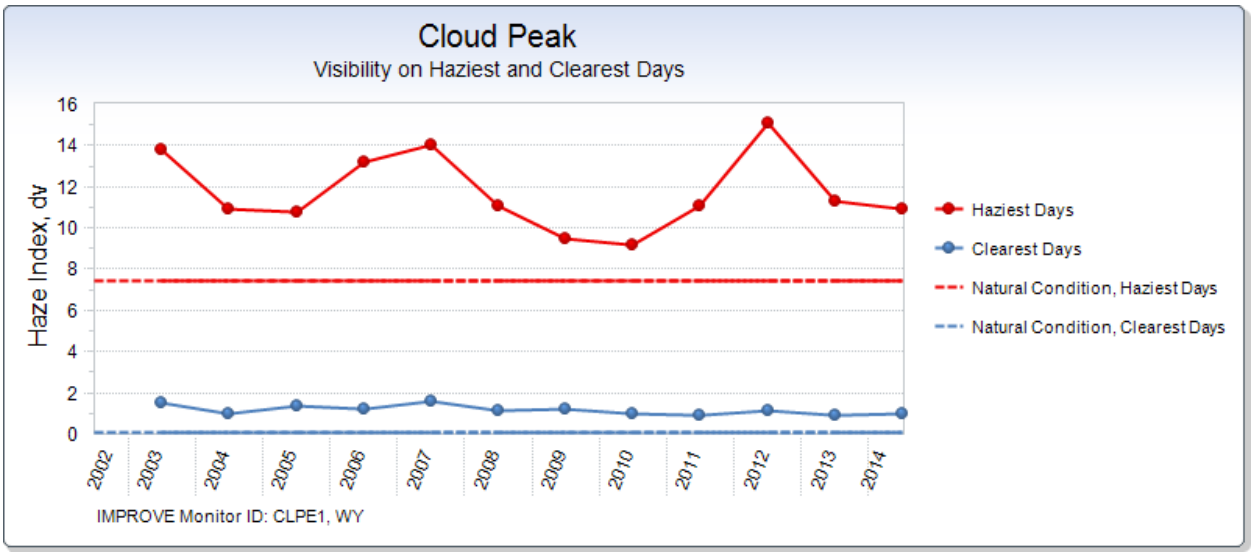
Annual Average Visibility (deciviews) for the Thunder Basin IMPROVE Site (2004, 2005, 2012-2016).



Annual Average Visibility (deciviews) for the Wind Cave, SD IMPROVE Site (1999-2016).



Annual Average Visibility (deciviews) for the Cloud Peak IMPROVE Site (2003-2014).



Source: Federal Land Manager Environmental Database 2018
(http://views.cira.colostate.edu/fed/AqrvMenu.aspx), accessed on 5/8/2018.
IMPROVE background reference: http://vista.cira.colostate.edu/Improve/improve-program/

5.3.2 Hazardous Air Pollutants (HAPs)-High Desert District

Many VOCs are HAPs, and are associated with human-made sources. The 2008 and 2011 National Emission Inventories and later WDEQ emissions inventories, indicate that VOC emissions within the region are primarily from area sources associated with oil and gas development activities. Therefore, HAP concentrations are expected to be greatest near oil and gas development sources and are a potential air quality concern for the region.

HAPs are not routinely monitored within the State of WY except where VOC production is a concern due to non-attainment. Because of the ongoing air quality concerns in the HDD, WDEQ conducted HAP

monitoring for several sites in the HDD from February 2009 until March 2010. Table 3-10 summarizes observed HAP concentrations for the Boulder, Daniel South, and Pinedale monitoring sites. Measurements were taken every six days and the values represent averages for the entire monitoring period.

Table: Example HAP Concentrations (micrograms per cubic meter) for Sublette County, Wyoming

Site Name	Annual Average HAP Concentration (µg/m^3)					
	Benzene	***Ethyl-benzene***	***Formalde-hyde***	***Hexane***	***Toluene***	***Xylene***
Boulder	2.12	0.77	0.99	1.29	6.42	4.46
Daniel South	1.25	0.52	1.37	0.81	4.30	2.76
Pinedale	2.13	1.00	1.59	1.47	6.50	6.38

Source: REF 1020
µg/m^3 micrograms per cubic meter

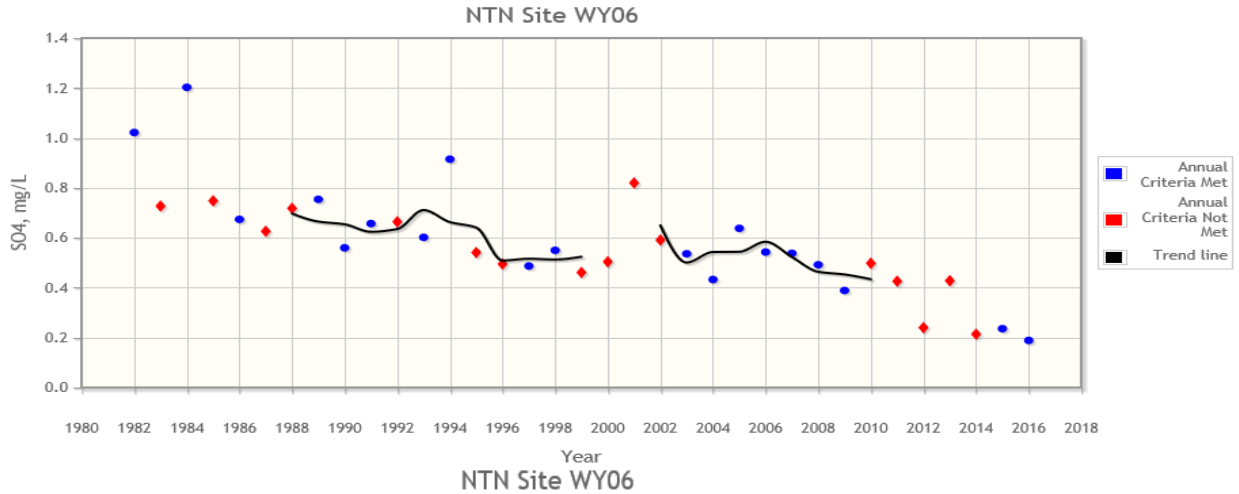
5.3.3 Deposition and Lake Chemistry – Wyoming

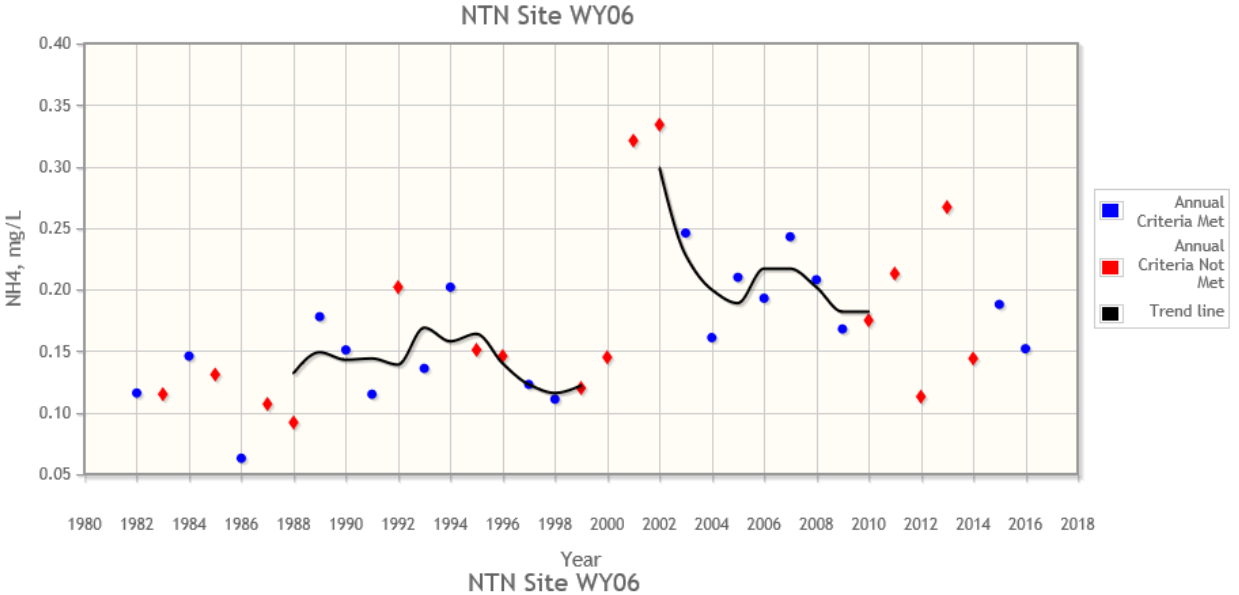
Sulfur and nitrogen compounds that can be deposited on terrestrial and aquatic ecosystems include nitric acid (HNO_3), nitrate (NO_3-), ammonium (NH_4+), and sulfate (SO_4--). Nitric acid (HNO_3) and nitrate (NO_3-) are not emitted directly into the air, but form in the atmosphere from industrial and automotive emissions of nitrogen oxides (NO_x); and sulfate (SO_4--) is formed in the atmosphere from industrial emission of sulfur dioxide (SO_2). Deposition of HNO_3, NO_3-and SO_4--can adversely affect plant growth, soil chemistry, lichens, aquatic environments, and petroglyphs (ancient carvings and/or engravings on rock surfaces). Ammonium (NH_4+) is volatilized from animal feedlots and from soils following fertilization of crops.

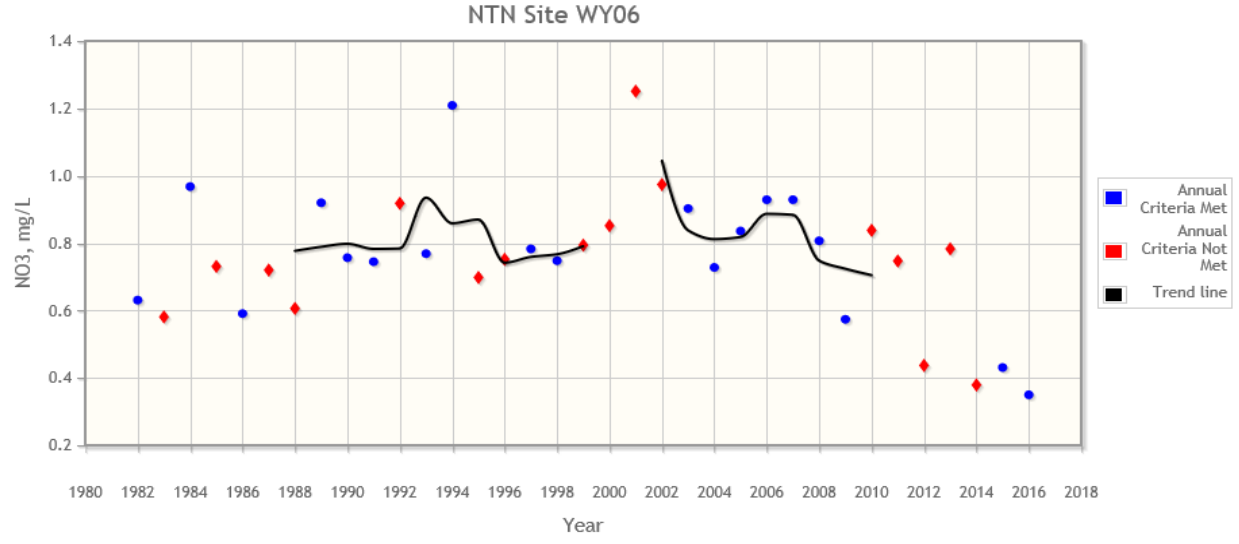
Wet atmospheric deposition is measured at National Atmospheric Deposition Program (NADP) sites: Pinedale, Sink's Canyon, South Pass, Newcastle, and Wind Cave. Dry deposition is measured at three Clean Air Status and Trends Network (CASTNET) sites in Pinedale (Sublette County), Newcastle (Weston County), and Basin (Big Horn County). Wet deposition is characterized by the concentration of nitrate ion (NO_3^-), sulfate ion (SO_4^-), and ammonium (NH_4+) ions in precipitation samples. The figures below display annual average concentration data for nitrate, sulfate, and ammonium ions from precipitation samples for each year during the period from the late 20th to early 21st Century Wyoming and South Dakota NADP sites. For each year, the data represent the average concentration based on all sampling periods. Units are milligrams per liter (mg/L). The data indicate a decrease in sulfate and nitrate ions for all NADP sites in precipitation samples. However, concentrations for the ammonium ion are either steady or slowly increasing at sites.

The figures below display annual average concentration data for Sulfur Dioxide, Particulate Sulfate, Particulate Nitric Acid, Total Nitrate, and Particulate Ammonium for the three Wyoming CASTNET sites. The concentration measurements are used to estimate dry deposition. For each year, the data represent the average concentration based on all sampling periods. Units are µg/m^3. The concentration data indicate a decrease for all pollutant species at Pinedale and Newcastle. However, the Basin concentrations increase from 2016 to 2017.

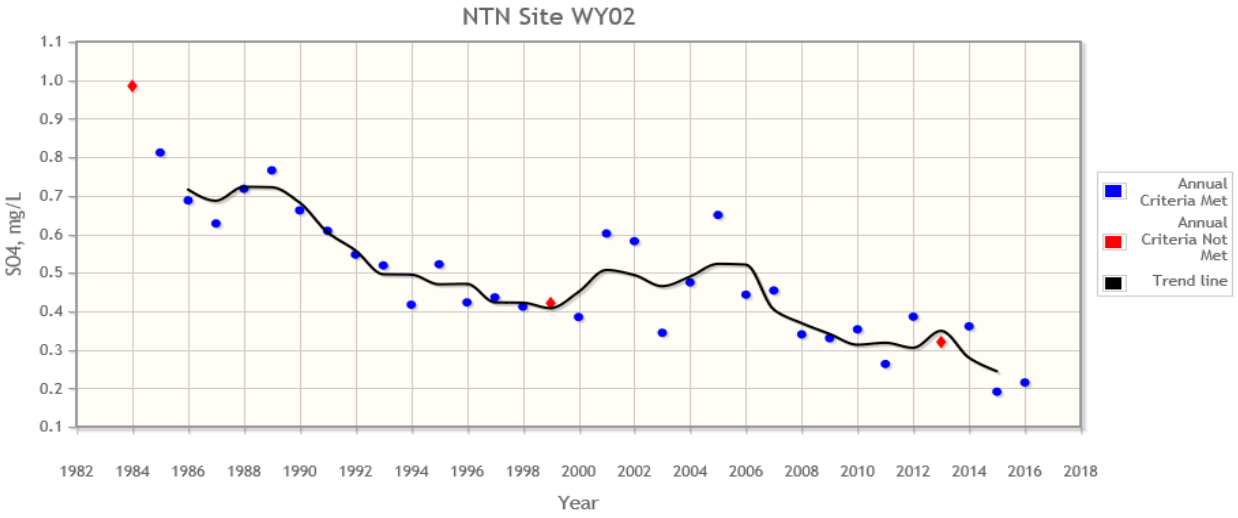
Annual Average Concentration in Wet Deposition (milligrams per liter) for NADP Monitoring Site at Pinedale

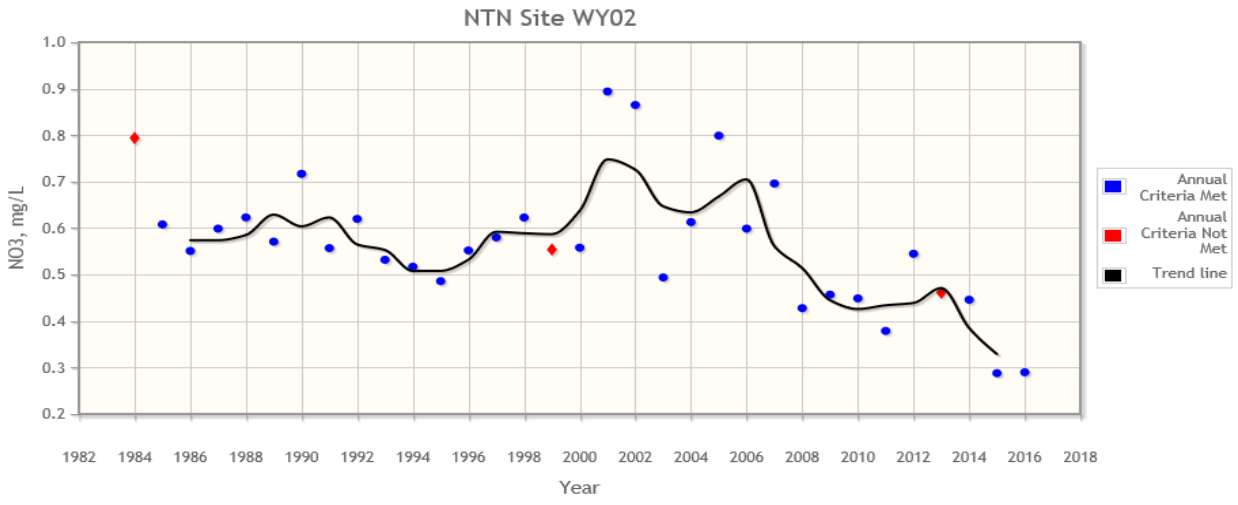

NTN Site WY06
SO4, mg/L
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018
Year
Annual Criteria Met
Annual Criteria Not Met
Trend line

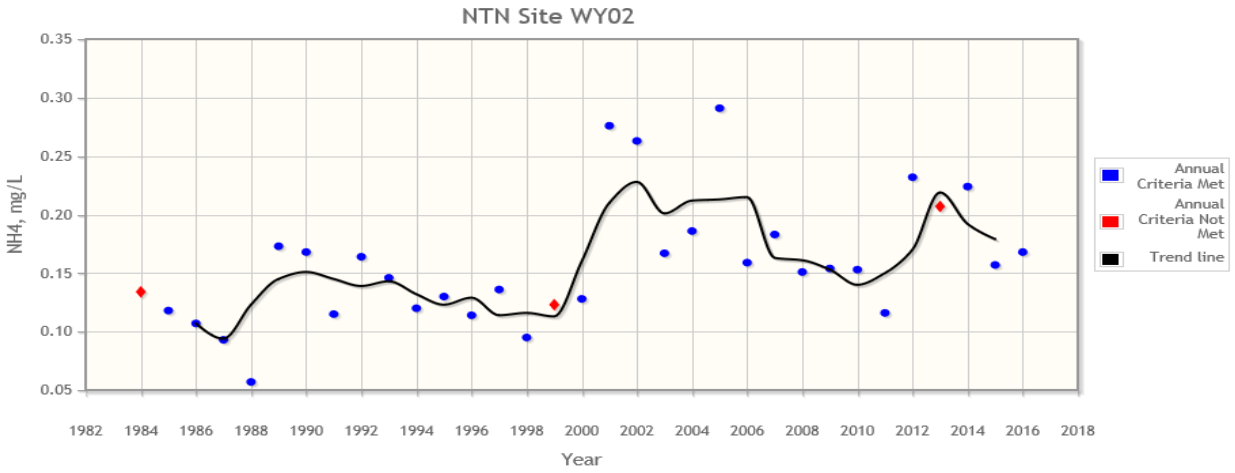

NTN Site WY06
NH4, mg/L
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018
Year
Annual Criteria Met
Annual Criteria Not Met
Trend line


NTN Site WY06
NO3, mg/L
1.4
1.2
1.0
0.8
0.6
0.4
0.2
1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018
Year
Annual Criteria Met
Annual Criteria Not Met
Trend line

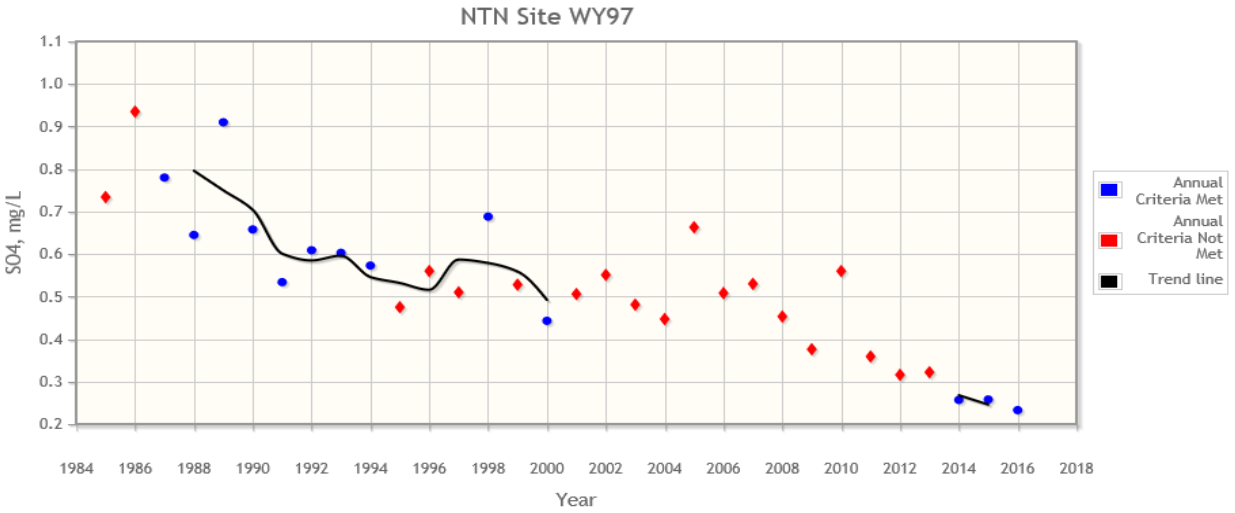
Annual Average Concentration in Wet Deposition (milligrams per liter) for NADP Monitoring Site at Sink's Canyon.

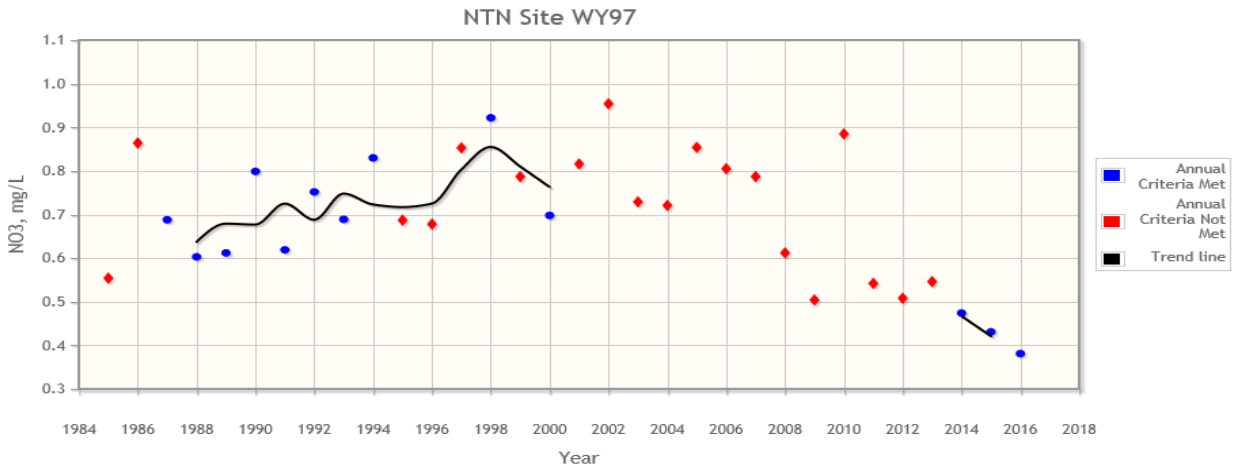


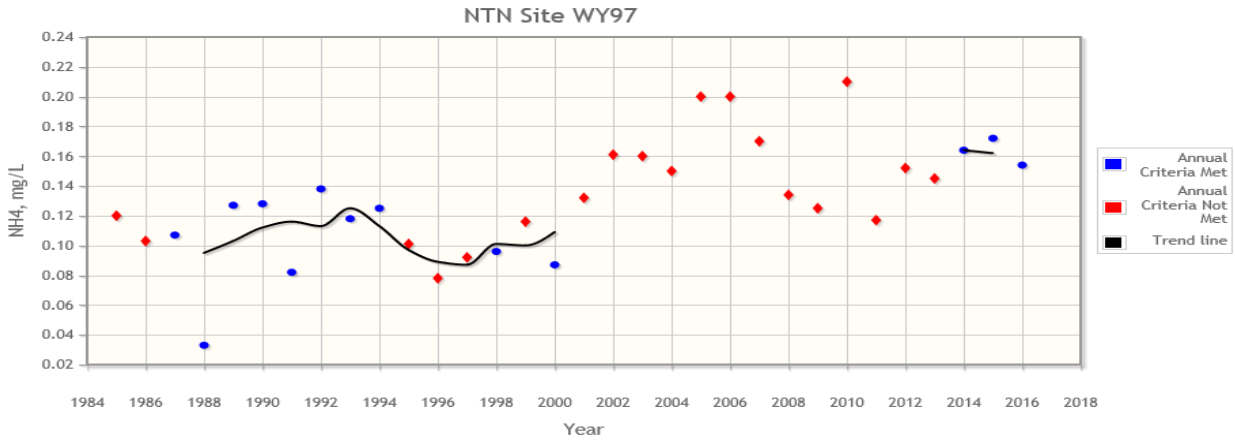




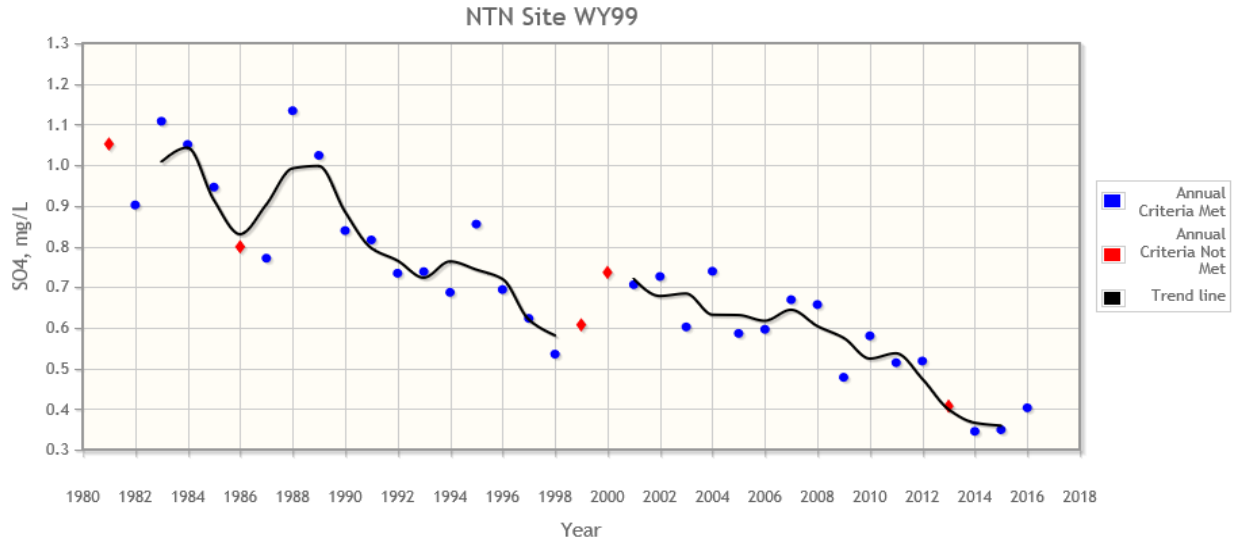
Annual Average Concentration in Wet Deposition (milligrams per liter) for NADP Monitoring Site at South Pass.

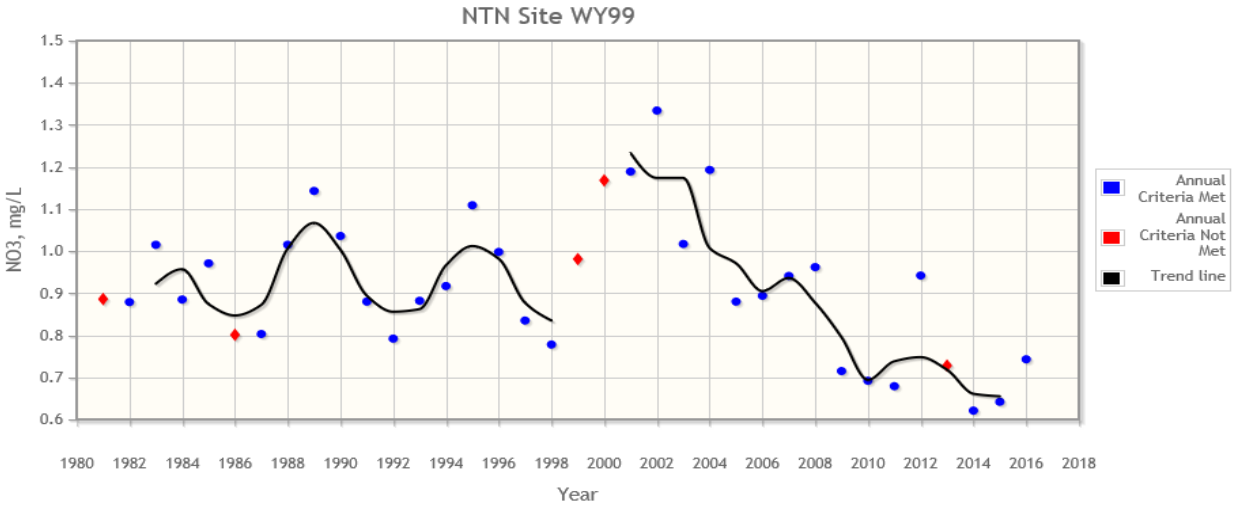


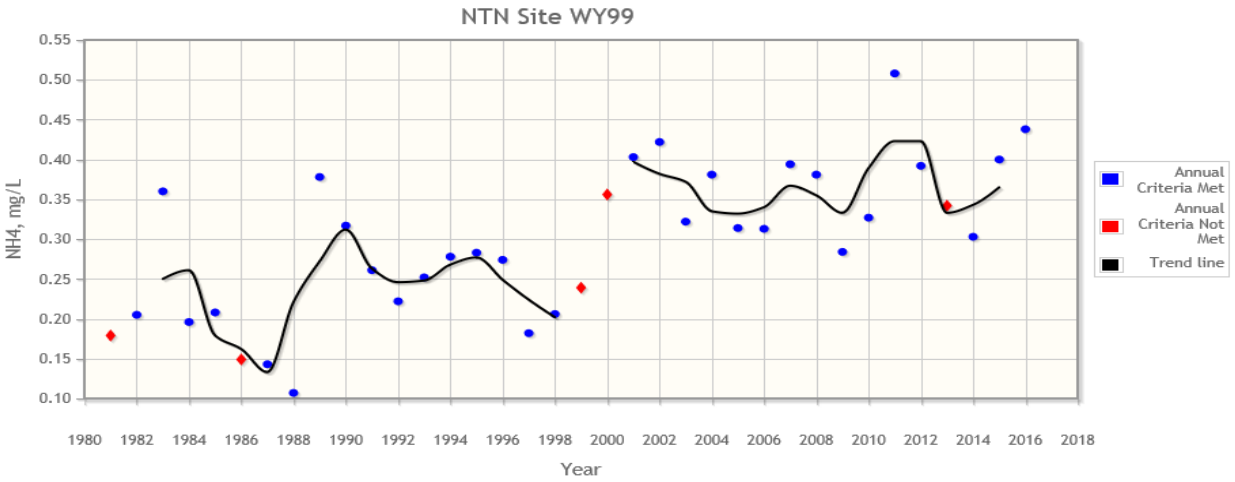




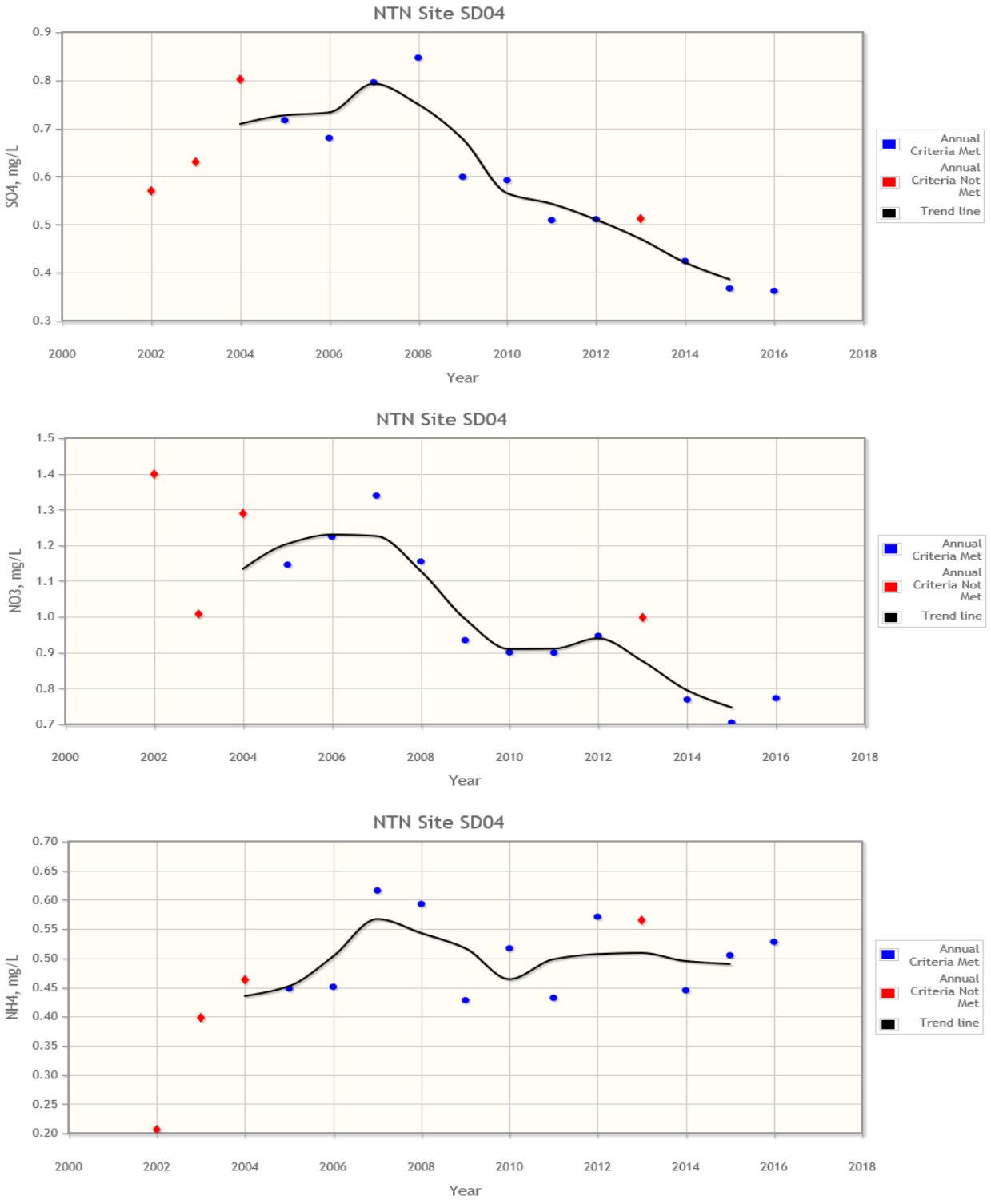
Annual Average Concentration in Wet Deposition (milligrams per liter) for NADP Monitoring Site at Newcastle.





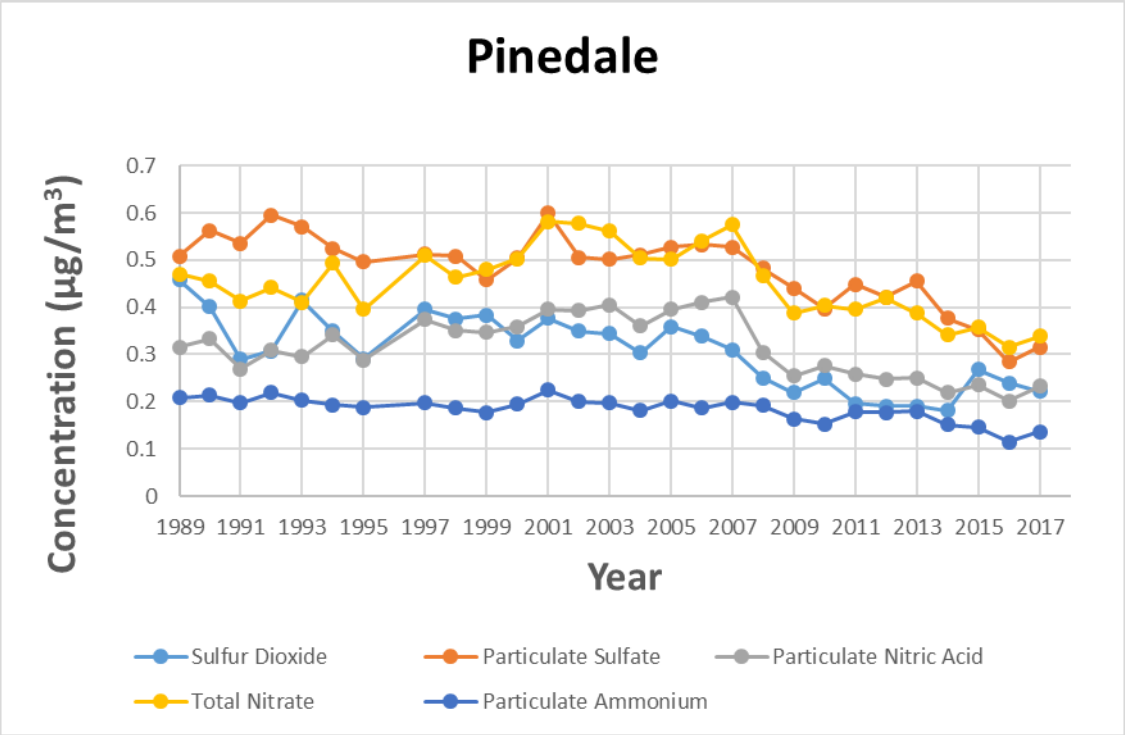


Annual Average Concentration in Wet Deposition (milligrams per liter) for NADP Monitoring Site at Wind Cave, SD.

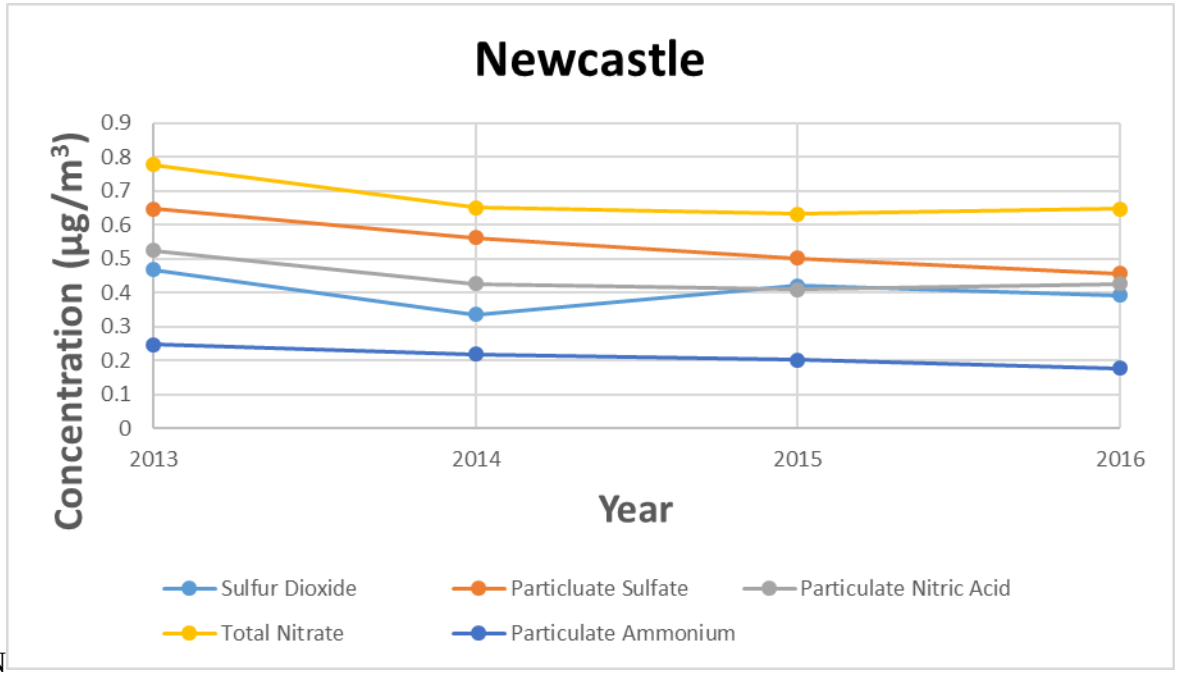


Source: REF 1014

Annual Average Concentration in Dry Deposition (micrograms per cubic meter) for the CASTNET Monitoring Site at Pinedale.

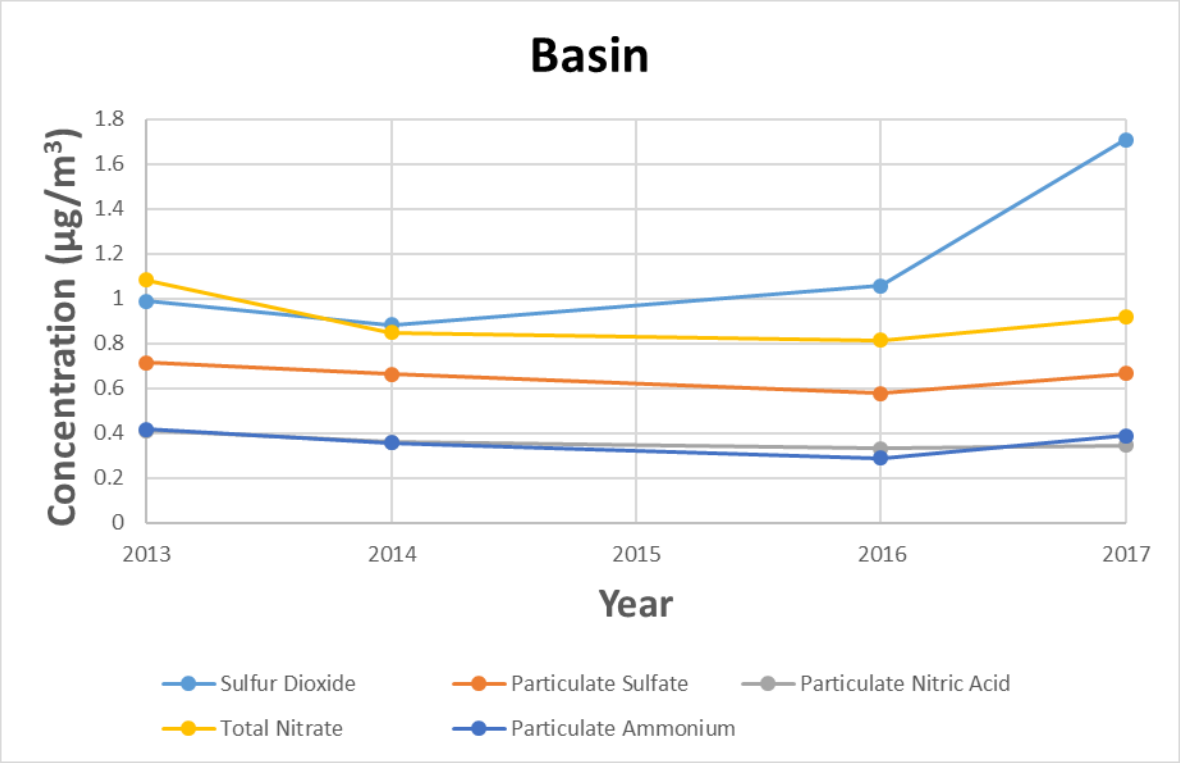


Annual Average Concentration in Dry Deposition (micrograms per cubic meter) for the CASTNET Monitoring Site at Newcastle.



N

Annual Average Concentration in Dry Deposition (micrograms per cubic meter) for the CASTNET Monitoring Site at Basin.



Source: REF 1014

Seven lakes have been identified as being acid sensitive. Applicable thresholds for the assessment of changes in acid neutralizing capacity (ANC) of sensitive lakes include: 10 percent change in ANC for lakes with background ANC values greater than 25 micro equivalents per liter [µeq/L], and less than a 1 µeq/L change in ANC for lakes with background ANC values equal to or less than 25 µeq/L.

Available ANC values for each of the nearest sensitive lakes are provided in the table, below, along with the number of samples used in the calculation of the 10th percentile lowest ANC values. Of the seven lakes listed in the table, below, only Upper Frozen Lake is considered to be extremely sensitive to atmospheric deposition by the USFS since the background ANC is less than 25 µeq/L.

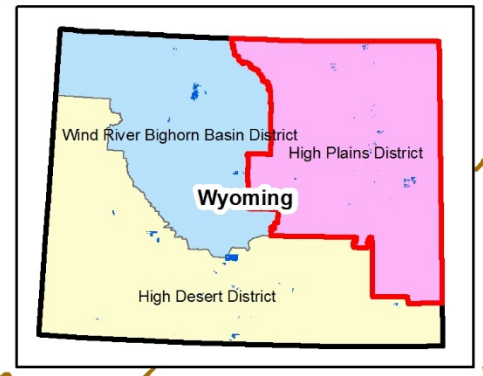
Table: Background ANC Values for Acid Sensitive Lakes

Wilderness Area	Lake	Latitude (Deg, Min, Sec)	Longitude (Deg, Min, Sec)	10th Percentile Lowest ANC Value (µeq/l)	Number of Samples
Bridger	Deep	42°43’10”	109°10’15”	57.7	68
Bridger	Black Joe	42°44’22”	109°10’16”	62.6	78
Bridger	Lazy Boy	43°19’57”	109°43’47”	9.1	5
Bridger	Upper Frozen	42°41’13”	109°09’39”	7.5	12
Bridger	Hobbs	43°02’08”	109°40’20”	69.9	80
Fitzpatrick	Ross	43º23'35"	109º39'29"	53.0	61
Popo Agie	Lower Saddlebag	42º37'24"	108º59'42"	54.6	64
Cloud Peak	Florence Lake	44º20'53"	107º10'50"	70	40
Cloud Peak	Emerald Lake	44º27'26"	107º18'11"	34.4	42

Sources: Source: USFS 2011 and Views (2014b)
ANC Acid Neutralizing Capacity
Deg Degree
Min Minute
Sec Second
µeq/l Microequivalent per liter

5.4 Greater Sage-Grouse Habitat Management Areas (HMAs): Maps

BLM-Wyoming Oil and Gas Lease Sale
Third-Quarter 2020: GRSG Habitat Management Areas



N

1:1,800,000

Map 9

BFO

NFO

WFO

LFO

PFO

CFO

RFO

FO

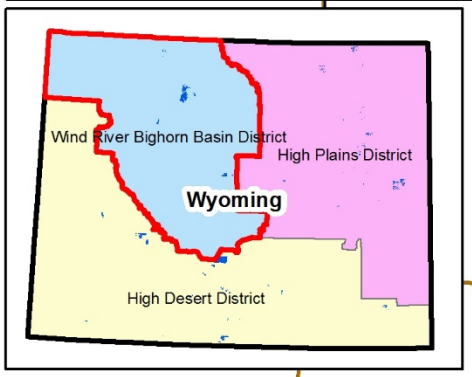
Legend

- 3Q2020 Preliminary Parcels
- Occupied Leks (2019)
- Sage-Grouse PHMA
- Sage-Grouse GHMA
- Connectivity - v4
- BLM-Wyoming Field Offices

0 50 100 Miles

Date: 5/7/2020
WY921-TDB

BLM-Wyoming Oil and Gas Lease Sale
Third-Quarter 2020: GRSG Habitat Management Areas



CYFO

BFO

WFO

PFO

LFO

CFO

KFO

RSFO

RF

1:1,800,000

Map 10

Legend

- 3Q2020 Preliminary Parcels
- Occupied Leks (2019)
- Sage-Grouse PHMA
- Sage-Grouse GHMA
- Connectivity - v4
- BLM-Wyoming Field Offices

0 50 100 Miles

Date: 5/7/2020
WY921-TDB

BLM-Wyoming Oil and Gas Lease Sale
Third-Quarter 2020: GRSG Habitat Management Areas

WFO

BFO

LFO

CFO

KFO

RSFO

RFO

1:2,100,000
Map 11

Legend

- 3Q2020 Preliminary Parcels
- Occupied Leks (2019)
- Sage-Grouse PHMA
- Sage-Grouse GHMA
- Connectivity - v4
- BLM-Wyoming Field Offices

Date: 5/7/2020
WY921-TDB

0 50 100 Miles

No warranty is made by the BLM for use of these data for purposes not intended by BLM.

5.5 Lands with Wilderness Characteristics (LWCs) Review

5.5.1 High Plains District

Parcel No.	More than 5,000 acres of roadless land? (Yes/No)	Imprint of mankind's work substantially unnoticeable? (Yes/No)	Outstanding opportunity for solitude or primitive recreation? (Yes/No)	Contains natural features of scientific, educational, scenic, or historical value? (Yes/No)	In citizen-proposed wilderness? (Yes/No)	Field office Notes or Explanations
6874	No	No	No	No	No	
6890	No	No	No	No	No	
6875	No	No	No	No	No	
0676	No	No	No	No	No	
6873	No	No	No	No	No	
0662	No	No	No	No	No	
0660	No	No	No	No	No	
6893	No	No	No	No	No	
0690	No	No	No	No	No	
6861	No	No	No	No	No	
0686	No	No	No	No	No	
0661	No	No	No	No	No	
0694	No	No	No	No	No	
6867	No	No	No	No	No	
0669	No	No	No	No	No	
6865	No	No	No	No	No	
0663	No	No	No	No	No	
0665	No	No	No	No	No	
0664	No	No	No	No	No	
0666	No	No	No	No	No	
0667	No	No	No	No	No	
0550	No	No	No	No	No	
6839	No	No	No	No	No	
0621	No	No	No	No	No	
0632	No	No	No	No	No	
6882	No	No	No	No	No	
0693	No	No	No	No	No	
0626	No	No	No	No	No	
6846	No	No	No	No	No	
0628	No	No	No	No	No	
0629	No	No	No	No	No	
0631	No	No	No	No	No	

Parcel No.	More than 5,000 acres of roadless land? (Yes/No)	Imprint of mankind's work substantially unnoticeable? (Yes/No)	Outstanding opportunity for solitude or primitive recreation? (Yes/No)	Contains natural features of scientific, educational, scenic, or historical value? (Yes/No)	In citizen-proposed wilderness? (Yes/No)	Field office Notes or Explanations
6844	No	No	No	No	No	
0549	No	No	No	No	No	
0624	No	No	No	No	No	
6845	No	No	No	No	No	
6843	No	No	No	No	No	
6786	No	No	No	No	No	
0643	No	No	No	No	No	
6852	No	No	No	No	No	
0535	No	No	No	No	No	
0565	No	No	No	No	No	
6868	No	No	No	No	No	
6883	No	No	No	No	No	
6859	No	No	No	No	No	
0672	No	No	No	No	No	
6872	No	No	No	No	No	
6842	No	No	No	No	No	
6889	No	No	No	No	No	
0620	No	No	No	No	No	
0546	No	No	No	No	No	
0540	No	No	No	No	No	
0547	No	No	No	No	No	
6807	No	No	No	Yes	No	Lance Creek Fossil Area
0579	No	No	No	Yes	No	Lance Creek Fossil Area
6814	No	No	No	Yes	No	Lance Creek Fossil Area
6815	No	No	No	Yes	No	Lance Creek Fossil Area
6816	No	No	No	Yes	No	Lance Creek Fossil Area
0588	No	No	No	Yes	No	Lance Creek Fossil Area
0592	No	No	No	Yes	No	Lance Creek Fossil Area
0595	No	No	No	Yes	No	Lance Creek Fossil Area
6804	No	No	No	Yes	No	Lance Creek Fossil Area
0633	No	No	No	Yes	No	Lance Creek Fossil Area
0625	No	No	No	Yes	No	Lance Creek Fossil Area
0622	No	No	No	Yes	No	Lance Creek Fossil Area

Parcel No.	More than 5,000 acres of roadless land? (Yes/No)	Imprint of mankind's work substantially unnoticeable? (Yes/No)	Outstanding opportunity for solitude or primitive recreation? (Yes/No)	Contains natural features of scientific, educational, scenic, or historical value? (Yes/No)	In citizen-proposed wilderness? (Yes/No)	Field office Notes or Explanations
0616	No	No	No	Yes	No	Lance Creek Fossil Area
6840	No	No	No	Yes	No	Lance Creek Fossil Area
6841	No	No	No	Yes	No	Lance Creek Fossil Area
6817	No	No	No	Yes	No	Lance Creek Fossil Area
0605	No	No	No	Yes	No	Lance Creek Fossil Area
0604	No	No	No	Yes	No	Lance Creek Fossil Area
0603	No	No	No	Yes	No	Lance Creek Fossil Area
0602	No	No	No	Yes	No	Lance Creek Fossil Area
0611	No	No	No	Yes	No	Lance Creek Fossil Area

5.5.2 Wind River/Bighorn Basin District

Parcel No.	More than 5,000 acres of roadless land? (Yes/No)	Imprint of mankind's work substantially unnoticeable? (Yes/No)	Outstanding opportunity for solitude or primitive recreation? (Yes/No)	Contains natural features of scientific, educational, scenic, or historical value? (Yes/No)	In citizen-proposed wilderness? (Yes/No)	Field office Notes or Explanations
0536	No	No	No	No	No	
0544	No	No	No	No	No	
0552	Yes	No	No	No	Yes	Moneta Hills CPW; wilderness characteristic inventory reviews completed for Lander RMP
0560	Yes	No	No	No	Yes	Moneta Hills CPW; wilderness characteristic inventory reviews completed for Lander RMP
0564	No	No	No	No	No	
0575	No	No	No	No	No	
0577	No	No	No	No	No	
0583	Yes	No	No	No	Yes	Moneta Hills CPW; wilderness characteristic inventory reviews completed for Lander RMP
0584	Yes	Yes	Yes	Yes	No	639 AK
0585	Yes	Yes	Yes	Yes	No	639 AK
0587	Yes	Yes	Yes	Yes	No	669 AK

Parcel No.	More than 5,000 acres of roadless land? (Yes/No)	Imprint of mankind's work substantially unnoticeable? (Yes/No)	Outstanding opportunity for solitude or primitive recreation? (Yes/No)	Contains natural features of scientific, educational, scenic, or historical value? (Yes/No)	In citizen-proposed wilderness? (Yes/No)	Field office Notes or Explanations
0594	Yes	Yes	Yes	Yes	No	652 Lower, Upper AK
0597	Yes	Yes	Yes	Yes	No	639 AK
0606	Yes	Yes	Yes	Yes	No	669 AK, 652 Lower, Upper AK
0607	Yes	Yes	Yes	Yes	No	669 AK
0608	Yes	Yes	Yes	Yes	No	652 Lower, Upper AK, 676 AK, PR
0610	Yes	Yes	Yes	Yes	No	651 Lower, Upper AK, 676 AK, PR
0612	Yes	Yes	Yes	Yes	No	669 AK, 652 Lower, Upper AK
0634	Yes	Yes	Yes	Yes	Yes	Citizen Proposal - Red Butte Wilderness, Sheep Mountain Wilderness, Red Butte North, 509 Ak Dorsey Ck, 668 AK
0649	Yes	Yes	Yes	Yes	Yes	Citizens Proposal - Sheep Mountain Wilderness, Red Butte North, 509 Ak Dorsey Ck, 668 AK
0652	No	No	No	No	No	
0656	No	No	No	No	No	
0657	No	No	No	No	No	
0658	No	No	No	No	No	
6792	No	No	No	No	No	
6803	No	No	No	No	No	
6809	Yes	Yes	Yes	Yes	No	639 AK
6813	Yes	Yes	Yes	Yes	No	669 AK
6820	No	No	No	No	No	
6824	Yes	Yes	Yes	Yes	No	639 AK
6828	Yes	Yes	Yes	Yes	No	639 AK
6831	Yes	Yes	Yes	Yes	No	652 Lower, Upper AK, 676 AK, PR
6834	Yes	Yes	Yes	Yes	No	652 Lower, Upper AK
6835	Yes	Yes	Yes	Yes	No	652 Lower, Upper AK, 676 AK, PR
6836	Yes	Yes	Yes	Yes	No	Red Butte North, 509 Ak Dorsey Ck, 668 AK
6888	Yes	Yes	Yes	Yes	Yes	Citizens Proposal - Sheep Mountain

Parcel No.	More than 5,000 acres of roadless land? (Yes/No)	Imprint of mankind's work substantially unnoticeable? (Yes/No)	Outstanding opportunity for solitude or primitive recreation? (Yes/No)	Contains natural features of scientific, educational, scenic, or historical value? (Yes/No)	In citizen-proposed wilderness? (Yes/No)	Field office Notes or Explanations
						Wilderness, 639 AK
6891	Yes	No	No	No	Yes	Moneta Hills CPW; wilderness characteristic inventory reviews completed for Lander RMP
6892	No	No	No	No	No	

5.5.3 High Desert District

Parcel No.	More than 5,000 acres of roadless land? (Yes/No)	Imprint of mankind's work substantially unnoticeable? (Yes/No)	Outstanding opportunity for solitude or primitive recreation? (Yes/No)	Contains natural features of scientific, educational, scenic, or historical value? (Yes/No)	In citizen-proposed wilderness? (Yes/No)	Field office Notes or Explanations
0534	No	N/A	N/A	N/A	No	
0551	No	N/A	N/A	N/A	No	
0553	No	No	No	YES	No	
0554	No	N/A	N/A	N/A	No	
0559	Yes	No	N/A	N/A	No	
0562	Yes	No	N/A	N/A	No	
0563	Yes	No	N/A	N/A	No	
0564	Yes	No	N/A	N/A	No	
0567	Yes	No	N/A	N/A	No	
0568	Yes	No	N/A	N/A	No	
0569	Yes	No	N/A	N/A	No	
0570	Yes	No	N/A	N/A	No	
0575	Yes	No	N/A	N/A	No	
0578	Yes	No	N/A	N/A	No	
0619	No	N/A	N/A	N/A	No	
0640	No	N/A	N/A	N/A	No	
0647	No	N/A	N/A	N/A	No	
0648	Yes	No	N/A	N/A	No	
0653	No	No	No	No	No	
0654	Yes	No	N/A	N/A	No	
0655	No	No	No	No	No	
0695	No	N/A	N/A	N/A	No	
0696	Yes	No	N/A	N/A	No	

Parcel No.	More than 5,000 acres of roadless land? (Yes/No)	Imprint of mankind's work substantially unnoticeable? (Yes/No)	Outstanding opportunity for solitude or primitive recreation? (Yes/No)	Contains natural features of scientific, educational, scenic, or historical value? (Yes/No)	In citizen-proposed wilderness? (Yes/No)	Field office Notes or Explanations
0697	Yes	No	N/A	N/A	No	
0698	Yes	No	N/A	N/A	No	
0702	Yes	No	N/A	N/A	No	
0703	Yes	No	N/A	N/A	No	
0704	Yes	No	N/A	N/A	No	
0708	No	N/A	N/A	N/A	No	
0711	No	N/A	N/A	N/A	No	
0712	No	N/A	N/A	N/A	No	
0714	No	N/A	N/A	N/A	No	
6777	No	NA	N/A	N/A	No	
6778	No	NA	N/A	N/A	No	
6779	No	NA	N/A	N/A	No	
6780	No	NA	N/A	N/A	No	
6783	No	N/A	N/A	N/A	No	
6784	Yes	No	N/A	N/A	No	
6785	No	NA	NA	NA	No	
6787	Yes	No	NA	NA	No	
6792	Yes	No	NA	NA	No	
6793	Yes	No	NA	NA	No	
6794	Yes	No	NA	NA	No	
6797	Yes	No	NA	NA	No	
6799	Yes	No	NA	NA	No	
6800	Yes	No	NA	NA	No	
6801	Yes	No	NA	NA	No	
6802	Yes	No	NA	NA	No	
6803	Yes	No	NA	NA	No	
6847	No	NA	NA	NA	No	
6856	No	NA	NA	NA	No	
6857	No	NA	NA	NA	No	
6858	No	NA	NA	NA	No	
6860	No	NA	NA	NA	No	
6885	No	NA	NA	NA	No	
6886	No	NA	NA	NA	No	

5.6 Hydraulic Fracturing White Paper (July 5, 2013)

BACKGROUND

Hydraulic fracturing (HF) is a well stimulation process used to maximize the extraction of underground resources – oil, natural gas and geothermal energy. The HF process includes the acquisition of water/mixing of chemicals, production zone fracturing, and HF flowback disposal.

In the United States, HF has been used since the 1940's. Early on, the HF process utilized pressures that are of a much smaller magnitude than those used today.

The HF process involves the injection of a fracturing fluid and propping agent into the hydrocarbon bearing formation under sufficient pressure to further open existing fractures and/or create new fractures. This allows the hydrocarbons to more readily flow into the wellbore. HF has gained interest recently as hydrocarbons previously trapped in low permeability tight sand and shale formations are now technically and economically recoverable. As a result, oil and gas production has increased significantly in the United States. The state of Wyoming classifies all gas production zones as Class 5 groundwater zones; this means these zones can be highly impacted by oil and gas activities and are exempt from regulation under the Clean Water Act. However, operations within these zones cannot cause other zones to lose their use classification.

Prior to the development of hydrocarbon bearing tight gas and shale formations, domestic production of conventional resources had been declining. In response to this decline, the federal government in the 1970's through 1992, passed tax credits to encourage the development of unconventional resources. It was during this time that the HF process was further advanced to include the high-pressure multi-stage frac jobs used today.

Generally, HF can be described as follows:

1. Water, proppant, and chemical additives are pumped at extremely high pressures down the wellbore.
2. The fracturing fluid is pumped through perforated sections of the wellbore and into the surrounding formation, creating fractures in the rock. The proppant holds the fractures open during well production.
3. Company personnel continuously monitor and gauge pressures, fluids and proppants, studying how the sand reacts when it hits the bottom of the wellbore, slowly increasing the density of sand to water as the frac progresses.
4. This process may be repeated multiple times, in "stages" to reach maximum areas of the formation(s). The wellbore is temporarily plugged between each stage to maintain the highest fluid pressure possible and get maximum fracturing results in the rock.
5. The plugs are drilled or removed from the wellbore and the well is tested for results.
6. The pressure is reduced and the fracturing fluids are returned up the wellbore for disposal or treatment and re-use, leaving the sand in place to prop open the fractures and allow the oil/gas to flow.

OPERATIONAL ISSUES

Wells that undergo HF may be drilled vertically, horizontally, or directionally and the resultant fractures induced by HF can be vertical, horizontal, or both. Wells in Wyoming may extend to depths greater than

20,000 feet or less than 1,000 feet, and horizontal sections of a well may extend several thousand feet from the production pad on the surface[47].

The total volume of fracturing fluids is generally 95-99% water. The amount of water needed to fracture a well in Wyoming depends on the geologic basin, the formation, and depth and type of well (vertical, horizontal, directional), and the proposed completion process.

In general, approximately 50,000 to 300,000 gallons may be used to fracture shallow coalbed methane wells in the Powder River Basin, while approximately 800,000 to 2 million gallons may be used to fracture deep tight sand gas wells in southwestern Wyoming. In the Niobrara oil play, approximately 250,000 gallons may be used to fracture a vertical well, while up to 5 million gallons may be used to fracture a horizontal well.

Proppant, consisting of synthetic or natural silica sand, may be used in quantities of a few hundred tons for a vertical well to a few thousand tons for a horizontal well.

Drilling muds, drilling fluids, water, proppant and hydraulic fracturing fluids are stored in onsite tanks or lined pits during the drilling and/or completion process. Equipment transport and setup can take several days, and the actual HF and flowback process can occur in a few days up to a few weeks. For oil wells, the flowback fluid from the HF operations is treated in an oil-water separator before it is stored in a lined pit or tank located on the surface. Where gas wells are flowed back using a "green completion process" fluids are run through a multi-phase separator, which are then piped directly to enclosed tanks or to a production unit.

Gas emissions associated with the HF process are captured when the operator utilizes a green completion process. Where a green completion process is not utilized, gas associated with the well may be vented and/or flared until "saleable quality" product is obtained in accordance with federal and state rules and regulations. The total volume of emissions from the equipment used (trucks, engines) will vary based on the pressures needed to fracture the well, and the number of zones to be fractured. Emissions associated with a project, and HF if proposed, will be analyzed through a site specific NEPA document to ensure that the operation will not cause a violation of the Clean Air Act.

Under either completion process, wastewaters from HF may be disposed in several ways. For example, the flowback fluids may be stored in tanks pending reuse; the resultant waste may be re-injected using a permitted injection well, or the waste may be hauled to a licensed facility for treatment, disposal and/or reuse.

Disposal of the waste stream following establishment of "sale-quality" product, would be handled in accordance with Onshore Order #7 regulations and other state/federal rules and regulations.

FRACTURING FLUIDS

As indicated above, the fluid used in the HF process is approximately 95to 99 percent water and a small percentage of special-purpose chemical additives[48, 49]and proppant. There is a broad array of chemicals that can be used as additives in a fracture treatment including, but not limited to, hydrochloric acid, anti-

[47] See Kemmerer RMP (2010), Pinedale RMP (2008), Green River RMP (1997), Rock Springs RMP Revision, and Rawlins RMP (2008) RFD and/or Mineral Occurrence Reports for specific information on current and projected oil and gas development.
[48] FracFocus Chemical Registry. Hydraulic Fracturing Water Usage
[49] Chesapeake Energy. 2012. Hydraulic Fracturing Fact Sheet. http://www.chk.com/Media/Educational- Library/Fact-Sheets/Corporate/Hydraulic_Fracturing_Fact_Sheet.pdf (Last accessed March 1, 2012)

bacterial agents, corrosion inhibitors, gelling agents (polymers), surfactants, and scale inhibitors. The 1 to 5 percent of chemical additives translates to a minimum of 5,000 gallons of chemicals for every 1.5 million gallons of water used to fracture a well (Paschke, Dr. Suzanne. USGS, Denver, Colorado. September 2011). Water used in the HF process is generally acquired from surface water or groundwater in the local area.

RE-FRACTURING

Re-fracturing of wells (RHF) may be performed after a period of time to restore declining production rates. RHF success can be attributed to enlarging and reorienting existing fractures while restoring conductivity due to proppant degradation and fines plugging.
Prior to RHF, the wellbore may be cleaned out. Cleaning out the wellbore may recover over 50% of the initial frac sand. Once cleaned, the process of RHF is the same as the initial HF. The need for RHF cannot be predicted.

WATER AVAILABILITY AND CONSUMPTION ESTIMATES

The Wyoming Framework Water Plan, A Summary, (Wyoming Water Development Commission, October 2007), indicates that approximately 15 million acre-feet per year of water becomes either surface water or groundwater and is available for use. This estimate includes water that flows into the state and the precipitation that runs off as stream flow or infiltrates as groundwater; it does not include volumes lost to evapotranspiration.

Water flowing out of Wyoming is estimated to be 13,678,200 acre-feet per year. Wyoming's share of this supply under existing water compacts is estimated to be 3,313,500 acre-feet per year; approximately10, 364,700 acre-feet flows downstream out of the state.

The industrial water use sector includes electric power generation, coal mining, conventional oil and gas production, uranium mining, trona mining and soda ash production, bentonite mining, gypsum mining, coalbed methane (CBM) production, manufacturing of aggregate, cement, and concrete, and road and bridge construction.

Total current industrial surface water use for Wyoming is estimated to be 125,000 acre- feet per year. Total current industrial groundwater water use is estimated to be 246,000 acre-feet per year.

According to the state water plan, it appears likely that any new water-intensive industrial developments in the state over the next 30 years will fall into the electric power generation and/or chemical products categories. The other two intensive water use industries, primary metals and paper producers, tend to locate near the source of their largest process inputs – metals and wood respectively. The total projected industrial use under the Mid Scenario is 331,000 acre-feet per year. The Mid-Scenario is a middle of the road estimate versus the projected low or high scenarios.

Water needs for future fracturing jobs were estimated for this discussion paper using the current Reasonable Foreseeable Development (RFD) scenario numbers taken from each of the nine Wyoming RMPs and multiplied by the maximum volume of water necessary based on information located at fracfocus.org. The table is provided, below. Based on a statewide RFD of 25,478 non-CBM wells and 18,299 CBM wells, the maximum projected water needs for HF is 401,319 acre-feet of water. This number is an estimate based upon maximum projected water needs per HF job, and assumes that 100% of the water is freshwater.

According to the WOGCC, as of October 26, 2012, there are approximately 4,185 Class II injection wells in the state disposing of oil and gas waste water. Data obtained from the Wyoming Oil and Gas Conservation Commission, for a period ending December 31, 2011, indicates that 1,106,376,299 barrels of water (105,255.53 acre-feet) have been injected into underground formations. These injection wells may also utilize HF depending upon the specific geology of the disposal zone; however, subsequent disposal operations utilize injection pressures below the fracture stress of the receiving formation to ensure containment in the targeted zone. Each formation for which injection is approved must receive an aquifer exemption from the Environmental Protection Agency documenting that the injectate will be properly contained and that the formation receiving the water is not of useable quality (DEQ Class 4 Use).

POTENTIAL SOURCES OF WATER FOR HYDRAULIC FRACTURING

Freshwater-quality water is required to drill the surface-casing section of the wellbore per federal regulations; other sections of the wellbore (intermediate and/or production strings) would be drilled with appropriate quality makeup water as necessary. This is done to protect usable water zones from contamination, to prevent mixing of zones containing different water quality/use classifications, and to minimize total freshwater volumes. With detailed geologic well logging during drilling operations, geologists/mud loggers on location identify the bottoms of these usable water zones, which aids in the proper setting of casing depths.

Several sources of water are available for drilling and/or HF in Wyoming. Because Wyoming's water rights system is based in the prior appropriation doctrine, water cannot be diverted from a stream/reservoir or pumped out of the ground for drilling and/or HF without reconciling that diversion with the prior appropriation doctrine. Like any other water user, companies that drill or hydraulically fracture oil and gas wells must adhere to Wyoming water laws when obtaining and using specific sources of water.

Below is a discussion of the sources of water that could potentially be used for HF. The decision to use any specific source is dependent on BLM authorization at the APD stage and the ability to satisfy the water appropriation doctrine. BLM must also consult in accordance with the Endangered Species Act (ESA) as amended (16 U.S .C. 1531 et seq.) with the U.S Fish and Wildlife Service (FWS on projects resulting in consumptive water use over de minimus levels, in the Platte and Colorado River Basins of Wyoming. Where this is an issue, USFWS was consulted during the preparation of the appropriate RMP and would again be consulted on a case by case basis. From an operators' standpoint, the decision regarding which water source will be used is primarily driven by the economics associated with procuring a specific water source.

Water transported from outside the state. The operator may transport water from outside the state. As long as the transport and use of the water carries no legal obligation to Wyoming, this is an allowable source of water from a water rights perspective.

Irrigation water leased or purchased from a landowner. The landowner may have rights to surface water, delivered by a ditch or canal that is used to irrigate land. The operator may choose to enter into an agreement with the landowner to purchase or lease a portion of that water. This is allowable, however, in nearly every case, the use of an irrigation water right is likely limited to irrigation uses and cannot be used for well drilling and HF operations. To allow its use for drilling and HF, the owner of the water right and the operator must apply to change the water right through a formal process.

Treated water or raw water leased or purchased from a water provider. The operator may choose to enter into an agreement with a water provider to purchase or lease water from the water provider's system.

Municipalities and other water providers may have a surplus of water in their system before it is treated (raw water) or after treatment that can be used for drilling and HF operations. Such an arrangement would be allowed only if the operator's use were compliant with the water provider's water rights.

Water treated at a waste water treatment plant leased or purchased from a water provider. The operator may choose to enter into an agreement with a water provider to purchase or lease water that has been used by the public, and then treated as wastewater.
Municipalities and other water providers discharge their treated waste water into the streams where it becomes part of the public resource, ready to be appropriated once again in the priority system. But for many municipalities a portion of the water that is discharged has the character of being "reusable." As a result, it is possible that after having been discharged to the stream, it could be diverted by the operator to be used for drilling and HF operations. Such an arrangement would only be appropriate with the approval of the Wyoming State Engineer's Office (WSEO) and would be allowed only if the water provider's water rights include uses for drilling and HF operations.

New diversion of surface water flowing in streams and rivers. New diversion of surface waters in most parts of the state are rare because the surface streams are already "over appropriated," that is, the flows do not reliably occur in such a magnitude that all of the vested water rights on those streams can be satisfied. Therefore, the only time that an operator may be able to divert water directly from a river is during periods of high flow and less demand. These periods do occur but not reliably or predictably.

Produced Water. The operator may choose to use water produced in conjunction with oil or gas production at an existing oil or gas well. The water that is produced from an oil or gas well is under the administrative purview of the WSEO and is either non-tributary, in which case, it is administered independent of the prior appropriation doctrine; or is tributary, in which case, the depletions from its withdrawal must be fully augmented if the depletions occur in an over-appropriated basin. The result in either case is that the produced water is available for consumption for other purposes, not just oil and gas operations. The water must not be encumbered by other needs and a the operator must obtain a proper well permit from the WSEO before the water can be used for drilling and HF operations.

Reused or Recycled Drilling Water. Water that is used for drilling of one well may be recovered and reused in the construction of subsequent wells. The BLM encourages reuse and recycling of both the water used in well drilling and the water produced in conjunction with oil or gas production. However, as described above, the operator must obtain the right to use the water for this purpose.

On-Location Water Supply Wells. Operators may apply for, and receive, permission from the WSEO to drill and use a new water supply well. These wells are usually drilled on location to provide an on-demand supply. These industrial-type water supply wells are typically drilled deeper than nearby domestic and/or stock wells to minimize drawdown interference, and have large capacity pumps. The proper construction, operation and maintenance, backflow prevention and security of these water supply wells are critical considerations at the time they are proposed to minimize impacts to the well and/or the waters in the well and are under the jurisdiction of the WSEO. Plugging these wells are also under the jurisdiction of the WSEO.

POTENTIAL IMPACTS TO USABLE WATER ZONES

Impacts to freshwater supplies can originate from point sources, such as chemical spills, chemical storage tanks (aboveground and underground), industrial sites, landfills, household septic tanks, and mining activities. Impacts to usable waters may also occur through a variety of oil and gas operational sources which may include, but are not limited to, pipeline and well casing failure, and well (gas, oil and/or water)

drilling and construction of related facilities. Similarly, improper construction and management of open fluids pits and production facilities could degrade ground water quality through leakage and leaching.[50]

Should hydrocarbons or associated chemicals for oil and gas development, including HF, exceeding EPA/WDEQ standards for minimum concentration levels migrate into culinary water supply wells, springs, or usable water systems, it could result in these water sources becoming non-potable. Water wells developed for oil and gas drilling could also result in a draw down in the quantity of water in nearby residential areas depending upon the geology; however it is not currently possible to predict whether or not such water wells would be developed.

Usable groundwater aquifers are most susceptible to pollution where the aquifer is shallow (within 100 feet of the surface depending on surface geology) or perched, are very permeable, or connected directly to a surface water system, such as through floodplains and/or alluvial valleys or where operations occur in geologies which are highly fractured and/or lack a sealing formation between the production zone and the usable water zones. If an impact to usable waters were to occur, a greater number of people could be affected in densely populated areas versus sparsely populated areas characteristic of Wyoming.

Potential impacts on usable groundwater resources from fluid mineral extraction activities can result from the five following scenarios:

- Contamination of aquifers through the introduction of drilling and/or completion fluids through spills or drilling problems such as lost circulation zones.
- Communication of the induced hydraulic fractures with existing fractures potentially allowing frac fluid migration into usable water zones/supplies. The potential for this impact is likely dependent on the local hydraulic gradients where those fluids are dissolved in the water column. To date, this is an unproven theory.
- Cross-contamination of aquifers/formations that may result when fluids from a deeper aquifer/formation migrate into a shallower aquifer/formation due to improperly cemented well casings.
- Localized depletion of unconfined groundwater availability.
- Progressive contamination of deep confined, shallow confined, and unconfined aquifers if the deep confined aquifers are not completely cased off, and geologically isolated, from deeper units. An example of this would be salt water intrusion resulting from sustained drawdown associated with the pumping of groundwater.

The impacts above could occur as a result of the following processes:

<u>Improper casing and cementing.</u>
A well casing design that is not set at the proper depths or a cementing program that does not properly isolate necessary formations could allow oil, gas or HF fluids to contaminate other aquifers/formations.

<u>Natural fractures, faults, and abandoned wells.</u>
If HF of oil and gas wells result in new fractures connecting with established natural fractures, faults, or improperly plugged dry or abandoned wells, a pathway for gas or contaminants to migrate underground may be created posing a risk to water quality. The potential for this impact is currently unknown but it is generally accepted that the potential decreases with increasing distance between the production zone and usable water zones. This potential again is dependent upon the site specific conditions at the well location.

[50] See Subject RMP, Chapter 4, Environmental Consequences, for additional information

Fracture growth.
A number of studies and publications report that the risk of induced fractures extending out of the target formation into an aquifer—allowing hydrocarbons or other fluids to contaminate the aquifer —may depend, in part, on the formation thickness separating the targeted fractured formation and the aquifer. For example, according to a 2012 Bipartisan Policy Center report, the fracturing process itself is unlikely to directly affect freshwater aquifers because fracturing typically takes place at a depth of 6,000 to 10,000 feet, while drinking water aquifers are typically less than 1,000 feet deep. Fractures created during HF have not been shown to span the distance between the targeted l formation and freshwater bearing zones. If a parcel is sold and development is proposed in usable water zones, those operations would have to comply with federal and/or state water quality standards or receive a Class 5 designation from the WDEQ.

Fracture growth and the potential for upward fluid migration, through coal and other geologic formations depend on site-specific factors such as the following:

1. Physical properties, types, thicknesses, and depths of the targeted formation as well as those of the surrounding geologic formations.
2. Presence of existing natural fracture systems and their orientation in the target formation and surrounding formations.
3. Amount and distribution of stress (i.e., in-situ stress), and the stress contrasts between the targeted formation and the surrounding formations.

Hydraulic fracture stimulation designs include the volume of fracturing fluid injected into the formation as well as the fluid injection rate and fluid viscosity; this information would be evaluated against the above site specific considerations**.**

Fluid leak and recovery (flowback) of HF fluids.
It is theorized that not all fracturing fluids injected into the formation during the HF process may be recovered. It is theorized that fluid movement into smaller fractures or other geologic substructures can be to a point where flowback efforts will not recover all the fluid or that the pressure reduction caused by pumping during subsequent production operations may not be sufficient to recover all the fluid that has leaked into the formation. It is noted that the fluid loss due to leakage into small fractures and pores is minimized by the use of cross-linked gels.

Willberg et al. (1998) analyzed HF flowback and described the effect of pumping rates on cleanup efficiency in initially dry, very low permeability (0.001 md) shale. Some wells in this study were pumped at low flowback rates (less than 3 barrels per minute (bbl/min). Other wells were pumped more aggressively at greater than 3 bbl/min. Thirty- one percent of the injected HF fluids were recovered when low flowback rates were applied over a 5-day period. Forty-six percent of the fluids were recovered when aggressive flowback rates were applied in other wells over a 2-day period. In both cases, additional fluid recovery (10 percent to 13 percent) was achieved during the subsequent gas production phase, resulting in a total recovery rate of 41 percent to 59 percent of the initial volume of injected HF fluid. Ultimate recovery rate however, is dependent on the permeability of the rocks, fracture configuration, and the surface area of the fracture(s).

The ability of HF chemicals to migrate in an undissolved or dissolved phase into a usable water zone is likely dependent upon the location of the sealing formation (if any), the geology of the sealing formation, hydraulic gradients and production pressures. The following discussion, adapted from: Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs; Chapter 3 Characteristics of CBM Production and Associated HF Practices (3-5EPA 816-R-

04-003, June, 2004), takes place where there is not a sealing formation between the fractured formation and usable waters; the two zones are separated by approximately 1000' of earth in the Powder River Basin of Wyoming.

HF Fluids can remain in the subsurface unrecovered, due to "leak off" into connected fractures and the pores of rocks. Fracturing fluids injected into the primary hydraulically induced fracture can intersect and flow (leak off) into preexisting smaller natural fractures. Some of the fluids lost in this way may occur very close to the well bore after traveling minimal distances in the hydraulically induced fracture before being diverted into other fractures and pores. Once "mixed" with the native water, local and regional vertical and horizontal gradients may influence where and if these fluids will come in contact with usable water zones, assuming that there is inadequate recovery either through the initial flowback or over the productive life of the well. Faults, folds, joints, etc., could also alter localized flow patterns as discussed below.

The following processes can influence effective recovery of the fracture fluids:

Check-Valve Effect
A check-valve effect occurs when natural and/ or newly created fractures open and HF fluid is forced into the fractures when fracturing pressures are high, but the fluids are subsequently prevented from flowing back toward the wellbore as the fractures close when the fracturing pressure is decreased (Warpinski et al., 1988; Palmer et al., 1991a). A long fracture can be pinched-off at some distance from the wellbore. This reduces the effective fracture length. HF fluids trapped beyond the "pinch point" are unlikely to be recovered during flowback and oil/gas is unlikely to be recovered during production.

In most cases, when the fracturing pressure is reduced, the fracture closes in response to natural subsurface compressive stresses. Because the primary purpose of hydraulic fracturing is to increase the effective permeability of the target formation and connect new or widened fractures to the wellbore, a closed fracture is of little use. Therefore, a component of HF is to "prop" the fracture open, so that the enhanced permeability from the pressure-induced fracturing persists even after fracturing pressure is terminated. To this end, operators use a system of fluids and "proppants" to create and preserve a high-permeability fracture-channel from the wellbore deep into the formation.

The check-valve effect takes place in locations beyond the zone where proppants have been placed (or in smaller secondary fractures that have not received any proppant). It is possible that some volume of stimulation fluid cannot be recovered due to its movement into zones that were not completely "propped" open.

Adsorption and Chemical Reactions
Adsorption and chemical reactions can also prevent HF fluids from being recovered. Adsorption is the process by which fluid constituents adhere to a solid surface and are thereby unavailable to flow with groundwater. Adsorption to coal is likely; however, adsorption to other geologic material (e.g., shale, sandstone) is likely to be minimal. Another possible reaction affecting the recovery of fracturing fluid constituents is the neutralization of acids (in the fracturing fluids) by carbonates in the subsurface.

Movement of Fluids Outside the Capture Zone
Fracturing fluids injected into the target zone flow into fractures under very high pressure. The hydraulic gradients driving fluid flow away from the wellbore during injection are much greater than the hydraulic gradients pulling fluid flow back toward the wellbore during flowback and production (pumping) of the well. Some portion of the fracturing fluids could be forced along the hydraulically induced fracture to a point beyond the capture zone of the production well. The size of the capture zone will be affected by the

regional groundwater gradients, and by the drawdown caused by producing the well. Site-specific geologic, hydrogeologic, injection pressure, and production pumping details should provide the information needed to estimate the dimension of the production well capture zone and the extent to which the fracturing fluids might disperse and dilute.

Incomplete Mixing of Fracturing Fluids with Water
Steidl (1993) documented the occurrence of a gelling agent that did not dissolve completely and actually formed clumps at 15 times the injected concentration in an induced fracture. Steidl also directly observed, in his mined-through studies, gel hanging in stringy clumps in many other induced fractures. As Willberg et al. (1997) noted, laboratory studies indicate that fingered flow of water past residual gel may impede fluid recovery. Therefore, some fracturing fluid gels appear not to flow with groundwater during production pumping and remain in the subsurface unrecovered. Such gels are unlikely to flow with groundwater during production, but may present a source of gel constituents to flowing groundwater during and after production.

Authorization of any future proposed projects , would require full compliance with local, state, and federal regulations and laws that relate to surface and groundwater protection and would be subject to routine inspections by the BLM and the Wyoming Oil and Gas Commission as described in Memorandum of Understanding WY920-94-09-79, dated September 21, 1994, prior to approval.

GEOLOGIC HAZARDS (INCLUDING SEISMIC/LANDSLIDES)

Potential geologic hazards caused by HF include induced seismic activity. Induced seismic activity could indirectly cause surficial landslide activity where soils/slopes are susceptible to failure.

Landslides involve the mass movement of earth materials down slopes and can include debris flows, soil creep, and slumping of large blocks of material. There are no identified landslides in the project area [Kemmerer RMP (2010), Pinedale RMP (2008), Green River RMP (1997), Rock Springs RMP Revision, and Rawlins RMP (2008) Chapter 2, Affected Environment and/or Summary of the Management Situation Analysis; Wyoming State Geological Survey (2011)].

Earthquakes occur when energy is released due to blocks of the earth's crust moving along areas of weakness or faults. Earthquakes attributable to human activities are called "induced seismic events" or "induced earthquakes." In the past several years induced seismic events related to energy development projects have drawn heightened public attention. Although only a very small fraction of injection and extraction activities at hundreds of thousands of energy development sites in the United States have induced seismicity at levels that are noticeable to the public, seismic events caused by or likely related to energy development have been measured and felt in Alabama, Arkansas, California, Colorado, Illinois, Louisiana, Mississippi, Nebraska, Nevada, New Mexico, Ohio, Oklahoma, and Texas.

A study conducted by the National Academy of Sciences[51] studied the issue of induced seismic activity from energy development. As a result of the study, they found that: (1) the process of hydraulic fracturing a well as presently implemented for shale gas recovery does not pose a high risk for inducing felt seismic events; and (2) injection for disposal of waste water derived from energy technologies into the subsurface does pose some risk for induced seismicity, but very few events have been documented over the past several decades relative to the large number of disposal wells in operation.

[51] Induced Seismicity Potential in Energy Technologies, National Academy of Sciences, 2012

The potential for induced seismicity cannot be made at the leasing stage; as such, it will be evaluated at the APD stage should the parcel be sold/issued, and a development proposal submitted.

SPILL RESPONSE AND REPORTING

Spill Prevention, Control, and Countermeasure (SPCC) - EPAs rules include requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires that operators of specific facilities prepare, amend, and implement SPCC Plans. The SPCC rule is part of the Oil Pollution Prevention regulation, which also includes the Facility Response Plan (FRP) rule. Originally published in 1973 under the authority of §311 of the Clean Water Act, the Oil Pollution Prevention regulation sets forth requirements for prevention of, preparedness for, and response to oil discharges at specific non-transportation-related facilities. To prevent oil from reaching navigable waters and adjoining shorelines, and to contain discharges of oil, the regulation requires the operator of these facilities to develop and implement SPCC Plans and establishes procedures, methods, and equipment requirements (Subparts A, B, and C). In 1990, the Oil Pollution Act amended the Clean Water Act to require some oil storage facilities to prepare Facility Response Plans. On July 1, 1994, EPA finalized the revisions that direct facility owners or operators to prepare and submit plans for responding to a worst-case discharge of oil.

In addition to EPA's requirements, operators must provide a plan for managing waste materials, and for the safe containment of hazardous materials, per Onshore Order #1 with their APD proposal. All spills and/or undesirable events are managed in accordance with Notice to Lessee (NTL) 3-A and Wyoming Information Memorandums 2008-028: *NTL- 3A Reporting Requirements* and 2009-021 *Guidance & Standards for Response to Oil & Gas-Related Spills & Clean-Up Criteria.* Regulations found at 43 CFR § 3162.5(c) provide BLM with the necessary regulatory framework for responding to all spills and/or undesirable events related to hydraulic fracturing operations.

PUBLIC HEALTH AND SAFETY

The intensity, and likelihood, of potential impacts to public health and safety, and to the quality of usable water aquifers is directly related to proximity of the proposed action to domestic and/or community water supplies (wells, reservoirs, lakes, rivers, etc.) and/or agricultural developments. The potential impacts are also dependent on the extent of the production well's capture zone and well integrity. Standard Lease Notice No.1 specifies that development is generally restricted within a quarter mile of occupied dwellings and within 500 feet of riparian habitats and wetlands, perennial water sources (rivers, springs, water wells, etc.) and/or floodplains. Intensity of impact is likely dependent on the density of development. Further information related to the rate of development is provided in the Leasing Environmental Analysis under cumulative impacts.

HF White Paper Table									
Field Office (Year of RFD)	Projected Number of CBM wells	Projected Number of Non-CBM/ Conventional Wells	Max Frac Volume CBM (gallons)	Total Est. H2O for CBM	Max Frac Volume Non_CBM (gallons)	Total Est. H2O for Non-CBM	Total Projected H2O for HF (gallons)	Total Projected H2O for HF (barrels)	Total Projected H2O for HF (acre-feet)
BFO (2012)	10,343	3,865	300,000	3,102,900,000	5,000,000	19,325,000,000	22,427,900,000	711,996,824	67,736.09
BHB (2010) (WFO/CYFO)	150	1,890	300,000	45,000,000	5,000,000	9,450,000,000	9,495,000,000	301,428,571	28,676.52
CFO (2005)	700	2,100	300,000	210,000,000	5,000,000	10,500,000,000	10,710,000,000	340,000,000	32,346.03
NFO (2004)	0	30	300,000	0	5,000,000	150,000,000	150,000,000	4,761,905	453.03
LFO (2009)	861	2,566	300,000	258,300,000	5,000,000	12,830,000,000	13,088,300,000	415,501,587	39,528.90
RFO (2004)	4,655	4,655	300,000	1,396,500,000	5,000,000	23,275,000,000	24,671,500,000	783,222,221	74,512.14
RSFO (GRRMP/1991)	300	1,258	300,000	90,000,000	5,000,000	6,290,000,000	6,380,000,000	202,539,682	19,268.69
RSFO (JMH/2002)	50	314	300,000	15,000,000	5,000,000	1,570,000,000	1,585,000,000	50,317,460	4,786.97
KFO (2006)	640	220	300,000	192,000,000	5,000,000	1,100,000,000	1,292,000,000	41,015,873	3,902.06
PFO (2006)	600	8,580	300,000	180,000,000	5,000,000	42,900,000,000	43,080,000,000	1,367,619,046	130,108.96
Total	18,299	25,478		5,489,700,000		127,390,000,000	132,879,700,000	4,218,403,168	401,319

Calculation assumes 100% of HF H2O is freshwater.
Conversion factor: gallons to barrels: *0.0317460317 Conversion factor: barrels to acre feet: /10511.3365126

5.7 EA Preparers/Reviewers, Consultation & Coordination

The following individuals or organizations were involved in consultation on issues in the development of this EA.

5.7.1 Outside Agencies or Individuals

Prior to publication of this EA, letters were sent to split estate landowners by the WSO notifying them that the minerals under their surface lands had been nominated for lease and inviting them to participate in the BLM's review.

Informal scoping letters were also sent to Native American tribal contacts known or identified as having interest or concerns with oil and gas leasing in the area.

When necessary, notice letters were sent to the Forest Service, Douglas Ranger District and to units of the National Park Service in this regional area. No new issues were identified that would suggest the need to consider alternatives beyond those being addressed in this EA.

In accordance with the BLM/WGFD Memorandum of Understanding WY131, Appendix 5G, the WSO sent the preliminary parcel list to the WGFD field personnel were provided an opportunity to review the revised preliminary parcel list and send their comments back to the BLM field office. If WGFD field personnel did not have any comments or concerns with the revised preliminary parcel list, they sent an email/letter to the BLM field office that they have reviewed the revised preliminary parcel list, and the WGFD concerns have been met and they have no additional concerns. The BLM field offices reviewed WGFD field personnel concerns and addressed any concerns. The WSO also routinely meets with WGFD Habitat Protection Program personnel as a part of its coordination on oil and gas lease sales.

Under procedures outlined in a memorandum of understanding, the BLM requested comments from the Bureau of Reclamation (BOR) as the surface management agency on any parcels located on lands managed by the BOR.

5.7.2 BLM-Wyoming State Office

Name	Division/Branch	Title
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5.7.3 BLM-High Desert District

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5.7.4 BLM High Plains District

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5.7.5 BLM-Wind River/Bighorn Basin District.

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5.8 References

The EA's references include those provided in BLM-Washington Office Information Bulletin (IB) 2019-005 ("Secretarial Order 3362: Site-specific Management Activities to Conserve or Restore Big Game Habitat"), provided in Attachment 1 to the IB.

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